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| URS |
| For Synthesis assignment |



User Requirement Specification

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| Revisions | | | |
| Verison | Description | Date | Author |
| 1 | Added base URS structure and FR’s and use cases | 29.04.2022 | Yordan Doykov |
| 1.1 | Added sample GUI for desktop application | 30.04.2022 | Yordan Doykov |
| 1.2 | Added sample GUI for web application | 01.05.2022 | Yordan Doykov |
| 1.3 | Updated use cases | 11.05.2022 | Yordan Doykov |
| 1.4 | Added document title page, elaborated on introduction and separated several functional requirements | 29.05.2022 | Yordan Doykov |

Introduction

This document aims to provide insight into the technical aspects of the software developed for DuelSys inc, who want a software solution to allow their customers (sport associations) to manage their sport tournaments.

This URS includes all functional and non-functional requirements that are going to be developed in the software. Use cases are included so it can be understood exactly which requirements they cover and how the software is going to be used, along with sample images of the GUI, so the client can expect what the software will potentially look like.

User requirements

This document uses the MoSCoW user requirement classification system, in which each letter stands for the following:

**M – Must have:** will be implemented mandatorily  
**S – Should have:** should be implemented after the must-have’s  
**C – Could have:** nice to have features/ideas that are not essential and are not a priority  
**W – Won’t have:** features that will not be implemented

Non-functional requirements

1. NFR-01(M): Applications are maintainable and extendable
2. NFR-02(M): System is bug free
3. NFR-03(M): Software is secure

Functional requirements

Desktop application

1. FR-01(M): Staff must be able to log in the application
2. FR-02(M): Staff must be able to log out of the application
3. FR-03(M): Staff must be able to create accounts for other staff members
4. FR-04(M): Staff must be able to create tournaments
5. FR-05(M): Staff must be able to specify tournament’s system
6. FR-06(M): Staff must be able to see all pending tournaments
7. FR-07(M): Staff must be able to see all ongoing tournaments
8. FR-08(M): Staff must be able to see all ended tournaments
9. FR-09(M): Staff must be able to edit the information of non-started tournaments
10. FR-10(M): Staff must be able to delete tournaments
11. FR-11(M): Staff must be able to conclude any ended tournament
12. FR-12(M): Staff must be able to generate the schedule of any tournament 1 week before its start
13. FR-13(M): System must generate tournament schedule related to its type
14. FR-14(C): System could be able to start pending tournaments automatically
15. FR-15(C): System could be able to conclude ended tournaments automatically
16. FR-16(M): Staff must be able to see all games in a tournament
17. FR-17(M): Staff must be able to register the result of a tournament game

Web application

1. FR-18(M): Users must be able to register in the application
2. FR-19(M): Users must be able to log in the application
3. FR-20(M): Users must be able to log out of the application
4. FR-21(M): Users must be able to see all pending tournaments
5. FR-22(M): Users must be able to see all ongoing tournaments
6. FR-23(M): Users must be able to see all ended tournaments
7. FR-24(M): Users must be able to see information about a specific tournament
8. FR-25(S): A tournament’s information should include a leaderboard of players.
9. FR-26(M): A tournament’s information must include all of the tournament’s matches.
10. FR-27(M): Players must be able to register for a pending tournament
11. FR-28(M): Players must be able to deregister from a pending tournament
12. FR-29(M): Players must be able to see their profile information

Use Cases – Desktop application

UC-01

Use case: Log in the application

Related Functional Requirements: **FR-01**

Actor: Staff

Main Success Scenario:

1. Staff fills out credentials and confirms
2. System navigates staff to app’s home page

Extensions

1a. Credentials are incorrect

1. System displays wrong credentials message
2. Return to MSS step 1

UC-02

Use case: Log out of the application

Related Functional Requirements: **FR-02**

Actor: Staff

Pre-Condition: Logged in the application

Main Success Scenario:

1. Staff clicks log out button
2. System navigates staff to app’s log in page

UC-03

Use case: Staff creates account in the application

Related Functional Requirements: **FR-03**

Actor: Staff

Pre-Condition: Logged in the application

On the home screen

Main Success Scenario:

1. Staff clicks button to register user
2. System navigates staff to “Register account” screen
3. Staff fills account information
4. Staff clicks button to confirm
5. System displays success message

Extensions

1a. Details are incorrect

1. System displays error message
2. Return to MSS step 3

UC-04

Use case: Staff adds tournament to the system

Related Functional Requirements: **FR-04, FR-05**

Actor: Staff

Pre-Condition: Logged in the application

On the home screen

Main Success Scenario:

1. Staff clicks button to add a new tournament
2. Staff fills in tournament’s information
3. Staff clicks button to confirm
4. System adds tournament to the system
5. System displays success message

Extensions

1a. Details are incorrect

1. System displays error message
2. Return to MSS step 2

UC-05

Use case: Staff sees all tournament in the system

Related Functional Requirements: **FR-06, FR-07, FR-08**

Actor: Staff

Pre-Condition: Logged in the application

On the home screen

Main Success Scenario:

1. Staff member chooses to see all pending tournaments
2. System displays pending tournaments

Extensions

1a. Staff member chooses to see all ongoing tournaments

1. System displays ongoing tournaments

1b. Staff member chooses to see all ended tournaments

1. System displays ended tournaments

UC-06

Use case: Staff edits the information of a tournament

Related Functional Requirements: **FR-09**

Actor: Staff

Pre-Condition: Logged in the application

On the home screen

Main Success Scenario:

