

Screen Sketches

John Mindrup, Jay Tiwari, Jesse Slater, and Zach Morris

Users:

	Guest Player	Player With Account	Admin
Game Play			
Single player: Play a single player game of Tetris	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Matchmaking: Play a multiplayer game of Tetris against another user	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Scores			
View leaderboards: See the online leaderboard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Save local scores: Save your best tetris scores from single player	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Save to leaderboard: save a score to the online leaderboard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Alter leaderboard	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Accounts			
create account: create a new account for the game	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
View players accounts: View a players account including name, friends, and place on leaderboard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
login/logout: login to your account or log out of your current sign in	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Delete Account: delete your own account	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Delete Other users: delete another users account	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Friends			
Spectate friend's games: View the current game of a player on your friends list	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Request friends: Send a friend request to another account	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Accept friends: Accept a recieved request	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Remove friends: remove an account from your friends list	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Non-Functional Requirements

- The game must run in a stable manner achievement a smooth gameplay framerate
- The connections between players must be consistent and fast.
- The game should support at least two players playing simultaneously
- The controls for the game must be easy to use and feel good to use.
- The game should work on a variety of phones, tablets, operating systems.
- The game should allow for future changes to gameplay modes.

Jay Tiwari, Jesse Slater

Tables and relationships

The tables that we will need are:

Highscores

Friends

User info table(Login data)

Leaderboards

The **user info table** will include the users information with the following fields:

Username (*primary key*)

Full name

Birthdate

Country

Privileges

The **high scores table** will store the top 10 high scores.

It will link the user info table to all 10 of their numerically ordered high scores.

Fields required are:

Username (*primary key of fields table and foreign key to user info table [username](#)*)

high score column and

Date

Game replay

There will be a **one-to-many relationship** between the user info table and their high scores since one user will store at most 10 high scores.

The **friends table** will store the primary key(username) of a different user(friends)

This table and the user info table will have a **one-to-many relationship** because one user can have multiple friends.

Fields required are:

Usernames of his friends(*foreign key to user info table [username](#)*)

The **leaderboards table**

This table will essentially have 2 columns with the:

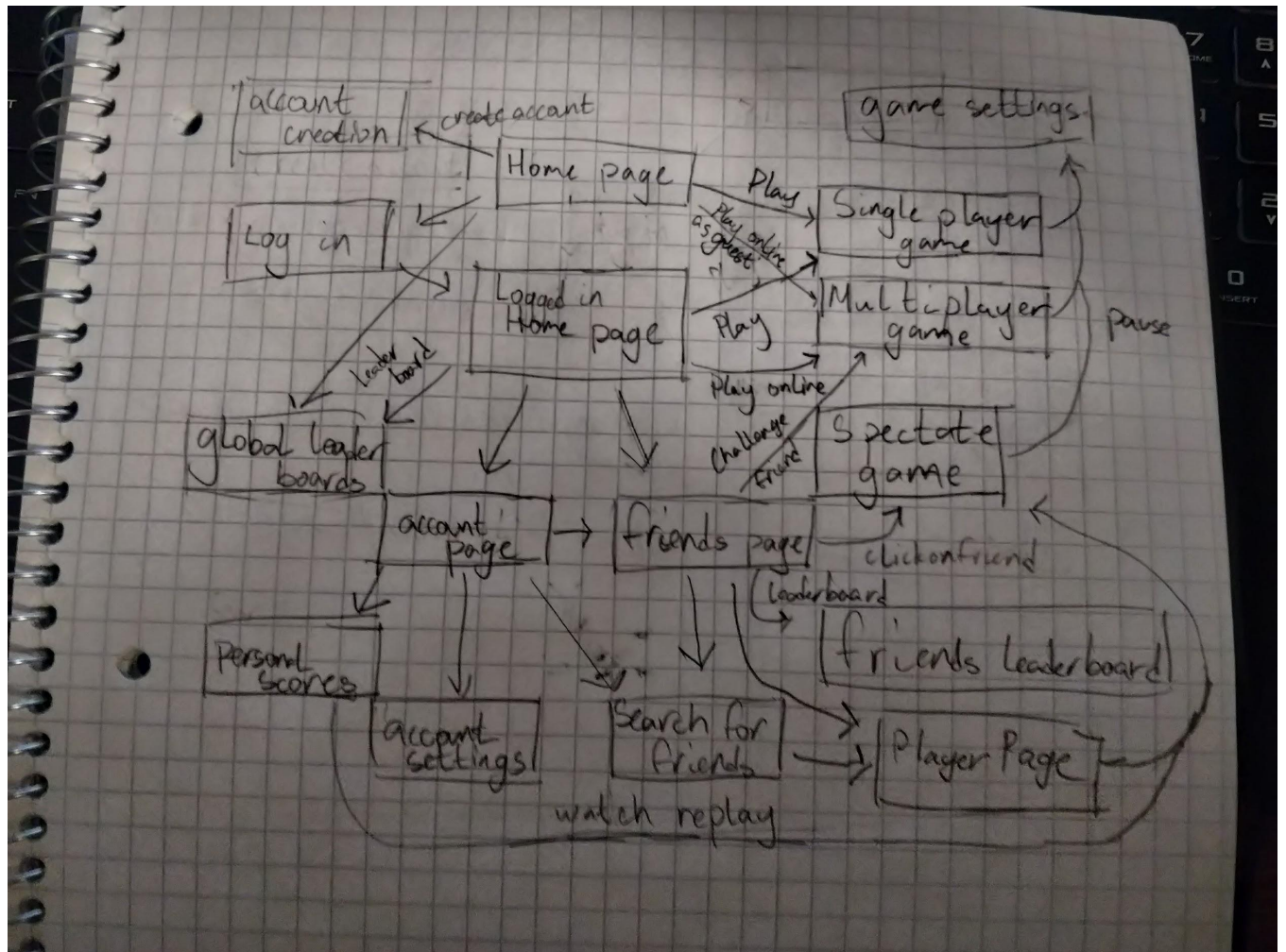
username (*foreign key to the user info table [username](#)*)

