

# DESIGN DOCUMENT FOR *PSYCHSCRAPER*

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A Horror Game Developed by:

## **THE HEX PISTOLS**

Joe Bota

Aaron Ebbinghaus

Katie Finley

Blaine Morbitzer

Trevor Parks

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# GROUP ROLES

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**Common Roles** - All team members will be responsible for general programming and design decisions. When most assets have been created, it will be expected of each member to contribute to constructing their own level with both pre made and unique assets. That being said, team members will not work independently, but will contribute both technical and advisory assistance to each other, should it be needed, from early to late stage production.

**Joe Bota** - Responsible for music and sound assets along with relevant scripting. Responsible for puzzle design, with an emphasis on music and sound, as well as physics and logic puzzles. Responsible for flavor text surrounding story.

**Aaron Ebbinghaus** - Responsible for illumination assets and design, including their placement and puzzle usage. Responsible for level design and layout, such as using prefabs to make unique, traversable levels and enriching them with textures.

**Katie Finley** - Responsible for AI programming and design, specifically with how the environment alters itself to challenge the player. Responsible for art assets, such as menu icons and textures.

**Blaine Morbitzer** - Responsible for modeling objects and environments with external modeling software such as AutoDesk. Responsible for UI layout and design, such as the main and settings menus.

**Trevor Parks** - Responsible for the sanity mechanic as well as implementation of healing mechanics. Responsible for Steve's AI implementation.

# STORY

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## Background

In the year 2525, the population of Earth has grown unsustainably to 25 billion people. The restless need for more resources and space has left the planet in devastation, with nearly 97% of all known plant and animal life extinct, resulting in a reliance on genetically modified and synthetic food sources. Space has become scarce, as urbanization has led to massive city centers that have nowhere to go but up.

How could the population explode without push back from natural selection? Mankind's innovations in science - curing cancer, eliminating HIV, purging airborne illness- have made 100 the new 50, though at the cost of crippling the human gene pool. Yet, despite man's extraordinary advances in science and technology, the last known medical conquest lies squarely between his eyes: the brain. Despite everything man has worked toward, the complexities of the brain remain unsolved, and thus, mental illness remains a continuous plague on the general population.

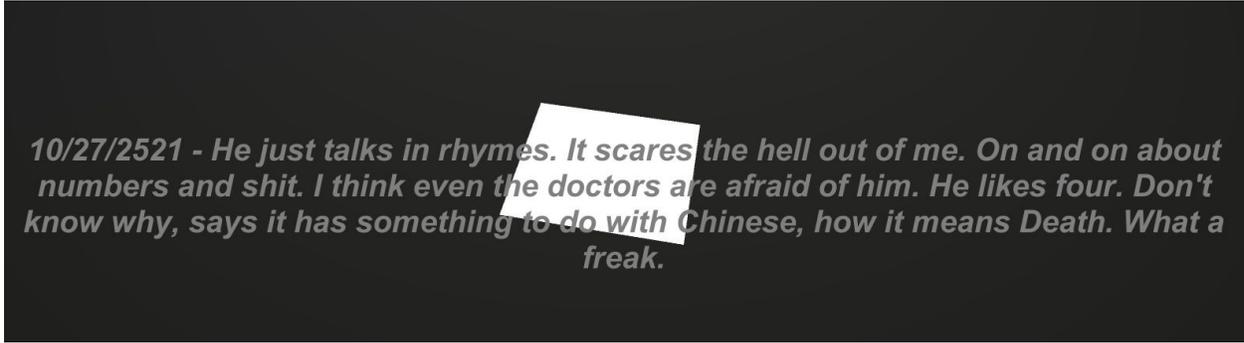
Though existing mental illnesses remain imperfectly treatable, new mental diseases have resulted from the exposure to new technological wonders - virtual reality, genetically modified food, underground cities - and have spurred an onset of psychosis never seen before. The world now sees nearly 70% of its population on medication to suppress these unwanted ailments, but at a cost of intense dependence. For those who remain dangerous, large skyscraper mental institutions have been constructed with the goal of housing tens of thousands of people. But in a world with such a grotesque degree of mental illness, who's to know that the inmates aren't running the asylum?

