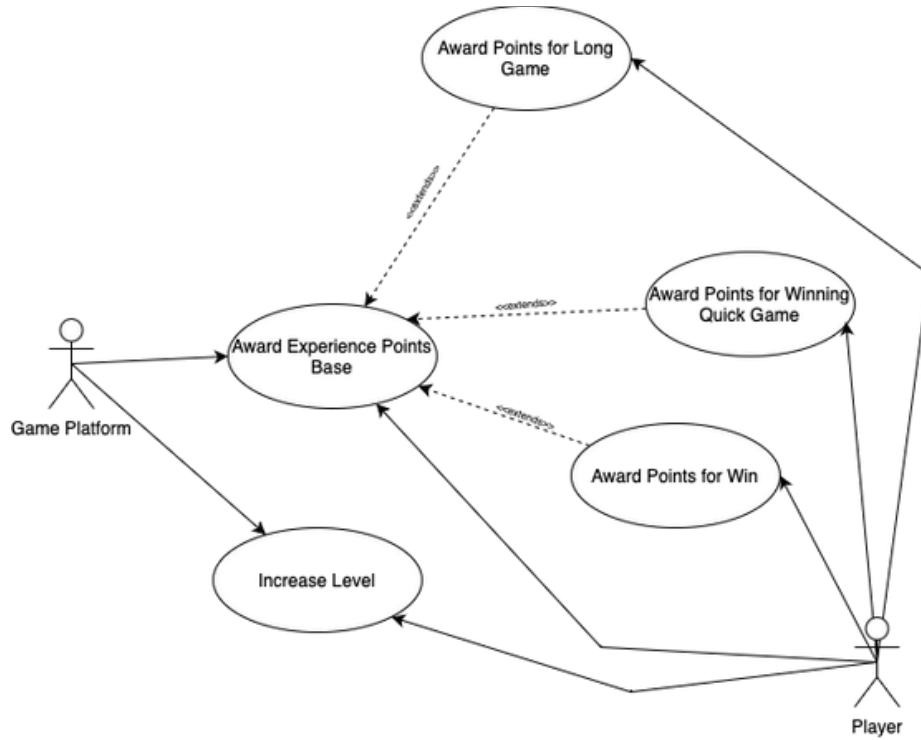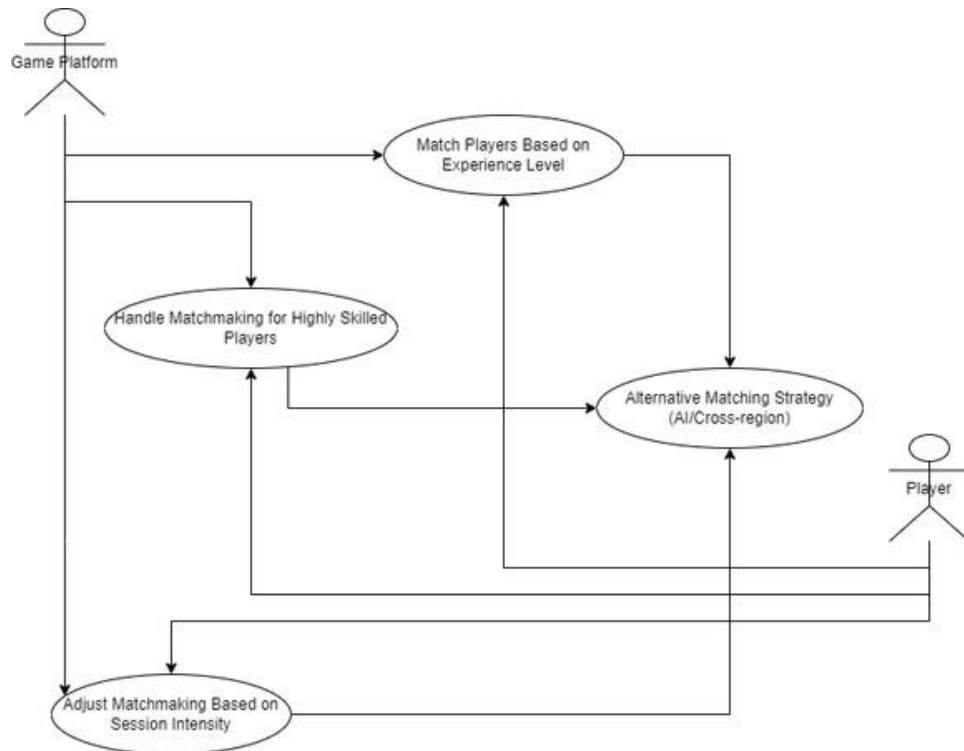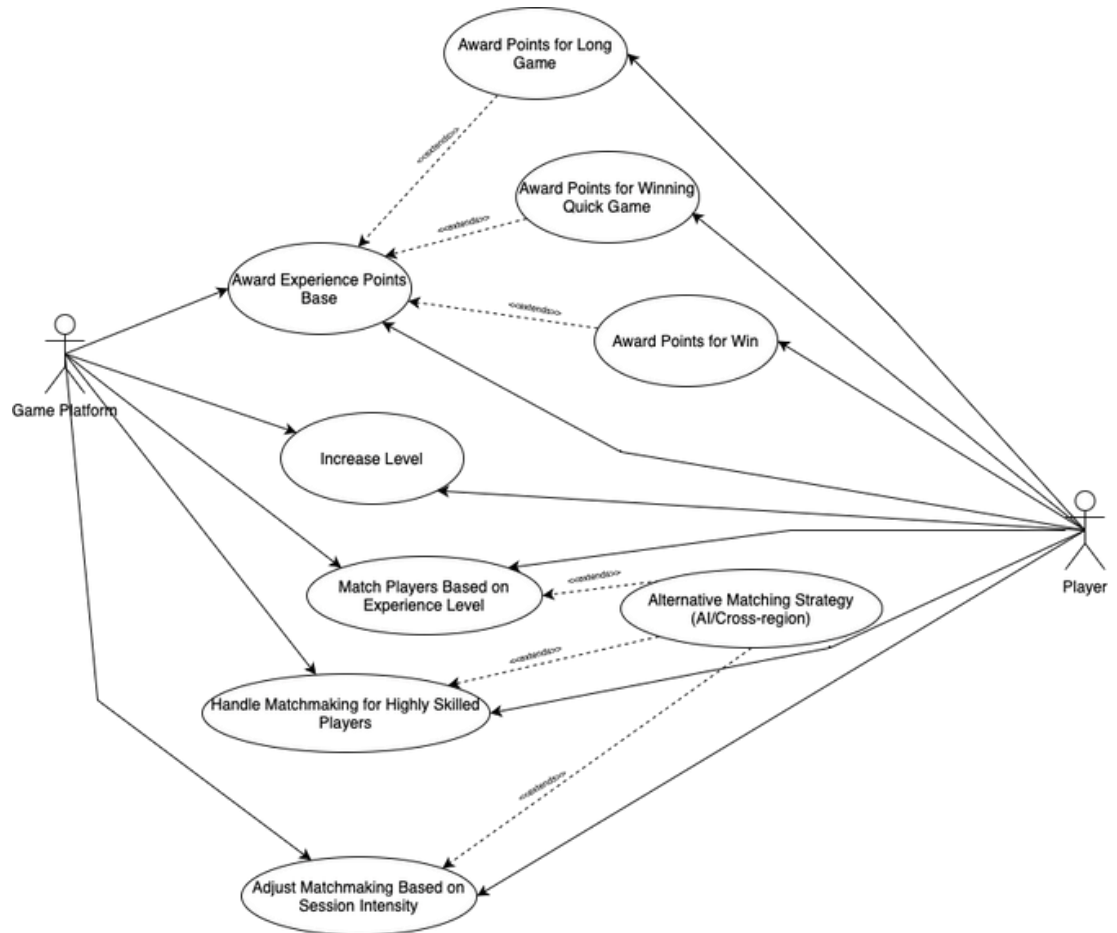# USE CASE DIAGRAM - Leveling

