CSC-3400
Project Report & User Evaluation
Lucas Prifti
04/19/24
Minesweeper V.2

Introduction

This document contains the final report of the "Minesweeper V.2" project. It includes a brief description, the scope of the project, design of the project, and tasks. Also one of the main parts of this documents includes the User Evaluation, which outlines three different evaluations from users I personally chose. Alongside the individual user evaluations, I included a short quiz/survey which the users answered questions using a scale of 1(disagree) - 5(strongly agree).

Project Description

Minesweeper V.2 revitalizes the classic puzzle game with enhanced web technologies for a modern audience. Players navigate a grid aiming to clear all non-mine tiles. This version introduces customizable game settings, including adjustable grid sizes and mine counts, along with a refreshed UI for improved accessibility and engagement.

Project Initiation and Planning

Project Scope

"Minesweeper V.2" is a browser-based application that reintroduces players to the classic game of Minesweeper, enriched with the capability to customize the number of mines. This enhancement not only tailors the game to individual

preferences for difficulty but also aims to amplify accessibility and user engagement. Key features of "Minesweeper V.2" include:

- **Customizable Mine Counts:** Allows players to adjust the game's difficulty.
- **Customizable Grid:** Allows players to adjust size of the grid.
- **Customizable User Interface:** Ensures customization of the layout according to user preferences.
- **Clues Through Adjacent Mine Counts:** Aids players in navigating the minefield.
- **Flag Placements:** Players may mark suspicious tiles, aiding themselves in navigating the minefield.

Design

The design phase is crucial in crafting a user interface that is both easy to navigate and retains the essence of the game's classic appeal. The envisioned game features include:
- **An Adjustable Grid:** Each cell represents a potential mine location.
- **A Control Panel:** For adjusting mine counts.
- **A UI Control Panel:** For enhancing gameplay customization.
- **Reset Button:** Allows starting new games with either current settings or adjusted difficulty levels. There is also a Reset UI button, resetting the UI settings to default.

Tasks

The game design centers around the core functionalities inherent to the Minesweeper game, incorporating tasks such as:
1. **Adjusting Mine Count:** Players set the number of mines on the grid, customizing difficulty.
2. **Adjusting Grid Count:** Players set the number of tiles on the grid, customizing both grid size and difficulty.
3. **Uncovering Tiles:** Clicking tiles reveal either a number (indicating adjacent mines) or a mine (ending the game).

4. **Flagging Mines:** Right-clicking on a tile places a flag, marking suspected mines.
5. **Restart/Quit Game:** Allows players to either reset their progress or quit the game.
6. **UI Customization:** Players can adjust the UI's color scheme, including the background and element colors.

User Evaluations:

User Evaluation 1: Think-Aloud by Mom.

Evaluator: Lily (Mom), occasional casual game player, not familiar with the original Minesweeper game.
Evaluation Method: Think-Aloud

Findings:
- **Initial Impression:** Lily found the game's introduction welcoming and was intrigued by the layout.
- **Gameplay Experience:** During gameplay, Lily expressed satisfaction when successfully clearing sections without hitting mines but found it challenging to understand the purpose of the numbers at first. After hitting a mine and experiencing a game over, she suggested having a tip pop up explaining the numbers again for first-time players.
- **UI Interaction:** Lily liked the ability to customize the game's appearance but wished for preset color options, as she found the all-inclusive color picker overwhelming.

Recommendations:
- Include popup tips for new players explaining critical game elements.
- Preset color choices for the customization instead of allowing every color.

User Evaluation 2: Cognitive Evaluation by Brother

Evaluator: Matt (Brother), a regular gamer familiar with the original Minesweeper, enjoys challenging puzzles.

Evaluation Method: Cognitive Evaluation

Findings:

- **Game Difficulty:** Matt found the adjustable difficulty levels engaging and appreciated the ability to customize the challenge. He was already familiar the game mechanics and enjoyed playing with the game.
- **Feedback on UI:** While Matt found the UI clean and appreciated the nod to the classic design, he suggested adding keyboard shortcuts for power users like himself for flagging and revealing tiles.
- **Enhancement Suggestions:** Matt recommended implementing a leaderboard or achievements to motivate players to improve their skills and add a competitive edge to the game.

Recommendations:

- Consider introducing keyboard shortcuts for experienced users to enhance gameplay efficiency.
- Add a leaderboard or achievements to foster a competitive environment.

User Evaluation 3: Heuristic Evaluation by Girlfriend

Evaluator: Caitlynn (Girlfriend) enjoys casual mobile games, first-time Minesweeper player.

Evaluation Method: Heuristic Evaluation

Findings:

- **User Interface:** Caitlynn found the game visually appealing and easy to navigate. The color customization feature was particularly hit, allowing her to personalize her gaming experience. She also liked that the instructions were included in the UI making it easy for her to understand the game before even playing.

- **Gameplay Satisfaction:** Caitlynn enjoyed the sense of accomplishment when clearing the board. She suggested adding more feedback for wins, such as animations or sound effects, to enhance the victory.

Recommendations:
- Enhance the game win experience with celebratory animations or sound effects to increase user satisfaction.

User Experience Quiz

Users rate the following aspects of Minesweeper V.2 from 1 (Strongly Disagree) to 5 (Strongly Agree):

Mom
1. The game was easy to learn and play. 4
2. The game's interface and design were visually appealing. 5
3. The adjustable difficulty levels enhanced the gameplay experience. 5
4. The ability to customize the game's UI was valuable. 5
5. The game was engaging and fun to play. 5
6. I felt motivated to play the game again. 5

Brother
1. The game was easy to learn and play. 5
2. The game's interface and design were visually appealing. 5
3. The adjustable difficulty levels enhanced the gameplay experience. 5
4. The ability to customize the game's UI was valuable. 5
5. The game was engaging and fun to play. 4
6. I felt motivated to play the game again. 4

Girlfriend

1. The game was easy to learn and play. 5
2. The game's interface and design were visually appealing. 4.5
3. The adjustable difficulty levels enhanced the gameplay experience. 5
4. The ability to customize the game's UI was valuable. 5
5. The game was engaging and fun to play. 5
6. I felt motivated to play the game again. 5