# Software solution for DuelSys

URS 08-06-2022



# DuelSys inc.

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Version: 4.0

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### 1 Agreements With Client

For this project I was asked to create a back-office application and website for DuelSys inc., the software solution should help the sports associations to manage their tournaments. For the back-office application, it will be for sports associations, and for the website, it will be for players and any interested party. Down below is a list of the most important agreements

- 1. The software solution could be extendable to add more sports.
- 2. The software solution could be extendable to add more tournament systems.
- 3. The software must be able to support multiple sports types.
- 4. The software must be able to handle ties.

## **2 Functional Requirements**

There are certain things the system should be able to do. DuelSys has two users for the software solution, for this reason, I have to implement certain functional requirements.

#### 2.1 Back-office

The back-office will be for the staff of the associations and for Duelsys employees who are admins in the solution who can manage the accounts of the employees of the associations and manage the tournaments of the associations, therefore the back-office will have the functions that can help them manage the tournaments. I will use tables to prioritize the requirements using the MoSCoW methods.

#### 2.1.1 Sports associations management functions

Number	Category	Description	Status
FR-29	Could	The admin could be able to establish an association	
FR-37	Could	The admin could be able to deactivate an association	
FR-38	Could	The admin could be able to view associations	~

### 2.1.2 Sports associations user management functions

Number	Category	Description	Status
FR-01	Must	The employee or admin must be able to log in.	<b>/</b>
FR-02	Must	The employee or admin must be able to log out.	<b>/</b>
FR-03	Must	The admin should be able to add an account.	<b>/</b>
FR-04	Must	The admin should be able to view an account.	~
FR-05	Must	The admin should be able to update an account.	~
FR-06	Must	The admin should be able to delete an account.	~
FR-27	Could	The employee could change the password after her/him password got generated.	

## 2.1.3 Tournament management functions

Number	Category	Description	Status
FR-07	Must	The staff must be able to create a tournament.	~
FR-08	Must	The staff must be able to view a tournament Info.	~
FR-25	Must	The staff must be able to Update tournament Info.	~
FR-09	Must	The staff must be able to delete the tournament.	~
FR-10	Must	The staff must be able to generate a tournament schedule.	~
FR-11	Must	The staff must be able to register match results.	~
FR-30	Must	The system must be able to handle ties.	~
FR-39	Must	The system must support multiple sport types	~
FR-35	Should	The system Should be able to support muliple tournament systems	
FR-28	Could	The player get notified if there are any changes in the tournament they are registered in it.	
FR-31	Could	The employee could change the password after her/him password got generated.	
FR-32	Won't	Support leaderboard	

Number	Category	Description	Status
FR-34	Won't	Support challenge games	
FR-36	Won't	Support matches in a tournament	

#### 2.2 Website

#### 2.2.1 User functions

Number	Category	Description	Status
FR-12	Must	The player must be able to log in.	<
FR-13	Must	The player must be able to log out.	~
FR-26	Must	The player must be able to register an account	~
FR-14	Could	The player could be able to edit her/him personal information.	
FR-40	Could	The player can join team	
FR-41	Could	The player can get out of team	
FR-42	Could	The Team leader can remove member	
FR-33	Won't	The system won't generate profiles for players	

#### 2.2.2 Tournament functions

Number	Category	Description	Status
FR-18	Must	The player must be able to register for the tournament.	~
FR-19	Must	Anyone must be able to view tournament Information.	~
FR-20	Must	Anyone must be able to view tournament statistics.	~
FR-21	Must	Anyone must be able to view tournament results.	~
	Should		
	Could		
	Won't		

#### 3 Use cases

### 3.1 desktop application

#### 3.1.1 Sports associations user management functions

#### **UC-01**

Use Case Title	Log in to the back office
Use Case Number	UC-01
Functional Requirement	FR-01
Actor	Employee or admin
Pre-condition	Actor has an account
Post-condition	System displays home page

#### **Main Success Scenario**

- 1. The actor fills her/his username and password
- 2. The actor confirms her/his log in
- 3. The system displays the home page