USE CASE DIAGRAM - Matchmaking

USE CASE DIAGRAM - Statistics

Use Case Descriptions: Levelling

Award Points for Win

Iteration: 2, modified March 6

Primary Actor: Game Platform

Goal in Context: For the game to award a user an additional point for winning a game

Preconditions: Platform includes winnable games

Trigger: A player wins and completes a game

Scenario:

1. The player completes a game and is declared the winner
2. The platform awards them 1 point, in addition to the base point given for participation
3. The platform adds the progress to the level experience metric

Exceptions:

- The number of points awarded when added, exceeds the threshold for the current level's experience metric: Refer to Increase Level Use Case

Priority: Essential

When Available: First increment

Frequency of Use: Many times a day

Channel to Actor: Via device

Secondary Actors: The player

Channels to Secondary Actors: Via device and platform

Open Issues: N/A

Award Experience Points Base

Iteration: 2, modified March 6

Primary Actor: Game Platform

Goal in Context: For the game to award a user a point for completing a game

Preconditions: Platform includes games

Trigger: A player completes a game

Scenario:

      1.The player completes a game

      2.The platform awards them 1 point

      3.The platform adds the progress to the level experience metric

Exceptions:

      •The number of points awarded when added, exceeds the threshold for the current level's experience metric: Refer to Increase Level Use Case

Priority: Essential

When Available: First increment

Frequency of Use: Many times a day

Channel to Actor: Via device

Secondary Actors: The player

Channels to Secondary Actors: Via device and platform

Open Issues: N/A

Award Points for Long Game

Iteration: 2, modified March 6

Primary Actor: Game Platform

Goal in Context: For the game to award a user a point for completing a long game

Preconditions: Platform includes games, each having a known average length to complete

Trigger: A player completes a game in after several moves or rounds that exceed the average game length **Scenario**:

> 1. The player completes a game in after several moves or rounds that exceed the average game length
>   - For Whist, this is at least 10 rounds
>   - For connect four, this is at least 28 turns
>   - For checkers, this is at least 32 turns
> 2. The platform awards them 1 point, in addition to the one base point for participation
> 3. The platform adds the progress to the level experience metric

