

SCREEN SKETCHES

Group KM_202

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Actors:

1. Player
 - a. Login
 - b. Level access
 - c. Level Progress
 - d. Currency
 - e. Access shop
 - f. Inventory
 - g. Access player Created levels
 - h. View scoreboard
2. Designer
 - a. Create new level
 - b. Post levels for other players
 - c. Edit previously made levels
3. Admin
 - a. Edit user data
 - b. Edit level data
 - c. Remove levels
 - d. Update store

Non-Functional Requirements

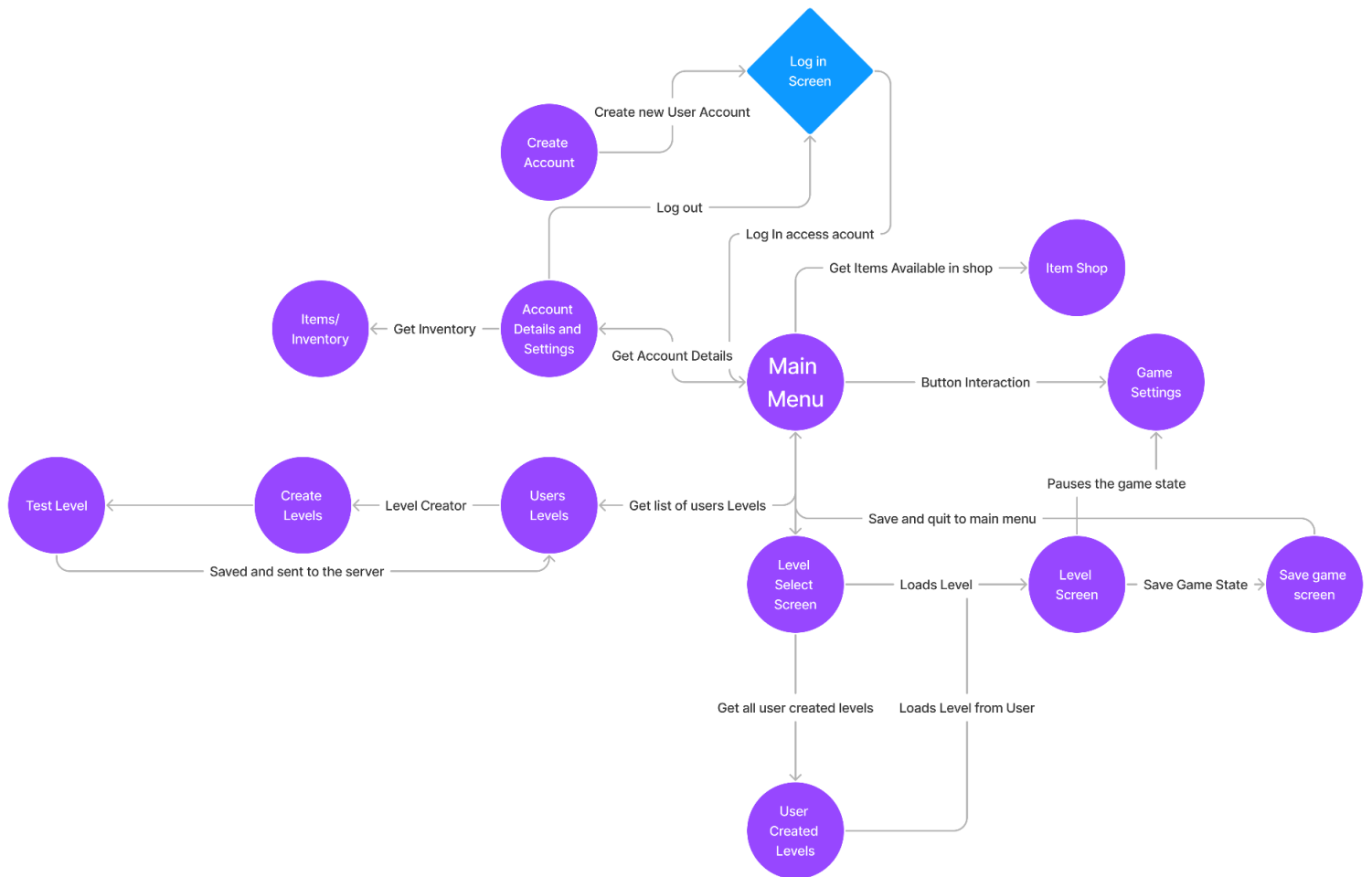
- Ensure that the game's physics and gameplay remain consistent throughout different sections of the game.
- Levels should be challenging but not impossible. Players should find them engaging and enjoyable.
- Implement a feature that allows players to create and add at least five custom levels to enhance the game's replayability and creativity.
- The timer used in the game should run accurately and consistently, ensuring fair competition among players.