1. Staff selects tournament from list
2. Staff clicks button to edit tournament
3. Staff fills in new information for tournament
4. Staff clicks button to confirm
5. System displays success message

Extensions

1a. Tournament starts in less than 1 week

1. System displays error message
2. Return to MSS step 1

2a. Details are incorrect

1. System displays error message
2. Return to MSS step 3

UC-07

Use case: Staff deletes a tournament from the system

Related Functional Requirements: **FR-10**

Actor: Staff

Pre-Condition: Logged in the application

On the home screen

Main Success Scenario:

1. Staff selects tournament from list
2. Staff clicks button to delete tournament
3. Staff clicks button to confirm
4. System displays success message

UC-08

Use case: Staff generates schedule for a tournament

Related Functional Requirements: **FR-12, FR-13**

Actor: Staff

Pre-Condition: Logged in the application

On the home screen

Main Success Scenario:

1. Staff selects tournament from list
2. Staff clicks button to generate schedule
3. System generates schedule for tournament
4. System displays success message

Extensions

1a. Tournament starts in more than 1 week

1. System displays information message
2. End of use case

1b. Tournament has already been scheduled

1. System displays error message
2. End of use case

UC-09

Use case: Staff concludes an ended tournament

Related Functional Requirements: **FR-11**

Actor: Staff

Pre-Condition: Logged in the application

On the home screen

Main Success Scenario:

1. Staff selects tournament from list
2. Staff clicks button to conclude tournament
3. System ranks players in tournament
4. System displays success message

Extensions

1a. Tournament has not ended yet

1. System displays information message
2. End of use case

UC-10

Use case: Staff views scheduled games for tournament

Related Functional Requirements: **FR-16**

Actor: Staff

Pre-Condition: Logged in the application

On the home screen

Main Success Scenario:

1. Staff selects tournament from list
2. Staff clicks button to view tournament games
3. System navigates staff to “View games” screen

UC-11

Use case: Staff registers result of a tournament game

Related Functional Requirements: **FR-17**

Actor: Staff

Pre-Condition: Logged in the application

On the “View games” screen

Main Success Scenario:

1. Staff selects game from list
2. Staff clicks button to edit game
3. System navigates staff to “Enter results” screen
4. Staff enters game results
5. Staff clicks confirm button
6. System displays success message

Extensions

1a. Invalid score for game

1. System displays error message
2. Return to MSS step 4

1b. Game has not started yet

1. System displays error message
2. Return to MSS step 1

1c. Game result have already been entered

1. System displays error message
2. Return to MSS step 1

Use Cases – Web application

UC-12

Use case: Register in the application

Related Functional Requirements: **FR-18**

Actor: User

Main Success Scenario:

1. User clicks button to register
2. System navigates user to site’s register page
3. User fills in information
4. User clicks button to register in
5. System displays success message
6. System redirects user to “Log in” page

Extensions

1a. Credentials are incorrect

1. System displays wrong credentials message
2. Return to MSS step 3

UC-13

Use case: Log in the application

Related Functional Requirements: **FR-19**

Actor: User

Main Success Scenario:

1. User clicks button to log in
2. System navigates user to site’s login page
3. User fills in information
4. User clicks button to log in
5. System displays success message

Extensions

1a. Credentials are incorrect

1. System displays wrong credentials message
2. Return to MSS step 1

UC-14

Use case: Log out of the application

Related Functional Requirements: **FR-20**

Actor: User

Main Success Scenario:

1. User clicks button to log out
2. System displays success message

UC-15

Use case: User navigates to “Tournaments” page

Related Functional Requirements: **FR-21, FR-22, FR-23**

Actor: User

Main Success Scenario:

1. User clicks on “Tournaments” button
2. System redirects user to “Tournaments” page

UC-16

Use case: User sees all tournaments in the system

Related Functional Requirements: **FR-21, FR-22, FR-23**

Actor: User

Pre-Condition: On “Tournaments” page

Main Success Scenario:

1. User member chooses to see all pending tournaments
2. System displays pending tournaments

Extensions

1a. User member chooses to see all ongoing tournaments

1. System displays ongoing tournaments

1b. User member chooses to see all ended tournaments

1. System displays ended tournaments

UC-17

Use case: User sees information about tournament

Related Functional Requirements: **FR-24, FR-25, FR-26**

Actor: User

Pre-Condition: On “Tournaments” page

Main Success Scenario:

1. Users clicks on info next to a tournament
2. System redirects user to “Tournament details” page

UC-18

Use case: Player registers for a tournament

Related Functional Requirements: **FR-27**

Actor: Player

Pre-Condition: Logged in as a player

On “Tournament details” page

Main Success Scenario:

1. Player clicks button to register for tournament
2. System displays success message

Extensions

1a. Player is already registered for this tournament

1. System displays error message
2. End of use case

2a. Tournament begins in less than one week

1. System displays error message
2. End of use case

3a. Tournament has reached maximum players

1. System displays error message
2. End of use case

UC-19

Use case: Player deregisters from a tournament

Related Functional Requirements: **FR-28**

Actor: Player

Pre-Condition: On “Tournament details” page

Main Success Scenario:

1. Player clicks button to deregister from tournament
2. System displays success message

Extensions

1a. Player is not registered for tournament

1. System displays error message
2. End of use case

2a. Tournament begins in less than one week

1. System displays error message
2. End of use case

UC-20

Use case: User sees their profile page

Related Functional Requirements: **FR-29**

Actor: User

Pre-Condition: Logged in

Main Success Scenario:

