

03-T2 Minecraft Prototype Presentation

CS 4850-01 Spring 2026

Instructor: Sharon Perry

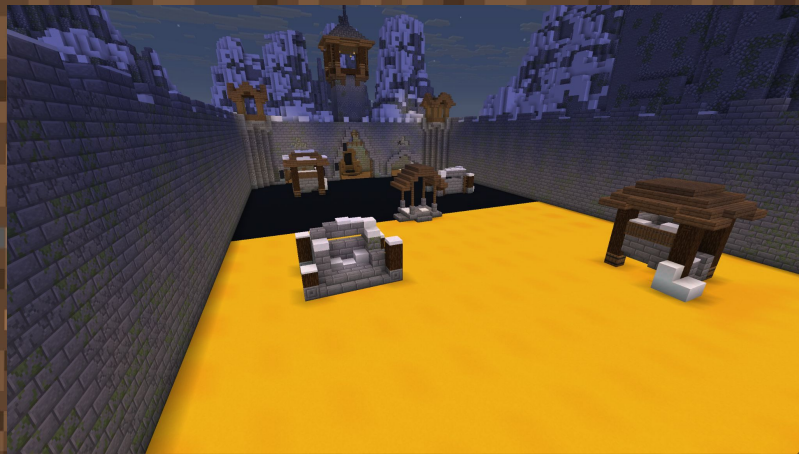
Andrew Burgos, Hezekiah
Holloman, Chase Holt,
John McDowell, Matthew
Pfleger

Introduction

- Our project focuses on developing a functional minigame for the KSU Esports Minecraft server.
- Our minigame is called Turf Wars.
- The game will put players into two teams within an arena where the win condition would be to claim turf or section of the arena with each elimination of the enemy team.
- Currently, we have a functional prototype complete with a waiting lobby, a play arena, and functional core gameplay mechanics.

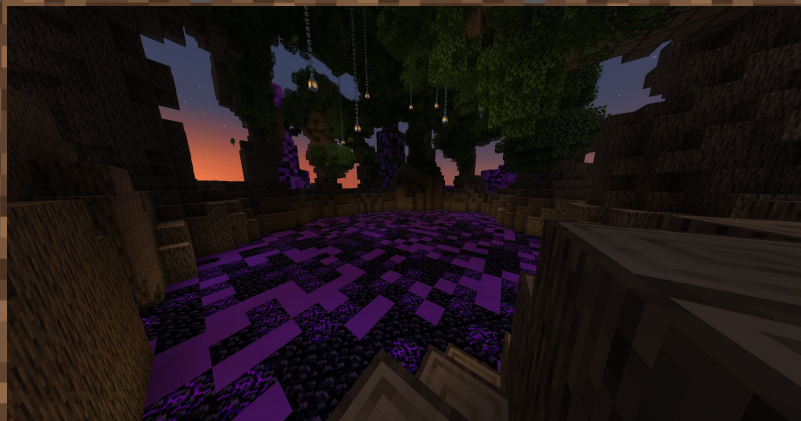
Game Overview

- Fast paced, team based, pvp
- Combines elements of traditional "tug-of-war" with Minecraft's building and combat mechanics
- Two teams face off in an arena where the ground they stand on represents their score in the game
- Expand your teams territory by eliminating enemy opponents



Game Maps

- This includes the lobby, and the arena
- We used KSU colors to represent the 2 teams, Gold and Black.
- Gold tries to turn the arena floor completely to gold, and Black tries to change it completely to black to win
- We achieved this map by using a plugin called "World edit", as well as using Minecraft's built in sandbox tools.



Lobby



Gold Spawn

Gamemode Mechanics

- **"Turf" Tracking:** The system tracks the divide line between the two teams.
- **Kill-Based Advancement:** When a player kills an opponent, the divide line will move 1 block into the enemy territory.
- **Build Restrictions:** Players are restricted to placing blocks only in their teams "turf," and not being able to place blocks on the enemy team's "turf."
- **Win Condition:** The game ends when one of the team's territory reaches 100% of the arena area.

Combat Mechanics

- **One-Shot Kills:** The will register any arrow hit as an instant kill and begin respawning the player.
- **Respawn Mechanics:** Respawn will begin as soon as the player is eliminated (No Minecraft respawn menu) and the eliminated player will have a 3 second wait before respawning
- **Materials and Ammo:** Each player should spawn in with 8 building blocks and 8 arrows. After 5 seconds each player will receive an additional block and arrow.

Setup

REQUIREMENTS:

1. Minecraft version
1.20.1-1.21.11
2. Pre existing Minecraft
server
3. IDE capable of running
Java
4. Java Development Kit
(JDK) version 17 or
higher
5. Java version 21
6. Gradle

STEPS:

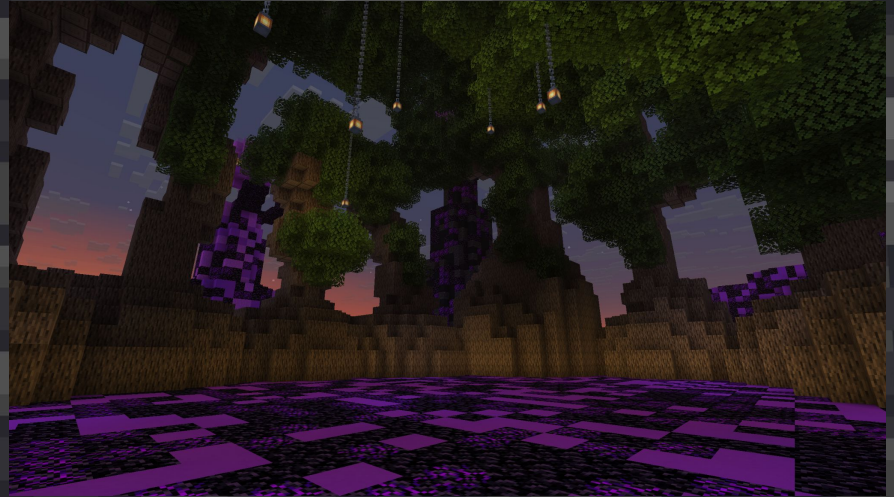
1. Clone the repository
(<https://github.com/minecraft-turf-wars/minecraft-turf-wars>)
2. Install dependencies
3. Configure environment
variables
4. Insert the command *./gradlew build* into the command
terminal
5. Move the .jar file into
minecraft server plugin file
6. Start Playing!

Prototype Demonstration

Demo: <https://youtu.be/mFsAugT164w>

Next Steps

- Improve matchmaking functionality
- Anti spawn-killing mechanisms
- Remove friendly fire
- Enhance the end of game
- Improve pre-game lobby experience
- Continue testing with more players
- Integrate into the KSU Esports Minecraft Server



Summary / Conclusion

- Overall we want to bring an exciting new addition to the KSU Esports sever. Something that uses a relatively simple concept, yet delivers a highly enjoyable experience. We chose to approach our mini-game this way because it holds
- Many of the values we share as game users. Including a fast paced multiplayer, with high-risk and in game pressure to keep you on the edge of your seat. Allowing the game to be rewarding to skilled players as well as beginners.
- At our current state the game is runnable and developed to a place where we would consider it a game demo. From here we intend to polish much of the games functional side, to provide a smoother gameplay experience. This includes making sure the game has certain boundaries to avoid users ability to exploit certain aspects of game design. Once we feel we have created a project that can be enjoyed from the moment it's opened till the moment it's closed, then it will be live for access on the KSU Esports Minecraft server.
- WE SUBMITTED OUR SLIDES BEFORE THE PRESENTATION