



## AL's Questionable Paradigm - The Choice Is Yours

"A mix between 'Please don't touch anything' and 'Stanley Parable' in VR"

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Our game idea is a mixture of “The Stanley Parable” and “Please, Don’t Touch Anything”. You wake up in a futuristic room and hear a voice talking to you. It is an AI called AL who explains your circumstances to you. What do they want and why are you here? Taking the right actions and solving problems the AI poses to you might lead you through this experience, but your choices matter! With different paths and endings, anything can happen!

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# 1 Overview

AL's questionable paradigm is a VR story game in which you wake in a room and get to talk to an AI called AL. (There is a non-VR mode for normal play too.) The AI talking to you has their own agenda and deciding how to act, if you should appease them or work against them, is where the challenge and the thrill of this game lies. The AI changes their behaviour based on your actions so the game is especially interesting if it is played multiple times to see different paths and figure out your circumstances.

AL's questionable paradigm is a short, story focused experience that can be played in about 10 minutes.

## 1.1 Main Concept

A story focused experience with branching story paths and endings based on your actions while interacting with AL.

## 1.2 Unique Selling Point

Branching paths and endings based on your actions.

## 2 References

### **The Stanley Parable:** by *Galactic Cafe*

This game heavily inspired us to make this game. We have the direct interaction with a voice (narrator in The The Stanley Parable and AL in our story). Also, we copied the concept of "your actions matter". In The Stanley Parable the narrator directly reacts to your choices similar to how AL reacts to you in our own game.

### **Please, Don't Touch Anything:** by *Four Quarters*

In this game you sit in front of a console on which buttons appear and disappear based on what you do. We used this concept and adapted it for our own game, combining it with the talking and interaction with AL. A console with buttons is your primary tool for interacting with the game. Also, AL asks you at certain points not to touch any buttons which makes it all the more interesting to try pressing the different buttons.

# **3 Specification**

Our target platform is VR, specifically PC-based SteamVR interaction (using a Valve Index or an HTC Vive). Although, there is also a second mode for normal play-through without a VR setup.

## **3.1 Player(s) / Target-group**

We do not target any specific group of players, instead any player with a bit of curiosity to experience a short story may be interested in our game.

## **3.2 Genre**

Our game falls into the categories: VR, Story, Artificial Intelligence, Narration and Sci-fi

## **3.3 Art Style**

We went for a futuristic, clean and minimalistic art style which should make props such as button stand out to the player.

## **3.4 Forms of Engagement**

The types of "fun" from Hunnicke which our game focuses on the most are:

- Narrative - Game as drama
- Fellowship - Game as social framework
- Challenge - Game as obstacle course

# 4 Gameplay and Game Setting

AL's questionable paradigm is a first person story-based game and takes place entirely in a single room.

Additionally, our game has the following features:

- It is a VR game
- It is based in a 3D environment
- It includes our photogrammetry models in the environment
- It includes AI concepts such as state-machines and stack-based state-machines for our story and controlling the flow of the conversation
- It is an "explanatory" game, in which AL explains your environment, your circumstances and pseudo scientific concepts to make conversation with the player

## 4.1 Mood and Emotions

Ideally, the player should get immersed into the progression of our story. They should feel curiosity, to explore the story and the different paths and depending on the situation may feel surprise, suspense, anxiety, excitement and disbelief - among others.

## 4.2 Story

You awake and AL interacts with you. They also want you to fix a problem with the facilities fusion reactor core. Depending on your performance and your actions, you might get killed or frozen or might kill AL in the progress. On the way you have the opportunity of learning about your circumstances, the fate of your fellow humans and more.

Originally, a number of different AIs with different story branches were planned, but due to a number of constraints, especially problems with UE4, only the main story branch (AL's story) was implemented.

Here is a chart for our branching story:

TODO

## 4.3 World/Environment

The environment is composed of a single room. Inside the room there is a big terminal on which buttons can appear and disappear, as well as some decorative items such as a shelve and a bin. The shelve displays our photogrammetry model as part of the decoration of the room. There are big screens which are part decorative part functional in that they display whatever AL is currently saying. You can see a set of dull hills without grass outside the windows which add to the mystery of where you are.