#### **Extensions**

#### 2a: No text entered

- 1. The system shows the actor to fill all needed fields
- 2. Return to MSS 1

2b: Entered credentials don't match any credentials in system

- 1. The system clears the password field
- 2. The system tells the actor that the wrong info is entered
- 3. Return MSS 1

Use Case Title	Log out from the back-office
Use Case Number	UC-02
Functional Requirement	FR-02
Actor	Employee or admin
Pre-condition	Actor must be already logged in
Post-condition	System displays login page
Main Success Scenario	

- 1. The actor clicks on log out
- 2. The system displays log in page

#### **UC-03**

Use Case Title	Add an account
Use Case Number	UC-03
Functional Requirement	FR-03
Actor	Admin
Pre-condition	Actor opened main accounts page
Post-condition	New account got added

#### **Main Success Scenario**

- 1. The admin wants to create an account
- 2. The admin chooses an account type
- 3. The admin fills the required fields
- 4. The admin confirms and make an account
- 5. The system closes create an account page
- 6. The system shows updated list of users in main accounts page

#### **Extensions**

#### 4a: No type selected

- 1. The system displays there is no account type selected
- 2. The system keeps the rest of the fields
- 3. Return to MSS step 2

#### 4b: Missing required fields

- 1. The system displays there are missing required fields
- 2. The system displays which are the required fields
- 3. Return to MSS step 3

#### UC-04

Use Case Title	View an account
Use Case Number	UC-04
Functional Requirement	FR-04
Actor	Admin
Pre-condition	Actor opened main accounts page
Post-condition	Account information got shown
Main Success Scenario	

- 1. The admin selects an account from the list of the accounts
- 2. The admin presses two times on the account of interest
- 3. The system displays a page with the account information

Use Case Title	Update an account
Use Case Number	UC-05
Functional Requirement	FR-05
Actor	Admin
Pre-condition	Actor opened main accounts page
Post-condition	Current account got updated

#### **Main Success Scenario**

- 1. The admin selects an account from the list of the accounts
- 2. The admin chooses to update account
- 3. The system shows the account information
- 4. The admin changes the account information
- 5. The admin saves the changes
- 6. The system displays that the account got updated
- 7. The system closes update an account page
- 8. The system shows updated list of users in main accounts page

#### **Extensions**

5a: Missing required fields

- 1. The system shows there are missing required fields and
- 2. The system shows what are the missing fields
- 3. Return to MSS step 4

Use Case Title	Delete an account
Use Case Number	UC-06
Functional Requirement	FR-06
Actor	Admin
Pre-condition	Actor opened main accounts page
Post-condition	Existed account got deleted

#### **Main Success Scenario**

- 1. The admin selects an account from the list of the accounts
- 2. The admin presses on the delete account
- 3. The system asks to confirm the deleting action
- 4. The admin confirms the deleting action
- 5. The system shows the account got deleted
- 6. The system shows updated list of users in main accounts page

#### **Extensions**

4a: The actor doesn't confirm the deleting action

- 1. The system shows the main accounts on page
- 2. Return to MSS step 1

#### 3.1.2 Tournament management functions

#### **UC-08**

Use Case Title	Create a tournament
Use Case Number	UC-08
Functional Requirement	FR-07 & FR-39
Actor	Admin or employee
Pre-condition	Actor opened main tournaments page
Post-condition	New tournament got created

#### **Main Success Scenario**

- 1. The actor wants to create new tournament
- 2. The system displays create tournament page
- 3. The actor fills in needed to information to create tournament4. The actor presses on to create
- 5. The system shows the summary of the information
- 6. The actor confirms the information
- 7. The system shows that the new tournament got created

#### **Extensions**

- 4a: There is no game type selected
  - 1. The system shows there is no game type selected
  - 2. The system keeps all of the entered information
  - 3. Return to MSS step 3
- 4b: There are missing required fields
  - 1. The system shows there are missing required fields
  - 2. The system shows what are the missing fields
  - 3. Return to MSS step 3
- 4c: There is no tournament system selected
  - 1. The system shows there is no tournament system selected
  - 2. The system keeps all of the entered information
  - 3. Return to MSS step 3

