

2D Spleef Project Documentation

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Project Description

When playing spleef, players will destroy blocks below other players, allowing them to fall off the playing field and into a pit. The object of the game is to be the last player on the field.

The user(s)' characters will move around the playing field using either "WASD" or the arrow keys. The "W" and "Up arrow" key will make the character jump up, the "A" and "Left arrow" key will make the character move left, the "S" and "Down arrow" key will make the character fall down faster, and the "D" and "Right arrow" key will make the character move right. To fire their weapons and break blocks, the user(s) will either use the "Space" key or the "0 numpad" key.

The characters will be 20 pixels tall and 10 pixels wide, and can break blocks by firing their weapons toward the ground. However, their weapons will not damage each other. Additionally, the angle at which their weapon is pointed is static at 45 degrees, which makes it difficult for players to "snipe" each other from across the map. Apart from the static angle of their gun's orientation, players can only fire one bullet at a time while holding their default weapons, which prohibits them from spamming.

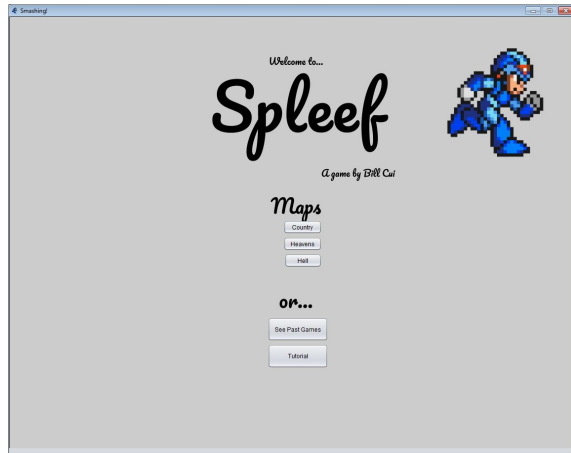
There are many tools that players can utilize to destroy blocks more efficiently, such as a shotgun, which can destroy many tiles at once, a rocket launcher, which can create a giant crater, or a machine gun, which allows for players to spam the firing of their weapon. These weapons can be obtained from random chance bubbles that appear in the game.

There will also be a gravity engine that is in place for this game, which allows for players to jump up and down, and for players to fall into a pit if their standing ground is destroyed.

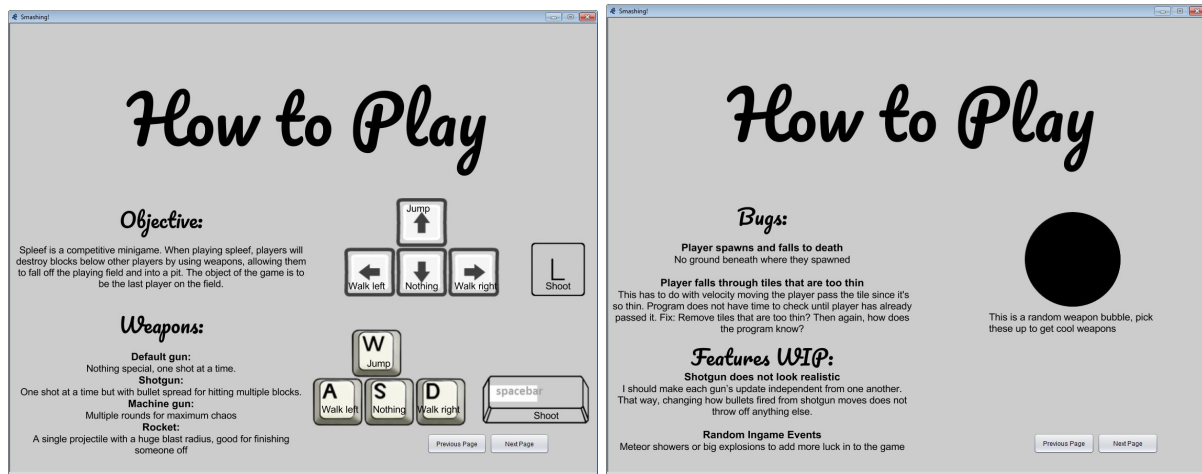
The main problem to overcome in this project is how to keep players and projectiles from leaving the map, which will throw an array out of bounds exception.

