

CS102**Spring 2021/22**

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Criteria	TA/Grader	Instructor
Presentation		
Overall		

Group I

ATLA

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UI Design Report

(Version 2)**08/04/2022**

1. Introduction

2 player card turn-based game based on musical gameplay. The user will have a basic profile e.g., cast/class, health, stamina, and shield. The player gets a set number of cards (8). They can use special attacks and the entire board can get affected. Cards can have offensive, defensive or gaining health/stamina. Each player can cast a spell or attack on others.

This UI report will contain our sitemap, planned UI drawings and how we plan to implement the UI in Java.

2. UI Layout

2.1 Sitemap

The sitemap shown below was constructed to simplify the game mechanics. We will have several pages in our game to allow players to build a profile, view the leaderboard, learn the instructions, and, of course, play the game itself. The modules and how they are linked together are shown in the sitemap:



2.2 Main Menu

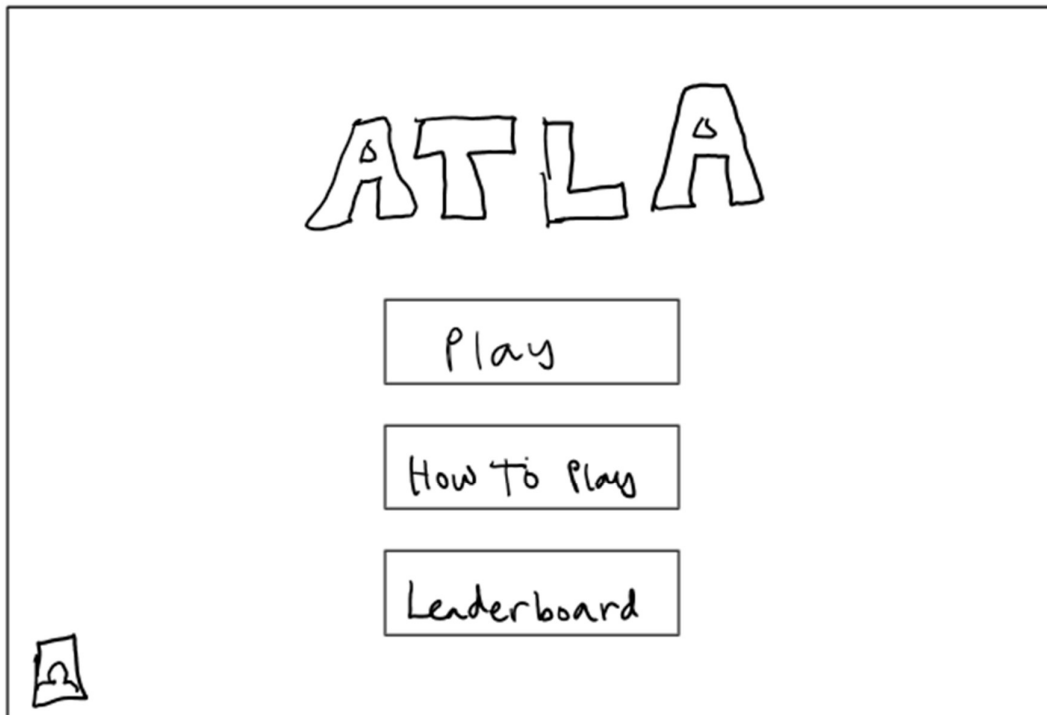
Upon opening the game, the user will be prompted to login/register on the following page:

A hand-drawn sketch of a login/register screen. At the top, the word 'ATLA' is written in a stylized, blocky font. Below it, the word 'Username' is written above a rectangular input field. Underneath that, the word 'Password' is written above another rectangular input field. At the bottom, there are two buttons: 'Login' on the left and 'Create' on the right.


This page will allow existing users to enter their details in the username and password fields, click the 'Login' button and enter the game. If users enter incorrect credentials, an error message will pop-up and prompt the user to re-enter their details.

If a new user wishes to create a profile, they can enter their desired username and password in the respective fields and click the 'Create' button to make their profile. Then the user can enter the game.

After logging in, the user will be taken to the main menu page. The background of the main menu page will be an image with a musical theme to match the game.



