

How can I make a level design interesting and understandable for the player so that they can find and complete all objectives?

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Introduction

This work addresses the theme of level design in a game by asking, "How can I make a level design interesting and understandable for the player so that they can find and complete all objectives?" Various interesting points about how to use interior architecture and architecture principles or create an interesting story were discovered and thus collected in this work inside the next chapter after a couple of intensive days of researching and reading.

A prototype was created and tested by defining the background story and writing a summed version of it, because for this work there are no cut scenes or anything similar to explain what was happening, in addition to visual elements to guide the player.

Research

There is a lot of material about level design on the internet or in books, and I have grouped some of the information found by selecting what could've helped me in developing a level prototype.

There are various principles from interior design or architecture that can be applied to level design, such as defining space, which is done by ordering elements through light, elevation, and so on. It is possible to work more efficiently by planning modularly, and this could also be used later in the game to provide a sense of familiarity and make it a part of the narrative.

A good level design constantly teaches something new through early obstacles or later on, is enjoyable to navigate, and the player knows where to go due to the visual language of lights, geometry, colours, and animations. It's a good idea to give the player parallel objectives and to create a sense of mystery so the player wants to investigate. Creating different difficulty variants allows you to ease the player or have specific paces.

The following quote about the distinction between a game environment artist and a level designer should clear up any confusion about who does what, as the two terms are frequently confused with one another:

"Level designers are responsible for creating gameplay experience of the playable level. The map, in which the player walks through, fights through, participates in the story and explores the world. Level designers create the layout, script events, set up level gameplay mechanics, place props and assets that game environment artist created then finalise and optimising final playable map.

*Game environment artists are responsible for aesthetics of the level by creating game assets (3d models) that level designer will use to place and detail the world with. These assets or props have to be modelled, sculpted, UVed, textured and exported from a 3d modelling application such as Maya, 3DSMax, Blender, Modo and imported into a game engine."*¹

¹ Alex Galuzin, 2016, Preproduction Blueprint - How to plan game environments and level designs, Createspace Independent Publishing Platform

Development

To put the research findings to the test, I created my own story and information for what could be a stand-alone, short game. It's a first-person, adventure and sci-fi themed game in which the player controls a lost pilot whose ship requires an emergency stop due to damage, so he picks up on the first possible landing spot via radar, which turns out to be a weather station on an arid planet. When the pilot lands, he finds himself without any other communications from the weather station, in need of assistance, he goes inside a building not far from the landing spot and begins to uncover what appears to be an abandoned station.

The idea is that the game takes place inside the station, and the player must navigate the building while attempting to go through the various areas and find clues on the way to understand what may have happened. The player becomes increasingly uneasy as they progress deeper into the station, this mood is heightened by the change in the structure of the rooms where at first, we have a large room, almost inviting once the light is turned on, but it narrows and becomes more chaotic as the game progresses.



Example of flowchart of what the player has to do in the first room

Room number one

A cutscene transports the player to the inside of the weather station; it is dark, so the player must first find a way to turn on the lights. Once the lights are turned on, the player can explore the room, however, the doors are either locked or blocked, necessitating the finding of a key. To proceed through the door, the two clues must also be found if the player did not see them, otherwise, an internal thought will be triggered stating that he should probably check everything in case there is any information about the people's whereabouts. The placement of furniture and other elements in all rooms, such as lighting and structure, should guide and hint the player as to where they should go. The first clue is an old computer alert message. The second clue is a note with a checklist of security steps to take in the event of an emergency, with three out of six checked off.

Room number two

There are two clues: the lights flicker at the entrances to the bathroom and dormitory, signaling to the player that he needs to go there. The room is no longer large, but it is still clean and tidy. Once the two clues are discovered coming from the next corridor/room, a sound of breaking glass is heard.

The third clue is the presence of strange dark stains on the bathroom floor. The fourth hint is a report about a faulty ship.