score

of the user if they appear on the leaderboards table.

The user can only appear on the leaderboard once so there will be a **one-to-one relationship** between the leaderboard table and the user info table.

Screen Flow



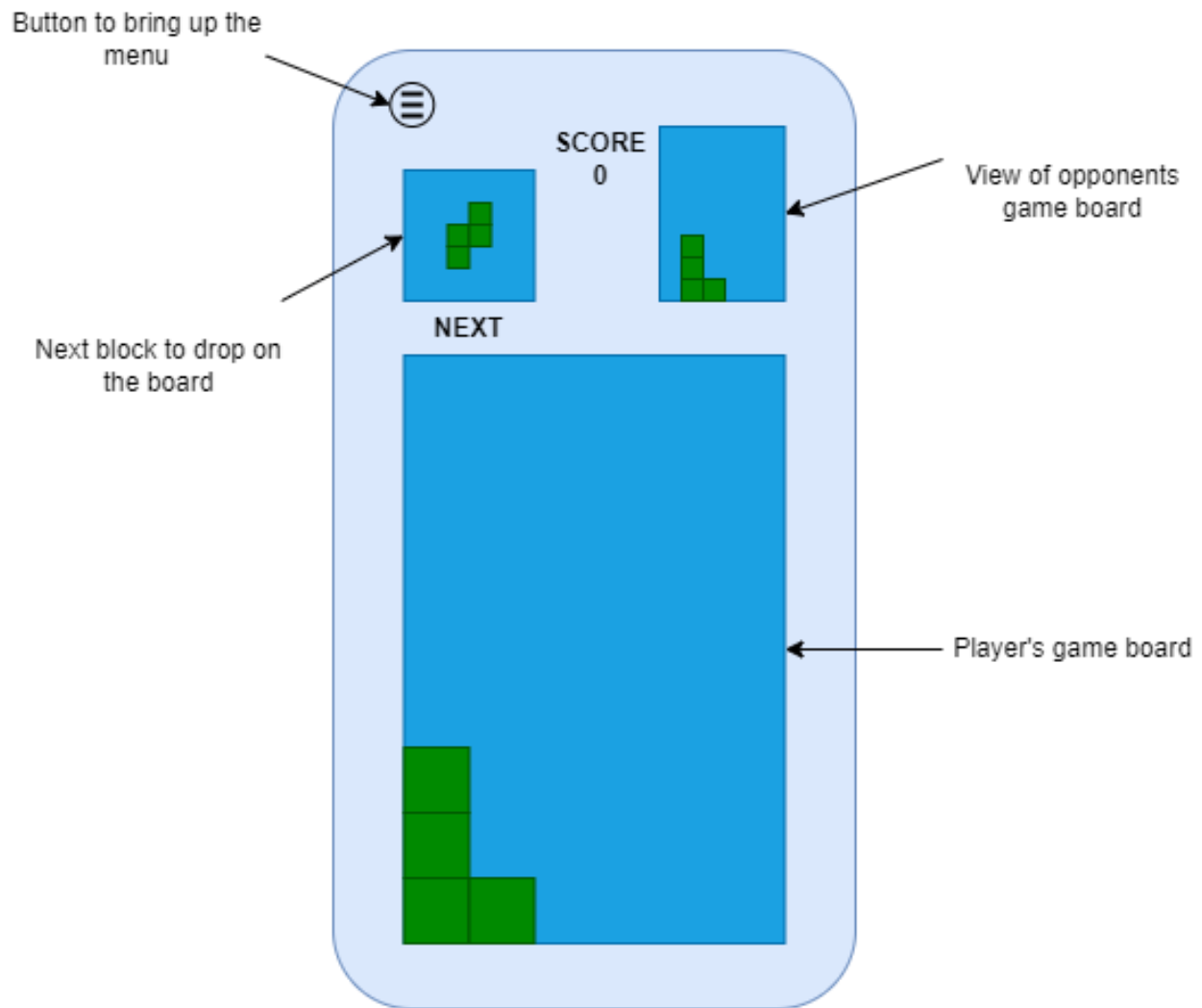


Figure 1: Tetris Game John Mindrup

The main game area to be used for single and multiplayer games of tetris. Displays your current game board, your score racked up, the opponent's screen if applicable and the next block.

- Button which brings up a menu for quitting and resuming the game.
- Box which shows the next tetris block which will be dropped on the board.
- A view of the opponents game board with live updates.
- A view of the players game board

