Cairo University Faculty of Computers and Artificial intelligence



CS251

Software Engineering I

GoFo

Software Design Specifications

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June 2020





Software Design Specification

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CS251: Phase 2 - Abdelrahman

Project: GoFo

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Team

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Document Purpose and Audience

This document includes Software Design Specifications for GoFo football playground booking system for project owner.

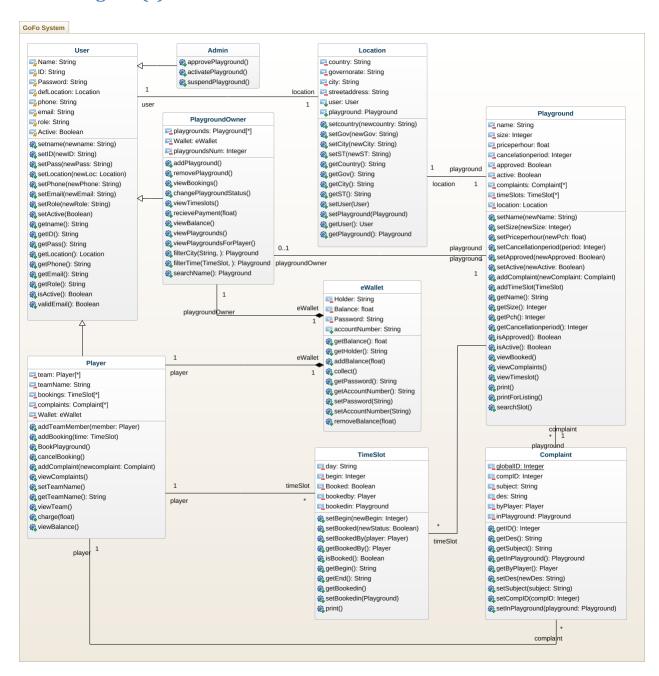




Software Design Specification

System Models

I. Class Diagram(s)



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II. Class Descriptions

Class ID	Class Name	Description & Responsibility
1.	Playground	Playground class holds playgrounds' data such as name, location, available time slots (hours), price per hour/slot, booking cancelation period, whether the it is active or not, and whether it is approved by the admin or not. It should provide needed information and allow altering them through setters and getters.
2.	User	User class holds the necessary information for all program users (player, playground owner, and administrator). It holds user name, national ID, password, email, phone number, and role. It should provide needed information and allow altering them through setters and getters.
3.	Location	Location holds location information for users and playgrounds. It breaks the location into three parts; city, district and Postal Code. It provides an efficient way to filter results when viewing available playgrounds near a player through "FindNear(location)" method.
4.	Complaint	Complaint class holds information about complaints issued by players against playgrounds. It holds: - complaintid; complaint unique ID - playerName; name of the player who issued the complaint - description; complaint description - solved; complaint status whether it is solved or not It should allow admins only to change its status through "solved(bool)" method.
5.	Player	This class represents players. It inherits from class "User" which carries all the personal details of the corresponding player. It is responsible for the actions a player can take on the system: - book a playground - create a team - add team member - delete team member - send invitation - add complaint - transfer money - Fawry recharge - view bookings This class has an association with class "Booking", where each player has a list of bookings that contains all his bookings on the system. It also has an association with class "Ewallet" where each player has only one ewallet.





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Class ID	Class Name	Description & Responsibility
6.	Playgroundowner	This class represents playgrounds owners. It inherits from class "User" which carries all the personal details of the corresponding owner. It is responsible for the actions an owner can take on the system: - Add playground - Remove playground - Transfer money - Fawry recharge - View bookings - Activate playground - Deactivate playground It has an association with class "Playgrounds" where each owner has a list of the playgrounds that he runs. It also has an association with class "Ewallet" where each owner has only one ewallet.
7.	Admin	This class represents administrators. It inherits from class "User" which carries all the personal details of the corresponding administrator. It is responsible for the actions an administrator can take on the system: - Approve playground - Activate playground - Suspend playground - Delete playground
8.	Ewallet	This class is responsible for monetary transactions on the system. It has an association with class "Player" and "Playgroundowner" where each has his own ewallet. These are the actions taken through this class: - Transfer - Collect - Recharge The class has an attribute "balance" which represents the amount of money the user has on his account.
9.	TimeSlot	This class represents slots of time. It has two attributes representing the start and end time of each slot. It has an association with class "Playground" where each playground has a list of available time slots. It also has an association with class "Booking" where each booking has a specific time slot.