Tables and fields

- **User - Stores information related to the user's account.**
 - User ID (Primary Key)
 - Username
 - User type
 - Password
- **Player**
 - User ID (Primary Key)
 - Username
 - XP Level
 - XP Amount
 - Currency
 - High Scores
 - Access type
- **Designer**
 - User ID (Primary Key)
 - Username
 - Levels Created (foreign key to levels)
- **Admin**
 - User ID (Primary Key)
 - Username
 - Access type (foreign key to store and levels) (This way we can know that the admin is able to modify the store and the levels)
- **User Inventory - Tracks all the items that the user has purchased.**
 - User Inventory ID (Primary Key)
 - User ID (Foreign Key to User Table)
 - Item ID (Foreign Key to Shop Table)
 - Item Count (Number of each item owned by the user)
- **Level - Stores information about levels as well as levels created by users and high scores.**
 - Map ID (Primary Key)
 - Map Score
 - Map Creator (Foreign Key to Designer Table)
 - Map High Score (Highest score achieved on this map)
 - Map High Score Holder (User who achieved the high score)
 - XP Granted (Amount of XP awarded for completing the map)
 - Currency Granted (Amount of currency awarded for completing the map)
- **Shop - Contains information about items available for purchase.**
 - Item ID (Primary Key)
 - Item Cost (Cost in currency to purchase the item)
 - Item Attributes (Description or characteristics of the item)
 - Item Icon (Icon representing the item)

- XP Level Requirement (User XP level required to unlock the item)
- Maximum Item Quantity (Limit on how many of the item a user can own)
- Access type (Here the access type will know if it's an admin or a player)

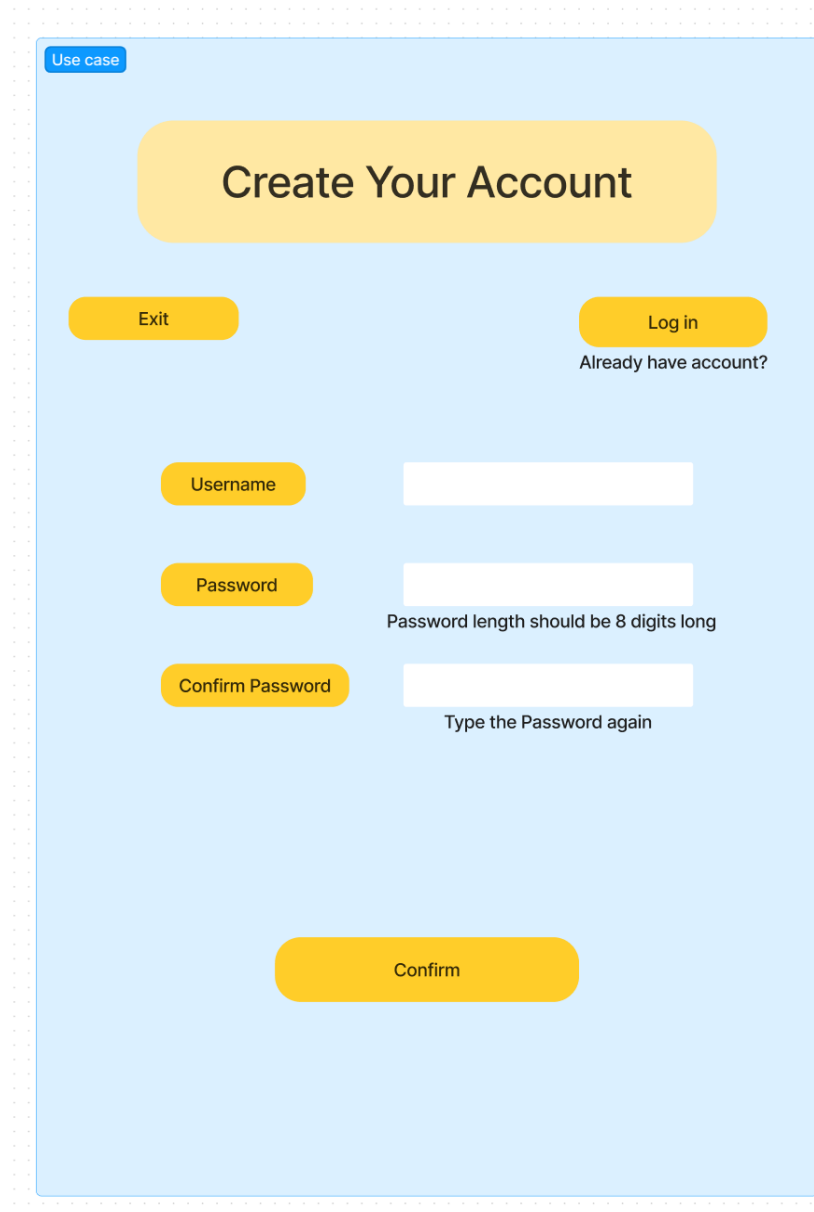
Screen Flow Diagram



The image shows a login screen design within a light blue rectangular area. In the top-left corner, there is a small blue tab labeled 'Section 1'. Centered at the top is the text 'Project Name'. Below this, there are two input fields. The first field is preceded by a yellow rounded rectangle containing the text 'Username'. The second field is preceded by a yellow rounded rectangle containing the text 'Password'. Below these fields is a large yellow rounded rectangle with the text 'Login'. At the bottom, centered, is the text 'Don't have account? [Join now](#)'.

