

# Game Design Document

## VIR 1 Game Development

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## **Introduction**

The purpose of this Game Design Document is to be used as a guide on how the finished version of the serious game should look like and also to show the design cycle I went through while developing the prototype of it. "Up!" is the name of the serious game prototype and It's goal is to help people with acrophobia (extreme/irrational fear of heights) overcome their fear of height through exposure therapy.

## **Research**

Acrophobia is one of the most common phobias that affect approximately 3% to 6% of the human population. Acrophobia is considered a mental health condition and a type of anxiety disorder in which the individual experiences an intense fear of heights (Raypole, 2019). People with acrophobia experience unreasonable fear when faced with heights, including everyday tasks such as climbing stairs, standing near a balcony, taking elevators or parking their car in a multiple-floor parking garage. There are several ways to treat this phobia and none of them include medications. Acrophobia can be treated through exposure therapy, Virtual reality exposure therapy (VRET) and Cognitive behavioral therapy (CBT)(Fritscher, 2022). According to the research done on all of those methods, exposure therapy and especially virtual reality exposure therapy is the most successful in treating the acrophobia. Through exposure therapy the client learns to respond better to and cope with the stress and anxiety they feel when exposed to things that cause them fear.( Cleveland Clinic, 2023)

After doing the research and taking in consideration all the options I had I decided to develop a game that provides a virtual experience of an exposure therapy, since it's the most effective method of treating acrophobia. This prototype can be used by therapists to treat their clients, and will be developed for VR in the future, for a more realistic and immersive experience.

## **Target audience**

People between the age of 12 and 25, conditioned with Acrophobia.

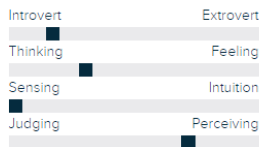
# Persona

Tim Smit



Age: **20**  
 Work: **Student**  
 Family: **None**  
 Location: **Netherlands**  
 Character: **Courageous**

## Personality



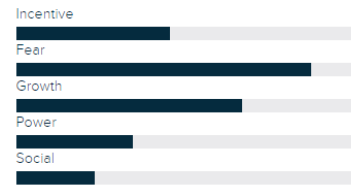
## Goals

- He wants to overcome his fear of heights
- He wants to be self dependant
- He wants to make mountain climbing his hobby in the future

## Frustrations

- Dislikes being exposed to heights
- Dislikes the feeling and the idea of falling of a height
- Dislikes being a burden to other people when asking them for help to climb the stairs or etc...
- Dislikes being judged by other people when revealing his fear of heights

