



# FINAL PRESENTATION

Solder Boys – B3.4

28/11/2023





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## Problem Statement

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*Our client wants to create an immersive virtual experience for university students and alike that helps them empathize and understand the difficulties of having a disability.*

# Client Needs

#	NEED	Importance Low = 1 High = 5
1	The experience is brief enough to retain information.	3
2	The experience conveys the message of empathy to the user (The experience sparks empathy in the user).	5
3	The experience runs smoothly.	3
4	The experience represents real people's struggles accurately.	4
5	The experience is easy to use by anyone.	3
6	The experience is fully developed / storyboarded.	5
7	The experience is interactive.	2
8	The experience should appeal to students.	2

#	Metric	Units	InMind	Language Barriers	Schizophrenic experience
1	Simulation Length	s	3:27	1:40	2:39
2	Amount of people that respond with empathy	%	75%	65%	85%
3	The frames per second performance optimization	FPS (Frames per second)	>30	30	<30
4	Accuracy to real experiences	Scale (1-5)	3	3	5
5	Amount of people able to use the experience with little to no instruction	%	80%	90%	80%
6	Coherence and quality of story	Scale (1-5)	5	2	3
7	Number of interactive events	#	~4	0 (Just next button)	~5
8	Theme appropriate to students	Scale (1-5)	3	5	4