Figure 1 :Login Screen (Hongwei Wang)

This screen is an example of a Login screen. When players or inventors open the game, they should log in themselves. They should type the username and password that they own. And when they finish typing the username and password, they will come to the Main Menu. “Join now” will direct you to the Create Account screen.



The image shows a user interface for creating an account. It features a light blue background with a dotted border. At the top left, there is a small blue tab labeled "Use case". The main title "Create Your Account" is centered in a large, bold, black font within a yellow rounded rectangle. Below the title, there are two yellow buttons: "Exit" on the left and "Log in" on the right. Under the "Log in" button, the text "Already have account?" is displayed. The form consists of three input fields, each preceded by a yellow label: "Username", "Password", and "Confirm Password". The "Password" field has a note below it stating "Password length should be 8 digits long". The "Confirm Password" field has a note below it stating "Type the Password again". At the bottom center, there is a large yellow button labeled "Confirm".

Figure 2 :Create Account Screen (Hongwei Wang)

Clicking "Join now" in the Login Screen will direct you to this screen. In this screen, you can create your username. Then it would help if you created the password of your account, which the length cannot be lower than eight digits long. The next is "Confirm Password," which will let you ensure your password is right. Then, if you type your password again, it will ensure you are typing it correctly. At the top is the "Exit" button, which is used to go to the previous screen. If you already have an account, you can click the "Login button to go to the Login Screen to log in to your account.

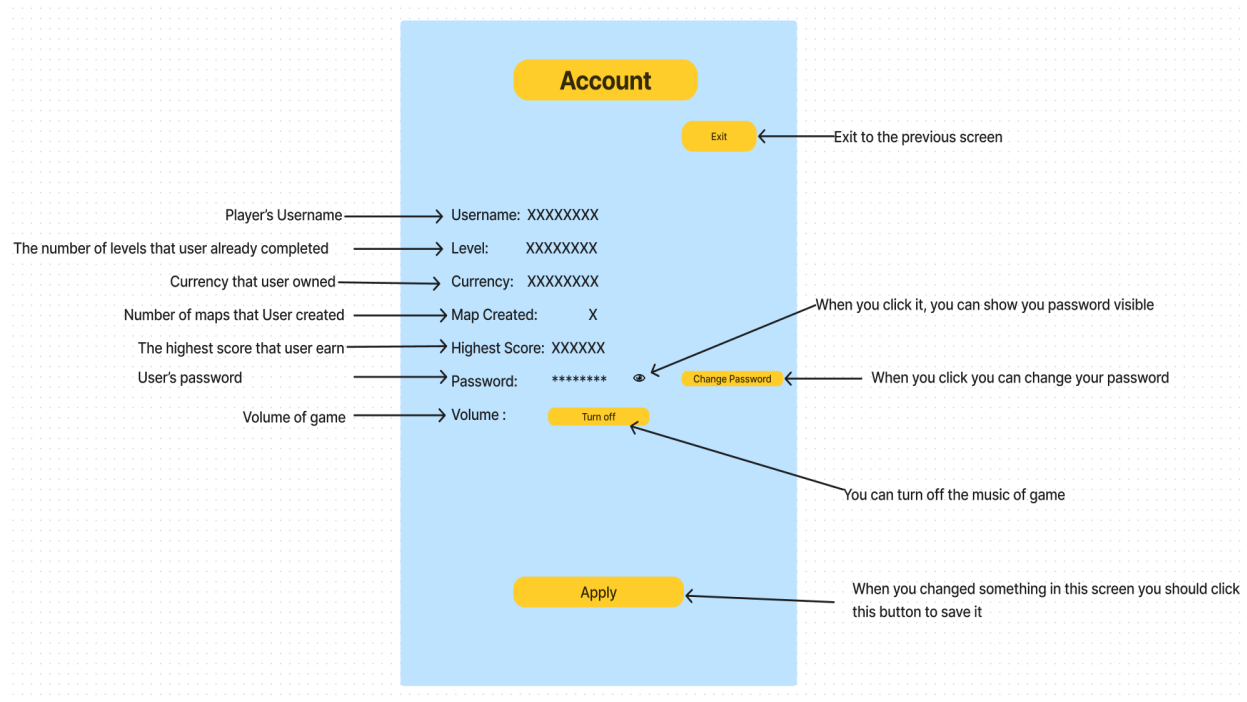


Figure 3 :Account Profile and Setting Screen (Hongwei Wang)

