

# USER REQUIREMENT SPECIFICATION: SYNTHESIS ASSIGNMENT

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# TABLE OF CONTENT

1.	Introduction:	Page 3
2.	Objective:	Page 3
3.	Scope	Page 3
1.	In-Scope	Page 3
2.	Out-of-Scope	Page 3
4.	Requirements	Page 4
1.	Core requirements	Page 4
1.	Non-functional requirements	Page 4
2.	Functional requirements	Page 4
2.	Major requirements	Page 5
1.	Functional requirements	Page 5
3.	Minor requirements	Page 5
1.	Functional requirements	Page 5
5.	Use cases	Page 6-9
1.	Player use cases	Page 6-7
2.	Staff use cases	Page 8
6.	GUI	Page 9-10
7.	Website wireframes	Page 11-13

# INTRODUCTION, OBJECTIVE AND SCOPE

## 1. Introduction

I (Tihomir Kandev) am procuring a DuelSys incorporation with a program that can handle their requirements which will be mentioned later in this document. As part of this procurement, a User Requirements Specification (URS) is required. This URS documents the user requirements for the program. The URS will be used as the basis of design and build of the program.

## 2. Objective

- Construction
- Design

## 3. Scope

### 1. In-Scope

The URS details the following requirement types:

- Core (functional and non-func.) requirements
- Major functional requirements
- Minor functional requirements
- Use cases
- GUI
- Website wireframes

### 2. Out-of-Scope

The URS does not include:

- UML
- Test planning
- Test results
- Database design
- Phases of the project

# REQUIREMENTS

## I. Core requirements

### ■ Non-functional

ID	Description	Priority
NFR-01	Proper OO principles must be applied to ensure good maintainability and extensibility of the code base.	Must
NFR-02	Appropriate testing techniques must be used when implementing the system to ensure proper functioning.	Must
NFR-03	Only authorized people may make use of the system and can only access data they are authorized for. Passwords and user input must also be handled appropriately.	Must

### ■ Functional

ID	Description	Priority
FR-01	Staff must be able to manage the tournaments.	Must
FR-02	When a player is interested in participating in a tournament, they can visit the sport association website, retrieve the list of available tournaments and register themselves for it.	Must
FR-03	Staff must be able to generate the tournament's schedule.	Must
FR-04	When a game between two players is finished, the results must be registered in the system by staff.	Must
FR-05	Any interested party (e.g. a sport enthusiast, a player) must be able to retrieve information about any given tournament.	Must

## 2. Major requirements

- Functional

ID	Description	Priority
FR-06	Software solution also support multi-game matches in a tournament. For now, every match will consist of three (3) games that must be played by the same players and the player with most one games has won the match.	Should
FR-07	Software solution also support different sport types (e.g. basketball, tennis, quidditch, league of legends, chess, etc.). It should be possible, for a staff member, to specify which sport type when creating new tournament.	Could
FR-08	Software solution also support different tournament systems. It should be possible, for a staff member, to specify what tournament system should be used when creating a new tournament. For now, at least one of the following tournament systems (in addition to round-robin) will be added (Single-elimination, Double-elimination, Double round-robin).	Won't

## 3. Minor requirements

- Functional

ID	Description	Priority
FR-08	Software solution support a leader board. When there is an ongoing tournament, any interested party (sport enthusiast, player) can retrieve the list of players participating in the tournament, ordered based on their current position/rank in the tournament.	Should
FR-09	At the end of a tournament, when all matches are played that the software only have three winners. The software handles any ties, so that is always only one player per for the first, the second and the third places.	Won't
FR-10	Software solution also show player profile information. The information should include player's general information, information related to participation in different tournaments with the ranking, and also can include the individual matches (games) played against different opponents.	Won't
FR-11	It should be possible for a player to challenge another player for a game. When the challenge is created, the opponent can either accept or reject the challenge. If it is accepted, the result of the game can be registered by one of the players.	Won't

# USE CASES FOR SPORT ENTHUSIASTS AND PLAYERS

ID: UC-01

Description: Retrieve information for a tournament

Actors: Sport enthusiast or Player

Pre-conditions: Website is opened and if the actor is player he/she needs to be logged in.