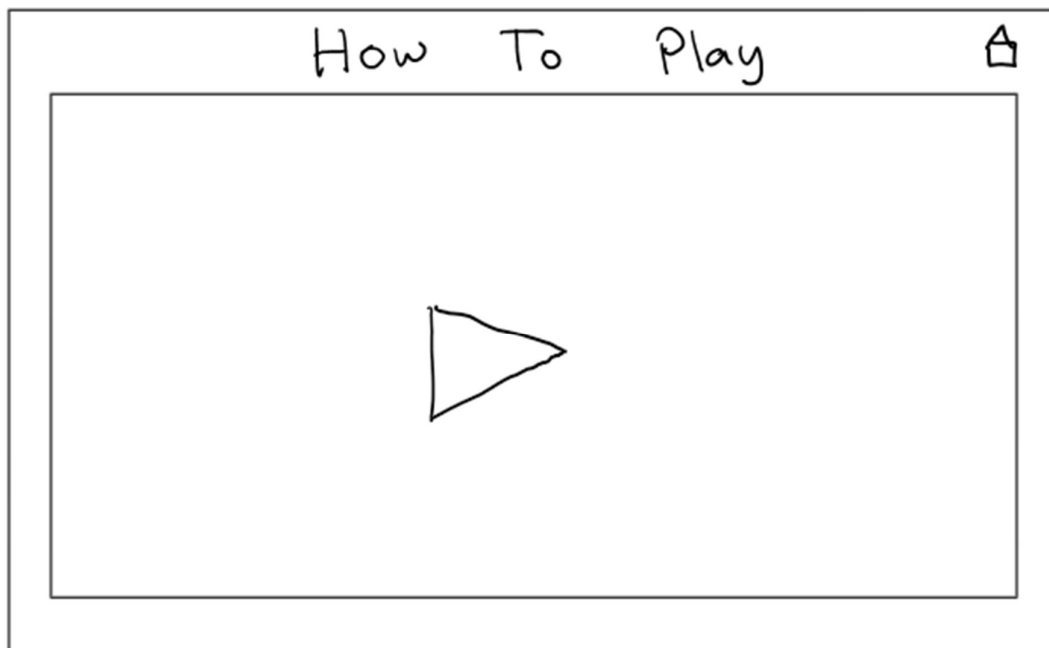
If the user presses Leaderboard, they will be taken to the following page:

Leader board		
Name	Wins	
Xx Demon \$layer x X	12	
Get Gud KiD	7	
xQc_69	5	
NooBMasteR 420	1	

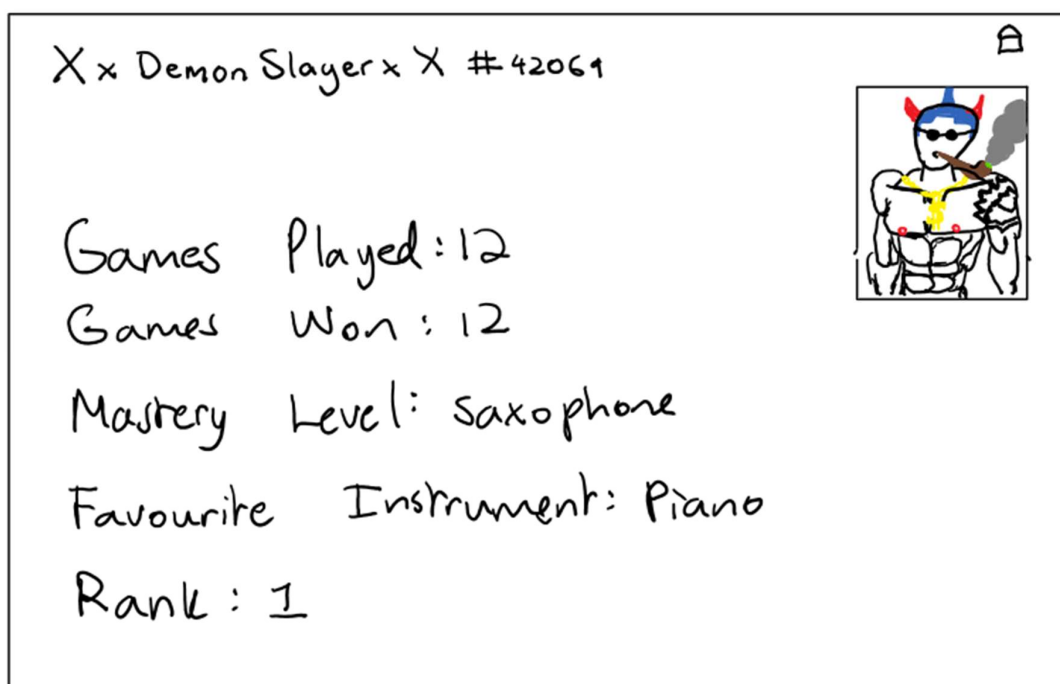
This page displays the leaderboard for the players with the most wins from an online database. The data will be fetched on a regular basis, and the table will sort players by descending order of wins. This will also be extended to have a ranking system in the user profile. On the top right, there is a button which returns the user to the main menu.

