

GAME DESIGN DOCUMENT

VREmote | FEAR

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1 - Executive Summary

The Fear Virtual Environment (VE) resembles a small play area that is designed to evoke heightened levels of fear in the user. This is a short, experimental playthrough that is solely created for experimentation purposes and is aimed at inducing fear through dynamic use of interaction that manipulates the players' agency in a more abstract and innovative way as compared to traditional audio and visual cues that are meant to scare the player.

In the extant VE, players are immersed in a minimally lit, atmospheric, dark canal, in a boat that follows a path of water throughout the level. As the boat guides the player, they are subjected to environmental triggers meant to elicit fear; which is ultimately led by a monster that upon certain cues, evokes powerful fear responses in the user. The experience ends with the monster attacking the player.

While the techniques used in the environment are successful in evoking fear, the methods are traditional and scripted. Interaction as a core driver for emotional response is introduced through varying levels of interaction by enabling a more dynamic and varied level of control through the experience, that aims to manipulate the players agency, an abstract and emotional ambivalence that could result in unprecedented levels of fear. This is done through more user control and mechanics that fundamentally change the experience such as allowing the user to guide the boat, or yield a torch that can scare the monster. These interaction mechanics are set by the user prior to the experience by choosing the level of interaction on a gradient slider. To aid the development of interaction, an AI director that influences the way the level is experienced is introduced, and controls a more complex, and intelligent monster that is really created to manipulate a more psychological aspect of the player, in hopes that novel interaction and AI techniques elicit more fear, and thus the environment is labelled effective in evoking optimal fear levels in users.

2 - Narrative and Themes

The VE exists as an external entity that is tied to no story or narrative. The core purpose of the environment is purely to elicit fear, and as it stands in the current VE, has no inclination to associate the player to any story or characters. The relationship between the player and the environment is linear; and the emotion of the user is elicited purely through environmental triggers. With the introduction of interaction and AI, the fear environment establishes a connection between the monster and the player. This connection whereby the monster manipulates the control and agency of the player drives the to-and-fro tension that the player experiences with the monster as they navigate themselves throughout each passage in the canal. It is this connection that creates a narrative; since the monster stalks the player, the goal of the player is not to just experience the VE anymore; it is to survive as long as possible. When the player reaches the end of the canal, the experience ends with a jump-scare that implies the death of the player anyway. This implies the core theme of survival, and with the AI director controlling the monster, the monster will drive tension and affect the decisions - and ultimately the agency - of the player.

While the basic theme of the VE on a physical level resembles realism, there is an element of noir and sinister ambiance that enhances the mood and style of the VE - especially in the use of contrasting black and white lighting hues that lacks tone or warmth. This is further achieved through high fidelity brick textures, dark canals, the monster itself and realistic light fixtures, accompanied by the ambient soundscapes of dripping water and tunneled wind. The next iteration of the VE will enhance these dark themes of noir with filtering black and white light, and adding pianistic audio cues that subtly play in varied keys when the user interacts and makes decisions in navigating the environment - invoking mystery and tension. Similar techniques in games such as L.A. Noire (Rockstar Games, 2011) are used to create this element of mystery through audio cues.

3 - World Design

3.1 - Scenes

There is only one scene in the VE - which acts as the primary level. The player is required to simply get from A to B without getting caught by the monster. The scene consists of a canal in a dark tunnel and the boat on which the player is seated, that wanders through the canal. The tunnel is lined with bricks and is extremely dark, with lights that reveal certain areas of darkness. Along the way, the player will be able to change the direction of the boat, and interact with elements that can aid the success of the player's journey through the canal. While the player would expect that if caught by the monster the experience will end - the level will only end when the player reaches one of the ends of the canal (i.e. all ending in the monster attacking the player, and the player cannot die abruptly during the experience).

3.2 - Mechanics

Controlling the Boat

The core mechanic of the game is the control over the boat. Initially, the boat is guided along a linear path, but the player is immediately presented with the decision of going left or right with a fork at the end of the path. The player simply clicks left or right on the VR controller directional pad to determine their next direction. These decisions will become harder as the monster gets closer to the player. The boat can also speed up or slow down, which is controlled using the up or down button on the directional pad.

Virtual Hands

When the player begins the experience, they will be presented with two virtual hands with realistic skin textures. These hands can be moved around freely in the virtual world, and if the triggers on the controllers are pushed, will clench, implying the player can pick up certain objects.

Torches

Torches are interactable elements that can be picked up if spotted by the player. The torches are fixed to the wall of the tunnel, and the player is required to physically lean out of the boat and reach out to pick one up. Once picked up, the torch is placed in the dominant hand of the user and reveals a small area of white light in the canal. If the player is attacked by the monster, the torch can be swung back and forth to make the monster flee. The torch will go out as the monster retreats. The player will need to retrieve another torch in order to survive comfortably. If the player is attacked by the monster without the torch, the boat will stop momentarily and the monster will fill the FOV of the camera and create a jump-scare, with all sound being replaced by a strong monster growl effect.

