



LIMBUS BATTLE ARENA

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Intro

Limbus Battle Arena (being renamed to "Identity") is a online multiplayer fighting game based off of the video game "Limbus Company". Players will be able to fight others free-for-all style using various characters that appear in Limbus Company, each with their own unique attacks based off of how they fight in the actual game.

Stack/Tools

- Roblox Studio
- Luau
- Blender



Team

- Tony Fausto - Programmer, Animator
- Thant Shin - Artist, Animator



Combat & Controls

Controls:

- Q - Dash in the direction of movement
- F - Block
- Space - Jump & Double Jump
- Left Click - Basic Attack
- 1 - Unique Attack 1
- 2 - Unique Attack 2
- 3 - Unique Attack 3

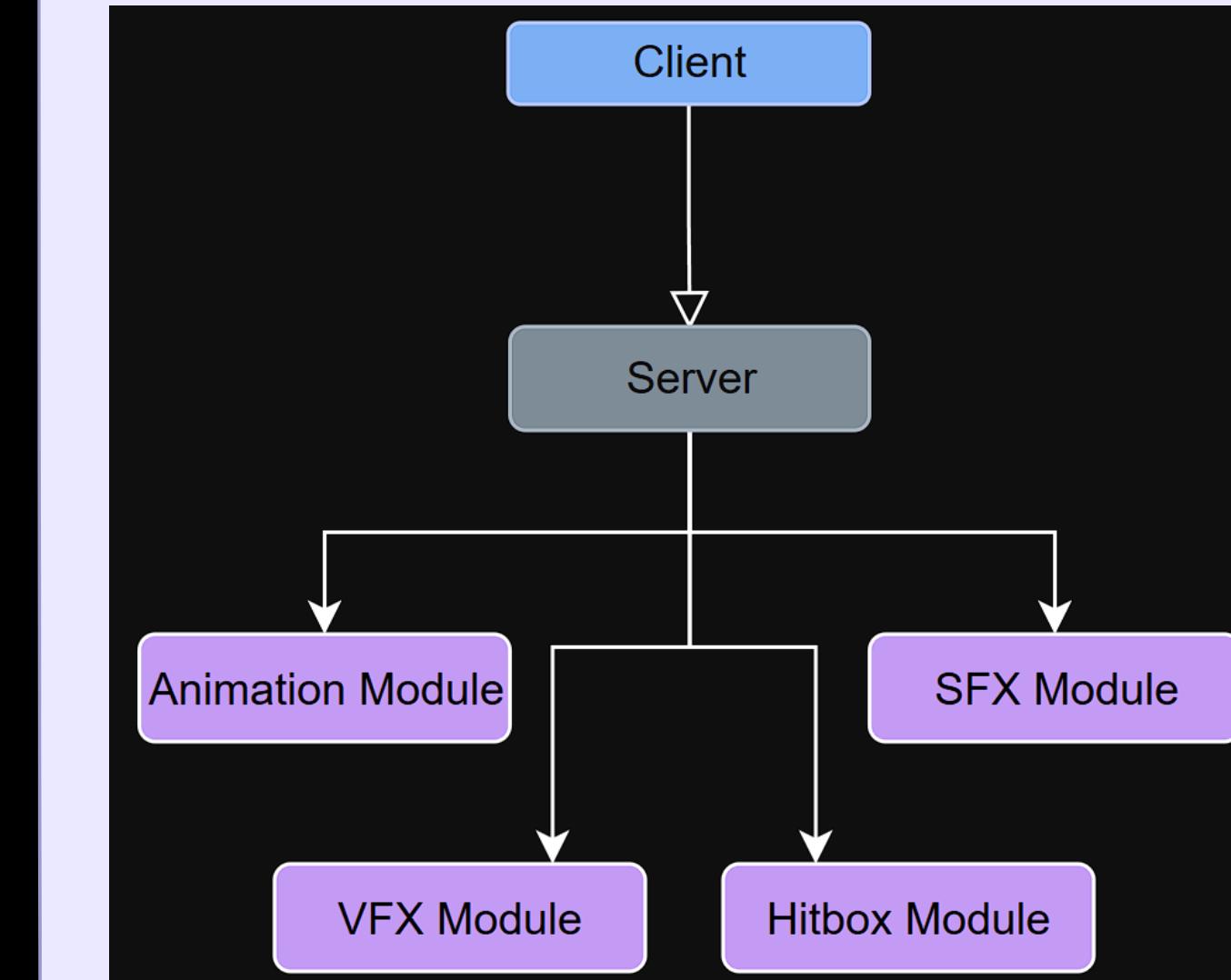


The combat consists of four main systems that work in tandem:

- Basic attacks: Default attack options, can do up to 5 consecutive attacks in a combo.
- Blocking: Negates incoming attacks from the front of your character
- Stun: Immensely lower movement speed and disable controls if successfully hit by an attack
- Block breaking: Break through and stun an opponent for a long time when hitting their block with certain attacks

Systems & Modularity

The code is designed to be modular, with scripts having specific functions that can easily be called from by other scripts. Some examples of this include the animation, sound effect, and visual effects modules. All of these allow for the simple use of their respective assets, allowing the many scripts that need these effects to use them without duplicating code.