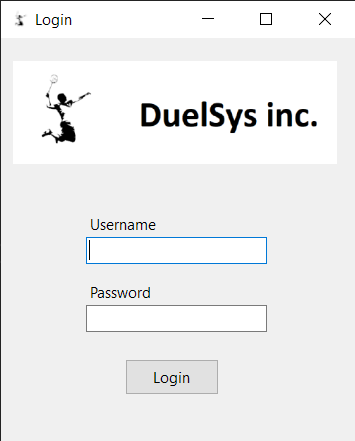
1. User clicks button to view their profile
2. System navigates user to “Profile” screen

Sample GUI

Desktop Application

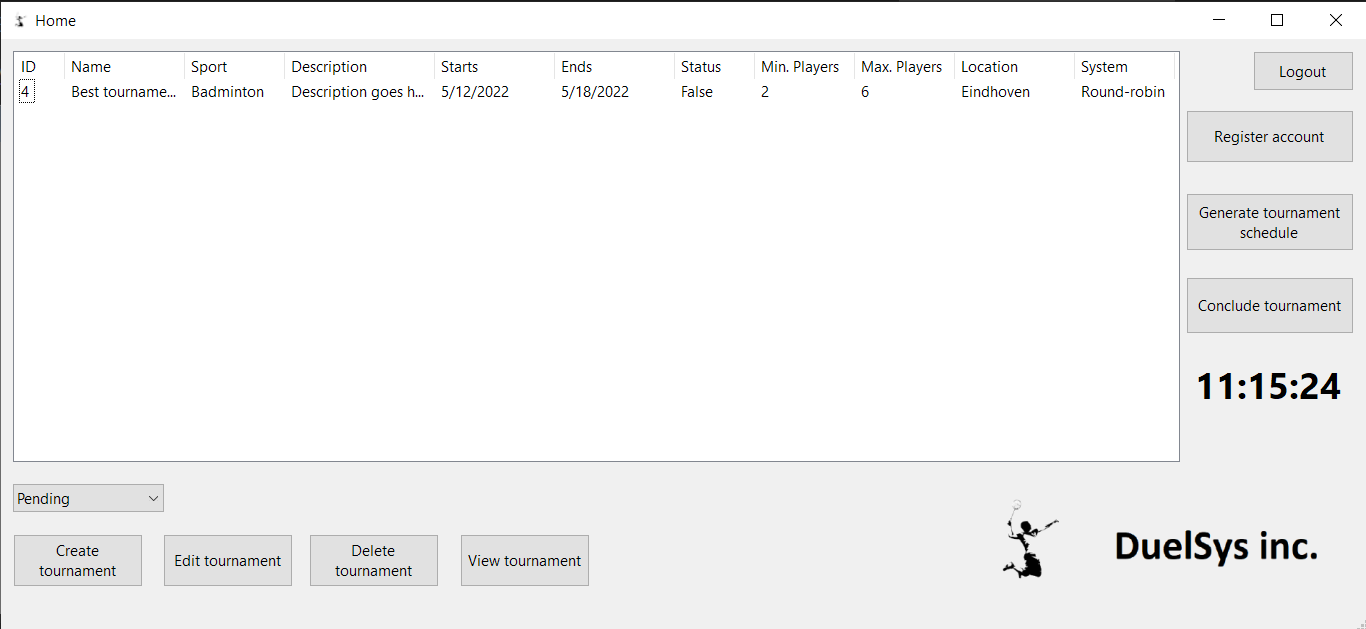
**Note that these screenshots are an early draft of the GUI and are not final**

Login screen



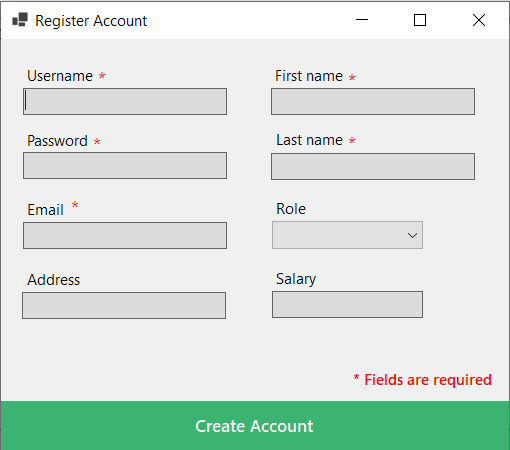
Related to: UC01

Home screen



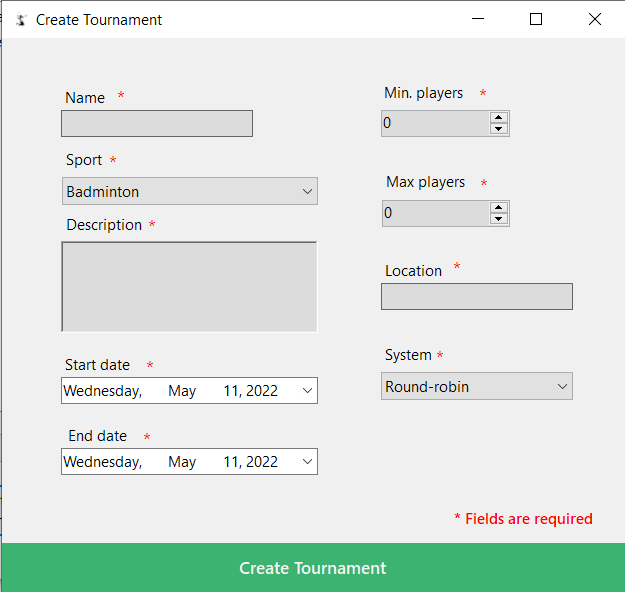
Related to: UC02, UC03, UC04, UC05, UC06, UC07, UC08, UC09, UC10