This screen will show the user's account profile and the game's settings. At the top of the screen, when you click the "Exit" button will go back to the previous screen. This screen shows the user's username, the number of levels the user has completed, the currency that the user owns, the number of maps the user created, and the highest score that the user earned. Also, the screen will show the user's passwords; when you click the little eye button, it can show your password visible; when you click again, it will show invisible again. When the user wants to change their password, click change password to change to another password. This screen also shows to user the volume of this game, and the user can turn off the game music or turn again. When changing something on this screen, you should click the apply button to save your change.

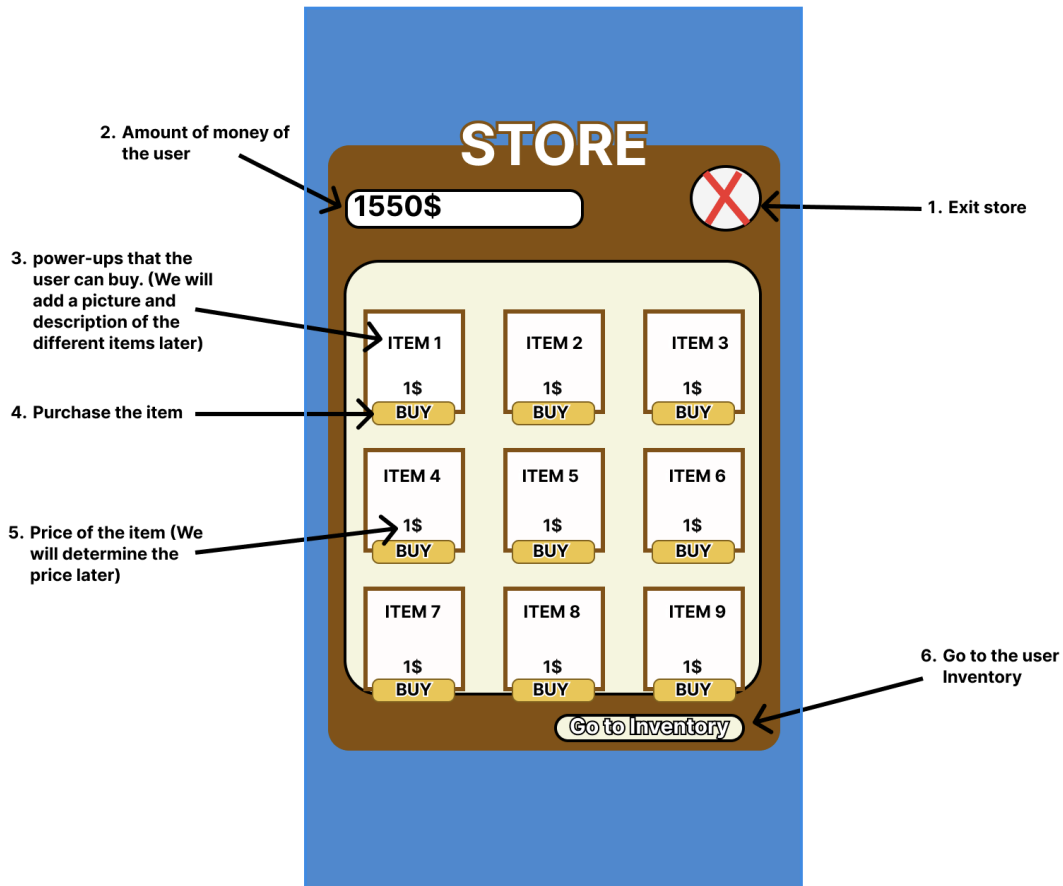


Figure 4: Game Store (Joshua Chiang)

- Here(Store) is where the user can buy power-ups to enhance their game. Some example of the power ups will be double xp, double money, etc.
- When bought the item will be saved to the user inventory.