### **In-Game Story**

The player will assume the role of an unnamed, silent character. Throughout the asylum, the player will find notes from two recurring characters: the Patient and the Psycho, neither of which are explicitly called as such. This allows the player to remain ignorant to their true identities and mental states.

The degree of affliction befallen the Patient is unknown, but it becomes apparent that he is quite sane relative to the Psycho. The player will find his notes scattered throughout, often giving hints and flavor text to the events surrounding the abandonment of the asylum. He is being forced to write notes by the presumed Psycho, but without any given reason as to why.

A characteristic of the Psycho is that he only speaks in riddles. Later in the game, the player shall discover that the Psycho is acting as a doctor in the asylum, applying treatments to the Patient. It is never to be made clear whether he is, in fact, a real doctor or just a patient acting as an imposter. The character of the Psycho serves to deliver clues in order for the player to proceed. Very little actual background and flavor is given by the Psycho, the exception being in “doctor’s notes” in which the Psycho’s rhyming is masked.



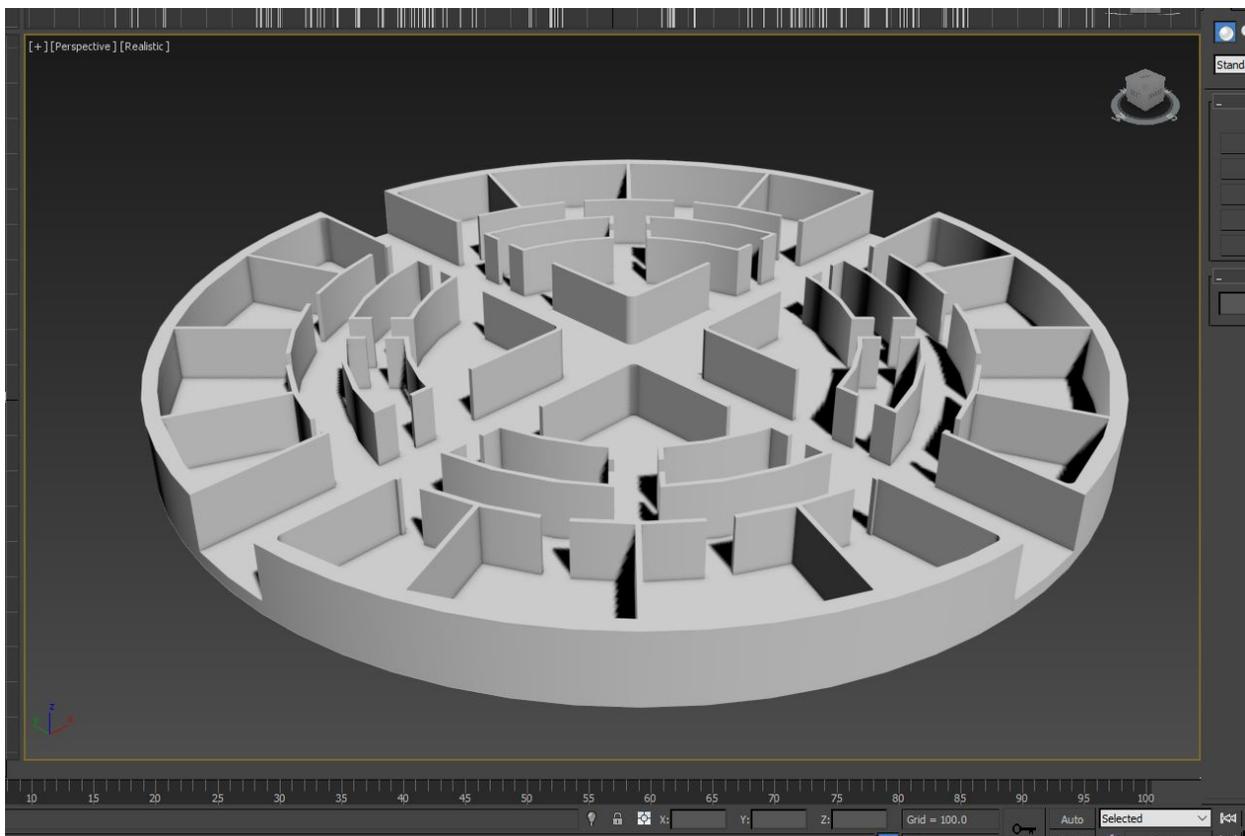
*10/27/2521 - He just talks in rhymes. It scares the hell out of me. On and on about numbers and shit. I think even the doctors are afraid of him. He likes four. Don't know why, says it has something to do with Chinese, how it means Death. What a freak.*

