

## **Reel Reviews**

### A CSCI 313 project

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# 1. Abstract

Traditional Tic-Tac-Toe games are simple and lack variations to engage users. The proposed "Ultimate Tic-Tac-Toe" seeks to solve this by providing a more challenging and engaging gameplay experience with local multiplayer over the same network. The goal is to allow players to enjoy a modern, feature-rich version of Tic-Tac-Toe with personalized themes, enhanced interactivity, and local network support.

## 2. introductions

### 2.1. Project Idea

The goal of the Ultimate Tic Tac Toe project is to create a unique twist on the traditional Tic Tac Toe game by expanding the board into a multiple grid of smaller grids. Each player's move will determine where their next move can be made, adding more layers of strategy and complexity to the game. The platform will offer playing with friends in the same place. The game will be developed using a modern mobile application framework to ensure a smooth and interactive user experience. The objective is to create a fun, challenging, and dynamic game that players of all levels will enjoy.

### 2.2. Problem Statement

While Tic Tac Toe is a widely recognized game, it lacks the complexity and depth to keep players engaged for extended periods. The challenge lies in creating an enhanced experience that offers more strategic gameplay, making it more exciting and engaging than the traditional version. Ultimate Tic Tac Toe aims to bridge this gap by offering a game that is fun, flexible, and complex enough to keep players entertained when playing with friends.

## 2.3. User Personas

- **Primary User:** Casual players aged 10-35, interested in quick, fun, and engaging board games. Goals: Entertainment, strategy-building, competing with friends locally. Pain Points: Limited game modes, lack of personalization, and absence of multiplayer features.

- **Secondary User:** Hardcore gamers seeking enhanced challenges and competitive gameplay. Goals: Multiplayer gameplay over local networks, competitive strategies, and fluid gameplay mechanics. Pain Points: Poor user interface and a lack of engaging mechanics.

## 3. Functional Requirements

### 3.1. Customizations

- Theme selection for backgrounds.
- Custom X and O icons.

### 3.2. Game Logic & Mechanics

- **3x3 Grid Structure:** The game is played on a 3x3 grid of smaller grids, adding complexity and strategy.

**Move Restrictions:** Each player's move determines where they can place their next piece based on the opponent's previous move.

### 3.3. Gameplay Features

- Turn-based mechanics.
- Winning animations for both local and global boards.

### 3.4. Settings Menu

- Toggle music, sound effects, and vibration.
- Restart game and theme/icon selection.

### 3.5. End of Game

- Display winner with animations and provide options to restart or exit.

## 4. Non-Functional Requirements

### 4.1. performance

- The app should have minimal loading times and run smoothly across devices with Android 6.0 (API 23) or higher.

### 4.2. usability

- Provide an intuitive user interface for effortless navigation.