If the user presses How To Play, they will be taken to the following page:

This page will have an embedded video/slideshow explaining the rules and progression of the game. The video will give a pre-recorded walkthrough and allow the player to learn the rules and game mechanics. It will also have a brief description of the progression classes, i.e. Piano, Drums, Saxophone and Harp.



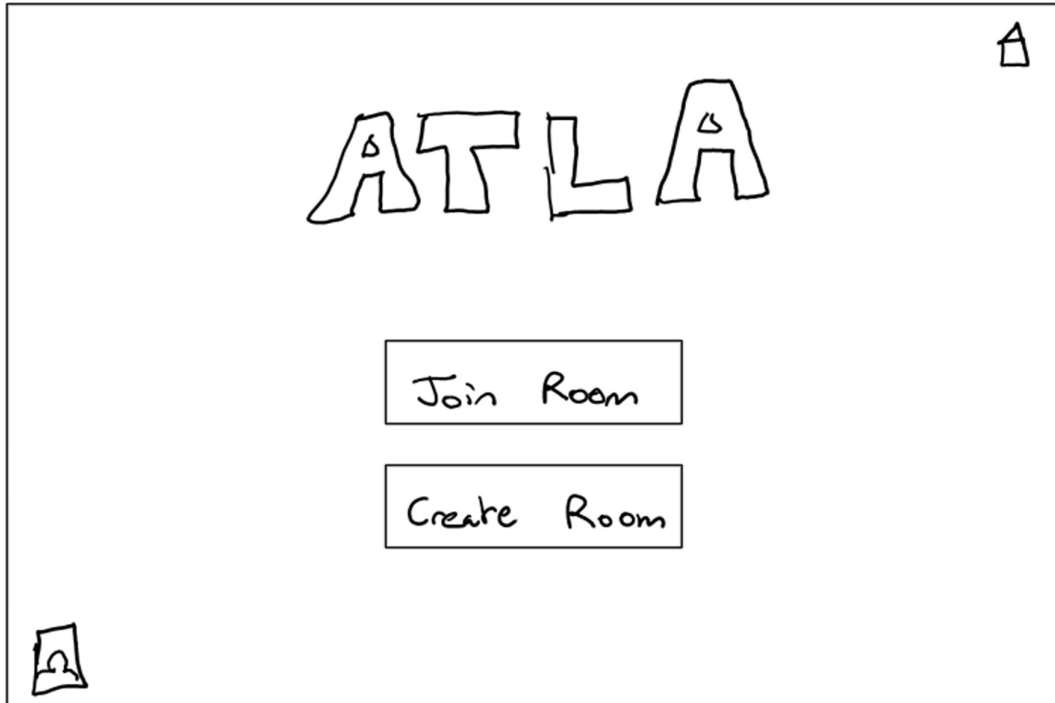
If the user presses the User Profile button, they will be taken to the following page:



On this page, the user can see their stats. The user's picture will be randomly assigned from a set of predetermined profile pictures and cannot be changed. It will also display their games played and games won numbers and provide their mastery level. Their favourite instrument and rank in the leaderboard.

