



Group Assignment 3

T-103-STST, Discrete Mathematics for Engineers
Reykjavík University — Department of Computer Science, Reykjavík, Iceland

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Deadline: Thursday, October 30th, 2025, at 23:59

The goal of this project is to propose, interrogate, design, create a bookkeeping system for hosting and managing an e-sport tournament event, followed by user testing of the software. The software allows organizers to create and manage tournaments and input match results.

Requirement List

0.1 Functional Requirements

| Nr | Functional requirements | User group | Priority | Completed |
|----|---|--------------|----------|-----------|
| 1 | The user can login as organizer | Organizer | A | ✓ |
| 2 | The user can register as a player | Player | A | ✓ |
| 3 | The user can login as a player | Player | A | ✓ |
| 4 | The user can enter as a spectator without signing in | General | A | ✓ |
| 5 | Organizer can create a tournament | Organizer | A | |
| 6 | Organizer can add a team to a tournament | Organizer | A | |
| 7 | When a team captain leaves a team, he assigns a team member to be the new captain | Team Captain | A | |
| 8 | The Organizer archives tournaments when they finish | Organizer | A | |
| 10 | Organizer can publish a tournament | Organizer | A | |
| 11 | Organizer can input match results | Organizer | A | |
| 12 | Player can create a team | Player | A | |
| 13 | Player becomes team captain | Player | A | |
| 14 | Player can leave a team | Player | A | |
| 15 | Team captain can add a player to his team | Team Captain | A | |
| 16 | Team captain can remove a player from his team | Team Captain | A | |
| 17 | Team captain can leave his team | Team Captain | A | |
| 18 | The user can view tournament | General | A | |
| 19 | The user can view tournament schedule | General | A | |
| 20 | The user can view all teams | General | A | |
| 21 | The user can view all players | General | A | |
| 22 | Organizer can manage tournament | Organizer | A | |
| 23 | Organizer can create a club | Organizer | B | |
| 24 | When the organizer creates a tournament, he chooses between double elimination and normal | Organizer | B | |
| 25 | Teams are assigned to a club on creation | Team Captain | B | |
| 26 | The user can view all clubs | Player | B | |
| 27 | Organizer can modify time of a tournament before it has started | Organizer | B | |
| 28 | Organizer can delete a tournament before it has been published | Organizer | C | |
| 29 | Organizer can edit clubs | Organizer | C | |
| 30 | Team captains can transfer his authority to a player in the team | Team Captain | C | |
| 31 | Team captain can change what club the team is associated with | Team Captain | C | |
| 32 | Organizer can cancel an ongoing tournament | Organizer | C | |
| 33 | Team captain can add ascii art to his team | Team Captain | C | |
| 34 | Organizer can edit specific match scheduling | Organizer | C | |
| 35 | The user can type in shortcuts for windows to travel to specific window | General | C | |

0.2 Non-functional Requirements

| Nr | Non-Functional requirements | User group | Priority | Completed |
|----|---|------------|----------|-----------|
| 1 | System automatically shuffles and arranges teams in a tournament match, based on quantity of teams and time frame | System | A | |
| 2 | When team captain leaves a team if he is alone then the team is archived | System | A | |
| 3 | Each Player can only be in one team at the same time | System | A | |
| 4 | The system should not crash due to invalid data | System | A | |
| 5 | The player personal data should not be visible to the spectator | System | A | |
| 6 | Only the team captain can modify the team | System | A | |
| 7 | Only the organizer can create tournaments | System | A | |
| 8 | Code must follow Python type hinting everywhere | System | A | |
| 9 | Code must follow snake caseing naming convention | System | A | |
| 10 | Name and Username should be the lenght of 3-30 | System | A | |
| 11 | Tournament have must have 16 teams | System | A | |
| 12 | Player, Team, Tournament, Servers, Matches, Clubs generate UUID when stored in file | System | A | |
| 13 | The user can see a breadcrumb navigation | System | B | |
| 14 | Only the organizer can modify clubs | System | B | |
| 15 | Give users options to cancel while inputting information | System | B | |
| 16 | Tournament can have more than 16 teams | System | B | |
| 17 | The Club Name will be printed in its color | System | C | |
| 18 | Show tournaments brackets visually | System | C | |

Use Cases

| User logs in as organizer | |
|---------------------------|---|
| Number | 1 |
| Priority | A |
| Precondition | Program is running |
| Base flow | <ol style="list-style-type: none"> 1. User selects log in 2. Inputs the details for the Organizer <ul style="list-style-type: none"> • Organizer username |
| Alternative flow | User is now an Organizer and can create and manage tournaments. |
| Post condition | User/Organizer |
| Actors | |
| Author | Elmar Sigmarsson |

| Organizer can create a tournament | |
|-----------------------------------|--|
| Number | 5 |
| Priority | A |
| Precondition | Logged in as organizer, use case(1) |
| Base flow | <ol style="list-style-type: none"> 1. Organizer selects Create Tournament 2. Organizer inputs tournament information <ul style="list-style-type: none"> • Unique name • Start date • End date • Start time frame • End time frame • Max servers • Venue • Contact email • Contact number |
| Alternative flow | 3. User is now registered as a player |
| Post condition | Organizer has now created and has access to a new unique tournament |
| Actors | Organizer |
| Author | Elmar Sigmarsson |

| User registers as player | |
|--------------------------|---|
| Number | 2 |
| Priority | A |
| Precondition | Program is running |
| Base flow | <ol style="list-style-type: none"> 1. User selects Sign up 2. User inputs his information <ul style="list-style-type: none"> • Full name • Date of birth • Address • Phone • Email • Link (optional) • Handle |
| Alternative flow | User is now registered as a player <ul style="list-style-type: none"> • User tries to sign up with an existing account. User needs to login to his account. See use case(3) |
| Post condition | User is now a player and cannot be registered as a player again. |
| Actors | User/Player |
| Author | Elmar Sigmarsson |