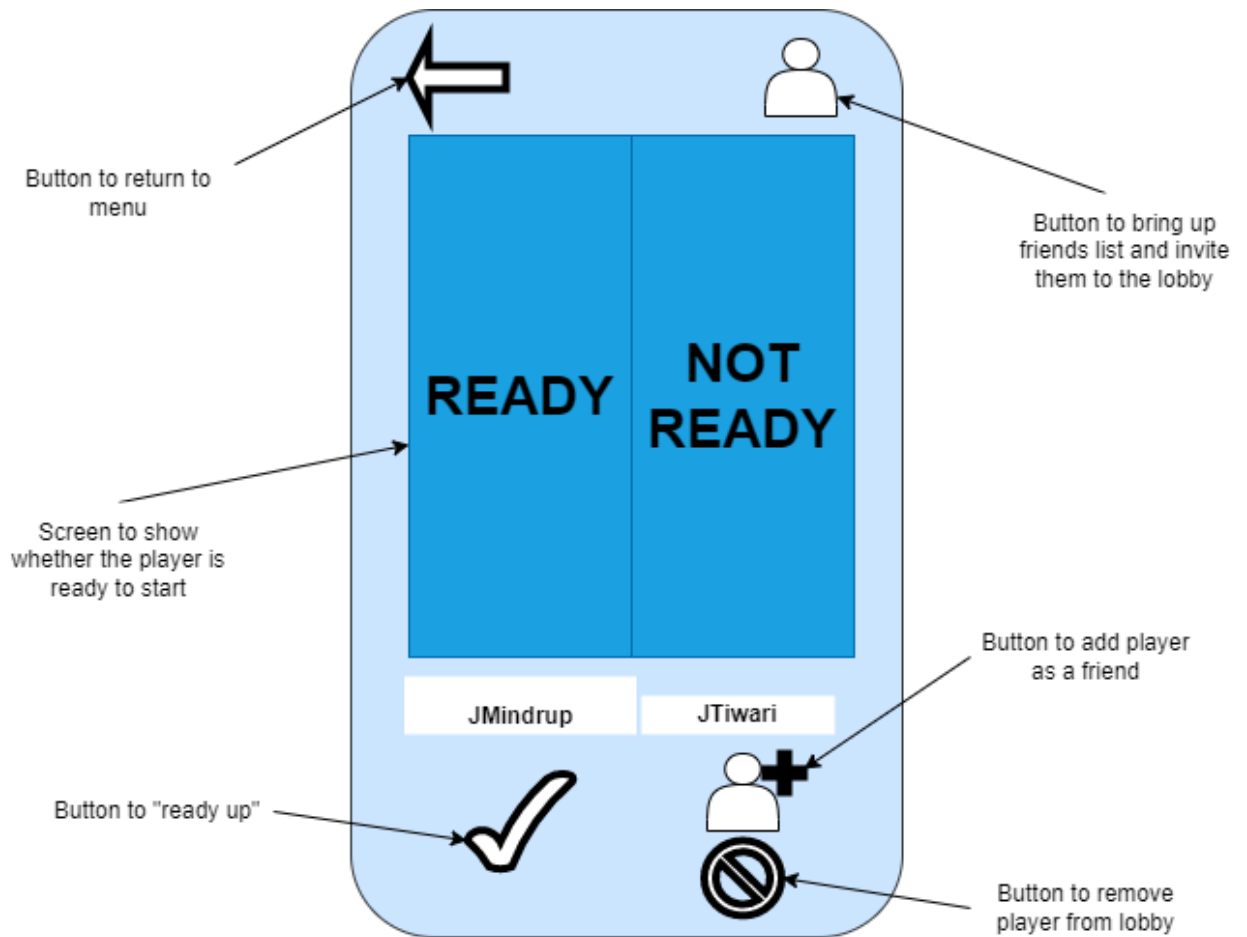


Figure 2: Lobby screen John Mindrup

This screen is a lobby screen for the multiplayer matches. It signals whether the players are ready to start and starts when both players are ready.

- Button which leaves the lobby and returns the user to the home screen.
- Button to bring up the friends list to invite them to the lobby.
- Screen which shows the status of the two players
- Button to indicate whether the user is ready to start the game.
- Buttons remove the other player from the lobby or add the player to your friends list

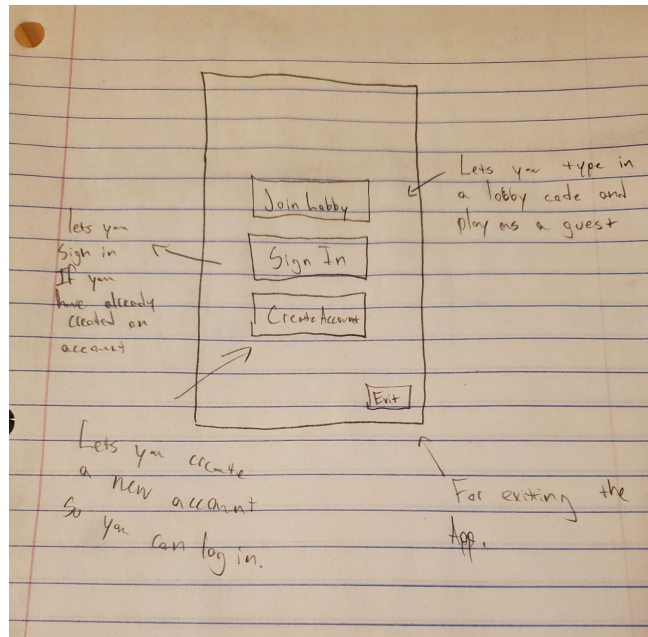


Figure 3: Login Screen Zach Morris

This screen is the first screen that users will see when they open the app. There are four buttons that the user can press: the Join Lobby button, the Sign In button, the Create Account button, and the Exit button. When the user presses the Join Lobby button, they will be prompted to type in the lobby code, where they can play multiplayer games as a guest without an account, which means that they won't be able to save their scores. The Sign In button allows users to play using their profile and allows users to participate in the social aspects of the app. Create Account allows users to create an account if they don't already have one and Exit closes the app.