This especially helps since client-server communication is involved. A high-level example of the combat script and modules it uses:

1. Client-sided code detects input. Sends signal to server
2. Server receives signal and records the player character to play according effects
3. Server retrieves character animation, and calls animation module to play it. Wait's until a specified amount of frames to perform step 4
4. Server calls hitbox module with character-specific parameters to detect opponents within hit distance and damage them accordingly
5. Server calls vfx module to play particle effects for all hit players

Objectives

Semester

Goals:

- Back-end for combat system
 - Basic Attacking
 - Attack Blocking
 - Block Breaking
 - Status Effect System
 - Stun System
 - Knockback System
- Character data and selection
- Visual and sound effect system
- 2D and 3D art assets
- Implement a character with unique attacks

Future

Goals:

- Design and implement a vast roster of characters
- Implement a proper round/match system
- Have multiple maps/areas for players to fight in
- Design and implement a character selection menu
- Replace some current placeholder assets

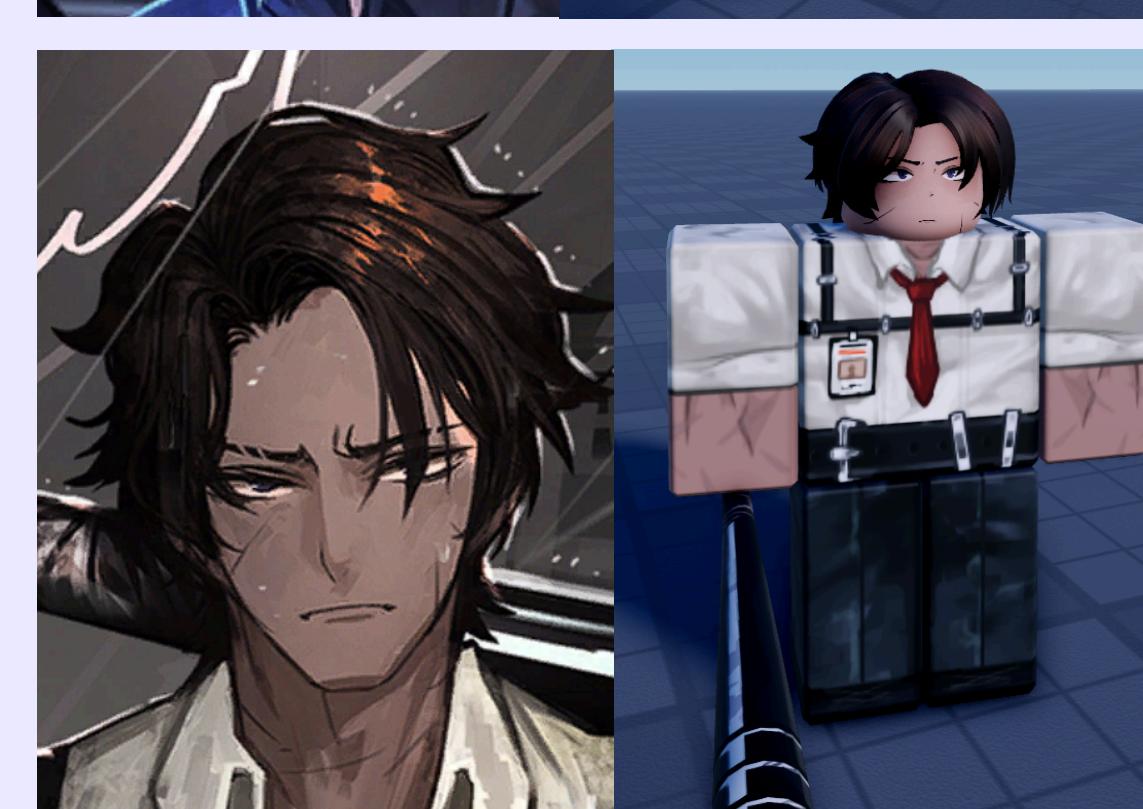
Character Data & Selection

Character data is stored in a table (dictionary-like structure), where the key is a character's name and the value is their data. A few examples of data are as follows:

- 3D Assets, such as accessories and weapons
- Character-specific Animations
- Scripts for unique attacks
- Accessory positions & rotations
- Colors



Additionally, there are many helper functions that automatically handle the loading of data when a player selects a character. Making it so, internally, all that's needed to change a player's character is changing their character_id to the name of the character.



Results & Asset Showcase

In it's current state, the game has all the back-end systems set up with a decent amount of art assets made. It's functional, and with systems finished we can start to focus on implementing character specific moves and gameplay loop. Going forward, updates will revolve more around adding content and less on the back-end.