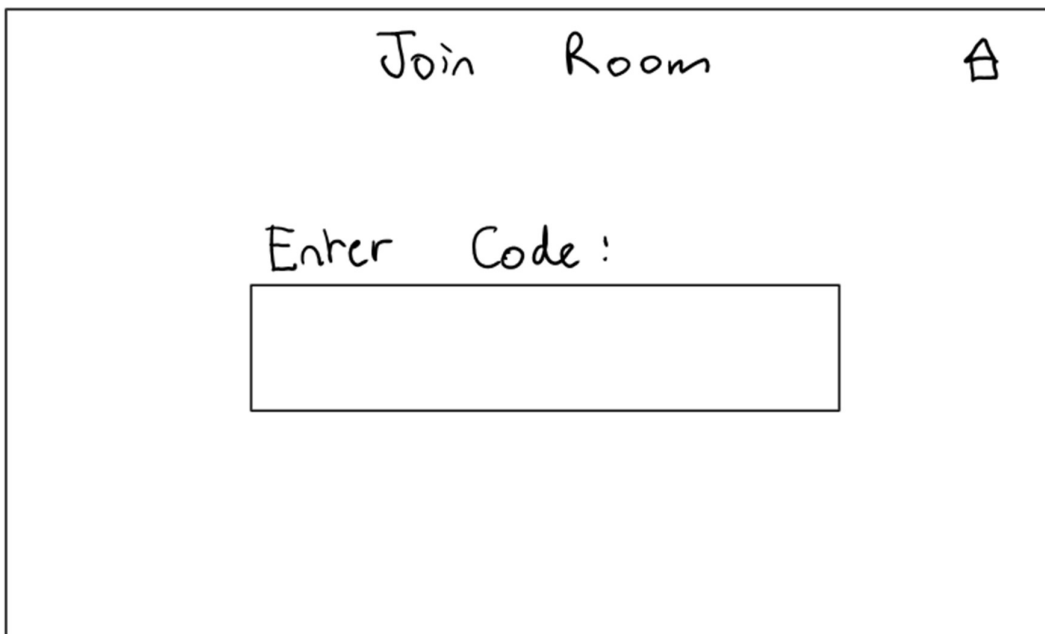
2.3 Setting up the Game

When the user presses play, they will be prompted to choose whether they want to join a game or create a game on the following page:




A hand-drawn user interface for a game setup screen. At the top center, the word "ATLA" is written in a large, blocky, hand-drawn font. In the top right corner, there is a small icon of a house. In the bottom left corner, there is a small icon of a person's head and shoulders. In the center of the screen, there are two rectangular buttons stacked vertically. The top button is labeled "Join Room" and the bottom button is labeled "Create Room".

If the user presses join game, they will be asked to enter a code:



A hand-drawn user interface for a "Join Room" screen. At the top center, the words "Join Room" are written in a hand-drawn font. In the top right corner, there is a small icon of a house. In the center of the screen, the text "Enter Code :" is written above a large, empty rectangular input field.


Once the user enters the code, they will be taken to the lobby where they will be able to control settings and to press ready so that the host can know they are ready and can start the game:

Lobby 

Code : 12345

Customization


Background Music ☒

Volume  10%

Ready


- Player 1 #1Wf4
- Player 2 #273FB

If the user decided to press Create Room, they will be taken to the lobby, however, they will have the ability to change the background of the board:


