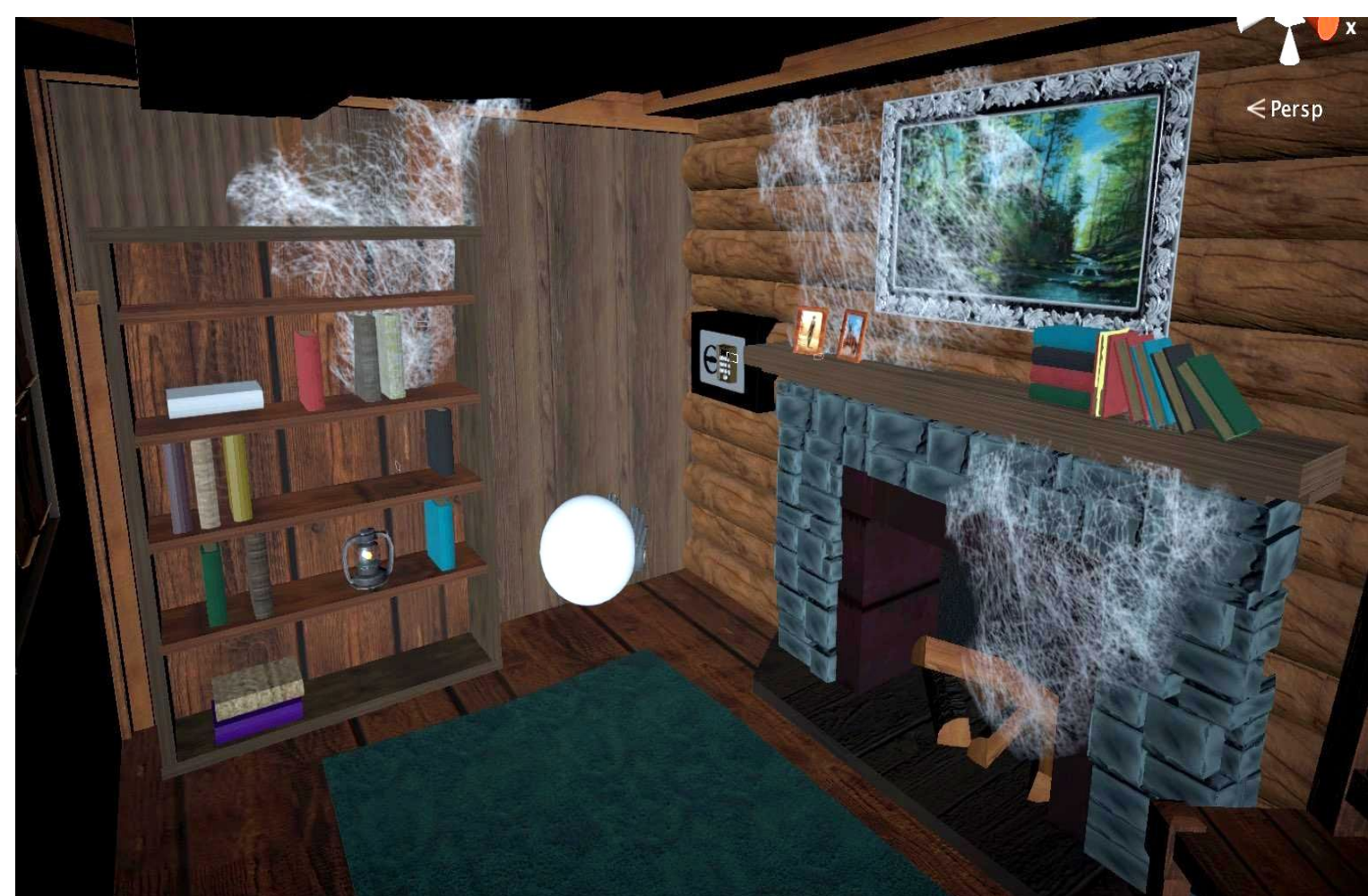


## Introduction

Chalet is intended to be a multiplayer online virtual reality game.



Built using Unity 3D and Leap Motion Technology.

## Methodology

### Hardware:



The HTC VIVE Headset that gives the player access to the virtual world. Attached is the LEAP Motion Camera and the backpack, allow the player to bring the computer with them as they play.



The LEAP Motion Camera allows for players to interact with objects in the game without a controller. One can see their hands in-game.

