Beautiful Men
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Minesweeper

White Hat Edition

OVERVIEW

We will be making the classic minesweeper game with a computer virus theme. There will be a board of computers with viruses scattered among them. As the player, the goal is to place anti-hacks in the computer with viruses, and clear the computer without them. If the player clears a computer with a virus, the player will get his Roblox account hacked. Once the player completes the board, he wins the game.

GOALS

1. Create a parody of the minesweeper game.
2. Create a login/register page.
3. Create a leaderboard based on time to complete.
4. Create different modes (easy, medium, hard).

Program Components

The site will be running on a Flask server. For the frontend, we will be using HTML, CSS, and Javascript. We will be using Bootstrap since it will provides a lot of useful components that are already developed. We will then create an algorithm to create a random minesweeper game. Then using that data, we will create a hacking themed minesweeper board with computer icons as the cells. If the player achieves a high score, the data will be stored in a SQLite3 database. The data will be retrieved from the database to be displayed on the leaderboard.

Site Map

NavBar

Having the navbar allows the user to travel the website with minimal effort.

Homepage (/)

Contains a simple homepage with Navbar, and a “play” and “Login/Register” button

Game (/play)

Contains the minesweeper game with a leaderboard top 10 players on the left. There’s an option to choose the difficulty of the game on the top of the page.

If users are logged in, the amount of time it takes the user to complete the minesweeper game will be recorded and stored in a database. There will be 3 sections in the leaderboard for the different difficulties.

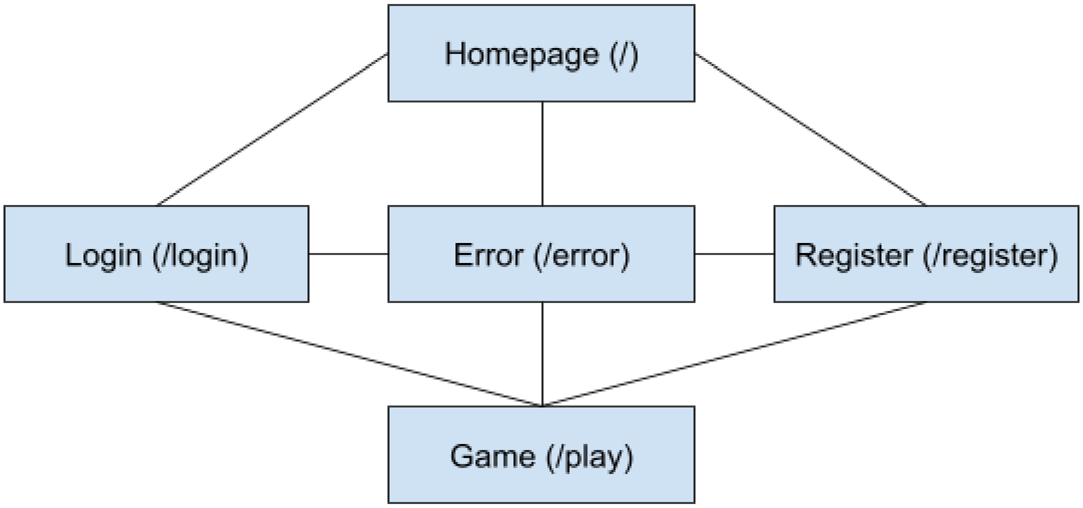
There will be 3 difficulty levels: easy, medium, and hard. The harder the difficulty, the larger the minesweeper grid is and the more frequently bombs will be placed. The harder difficulties will also feature different power ups, such as the Bomb Locator and Second Chance, which can be randomly found by breaking a square that doesn't have a bomb. The Bomb Locator will display the location of a single bomb on the map. The Second Chance will give the user another chance when they break a square containing a bomb.

Login/Register (/register and /login)

Allows the user to create or login to a user. Having a user allows the player score to be automatically added to the leaderboard if the score is high enough. It also allows the player to look at the user's past scores.

Error Page (/error)

Standard error page to catch exceptions raised by our backend.



Databases

User DB

USER ID	USERNAME	PASSWORD

Leaderboard DB

USER ID	TIME	DIFFICULTY

For the database, we will be using relational databases to link the player with the user in the database. We also need another relational database to store sensitive login information.

APIs

At this time, we do not see the need to use any APIs.

Roles

Ivan (PM) - Establish the database needed and help develop the game algorithm

Alejandro - Develop Back-End of Minesweeper game

Theo - Create Front-End game using JS

Sadid - leaderboard and different difficulties

Target Ship Date

3/28/22