View tournament	
UC-09	
FR-08 & FR-30	
Admin or employee	
Actor opened main tournaments page	
Tournament information got viewed	
Main Success Scenario	

## The actor presses two times on the interested tournament from the list of

tournaments

2. The system shows a new form with all of the information related to the tournament

10

Use Case Title	Update tournament
Use Case Number	UC-10
Functional Requirement	FR-25
Actor	Admin or employee
Pre-condition	Actor opened main tournaments page
Post-condition	Tournament information got updated

#### **Main Success Scenario**

- 1. The actor presses twice on the desired tournament from list
- 2. The system shows a form with all tournament information
- 3. The actor modifies the fields
- 4. The actor presses on save
- 5. The system shows a summary with all of the changed information
- 6. The system asks to confirm the changes
- 7. The actor confirms
- 8. The system shows the changes got saved

#### **Extensions**

#### 4a: Missing required fields

- 1. The system shows there are missing fields
- 2. The system shows what are the missing fields
- 3. Return to MSS step 2

#### 4b: There are no changes

- 1. The system shows there are no changes
- 2. Return to MSS step 3

#### 4a: The actor doesn't confirm the changes

- 1. The system shows that all of the changes will be redone
- 2. The system asks to confirm that all of the changes will be redone
- 3. The actor confirms
- 4. Return to MSS step 2

Use Case Title	Delete tournament
Use Case Number	UC-11
Functional Requirement	FR-09
Actor	Admin or employee
Pre-condition	Actor opened main tournaments page
Post-condition	Tournament got deleted

#### **Main Success Scenario**

- 1. The actor chooses tournament
- 2. The actor presses on delete tournament
- 3. System asks for confirming the deleting action
- 4. The actor confirms
- 5. The system shows the tournament got deleted

#### **Extensions**

#### 4a: Actor doesn't confirm

- 1. The system shows the main tournaments page
- 2. End of use case

#### **UC-12**

Use Case Title	Generate tournament schedule
Use Case Number	UC-12
Functional Requirement	FR-10
Actor	Admin or employee
Pre-condition	Actor opened the tournament information page
Post-condition	Tournament schedule got generated

#### **Main Success Scenario**

- 1. The actor chooses schedule page
- 2. The system shows the schedule page
- 3. The actor presses on generate schedule
- 4. The system generates a new schedule
- 5. The system shows the new schedule

#### **Extensions**

#### 3a: The tournament doesn't have the minimum requirements

- 1. The system shows that the tournament doesn't have minimum requirements
- 2. The system shows that are missing requirements
- 3. Return to MSS step 2

Use Case Title	Register match results
Use Case Number	UC-13
Functional Requirement	FR-11
Actor	Admin or employee
Pre-condition	Actor opened the tournament information page
Post-condition	Match results got registered

#### **Main Success Scenario**

- 1. The actor presses on matches page
- 2. The system shows the matches on page
- 3. The actor chooses the match from matches list
- 4. The actor presses on register results
- 5. The system shows registered results on page
- 6. The actor fills the fields
- 7. The actor presses on register result
- 8. The system shows that the results got saved

#### **Extensions**

#### 2a: There are no matches generated

- 1. The system shows there are no matches
- 2. Return to MSS step 1

#### 7a: There are missing required fields

- 1. The system shows there are missing required fields
- 2. The system shows what are the missing fields
- 3. Return to MSS step 6

#### 7b: The entered scores does't match the game scoring system

- 1. The system shows the entered scores are not match the game scoring rule
- 2. Return to MSS step 6

#### 3.2 Website

#### 2.2.1 User functions

#### **UC-14**

Use Case Title	Log in
Use Case Number	UC-14
Functional Requirement	FR-12
Actor	User
Pre-condition	The actor is registered in the system
Post-condition	Home page opened

#### **Main Success Scenario**

- 1. The user fills her/his username and password
- 2. The user wants the login
- 3. The system displays the home page

#### **Extensions**

#### 2a: No text entered

- 1. The system asks the user to fill up all the fields
- 2. Return to MSS 1

2b: Entered credentials don't match any credentials in system

- 1. The system clears the password field
- 2. The system shows the user that the wrong credentials entered is wrong
- 3. Return MSS 1