| Organizer adds team to tournament | |
|-----------------------------------|--|
| Number | 6 |
| Priority | A |
| Precondition | Organizer has already created a tournament, use case (5) |
| Base flow | <ol style="list-style-type: none"> 1. Organizer selects tournament 2. Organizer selects View Teams. 3. Organizer selects add team 4. Organizer inputs team name <ul style="list-style-type: none"> • No team has been made, a player needs to make a team, use case (10) • The team doesn't have enough players, the team captain needs to add players to his team, use case (11) |
| Alternative flow | That team is now apart of the tournament |
| Post condition | Organizer |
| Actors | |
| Author | Elmar Sigmarsson |

| A player logs in | |
|------------------|---|
| Number | 3 |
| Priority | A |
| Precondition | Program is running |
| Base flow | <ol style="list-style-type: none"> 1. Player selects log in 2. Player inputs his Handle 3. Player is now logged in <ul style="list-style-type: none"> • User doesn't have a player account. User needs to sign up as a player. Use case(2) |
| Alternative flow | The player is now logged in and can access information about himself |
| Post condition | Player |
| Actors | |
| Author | Elmar Sigmarsson |

| Organizer removes a team from a tournament | |
|--|--|
| Number | 7 |
| Priority | A |
| Precondition | A team has to have been added to the Tournament, use case (6) |
| Base flow | <ol style="list-style-type: none"> 1. Organizer selects tournament 2. Organizer selects view team 3. Organizer selects remove team 4. Organizer inputs team name |
| Alternative flow | That team is no longer apart of the tournament |
| Post condition | Organizer |
| Actors | |
| Author | Elmar Sigmarsson |

| User enters as spectator | |
|--------------------------|--|
| Number | 4 |
| Priority | A |
| Precondition | Program is running |
| Base flow | <ol style="list-style-type: none"> 1. The user selects the Spectator option 2. Now the user is a spectator |
| Alternative flow | The user is now a spectator and can view details from the tournament (schedule, match results, clubs, teams and players) |
| Post condition | User |
| Actors | |
| Author | Elmar Sigmarsson |

| Organizer starts a tournament | |
|-------------------------------|---|
| Number | 8 |
| Priority | A |
| Precondition | The tournament needs to have enough teams. |
| Base flow | <ol style="list-style-type: none"> 1. Organizer is logged in, case (1) 2. Organizer selects manage tournaments 3. Organizer inputs a tournament name 4. Organizer is now able managing a tournament <ul style="list-style-type: none"> • Tournament doesn't have enough teams in it, organizer needs to add teams to the tournament, use case(6). |
| Alternative flow | The organizer is now viewing the tournament and its info and can edit/manage it (publish, manage teams in the tournament, change name/date) |
| Post condition | Organizer |
| Actors | |
| Author | Elmar Sigmarsson |

| Organizer can publish a tournament | |
|------------------------------------|--|
| Number | 9 |
| Priority | A |
| Precondition | The tournament needs to have 16 teams |
| Base flow | <ol style="list-style-type: none"> Organizer selects a tournament to manage, use case (8) Organizer selects publish tournament And confirms <ul style="list-style-type: none"> Tournament doesn't have enough teams in it, organizer needs to add teams to tournament, use case (6) |
| Alternative flow | <ul style="list-style-type: none"> Needs post condition!!! |
| Post condition | Needs post condition!!! |
| Actors | Organizer |
| Author | Elmar Sigmarsdóttir |

| Team captain removes a player from their team. | |
|--|--|
| Number | 13 |
| Priority | A |
| Precondition | Team captain must have added a player to their team, use case(11) |
| Base flow | <ol style="list-style-type: none"> Captain logs in, use case (3) Captain selects view team Captain selects remove player Captain inputs Player's handle Player has been removed from the team |
| Alternative flow | <ul style="list-style-type: none"> That player removes himself from the team, use case (14) |
| Post condition | Team no longer has That Player in their team |
| Actors | Team captain, Player |
| Author | Elmar Sigmarsdóttir |

| Organizer inputs result of a match | |
|------------------------------------|---|
| Number | 10 |
| Priority | A |
| Precondition | A tournament needs to have been published |
| Base flow | <ol style="list-style-type: none"> Organizer selects a tournament to manage, use case (8) Organizer selects input match results Organizer gets a list of all matches and selects matches to input results Organizer is asked who of the two teams won the match and inputs the team name Player is now team captain of the newly created team. |
| Alternative flow | |
| Post condition | Results of a specific match have been made so the winner of that match goes to the next round |
| Actors | Organizer |
| Author | Elmar Sigmarsdóttir |

| Player leaves their team | |
|--------------------------|--|
| Number | 14 |
| Priority | A |
| Precondition | Player needs to be in a team. |
| Base flow | <ol style="list-style-type: none"> Player logs in, use case (3) Player selects view team Player selects leave team (Error message/ confirmation) Player is no longer a part of any team |
| Alternative flow | <ul style="list-style-type: none"> Team captain removes player from team, case (12) |
| Post condition | The player is no longer a part of any team and can now be picked onto a new team or create his own |
| Actors | Player |
| Author | Elmar Sigmarsdóttir |

| Player creates a team | |
|-----------------------|--|
| Number | 11 |
| Priority | A |
| Precondition | |
| Base flow | <ol style="list-style-type: none"> Player logs in, use case (3) Captain selects Add player to team. Player inputs team name Player inputs Club (no input = no club) (Now the player is the team captain of an empty team) |
| Alternative flow | <ul style="list-style-type: none"> Player is already a part of a team. Player needs to leave his existing team, see case (14) and then create a team |
| Post condition | Player is now a team captain of a team |
| Actors | Player |
| Author | Elmar Sigmarsdóttir |

| Team captain leaving his team. | |
|--------------------------------|--|
| Number | 15 |
| Priority | A |
| Precondition | Player needs to be a team captain. |
| Base flow | <ol style="list-style-type: none"> Captain logs in, use case (3) Captain selects view team Captain selects leave team (Error message/ are you sure) Captain selects a Player from team to become new Captain The Captain has left the team |
| Alternative flow | <ul style="list-style-type: none"> If the team the Captain is leaving has no other players the team is archived, but still has its statistics (wins, etc.) |
| Post condition | The Captain is no longer a part of the team and is now has the status of just Player (not in team), and the player he selected has the status team Captain of that team |
| Actors | Captain, player |
| Author | Elmar Sigmarsdóttir |