The Patient is crucial for understanding the Psycho’s motives and provides hints necessary to progress.

# SETTING

The setting for the game will be in a seemingly abandoned, futuristic skyscraper mental institution, where each floor plan remains identical, but with slight layout tweaks that makes navigating a level different. Because the basis for the game is psychological horror, environments and challenges can be constructed to reflect a sense of “otherworldliness,” where sense and logic need not necessarily apply. This “otherworldliness” will be strengthened based on the current sanity levels of the player. As they experience more horror, the environment will progressively become more intense.

Along with “otherworldliness,” the abandoned and futuristic elements will establish a basis for the - relatively - normal areas of the game. The rooms of the hospital will be furnished, with a more “free-roaming” feeling akin to modern institutions. Many of the halls will have a sterile style and will be illuminated by back up, poorly-wired lighting or no lighting at all, while sounds will echo from unknown sources.



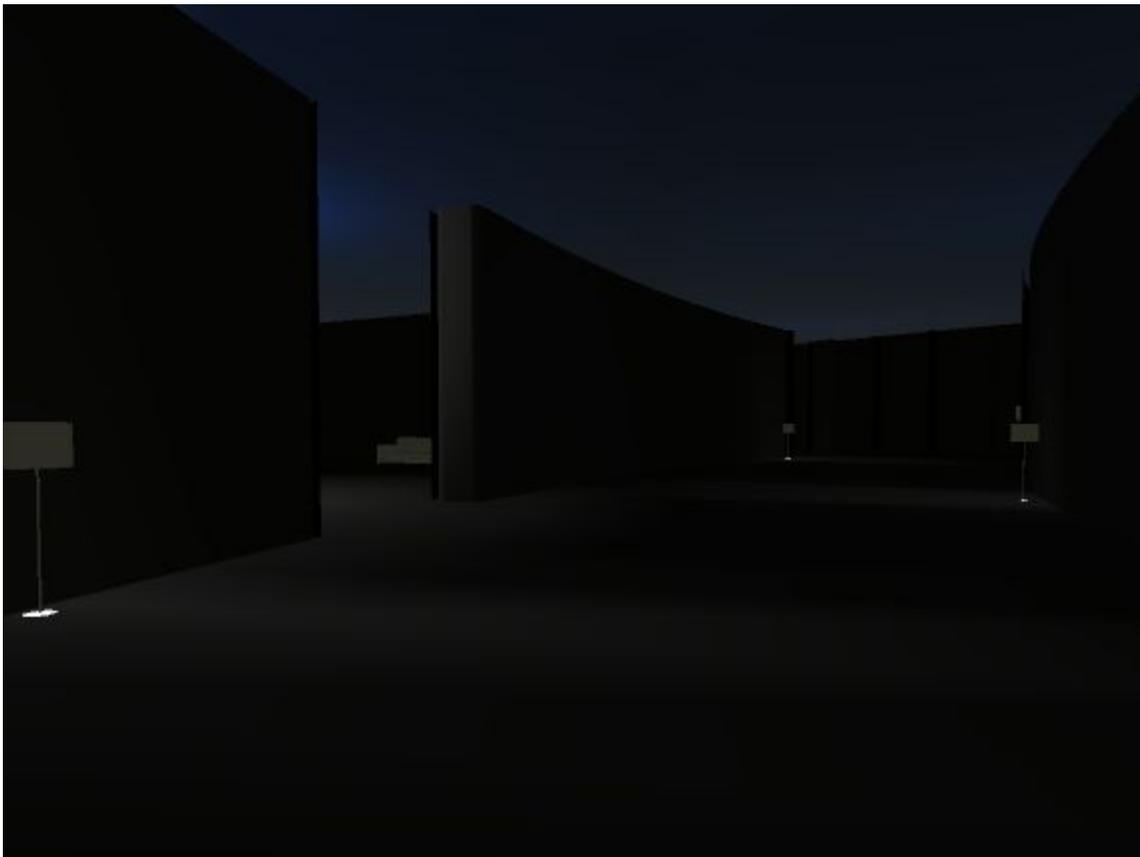
Early AutoDesk model of level layout. Many things have since been changed, including the addition of windows, glass walls, and a central spiral stairwell accompanied by an elevator.