Room number three

The third room has two floors and is the only area that the player will visit twice. In the beginning, the player must locate the lights' generator again in order to turn them on, after which they will find themselves in a hangar. It's disorganised and crammed with materials and boxes, and the lighting is dim and red coloured. There is a door to an elevator that is locked, a larger hager entrance for vehicles that is also closed, and stairs leading up to the second, open floor. On the second floor, there are two entrances to the observatory tower: one is the normal door, which is blocked, and the other is an emergency entrance via a small tunnel accessible by climbing a ladder. In the middle of this tunnel, a loud breaking sound is heard, which appears to be coming from the elevator area.

Broken glass on the ground is the fifth clue found in the hanger.

Room number four

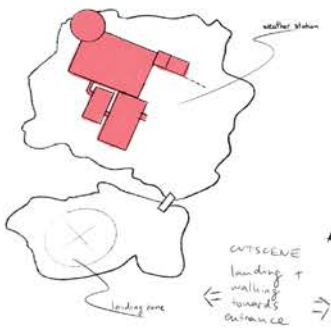
The only light source inside the observatory is the map globe in the center, which contains the key to the elevator as well as a final clue.

The sixth clue is an alarm on the console warning of low oxygen levels.

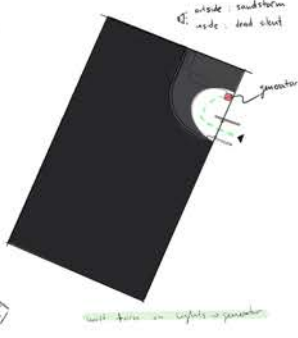
Thanks to an analog play testing done by narrating the cutscenes and describing the rooms and what the player could see the atmosphere resulted as eerie; not knowing what was going on thanks to this mood and the seemingly strange clues combined with the sounds triggers and lights effects helped with that.

What happens in terms of sound and light, as well as the clues discovered, all mirror what is happening to the pilot in his damaged ship in space. The adventure takes place in this weather station because it is the last place he tried to contact and go through before the ship completely broke down, and due to a lack of oxygen, the pilot's brain developed this hallucination in which he tries to find help until the moment after the elevator and dies, never actually leaving his ship.