| Team captain adds a player to their team | |
|--|--|
| Number | 12 |
| Priority | A |
| Precondition | Player must have created a team, use case(10) |
| Base flow | <ol style="list-style-type: none"> Captain logs in, use case (3) Captain selects My Team Captain selects Add Player to Team Captain inputs Players Handle That Player is now a part of team |
| Alternative flow | <ul style="list-style-type: none"> A player is already in another team. That player needs to leave his team, see case (14), then the Captain can add that player to his team |
| Post condition | Team captain has now added a player to his team |
| Actors | Team captain, Player |
| Author | Elmar Sigmarsdóttir |

| Any user can see tournaments | |
|------------------------------|--|
| Number | 16 |
| Priority | A |
| Precondition | |
| Base flow | <ol style="list-style-type: none"> User selects Tournaments User selects which tournament User is now viewing a specific tournament |
| Alternative flow | <ul style="list-style-type: none"> There are no tournaments available, the organizer needs to create a tournament, use case (5) A tournament is not published, so the organizer needs to start the tournaments, use case (9) |
| Post condition | User can now look through that tournament |
| Actors | Any user |
| Author | Elmar Sigmarsdóttir |

| Any user can see tournament schedule | |
|--------------------------------------|--|
| Number | 17 |
| Priority | A |
| Precondition | |
| Base flow | <p>1. User selects a tournament</p> <p>2. User selects Schedule</p> <p>3. User is now viewing the schedule of a tournament</p> |
| Alternative flow | User can view the schedule of the next round of that tournament (or whole tournament, date) |
| Post condition | |
| Actors | Any user |
| Author | Elmar Sigmarsson |

| Organizer can edit time frame of tournament | |
|---|--|
| Number | 22 |
| Priority | B |
| Precondition | Tournament has to created and NOT started |
| Base flow | <p>1. Organizer selects a tournament to manage, use case (8)</p> <p>2. Organizer selects Edit Time Frame</p> <p>3. Organizer input new:</p> <ul style="list-style-type: none"> • Start date • End date <p>4. Organizer selects Edit Time Frame</p> |
| Alternative flow | |
| Post condition | The Time frame has been updated of that tournament |
| Actors | Organizer |
| Author | Elmar Sigmarsson |

| Any user can view teams | |
|-------------------------|---|
| Number | 18 |
| Priority | A |
| Precondition | |
| Base flow | <p>1. User selects teams (from main menu)</p> <p>2. User is viewing a list of all teams</p> <ul style="list-style-type: none"> • User can select a tournament see use case (XXX), and in that menu select teams and then the user is viewing only the teams in that tournament |
| Alternative flow | <ul style="list-style-type: none"> • User can select a tournament see use case (XXX), and in that menu select teams and then the user is viewing only the teams in that tournament |
| Post condition | The user is viewing a list of teams that he can select from see that teams information (players, statistics) |
| Actors | Any user |
| Author | Elmar Sigmarsson |

| Organizer can delete a tournament | |
|-----------------------------------|---|
| Number | 23 |
| Priority | B |
| Precondition | A tournament can NOT be published |
| Base flow | <p>1. Organizer selects a tournament to manage, use case (8)</p> <p>2. Organizer selects Delete</p> <p>3. Organizer confirms deletion</p> |
| Alternative flow | |
| Post condition | Now the tournament has been deleted and no records of it are left |
| Actors | Organizer |
| Author | Elmar Sigmarsson |

| Any user can view players | |
|---------------------------|---|
| Number | 19 |
| Priority | A |
| Precondition | |
| Base flow | <p>1. User selects players (in main menu)</p> <p>2. User is viewing a list of all registered players</p> |
| Alternative flow | <ul style="list-style-type: none"> • User can select a tournament see use case (XXX), and in that menu select players and then the user is viewing only the players in that tournament • User selects a team, use case (XX), and from the team menu the user can view a list of that teams player |
| Post condition | The user is viewing list of players that he can select from to see that players information (handle, statistics) |
| Actors | Any user |
| Author | Elmar Sigmarsson |

| Player can edits their information. | |
|-------------------------------------|--|
| Number | 24 |
| Priority | B |
| Precondition | |
| Base flow | <p>1. Player logs in, use case (3)</p> <p>2. Player selects Edit Information</p> <p>3. Player selects the info he wants to edit (all info)</p> <p>4. Player has changed his info</p> <p>3. Player has changed their information.</p> |
| Alternative flow | |
| Post condition | Player has updated their information. |
| Actors | Player |
| Author | Elmar Sigmarsson |

| Organizer can create clubs | |
|----------------------------|---|
| Number | 20 |
| Priority | B |
| Precondition | |
| Base flow | <p>1. Organizer selects View Clubs.</p> <p>2. Organizer selects add club.</p> <p>3. Organizer inputs information.</p> <ul style="list-style-type: none"> • Name • Club color • Hometown • Country |
| Alternative flow | Organizer has added a new club. |
| Post condition | |
| Actors | Organizer |
| Author | Elmar Sigmarsson |

| Team Captain can make team Player a Captain | |
|---|---|
| Number | 25 |
| Priority | B |
| Precondition | |
| Base flow | <p>1. Player logs in, use case (3)</p> <p>2. Captain selects My Team</p> <p>3. Captain selects transfer authority</p> <p>4. Captain inputs players' name to transfer authority to</p> |
| Alternative flow | |
| Post condition | Now that Player is the Team Captain, and the old Team Captain is just a Player on the team |
| Actors | Captain, Player |
| Author | Elmar Sigmarsson |

| Organizer can choose type of tournament when creating one | |
|---|--|
| Number | 21 |
| Priority | B |
| Precondition | |
| Base flow | <p>1. While Organizer is creating a tournament, use case (5)</p> <p>2. Now there is an extra section which asks the organizer what type of tournament it is (knockout or double elimination)</p> |
| Alternative flow | Organizer has added selected what type of tournament |
| Post condition | |
| Actors | Organizer |
| Author | Elmar Sigmarsson |

| Any user can view clubs | |
|-------------------------|---|
| Number | 26 |
| Priority | B |
| Precondition | |
| Base flow | <p>1. User selects spectator</p> <p>2. User selects clubs</p> |
| Alternative flow | User is now viewing a list of clubs |
| Post condition | |
| Actors | Any user |
| Author | Elmar Sigmarsson |

| Organizer can cancel a tournament | |
|-----------------------------------|--|
| Number | 27 |
| Priority | C |
| Precondition | A tournament has to have been published |
| Base flow | <ol style="list-style-type: none"> 1. Organizer selects a tournament 2. Organizer selects Cancel tournament 3. Tournament is now canceled |
| Alternative flow | |
| Post condition | The tournament is cancelled, all records are not kept, the statistics for the teams is reverted to the state before the tournament started |
| Actors | Organizer |
| Author | Elmar Sigmarsson |