Main case scenario:

1. User selectes tournament
2. System opens web page with information about it
3. User sees tournament information on his/her screen

ID: UC-02

Description: Player logging in

Pre-conditions: Website is opened

Actors: Player

Main case scenario:

1. User opens log in page
2. User inputs his/her email and password
3. System checks for valid input format
4. User confirms the operation
5. System cheks for existing data
6. System redirects to main page

Extensions:

5a. Can show error if the following condition is not met: Email and password need to exist in the system.

ID: UC-03

Description: Registering for a tournament

Actors: Player

Pre-conditions: Website is opened and player is logged in

Main case scenario:

1. Player selects upcoming tournament
2. System retrieves information for it and display it on another page
3. Player confirms that he/she wants to register
4. System register him and redirects to main page

Extensions:

2a: If the player is already registered for this tournament there will be no option to register for it

ID: UC-04

Description: Retrieving leaderboard

Actors: Sport enthusiast or Player

Pre-conditions: Website is open

Main case scenario:

1. User selects ongoing tournament that he/she is interested in
2. System retrieves information (leaderboard including) for it and displays it in another page
3. User sees current leaderboard on their screen

## USE CASES FOR STAFF

ID: UC-05

Description: Creating tournament

Actors: Staff

Pre-conditions: Desktop application is opened and staff is logged in.

Main case scenario:

1. Staff goes to tournament management tab and choose to create new tournament
2. Staff inputs data for the new tournament
3. System validates it
4. Staff confirms creation of the tournament
5. System creates new tournament

ID: UC-06

Description: Staff register result of a games

Actors: Staff

Pre-conditions: Desktop application is opened and staff is logged in.

Main case scenario:

1. Staff goes to register results tab and selects tournament
2. System retrieves information for the tournament schedule
3. Staff inputs information for the score
4. System validates information
5. Staff confirms registration of the results



# GUI

## Tournament management( following 2 pictures)

The screenshot shows a window titled "MainForm" with a standard Windows-style title bar. Inside, there are two tabs: "Tournament management" (which is active) and "Register results". A "Log out" button is located in the top right corner. Below the tabs, there is instructional text: "To create a new tournament click button 'Create'", "To update or delete tournament click on it in the table below", and "Keep in mind you can only update upcoming or ongoing tournaments and you can not delete ongoing tournaments". To the right of this text are a "Create" button and a "Filter" dropdown menu. Below the text is a large, empty rectangular area intended for a table.

The screenshot shows a window titled "CreateUpdateForm" with a standard Windows-style title bar. The form is divided into several sections. On the left, there are input fields for "ID", "Sport type", "Tournament system", "Min players", "Max players", and "Location". In the center, there is a large text area for "Description", a "Num of games" input field, and two date pickers for "Start date" and "End date". The "Start date" picker has a small text label "Start date is hidden" above it. On the right side, there is a "Go back" button and a text area labeled "ParticipantsList". At the bottom right, there are three buttons: "Update", "Create", and "Delete". A warning message "Changes made on the participants list below will not be reflected in the tournament" is displayed above the "ParticipantsList" area.

## Register results (following 3 pitures)

The first screenshot shows the **MainForm** window. It has a title bar with standard Windows controls. Below the title bar, there are two tabs: "Tournament management" and "Register results". A "Log out" button is in the top right corner. The main area contains the text "Click on tournament to see games in it" above a large gray rectangular placeholder.

The second screenshot shows the **TournamentGames** window. It has a title bar with standard Windows controls. Below the title bar, there is a "Go back" button in the top right corner. The main area contains the text "Click on game to register results" above a large gray rectangular placeholder.

The third screenshot shows the **GameResult** window. It has a title bar with standard Windows controls. The main area contains a form with five rows, each representing a match. Each row has a label (Match 1 to Match 5), a text input field, the text "No match", another text input field, and a "Register" button. A "Go back" button is located at the bottom left of the form area.

Match	Team 1	Result	Team 2	Action
Match 1	<input type="text"/>		<input type="text"/>	
Match 2	<input type="text"/>	No match	<input type="text"/>	
Match 3	<input type="text"/>	No match	<input type="text"/>	
Match 4	<input type="text"/>	No match	<input type="text"/>	
Match 5	<input type="text"/>	No match	<input type="text"/>	

## Log in

The screenshot shows the **Form2** window, which is a login form. It has a title bar with standard Windows controls. The main area contains two text input fields, one labeled "Email" and one labeled "Password". Below the password field is a "Log in" button.