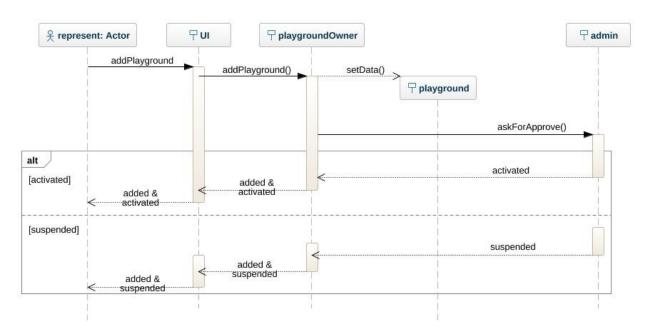




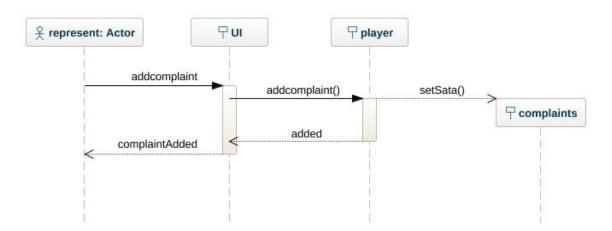
Software Design Specification

III. Sequence diagrams

1. Add Playground



2. Add Complaint

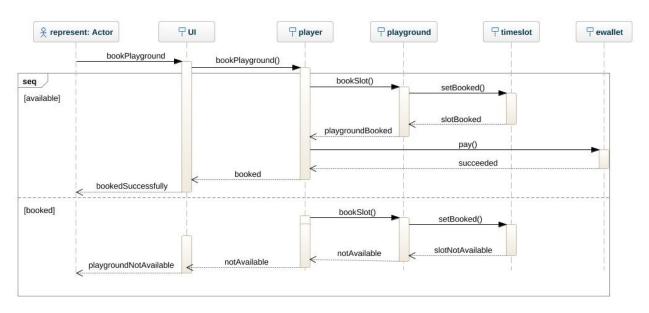




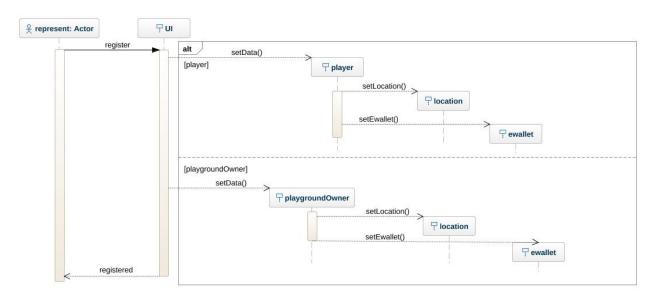


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3.Book Playground



4.New User Registration

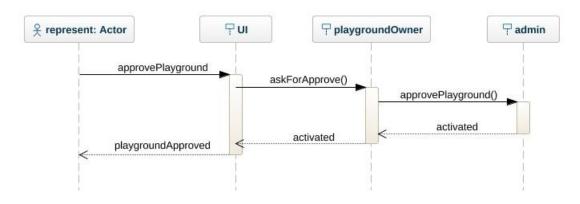




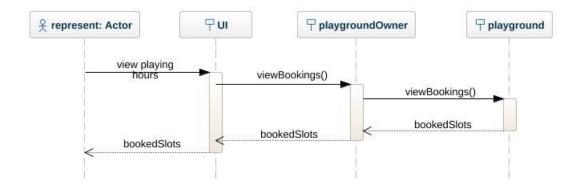


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5. Approve Playground



6. View Playing Hours







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Class - Sequence Usage Table