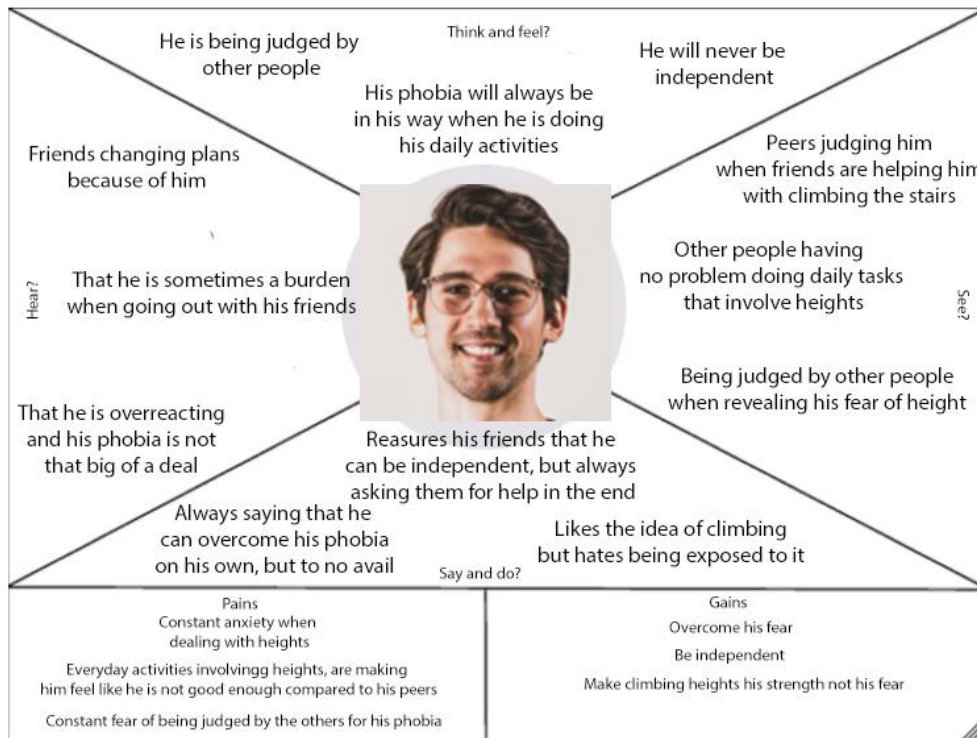
## Motivation



## About

Tim is a hardworking bachelor student who likes quiet places where he can study, read or play video games without being disturbed. He spends alot of time on campus, because it helps him to be more productive there. He has a major problem with climbing up the stairs in order to go to the second floor of some of the buildings that dont have an elevator. He has a fear of heights so called Acrophobia and wants to find a way to overcome it, because it has a huge negative impact on his life, since it prevents him to do simple daily activities at home and outside, such as climbing stairs

# Empathy map



## Learning goals & Design requirements

Learning goals:

1. Expose the player to multiple levels, each with a suitable difficulty and unique mechanics and make the player **remember** the ways he can overcome those levels. (by using the suitable mechanics for the level - jumping, crouching, sliding, climbing etc.)
2. Let the player experiment and **understand** how those mechanics work in different situations, through repetition.
3. Make the player **apply** the mechanics they've learned in each level.
4. Let the player **analyze & evaluate** which is the most suitable mechanic to use given their situation in the level.

Design requirements:

1. Have multiple unique levels, each with adjustable difficulty.
2. Present the player with different tasks to beat the level such as jumping from platform to platform, crossing a bridge or climbing a tree, etc.
3. Make it clear to the player how the game is played and what are the constraints. Add a tutorial that clearly showcases all the available mechanics, systems and controls the player can use to beat the level.
4. Put the player in difficult and unique in-game situations that are somehow similar to real life situations and let the player choose the most suitable way to get out of that situation using the right mechanics.

## Concept

The game takes place in a world full of magic. The main character is sent back in time to prevent a kill that leads to the fall of the Wizard's Kingdom. They have to go through different time lines using the portal gates. Each time they go through a gate they will be teleported in a random time line with unique challenges to conquer. In the end of each level the player will be presented with 3 different types of gates, each leading to other time lines and dimensions. It is up to the player to choose the right path that would eventually lead to the prevention of the kill.

## UX

The player will begin his journey in the beginning of the level, where they have to overcome the obstacles like crossing a bridge, climbing ladders and jumping from platform to platform without falling. The gameplay itself is linear. If the player falls the game does not end, they are simply respawned in the beginning of the level and through repetition they learn from their mistakes and correct them until they finish the level. On some of the platforms there are going to be checkpoint spots. When the player interacts with them, they set a checkpoint and the next time they fall they will return to the last checkpoint they've interacted with. This is implemented to reduce the frustration factor, the stress of making a single mistake and starting all the way from the beginning and to help the player have an easy

time throughout his journey of overcoming his fear of heights while exploring the level. The player's view will be from first person, making it more realistic and immersive. There will be no timer as we are not looking for a competition or rushing the game, the goal of the game is to simply enjoy the world until you finish the level or until you get used to heights. The main motivation of the player is to overcome his fear while going through the obstacles and the goal of preventing the kill. Adding the three gates at the end of each level makes the experience non repetitive as each gate teleports the player to randomly generated level.

## **Mechanics**

\*Dynamic movement – crouching, walking, sprinting, wallhopping, sliding, jumping.

\*Checkpoint marks – An object you interact with to set a checkpoint. The next time you fall of a platform you will get returned to the last checkpoint you interacted with.