#### 2b: Entered credentials is for staff account

- 1. The system shows that staff can't use the website with the staff account
- 2. End of use case

Use Case Title	Log out
Use Case Number	UC-15
Functional Requirement	FR-13
Actor	Player
Pre-condition	The actor must be already logged in
Post-condition	The system logged out the actor
Main Success Scenario	
<ol> <li>The player presses on log out</li> <li>The system displays the home page</li> </ol>	

#### **UC-16**

Use Case Title	Register new account
Use Case Number	UC-16
Functional Requirement	FR-26
Actor	Player
Pre-condition	The actor on the register page
Post-condition	The actor created new player account

#### **Main Success Scenario**

- 1. The actor fills in the needed information to register a new account
- 2. The player confirms the registration
- 3. The system shows that a new account got created
- 4. The system shows the log on page
- 5. The system redirects to use case Log in (UC-14)

#### **Extensions**

#### 2a: Missing fields

- 1. The system shows there are missing fields
- 2. The system shows what are the missing fields
- 3. Return to MSS step 1

#### 2.2.2 Tournament functions

#### **UC-19**

View a tournament
UC-19
FR-19
Anyone
The actor opened tournament page
Tournament got viewed

#### **Main Success Scenario**

- 1. The actor chooses tournaments on page
- 2. The system views all of the tournaments
- 3. The actor chooses tournament
- 4. The system shows the tournament page

#### **Extensions**

2a: There are no tournaments

- 1. The system shows there are no tournaments
- 2. End of use case

#### **UC-20**

Use Case Title	Register in tournament
Use Case Number	UC-20
Functional Requirement	FR-18
Actor	Player
Pre-condition	The actor opened tournaments page
Post-condition	The actor is registered in tournament
Main Success Scenario	

- 1. The player chooses the tournament
- 2. The system shows the tournament on page
- 3. The player presses on register
- 4. The system shows that the actor got registered

Use Case Title	Case Title View tournament statistics				
Use Case Number	UC-21				
Functional Requirement	FR-20				
Actor	Anyone				
Pre-condition The actor opened a tournament page					
Post-condition	Tournament statistics got viewed				
	Main Success Scenario				
The actor chooses statistics on page     The system shows statistics page					
Extensions					
2a: There are no statistics	S				

## UC-22

1. The system shows there are no statistics

2. End of the use case

2. End of the use case

00-22				
Use Case Title View tournament results				
Use Case Number UC-22				
Functional Requirement	FR-21 & FR-30			
Actor	Anyone			
Pre-condition The actor opened the tournament page				
Post-condition The tournament results got shown				
	Main Success Scenario			
The actor chooses results on page     The system shows results on page				
Extensions				
2a: There are no results  1. The system shows there are no results				

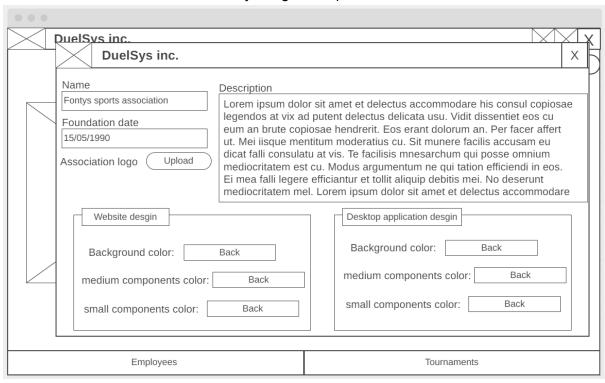
#### 4 Wireframes

#### 4.1 Back-office

#### 4.1.1 Association management

#### 4.1.1.1 establish an association

This is the first-page admin will see when they start the application after they login, here admin can establish the association by filling the required fields.