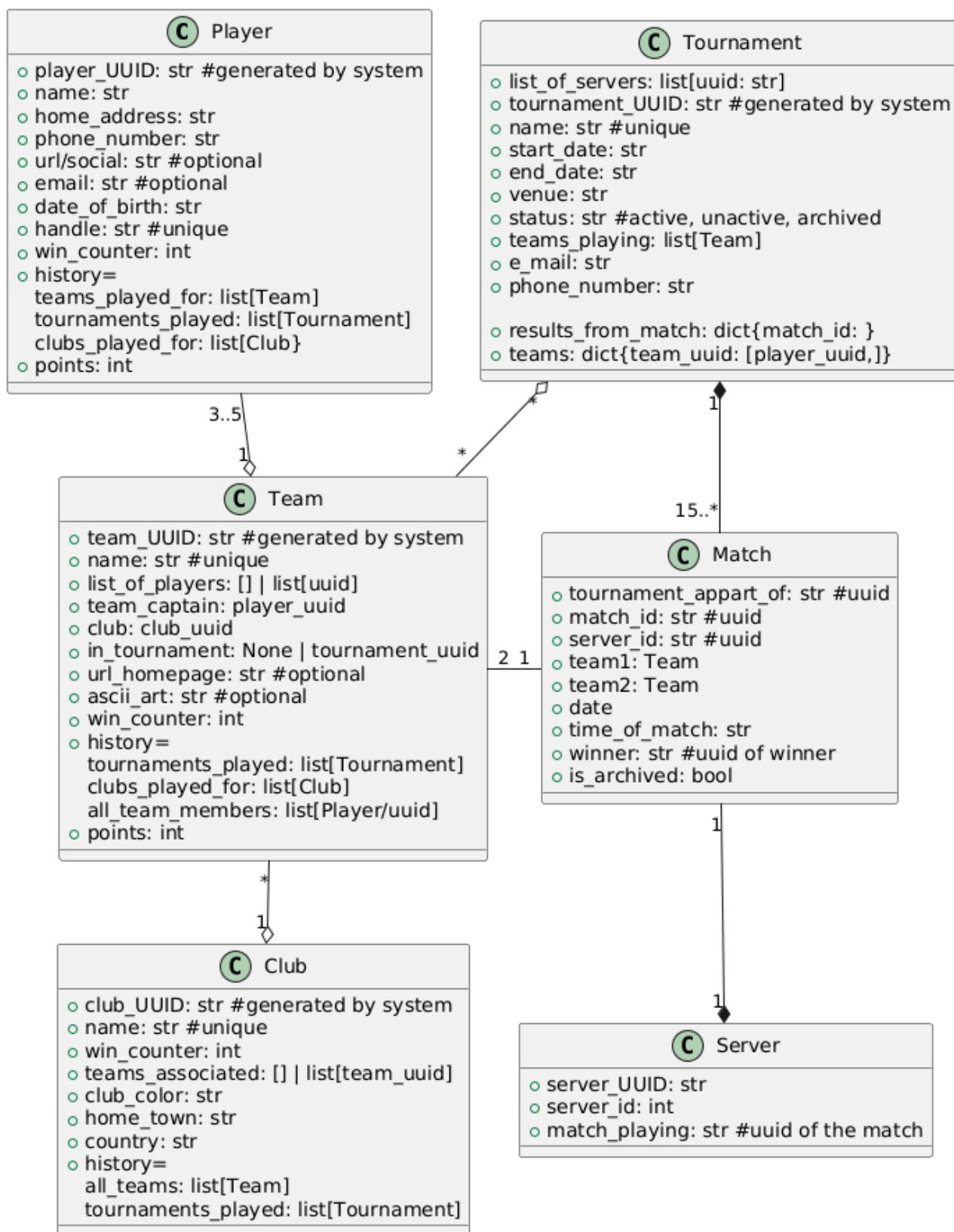
| Team captain can change the teams club | |
|--|---|
| Number | 29 |
| Priority | C |
| Precondition | |
| Base flow | |
| Alternative flow | |
| Post condition | 1. Team Captain is logged in, and selects View Team 2. From View Team menu Captain selects Change Club 3. Captain has a list of the clubs and can select what his teams new club is |
| Actors | Now the Captains team is in a new club, so the team is listened in the their new club and no longer in the old club |
| Author | Team Captain Elmar Sigmarsson |

