

Bullet Blitz

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Motivation

- An enjoyment of classic arena shooters
 - Doom
 - Quake 3
 - Unreal Tournament
- Movement is restricted in modern shooters

Technology

- Unreal Engine 5
 - Base engine for the game
- Ultimate Doom Builder
 - Map models
- Blender and Maya
 - Weapon models
 - Weapon animations
 - Changing map file formats
 - Character models

Project Goals

- Make a Working Techdemo:
- Networking
 - Hit detection
 - Minor desync among clients
- A Map
 - Works well with movement system
 - Designed to support teamplay and free-for-all
- Multiple weapons

Map Creation Pipeline



- Made in Ultimate Doom Builder
- Exported into an .obj file
- Import the .obj file into Blender
- Export as FBX file
- FBX imported into Unreal
- Unreal converts to a uasset model

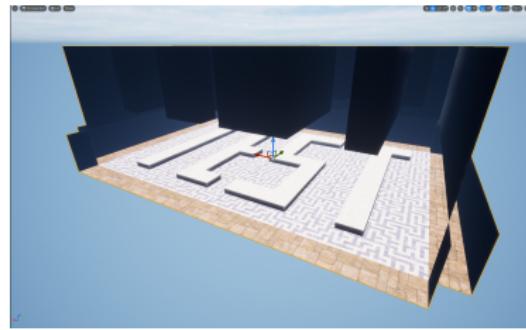
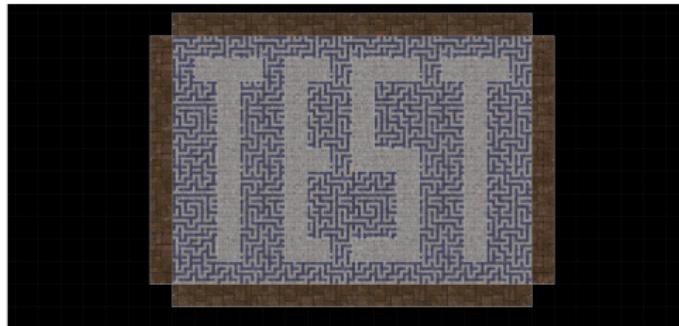
Movement

- Bunny Hopping
 - Engine bug turned feature
 - Lowering the skill floor
 - Easy to learn, hard to master
 - Makes moving around the map itself fun
- Wall Jumping
 - Gives player utility
 - Boost of momentum to start a bhop
 - Can continue a bhop instead of slamming into a wall

Doom Builder Map

figures/image.png

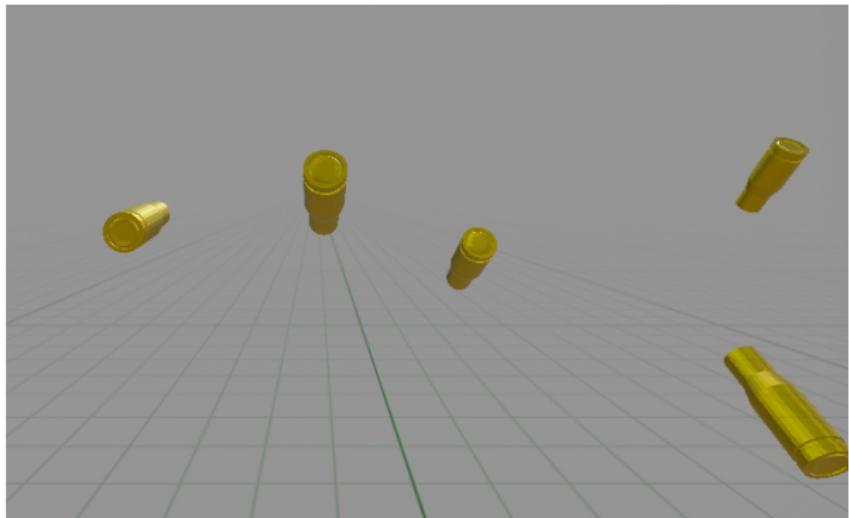
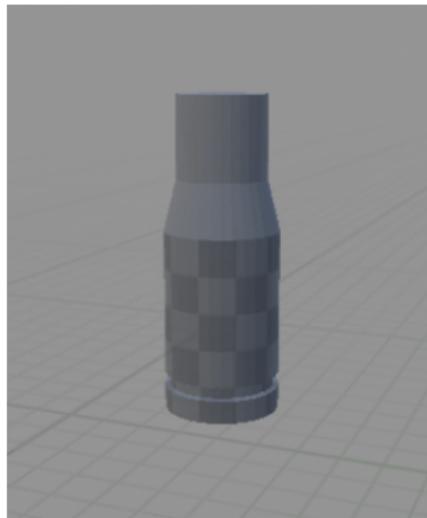
Test Maps