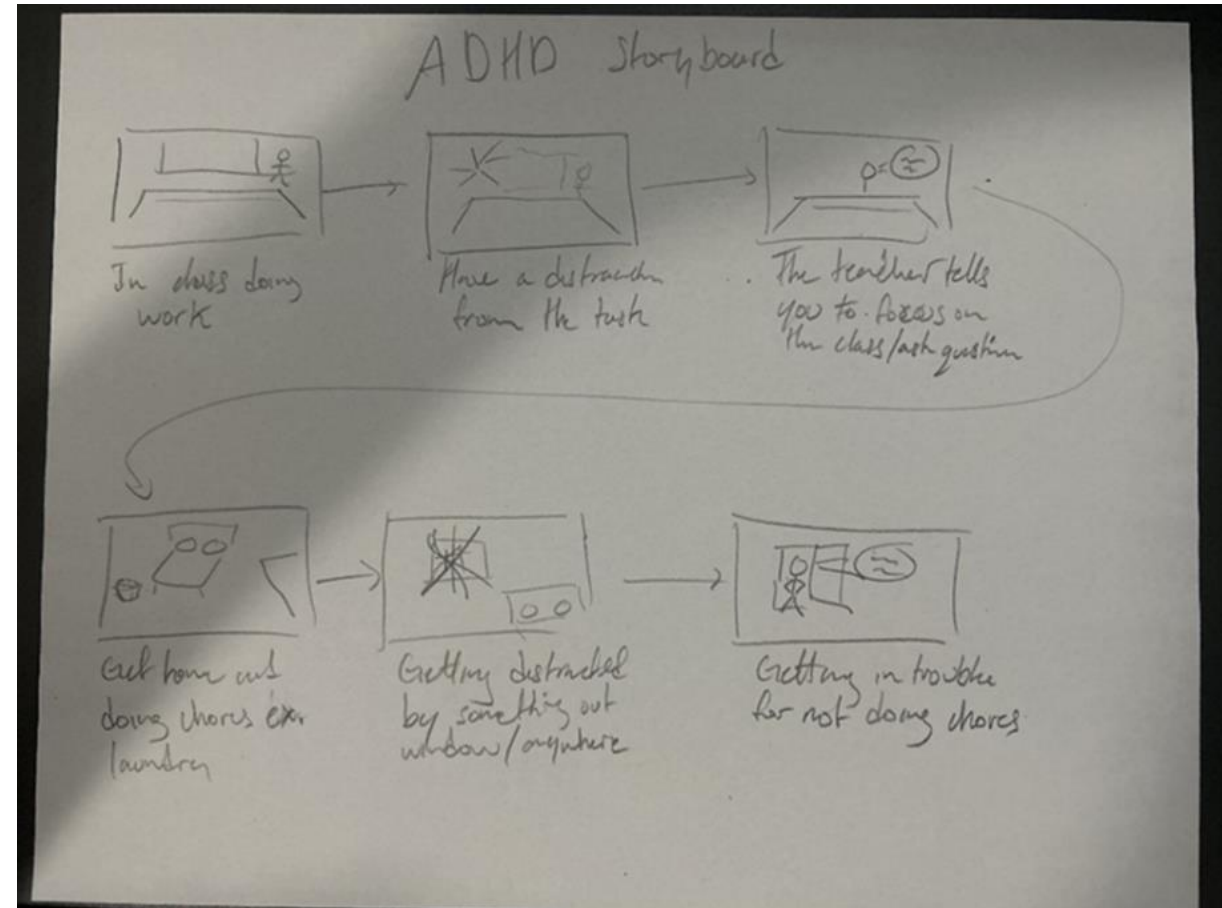
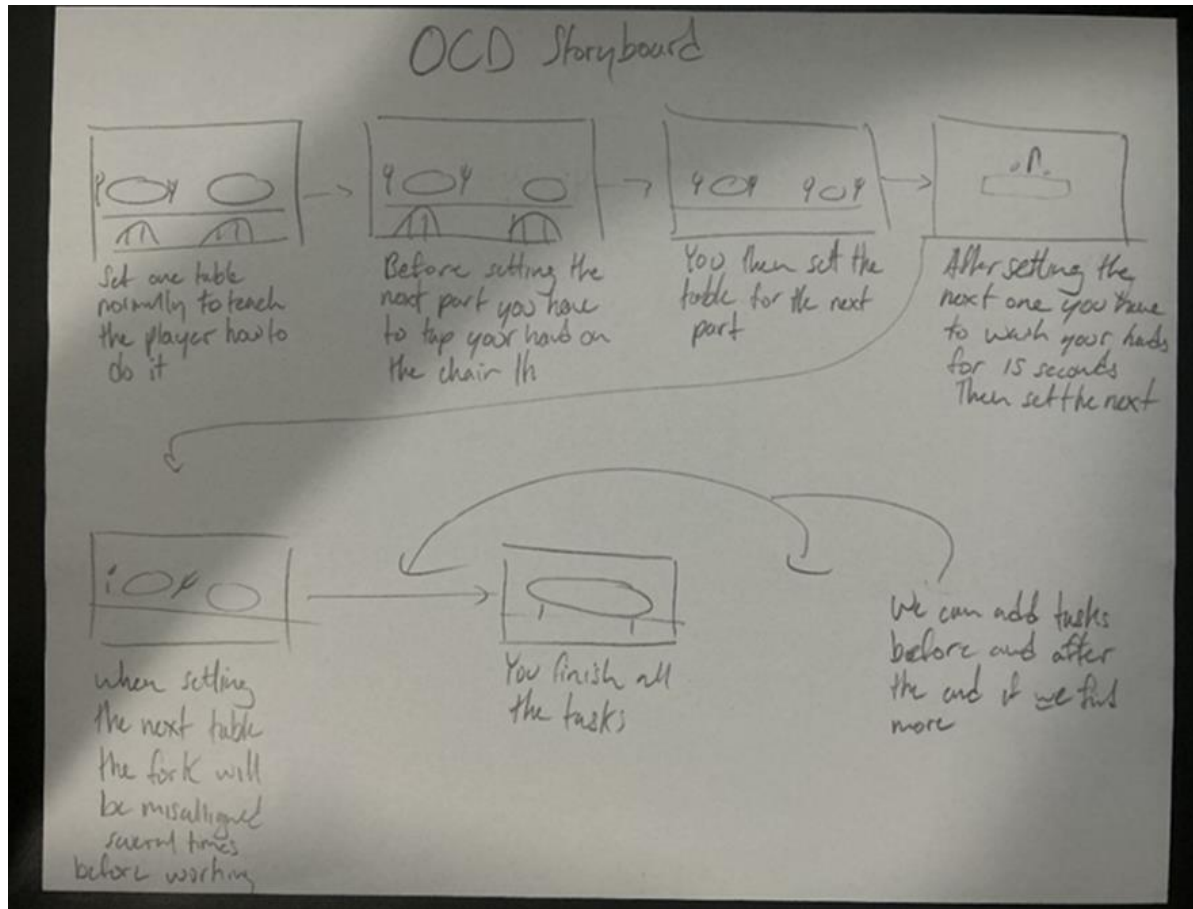
# Benchmarking

- Importance of a fully developed storyboard
- A focus on sparking empathy
- Accurately representing the struggles
- Creating a smooth interactive world

# Target Specifications

Metric #	Metric	Units	Marginal Values	Ideal Value
1	Simulation Length	s	<5:00	3:00
2	Amount of people that respond with empathy	%	>75%	100%
3	The frames per second performance optimization	FPS (Frames per second)	>30	>60
4	Accuracy to real experiences	Scale (1-5)	>4	5
5	Amount of people able to use the experience with little to no instruction	%	80%	100%
6	Coherence and quality of story	Scale (1-5)	>3	5
7	Number of interactive events	#	>3	>5*
8	Theme appropriate to students	Scale (1-5)	>3	5

# Initial Concepts: OCD & ADHD



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# Client and General Feedback



Expressed satisfactions of our initial approaches.



Expressed the importance of storyboarding the experience before delving into the technical side of it (A common pitfall).