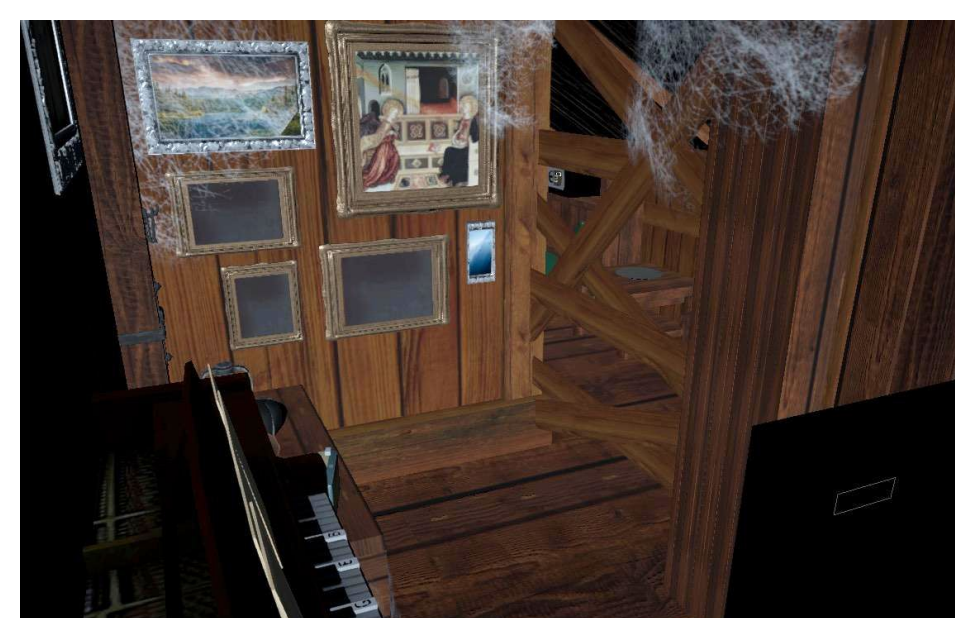


Real Sense Camera to detect the human

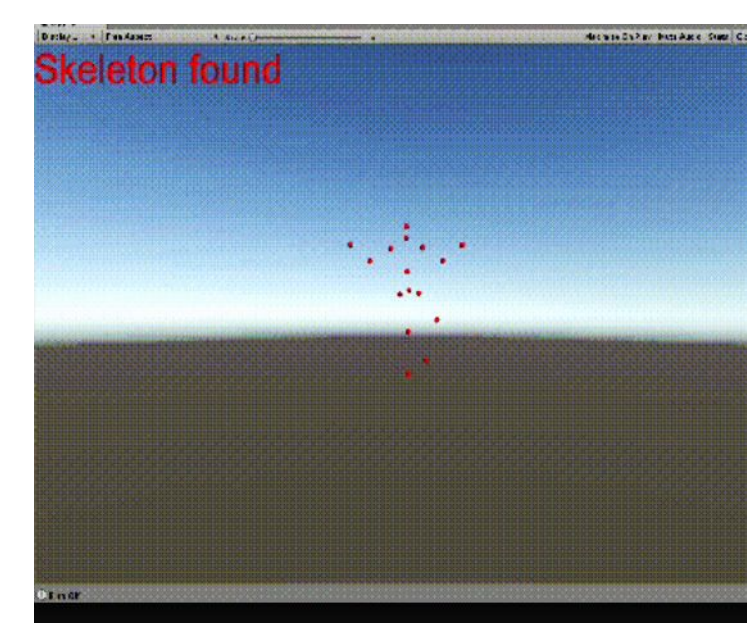
- ★ Used C# to code the game
- ★ Used assets from the Unity Asset Store to enhance the game
- ★ Got help from the Unity Website and tutorials for coding

## Procedure

1. Understanding Unity3D
  - tutorials
  - practice games
2. Building environment of our game



3. Implement puzzles and realistic interactions
4. Combine each room into a master game scene
  - use teleportation to enable player to play within a confined space
5. Create a multiplayer server where players can see each other



6. Implement more physical interactions
    - nerf gun shooting
- ★ Steps 5 and 6 were not completed in time.

## Challenges

### Hardware:

- ★ LEAP Motion connection issues due to wire malfunctions
- ★ Headset detection errors with lighthouses

### Software:

- ★ Getting Github set up for each member
- ★ Most updated version of Unity3D does not work with LEAP
- ★ Putting two separate headsets into the same server to be able to see each other

Visit the Website!



## Results

### Achievements

- ★ Completed a fully interactive single player escape the room game.
- ★ Players can flow through four rooms without ever leaving the virtual reality universe.

## Game Features



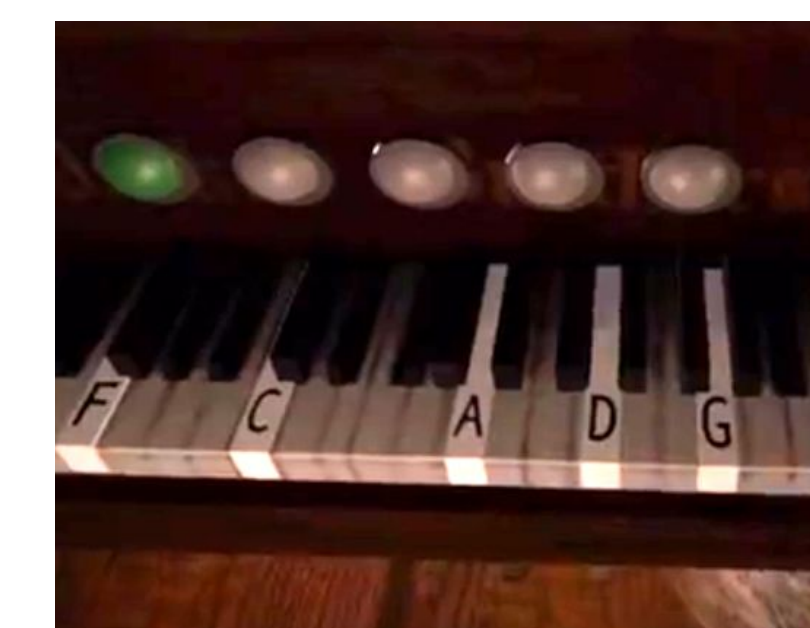
Break Vases



Moving Walls



Break down Walls



Play piano



Keypads



Move Lights

## Future Work

- ★ Complete implementation of Real Sense for body detection
- ★ Have interactions between players be seen by each other over a server
- ★ Include more puzzles to make it more multiplayer friendly opposed to single-streamed puzzles