### 4.3. reliability

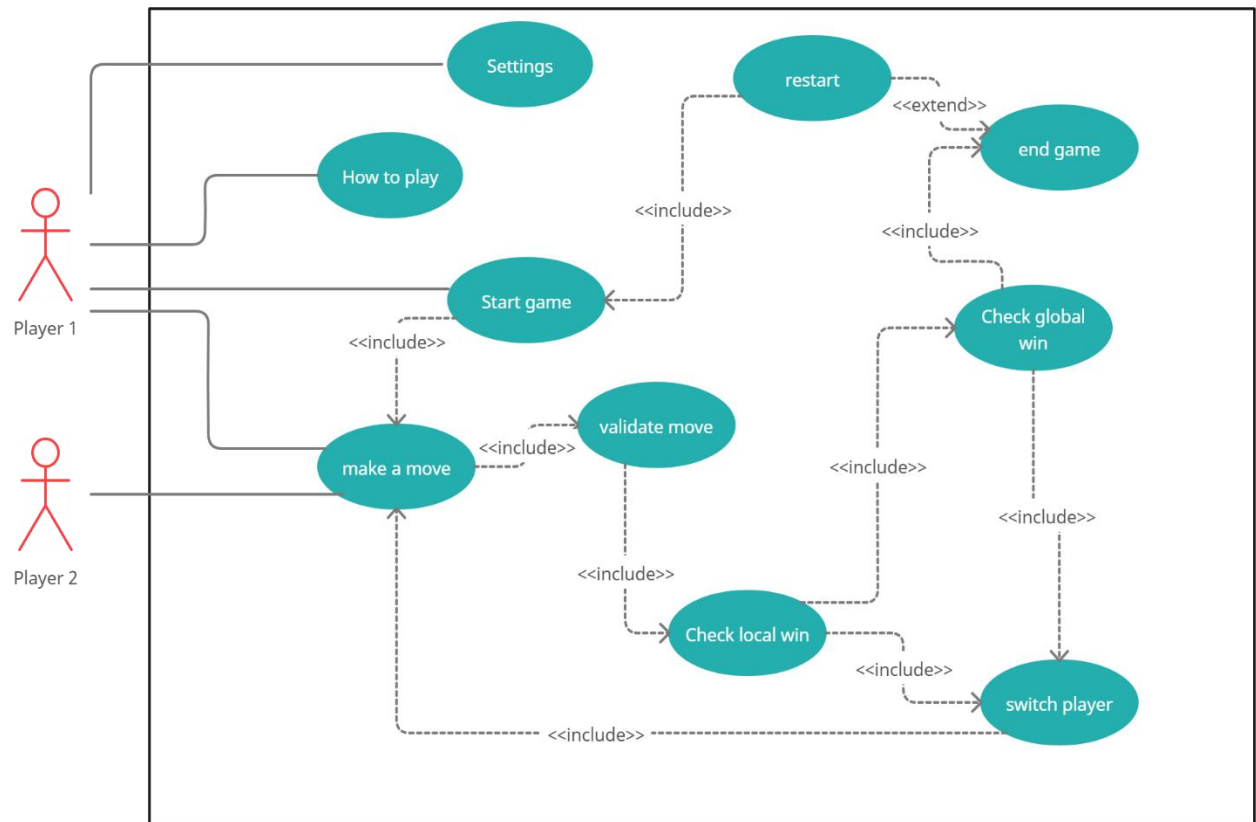
- Ensure stable connections during local matches.

