

# Bullet Blitz

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# Motivation

- An enjoyment of classic arena shooters
  - Doom
  - Quake 3 Arena
  - 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

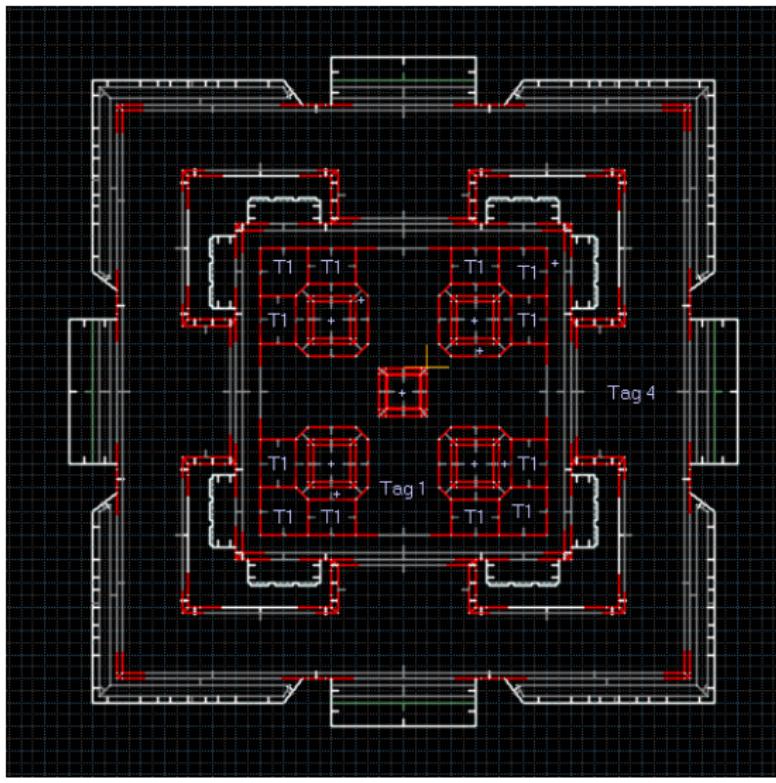


- Made in Ultimate Doom Builder
- Exported into an .obj file
- Import the .obj file into Blender
- Export as FBX file
- FBX imported into Unreal
- Unreal converts to a uasset model

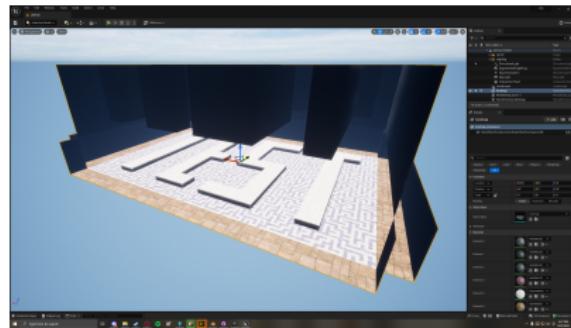
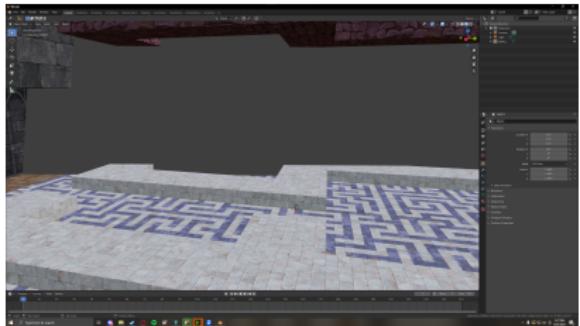
# Movement

- 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



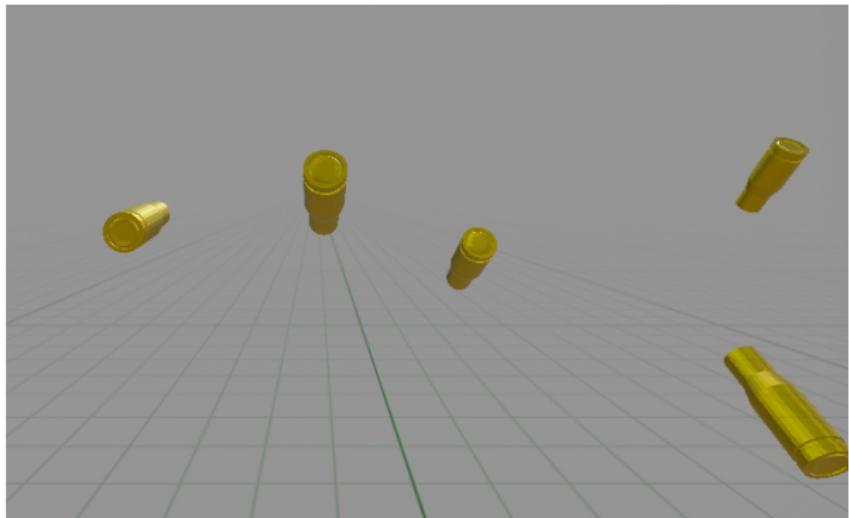
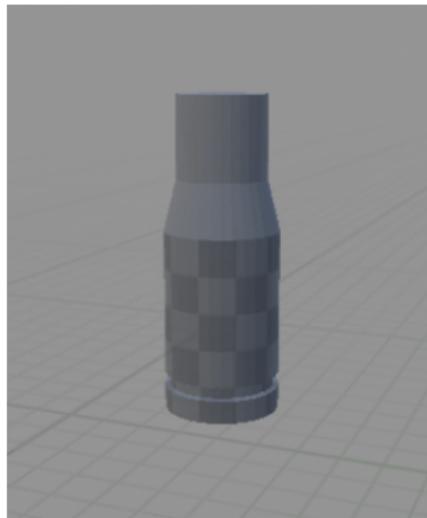
# Test Maps