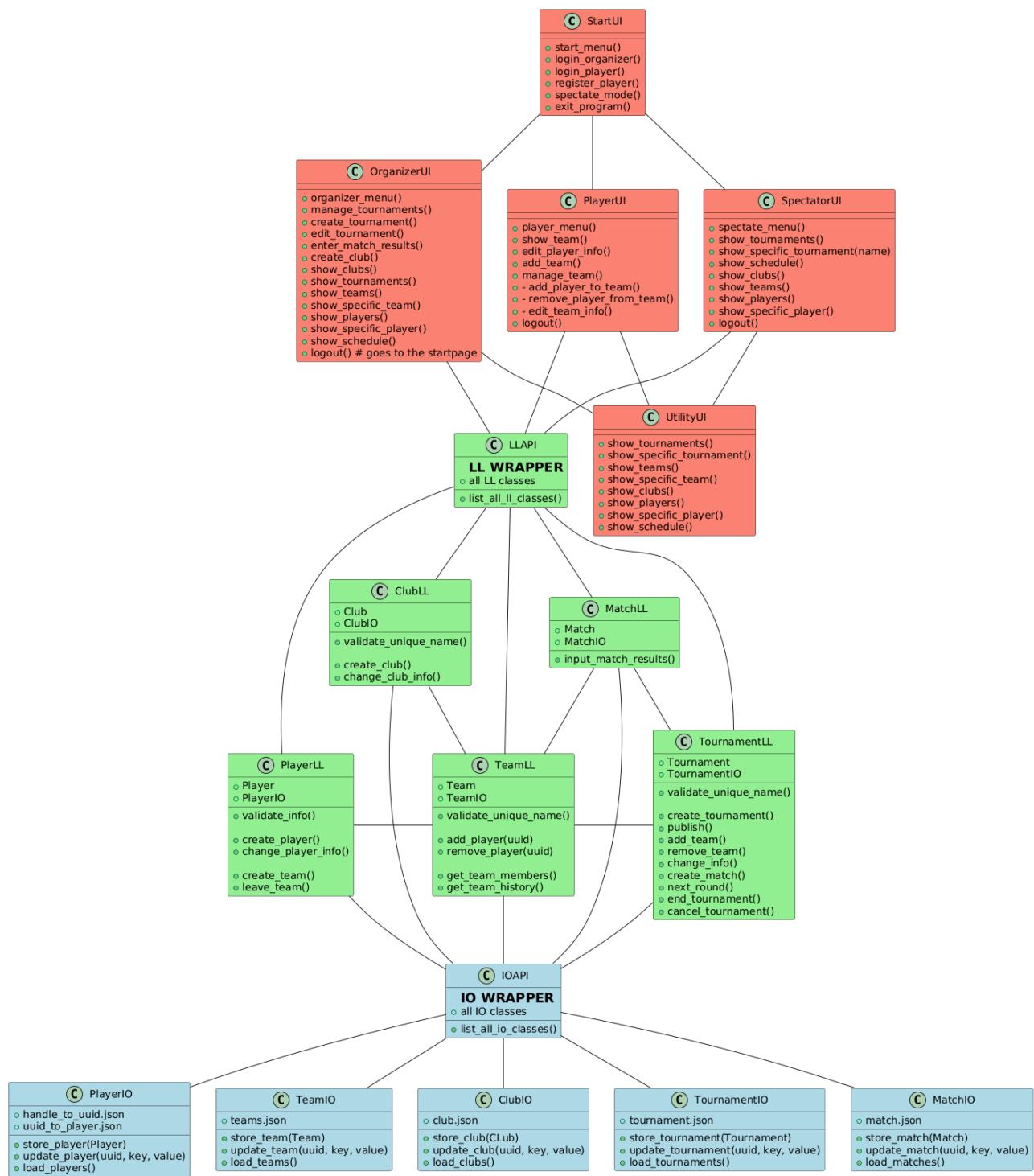
| Team captain can edit team name | |
|---------------------------------|---|
| Number | 28 |
| Priority | C |
| Precondition | |
| Base flow | <ol style="list-style-type: none"> 1. Captain is logged in, and selects View Team 2. From View Team menu Captain selects Change Team Name 3. Captain inputs the new team name (has to be unique) |
| Alternative flow | |
| Post condition | Now that teams name has a new name, and new or other teams cannot use that name, but can use the previous team name |
| Actors | Team Captain |
| Author | Elmar Sigmarsson |

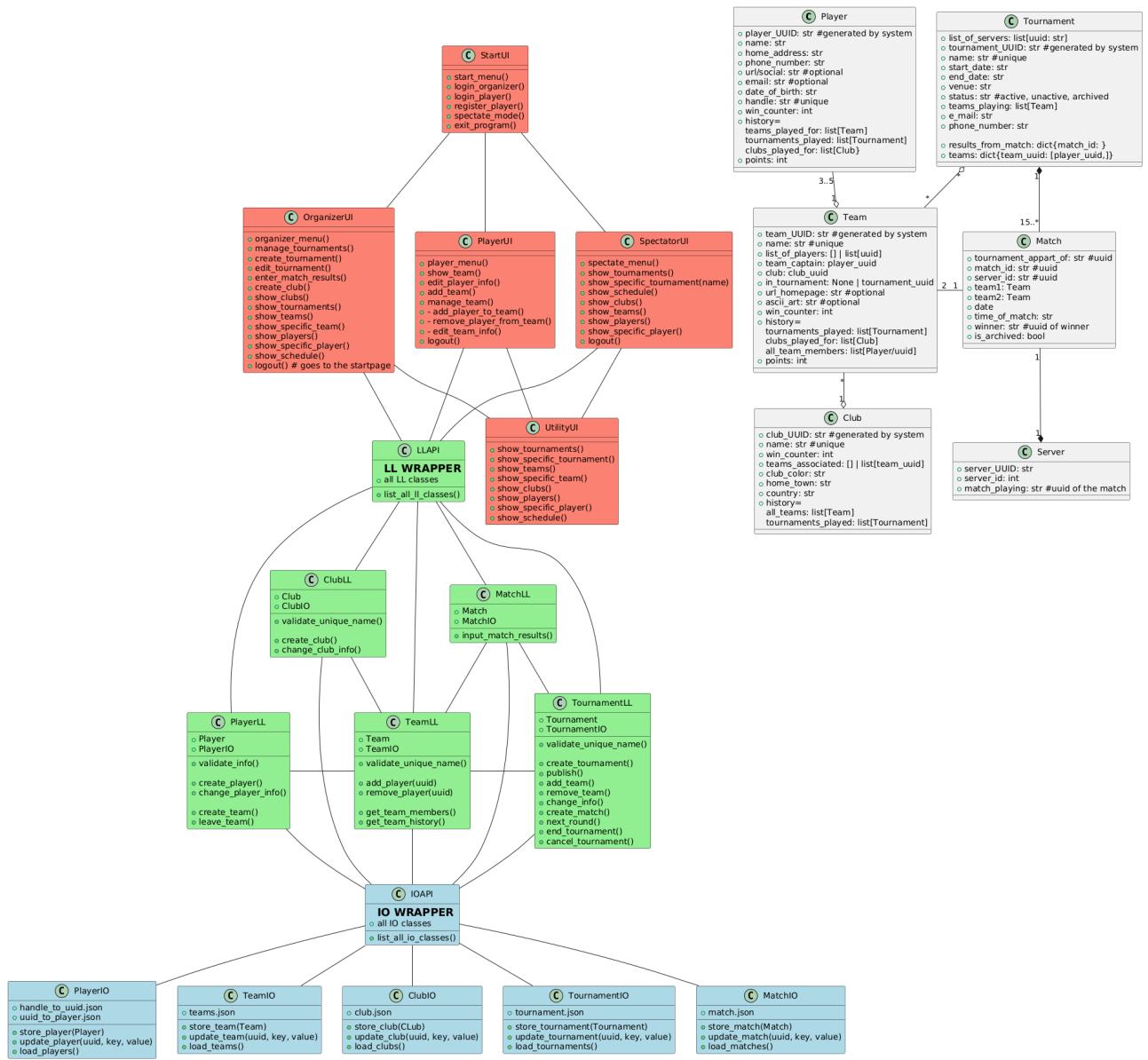
| Team Captain can add ASCII art to his team (logo) | |
|---|---|
| Number | 30 |
| Priority | C |
| Precondition | |
| Base flow | |
| Alternative flow | |
| Post condition | 1. Captain is logged in, and selects View Team 2. Captain selects add ASCII art 3. Captain inputs the ASCII art |
| Actors | Now the team has ASCII art that can be viewed from any user viewing the team |
| Author | Team Captain Elmar Sigmarsson |