1. Exit the store and go to the main menu
2. Amount of money of the user, the user will gain money when completing each map, and the amount gained will depend on his performance.
3. Power-ups that the user can buy to enhance their game
4. Purchase certain item and saved in the inventory
5. Price of certain items
6. This will take the user to his item inventory

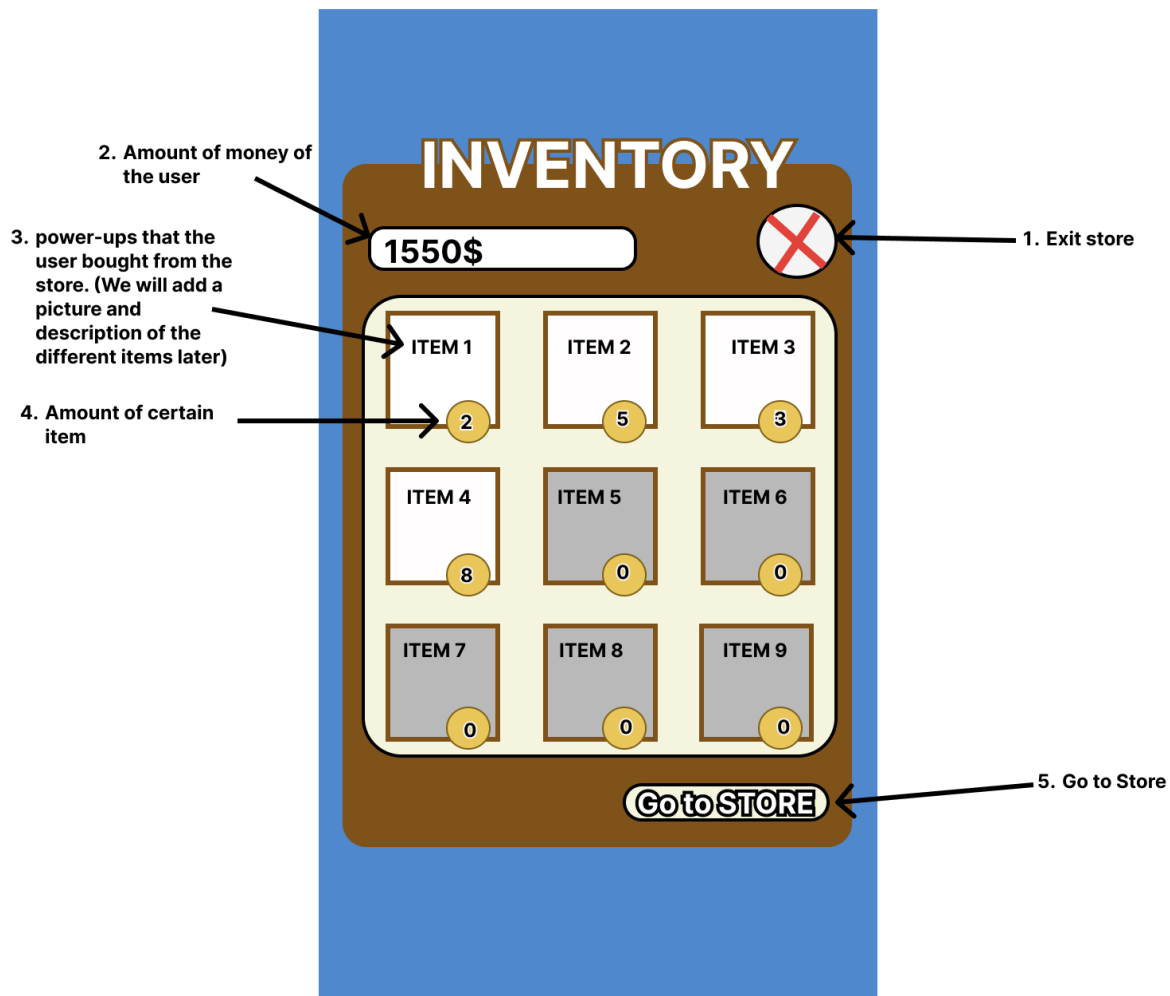


Figure 5: User Inventory (Joshua Chiang)

- Here(Inventory) is where the user will have all the items available for use in game.
 - The items need to be purchased from the store.
1. Exit the store, this will take you to the main menu
 2. Amount of money of the user, the user will gain money when completing each map, and the amount gained will depend on his performance.
 3. Power-ups that the user can buy from the store
 4. Amount of certain power-up that the user currently has
 5. This will take you to the store if you want to purchase an item