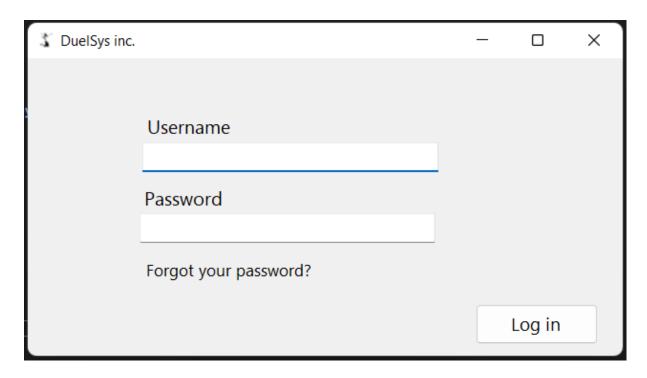


#### 4.1.2 Users management

#### 4.1.2.1 Log in

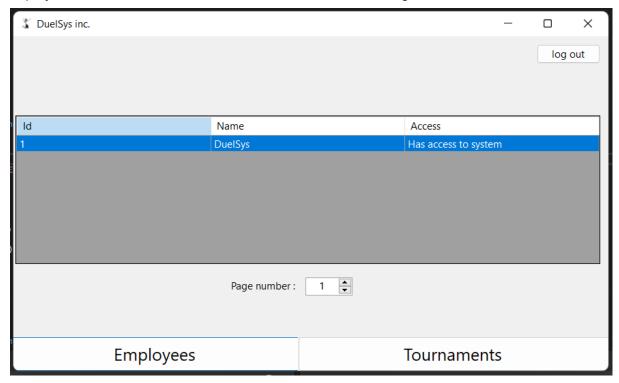
On log in page the staff can log in to the back office by filling in their credentials and clicking log in button in the bottom right. In case they forgot their password they can click on the text under the password box to get more instructions.

In the top left there are the logo of the company and the name, in the right there are the form controls.



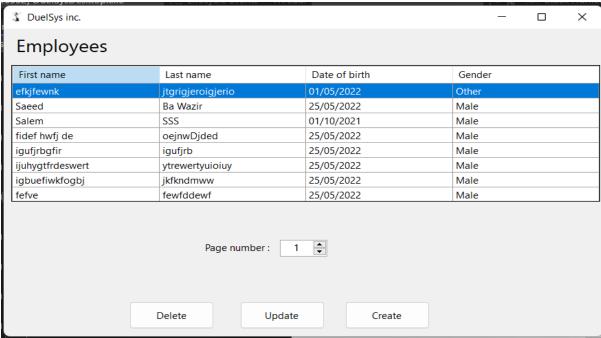
#### 4.1.2.2 The home page for admin

On the right the user can log out using the Log out button. In the middle of the page, there are list of associations. At the bottom, there are two buttons one for the admin to manage employees' accounts and the other for all of the staff to manage the tournaments



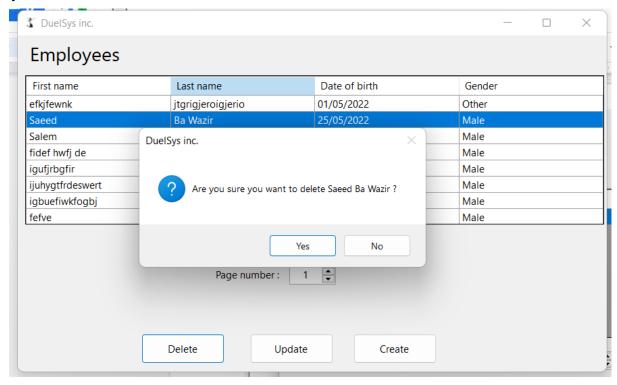
#### 6.1.2.3 The employee's main page

In the middle of the page these is a list of the employees of the chosen assoication and user can press twice on on the employee to see her or his information. In the bottom, there are three buttons delete, update and create all of them are for the user to manage the account of the employees.