Register account screen



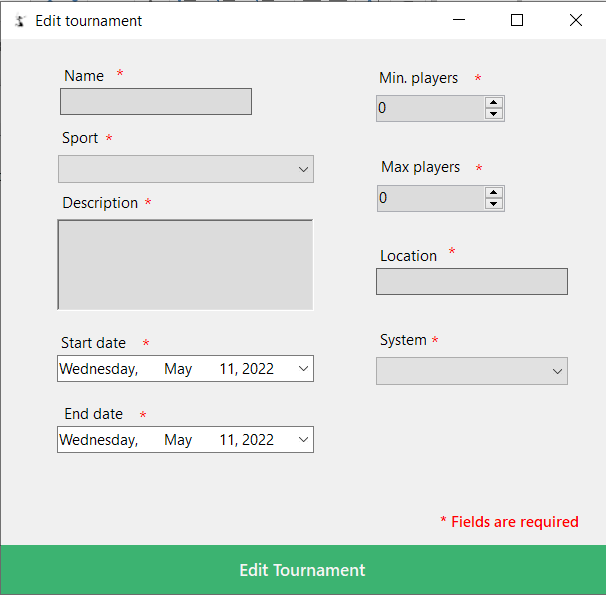
Related to: UC03

Create tournament screen



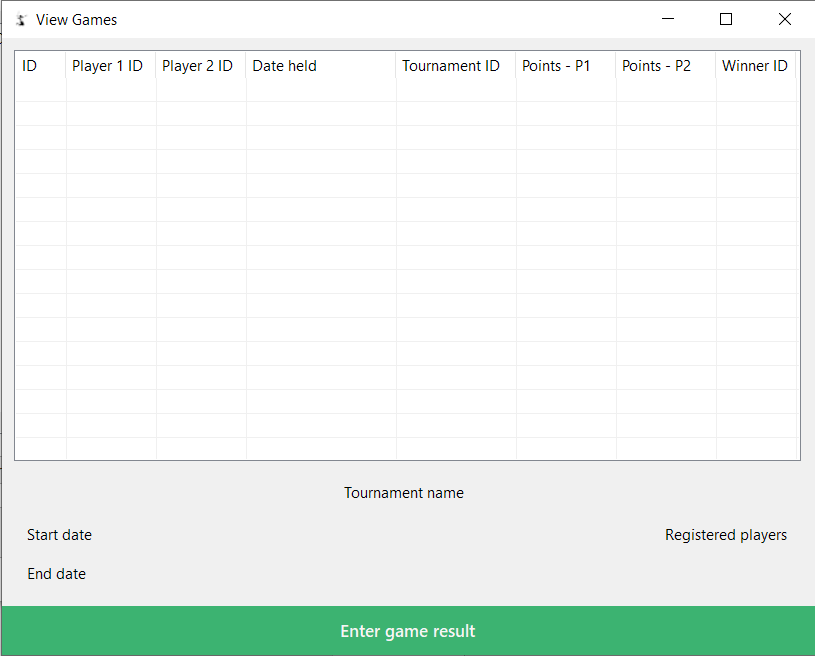
Related to: UC04

Edit tournament screen