General map



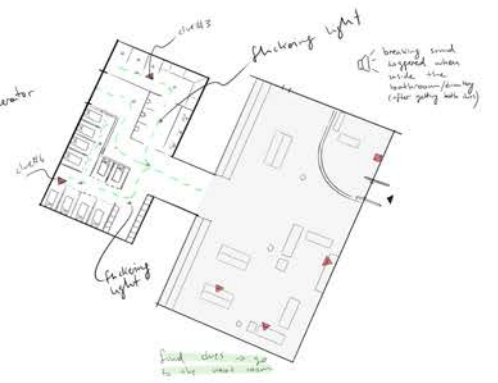
1st room, part 1



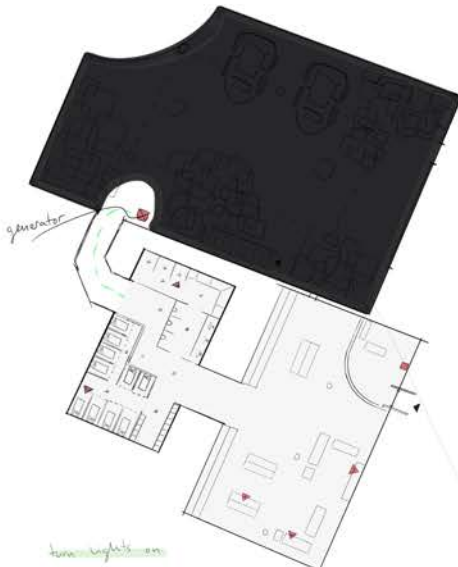
1st room, part 2



2nd room



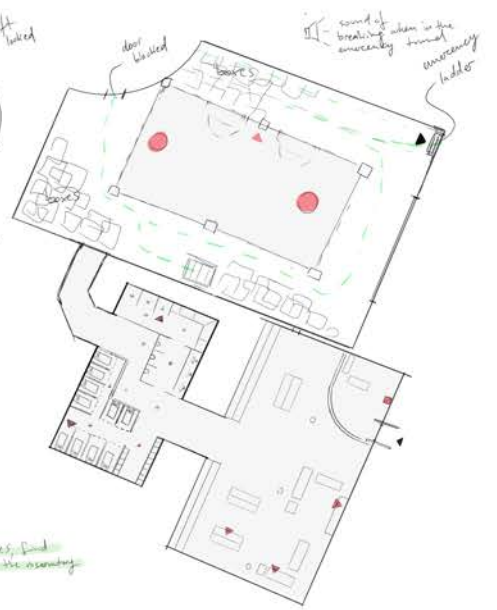
3rd room, part 1



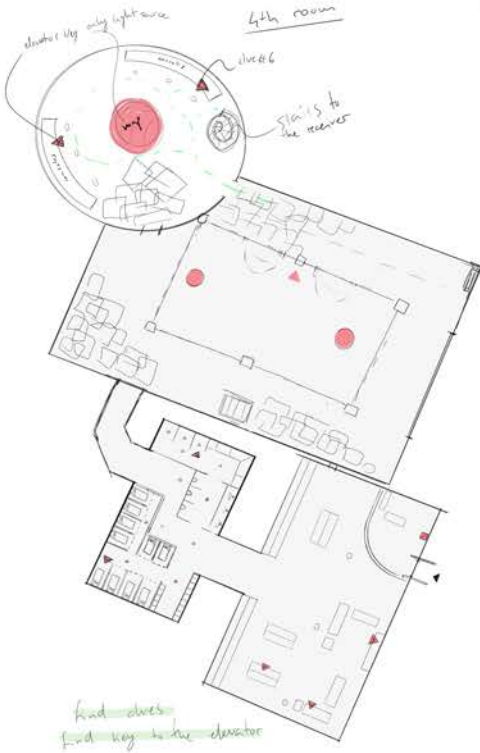
3rd room, part 2



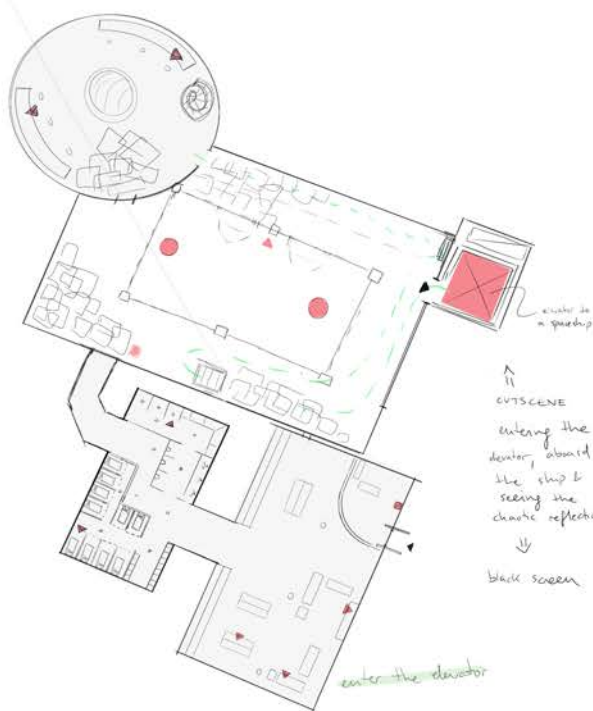
3rd room, part 3



4th room



3rd room, part 4



CLUES

- clue #1: text messages - computer
- clue #2: evidence of security steps 3 out of 6 done
- clue #3: orange stains (blood)
- clue #4: a spent shell - a dropped shell
- clue #5: broken glass
- clue #6: text messages about low oxygen levels

OUTSCENE
entering the elevator, around the ship & seeing the chaotic reflection
↓
black screen

Floors of the level, five rooms in total

Sources

Level Design Workshop: Architecture in Level Design

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Interior Design and Environment Art: Mastering Space, Mastering Place

<https://www.youtube.com/watch?v=WWXsmnlmADc> (25.11.2021)

Ten Principles for Good Level Design

https://www.youtube.com/watch?v=iNEe3KhMvXM&ab_channel=GDC (25.11.2021)

How Level Design Can Tell A Story

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