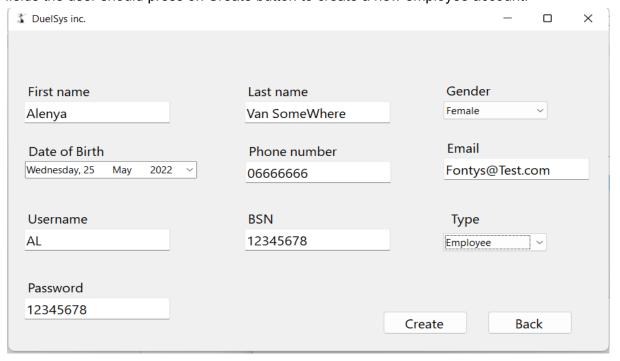
#### 4.1.2.4 Confirming deleting an account form

After selecting the account and clicking the delete button, the form in the middle will be shown and the system will ask to confirm the deleting of an account when the user click the yes button in the form it will delete the user if the user decided not to delete the account the system will close the form.



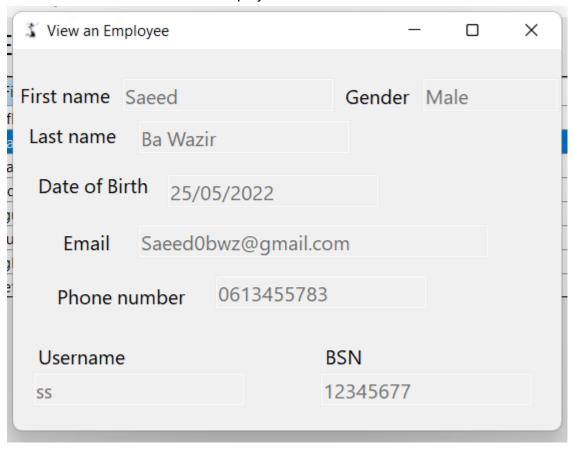
#### 4.1.2.5 Create an employee account

On this page user can create user, there are boxes for the required fields. After filling the fields the user should press on Create button to create a new employee account.



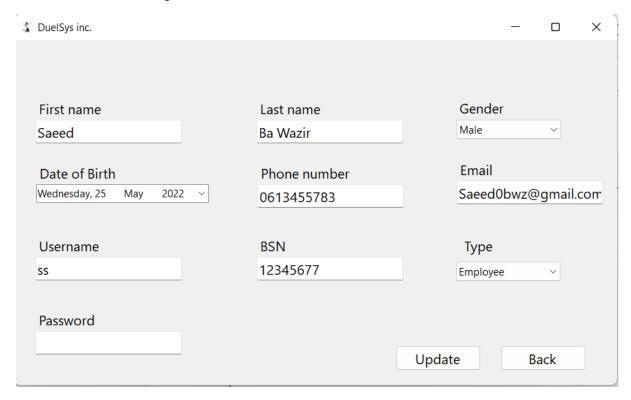
#### 4.1.2.6 View an employee account

After press twice on the employee raw in the list of the main employees' page, there is a form that will be shown where is employee information.



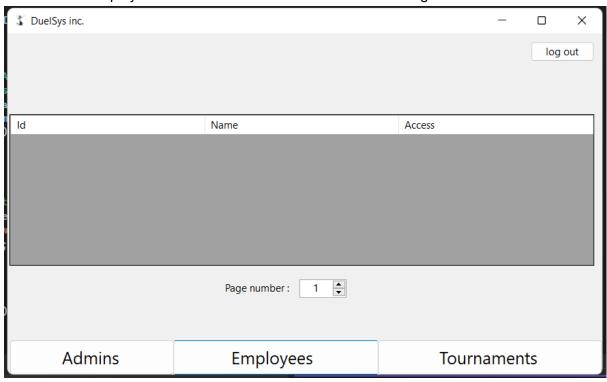
#### 4.1.2.7 Update an employee account

After selecting an employee raw in the list of the main employees' page and clicking the update button on the main employees' page, the user will be able to see the employee information and change any field the user what to change. They have to click on the update button to save the changes.



