# User Interface

## Design Plan II

**Software Engineering Capstone Project Team 2**

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# Contents

## 1.0 User Tasks

The focus of this phase of the UI Design Plan is user tasks. User tasks are specific functions that a user wants or needs to accomplish when using a computer application, and in the case of the project, the website.

The UI Design depends largely on the user tasks that are required of an application. It is important to know the distinct user tasks so that they can be grouped by similarity or highlighted or hidden by priority for ease of navigation.  Furthermore, they will determine the best choices for the types of menus, controls and labels that will increase the efficiency of how a user uses the website.

To define user tasks, the various users and their tasks have been identified. For each of these tasks, essential use cases have been used to break them down. Finally, a flow chart showing the context of the user tasks within the website has been included.

## 1.0 User Tasks

## 1.1 User Types

The purpose of this online Tic Tac Toe application is to allow users to log on and play games of Tic Tac Toe against other users or against bots. The main interactions in the application are between the users, bots and the website's system. In the context of the UI, the only users are the users playing the games. For the purpose of this report, they will be referred to as the **players** and will be the main focus of this phase of the UI Design process.

There are other distinct tasks that fall outside of the players' category:
- keeping all application passwords secure;
- keeping all personal information secure;
- keeping all player performance data secure from other players;
- keeping players from viewing each other's performance data; and,
- other similar admin tasks.

These are examples of tasks which the system is responsible for and do not directly affect the design of the UI, therefore, will not be considered in the UI Design process.

## 1.2 User Tasks

Listed below is the task list for the players.

Player Tasks

1. Login in to the website.
2. Create an account.
3. Create a new game.
4. Join a game.
5. Make a move on a current game.
6. Save a game.
7. Leave a game.
8. Replay a game previously played.
9. Add friend to the friend list.
10. Accept a friend request.
11. Remove friend from the friend list.
12. Create a new bot.
13. Edit an existing bot.
14. Delete an existing bot.
15. Logout of the website.

## 2.0 Essential Use Cases of User Tasks

Essential Use Cases breaks down each user task so to each component action in an UI. This will be useful when individual screens of the application are designed later stages of the UI Design process.

The following tables break down the steps of the player user tasks as listed in section 1.2.

| LOGIN | |
|---|---|
| **User (Player) Intention** | **System Responsibility** |
| | Display login component. |
| Provide login details. | |
| | Verify details. |
| | (Inform user of incorrect details.) |
| (Provide correct login details.) | |
| | (Verify details.) |
| | Log player in. |
| | Display main page. |

*Fig. 2.1 Essential Use Case for Player: LOGIN*

| CREATE ACCOUNT | |
| --- | --- |
| **User (Player) Intention** | **System Responsibility** |
| | Display component to create account. |
| Provide account details. | |
| | Verify details. |
| | (Inform user of incorrect details. ) |
| (Provide correct account details.) | |
| | (Verify details.) |
| | Create account. |
| | Log player in. |
| | Display account details. |

*Fig. 2.2 Essential Use Case for Player: CREATE ACCOUNT*

| CREATE NEW GAME | |
| --- | --- |
| **User (Player) Intention** | **System Responsibility** |
| | Display games component. |
| Select option to create new game. | |
| | Show component to create new game. |
| Provide details for new game. | |
| | Verify details |
| | (Inform user of incorrect details.) |
| (Provide correct details for new game.) | |
| | (Verify details.) |
| | Create game. |
| | Display games component. |

*Fig. 2.3 Essential Use Case for Player: CREATE NEW GAME*

| JOIN GAME | |
|---|---|
| **User (Player) Intention** | **System Responsibility** |
| | Display games component. |
| Select a game. | |
| | Offer games option menu. |
| Select join game option. | |
| | Verify player. |
| | Admit player to game. |
| | Display game. |

*Fig. 2.4 Essential Use Case for Player: JOIN GAME*

| MAKE MOVE | |
|---|---|
| **User (Player) Intention** | **System Responsibility** |
| | Display game. |
| Select a move. | |
| | Verify move. |
| | (Inform user of invalid move.) |
| (Select a valid move.) | |
| | (Verify move.) |
| | Update game state. |
| | Show updated game. |

*Fig. 2.5 Essential Use Case for Player: MAKE MOVE*

| SAVE GAME | |
| --- | --- |
| **User (Player) Intention** | **System Responsibility** |
| | Show option to save game. |
| Select save option. | |
| | Save game. |
| | Show game. |

