

## **Leaderboard/Matchmaking Team and Authentication/Profile Subteam Milestones & Tasks**

### **Members:**

Elijah

Logan Olszak [UCID: 30221927]

Harderick Dhillon [UCID: 30205081]

Nebila

Ethan

Amina

Alia

Tri

Hassan

Hoang Bach Phan

Feb 26 - March 2

### **Group Focus: Create diagrams for initial system**

By March 2 11:59PM, we should aim to build the following systems:

- Player ranking system
  - Compare two players (i.e. does one rank higher than the other in a certain game?)
- Random Matchmaking
  - Determine how a win or loss affects a player's rank
  - Determine logic for whether two players can be matched together given their respective ranks, and how a difference between player ranks can influence the previous point
- Fixed Matchmaking
  - Initialize a match between two specific players (friends)
- Leaderboard system (should be extensible for each game)

Authentication:

- Account creation
- Editing account info
- MFA
- System admin

### **Individual tasks:**

#### **Elijah:**

Leaderboard Team Leader ® duties

Draw diagrams for topics that overlap between various teams:

- Networking components in the matchmaking process.
- Receiving game statistics from Game Logic team and updating player statistics accordingly (also, which statistics we need to track)

Contribute to class\_diagram as described in group deliverables

**Harderick:**

Draw out class structure diagrams that describe:

- How player statistics will be stored
- How we can use those statistics to build representations of leaderboards for the GUI team to work with

**Logan:**

Create use-case descriptions for matchmaking or anything else that comes to mind. Some ideas to focus on:

- Some players just want to play against their friends. In such a case, how will they connect with the friend?
- On the other hand, some players will only use random matchmaking.

**#4:****Nebila**

Determine matchmaking logic:

- For matchmaking to put two players together, how close do they need to be in Elo (or some other statistic)? Should this be affected by matchmaking time (e.g. threshold grows if a match isn't found within a certain time)?
- How can we determine how a match affects a player's Elo? See <https://www.chess.com/terms/elo-rating-chess>
- Should the matchmaking logic work differently for each game?

(In case players want to know how matchmaking works, it might be a good idea to create a short writeup that describes it.)

**#5:**

Draw a diagram (possibly a sequence diagram?) to explain the matchmaking process.

- Work closely with member #4 to ensure that the sequence diagram describes the matchmaking logic properly.
- For now, when making the diagram:
  - assume that you have some list of players who are currently matchmaking. The networking team will handle that part.
  - reference Harderick's diagrams to see how you get statistics from each player object.

**Ethan:**

Authentication Sub-Team Leader ® duties:

Create planning docs:

- Issue board
- Roles

Use cases, class structure diagram for admin

- Can edit, create, remove profiles
- Players cannot access admin features (i.e admin as higher privileges)

**#7: Alia**

Authentication system diagrams (use case diagram, class and sequence if necessary):

- Show interactions between database, system
- Captcha
- MFA

#### **Tri:**

Use cases, sequences of creating an account:

- Show interaction is database
- Check username is not taken
- Create display name (i.e nickname)
- Password complexity requirements met
- recaptcha

#### **Amina:**

Use cases, sequences of editing account:

- add/change phone number/email
- Change password (2fa, requirements met)
- Change display name (cannot change username)
- Update database with changes

#### **Bach:**

Use cases, class structure diagram for guest user

- Guest user has no player stats, account creation etc
- Randomly generated username
- Cannot play with friends
- How will matchmaking work without stats?

March 3 - March 7

**Focus: Handle integration with other teams, update diagrams accordingly**

Integration:

- Handle integration with GUI team
- Handle integration with Networking team
- Handle integration with Authentication team

Other things:

- Determine milestones/deadlines and make planning document

**Deadline: Friday, March 7 11:59PM**

#### **Additional Features**

1. Chat communication features
2. Spectating features
3. Add alternative GUI skins

- a. User profile picture upload
  - b. User profile skins
  - c. User game skins
- 4. Add security measures for player authentication process (encrypted database, etc.)
- 5. Store to buy lootboxes
  - a. Drops skins
  - b. Drops some sorta currency
  - c. Drops game skins
  - d. Microtransactions yippee
- 6. Leaderboard that only includes current player and players on their friends list
- 7. If possible, add purchasable skins (and lootboxes for skins) which change the design of pieces with selectable colors
- 8. Tetris cat animation