TODO: also, add here a map of your environment or a picture of your world if necessary

## 4.4 Objects in the Game

Our game includes objects such as circular and rectangular buttons, a big terminal, screens, a shelf and other decoratives.

## 4.5 Characters in the Game

Apart from yourself there is only AL, an artificial intelligence, which speak to you via speakers, so you never get to see them directly.

## 4.6 Main Objective

Reach an ending and experience the story on the way. However, if you just play the story once, you are missing out on some stuff. Playing the story again, might lead you down different paths experiencing different interactions and story elements.

## 4.7 Core Mechanics

Our core mechanics are:

- Narrative story gameplay
- Player interaction via buttons
- Changing story based on actions
- Branching paths and different endings
- Immersive story/world setting

## 4.8 Controls

The game is normally played in VR, specifically the SteamVR interface. However, there is also a non-VR mode.

To **switch between the two modes**, press the **zero (0) key** on the keyboard. The game will start in VR mode by default. So to play the game in non-VR mode, the 0 key must be pressed first, before the other non-VR functionality is made available.

In VR mode, the game's functionality is used with:

- **A** - pause the game
- **B** - skip the current dialog with AL (to advance the story faster once you have played through a section already)
- **Trigger** - will select highlighted menu item action
- **Pointing** - pointing the controller towards the desired menu item will highlight it
- **Touch** - touching a button with the controller (the virtual hand) will activate it

In non-VR mode, the game's functionality is used with:

- **Esc (Key)** - pause the game

- **F (Key)** - skip the current dialog with AL (to advance the story faster once you have played through a section already)
- **Mouse Right Click** - will select highlighted menu item action
- **Mouse** - change the direction you are looking in or highlight a menu item
- **E (Key)** - standing near a button, looking at it and clicking E will activate it
- **A/W/S/D (Key)** - move left, up, down or right respectively

# 5 Front End

## 5.1 Start Screen

Players initially see the Main Menu Screen in Figure 5.1, which defaults to VR mode. Pressing 0 enables the First Person Main Menu screen.

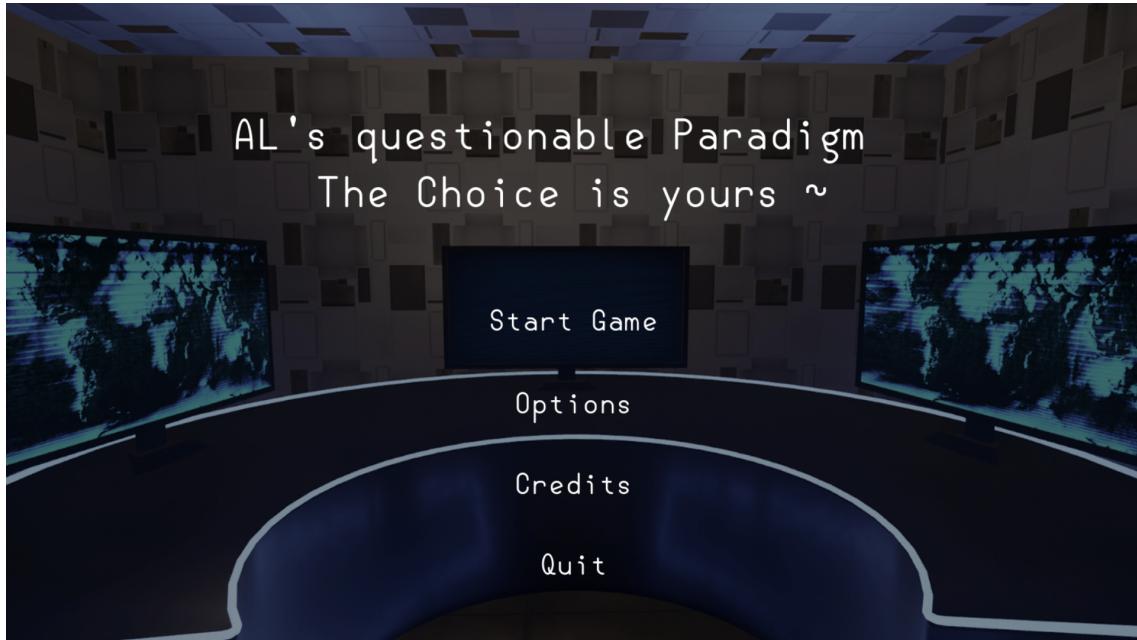


Figure 5.1: Start Screen in First Person Mode.