### 4.4. security

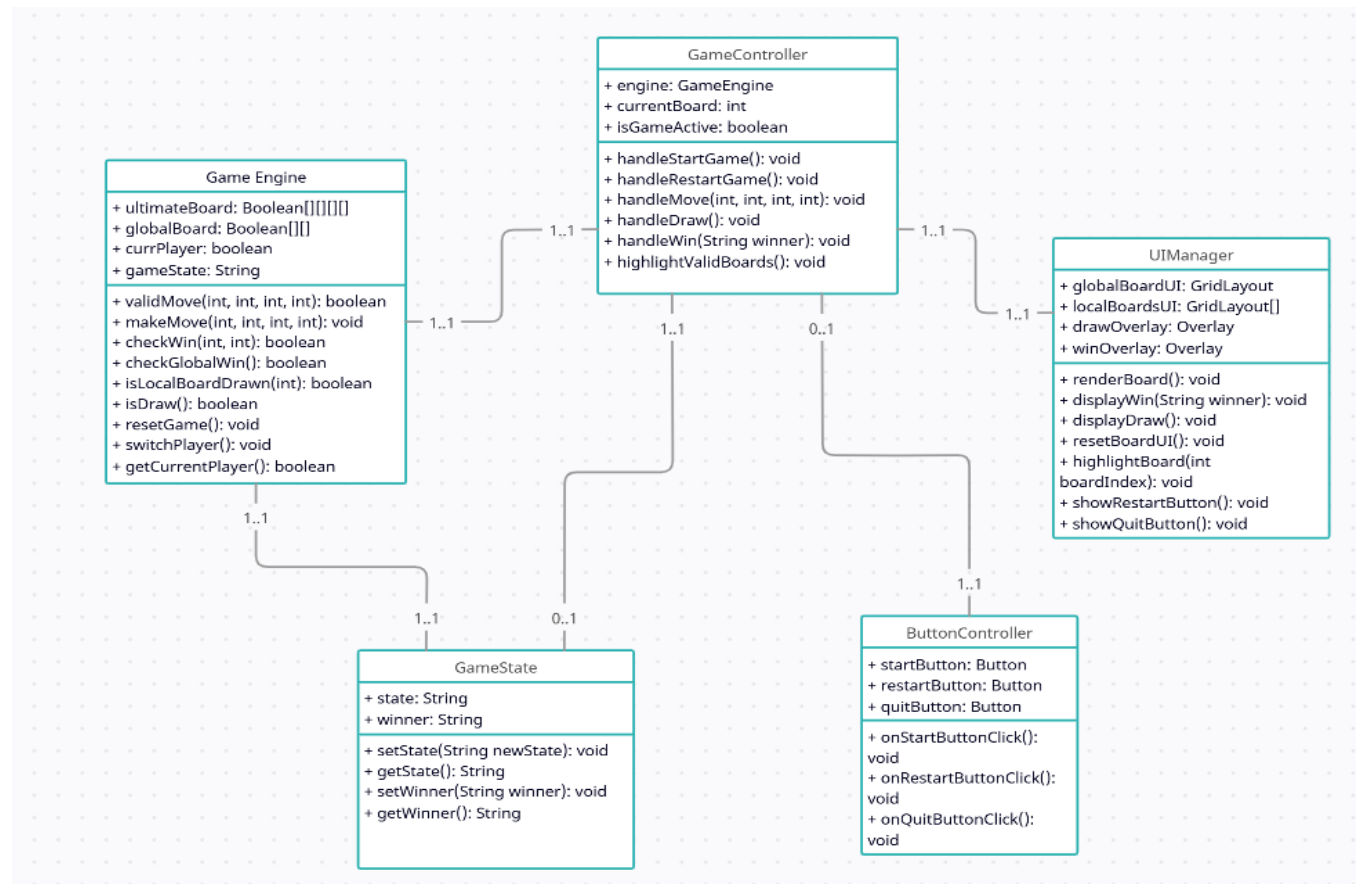
- Secure player data and ensure no unauthorized connections.