Map Design

- Arena Shooter Map Design
 - Original multiplayer maps were converted from singleplayer
 - Modders made maps designed exclusively for multiplayer
 - Developers followed suit, exclusively multiplayer games emerge
- Philosophy
 - Moving around the map should be smooth
 - Layout should be easy for the player to quickly learn
 - Areas of low and high interest
- Layout
 - Symmetrical layout to support multiple gamemodes
 - 'Figure-8' design encourages movement
 - Multiple areas of interest and connecting areas to encourage fights

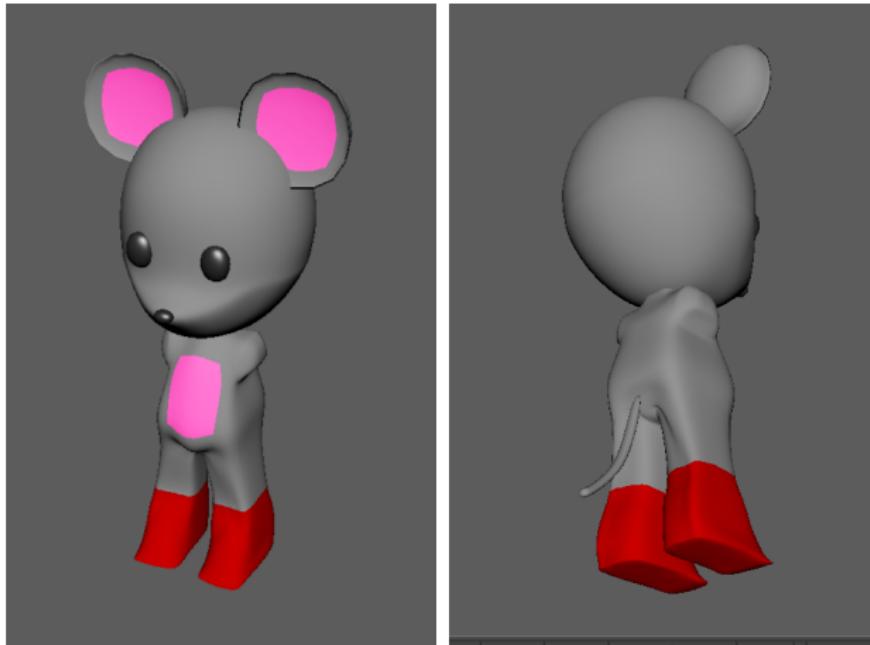
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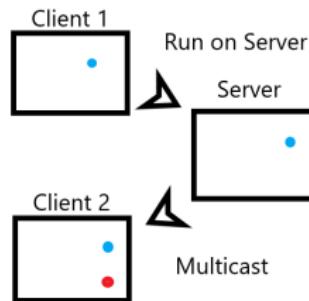
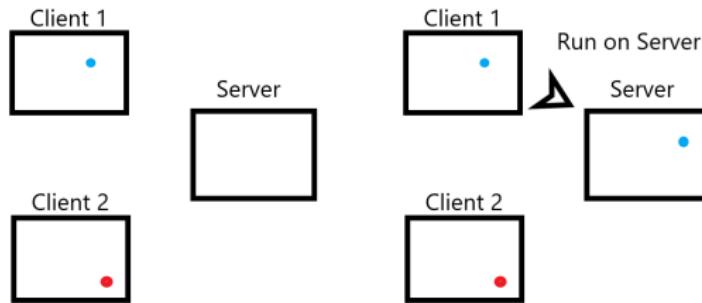
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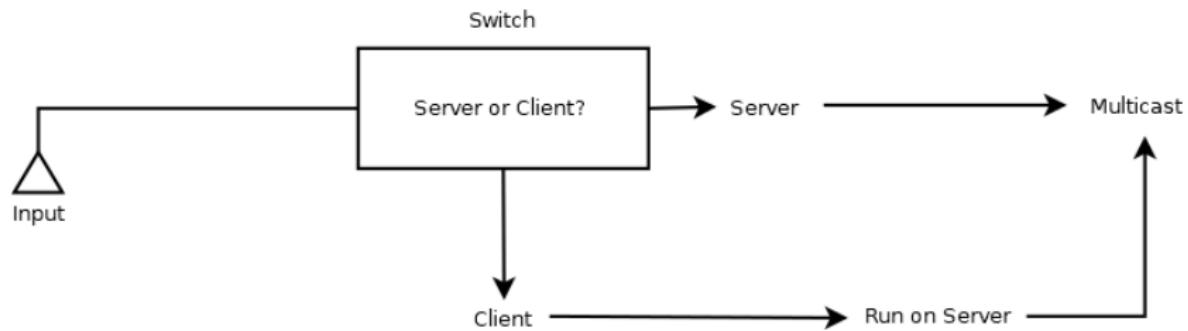
Character Model



Networking



Networking



Demo



Difficulties

- Networking
- Various weapon related bugs
- Map lighting
- Tying together the user interface and scoring

Future Goals

- Player scores and win conditions
- General clean up of debugging and quality of life improvements.
- More content (maps, weapons, gamemodes, etc.)

Any Questions?

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