

Use Case Descriptions:

1. User clicks back button -
2. Start game -
3. View other person's profile
4. Manage your profile -
5. View leaderboard -
6. View game history -
7. Playing chess -
8. Playing connect 4 -
9. Playing tic tac toe -
10. Login page
11. Signup page
12. Reset password page
13. View home page
14. Selecting connect 4 from home page
15. Selecting chess from home page
16. Selecting tic tac toe from home page
17. In game chat - AARON
18. Challenge someone to a game
19. Accept challenge from someone to a game (NOT YET IN MOCKUP) - AARON
20. Player search – Lei Fang
21. Exit Game

THE USE CASES NOT HIGHLIGHTED ARE THE ONES THAT AREN'T DONE

1. USE CASE: START GAME

Primary Actor: Player

Goal in Context: Allows the player to get into the game and play

Preconditions: Player is currently on the main screen for any of the three games

Trigger: Player clicks on the start game or play game button

Scenario:

1. Player clicks on the start game button present on screen
2. Player is redirected to a screen where it shows "CONNECTING..." (If necessary)
3. Player is then matched against another player and the game will start playing

Postcondition: The game has started, and the players are playing

Exceptions: The player could not be connected to someone else due to some issue

Priority: High (Player needs to have an option to play)

When Available: Second Iteration

Frequency of Use: Multiple times

Channel to Actor: Players' interaction with the play button on the screen

Secondary Actors: N/A

Channel to Secondary Actors: N/A

Open Issues: N/A

2. USE CASE: USER PLAYING CONNECT 4

Primary Actor: Player

Goal in Context: Letting the player play connect 4

Precondition: The game is successfully connected with another player to play against

Trigger: Player clicks on the play button in the connect 4 game screen

Scenario:

1. Player is connected with another player against them.
2. First turn randomly given to any of the 2 players
3. Player can move across the board to see where he can place his coin
4. Player clicks on an empty slot and the piece moves to the bottom of that column.
5. After a turn the next player gets his turn and it continues until 4 pieces of a color are aligned (horizontal, vertical or diagonal) or there is a draw.

Postcondition:

- One of the players wins the match and gets a winning screen.
- The player who lost gets the losing screen
- If draw, both players will get a draw screen.
- Both players will then be taken to the home screen of the game.

Exception: Player selects to re-challenge the opponent and the match is then played again.

Priority: High

When available: Second iteration.

Frequency of Use: High

Channel to Actor: Players' interaction with the play/re-challenge button

3. USE CASE: USER PLAYING TIC TAC TOE

Primary Actor: Player

Goal in Context: Letting the player play tic tac toe

Precondition: The game is successfully connected with another player to play against

Trigger: Player clicks on the play button in the tic tac toe game screen

Scenario:

1. Player is connected with another player against them.
2. X and O are given randomly to the players.
3. Player with X goes first and clicks on the grid to place their mark.
4. Next player gets the turn and places their mark
5. Repeats until 3 of the same mark is aligned (horizontal, vertical or diagonal) or there is a draw.

Postcondition:

- One of the players wins the match and gets a winning screen.
- The player who lost gets the losing screen
- If draw, both players will get a draw screen.
- Both players will be then taken to the home screen of the game.

Exception: Player selects to re-challenge the opponent and the match is then played again.

Priority: High

When available: Second iteration.

Frequency of Use: High

Channel to Actor: Players' interaction with the play/re-challenge button.

4. USE CASE: USER PLAYING CHESS

Primary Actor: Player

Goal in Context: Letting the player play chess

Precondition: The game is successfully connected with another play to play against

Trigger: Player clicks on the play button in the chess game screen

Scenario:

1. Player is connected with another player against them
2. Black and white side randomly given to a player.
3. Player with the white pieces moves first.
4. The player with black pieces gets the next turn and the cycle repeats.
5. The game ends when a checkmate has occurred, or a draw has occurred.

Postconditions:

- One of the players wins the match and gets a winning screen.
- The player who lost gets the losing screen

- If draw, both players will get a draw screen.
- Both players will then be taken to the home screen of the game.

Exception: Player selects to re-challenge the opponent and the match is played again.

Priority: High

When available: Second iteration.

Frequency of Use: High

Channel to Actor: Players' interaction with the play/re-challenge button.

5. USE CASE: VIEW LEADERBOARD

Primary Actor: Player

Goal in Context: Allows players to view the ranking of top players on the leaderboard.

Preconditions: Player is logged in and navigates to the leaderboard screen.

Trigger: Player clicks on the "Leaderboard" option in the menu.

Scenario:

1. Player selects "Leaderboard" from the main menu of a game.
2. System displays the leaderboard with a list of top-ranked players, including their ranks, usernames, and scores.

