Mini Minesweeper
Game Design Document

Genre:

- Golf
- Puzzle
- Arcade
- Casual

Platforms:

- Windows
- Android (Work in Progress)

Concept

The Player controls a Golf Ball through a procedurally generated Minesweeper level, searching for The Cup while avoiding the mines. The objective of the player is to uncover and touch the cup before they run out of lives.

Mechanics

Drag To Move:

The Player controls the ball by using a Touch-and-Drag input, similar to Angry Birds. The speed of the ball is controlled by how far the player drags their finger (or pointer, in the case of a PC) and the direction of the ball is indicated on the screen.

Tiles:

The tiles in the level are procedurally placed at the start of every game. The dimensions of the level are specified on the start menu and it can range anywhere between 20x20 and 50x50.

A tile can be broken by hitting it with the golf ball, but it needs to be moving fast enough for the tile to break. Each tile either has a bomb or a number that indicates how many mines are around it in a 3x3 area with the tile as the center.

Lives:

The player's maximum number of lives is also determined in the start menu. The specific number of lives will be mentioned in the following sections.
If the player happens to lose a life, they have the opportunity to earn it back by breaking 10 consecutive tiles without uncovering another mine until they are at maximum health again.

Mines:

Mines are located in random spots throughout the level. The player will lose a life if they uncover a mine.
The number of mines in a level is also affected by the difficulty. The player is less likely to encounter a mine on easy when compared to medium, and hard difficulty has the greatest number of mines.

Mine Marking:

When the player suspects that there is a mine under a tile, they can mark a mine as dangerous by right clicking on the tile or by long pressing on touch devices.

When the mine is marked the ball cannot break the tile.

The marked tile is indicated by an exclamation point on top of the tile.

Directional arrow:

The directional arrow at the bottom of the screen acts as a compass. It always points toward the cup, relative to the location of the player.

Goal cup:

The cup is the end goal of the game. When the ball hits the cup, the game ends and the player is notified that they completed the level.

Game Modes

The player has an option to choose between three different game modes:

1. Quick Game
2. Zen Mode
3. Custom Game

Quick Game:

In this game mode, the player can only choose the difficulty of the level. The grid size is randomly chosen between 20x20 and 50x50.
The number of lives depends on the chosen difficulty:

- 5 Lives for Easy Difficulty
- 3 Lives for Medium Difficulty
- 2 Lives for Hard Difficulty

Zen Mode:

In this game mode, the player has no control over the starting conditions. They will spawn in a 50x50 grid with infinite lives. The difficulty of this game mode is medium, but it is not significant as the player cannot lose lives.
This game mode is created for the player to get familiar with the controls and mechanics in a non-punishing environment.

Custom Game:

All of the starting conditions can be changed in this game mode. The available options are:

1. Grid Size: Any square grid between 20x20 and 50x50
2. Difficulty: Easy, Medium and Hard
3. Number of Lives: 1 Life, 3 Lives, 5 Lives or Infinite Lives

This game mode is created to have the players create challenges for themselves, such as finishing a 50x50 level on Hard Difficulty with only 1 life.

Credits

Team Name: HaLo Games

Project Name: Mini Minesweeper

Team Members and Roles:

- Harshith Adepu
  - Minefield generation and interactions.
  - Health/Lives System
  - Audio System
- Lohith Sai
  - Golf Ball movement
  - User Interface
  - Particle Effects

Roll Numbers:

- Harshith Adepu - 19101UA001
- Lohith Sai - 19101UA018

The project is available to the public on GitHub https://github.com/lohith11/Mini-Minesweeper