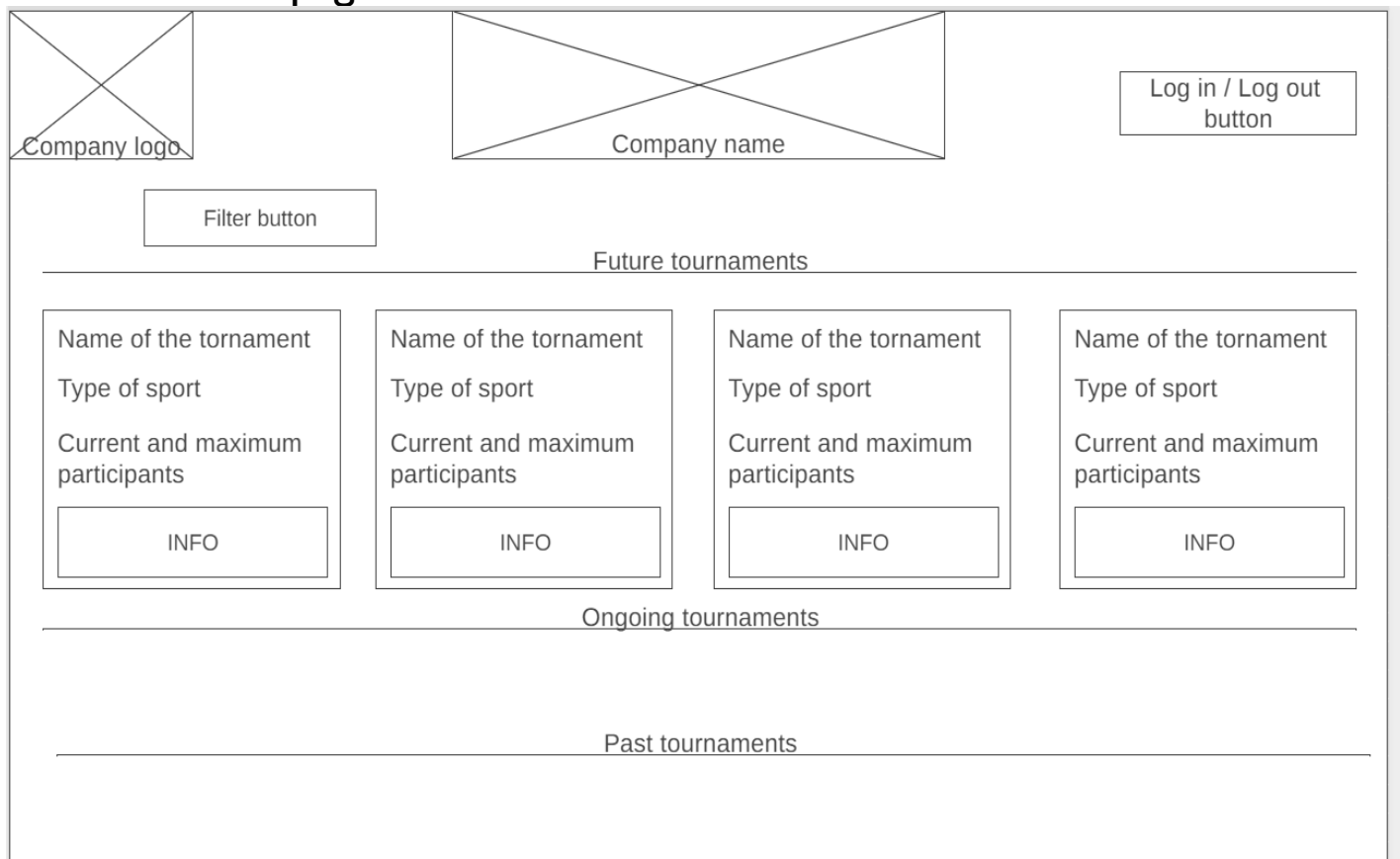
# WEBSITE WAREFRAMES

## Log in page



A wireframe of a login page. It features a central white box on a light gray grid background. Inside the box, the text "Sing in" is at the top. Below it are two input fields, each with a vertical cursor. Under the input fields is a "Log in" button. At the bottom of the box is the text "You need to register".