Postcondition: Player views the leaderboard.

Exceptions: Leaderboard fails to load due to server error.

Priority: High

When available: Second iteration.

Frequency of Use: High

Channel to Actor: Player's interaction with the leaderboard option.

6. USE CASE: MANAGE YOUR PROFILE

Primary Actor: Player

Goal in Context: Allowing the player to edit their own profile details, such as username or avatar.

Preconditions: Player is logged in and on their profile screen.

Trigger: Player clicks on the "Edit Profile" button.

Scenario:

1. Player accesses their profile.
2. Player clicks on the "Edit Profile" option.
3. Player updates profile details and saves changes.

4. System confirms and displays updated profile information.

Postcondition: Profile changes are saved, and the player sees the updated profile.

Exceptions: Profile changes fail to save due to a connection error.

Priority: High

When available: Second iteration.

Frequency of Use: Moderate

Channel to Actor: Player's interaction with the Edit Profile button.

7. USE CASE: VIEW OTHER PLAYER'S PROFILE

Primary Actor: Player

Goal in Context: Player wants to view the profile of another player.

Preconditions: Player has found the player they want to view the profile of.

Trigger: Player selects another player's profile to view it.

Scenario:

1. Player selects another player's profile.
2. They are redirected to the other player's profile screen. From there, the player can see the other player's username, game history, ranking in games and their wins and losses. Player can also see their own stats in games they have played – i.e. their ranking and wins and losses.
3. From there, the player can:
 - a. Challenge the other player to a game.
 - b. Click the back button to go to the previous page.

Postcondition: Profile changes are saved, and the player sees the updated profile.

Exceptions: Profile changes fail to save due to a connection error.

Priority: Moderate

When available: Third iteration.

Frequency of Use: Moderate

Channel to Actor: Player's interaction with the profile of another player.

Secondary actors: Other player.

Channels to secondary actors: Their own game application.

8. USE CASE: VIEW GAME HISTORY

Primary Actor: Player

Goal in Context: Allows players to view their game history, including past matches and outcomes.

Preconditions: Player is logged in and has completed at least one game.

Trigger: Player clicks on the “Game History” option in the profile or main menu.

Scenario:

1. Player selects “Game History” from the profile or menu.
2. System displays a list of past matches, showing opponents, dates, and outcomes (win/loss/draw).

Postcondition: Player views their game history.

Exceptions: Game history fails to load due to server error.

Priority: Moderate

When available: Third iteration.

Frequency of Use: Moderate

Channel to Actor: Player’s interaction with the game history option.

9. USE CASE: LOGIN TO APPLICATION

Primary Actor: Player

Goal in Context: Allows player to log into the game using their credentials.

Preconditions: N/A

Trigger: Opening the application will automatically direct a user to the login page.

Scenario:

- 1) Player opens the application, which will automatically direct them to the login page. Even if a user has logged in previously, the player will be logged out automatically when the application shuts down.
- 2) Player enters their username, which is their email address, and password and logs in.
- 3) Application directs the player to the home page.

Postcondition: Player’s account is loaded into the application and player is currently viewing the home screen

Exceptions:

- 1) What happens if the user does not have an account? See use case Sign Up.

Priority: High

When available: Third iteration.

Frequency of Use: High, required for all users

Channel to Actor: GUI application

10. USE CASE: SIGN UP

Primary Actor: Player

Goal in Context: Players who do not currently have an account can sign up and create an account.

Preconditions: Player does not currently have an account.

Trigger: Player wants to create an account

Scenario:

- 1) Player clicks on the 'Sign Up' link from the login page.
- 2) Player is directed to the Sign Up page. From there, player fills out their information, including their email address, gaming username, full name and password.
- 3) Player completes the form by clicking the button to sign up.
- 4) Player's credentials are authenticated and they are redirected to the Home page.

Postcondition: Player has successfully created an account, from which they can login to the application. Player is now on the Home page.

Exceptions:

- 1) What if the user already has an account? See use case Login To Application.

Priority: Moderate

When available: Third iteration.

Frequency of Use: Moderate

Channel to Actor: GUI Application

11. USE CASE: RESET PASSWORD

Primary Actor: Player

Goal in Context: Player wants to change their password.

Preconditions: Player already has an account on the application.

Trigger: Player selects the option to reset their password from either the Login screen or the Manage Your Profile Screen. Both selections will lead them to the Reset Password page.

Scenario:

- 1) Player selects the option to reset their password.

- 2) Player enters in a new password and confirms that password by typing it in a second time.
- 3) If the account exists in the database, the password will be changed.
- 4) Player is redirected to the Login page to log in with their new password.