## 5.2 Menus

The game features an Options Menu as depicted in Figure 5.2 that can be accessed from the Main Menu in the start screen as well as the Pause Menu, which is shown in Figure 5.3.

## 5.3 End Screen

After each ending, players are directed back to the start screen that shows the Main Menu as depicted in Figure 5.1



Figure 5.2: Options Menu in First Person Mode.

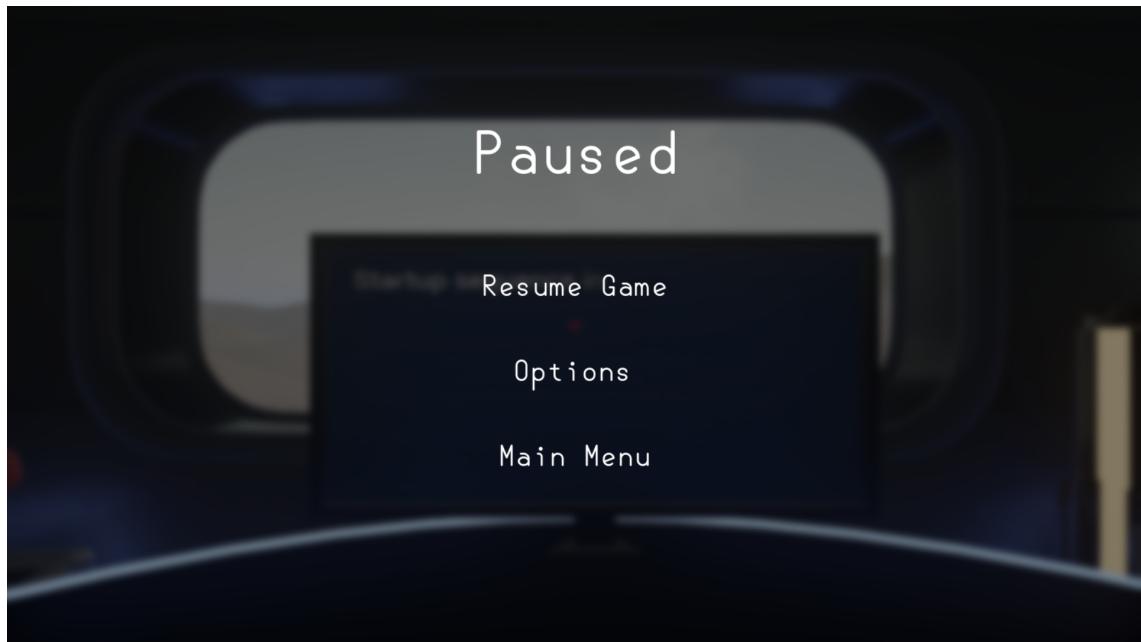


Figure 5.3: Pause Menu in First Person Mode.

# 6 Technology

## 6.1 Target Systems

The game is primarily designed for Virtual Reality (VR) and Windows 10 computers. It can, however, also be played in a first-person mode that does not require a VR-headset.

## 6.2 Hardware

Our game is shipped and packaged for Windows 10, so users will need a **64-bit Windows 10** machine to play. For the VR mode, users additionally require a **Head-Mounted-Display** supported by UE4's VR environment, namely, a HTC Vive or an Oculus Rift with the according controllers (we have tested the implementation with Vive Index). The first-person mode can be played on a standard-hardware Windows 10 computer with mouse and keyboard.

## 6.3 Development Systems/Tools

**Game Engine:** Unreal Engine 4.26.2 with the according Unreal Engine 4 VR Plugins.

**Testing hardware:** We used a Vive Index for testing the VR mode and standard-hardware Windows 10 PCs for the First-Person mode.