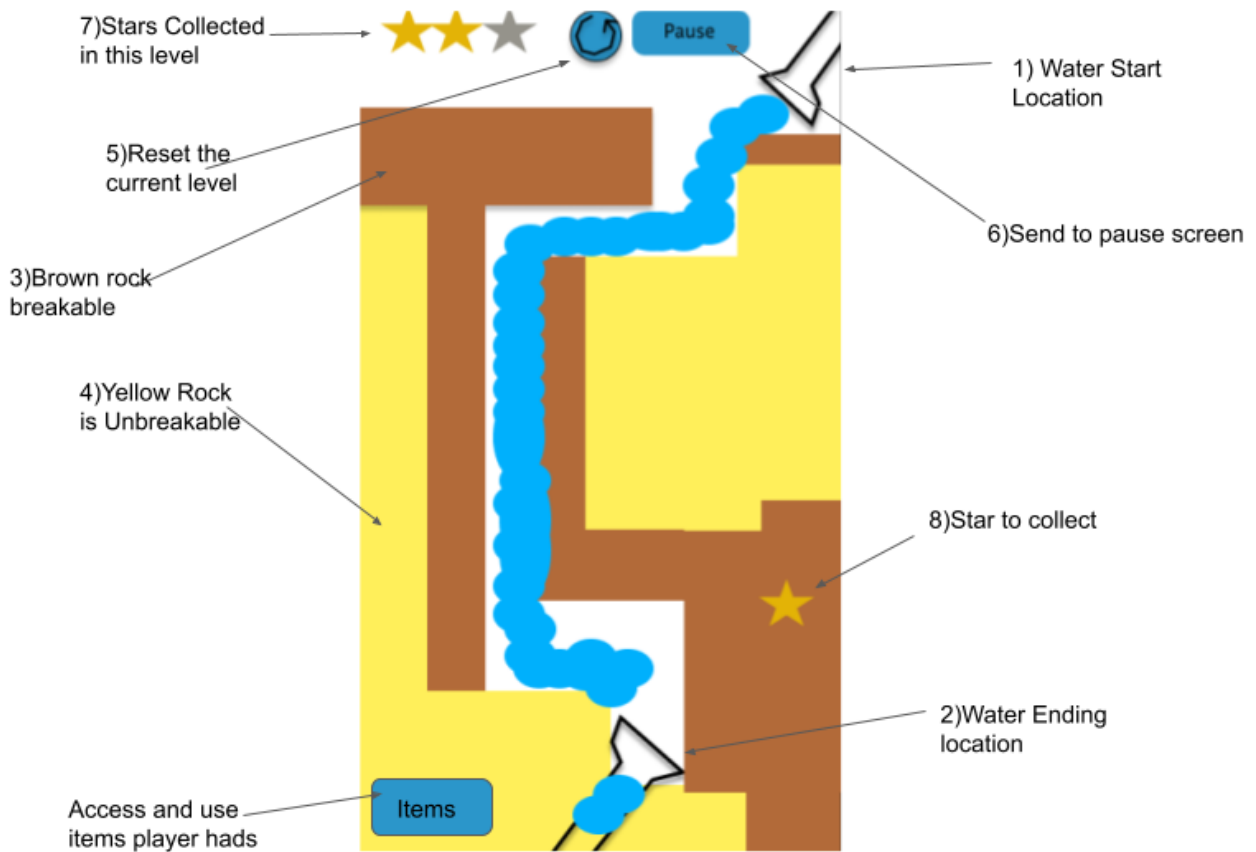


Figure 6: Level Screen (Nick Messerges)

This Screen is an example of what a level could look like. The basic goal is to get a certain amount the water from #1 to # the ending location at #2. To complete the goal, the player needs to use their finger to carve out the brown rock (#3), but the player can not break the yellow rock (#4). The player at the end of the level will revive a score depending on how many stars they collected during the level. The player can see how many stars they have so far. At #7, the yellow stars are already collected, and the grey one needs to be found. At #8, you can see an example star in a level. This one is more difficult to get because the player would need to take a less direct path to the finish, risking losing more water. The player has the ability to reset the game with the button at #5; they can also pause the game with the button at #6, which will take the player to the pause menu, where they can save and quit.