Lobby 

Code : 12345

Customization

Background 

Background Music ☒

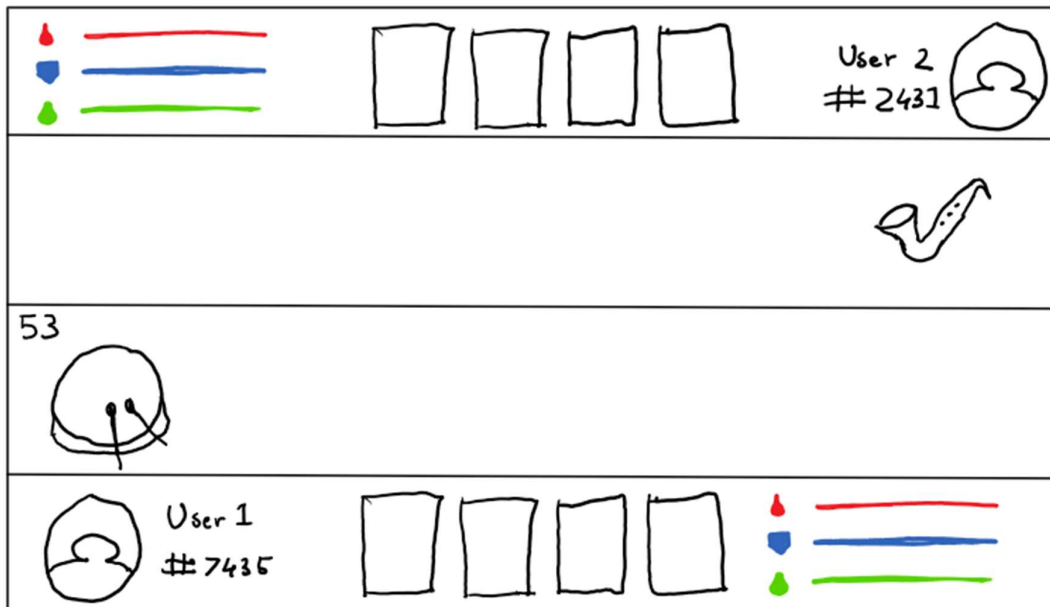
Volume  10%

Start

- Player 1 #1Wf4
- Waiting For Players

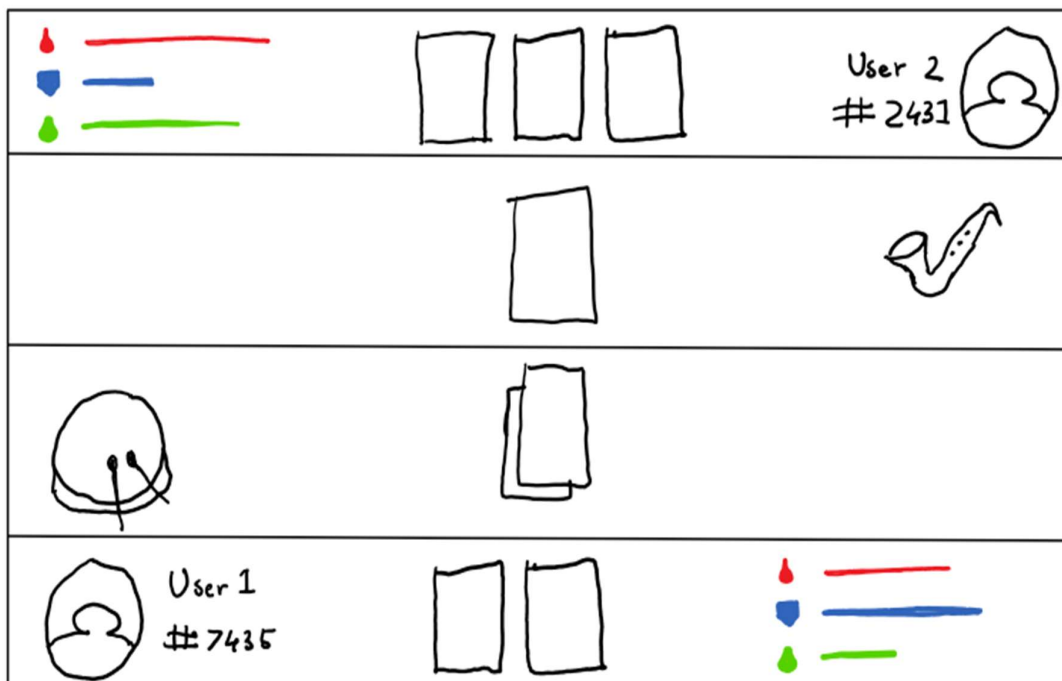
2.4 Gameplay

Once the host starts the game, both users will be taken to the battle arena screen:



The battle arena will be divided in half for each player. The current user will have the bottom half where the user's cards will be displayed face up along with their health, shield and stamina as rectangle boxes (that will change width according to player stats stored in the classes) and their profile information. The board also shows the instrument of each player. In the top left corner of the user's half, there will be a timer showing the remaining time they have to play their turn. The opponent's cards will be shown face down, but their stats will be visible to the player.