Class Diagrams

Class diagrams are the main building block in object-oriented modeling. They are used to show the different objects in a system, their attributes, their operations and the relationship between them. The two class diagrams are with model classes and 3 tier design classes. Model classes are a class (bucket) that is just the data, with few functions. While the 3-tier design splits the classes into the user interaction layer, logic layer and data layer, which are connected by so called wrappers that make it so that each layer doesn't impact the rest of the layers to make it easier refactor or change classes or functions without the other layers getting affected. The diagrams below show model classes, 3-tier design and model classes combined with 3-tier design.







User Group Analysis

| User group | Organizers | Team Captains | Player | Spectators |
|-------------|---|--|---|---|
| Background | Age: 19+ | Age: 19+ | Age: 19+ | Age: Any |
| | Gender: Any | Gender: Any | Gender: Any | Gender: Any |
| | Education: Graduated from high school | Education: Graduated from high school | Education: Graduated from high school | Education: Graduated from high school |
| | Abilities/Disabilities: Nothing special | Abilities/Disabilities: Nothing special | Abilities/Disabilities: Nothing special | Abilities/Disabilities: Nothing special |
| | Computer skills: Very good | Computer skills: Very good | Computer skills: Very good | Computer skills: Various, depends on age and education |
| | Number: 1 | Number: ca. 400 | Number: ca. 1750 | Number: ca. 1750 |
| User goal | Plan, coordinate and manage a competitive tournament information | To manage a tournament team, enter team information and see tournament information | To enter and see information related to themselves and tournament | To see and keep up with tournament information |
| Equipment | A good computer with an internet connection | A good computer with an internet connection | A good computer with an internet connection | A good computer with an internet connection |
| Environment | The physical location is good both at Reykjavík University or at another location with an internet connection | The physical environment can be good both at home and at Reykjavík University | The physical environment is usually good wherever, as long as there is an internet connection available | The physical environment is usually good wherever, as long as there is an internet connection available |
| Usage | How often: Before and during every tournament | How often: Before every tournament | How often: After tournaments | How often: During and after tournaments |
| | For how long each time: The system is used for a couple of hours at a time but it can vary depending on the duration of the tournament | For how long each time: The system is used for about 30 minutes each time | For how long each time: The system is used for about 10 minutes each time | For how long each time: The system is used for about 10 minutes each time |
| | Skills: Very skilled, since they take care of setting everything up with the use of the system and should be familiar with it to do so | Skills: Skilled, since they take care of entering crucial information and should at least be familiar with system in order to do so | Skills: Mediocre, since they only need to take care of their own personal information | Skills: Not very skilled, since they only use the system to see tournament information |
| Important | Most important + Team captains | Most important + Organizers | Second most important | Least important |

1 UI-Design

1.1 Tasks

Player / Captain

1. You want to create a account for a player named Miss Piggy, handle: BaconBits, date of birth: june 14th 1938, home address: 44 Bronson Lane, phone number: 1234567, email: mspiggy@gmail.com, socials: none
2. Now that you are a player, you want to create a team named TheMuppets in the club Disney
3. Now that you have created a team you want to add another player called GreenCroaker to your team

Admin

1. You want to log in as an admin (the handle is just "admin") and create a tournament named MuppetsVsDocHopper that will take place in Sesame Street, it will start 27th of november 2025 and end the 29th of november 2025, the contact info is the gmail: something@something.com, and phone number: 1234567.
2. Now you want to publish the tournament, but you first have to add the TheMuppets team, DocHopper team to the tournament and 14 other teams
3. After publishing the tournament, you start the tournament. The system creates matches between two unique teams.
4. You input the results of the matches, with TheMuppets winning every match. This happens until they win the tournament.

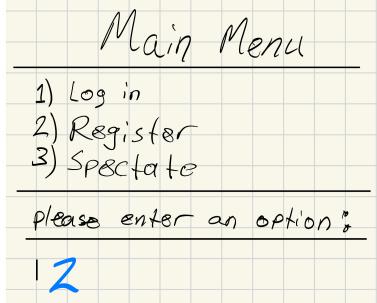
Spectator

1. You want to log in as a spectator and go to view the results of the MuppetsVsDocHopper tournament.
2. You want to see the information on TheMuppets team and see how many games they have won in the past.