\*Ladders, ropes etc..- while interacting with these objects you can move upwards and downwards.

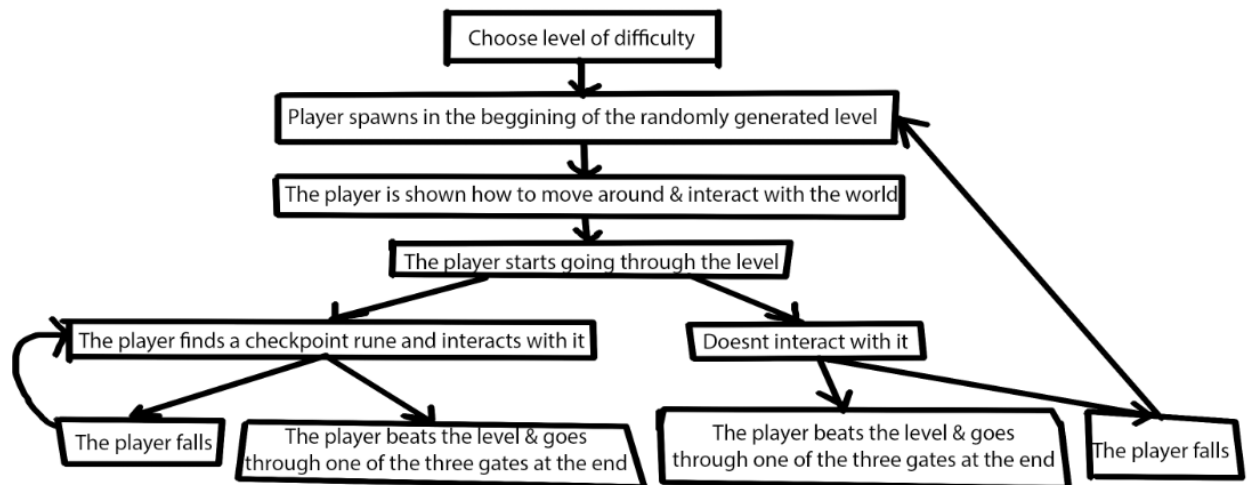
\*Fake platforms – Platforms that have no collision. Their only purpose is to bait the player into falling.

\*Temporary platforms – Platforms that dissappear/appear after a period of time. This forces the player to depend on his fast decision making.

\*Dynamic wind – A wind that changes its direction of flow. Depending on the direction in which the wind blows the movement of the player is adjusted. This mechanics only affects the movement of the player if he is in the air (jumping).

\*Gates/Portals – Seen at the end of each level. Each gate leads the player to a different randomly generated level. It is up to the player to choose which gate to enter.

## Core Game Loop



## Visual & Audio Style

The visual style of the game will be very stylized (like shown below). The world will consist of mountains, forests, rivers and everything that can be seen in nature.

Examples:



The audio will consist of mostly relaxing, ambient music, that will lower the anxiety levels of the player and further improve the immersion.

## Platforms

For now the game will only be available on PC, with future plans to be developed in VR as it's more immersive.

## Creation & Purpose of the Prototype

### Used Tools

I used Unity to develop my prototype. I wanted to further polish my skills using this game engine and making a short prototype is the best way to do that. I also wanted to play with the lighting of the scene and the post processing effects, but after I switched the project from 3D to HDRP It completely crashed and it's not irreversible and full of errors I cannot fix.

### Purpose of the Prototype

My main goal for the prototype was to create a beautiful world where the player can have relaxing and easy time learning how to overcome their fear of height. I decided to only include running and jumping as mechanics, but I also wanted to implement all the other mechanics I mention in the mechanics list. Unfortunately, as of now I still don't possess the programming skills to do that and on top of that I completely ruined my project by switching to HDRP as mentioned above.

## Testing

For the testing I used the CMD method pack and specifically interview, focus group and the participant observation method. My main goal for the testing is to get feedback on the gameplay, concept and art direction of my prototype.