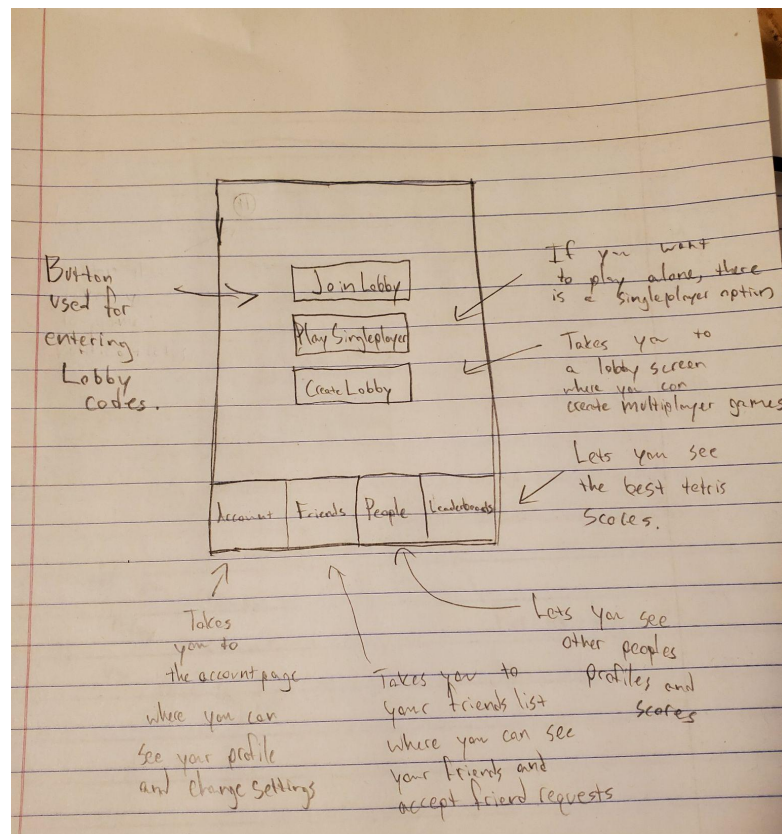


Figure 4: Home Screen Zach Morris

After signing in with your account credentials in the Login Screen, you will be redirected to the home screen. From the home screen, there are several buttons that the user can press. The first is the Join Lobby button which is similar to the button in the Login Screen but this button allows you to enter a lobby with your profile. The play singleplayer button allows users to play the game by themselves while still being able to track their high scores. Create Lobby allows for users to create a multiplayer game and invite their friends if they'd like to, or show the invite code to someone that doesn't have an account. The Account button allows users to edit their profile, view their scores, and change personal settings. The Friends button allow users to view their current friends and accept incoming friend requests. People shows public profiles of other users and Leaderboards allows users to see the best Tetris scores from other people.

Figure 5: Register Screen Zach Morris

The diagram illustrates a register screen layout on lined paper. At the top, the text "create Account" is written. Below it are four rectangular input fields, each with a label above it: "Enter email", "Enter Username", "Enter password", and "confirm password". At the bottom of these fields is a rectangular button labeled "Register". Handwritten labels with arrows point to each field: "Text box asking for an email" points to the "Enter email" field; "Text box asking users to create their password" points to the "Enter password" field; "Text box where users confirm their usernames" points to the "confirm password" field; and "Asks users to confirm their passwords" points to the "confirm password" field. A final note at the bottom right states: "If all the text boxes have text and are valid Register creates the account", with an arrow pointing to the "Register" button.

The register screen is where the user is taken if they choose to register from the login screen. The register screen is to be used if the user does not currently have an account and would like to make one. When you get to the screen, there are several text boxes. One that asks for an email, one that asks for a username, one that asks for a password, and another to confirm that password. The register button is able to be pressed after there is an input in each of the textboxes and they are valid inputs. When the register button is pressed, their account is created and their account data is saved to the system.