## Tournaments page



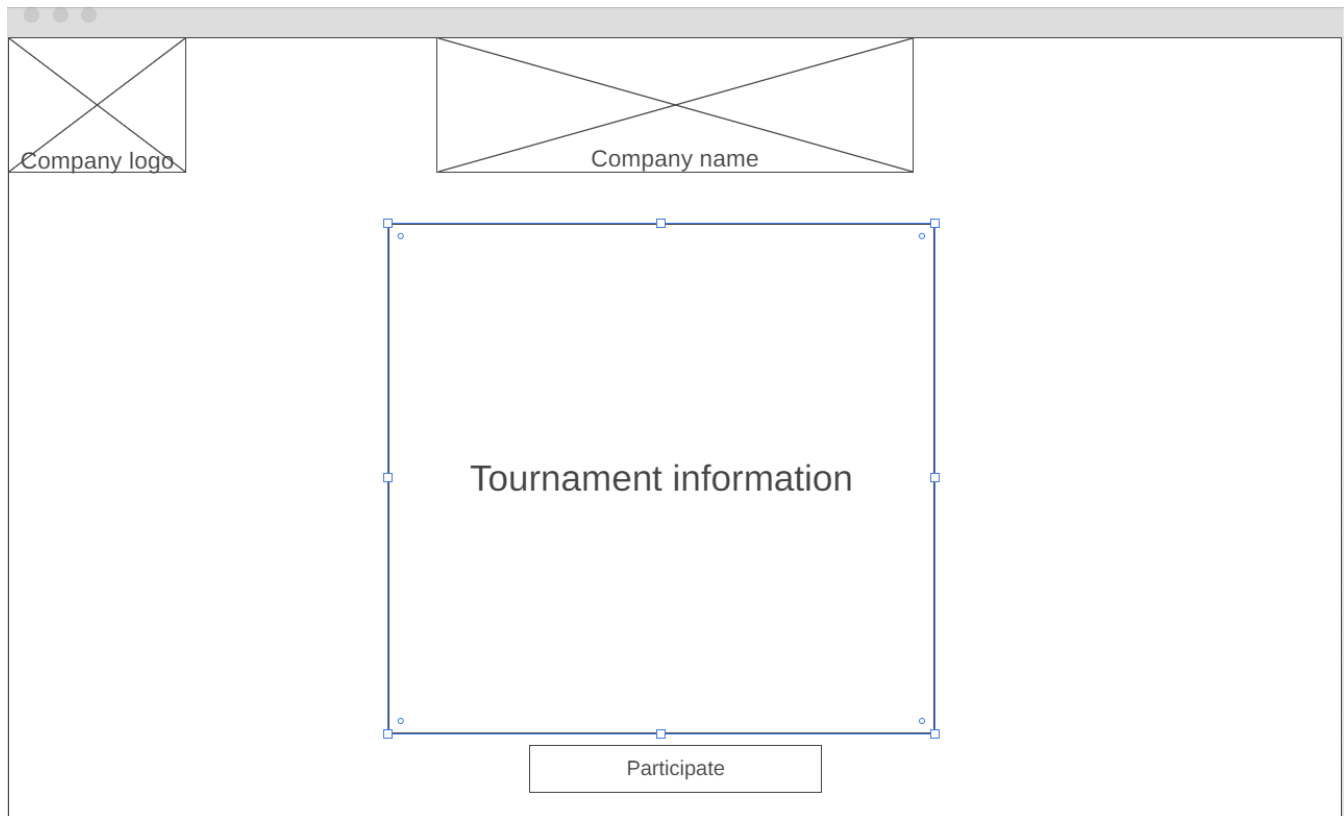
A wireframe of a tournaments page. The page has a header with a "Company logo" (a box with an 'X'), a "Company name" (a box with an 'X'), and a "Log in / Log out button". Below the header is a "Filter button". The main content area is divided into three sections: "Future tournaments", "Ongoing tournaments", and "Past tournaments". Each section contains a table with four columns. Each column has a header row with "Name of the tornament" and "Type of sport", and a body row with "Current and maximum participants" and an "INFO" button.