#### 4.1.2.8 The home page for DuelSys admin

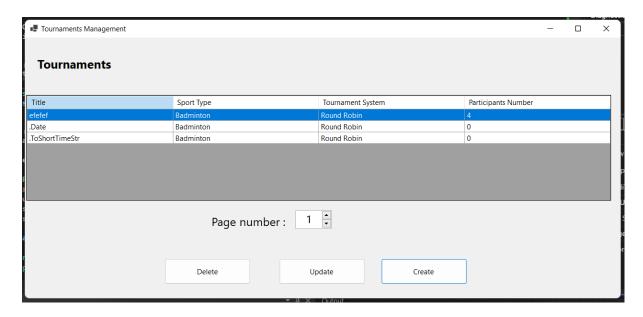
On the right the user can log out using the Log out button. In the middle of the page, there are list of associations. At the bottom, there are three buttons one for the admin to manage employees' accounts of DuelSys admin's accounts, the middle one is to manage the association's employees and the other for all of the staff to manage the tournaments



#### 4.1.3 Tournaments management

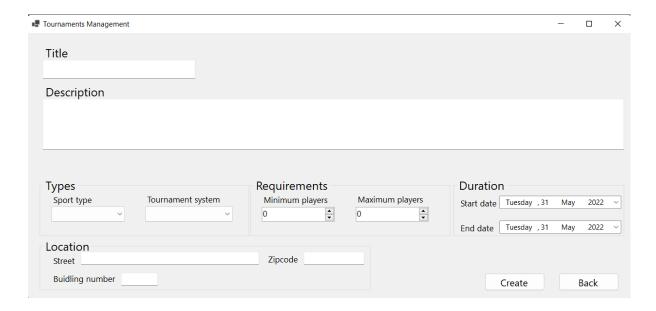
#### 4.1.3.1 The main tournament's page

On this page, the user can see a list of the tournaments and see some information about them. On the bottom, the user can delete or manage or create a new tournament.



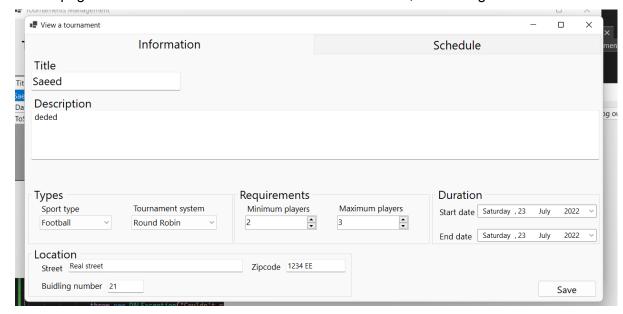
#### 4.1.3.2 Creating a tournament

On this page the user can create a tournament by filling in all the required fields and clicking create button.



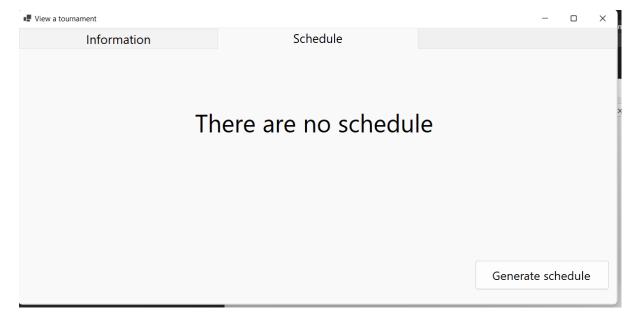
#### 4.1.3.3 View a tournament

On this page the user can view all the tournament information, and change them.



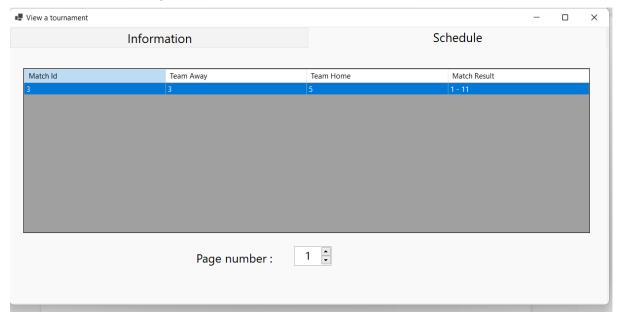
#### 4.1.3.4 Generate Schedule

On this page user can generate a schedule for the tournament by clicking on the Generate schedule button.