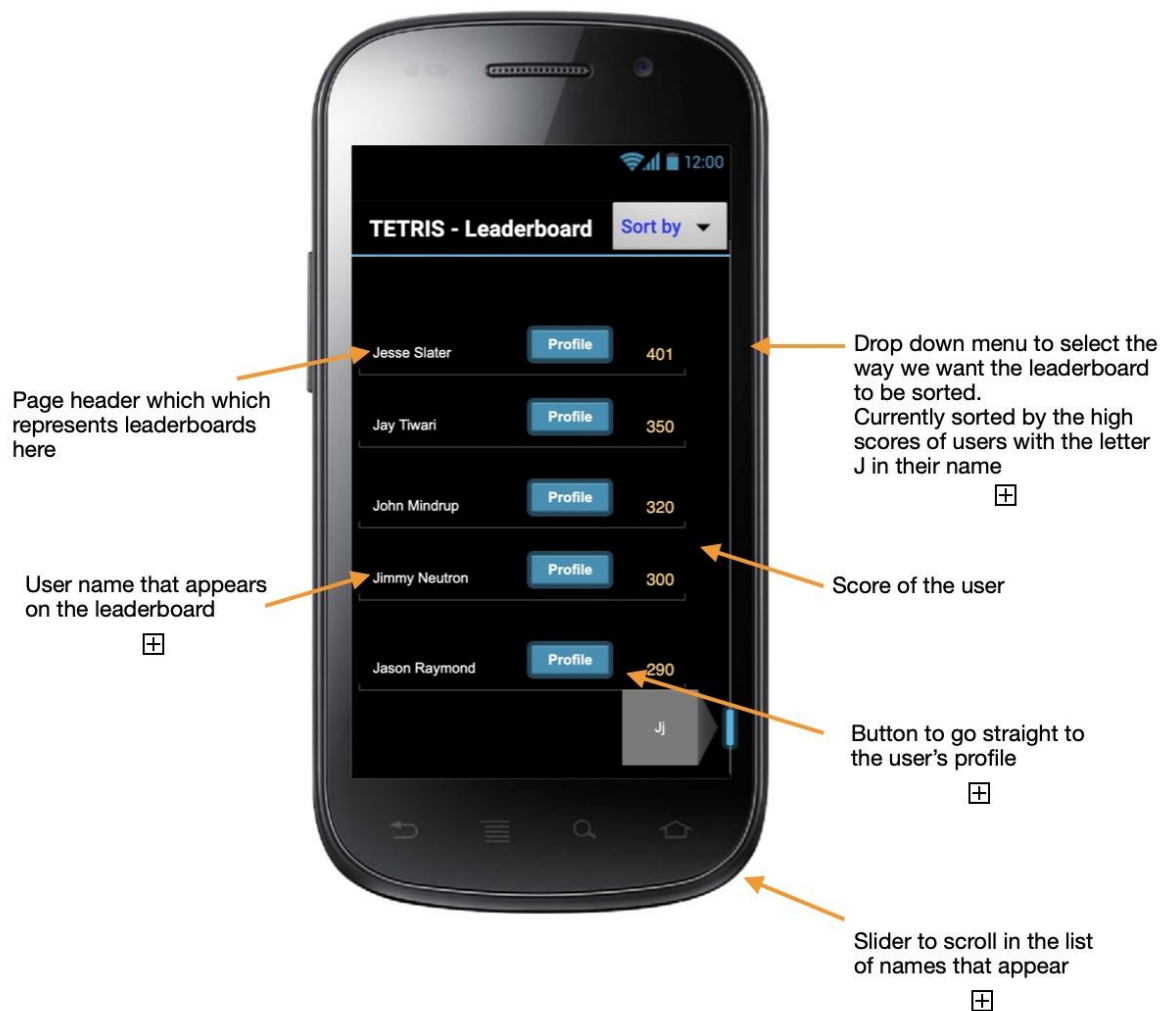


This screen allows the user to preferentially make the game look how they want. It has a set block color tab where user's can set the color they would like. There will also be a multicolor option in here.

The set block speed tab has a slider which allows users to set the speed by which the blocks will fall down on the main game screen.