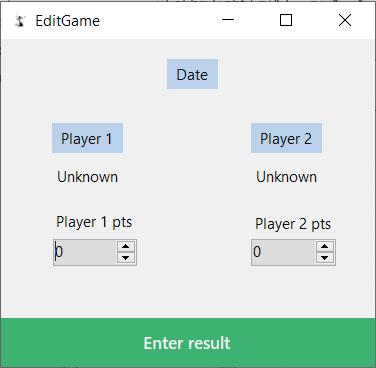
Related to: UC06

View games screen



Related to: UC10

Enter result screen

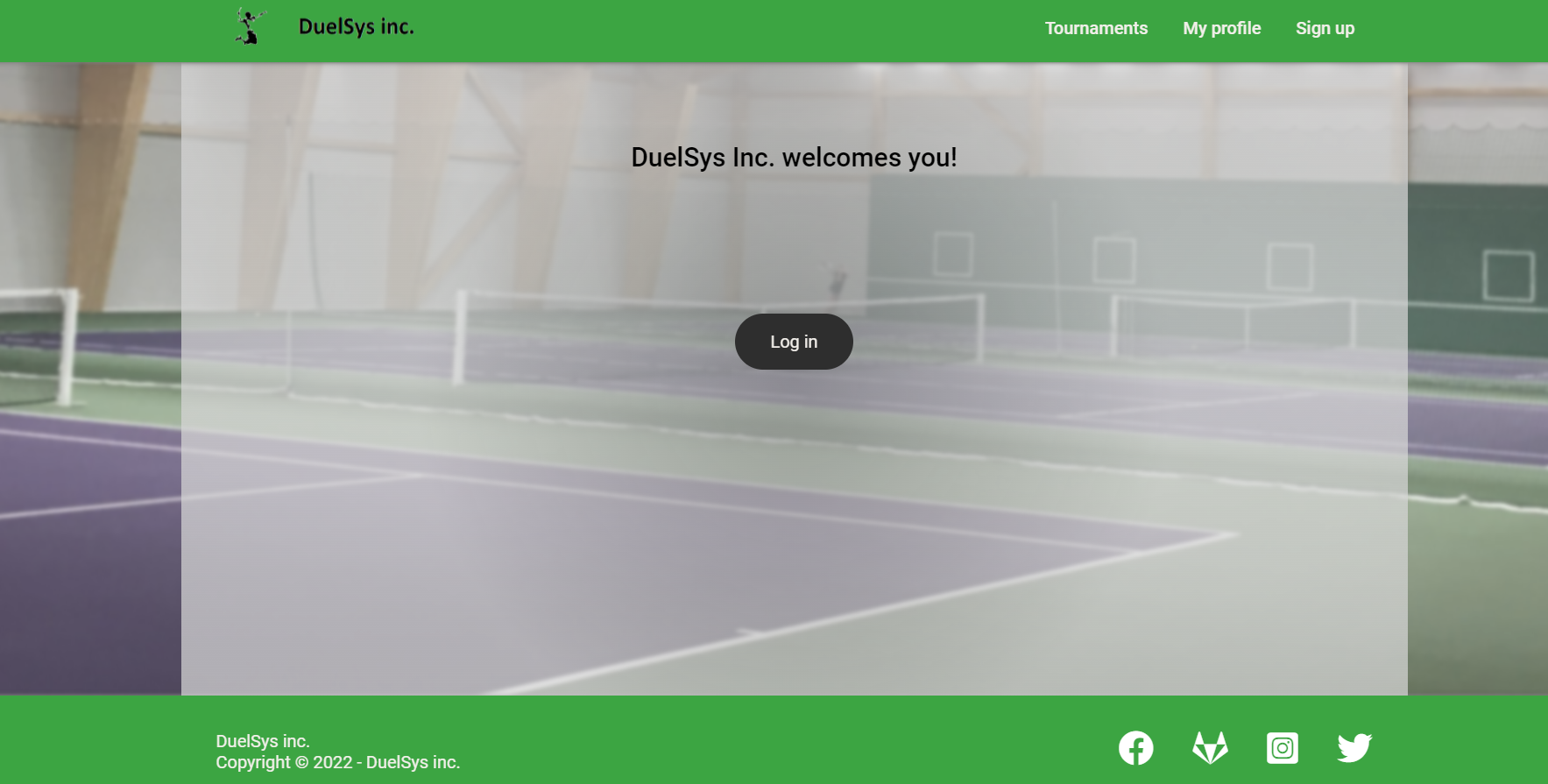


Related to: UC11