Sequence Diagram	Classes Used	All Methods Used	
Add playground	Class playgroundowner Class Playground Class admin	Methods { addPlayground() } Methods { setData() } Methods { askForApprove() }	
2. Add complaint	Class player Class complaints	Methods { addComplaint() } Methods { setData() }	
3. Book playground	Class player Class Playground Class timeslot Class ewallet	Methods { bookPlayground() } Methods { bookSlot() } Methods { setBooked() } Methods { pay() }	
New User Registration	Class player Class playgroundowner Class location Class ewallet	Methods { setData() } Methods { setData() } Methods { setLocation() } Methods { setEwallet() }	
5. Approve playground	Class playgroundowner Class admin	Methods { askForApprove() } Methods { approvePlayground() }	
6. View playing hours	Class playgroundowner Class Playground	Methods { viewBookings() } Methods { viewBookings() }	

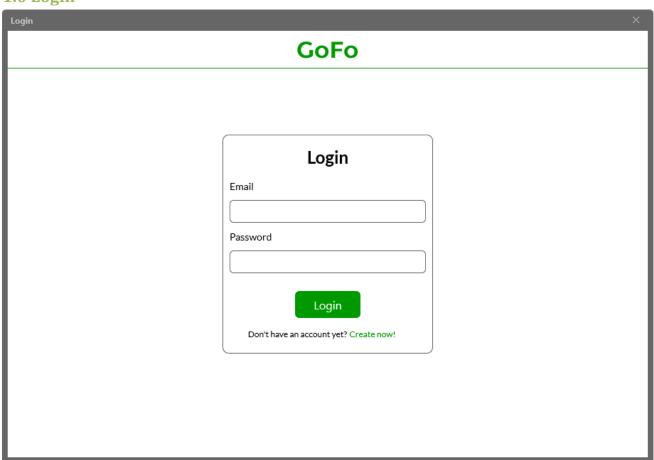




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IV. User Interface Design

1.0 Login







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2.0 Create Account

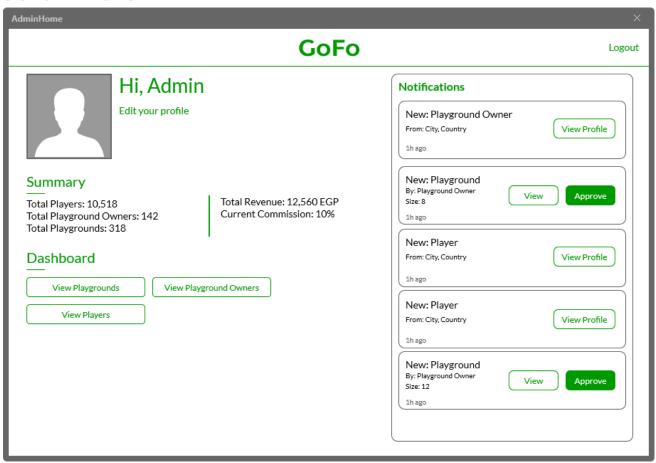






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3.0 Admin Home

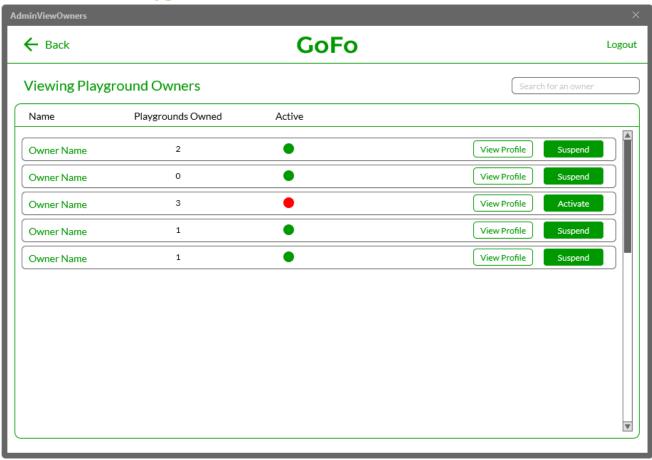






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3.1 Admin View Playground Owners