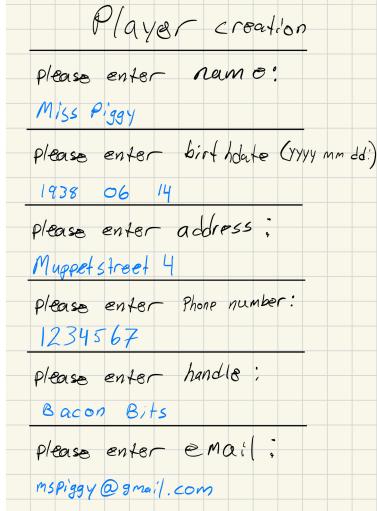
1.2 Happy path

Happy path 1 "You want to register yourself as a player"

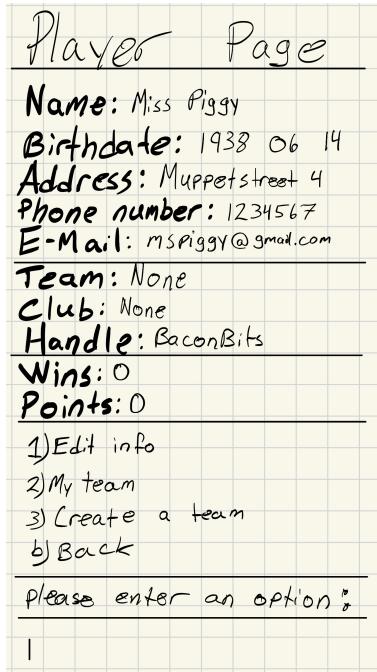
1. User starts the program and chooses option "2" to register themselves as a new user



2. User inputs all necessary information they are prompted to give



3. User is taken to their player menu where they can see their information



Happy Path 2 "Now that you are a player, you want to create a team named TheMuppets in the club Disney"

1. User starts the program and chooses option "1" to log in

Main Menu

1) Log in
2) Register
3) Spectate

Please enter an option:

| 1

2. User inputs their user handle

Log in

Input your handle:

BaconBits

3. User is taken to their player menu where they can see their information and chooses option 3 to create a new team

Player Page

Name: Miss Piggy
Birthdate: 1938 06 14
Address: Muppets street 4
Phone number: 1234567
Team: None
Club: None
Handle: BaconBits
E-Mail: msPiggy@gmail.com

Wins: 0
Points: 0

1) Edit info
2) My team
3) Create a team
4) Back

Please enter an option:

| 3

4. User is made aware that they will be made captain of the team they are creating and choose "c" to continue

By creating a team you are assigned as the captain of it!

a) Continue
b) Back

Please enter an option:

| C

5. User is prompted to give information and inputs "TheMuppets" as a name and leaves the rest blank since it is not needed

6. User then gets a list of all available clubs and chooses the "Disney" club to join it

Team Creation

Enter teamname:
The Muppets

Enter URL for the team (optional):

Enter ASCII art (optional):

Available clubs

XXXXXX
XXX XXX
Disney
ClubName

Enter a Club to join:
Disney

Happy Path 3 "Now that you have created a team, you want to add another player called GreenCroaker to your team"

1. Player is already loged in as a player and selects

Player Page

Name: Miss Piggy

Birthdate: 1938 06 14

Address: Muppetstreet 4

Phone number: 1234567

Team: None

Club: None

Handle: BaconBits

E-Mail: mspiggy@gmail.com

Wins: 0

Points: 0

1) Edit info

2) My team

3) Create a team

b) Back

please enter an option:

1 2

2. User inputs "1" to edit their team

My Team

Team: The Muppets

C - BaconBits

BlueBignose

SmileyBear

1) Edit team

2) Leave team

b) Back

1

3. User inputs "1" again to add a player to their team

Edit team

1) Add player

2) Remove player

b) Back

1

4. User inputs the handle of the player they want to add

Add Player

Enter a players name or the first letter(s) to search:

GreenCracker

The handle GreenCracker was found do you want to add them

to your team?

y

5. The player is found and the user inputs "Y" to confirm that they want to add them to their team

Add Player

Enter a players name or the first letter(s) to search:

GreenCracker

The handle GreenCracker was found do you want to add them

to your team?

y

Happy Path 4 "You want to log in as an admin (the handle is just "admin") and create a tournament named MuppetsVsDocHopper"

1. User inputs "1" to log in

Main Menu

1) Log in

2) Register

3) Spectate

please enter an option:

1 1

2. User inputs "Admin" in order to log in as an admin

Log in

Input your handle:

Admin

3. User is met with the admin options and inputs "1" to create a tournament

Admin Menu

1) Create Tournament
 2) Manage Tournaments
 3) Create Club
 b) Back

please enter an option:

1 1

4. User is prompted for the needed info in order to be able to create a tournament and inputs the information needed

Create Tournament

Enter tournament name:
Muppets Vs Doc Hopper

Enter venue name:
Sesame Street

Enter Start date
2025 11 27

Enter end date
2025 11 29

Enter contact E-mail:
Something@something.com

Enter contact phone number:
1234567

Happy Path 5 "Now you want to start the tournament, but you first have to add the TheMuppets team and the DocHopper team to the tournament"

1. User goes back to the admin menu and inputs "2" in prder to manage their tournaments

Admin Menu

1) Create Tournament
 2) Manage Tournaments
 3) Create Club
 b) Back

please enter an option:

1 2

2. User is met with a list of all their tournaments and if they are active or unactive and user inputs the name of the tournament they want to manage

Manage Tournaments

tournament name 1, active
 x x x x x x x x, unactive
Muppets Vs Doc Hopper, unactive

Choose a tournament to edit:
Muppets Vs Doc Hopper

3. User inputs "1" to manage the teams in the tournament

Manage Teams

1) Add Team
 2) Remove team
 b) Back

1

4. User gets prompted to add a teamname to add to the tournament, the program confirms that the team was found and user inputs "y" to add it

