

# Mini Minesweeper

## Game Design Document

### **Genre:**

1. Golf
2. Puzzle
3. Arcade
4. Casual

### **Platforms:**

1. Windows
2. Android

## **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 can be 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 generated at the start of every game. The dimensions of the level are decided by the player on the start menu. The default size is 20x20 and the maximum size is 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 grid with the tile as the center.

## **Lives:**

The player's maximum number of lives is determined based on the difficulty chosen on the start menu. 5 lives in easy, 3 lives in medium and only 1 life in Hard difficulty.

## **Mines:**

Mines are located in random spots throughout the level. The player must try to avoid them because if they uncover a mine, the player loses a life.

The number of mines 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 danger 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 a flag 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.

## **Hardware Specifications**

- Windows
  - Windows 10 and above
  - 2gb of ram
  - 500mb storage
- Android
  - Android 10 and above
  - 2gb of ram
  - 500mb storage

# Credits

**Team Name:** Halo games

**Project Name:** Mini Minesweeper

## **Team Members and Roles:**

- Lohith Sai
  - Programmer for Ball mechanics
  - UI
  - Particle effects
- Harshith Adepu
  - Mine field generation, interactions
  - Lives system
  - Audio system

## **Roll Numbers:**

Lohith Sai – 19101UA018

Harshith Adepu – 19101UA001

The project is available to the public on GitHub

<https://github.com/lohith11/Mini-Minesweeper>