
CognitV Solutions

**VR Game
Software Requirements Specification**

Version 3.1

CognitV Solutions VR Game	Version: 3.1
Software Requirements Specification	Date: 04/14/2024

Revision History

Date	Version	Description	Author
11/10/2023	1.0	Filled in some of the spots in the document	Eric Guyette
01/21/2024	2.0	Added new info to documentary and removed outdated info	David Ajanaku
04/08/2024	2.1	Updating some info	Eric Guyette & David Ajanaku
4/12/2024	3.0	Finishing up the document	Eric Guyette & David Ajanaku
4/14/2024	3.1	Finishing touches, updating table of contents to reflect changes	David Ajanaku

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Software Requirements Specification

1. Introduction

1.1 The Purpose of CognitV

49 million people in the United States have suffered from anxiety disorder in the past year, and 80 million have suffered in their lifetime. Many traditional methods of treatment, while often helpful, are sometimes inaccessible, time-consuming, expensive, intimidating, or overall impractical. There is also a severe shortage of mental healthcare providers in the US, making it even more difficult to access care that an individual might need. What CognitV strives to create as a solution is a Virtual Reality Exposure Therapy experience where patients can face their anxiety in a safe, controlled environment through a VR headset. This treatment method would be faster and more accessible, is preferred by younger patients, and fills the treatment avoidance gap, all while providing a realistic, immersive experience that can effectively aid in treating mental health disorders, either with or without an accompanying clinician.

1.2 The Purpose of this Document

The purpose of this document is to describe the function and nonfunctional requirements for software release 1.0 of the CognitV Therapy Game. This document shows how the system will work and nothing more. This is intended to be used by project team members whose job is to implement and verify the correct functioning of the system. Everything here are committed for release 1.0, unless stated otherwise

1.3 Product Scope

The CognitV Therapy game will allow users to get treatment for their fears or anxieties by being exposed to non-playable characters (NPCs) and other environmental stressors of said fears or anxieties in a gradual way. By being exposed to their fears or anxieties, they hopefully will slowly overcome them and not be fearful or anxious to them anymore.

1.4 Definitions, Acronyms, and Abbreviations

Refer to the [Glossary](#)

1.5 References

1. [CognitV Therapy Game Glossary](#)
2. [CognitV Therapy Game Vision and Scope Document](#)
3. [CognitV Therapy Game Use Case Document](#)

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2. Overall Description

2.1 Product Perspective

The Video Game is a new form of therapy for people that don't have access to it by recording the player's progression and giving them advice after they finish a level. The video game works hand in hand with the web app that will also be created & allows the user to view their performance & previous performances in it. The context diagram below shows the whole system working together (PUT CONTEXT DIAGRAM IN).

The CognitV Therapy game will be a new form of therapy for people that don't have access to a therapist. The context diagram in Figure ... shows the external entities and the system itself. The game is denoted as the circle in the middle.

2.2 User Classes and Characteristics

User class	Description
Player	A player is the person who will be using the entire video game and will be recorded to measure their own progress as they continue to play the game. They are estimated to play 2-3 times a week.

2.3 Operating Environment

OE-1: The VR game shall operate correctly on the following VR systems: Steam Index, HTC Vive, and the Meta Quests

2.4 Design and Implementation Constraints

CO-1: Only some developers have easy access to a VR headset, which limits team's total testing capabilities.

CO-2: Some developers have mentioned having trouble working with the MacOS version of Unity.

CO-3: Game shall utilize ConvAI to generate NPC responses and other in-game text that can't be predetermined.

CO-4: VR Simulator doesn't function properly for some of the members, which will severely restrict those members' bug fixing capabilities if they are unable to test the game to its fullest extent.

2.5 Assumptions and Dependencies

AS-1: The VR Game will work as long as ConvAI is online.

AS-2: The VR Game will be able to run on Windows, MacOS, and Linux.

AS-3: The VR Game does not support functionality to be played without a VR headset.

DE-1: The generation of NPC responses and anything else that is not predetermined depends on the quality of ConvAI's output.

DE-2: The design of the NPC avatars, and some of the UI is dependent on assets purchased from the Unity Asset Store.

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3. External Interface Requirements

3.1 User Interfaces

UI-1: The user will be given prompts to learn how to interact with the game world.

UI-2: The SAD info is traversed via pages rather than text scrolling.

3.2 Software Interfaces

SI-1: Windows 10 & 11

SI-1.1: The VR Game shall be compatible with the latest versions of Windows 10 and Windows 11

SLI-2: ConvAI

SLI-2.1: ConvAI will communicate with the game through api calls to listen to the player talking.

SLI-2.2: ConvAI will return back audio responding to the player's input.

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4. Quality Attributes

4.1 Usability

USE-1: The VR Game shall allow the user to easily access SAD info via the main menu

4.2 Performance

PER-1: The game shall run at a stable frame rate

PER-2: ConvAI should not take any longer than 30 seconds to generate a response for the NPC to reply back to the player with.

4.3 Safety

SAF-1: The user should be safe from any verbal harm the AI may cause as it has been trained to try and not be hurtful.

4.4 Availability

AVL-1: The video game shall be available 100% of the time, excluding updates to the game or updates to ConvAI.