Add Team

Enter team name or "l" to list all teams:
TheMuppets

Add Team

Enter team name or "l" to list all teams:
TheMuppets

The Muppets was found, do you want to add it? Y/N
Y

5. User re-does the previous 2 steps but inputs another teamname

Add Team

Enter team name or "l" to list all teams:
DocHopper

Add Team

Enter team name or "l" to list all teams:
DocHopper

DocHopper was found, do you want to add it? Y/N
Y

6. User goes back to the tournament manage menu and inputs "2" to publish it

Manage Unactive Tournament

1) Manage teams
 2) Publish
 3) Edit Tournament
 b) Back

2

7. User inputs the name of the tournament they want to publish and confirm to publish it

Publish

What tournament do you want to publish?
TheMuppets Vs Doc Hopper

Publish
 What tournament do you want to publish?:
TheMuppetsVsDocHopper
TheMuppetsVsDocHopper was selected
 do you want to continue? Y/N:
Y
Publish
 What tournament do you want to publish?:
TheMuppetsVsDocHopper
TheMuppetsVsDocHopper was selected
 do you want to continue? Y/N:
Y
TheMuppetsVsDocHopper has been published

Happy Path 6 "Now that all the rounds have finished except for the last round of the tournament, you want to input the results that TheMuppets won the tournament"

- User goes back to the manage tournament menu and inputs the name of the tournament they want to input the results to

Manage Tournaments
tournamentname1, active
XXXXXX, active
MuppetsVsDocHopper, unactive
Choose a tournament to edit:
MuppetsVsDocHopper

- Since the tournament is now active the user gets a new menu and inputs "1" to input results

Manage active tournament
 1) Input results of match
 2) Next round
 3) Cancel tournament
 b) Back
Please enter an option:
1

- User is met with a list of all matches left in the tournament and inputs "1" to select match number 16

Match results
Match Nr. Team1 Team2
Match 30 TheMuppets DocHopper
 1) Match 30
 b) Back
Please enter an option:
1

- User inputs the name of the winning team for that round

Select a winner
Match 30 TheMuppets DocHopper
TheMuppets

- Since all the matches of the tournament have finished, the program prints out who won the tournament

Tournament results
TheMuppets won the tournament!
 b) Back

Happy Path 7 "You want to log in as a spectator and go to view the results of the MuppetsVsDocHopper tournament"

- User inputs "3" in the main menu to spectate

Main Menu
 1) Log in
 2) Register
 3) Spectate
Please enter an option:
3

- User is taken to the spectators page and inputs "4" to see the tournament history

Spectate Page
 1) Game schedule
 2) Clubs
 3) Teams
 4) Tournament history
 b) Back
Please enter an option:
4

- User is met with a list of previous tournaments and can see next to each tournament who the winner was

Tournament History
XXXXX, Winner: X
FinishedTournament, winner: Bla
MuppetsVsDocHopper, winner: TheMuppets
AAAAA, winner: B
BIGCHUNGUS, winner: WhatSUPDOC
 b) Back

Happy Path 8 "You want to see the information on TheMuppets team and see how many games they have won in the past"

1. User inputs "3" on the main menu to spectate

| |
|--------------------------------|
| Main Menu |
| 1) Log in |
| 2) Register |
| 3) Spectate |
| <u>please enter an option:</u> |
| 3 |

2. User is taken to the spectators page and inputs "3" to see team information

| |
|--------------------------------|
| Spectate Page |
| 1) Game Schedule |
| 2) Clubs |
| 3) Teams |
| 4) Tournament History |
| b) Back |
| <u>please enter an option:</u> |
| 3 |

3. User is taken to a team lookup menu and inputs "2" to search for a specific team

| |
|--------------------|
| Teams |
| 1) See all teams |
| 2) Search for team |
| b) Back |
| 2 |

4. User inputs the desired team name and then the teamname, along with how many wins the team has gotten and the club it is in is printed for the user

| |
|--|
| Search for team |
| Enter a players name or the first letter(s) to search: |
| TheMuppets |
| TheMuppets, Wins: 1 Club: Disney |

2 Extra Notes

2.1 Archives

2.1.1 Tournament

- When the tournament is over then it is archived

2.1.2 Team

- The place that a team goes to when a team captain is alone in a team and leaves the team (AKA: IF a team becomes empty)
- Stores empty teams and their scores (Should be able to view it)

2.2 Publish Tournament

When managing the tournaments the Organizer has the option of publishing a tournament and by pressing that option, he will get a list of available tournaments (AKA: Tournaments that have 16 or more teams and tournaments that aren't already published). Then he will input what tournament he wants to publish and that tournament

2.3 Search Bar

- Can input the name of a player directly
- If unsure about the player options, then should be able to list every name
- The ability to search for the first letters to narrow down the list

2.3.1 Example: Searching for available players for teams

Add a Teams

- Enter Team name or l for the list of all team or q to quit: abcd
 - abcd was found are you sure you want to continue
- Y Yes
- N No

Remove a Team

- Enter Team name or l for the list of all teams in the tournament or q to quit:
 - abcd is not a part of the tournament, do you want to continue
- Y Yes
- N No

2.4 Logic to use for multiple instances

2.5 States (For diagrams)

A team needs to have at least 3 players to join a tournament

A team can have a maximum of 5 players? If it has 5 players, the captain cannot add more.

A player can have 3 states (Captain, In Team, Not In Team)

- Captain: Can view team and add or remove players
 - Player in team: Can view his team, and can leave his team
 - Player NOT in team: Can create a team
- If captain leaves his team there can be two outcomes
- Captain leaves and selects a new captain from the team
 - If the team is empty the captain leaves but the team still exists and has all statistics
- A player can NOT leave his team if the team is in a tournament

2.6 Player/Team Notes

Color: simple length check

- Venue: simple length check

- Email: needs to go through a check

- Phone number: 7 Numbers

- Address: (strings)(space)(number)

- When taking input we will have a validator in the logic layer that returns whether it is valid or not

- Valid player handle: Just about the length (3-12) NEED TO HAVE **ADMIN** in the handle file

- Date stored YYYY-MM-DD

o Validation

All need to be numbers that are not the "-"

Year:

Month: 01 <= month <= 12

- If the C color requirement will be used then there should only be options for the user (Can only choose color out of few chosen colors)

- Randomize team list for tournaments

- At least 16 teams in a tournament

- Teams cannot Play in multiple matches at the same time

- The main interactions from the user is with shown steps like: 1) Login, 2) Sign Up, b) back

... something like that (can also have some commands)

- Everyone should be able to see all active Teams (in an active tournament)

2.7 Json Formatting

2.8 User Terminal navigation

Need navigation to override action input nav -> action