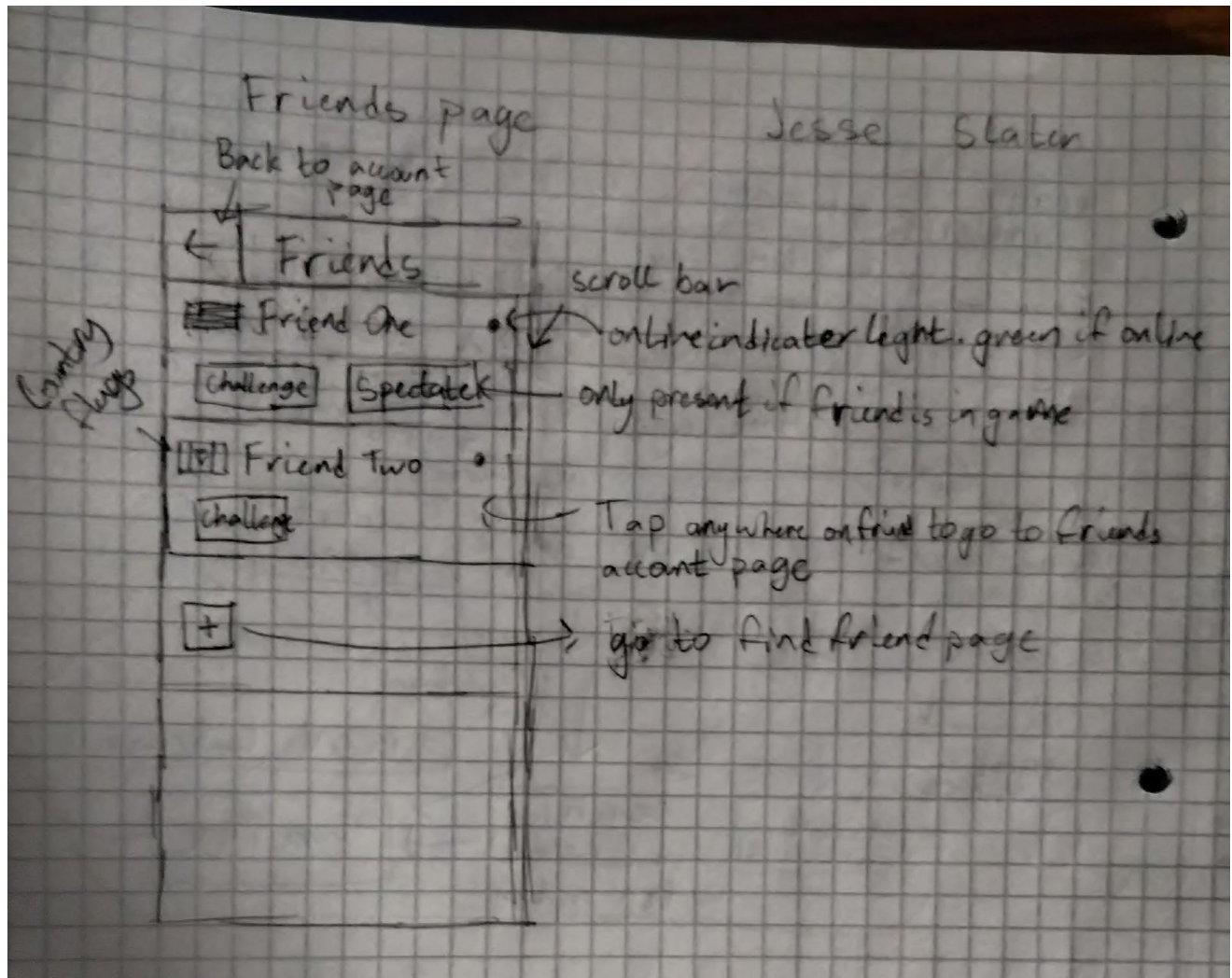
There are two addition settings that let users choose colors for the board and set a background image. This page will be available from the homepage as well as the main game page.