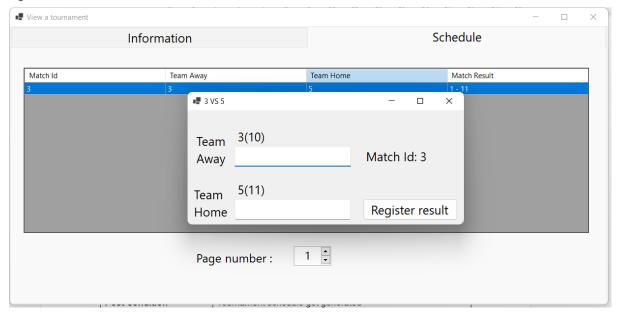
#### 4.1.3.5 Tournament Schedule

On the middle of the page user can view the match of the selected tournament.



#### 4.1.3.4 Registering results

On this page user can register the match results, by filling the points boxes and click on register result.



#### 4.2 Website

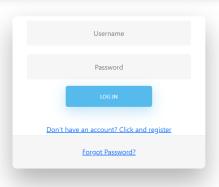
#### 4.2.1 Users management

#### 4.2.1.1 Log in

On this page the user can log in, by filling in the credentials, and clicking log in button. If the user doesn't have an account the user can register as a player by clicking the register button.

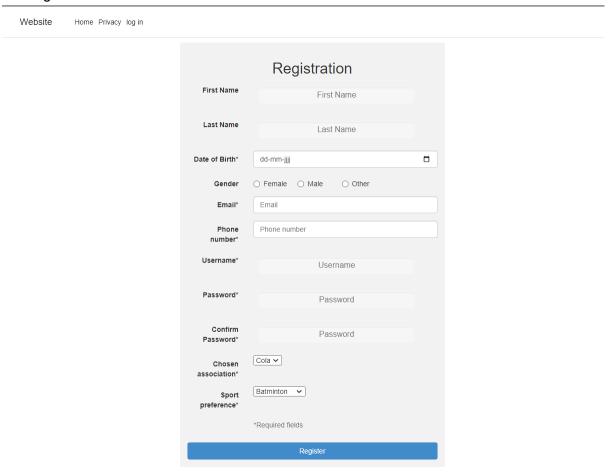
Lastly, in case the user forgets the password, they can click on ("Forgot your password?") to get help.

Website Home Privacy log in



### 4.2.1.2 Register as a player

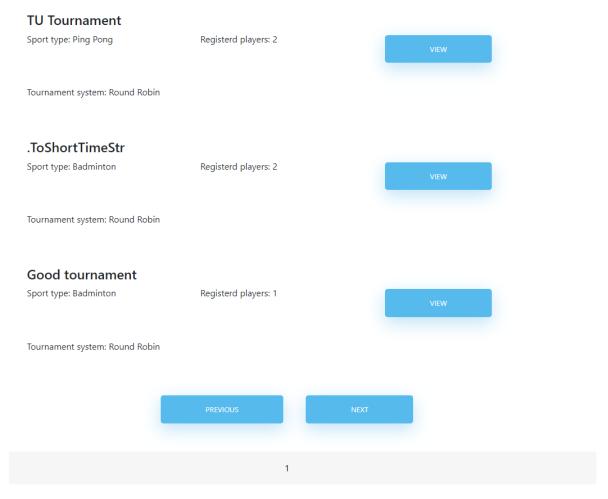
On this page player can register herself/himself by filling in the required fields and clicking on the Register button.



### 4.2.2 Tournaments management

#### 4.2.2.1 View tournaments

On this page anyone can view the tournaments list and click on view to get the tournament page.



#### 4.2.2.2 view a tournament

On this page anyone can view a tournament in the top box there are some information about the tournament like title and description. Second box is matchs results. Last box is tournament statistics where the user can see the tournament statistics like how many players and number of matches.

Ping pong Sport type Tourname Street: Re	urnament tourament . Ping Pong nt system: Round Robin al street umber: 21 Zipcode: 1234 EE	Start date: 23/07/2022 End date: 23/07/2022		Maximum participants: 3 Minimum participants: 2	Registering i closed
ld	Team away		Team home		result
3	3		5		1 - 11
Number of	participants: 3			Golden prize:	