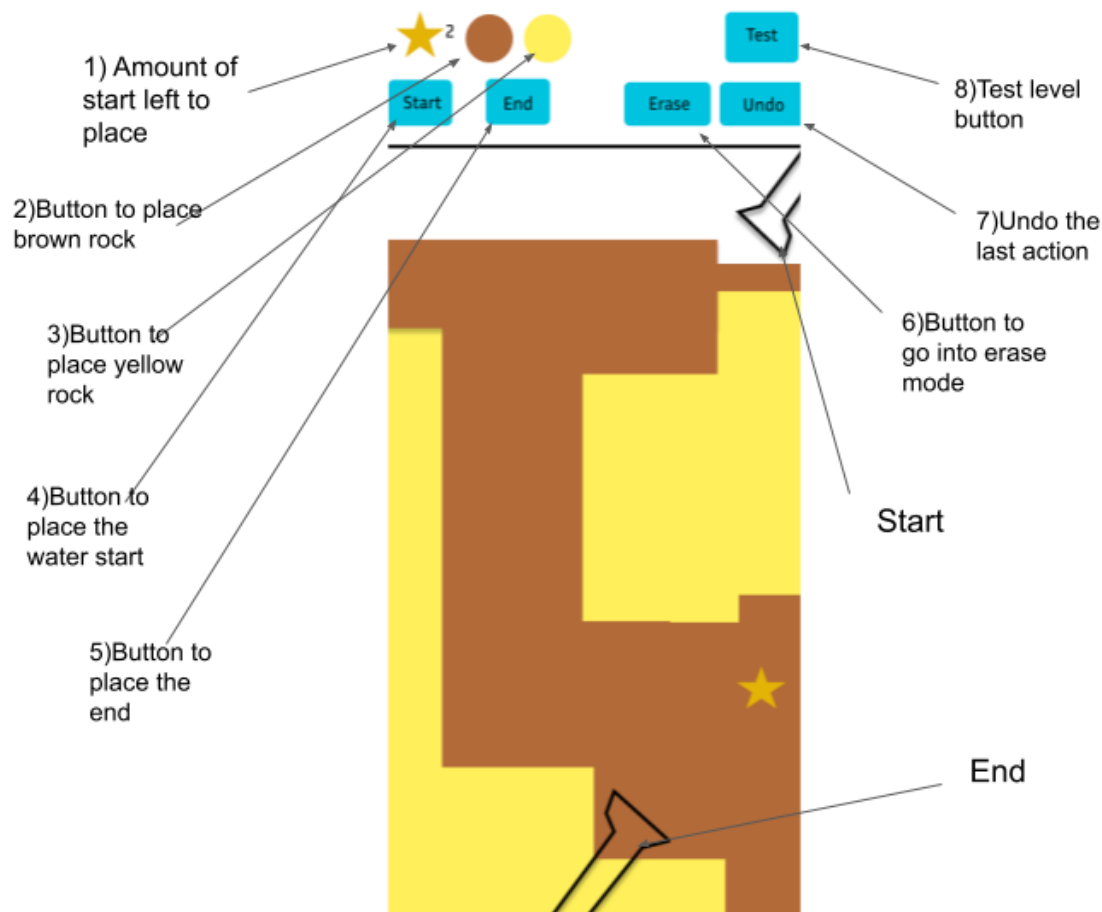


Figure 7: Level Editor Screen (Nick Messerges)

When a player arrives at the level editor, they will have a blank screen with just the buttons at the top. They can start by selecting the Start location button #4. The player will then tap on the location where they want the water to start, and the spout will appear; then, they can repeat the process for the end with the button #5. Then, a player can hit the yellow button (#3) and draw with their finger where the unbreakable rocks will be, and they can repeat the same with the brown button (#2) to draw the breakable rocks. Now, a player can place where they want the start by clicking on the start button (#1). The number next to the button shows how many starts you have left to place. Once you click on the star button, you just tap on the screen where you want the start, and they place themselves there. If you do not like where it is placed, you can hit the undo button (#7), which will just undo the last action you did. You can also tap the erase button (#6) which will put the editor in erase mode where everything you touch will be removed this mode can be left by tapping the erase button. Finally, after the level is finished, you can tap the test level button (#8). This button will take you to a level screen where you will need to play and beat your level with all the start to ensure that the level is possible to complete, then you can save the level to the server for other players to play.