Figure 6: Settings screen Jay Tiwari

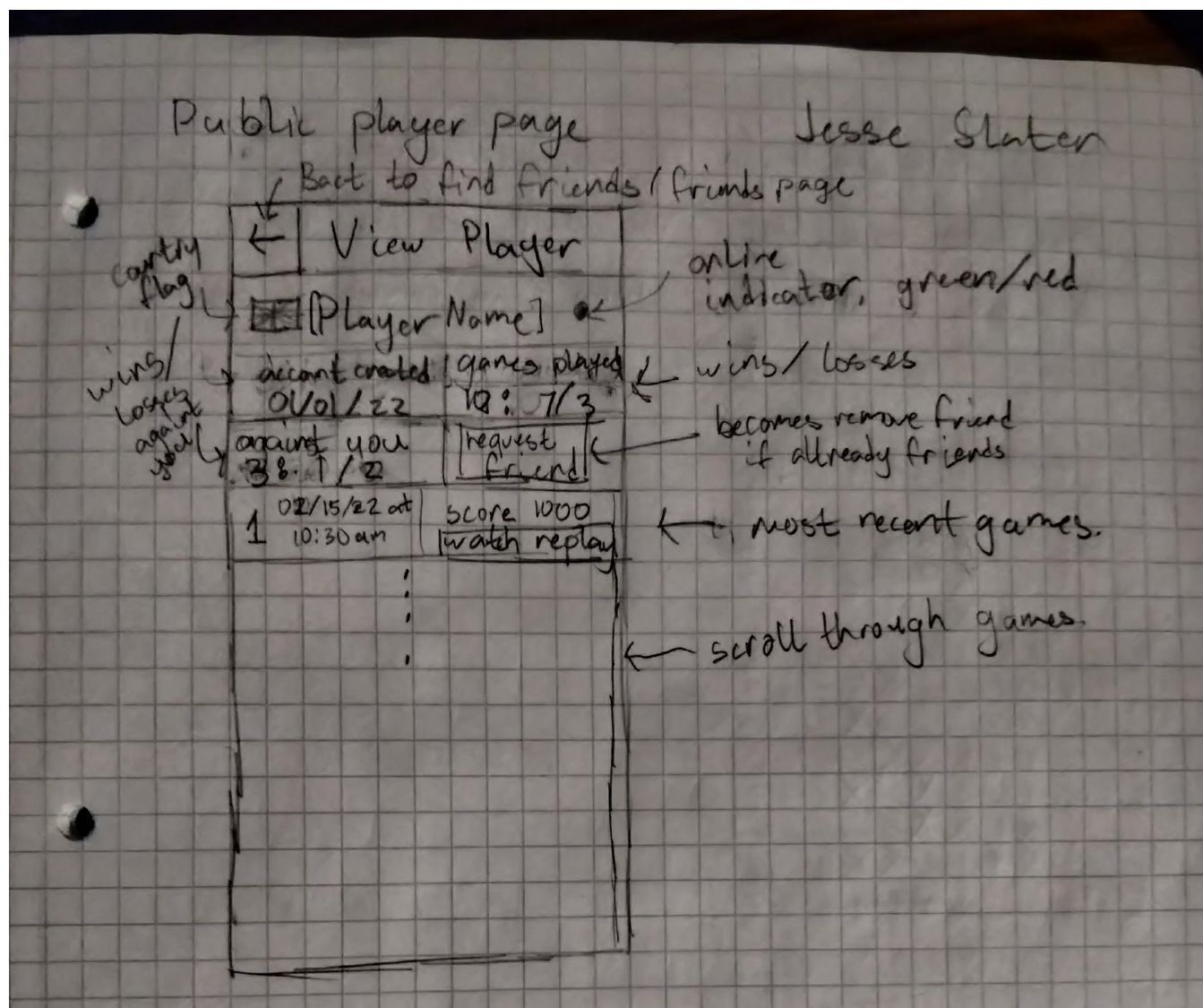


This screen represents the leaderboards page. The user can access this page from the home screen where the user first lands when opening the application. There are buttons to visit the profile of the user who is present on the leaderboard. The purpose of this page is to let users know the users with the highest scores. You can also sort the page to know the highest scorers among your friends.

Figure 6: Leaderboard screen Jay Tiwari



This is the friends page which lists your friends. You can challenge them to play, accept challenges, and spectate friends who are in games. You can tap on a friend to go to their and you can tap on the plus button to go to the player search page. There is an indicator if a friend is online, and you can see the country flag of the player.



This is the public page for a player's account. Every player will have one, and you will be able to access it by tapping on a friend or an opponent from matchmaking, or someone on the leaderboard. It has account statistics including account creation date, games played, games won/lost, games played against you, games won and lost against you, and recent games. There is a button to request friend, or to remove friend if you are already friends. The list of games played has the score statistics about the game, and a button to replay it.