*Fig. 2.6 Essential Use Case for Player: SAVE GAME*

| LEAVE GAME | |
| --- | --- |
| **User (Player) Intention** | **System Responsibility** |
| | Display option to leave game. |
| Select option to leave game | |
| | Request confirmation. |
| Confirm option. | |
| | Withdraw player from game. |
| | Display main page. |

*Fig. 2.7 Essential Use Case for Player: LEAVE GAME*

| REPLAY GAME | |
| --- | --- |
| **User (Player) Intention** | **System Responsibility** |
| | Display game list. |
| Select a game. | |
| | Offer games option. |
| Select game to replay. | |
| | Verify player. |
| | Admit player to game. |
| | Show game. |

*Fig. 2.8 Essential Use Case for Player: REPLAY GAME*

| ADD FRIEND | |
| --- | --- |
| **User (Player) Intention** | **System Responsibility** |
| | Display player list. |
| Select player to add. | |
| | Offer player options. |
| Select add player option. | |
| | Request confirmation. |
| Confirm option. | |
| | Create request. |
| | Display successful add confirmation. |

*Fig. 2.9 Essential Use Case for Player: ADD FRIEND*

| ACCEPT FRIEND REQUEST | |
| --- | --- |
| **Player (User) Intention** | **System Responsibility** |
| | Display friend requests. |
| Select request. | |
| | Display request information. |
| (Select delete request option.) | |
| | (Delete request.) |
| | (Display friend requests) |
| Select add player option. | |
| | Create connection. |
| | Add player to friend list. |
| | Display updated friend requests. |

*Fig. 2.10 Essential Use Case for Player: ACCEPT FRIEND REQUEST*

| REMOVE FRIEND | |
|---|---|
| **User (Player) Intention** | **System Responsibility** |
| | Display friend list. |
| Select friend. | |
| | Offer friend options. |
| Select remove friend option. | |
| | Request confirmation. |
| Confirm option. | |
| | Delete connection. |
| | Remove player from friend list. |
| | Display updated friend list. |

*Fig. 2.11 Essential Use Case for Player: REMOVE FRIEND*

| CREATE BOT | |
|---|---|
| **User (Player) Intention** | **System Responsibility** |
| Select bot menu. | |
| | Offer bot options. |
| Select create bot option. | |
| | Display bot editor. |
| Provide bot details. | |
| | (Verify bot.) |
| | (Inform user of invalid bot.) |
| (Provide correct bot details.) | |
| | Verify bot. |
| | Create bot. |
| | Add bot to bot list. |
| | Display updated bot list. |

*Fig. 2.12 Essential Use Case for Player: REMOVE FRIEND*

| EDIT BOT | |
| --- | --- |
| **User (Player) Intention** | **System Responsibility** |
| Select bot. | |
| | Offer bot options. |
| Select edit bot option. | |
| | Display bot editor. |
| Provide bot details. | |
| | (Verify bot.) |
| | (Inform user of invalid bot.) |
| (Provide correct bot details.) | |
| | Verify bot. |
| | Create bot. |
| | Add bot to bot list. |
| | Display updated bot list. |

*Fig. 2.13 Essential Use Case for Player: EDIT BOT*

| DELETE BOT | |
| --- | --- |
| **User (Player) Intention** | **System Responsibility** |
| Select bot. | |
| | Offer bot options. |
| Select delete bot option. | |
| | Request confirmation. |
| Confirm option. | |
| | Delete bot. |
| | Display updated bot list. |

*Fig. 2.14 Essential Use Case for Player: DELETE BOT*

| LOG OUT | |
|---|---|
| **User (Player) Intention** | **System Responsibility** |
| | Display logout option. |
| Select logoout. | |
| | Request confirmation. |
| Confirm option. | |
| | Log player out. |
| | Display main page. |