## 5. Diagrams

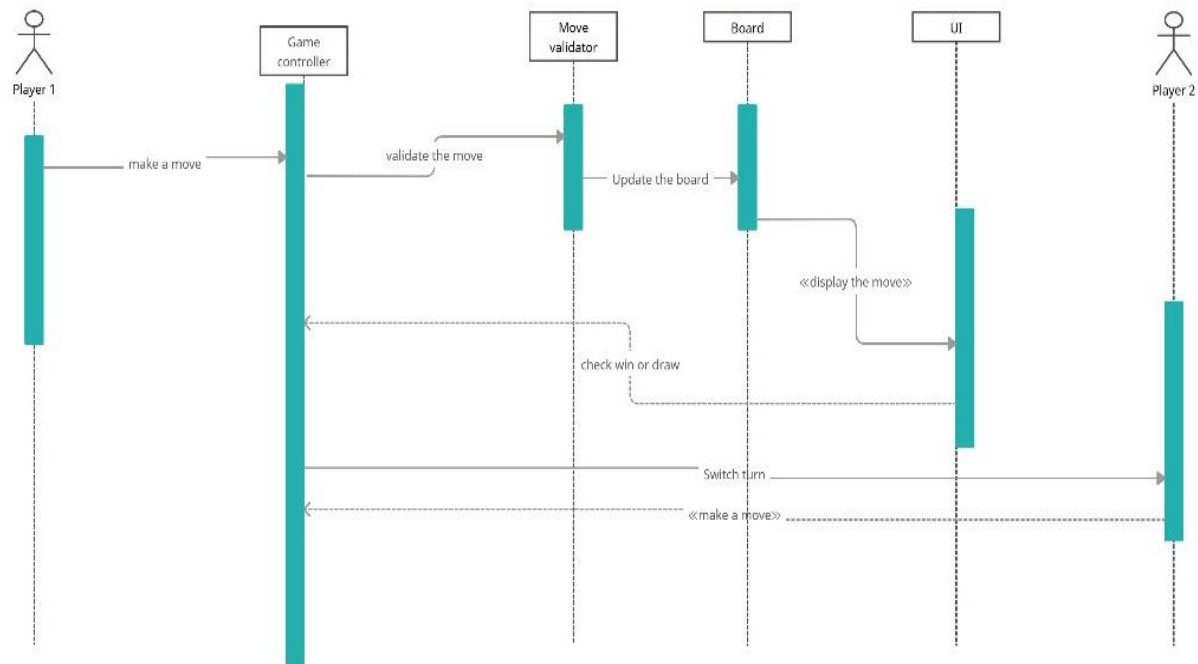
### 5.1. Use case diagram



## 5.2. class diagram

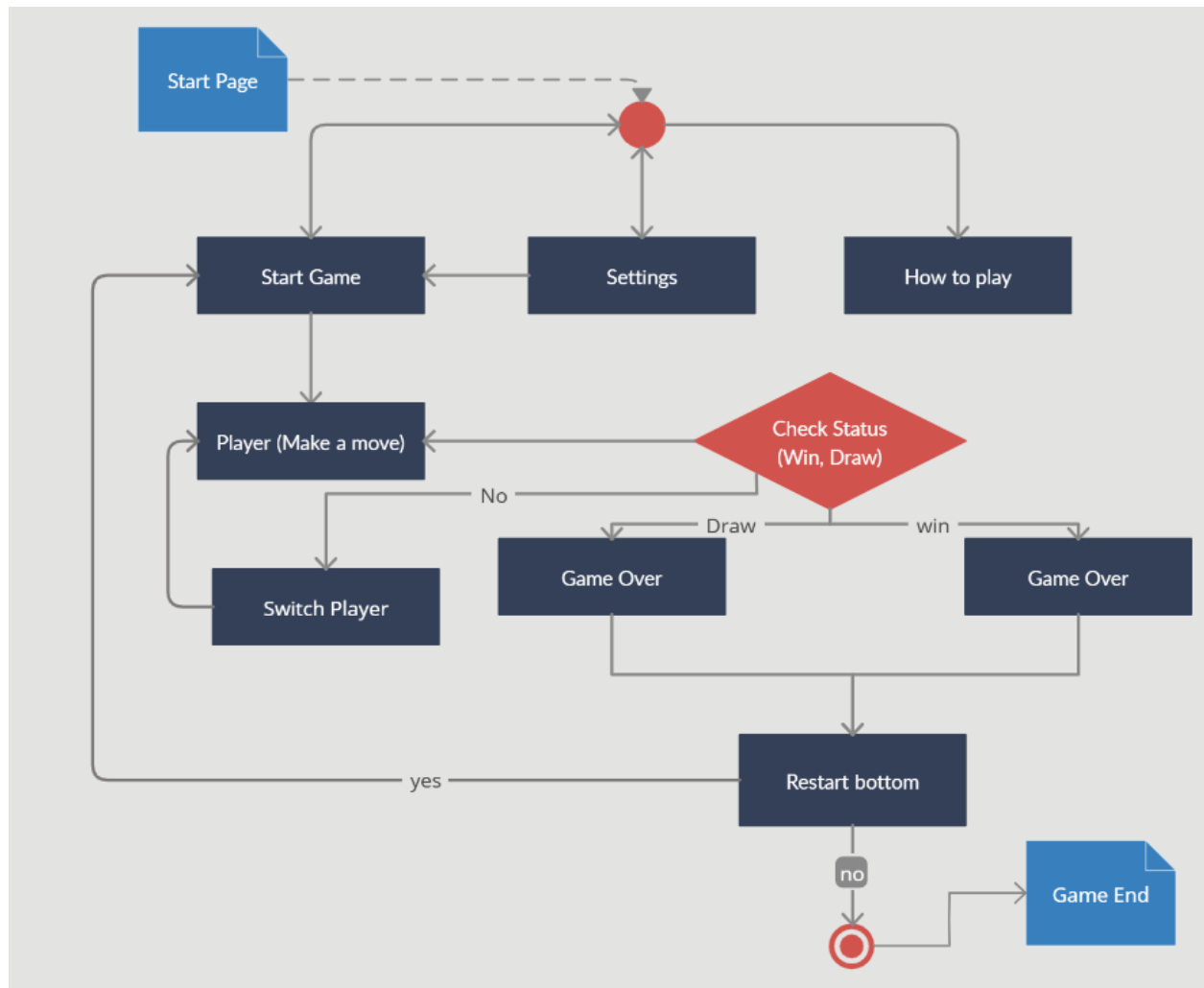


### 5.3. sequence diagram





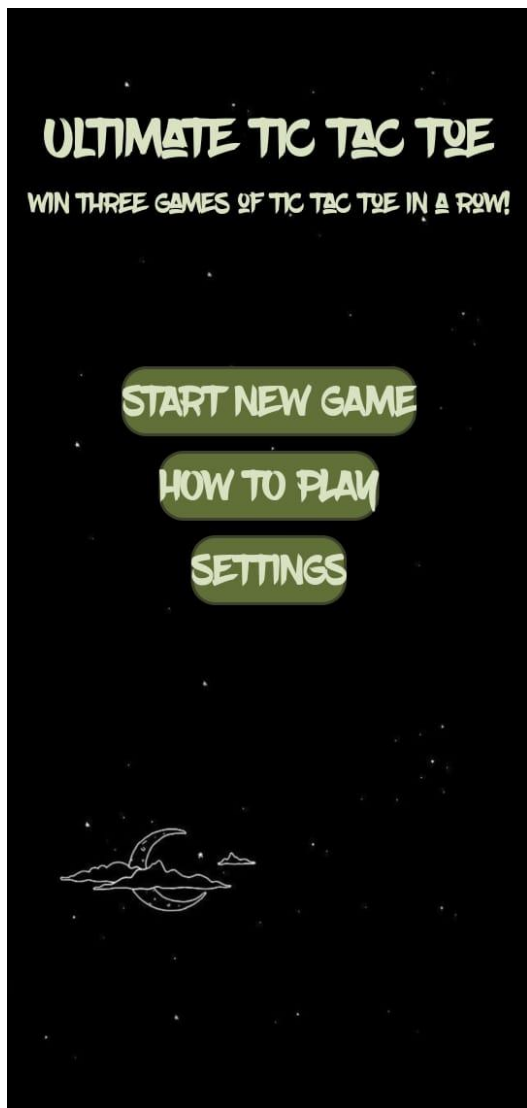
## 5.4. activity diagram



## 5. user interface

### 5.1. Start Page

- **Description:**  
The start page of the Ultimate Tic Tac Toe game greets players with a minimalist cosmic-themed background. It includes three main buttons: Start New Game, How to Play, and Settings. The buttons are styled in a playful green theme that matches the overall aesthetic.
- **Purpose:**  
To allow players to navigate easily to different sections of the game.



