BOSS FIGHT BATTLEGROUNDS

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Project Description

Boss Fight Battlegrounds is a side-scrolling action game where you can build, fight, and cast spells to defend your monuments against the monster horde. Defend until your last drop of blood falls, for when it does, you will join the undead in attacking your now former allies.

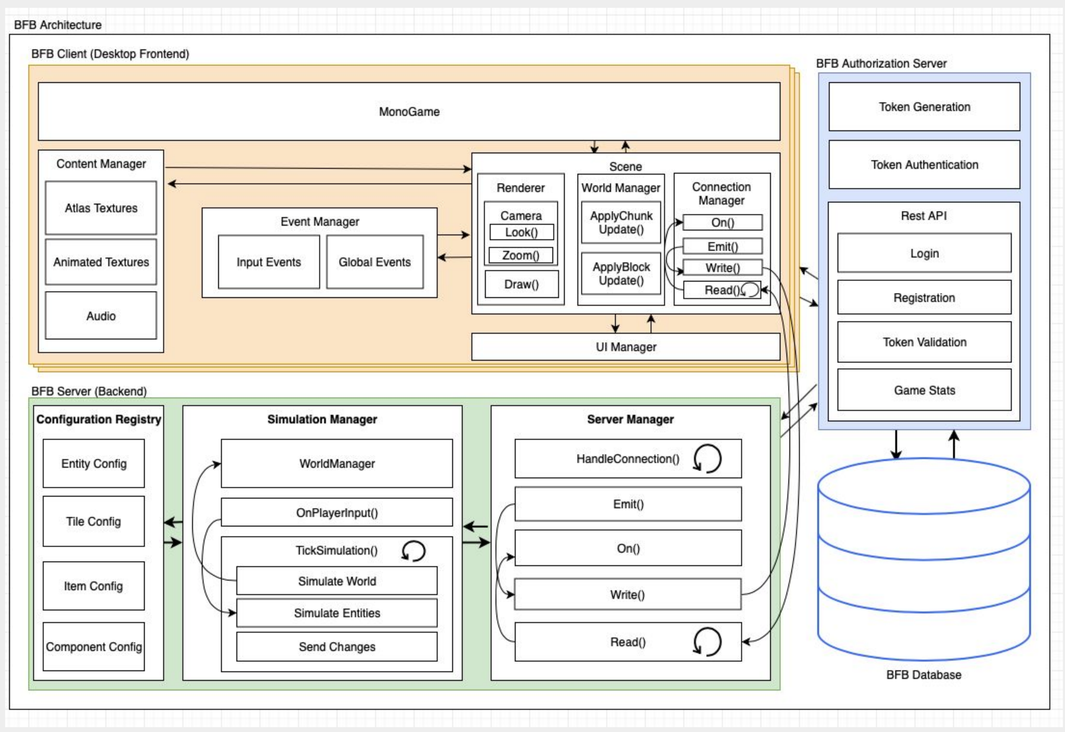
Features

- Create structures with 15 different blocks!
- Cause mayhem with a multitude of spells!
- Play as a human or a monster!
- Create an account to view your stats over all play sessions!
- Visit the store and check out some microtransactions!
- Customize your controls to set what works for you!
- Immerse yourself with audio!

Users

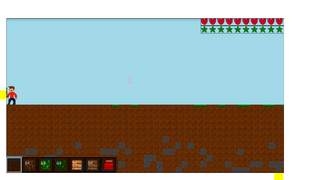
- The Player
- The Admin

Architecture Diagram



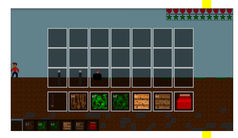
User Interfaces

<u>The Battle Screen</u> - This is where the action happens. All of the game takes place on this map.



<u>The Main Menu</u> - Users can choose what they want to do. They can join a game, visit the store, or customize their settings.

<u>The Inventory</u> - Users can move around items in their inventory here.



<u>The Chat</u> - Users can send messages to everyone in the server.

<u>The Settings Screen</u> - Do you want to change your controls? This screen is all you need to do that.

<u>Debug Screen</u> - Useful for admins and developers for viewing information about the game.

Module Interfaces

- Content Manager - Handles rendering of textures, animations, and audio. Loads and stores each object once so it can reuse assets that are repeated.
- Event Manager - Manages events sent from the client to the server and vice versa. Handles communication between server and client by sending serialized data.
- Server Manager - Controller for the game server. Handles client connections and disconnections.
- Scene Manager - Controls which scenes are viewable. Configurable to handle input event pass-through or to stop input from trickling through multiple overlaid scenes.
- Simulation Manager - Controls gamemode, world, and the game state.
- UI Manager - Custom UI framework used by the scene manager to create scenes that automatically resize.
- Authentication Server - Interacts with database to manage accounts and authenticate users.

Design Decisions

- JSON Configuration
- Component Design
- Multi-threaded server
- Dependency Injection

The Team

From left-right, Thomas Powell, Maxwell DeVos, Daniel Barnes, Mason Timmerman

Retrospective

What went right

- Communication with meetings, planning, and discussions
- Created an entire game engine
- Created tickets and used Trello

What went wrong

- Procrastination
- Keeping up on documentation
- Testing only the bare minimum

Lessons Learned

- Beware of scope creep by planning long term
- Don’t reinvent the wheel; use frameworks rather than creating a TCP server from scratch
- Game development is a lot of work