*Fig. 2.15 Essential Use Case for Player: LOG OUT*

## 3.0 Flow Diagram of User Tasks

The flow diagram below shows the user tasks in the context of the website structure.
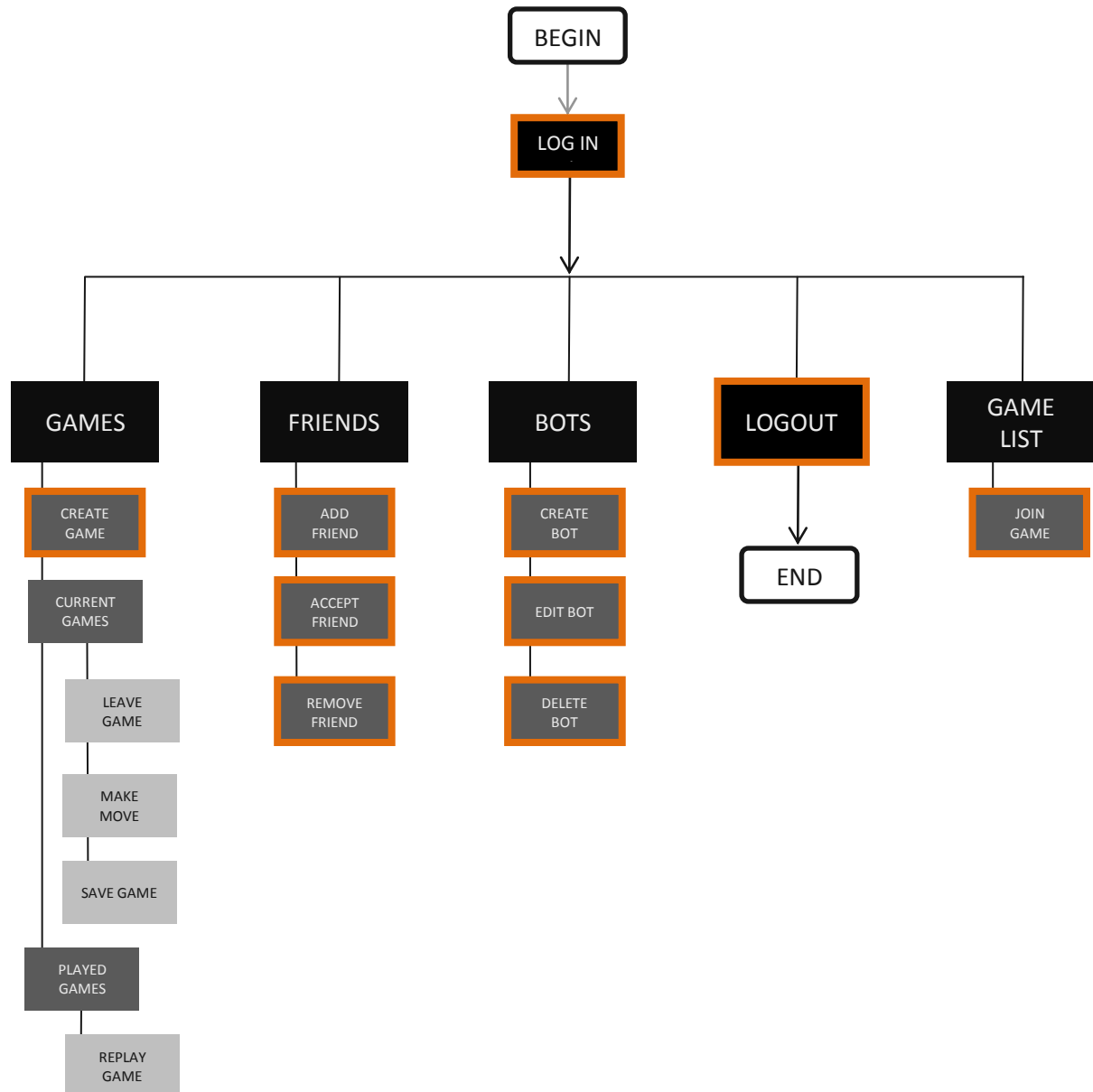


The black blocks represent the primary functions of the UI. These are the main components of the UI that are visible throughout the interactions of the user when logged in. The consecutively lighter blocks are the secondary and tertiary functions which may be menu options. The blocks outlined in bright orange are the user tasks listed in the previous section.

Despite being displayed in the above manner, this chart does not imply any specific form of hierarchy within the different functions. However, as can be seen, the options in the third tier will only be available after the user has logged in. This is denoted by the direction of the arrow. Because there is no explicit flow by which a user interacts with the UI, there are no arrows linking the lower part of the diagram.

## 4.0 The Next Phase

The next phase of the UI Design process will produce screencasts of the proposed final UI. These screencasts will be based on the user tasks discussed in this report. The aims of these screencasts is to describe what each interaction from the user will produce in the context of the UI.

## 4.0 The Next Phase