# STYLE

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The underlying visuals for the game will be reminiscent of cel-shading, with dark outlines of models and very binary/trinary colors used for shading. Though this might seem cartoonesque, the color palettes used will be drab, dark, and dreary, resulting in a very unseemly feel. The heaviness of the atmosphere will be the strongest contributing factor to the sense of dread on the part of the player. Furthermore, the environments will make conservative use of blood and will instead rely on subtle things like markings, lighting, and audio to lend fear to the environment.

No effort will be made to introduce meaningful VO or other human speech. The style to be presented will be one of isolation in a completely unknown world, and so presenting human speakers will be determinantal to that design choice. Any exhibition will come in the form of writing from the Patient and the Psycho. The player will be left to infer as much of the story as possible.



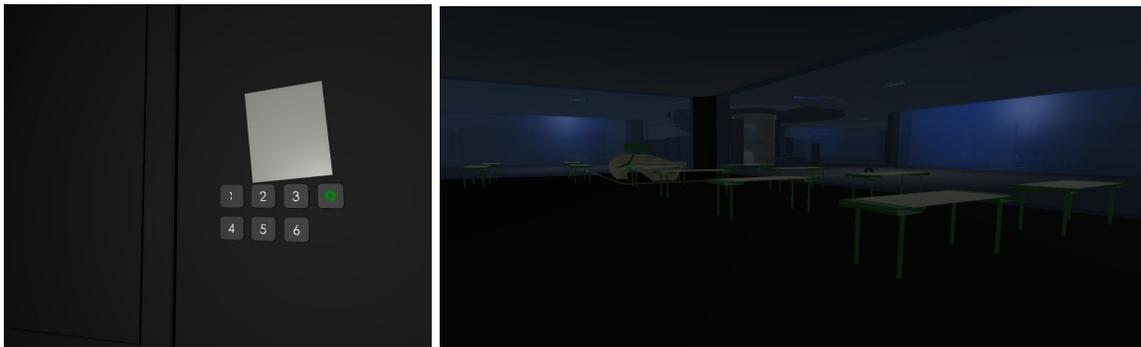
Drab colors, subtle lighting, and cel shading are key in creating the style for Psychscrapper. The player is meant to feel uncertain and in an otherworldly place.

# GOAL OF THE GAME

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The ultimate goal of the game is for the player to escape the asylum. This will be achieved by solving puzzles that will unlock doors to the next area. Some of these puzzles will be abstract, with hints provided through the notes of the Psycho. If the player is able to solve all puzzles, they will presumably reach the exit to the asylum, and thus complete the game.

The challenge lies not only in the difficulty of the puzzles, but also the constant threat of insanity. As the player experiences disturbing events or incorrect solutions to puzzles, their sanity will be slightly reduced. Eventually, they will reach a point of total insanity and will die. In short, the goal is for the player to not only solve all the puzzles in the game, but also solve them with high accuracy, as too much failure will lead to a game over.