## Questions used in the Focus Group interview

1. What do you think about the art of the game?
2. Is it clear how to play the game?
3. What do you think about the gameplay?
4. Do you think the obstacles in the game are similar to one that can be seen in real life?
5. Do you think playing this game is a good way to practice overcoming a fear of heights?
6. What is the first thing you'd change/add in the game if you had the power to do so?
7. What is your favorite part of the game?
8. What do you dislike most about the game?

## Notes during testing

Participant 1:

1. "The art is cool, It reminds me of Genshin Impact for some reason."
2. The participant was confused on what to do in the beginning of the game.
3. "The jumping and running is a bit grumpy."
4. "I mean the broken bridge and the stairs in the beginning of the level can definitely be seen in real



life”

5. “ If the game is more dynamic, yes.”
6. “I’d make it a multiplayer and you’d have the power to push the other player off the platforms”
7. “The art”
- 8.” I don’t like that I was clueless what to do in the beginning”

Participant 2:

1. Finds the art suitable for the game and relaxing/calming.
2. The participant started roaming around and quickly found the right way, but was still confused on the direction he was meant to go and how the game is played.
3. “I think exploring the level from the first time is fun, but if I’d have to go through this level again I’d get bored really fast”
4. “ The bridge in the beginning and the part where you cross the log yes. The other platforms and the ruins at the end I’m not so sure about. I mean yeah the ruins can be seen in real life but I don’t see it as a realistic situation that you would start jumping on them.”
- 5.”I personally cannot tell because I have no fear of heights and playing the game I didn’t really feel the platforms were that high”
6. Thinks it’s good enough like that and didn’t want to add anything.
7. Agrees with Participant 1.
8. Agrees with Participant 1 again.

Participant 3:

1. “I like it, I think it looks like triple A game(in a joking way)”.
2. The participant had a similar reaction to participant 2.
3. “ It’s ok, I don’t like the fact that you can only jump and run, and you also mentioned that those (Ruins) are checkpoints but I cannot interact with them”
4. “ Absolutely I think you’ve added real life situations and mixed them with the element of fantasy, which makes the level fun and immersive, but yeah you need to add more stuff into the game to make it even more enjoyable than it is. But yeah, for a prototype I like it”
- 5.”It’s good like that but making it into a VR in the future is a must”
6. “Definitely more ways to interact with the world and a tutorial on how to play. Also more guidelines”
- 7.”Yeah definitely the visuals and the part at the end. With the fog and ruins, it’s awesome I like it”
- 8.”Hmm. Probably the same as “Participant 1”.”

## Reflection on the feedback

I took in consideration all the feedback I was given, but as I was working on the prototype I converted it in HDRP so I can do some post processing but that ruined the whole project. Now it’s full of thousand errors and its irreversible. I wish I could’ve at least had the chance to implement the checkpoint system.

## Appendices

### Bibliography

Raypole, C. (2019, March 27). *Acrophobia, or fear of heights: Symptoms, causes, and treatment*. Healthline. Retrieved January 20, 2023, from <https://www.healthline.com/health/acrophobia-or-fear-of-heights-symptoms-causes-and-treatment>

Fritscher, L. (2022, September 28). *What to do if you have acrophobia*. Verywell Mind. Retrieved January 20, 2023, from <https://www.verywellmind.com/acrophobia-fear-of-heights-2671677>

*Acrophobia (fear of heights): Symptoms & treatment*. Cleveland Clinic. (n.d.). Retrieved January 20, 2023, from <https://my.clevelandclinic.org/health/diseases/21956-acrophobia-fear-of-heights>

### Used assets for the game

Free Stylized Skybox - <https://assetstore.unity.com/packages/2d/textures-materials/sky/free-stylized-skybox-212257>

Dreamscape Nature: Mountains – Stylized Open World Environment - <https://assetstore.unity.com/packages/3d/environments/fantasy/dreamscape-nature-mountains-stylized-open-world-environment-201674>

Standard Assets 2018.4 - <https://assetstore.unity.com/packages/essentials/asset-packs/standard-assets-2018-4-check-out-starter-assets-first-person-thi-32351>