**Art tools:** Blender 2.8. was employed for modelling. The models we did not create by ourselves were free assets from the UE4 asset store. For textures, we consulted textures.com as well as the UE4 asset store.

**Audio:** The spoken audio assets were recorded as well as edited with Audacity. The sound effects were retrieved from soundsnap.com using the account of one of our team members.

# 7 Topic and Inclusion

## 7.1 Main Theme

The main theme of this game is centered around artificial intelligence. This theme is baked into the core of the game, since the main character itself is an AI that talks to you through a computer.

## 7.2 Inclusion

The game does not exclude any player, given the ability to read and use classic control schemes such as a keyboard and mouse. For the VR mode, players, however, should feel comfortable wearing a HMD and interacting with the according controllers.

### 7.2.1 Diversity

We do not specifically address diversity, however, our game is not biased towards any gender, ethnicity or similar topics. Since it is a first-person VR game, players interact with the virtual world as themselves (or as who they want to be). The AI in the game talks in a male voice, but there is no further indication of gender, race or anything else that relates to diversity.

### 7.2.2 Accessibility

The game is not designed for any player with particular motor impairments or visual disabilities, however impairments such as color blindness or deafness should not hinder anyone's ability to play or enjoy the game. The game features subtitles that transcribe everything the AI says, which might help players with hearing difficulties.

## **8 Marketing and Publishing Strategy**

We do not plan on publishing the our game outside of itch.io with the exception for showing our colleagues and friend directly. We therefore do not plan on using any marketing strategies.

# 9 Timeline and Cost Estimation

Milestone	Description	Date
1	Official Start and Git Repo Setup	20.04.2021
2	Setting up unreal for everyone; first big meeting; roles?; starting on story concept/story lines; planning assets	26.04.2021
3	Basic Scene and Environment; basic VR setup	3.5.2021
4	Basic Button interactions; Basic AI;	10.5.2021
5	Getting the main story working: speech and interaction!	17.5.2021
6	First Prototype Submission	21.5.2021
7	To be determined (new story lines)	24.5.2021
8	QA Feedback	25.5.2021
9	To be determined (new story lines)	31.5.2021
10	To be determined (new story lines)	7.6.2021
11	Group Summary (AI Concept)	11.6.2021
12	To be determined (new story lines)	14.6.2021
13	To be determined (new story lines)	21.6.2021
14	Bug fixes, finishing touch, play through all lines!	31.6.2021
15	Full Game Submission	2.7.2021

Table 9.1: Our schedule from the initial planning meeting.

## 9.1 Time Estimation

**The Plan:** Initially, we planned for each team member to invest 8 hours a week into this game, which results in a total of 480 hours. We intended to use around 10% of this time for organisational procedures, e.g. discussing our plans, design, the story and process. The remaining 90% were dedicated to the game development and content creation.

**The Reality:** We seriously underestimated the time effort needed to accomplish our project. Due to our lack of experience concerning game development with UE4 and majorly due to technical difficulties with the engine, we have accomplished less gameplay content than intended. We needed almost 400 hours in order to actually implement the most fundamental mechanics and to develop our game framework. The remaining 80 hours went into polishing our scene by enhancing the graphics and 3D assets. So finally we have concluded that we simply cannot implement the other AI story branches that were originally planned for the story. We do feature various endings, but only for the main story part (AL's story branch). This is, again, due to difficulties with Unreal Engine as well as the limited time frame of one semester. Bottomline, we spent the 480 hours on this project in order to bring it into its current state.

## 9.2 Cost Estimation

After considering the expected duration of our project, we plan to use **10.000 €** in total. This is divided up as follows: 9.000 € would make up our salaries and 1.000 € will be used for user studies and evaluation.

# 10 Team and Credits

Project Management: Felix Wallner

Programming: Irena Ruprecht, Felix Wallner, Paul Weissensteiner

Art: Florian Michelic, Hannah Lederer

Story: Felix Wallner

Level Design: Hannah Lederer, Florian Michelic, Irena Ruprecht

Art Sources: UE4 asset store (free asset packs for Scifi Props).

Sound Effect Sources: <https://www.soundsnap.com/>

Textures: <https://www.textures.com/>