Solve puzzles using hints from notes, and eventually make it to the central elevator to escape the Psychscraper.

# GAMEPLAY

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## Player Interaction

Being a horror game, action will not exist. Instead, the most common mechanic that will be utilized by the player will be general interaction through pressing a key on their keyboard. Two core interactables have been designed: pickupables and interactables.

Pickupables are basic physics objects that can be lifted and moved by the player. Very few actual objects will feature this quality, but the ones that do will be used to solve puzzles, typically abstract in nature.

Interactables can be summarized as “anything that does x when the player does y.” These objects can be manipulated by the player directly through a button on the keyboard or can serve as an object that becomes triggered after a sequence of events. Many more objects will have this quality, as it also houses code for producing sound for a particular object.

## Puzzles

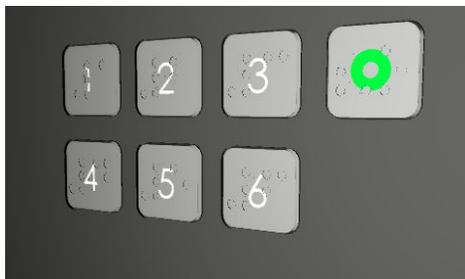
As it stands, two actual puzzle types exist in the game: keypad puzzles and signal puzzles.

Keypad puzzles are basic to understand. Essentially, there exists a keypad in which the player must input a sequence of keys to open a door or trigger an event. The sequence can be discovered by reading riddles placed in the environment by the Psycho. The Patient’s notes will complement the Psycho’s riddles, many of which sit incomplete and require additional context.

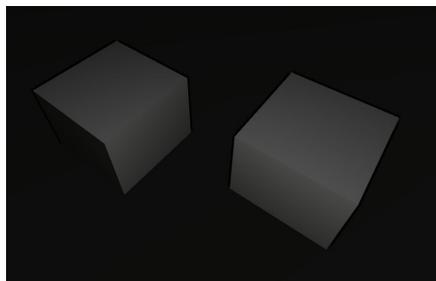
Signal puzzles are a tad more abstract. Simply put, they are a pickupables that continuously emit a sound, whether radio banter, music, or something more sinister. Starting out, the sound will be predominantly white noise. As the pickupable closes the gap between itself and another object, the sound will become cleaner and easier to hear. Once a collision occurs, this will trigger some interactable, allowing the player to progress.

## Game Objects

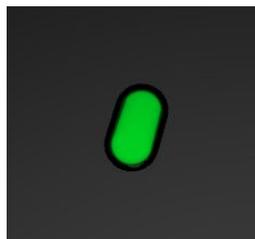
*Keypad* - A six button keypad with a seventh confirmation button. Each key corresponds to a different musical note, which can be applied to puzzle solving. Hitting the correct sequence of three keys followed by the confirmation button will result in an interactable object being triggered.



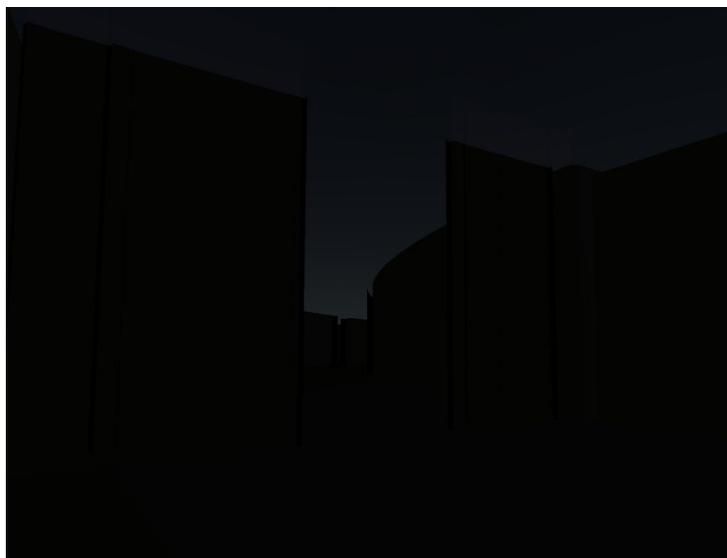
*Sound Key and Sound Lock* - The sound key object emits a constant stream of sound that becomes progressively more clear as it approaches the sound lock. When the sound key and the sound lock collide, an interactable object will be triggered.