The Radar Device

A radar device is available to the user upon being found throughout the canals, but there is only one available to the player in the experience. If found, the radar is permanently placed in the player's non-dominant hand. The player can physically look at the radar which senses the exact location of the monster relative to the boat. The radar pulsates in intervals - in which the dot can fade and return at a different distance. The player must use the radar and torches to remain at ease throughout the experience.

3.3 - The Player

The player is presented in first-person view with nothing but virtual hands. The player resides on the boat at all times, and cannot move around the boat, but only lean by physically leaning in the real world. The player can only move the boat when presented with a branching tunnel. Upon clicking left or right, the boat and the player will change direction and continue down the desired canal tunnel. The player, while not explicitly told, cannot die while on the boat, and it is implied that the player must survive and reach the end of the canals in order to end the experience.

3.4 - The End and Length of Play

At the end of the experience, once the player has reached the end of the canal, they are presented with a ladder that can clearly be seen when the player moves into the final tunnel. When the player is just within reach of the ladder the boat will become stuck, and the monster will ultimately catch up to the player and it is implied that the player will die. This is marked with a black screen once the monster fills the FOV of the player. Approximate play-time will be 15 minutes but can vary due to the dynamic nature of the environment, based on the decisions of the player.

3.5 - AI

The VE will feature some advanced AI that pertains to both the environment itself in the form of an AI director - and individual AI for the monster. While there are currently two monsters in the extant VE, one will be removed, and the other fitted with pathfinding and decision trees in order to simulate an intelligent monster that can respond to player decisions dynamically.

3.5.1 - The Monster

The monster GameObject will consist of two separate AI scripts - one that handles the pathfinding element of the monsters stalking AI, and the other, a decision tree based on the user actions and how they interact with their environment and the monster itself.

Pathfinding will be implemented using the A* pathfinding algorithm for dynamic and efficiency purposes throughout the simulation. When the player decides to wander down a different canal, the monster will immediately calculate the relative player position from their own coordinates, and develop the most efficient path to the player. The monster can approach the player from behind or in front, which will be indicated using audio cues pending the monster's arrival. Once the player is within view of the monster, the monster's speed will gradually increase, and the player will need to react accordingly, either by increasing the speed of the boat and going down a different canal, or by quickly waving their torch to scare off the monster. When the monster catches the player or is scared off (which is dictated by the decision tree), the monster will retreat - using A* once more - to a specified point in the environment, dictated by the AI director. Once the monster reaches their specified location, there is a short cooldown period for the player to calm down. Once this period ends, the process will repeat until the end of the experience.

3.5.2 - The Environment

The Environment AI is controlled exclusively using the AI director. For the purposes of this AI, a more advanced finite state machine will be used, to develop the state that the environment is in, depending purely on which canal and where the monster is at any given point of the simulation. For example, if the player decides to go right down a canal, and if they have a torch already, certain GameObjects can be set to inactive or change location entirely; the monster can also spawn at a different starting location to increase or decrease the tension of the experience. On some occasions, an entirely new canal could appear, which could lead to a surprise attack by the monster. Audio cues are also controlled by the AI director, and can again change dynamically based on relative positioning of the player and monster.

The AI director also controls the monster and can make decisions to change the direction and set the monster to pathfind to different points (other than the player). This is carefully decided by interpreting the reading off the radar device, and is used to create a nonlinear experience. The director could make the radar device stop working momentarily, or make the monster suddenly appear behind the player; even if the radar blip says otherwise. This is done in hopes of developing tension in the player.

3.6 - Interaction

There are three different levels of interaction, which can be changed prior to the experience. This is in the form of a gradient slider, chosen by the VR controller, and ranges from minimal interaction, to moderate, to high levels of interaction. Depending on their choice, certain mechanics will be disabled and enabled to provide varying levels of fear elicitation from the player. This is contrasted using the table below:

MECHANIC	MINIMAL	MODERATE	HIGH
Controlling the boat	No control over the speed of the boat; linear throughout the experience. Boat follows a predetermined trail throughout canals.	Speed of the boat can be changed. Boat follows a predetermined trail.	Full control over boat, player can decide to turn down different canals.
Virtual hands	No virtual hands	Virtual hands are present	Virtual hands are present.
Torches	No torches	Torches can be used to scare the monster, causing the monster to retreat.	Torches can be used to scare the monster, causing the monster to retreat.
Radar device	No radar device.	No radar device.	Radar is present, with full integration with the AI director.
AI	Monster AI is limited, simple visual cues intended to scare the player at certain points of the simulation are triggered. (Similar to original VE). AI director is non-existent.	Pathfinding is present. Simple following the path to the player is implemented. Torch can scare monster, causing monster to pathfind to new location for cooldown. No AI director.	All AI present. Advanced pathfinding and AI director decision making creates the dynamic and constantly changing environment.

4 - Asset List

The virtual environment contains the following assets:

Boat

Water in canal

Wall and wall textures

Monster rig and textures

Lighting fixtures

Torch fixtures

Radar device

Ladder

Gates, iron bars