Software Design Specification

3.2 Admin View Players

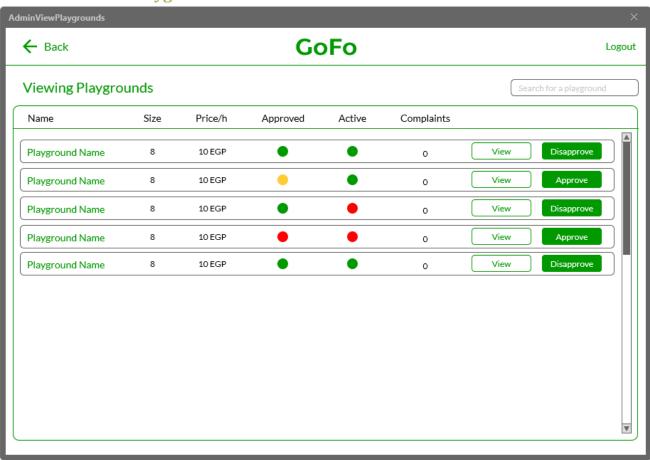






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3.3 Admin View Playgrounds

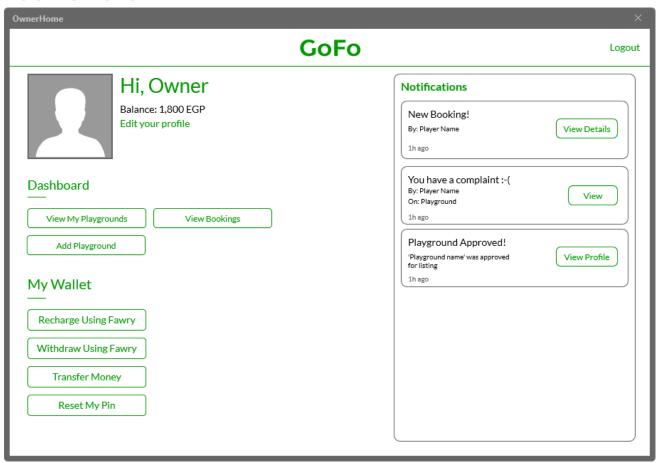






Software Design Specification

4.0 Owner Home

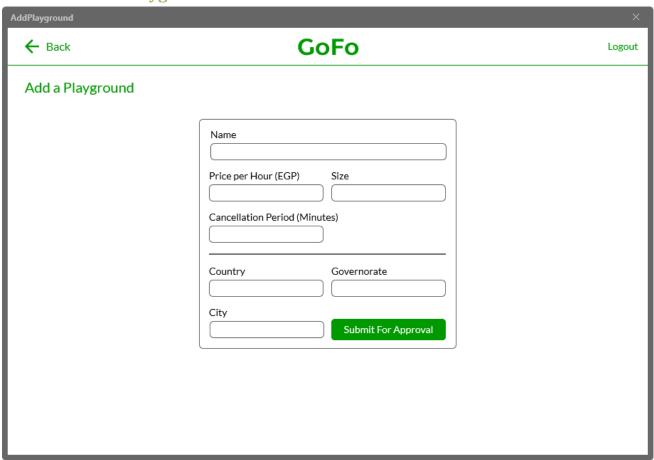






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4.1 Owner Add Playground

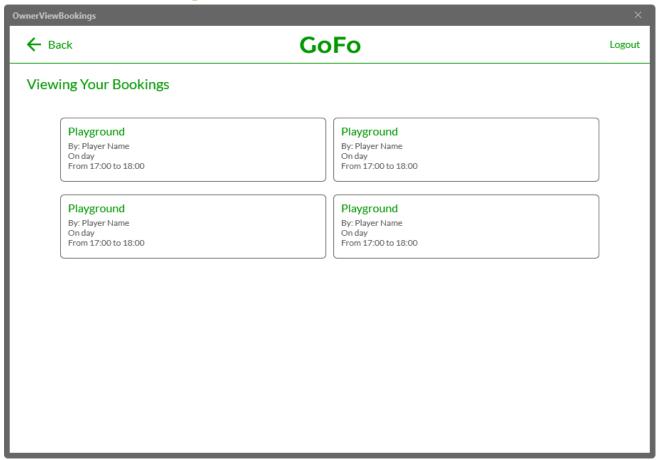






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4.2 Owner View Bookings

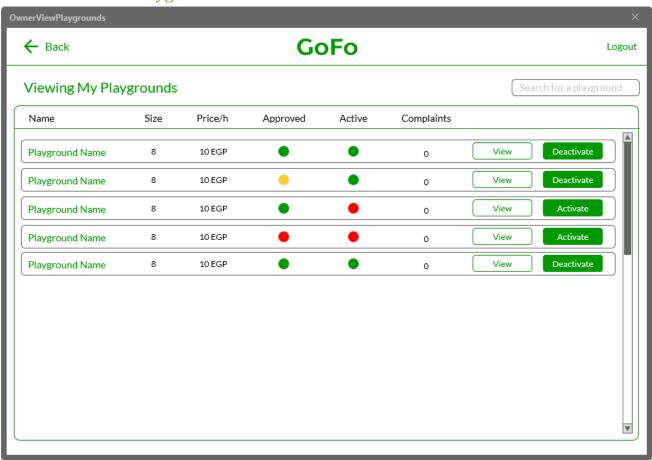






Software Design Specification

4.3 Owner View Playgrounds

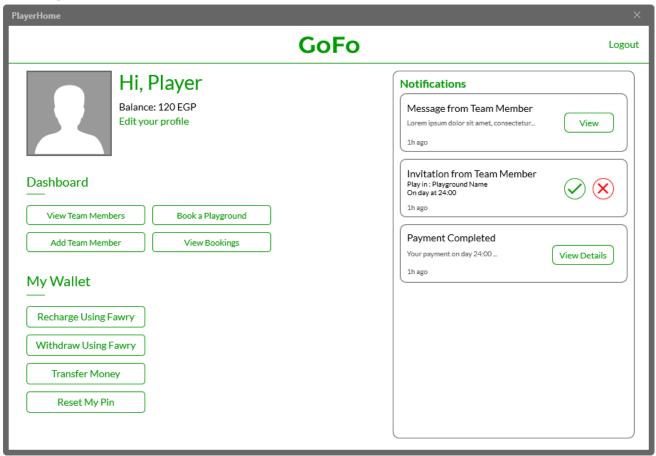






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5.0 Player Home

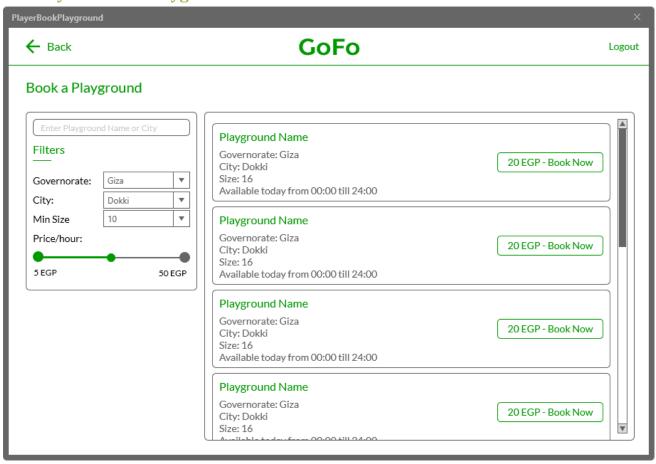






Software Design Specification

5.1 Player Book a Playground

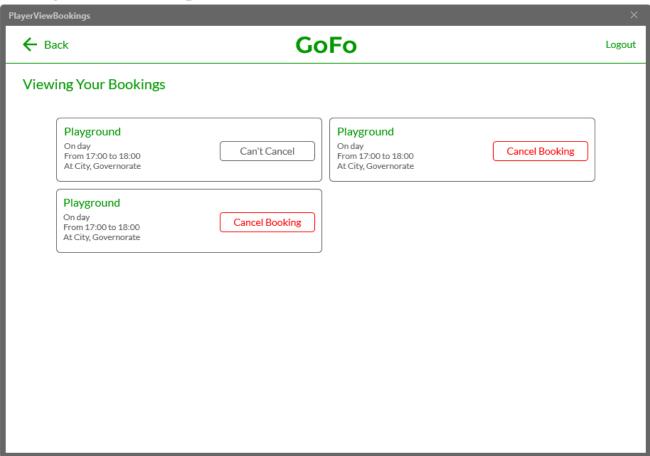






Software Design Specification

5.2 Player View Bookings







Software Design Specification

5.3 Player View Team

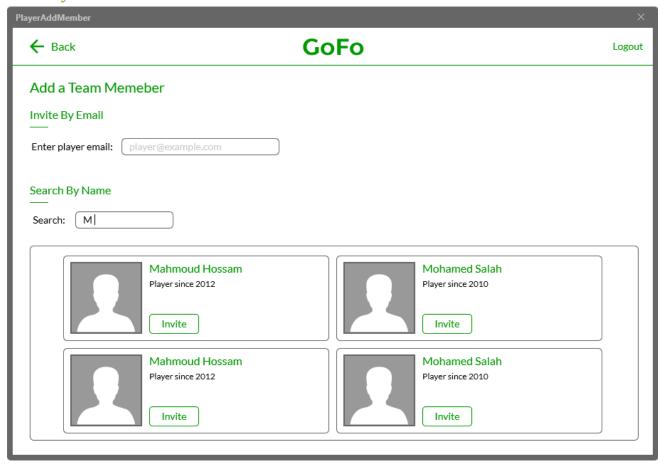






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5.4 Player Add Team Member

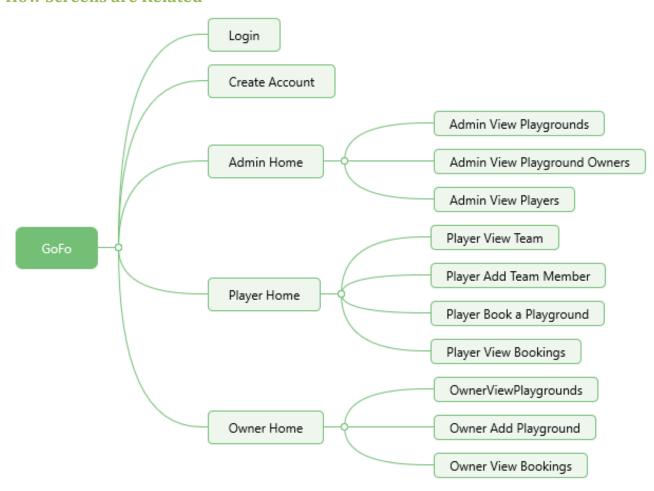






Software Design Specification

How Screens are Related







