

# Cryptid Hunter

Game Design Document

V 1.0

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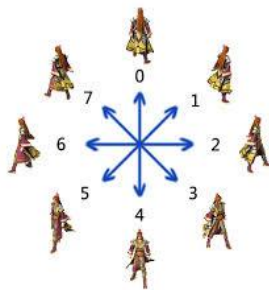
## Game Overview

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The player is sent on an adventure to try to find a cryptid, such as Bigfoot or the Loch Ness Monster, over the course of seven nights. In this game, we want the cryptid to be played by an AI generated by a neural network, and we want the AI to be able to adapt to the player's behaviors so that the player will have to alter their strategy throughout the game in order to capture the cryptid. The largest features that we want to include are: An AI that adapts to the users style of play, a map that is procedurally generated so that each game is unique, a multiplayer version of the game so that up to 5 friends can play together, and multiple different cryptids that each have different ways to capture them.

## Gameplay Summary

Player uses WASD keys to have 8 directional movement in a 2D environment. The player will walk around and interact with the environment and set stations in order to progress game through observations, settings traps, and capturing the cryptid. The only time they will use their mouse is when they attempt to interact with certain things.



## Game Flow

Players start out at the camp after all readying up. Players will then run around to gather and make observations/set up traps in the time they have. Once night comes the players will most likely stick close to camp with the fire unless they have Lanterns. In which case they will walk around at night attempting to pinpoint the Cryptids location. After a few repeats of this cycle the players will either capture the cryptid or lose.

## Loading

All players start in a Among Us Style loading lobby. This lobby is a circle shape with a campfire (nighttime) in the middle, with a space for 5 tents. Every time a player loads in their personal tent loads in. Players can change their costumes and look inside their tents. The Host can go to a bounty board that has a poster for whichever cryptid they play so all players can see it. Players can move around and talk in the lobby, once they are ready, they can go into their tents and click Ready! This will queue up sleeping noises(snoring) and they will begin the game will generate the map around the camp and a rooster will make noise to signal the game has

started. Players will 'wake up' for the first day and begin their hunt. (When you walk into your tent, the scene doesn't change. You just have the options pull up. You can only customize the outside of your tent through drawing on its' open space.)

## **Replay**

Replay ability is centered around there being several cryptids, the game being multiplayer, random map generation, and the artificial intelligence will act differently every time.

## **Target Platform**

Windows PC - Steam

## **Artificial Intelligence**

In order to create an AI for the cryptids, we will have to develop a neural network that takes in data to decide what its next action will be. This data will be broken up into two types, long-term and short-term. The long-term data will be where the cryptid learns and memorizes the terrain and the players behavior, ranking the behavior based upon how often the player preforms each action. The short-term data will be all the situational data that is gathered from the cryptid at each moment, such as sounds, sight, and the events that may be happening to it. The neural network will take in this data, and decide what the best course of action will be for it, such as possibly hiding, running away, fighting, or preforming more mundane tasks, such as scavenging for food, resting, or other daily activities.

## **Mechanics**

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### **Gathering**

The player must chop trees to get wood. The player must mine rocks to get metal. The player must pick up leaves that fall under trees to get leaves. The player must build a bucket with wood and metal to get a bucket of water from water. Potential Survival Food/Drink Gathering? The player must use a bucket on an oil pocket to get oil. Can collect Tall Grass from the ground

### **Lanterns**

Players can build lanterns with metal and oil. The lantern drains 1 oil every few seconds and can be refilled. Lantern can only be ignited at campfire.

### **Traps**

Players can use wood, metal, tall grass, leaves, and oil to craft custom traps for each. Oil trap where cryptid slips, and player can see their footprints. Rope Traps, Bear Trap, Nets, oil trap, and more! Players can use leaves to cover traps so less chance for cryptid to detect.

## **World**

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### **Overview**

The world is procedurally generated every single time when players all click ready! And the screen goes black to display the words Day 1. The map consists of several sprites that make up the entire environment. As for collision blocks, we have ground, plateaus, caves, and trees.

### **Caves**

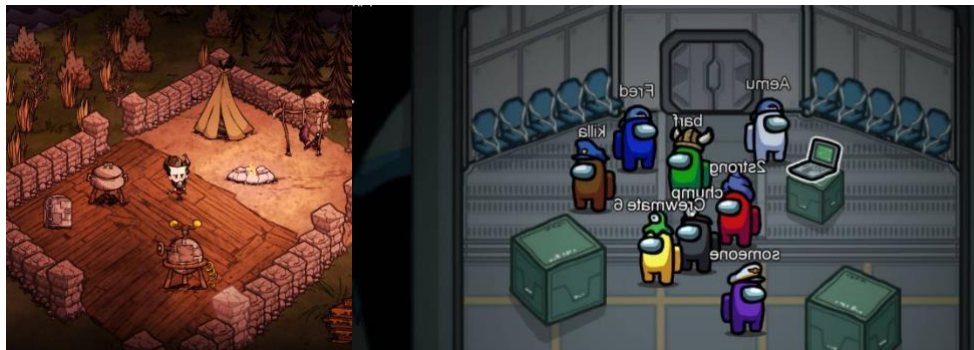
Cave systems are an easy way to transport around the map to other locations. You enter a cave and follow it to its exits. This leads you to a new spot on the map. This connection is always to the same doorways.

### **Plateaus**

Blocks that are higher than the ground. These merely act as walls for players as of right now. Maybe incorporate climbing on top for something?

## Art Direction

The art style is mainly centered around don't starve together; However, the lighting and general feel of atmosphere will be closer to Among us. The nights will be spooky and slightly scary whilst the day will feel nice and cartoony.



## **Networking**

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Since development leverages the Unity Game Engine, networking will follow the paradigms present in the Unity Environment. The game will run on a relatively simple server/client system with the full extent of any AI code being performed server side. Dependent upon the resource requirement of the artificial intelligence of the game, the clients may switch to a peer-to-peer system for synchronizing player actions using some group consensus model.

Server requirements should be kept low while still performing as high level of functionality as possible with the ultimate goal of a client/server setup being performant enough to handle AI, process synchronization, and any other network dependent systems that arise during development.