Focus on one concept and delve deep into the details.



Instill empathy not sympathy nor pity.

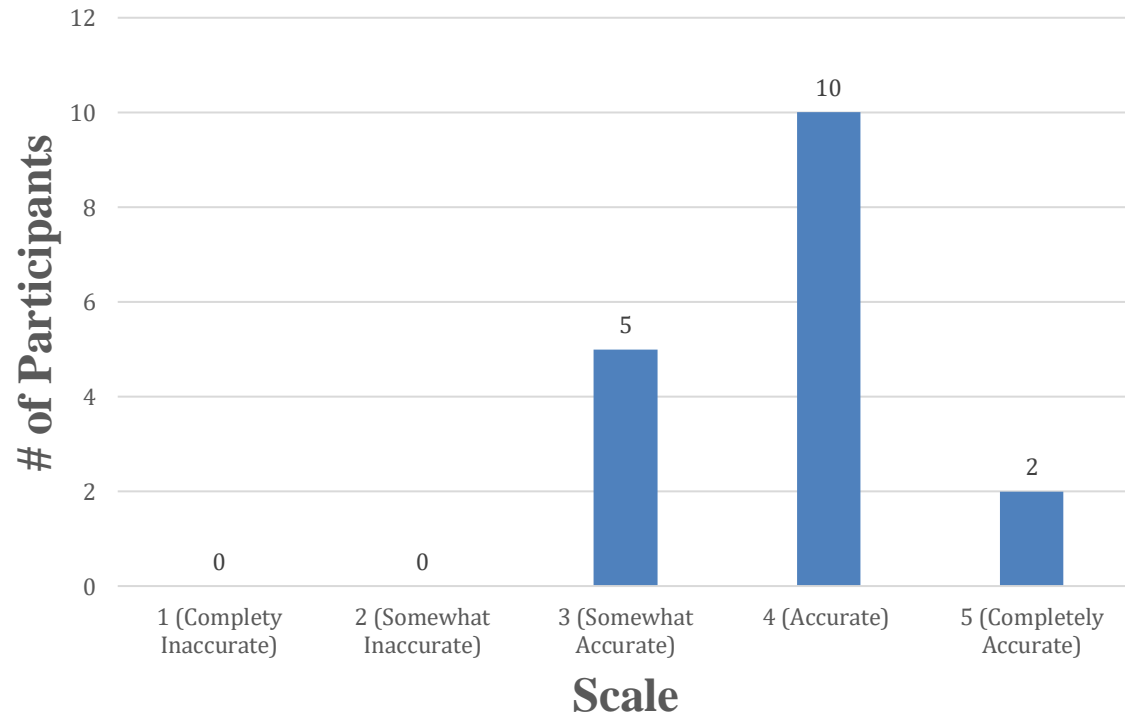


Important to have insights from people dealing with said issues.