Software Design Specification

Screens' Description

Screen ID	Screen Name	Screen / Wireframe Description
1.0	Login	The login page offers a simple design that facilitates the login process for all app users (players, playground owners, and administrators). It will redirect each user to suitable page according to his role. Also, if the user doesn't have an account, he can create one by clicking on "Create Now" that will redirect him to a page (2.0) where he can create his account.
2.0	Create Account	The create account page allows new users to have an account in the app whether a player or a playground owner. New administrators can only be added by the super admin. If the user already has an account, he may click on "Login" to login to his account through login page (1.0).
3.0	Admin Home	This is the administrator home page. The login page (1.0) will redirect to this page if the user was an administrator. This page allows the administrators to: • Have a quick look on system status in the summary section • View new notifications and do quick actions in the notification section such as approving new playgrounds • View playgrounds by clicking on "View Playgrounds" button • View playground owners by clicking on "View Playground Owners" button • View players by clicking on "View Players" button
3.1	Admin View Playground Owners	This page views a list of playground owners for administrators. The admin home page (3.0) will redirect to this page if "View Playground Owners" button was clicked. This page allows the administrators to: • Quick view all playground owners • View playground owners' profiles • Do quick actions like suspending and activating a playground owner account • Search for a playground owner by name
3.2	Admin View Players	This page views a list of players for administrators. The admin home page (3.0) will redirect to this page if "View Players" button was clicked. This page allows the administrators to: • Quick view all players • View players' profiles • Do quick actions like suspending and activating a player account • Search for a player by name
3.3	Admin View Playgrounds	This page views a list of playgrounds for administrators. The admin home page (3.0) will redirect to this page if "View Playgrounds" button was clicked. This page allows the administrators to: • Quick view all playgrounds available • View playground full details • Do quick actions like approving and disapproving a playground • Search for a playground by name

