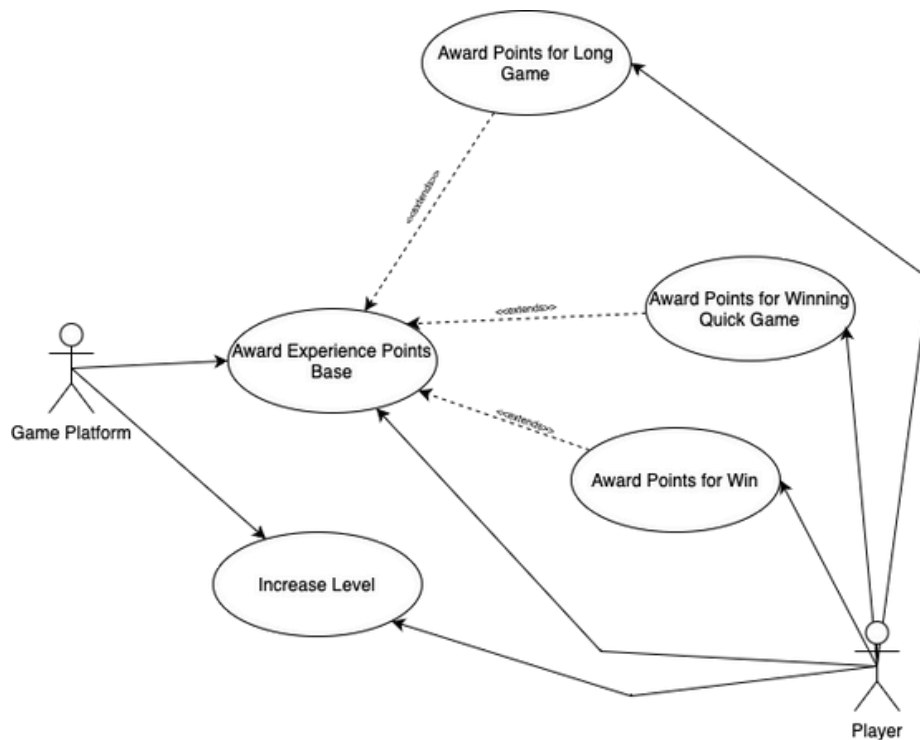
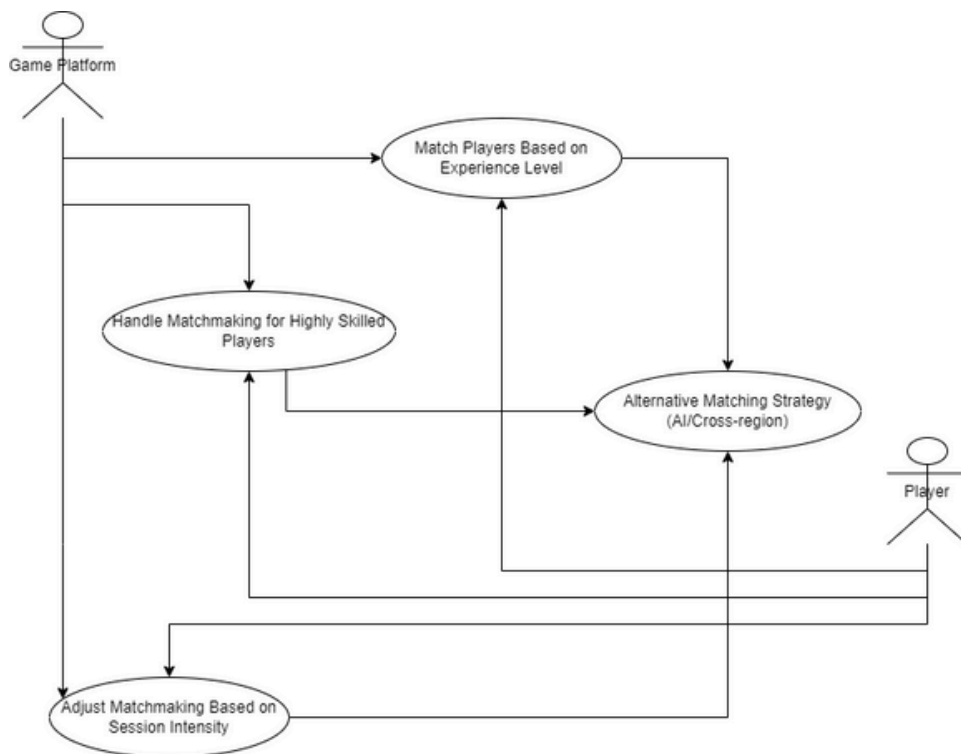