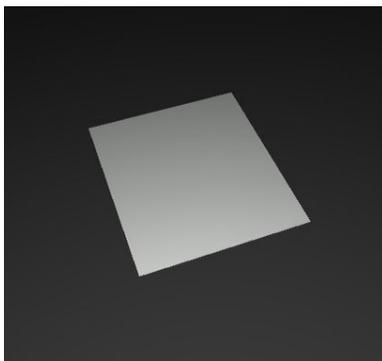
*Pill* - When the player interacts with the pill, they will restore some of their sanity. This interaction will come about via collision rather than having to press a button on the keyboard in order to compensate for the inconsistency of the interaction mechanic.



*Automatic Doors* - Standard automated doors that will block the player off from other parts of the levels. Typically can be opened using the correct sequence on the keypad.



*Notes* - Small, pieces of papers that chronicle the ramblings of the Psycho and fears of the Patient. Can be found throughout each level, often providing subtle hints as to the solution to each puzzle.



*Aphrodite and Steve* - Two malevolent hallucinations that appear from time to time throughout the course of the game. Aphrodite pursues the player stealthily, choosing only to be seen when she wants to be. Steve is less benign and takes the appearance of a scurrying robotic scorpion.



### **Fail State**

The player will achieve failure when their own insanity overcomes them, forcing them to blackout and presumably succumb to the dark forces that linger through the halls of the asylum.

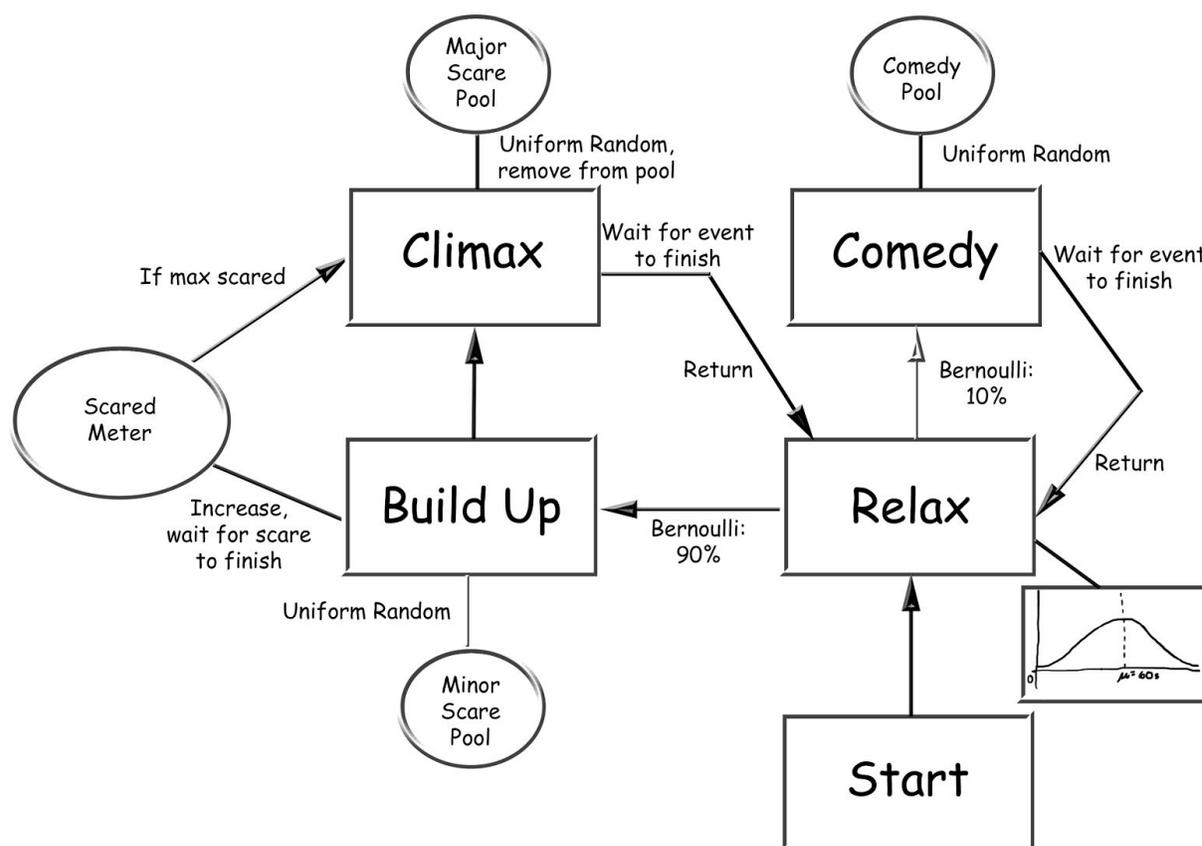
Sanity is deducted by two methods. The first is when the player submits an incorrect solution to a puzzle. This occurs whenever they prematurely press the “enter” button on the keypad without first inputting the correct code. The second deduction occurs when the player spots a “scare” which will be placed throughout a level both manually and through an AI director.