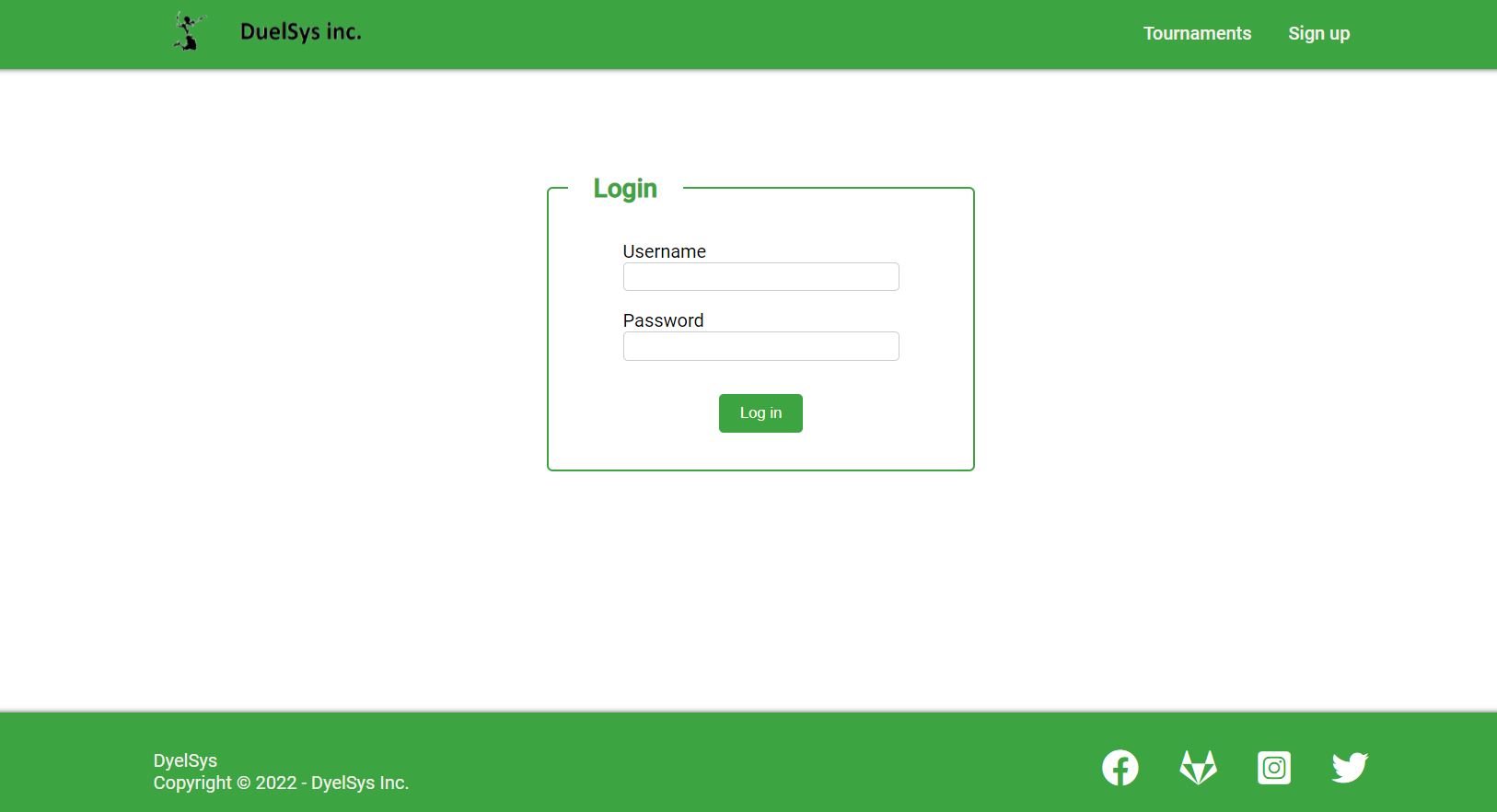
Web Application

**Note that these screenshots are an early draft of the GUI and are not final**

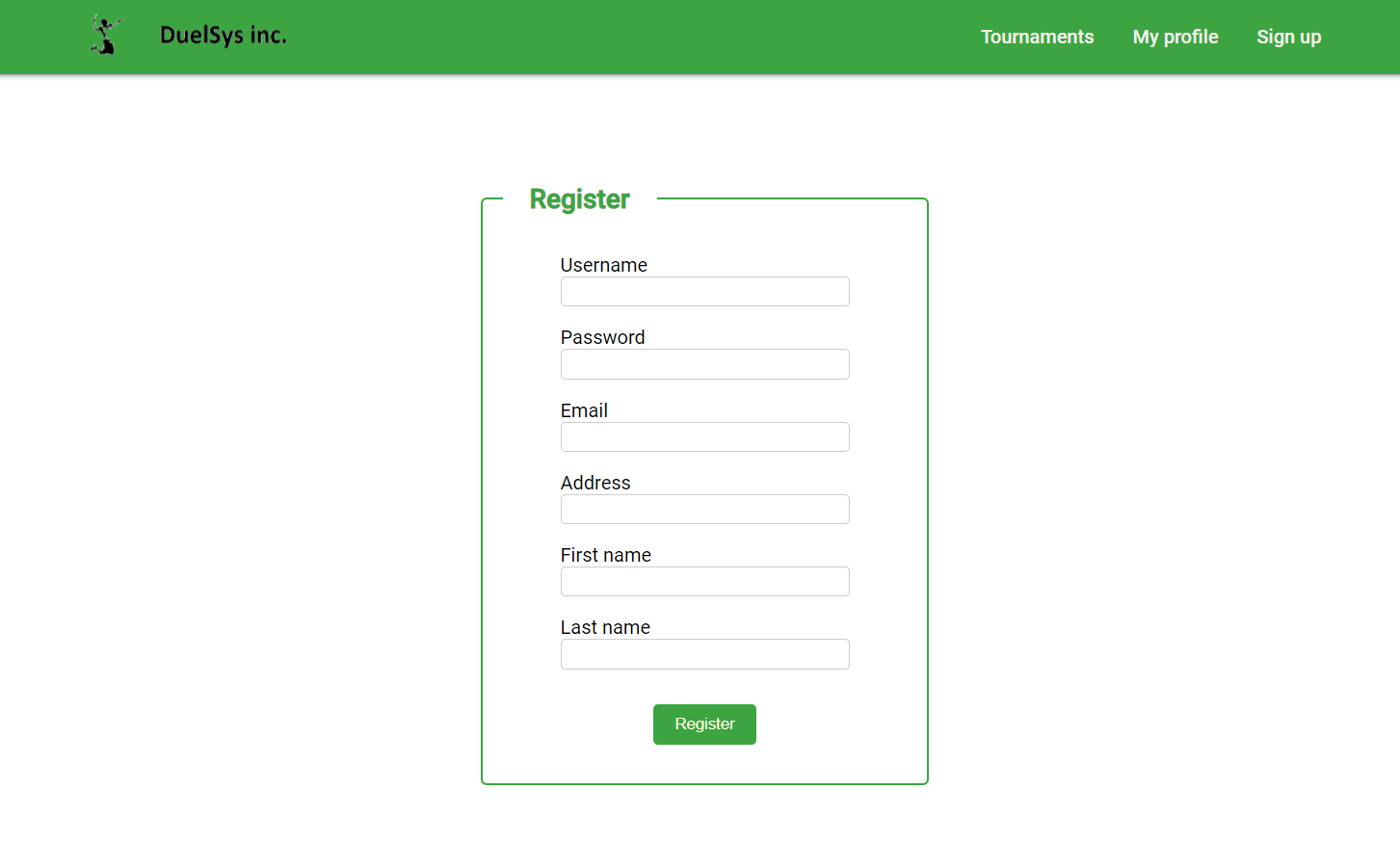