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4.0	Owner Home	This is the playground owner home page. The login page (1.0) will redirect to this page if the user was a playground owner. This page allows the playground owners to: • View new notifications and do quick actions in the notification section viewing new bookings • View playgrounds by clicking on "View My Playgrounds" button • View bookings by clicking on "View Bookings" button • Add a playground by clicking on "Add Playground" button • See his wallet balance • Recharge their wallet balance using Fawry • Withdraw their wallet balance using Fawry • Transfer money • Reset wallet pin
4.1	Owner Add Playground	This page allows playground owner add a playground to their account. The playground owners home page (4.0) will redirect to this page if "Add Playground" button was clicked.
4.2	Owner View Bookings	This page views playgrounds booked by players and at what time. The playground owners home page (4.0) will redirect to this page if "View Bookings" button was clicked.
4.3	Owner View Playgrounds	This page views a list of playgrounds added by the playgrounds' owner. The playground owners home page (4.0) will redirect to this page if "View My Playgrounds" button was clicked. This page allows the playground owners to: • Quick view all playgrounds available • View playground full details • Do quick actions like activating and deactivating a playground • Search for a playground by name
5.0	Player Home	 This is the player home page. The login page (1.0) will redirect to this page if the user was a player. This page allows the players to: View new notifications and do quick actions in the notification section accepting Teams' invitations View team members by clicking on "View Team Members" button Add a member to his team by clicking on "Add Team Member" Button Book a playground by clicking on "Book a Playground" button View bookings by clicking on "View Bookings" button See his wallet balance Recharge their wallet balance using Fawry Withdraw their wallet balance using Fawry Transfer money Reset wallet pin





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5.1	Player Book a Playground	This page views a list of available playgrounds for players to book. The player home page (5.0) will redirect to this page if "Book a Playground" button was clicked. This page allows players to: To book a time slot in a playground Filter available playgrounds by location, minimum size, and price Search for a playground by name
5.2	Player View Bookings	This page views bookings made by the player and at what time. The player home page (5.0) will redirect to this page if "View Bookings" button was clicked. This page allows players to: • Cancel booking if not violating cancellation period
5.3	Player View Team	This page views player team members. The player home page (5.0) will redirect to this page if "View Team Members" button was clicked.
5.4	Payer Add Team Member	This page facilitates the process of adding a player to a team. The player home page (5.0) will redirect to this page if "Add Team Member" button was clicked. This page allows players to: • Adding another player to the team by searching using player name • Directly invite a player to the team by his email

Tools

- GenMyModel used to make the UML Diagram
- IntelliJ IDEA to develop the java program
- Visual Paradigm to make sequence diagram
- Mockplus to make GUI mockups for the program





Software Design Specification

Ownership Report

Owners	Item
	Part of Class Diagram
	Part of Main Class
Mohab Abdul Salam	Part of User Class
	All Sequence Diagram
	All Location Class
	Part of Class Diagram
	Part of Classes description
	Part of Main Class
Abdelrahman Khaled	Part of Player Class
Abuell allillall Kilaleu	Part of Playground Class
	Part of PlaygroundOwner Class
	All eWallet Class
	All Admin Class
	Part of Class Diagram
	Part of Classes description
	Part of Main Class
	Part of Player Class
Mahmoud Hossam	Part of Playground Class
	Part of PlaygroundOwner Class
	Part of User Class
	All Mockups & their description
	All JavaDoc & Generated HTML documentation





Software Design Specification

Screenshots

Main Menu

```
Welcome in Gofo!

1. create profile

2. login

3. Administrator

4. exit
```

Login

```
enter name:
mahmoud
enter password:
password
invalid username or password!
Welcome in Gofo!
1. create profile
2. login
3. Administrator
4. exit

2
enter name:
mahmoud
enter password:
passwor
welcome mahmoud
```





Software Design Specification

Player Menu

welcome abdo

Welcome in Player menu!