However, sanity can also be restored in two ways. This is through use of pills and med packs, the former which is randomly generated and restores only a little sanity, whereas the latter is fixed and restores a lot of sanity.

# AI DIRECTOR

## Overview

The AI Director generates game objects based on its current stage, the player's reaction to previous scare events, and some randomization. It has the following stages: build up, climax, relax, and comedy, elaborated below. The Director starts in the relax stage and chooses between performing a scare event or a comedic event. If a comedic event is chosen, one is chosen from the comedy pool and performed, returning the Director to the relax stage. Otherwise, minor scare events are performed until the player is deemed frightened enough to enter the climax. After the climax, the stage is returned to the relax stage.



## Stages

### *Relax*

The relax stage is the stage where the AI Director does not generate any game objects. The time spent in the relax stage is determined by a Box-Muller transform (resulting in a pseudo-normal distribution), which confines the distribution from the entire number line to positive numbers between zero and 120 seconds.

### *Comedy*

The comedy stage generates a single game object that is meant to relieve the player of his/her anxiety. From a pool of prefabricated comedic moments, the Director chooses one randomly. For example, a cute jumpscare such as in *Spooky's House of Jumpscares* would be classified as comedic, since it would not belong in the same universe.



### *Build Up*

The build up stage generates multiple scare events until the scared meter (as described below) has reached its maximum value. These scare events comprise mostly of sound effects directly behind, in the ear of, above, or far away from the player. A game object is chosen from this pool randomly and the scared meter is updated. After completion of the event, the scared meter is evaluated and if it has reached its maximum value, the stage ends. Otherwise, another game object is chosen from the prefabrications after a wait period determined similarly to the relax stage's duration.

*Climax*

The climax stage generates a single game object that has both sound and form. Once a major scare event (other than the recurring Aphrodite) has been completed, it is removed from the pool of prefabrications. An example of a major scare event is the aforementioned Aphrodite scare event. During this event, the player hears a dragging statue from behind him/her, following the player. Upon turning around, the player finds a statue facing him/her, the player's sanity is dropped, and the statue disappears.



## Scared Meter

The scared meter determines when the AI Director moves from the build up stage to the climax stage. When a minor scare event occurs in the build up stage, the Director determines the reaction of the player through his/her camera movement. If, in the fraction of a second after the event starts, the player jolts the camera in response, the scared meter increases an amount proportional to the camera's position change. Along with this, the scared meter is increased a small, static amount (for the cases of an unabsorbed player).