Landing page



Related to: UC12, UC13, UC14, UC15, UC20

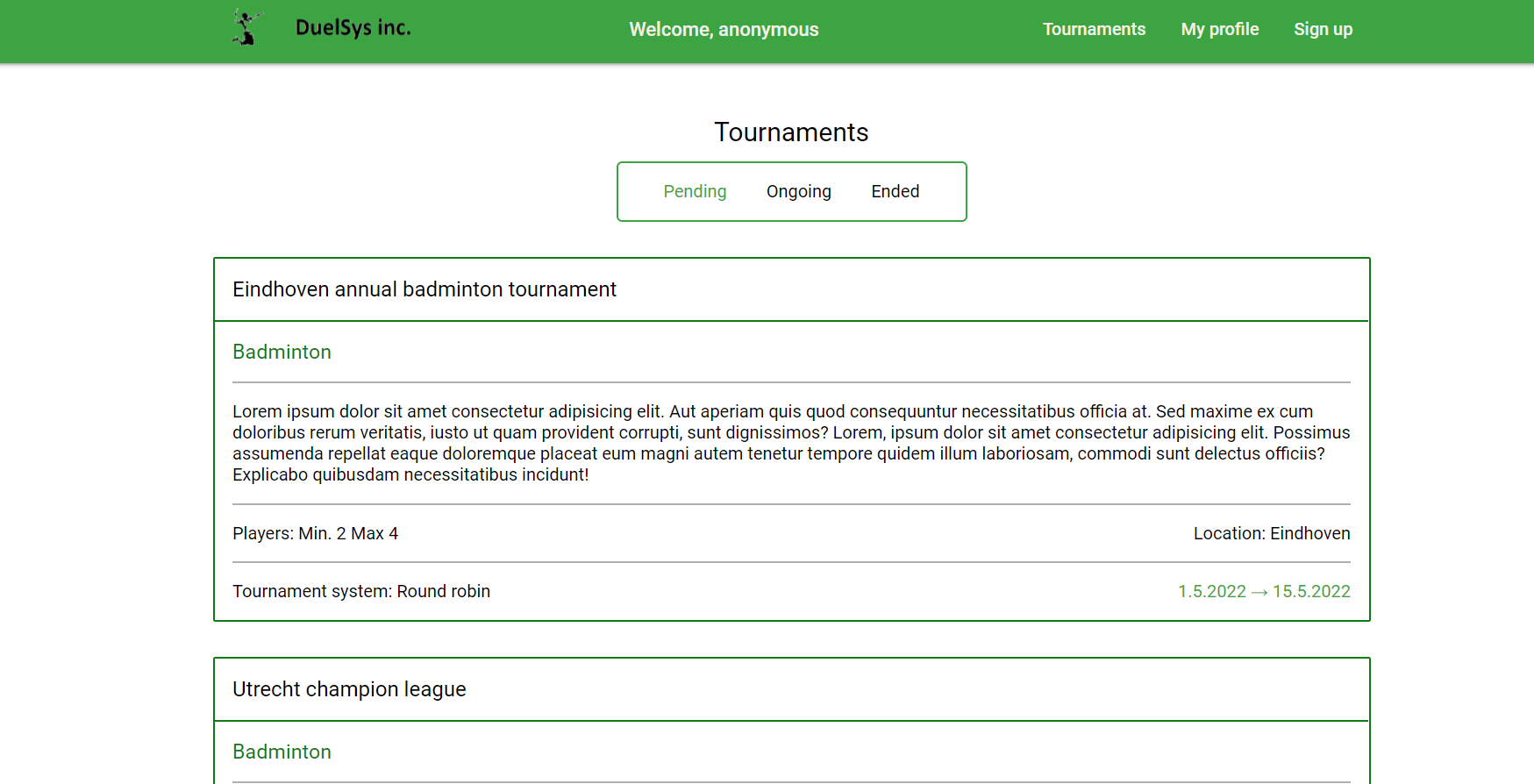
Login pageRelated to: UC12

Register page



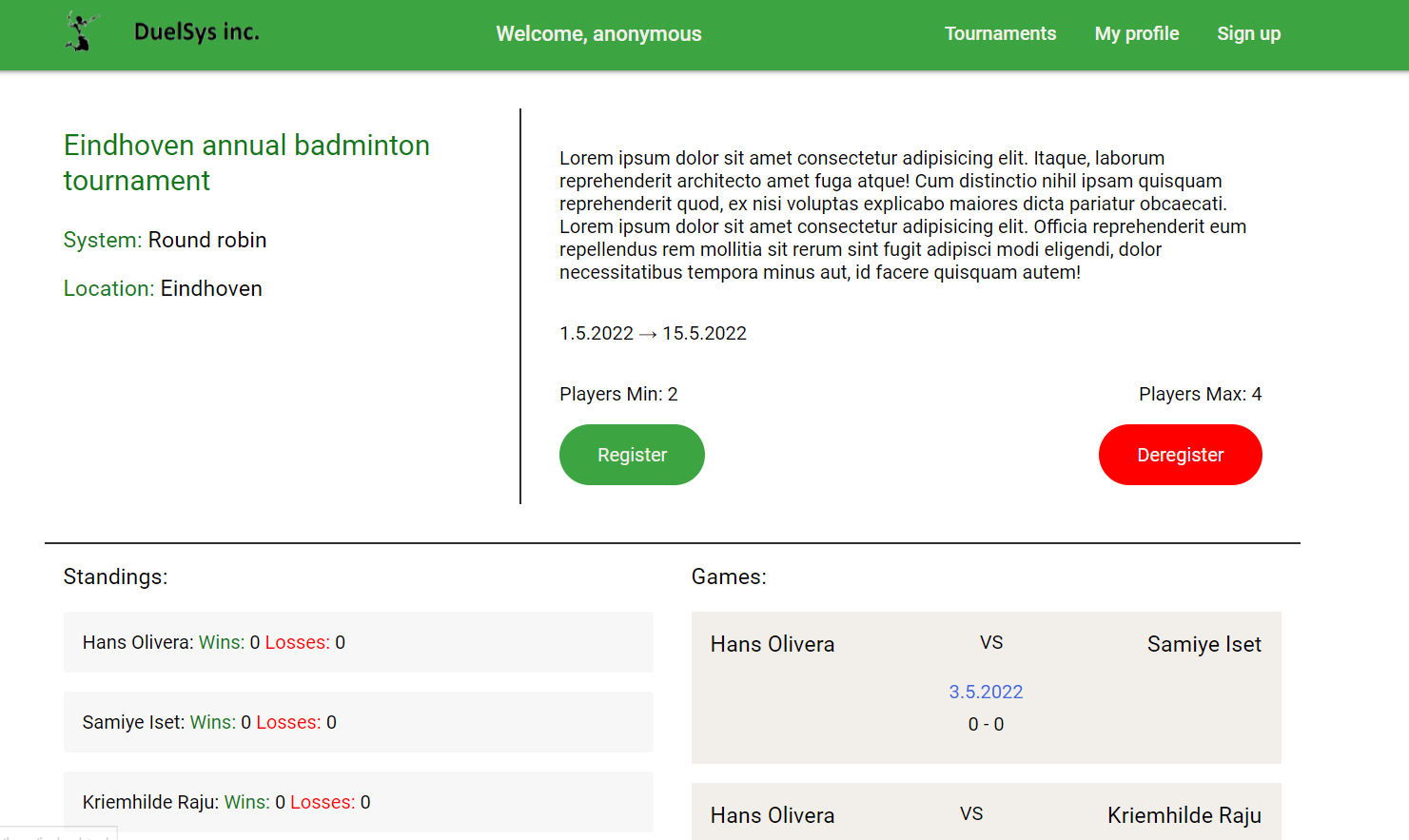
