Design Document

Team: BomberMage

**Game:** BomberMan

**Made In:** Unity 3D

**Language:** C#

**Persistent Information**

User information: Username, Password, Preferences, Game Stats(Kills, Games won, Games lost)

**Game Scenes**

Login/Menu

Main Game

**Gameplay**

|  |  |
| --- | --- |
| GameObject | Allowed Movements/Behaviors |
| Player | Move Left/Right/Up/Down  Place Bomb  Die if hit by bomb explosion |
| Bomb | Placed in a tile  Explodes, affecting tiles up to 3 units from it in all directions |
| Wall (unbreakable) | Set in predetermined locations on game start  Persists throughout gameplay  Player cannot pass through  Explosions do not affect |
| Wall (breakable) | Set in random locations on game start  Player cannot pass  Explosions destroy it |

**Plans for Multiplayer Implementation**

High-Level Overview:

In a multiplayer game, the ai enemies will be removed and the objective will be for players to defeat each other (thinking about adding ai enemies back in the future). We are thinking of storing various player stats for each user. They will be stored for each username. We will also have a score for each individual game that is being played. We will use the Unity Player Preferences to store the data for each player and the data will be stored on the server.

Networking Architecture:

We will be using Unity’s Transport Layer which will enable us to use sockets. We will have the clients send the server the location data of each player, as well as a message of a player placing a bomb at a location. The server will send to the clients the locations of the other players and the bombs that they have placed. Bomb data will only be sent once since bombs don’t move and have a set timer on when they explode.