# 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

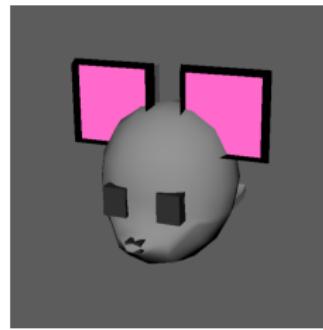
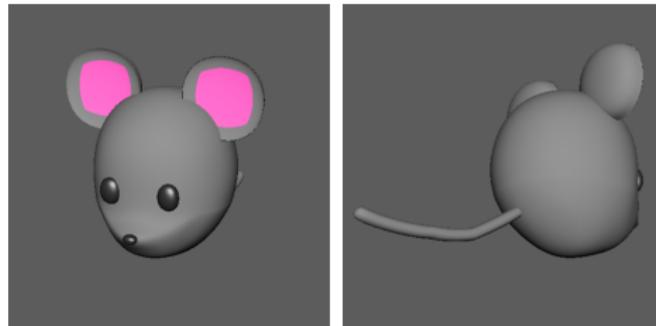
# Effects



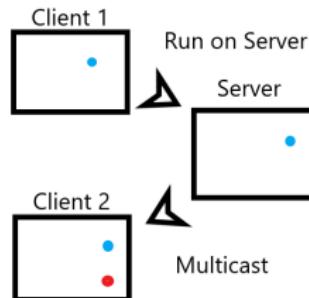
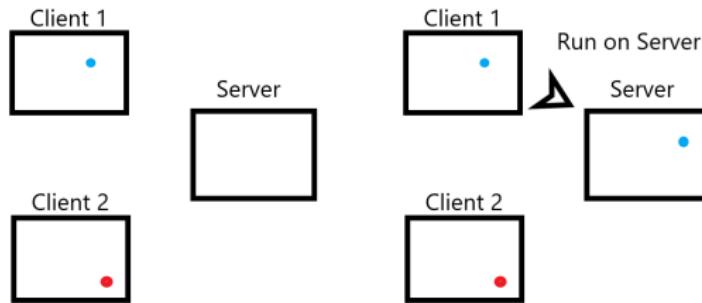
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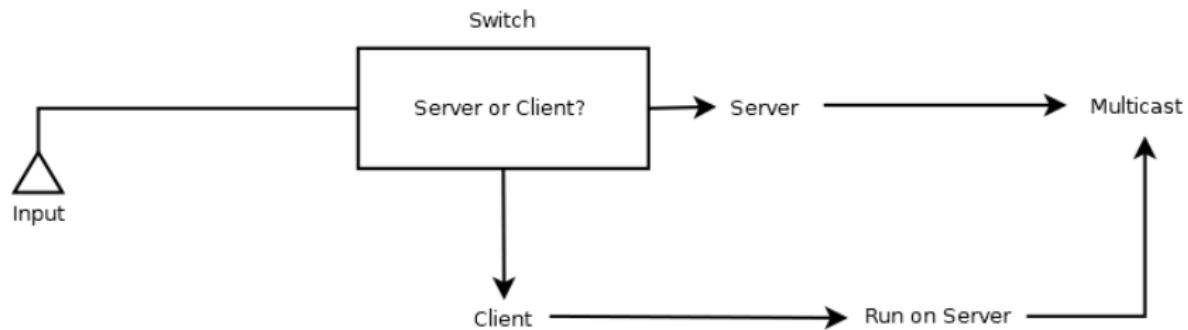
# Character Model



# Networking



# Networking



# Demo



# Difficulties

- Networking
- Various weapon related bugs
- Map lighting

# 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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