Related to: UC13

Tournaments page



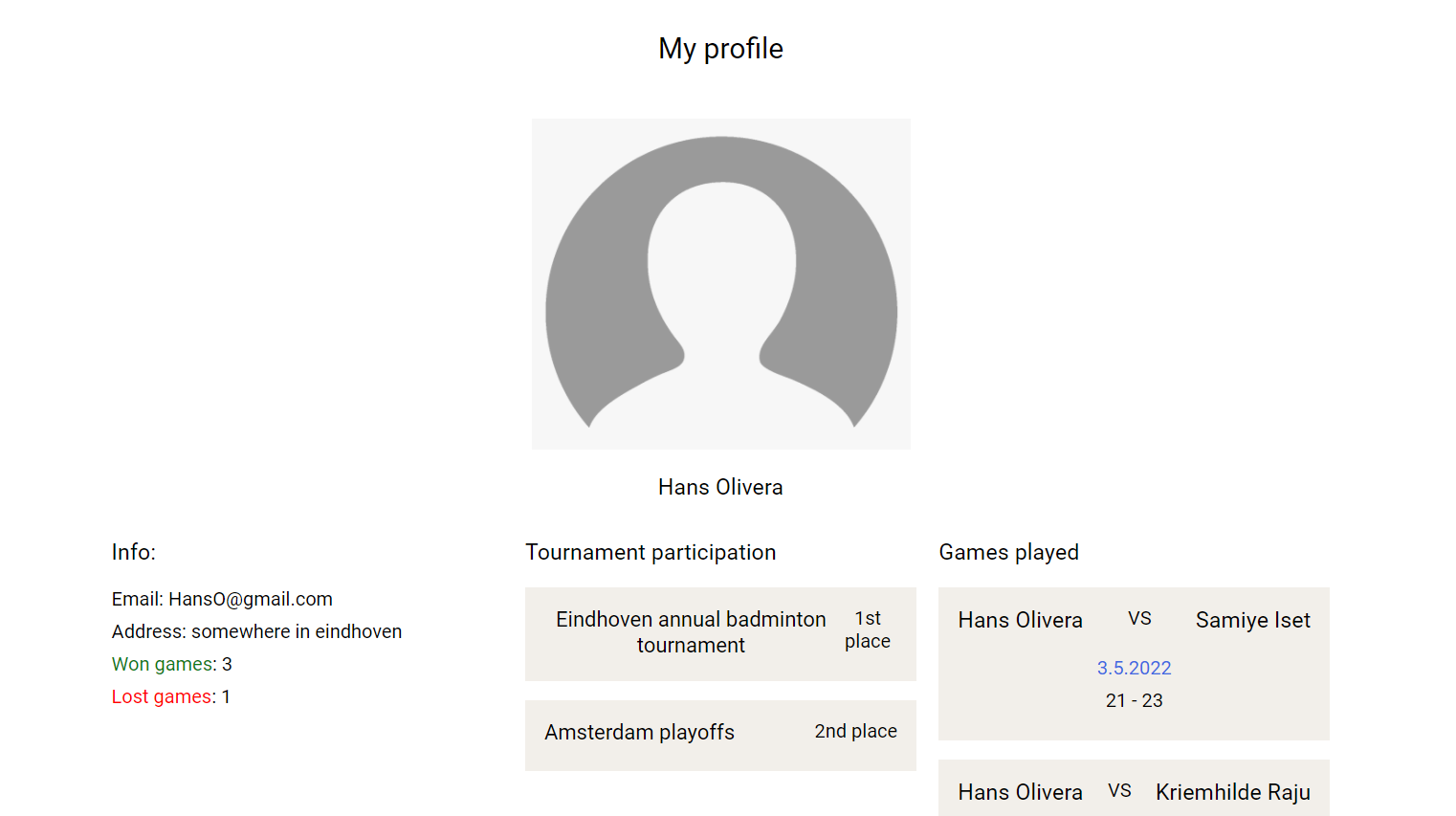
Related to: UC16, UC17

Tournament details page



Related to: UC17, UC18, UC19

Profile page



Related to: UC20