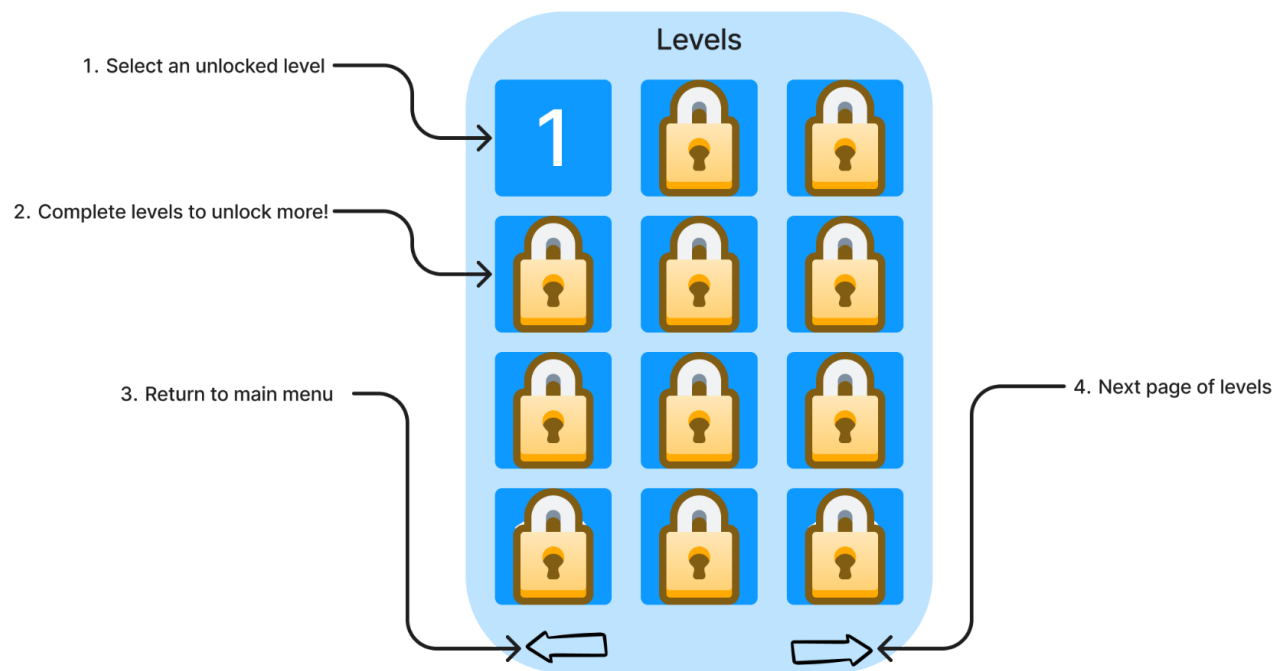


Figure 8: Level Select Screen (Paddy Basovsky)

Here, the users will be able to select a level to play from the levels created by our team. Users must complete the previous level before moving on to the next. Once they complete a level, the next level will be unlocked. From here, they will also be able to move on to the next page of levels, or return to the main menu.

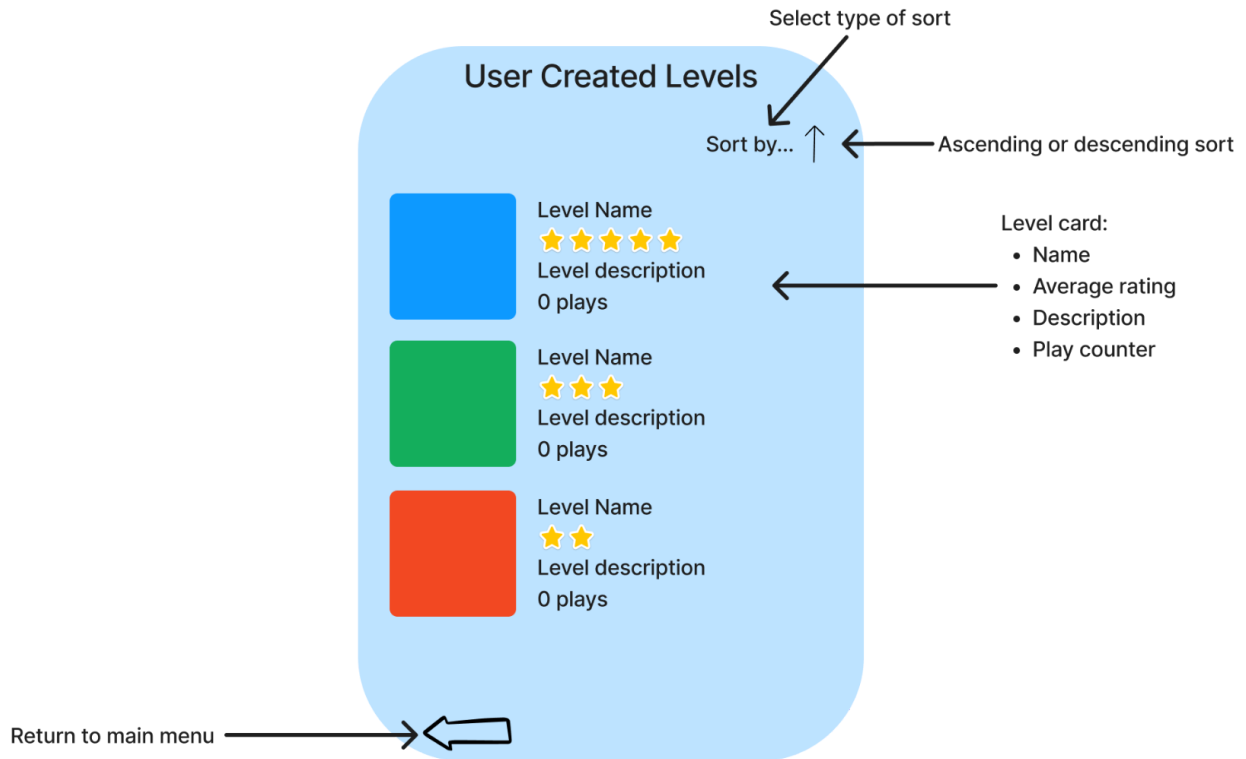


Figure 9: User Created Level Select (Paddy Basovsky)

Here the users will be able to choose from levels designed by other users. They will be able to sort by name, rating, and number of plays in ascending or descending order. They will also be able to rate the levels that they have played. Also, they will be able to return to the main menu from this screen.