Postcondition: Player has changed their password, and have been redirected to the Login screen.

Exceptions: N/A

Priority: Moderate

When available: Third iteration.

Frequency of Use: Moderate

Channel to Actor: GUI Application

12. USE CASE: VIEW HOME PAGE

Primary Actor: Player

Goal in Context: Allowing player to view the home screen and select a game he wants to play or select the profile

Preconditions: Player has signed in successfully

Trigger: Player signing in with his credentials without issues

Scenario:

1. Player has signed in and is now viewing the main screen.
2. Player has the option to select any of the three games (Tic Tac Toe, Chess, Connect 4)
3. If the player selects chess, they get redirected to the chess home screen.
4. If the player selects connect 4, they get redirected to the connect 4 home screen.
5. If the player selects tic tac toe, they get redirected to the tic tac toe home screen.
6. If the player selects their profile, they get redirected to their profile menu.

Postcondition: Player is now viewing one of the four possible screens after their selection

Exceptions: N/A

Priority: High

When available: Second iteration.

Frequency of Use: High

Channel to Actor: Clicking on the log in button and successfully logged in.

13. USE CASE: SELECT CONNECT 4

Primary Actor: Player

Goal in Context: Redirecting player to the connect 4 main screen after the selection from home screen.

Precondition: Player is successfully logged in and is on the Home screen.

Trigger: Clicking on the Connect 4 game from the home page.

Scenario:

1. Player selects the connect 4 game from the home page.
2. Player gets redirected to the main screen for the game
3. Player has the option to:
 - a. Play a game
 - b. Check leaderboard
 - c. Access game history
 - d. Exit the game
 - e. Access their profile

Postcondition: Player is now viewing the main screen of connect 4.

Exception: N/A

Priority: High

When available: Second iteration.

Frequency of Use: High

Channel to Actor: Players' interaction with the connect 4 game button

14. USE CASE: SELECT CHESS

Primary Actor: Player

Goal in Context: Redirecting player to the connect 4 main screen after the selection from home screen.

Precondition: Player is successfully logged in and is on the Home screen.

Trigger: Player clicks on the chess game card.

Scenario:

- 1) Player selects the chess button from the Home screen.
- 2) Player is redirected to the chess game menu.

- 3) Player has the option to:
 - a. Play a game
 - b. Check leaderboard
 - c. Access game history
 - d. Exit the game
 - e. Access their profile

Postcondition: Player is viewing the chess Main Menu screen.

Exception: N/A

Priority: High

When available: Second iteration.

Frequency of Use: High

Channel to Actor: Player's interaction with the chess button.

15. USE CASE: SELECT TIC TAC TOE

Primary Actor: Player

Goal in Context: Player selects the Tic Tac Toe game from the Home screen.

Precondition: Player is successfully logged into their account and is on the Home screen.

Trigger: Player clicks on the Tic Tac Toe game card.

Scenario:

- 1) Player selects the tic tac toe button from the Home screen.
- 2) Player is redirected to the tic tac toe game menu.
- 3) Player has the option to:
 - a. Play a game
 - b. Check leaderboard
 - c. Access game history
 - d. Exit the game
 - e. Access their profile

Postcondition: Player is viewing the Tic Tac Toe Main Menu screen.

Exception: N/A

Priority: High

When available: Second iteration.

Frequency of Use: High

Channel to Actor: Player's interaction with the tic tac toe button.

16. USE CASE: VIEW OWN PROFILE PHOTO

Primary actor: User

Goal in context: To allow the user to view an enlarged version of their own or another user's profile photo.

Preconditions: The user's profile or another user's profile is displayed.

Trigger: The user clicks on a profile photo.

Scenario:

- User clicks on the Profile Photo on the left or right panel.
- The system displays an enlarged version of the clicked photo in a popup or new screen.
- The user can view the photo and close the enlarged view when finished.

Postcondition: The user views the enlarged profile photo and can return to the main profile screen.

Exceptions: The photo fails to load due to a network or system error. An error message is displayed to the user.

Priority: Medium. Enhances the user experience but is not essential for basic functionality.

When available: Third iteration.

Frequency of use: A few times per day.

Channel to actor: Physical interaction through touch or mouse click.

Secondary actors: None.

Channels to secondary actors: N/A.

Open issues: Decide whether users can download or share the photo.

17. USE CASE: CHALLENGE PLAYER

Primary actor: Player

Goal in context: To allow the player to challenge another user to a multiplayer game.

Preconditions: The user's profile and the other user's profile are loaded and displayed.

Trigger: The user decides to start or challenge a game.

Scenario:

- User navigates to the "Other's Profile" screen.