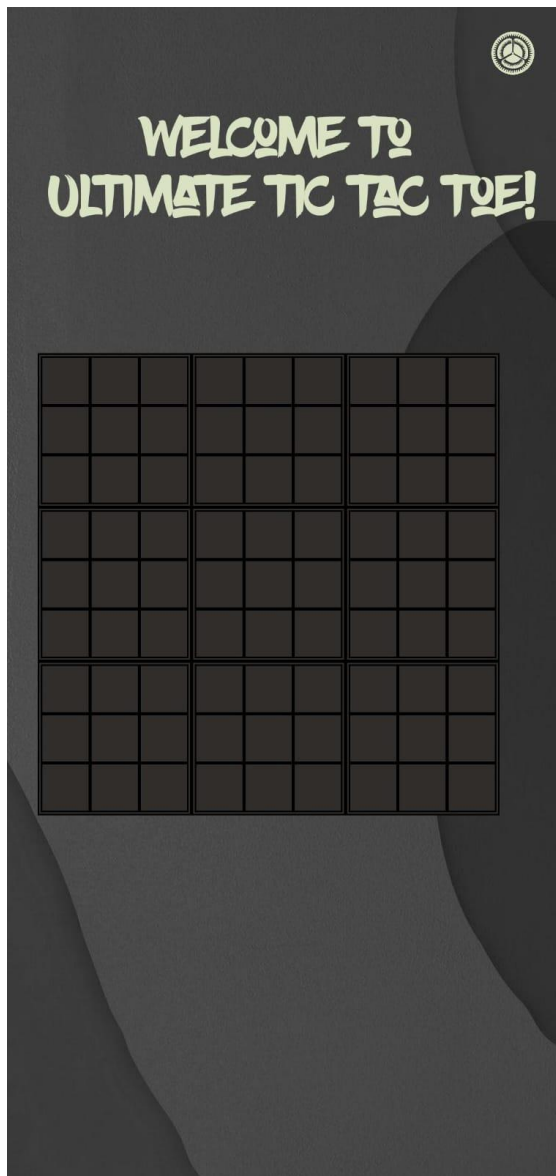
## 5.2. Empty Game Board

- **Description:**

This screen shows the Ultimate Tic Tac Toe game board in its initial state. The board consists of a 3x3 grid of smaller tic-tac-toe boards, ready for players to start marking their moves.

- **Purpose:**

To display the layout of the game before players start interacting with the board.



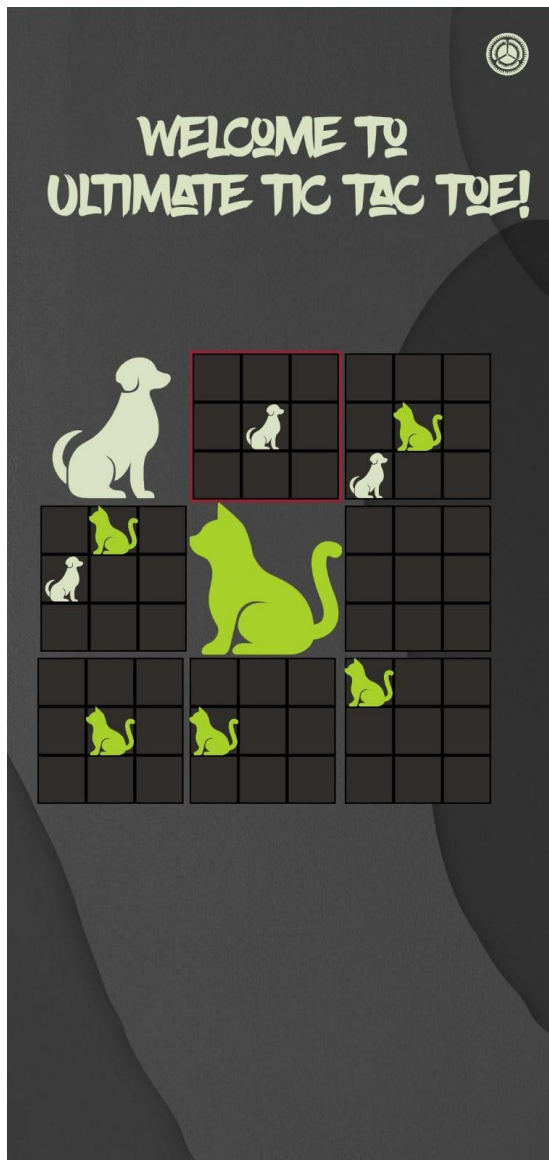
### 5.3. In-Progress Game Board

- **Description:**

This screen displays an ongoing game session with various moves made by both players. The cat and dog icons represent the two competing players. A highlighted red square indicates the active local board.