Once both users have played their cards, the board will look as shown below:



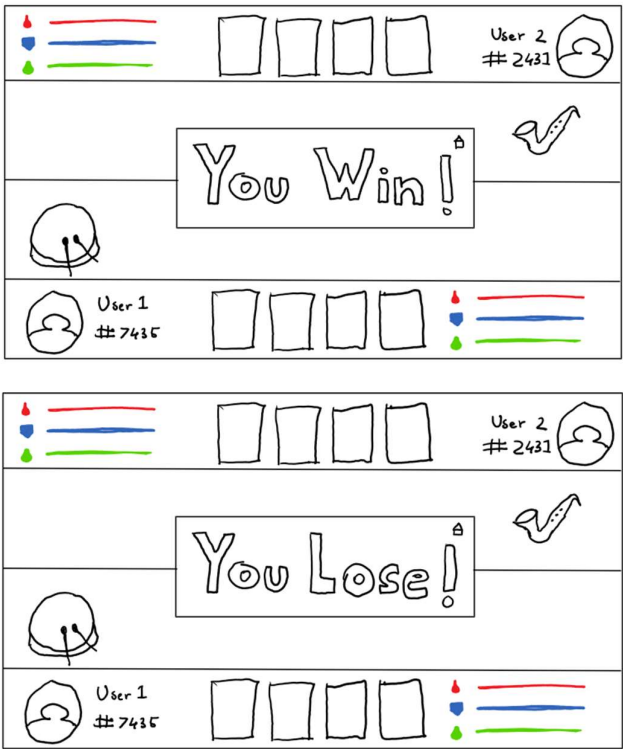
The health, shield, and stamina change as shown.

After the turn has been finished, the user will get random cards to complete their hand and the board will be cleared as shown below:



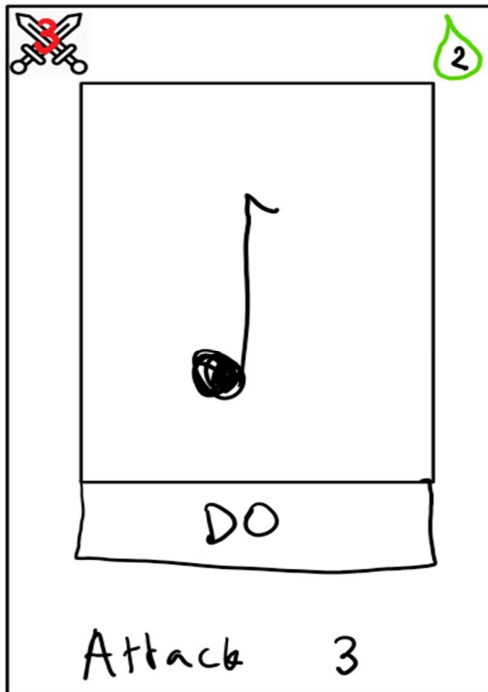
The turns are repeated as explained above until one of the users runs out of health

Once the game is over, the users will be shown the following screen based on whether they have won or lost:



2.5 Sample Card Design

A sample card is shown below. Our cards will show the attack or shield in the top left, and they will show the mana cost on the top right.



2.6 JAVA implementation of GUI

In order to implement our planned GUI, we will be using Java's AWT package. For simple shapes like the buttons, we will be using Graphics to draw shapes and will be adding them as buttons to the JFrame. For more complicated designs like the instruments or the cards, we will be using AWT to upload images onto the JPanel. For the game progression, we will have methods that will repaint the JFrame and make the changes accordingly. If we decide to implement animations, for example, the cards moving from the player's hand to the table, we would have a method that increments the position of the card and repaints the JPanel multiple times until the card has reached the table. To display the health, stamina and shield bars, we will be using rectangles and will repaint when any stats are changed.

3. Summary and Conclusion

To conclude, we will be using Java's AWT package to create our GUI. The UI will be based on the sitemap shown in 2.1 and the drawings shown from 2.2-2.5. This is a tentative design and small changes may be made as we discover any flaws, however, the main layout of the game will be similar to the drawings shown in this report. We have gone for a simple design that is easy for the users to understand and navigate.