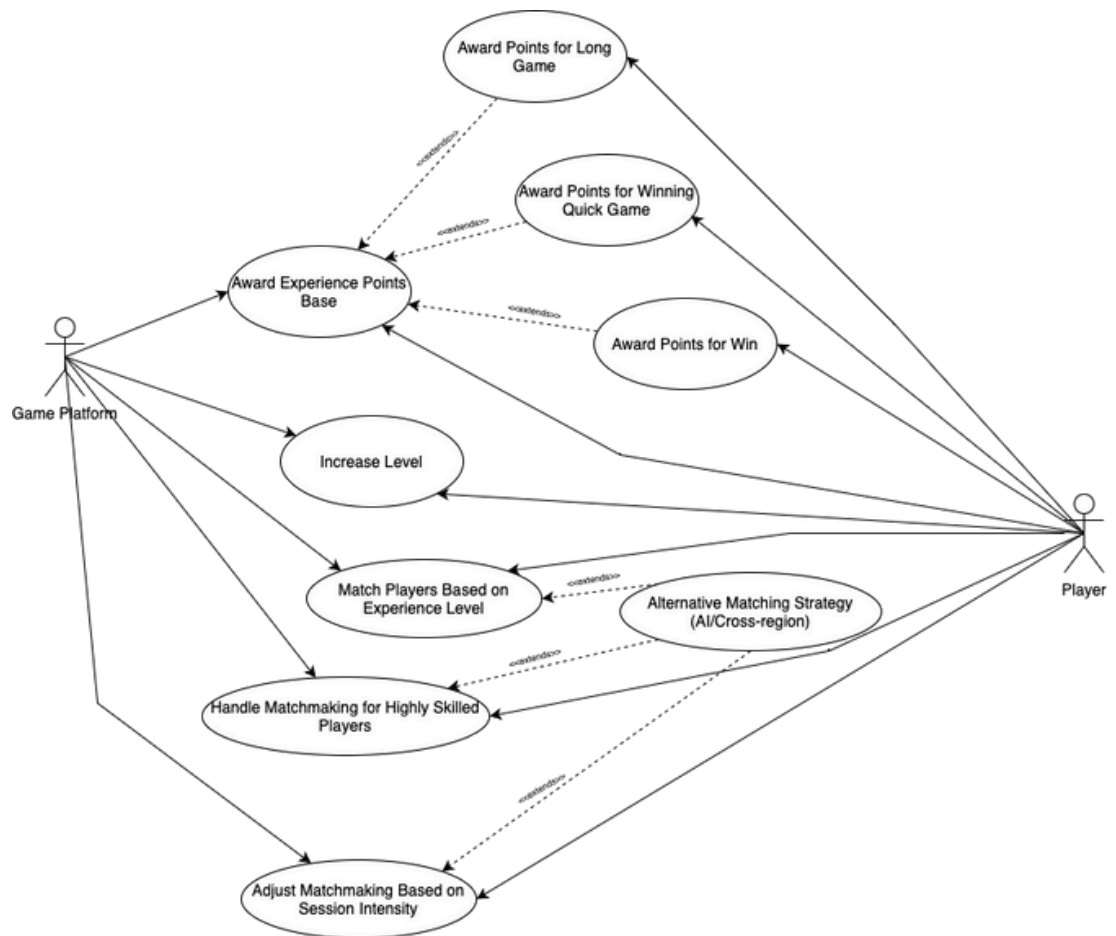
# USE CASE DIAGRAM - Leveling



# USE CASE DIAGRAM - Matchmaking



# USE CASE DIAGRAM - Statistics



# Use Case Descriptions:

## Levelling

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### Award Points for Win

**Iteration:** 2, modified March 6 by Iman Hamzat

**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

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### Award Experience Points Base

**Iteration:** 2, modified March 6 by Iman Hamzat

**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

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## Award Points for Long Game

**Iteration:** 2, modified March 6 by Iman Hamzat

**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

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## Award Points for Winning Quick Game

**Iteration:** 2, modified March 6 by Iman Hamzat

**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

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## Increase Level

**Iteration:** 2, modified March 6 by Iman Hamzat

**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

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### Match Players Based on Experience Level

**Iteration:** 1, modified March 5 by Irith

**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

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## Adjust Matchmaking Based on Session Intensity

**Iteration:** 1, modified March 5 by Irith 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  $(\text{experience level} \times \text{session intensity})$ .
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 by Irith

**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