Exceptions:

> •The number of points awarded when added, exceeds the threshold for the current level's experience metric: Refer to Increase Level Use Case

Priority: Medium-High

When Available: First increment

Frequency of Use: Many times a day

Channel to Actor: Via device

Secondary Actors: The player

Channels to Secondary Actors: Via device and platform

Open Issues: N/A

Award Points for Winning Quick Game

Iteration: 2, modified March 6

Primary Actor: Game Platform

Goal in Context: For the game to award a user more points for winning a game quickly

Preconditions: Platform includes games, each having a known average length to complete

Trigger: A player completes and wins a game in a time below the average number of moves or rounds

Scenario:

> 1.The player completes a game within a certain number of rounds or turns
> - For Whist, this limit is 3 rounds
> - For connect four, this limit is 9 turns
> - For checkers, this limit is 10 turns
>
> 2.The platform awards them 2 points, in addition to the one base point for participation
>
> 3.The platform adds the progress to the level experience metric

Exceptions:

> •The number of points awarded when added, exceeds the threshold for the current level's experience metric: Refer to Increase Level Use Case

Priority: Medium-High

When Available: First increment

Frequency of Use: Many times a day

Channel to Actor: Via device

Secondary Actors: The player

Channels to Secondary Actors: Via device and platform

Open Issues: N/A

Increase Level

Iteration: 2, modified March 6

Primary Actor: Game Platform

Goal in Context: For the game to increase the user's level after reaching an XP threshold

Preconditions: Platform includes games for which points can be awarded

Trigger: A player has reached the XP threshold to increase their level

Scenario:

1. The player reaches the XP threshold
   - To advance from level 1 to 2, this is 10 points
   - To advance to any levels beyond that, it is the number of points it took to advance from the previous level, multiplied by 1.2

2. The platform awards them 2 points, in addition to the one base point for participation

3. The level experience metric changes to the next level, and calculates the amount of XP in the current level

Exceptions: N/A

Priority: Essential

When Available: First increment

Frequency of Use: Many times

Channel to Actor: Via device

Secondary Actors: The player

Channels to Secondary Actors: Via device and platform

Open Issues: N/A

Use Case Descriptions: Player Matchmaking

Match Players Based on Experience Level

Iteration: 1, modified March 5

Primary Actor: Game Platform

Goal in Context: Match a player with another player whose experience level is close to theirs.

Preconditions:

- The platform includes matchmaking functionality.
-
  The player has an assigned experience level.
-
  There are available players with similar experience levels.

Trigger: A player initiates a matchmaking request.

Scenario:

1. The player requests to find a match.
2. The platform searches for available opponents with a similar
3. experience level.
4. If multiple suitable opponents are found, one is selected randomly.
5. The players are placed into a match.

Exceptions:

1. If no suitable match is found, the platform expands the search range or increases wait time before attempting another match.

Priority: Essential
When Available: First increment
Frequency of Use: Many times a day
Channel to Actor: Via Device
Secondary Actors: Players
Channels to Secondary Actors: Via device and platform

Adjust Matchmaking Based on Session Intensity

Iteration: 1, modified March 5

Primary Actor: Game Platform

Goal in Context: Ensure dynamic matchmaking by adjusting matchmaking preferences based on a player's session intensity.

Preconditions:

- The platform includes matchmaking functionality.
- The player has an assigned session intensity score.
- There are available opponents with varying experience levels.

Trigger: A player initiates a matchmaking request.

Scenario:

1. The player requests to find a match.
2. The platform retrieves the player's experience level and session intensity.
3. The platform calculates the effective matchmaking level as (experience level × `session intensity`).
4. The platform searches for opponents with experience levels within an acceptable range of the effective matchmaking level.
5. A suitable opponent is selected and matched with the player.

Exceptions:

- If no suitable match is found, the platform gradually broadens the search criteria.

Priority: Medium-High
When Available: First increment
Frequency of Use: Many times a day
Channel to Actor: Via device
Secondary Actors: Players
Channels to Secondary Actors: Via device and platform

Handle Matchmaking for Highly Skilled Players

Iteration: 1, modified March 5

Primary Actor: Game Platform

Goal in Context: Ensure highly skilled players can still find matches without excessive wait times.

Preconditions:
- The platform includes matchmaking functionality.
- The player has an assigned experience level and session intensity.
- The player is among the top-ranked players with limited opponents available.

Trigger: A highly skilled player initiates a matchmaking request.

Scenario:

1. The player requests a match.
2. The platform attempts to find an opponent with a similar experience level.
3. If no immediate match is found, the platform gradually expands the matchmaking criteria:
   - Increasing the acceptable range of experience levels.
   - Prioritizing players with high session intensity to maintain a challenge.
4. Once a match is found, the players are paired, and the game begins.

Exceptions:

- If no match is found after an extended period, the platform may offer alternative options, such as AI opponents or matchmaking across regions.

Priority: High
When Available: First increment
Frequency of Use: Multiple times a day
Channel to Actor: Via device
Secondary Actors: Players
Channels to Secondary Actors: Via device and platform