- User clicks the Challenge button next to a specific game (e.g., Chess, Connect 4, Tic Tac Toe).
- For solo games, the game starts, and the user begins playing.
- The system sends a challenge request to the other user.
- A confirmation message is displayed to the user indicating the challenge has been sent, and the challenged user receives a notification.

Postcondition:

- The challenge is successfully sent, and the user is notified.

Exceptions:

1. The user is not eligible to start or challenge for the game (e.g., insufficient ranking or system error). An error message is displayed.
2. The system fails to send the challenge due to a network or server issue. The system notifies the user of the failure and prompts them to try again later.

Priority: High. Essential for enabling interactions and gameplay for users.

When available: Second iteration.

Frequency of use: Multiple times per day.

Channel to actor: Physical interaction through clicking on the screen or a mouse click.

Secondary actors: The challenged user (recipient for multiplayer).

Channels to secondary actors: Notification system for the recipient.

Open issues: Clarify if a solo game has a time limit or can be paused.

18. USE CASE: NAVIGATE BACK TO PREVIOUS PAGE

Primary actor: User

Goal in context: To allow the user to return to the previous screen or main menu.

Preconditions: The user is currently viewing a detailed profile screen (e.g., "Other's Profile").

Trigger: The user decides to go back to the previous screen.

Scenario:

1. User clicks the Back button located at the top left corner of the screen.
2. The system navigates the user to the previous screen (e.g., main menu or previous list).
3. The content of the previous screen is loaded and displayed to the user.

Postcondition: The user is taken to the previous screen without any loss of data or context.

Exceptions:

1. The navigation fails due to a system or network error. An error message is displayed, and the user remains on the current screen.
2. The previous screen is not accessible (e.g., due to session timeout). The user is directed to the main menu instead.

Priority: High. Important for user navigation and overall experience.

When available: Second iteration.

Frequency of use: Many times per session.

Channel to actor: Physical interaction through touch or mouse click.

Secondary actors: None.

Channels to secondary actors: N/A.

Open issues: Determine if additional confirmation should be added for unsaved changes before navigating back.

19. USE CASE: IN GAME CHAT

Primary Actor: Player

Goal in Context: Allowing players to chat with one another using the in game chat

Precondition: N/A

Trigger: Clicking the chat box on the corner of the screen

Scenario:

1. Player clicks on the chat box on the corner to chat with someone
2. Can either chat with everyone online or chat with someone privately.

Postcondition: Player successfully can chat with others

Exceptions: N/A

Priority: High

When available: Second iteration.

Frequency of Use: Moderate

Channel to Actor: Interaction with the chatbox.

Secondary Actors: Other players

20. USE CASE: ACCEPT/REJECT CHALLENGE REQUEST

Primary Actor: Player

Goal in Context: To allow players to accept challenge requests from someone

Precondition:

Trigger: Clicking on the accept button on the request option

Scenario:

1. Player gets the challenge request from another player
2. Player can either accept or reject the challenge request.
 - a. If accepted, player gets redirected to the game with other player and the game begins

Postcondition: Player is either in a game with the other person or rejected the request.

Exceptions: The player could not get the challenge due to system error or insufficient rank

Priority: Moderate

When available: Second iteration

Frequency of Use: Moderate

Secondary Actor: Player challenging the person

Channel to Secondary Actor: Challenge button from the profile menu of the other person

21. USE CASE: PLATER SEARCH

Primary actor: Player

Goal in Context: To allow the player to search for other players to view their profiles or challenge them to a game.

Preconditions:

- The player is logged into their profile.
- The search functionality is available on the platform.

Trigger: The player decides to search for a specific player or browse through a list of available players.

Scenario:

1. The player navigates to the **Search** feature on the main screen or in the profile section.
2. The player enters the name or ID of the player they want to find or selects a filter(e.g. top-ranked players, friends, recent opponents).
3. The system processes the search query and displays matching results in a list format.
4. The player browses through the results and selects a player to view their profile.

5. The system displays the selected player's profile, where the player can view details or challenge them to a game.

Postcondition:

The user successfully views the player's profile and has the option to take further actions, such as sending a challenge request.

Exceptions:

- No players match the search criteria. The system displays a message indicating no results were found.
- The search fails due to a network or system error. An error message is displayed, prompting the user to try again later.

Priority: Medium. Important for enhancing user interaction and engagement but not essential for the core functionality.

When available: second iteration.

Frequency of use: Multiple times per session, depending on the user's activity.

Channel to actor: Physical interaction through touch or mouse click.

Secondary actors: None.

Channels to secondary actors: N/A.

Open issues:

- Determine if search filters (e.g., game type, location, skill level) should be added.
- Clarify if users should be able to save search results or player profiles for easy access.