How to run

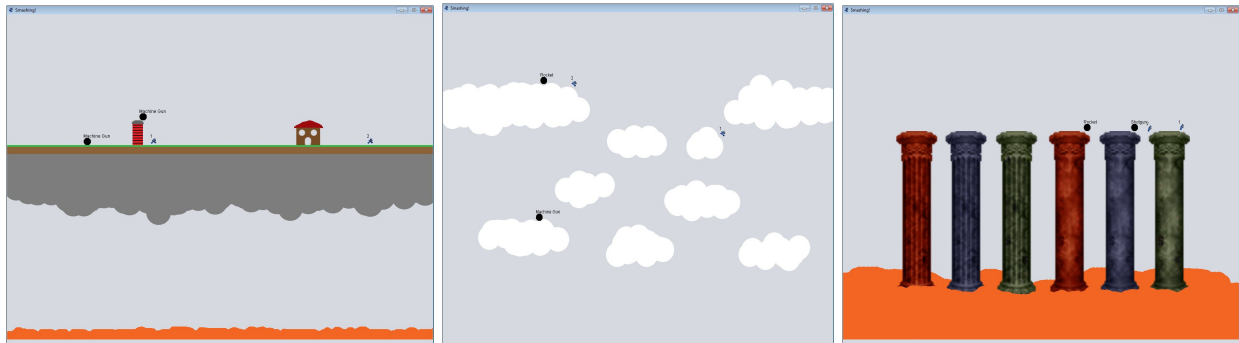
When the program is started, the main menu will show up, allowing the player(s) to choose their arena, or to see any past games, or to see a tutorial.



If the tutorial button is pressed, the player will be introduced with a two page tutorial, teaching them the objective, the weapons, the bugs, the features, and how to play.

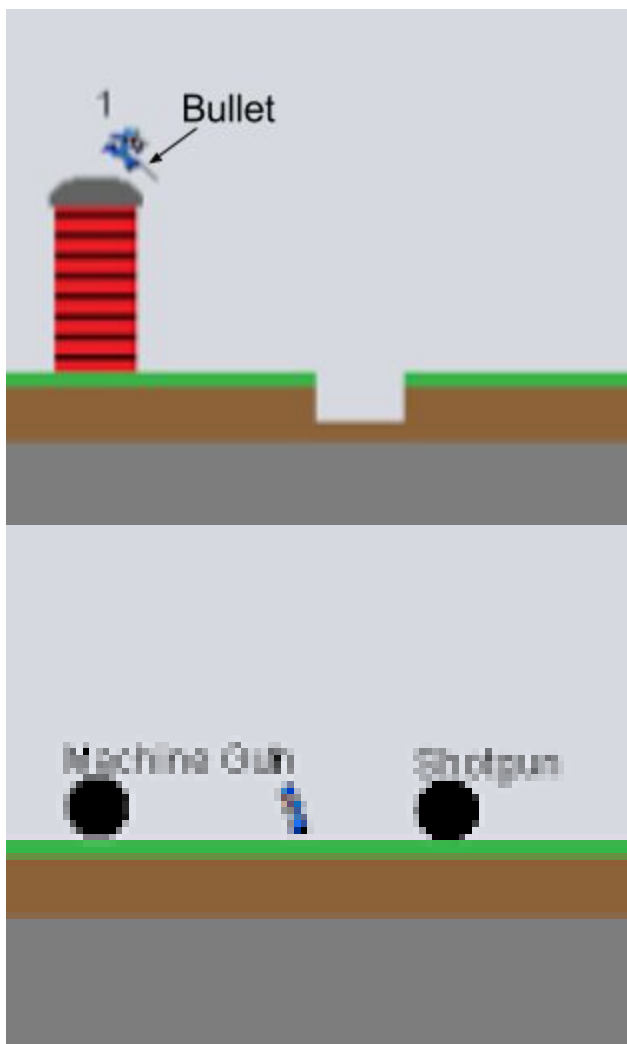


There are the three arenas that the players can play in: The country, the heavens, or the hell.



Controls: Press W or Upper arrow to jump. Press A and D, or Left arrow and Right arrow to move left and right. Press spacebar or L to shoot.

Player 1 will use WASD, and Player 2 will use the arrow keys.



When the player presses the key(s) to shoot, a projectile will shoot out of the player. The velocity, blast radius, and bullet spread of the projectile will vary according to the weapon picked up.

Here are two random weapon bubbles. Players will gain the weapon displayed above the bubble after touching it.

Troubleshooting

Bugs:

Player falls through tiles that are too thin

This has to do with how players move in the game. If the velocity is too fast, the players will fall through thin tiles at such high speeds that by the time the player falls through the tile, the program has not yet realized that the player is about to hit a tile.

Player spawns and falls to death

A future implemented feature is the prevention of players spawn above places with no ground.

Random weapon bubbles occasionally spawn in the same place

Random weapon bubbles only spawn on ground, and that sometimes mean that they will spawn in the same place when there is not much ground left.

Audio Does not Work

Will be fixed later on, and with the help of stackoverflow.

Feature wishlist

If allowed with more time, several more features will be introduced into the game. One of which will be an ingame events system. With this implementation, the game will randomly introduce events during the game to add an element of surprise and luck. For instance, the game may randomly do an Earthquake event, in which tiles will fall off the map, or the game may do a meteor shower event, in which large areas of the map will be destroyed by meteors.

Another feature that I will hope to add is a bot for single player mode. However, with my limited programming knowledge, I will probably fail to produce an AI that is more skilled than human players.

Conclusion

I am lucky to have the experience of programming a game from my imagination in Java. I realized how simple it is to do so, which sparks more interest in me to continue on with my software endeavors. I would like to thank Mr.RD with giving me the opportunity and skills needed to materialize my imagination.