- 1. Book a playground
- 2. View bookings
- 3. Cancel booking
- 4. Create Team
- 5. View Team
- 6. Add team member
- 7. Charge eWallet
- 8. View balance9. exit

Owner Menu

Welcome in Owner menu!

- 1. Add playground
- 2. Remove playground
- 3. View all playgrounds
- 4. View bookings
- 5. View all time slots
- 6. View balance
- 7. exit





Software Design Specification

Add a Playground

```
Enter playground name:
Enter playground size:
Enter playground price per hour:
Enter playground cancellation period:
enter your country:
enter your governorate:
enter your city:
enter your neighborhood:
enter your streetaddress:
Enter opening hours on Saturday:
Enter opening time[24 hour clock]:
Enter opening hours on Sunday:
```





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Book Playground

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Book a Playground: Timeslot Selection

```
1-View all playgrounds
2- Filter by city
3- Filter by time
4- Select playground
5- Back
Please enter playground name:
Time slot number 1
Day: Saturday
Begin: 5
End: 6
Booked in: Playground1
Time slot number 2
Day: Saturday
Begin: 6
End: 7
Booked in: Playground1
Time slot number 3
Day: Saturday
Begin: 7
```





Software Design Specification

Insufficient Funds eWallet

```
Please enter | day:
Sunday
Please enter time:
5
Enter eWallet credentials:
Account number:
123456
password
password
Total amount: 50.0LE
1- Confirm payment
2- Cancel

Insufficient funds!
```

Charge eWallet

```
Enter eWallet credentials:
Account number:
12345
password
password
Enter charge amount:
50
Enter charge code:
1123445
Amount charged successfully!
Current balance: 50.0LE
```





Software Design Specification

Create Owner Profile

```
Are you:
-player
             -owner :
Enter your Name:
Enter your ID:
Enter your Password:
Enter your Phone:
Enter your Email:
Please enter a valid email address!
Enter your Email:
enter your country:
enter your governorate:
enter your city:
enter your neighborhood:
enter your streetaddress:
We have sent a verification code to your email.
Please enter your verification code: (Psst, its 56970 )
Validated Successfully!
Profile created successfully!
```





Software Design Specification

Create Player Profile

```
Are you:
 -player
             -owner :
Enter your Name:
Enter your ID:
Enter your Password:
Enter your Phone:
Enter your Email:
Please enter a valid email address!
Enter your Email:
enter your country:
enter your governorate:
enter your city:
enter your neighborhood:
enter your streetaddress:
We have sent a verification code to your email.
Please enter your verification code: (Psst, its 28693 )
Validated Successfully!
Profile created successfully!
```

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Software Design Specification

Create Team and Member

```
Please enter team name: Ny teeam
Team was created,try adding members to it.
Welcome in Player menu!

1. Book a playground

2. View bookings

3. Cancel booking

4. Create Team

5. View Team

6. Add team member

7. Charge eWallet

8. View balance9. exit

6
Please enter player email to send invitation:
example@email.com
Invitation sent successfully!
```

Filter Playgrounds by City

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Software Design Specification

Filter Playgrounds by Time

```
### Sunday

Please enter Day:

**Sunday**

Please enter Time:

**Playground Name: Playground1*

Playground Size: 5*

Playground Price/h: 50.0 EGP/h

Cancellation period: 2*

The playground is approved by admin Active?: Yes
```





Software Design Specification

View All time Slots

```
Playground name: Playground1
Time slot number 1
Day: Saturday
Begin: 5
End: 6
Booked in: Playground1
Time slot number 2
Day: Saturday
Begin: 6
End: 7
Booked in: Playground1
Time slot number 3
Day: Saturday
Begin: 7
End: 8
Booked in: Playground1
Time slot number 4
Day: Saturday
Begin: 8
End: 9
Booked in: Playground1
```

External Links

GitHub Repository: https://github.com/Th3Moody/GoFo

Google Drive Containing the Source Code: https://drive.google.com/file/d/1x9vF-

jcTgDbJObUzFMuVGi0XeatfutRQ/view?usp=sharing

Video Link: https://drive.google.com/file/d/1vCgHw0Ov3ybGMqjkV2Q0rJc6yjEFVU90/view?usp=sharing