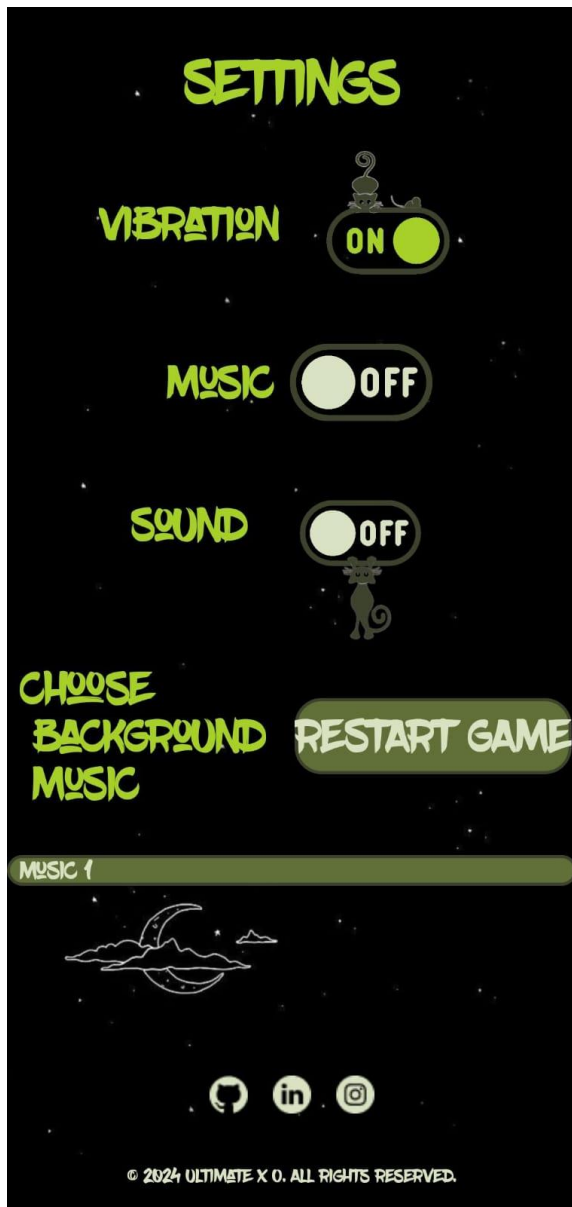
- **Purpose:**

To illustrate how gameplay progresses, showing moves, highlights, and active local boards.



## 5.4. Settings Page

- **Description:**  
The settings screen offers customization options, including toggles for Vibration, Music, and Sound. Players can also choose background music and restart the game directly from this screen.
- **Purpose:**  
To give players control over their audio-visual preferences and restart the game without returning to the main menu.



## 5.5. How to Play Page

- **Description:**

This instruction page explains the rules of Ultimate Tic Tac Toe using a mix of text and visual aids. A brief video tutorial is also included at the bottom.

- **Purpose:**

To educate new players about game rules and ensure smooth onboarding.



### Ultimate Tic-Tac-Toe

*Each small  $3 \times 3$  tic-tac-toe board is referred to as a local board, and the larger  $3 \times 3$  board is referred to as the global board.*



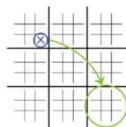
**1:** X goes first and can play in any of the empty spots on the global board!

**3:** When you get three in a row on a local board, you've won that board and the board is no longer in play. Mark that board with a large X or O (whichever letter won the board).

**2:** Now it is O's turn, but O does not get to pick which of the 9 local boards they will play on. Whichever square within a local board your opponent plays on determines the next local board that you must play on (if X plays in the bottom right square of their local board, then O has to play in the local board at the bottom right of the global board).

**4:** If a local board has already been won and you are "sent" there, you can choose to play on any local board that is still available.

**5:** To win the game, you need to win three local boards in a row.



Example of step 2



A helpful video to walk you through it!