Future tournaments	
Name of the tornament	Type of sport
Current and maximum participants	INFO

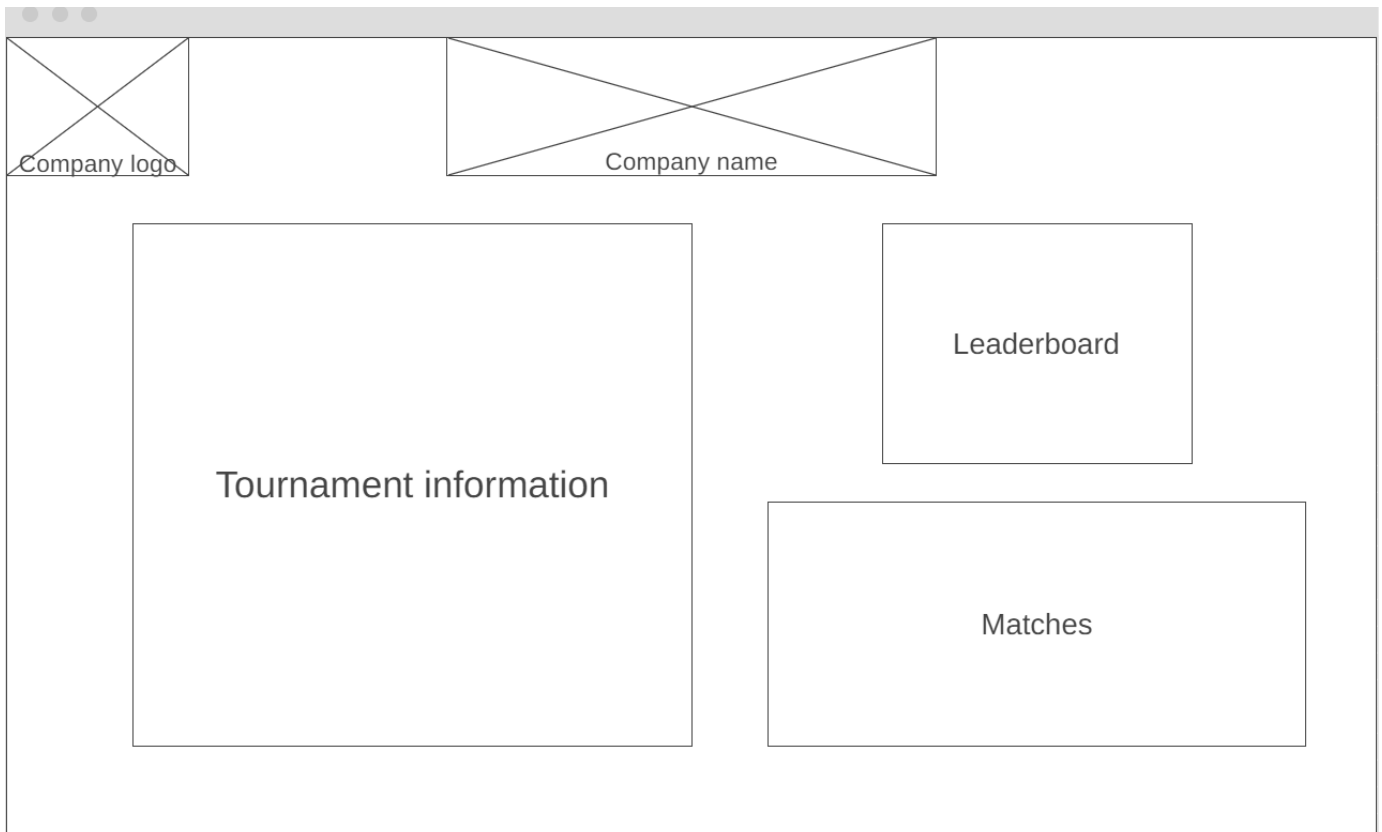
Ongoing tournaments	
Name of the tornament	Type of sport
Current and maximum participants	INFO

Past tournaments	
Name of the tornament	Type of sport
Current and maximum participants	INFO

## Upcoming tournament page



## Ongoing and past tournament page



# Cancel tournament page

Company logo

Company name

Tournament information

Reason for cancelation of this tournament