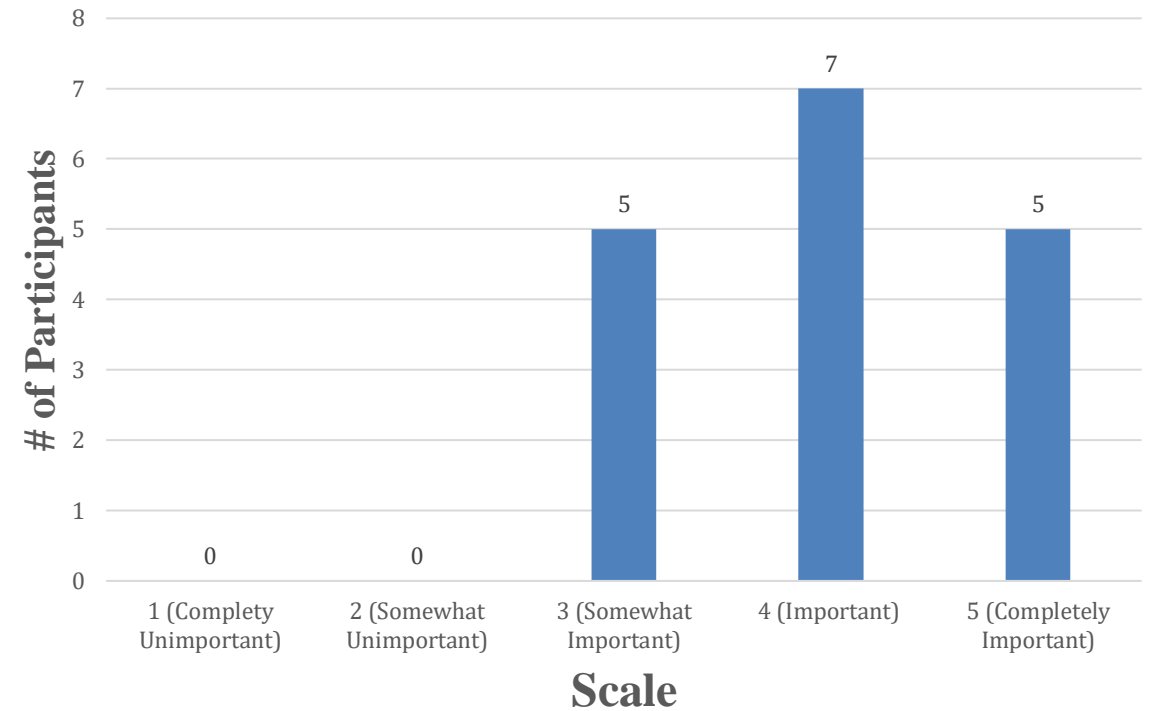
# User Feedback

17 Participants – 71% at least a 4 on both

Accuracy of Representation



Topic Importance for Students







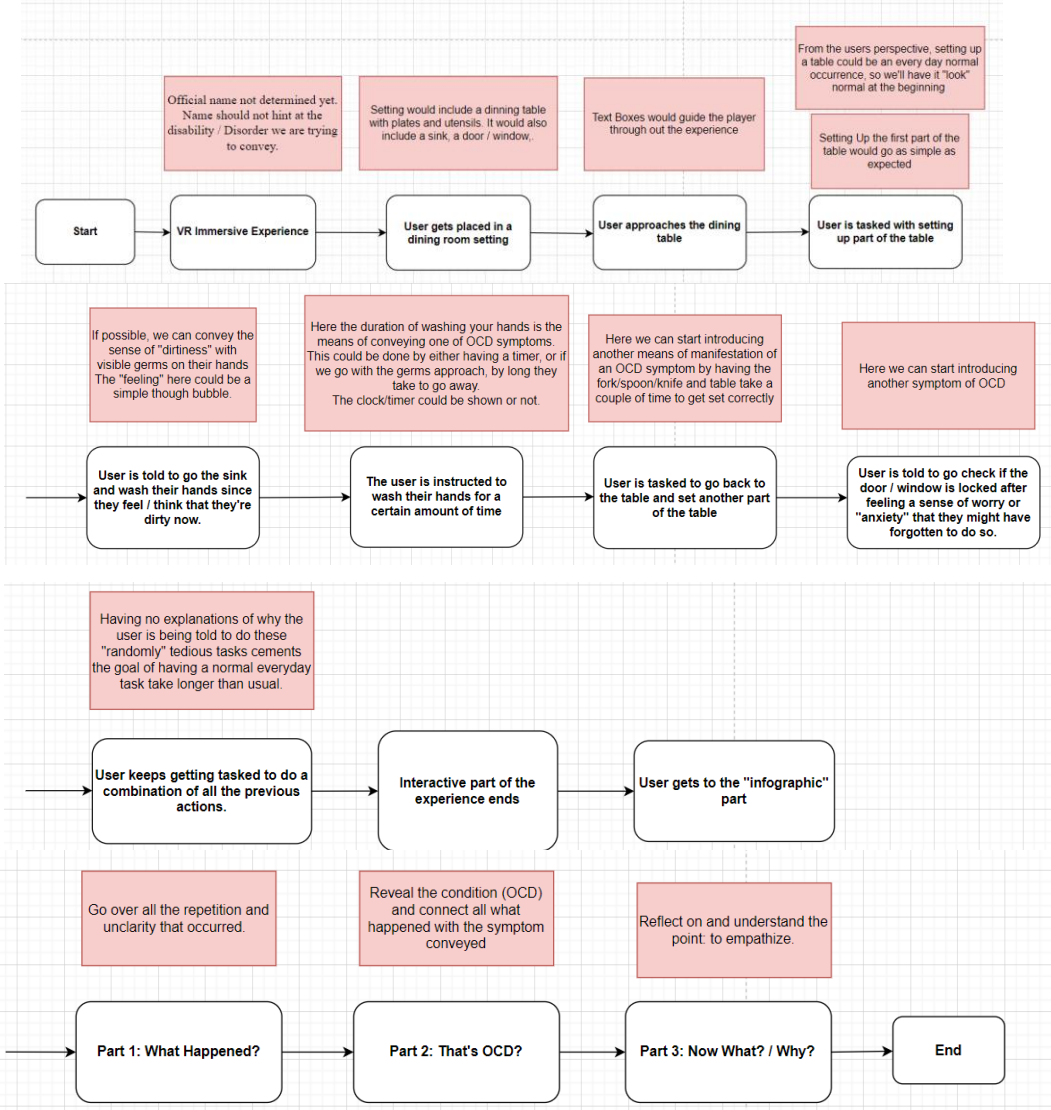
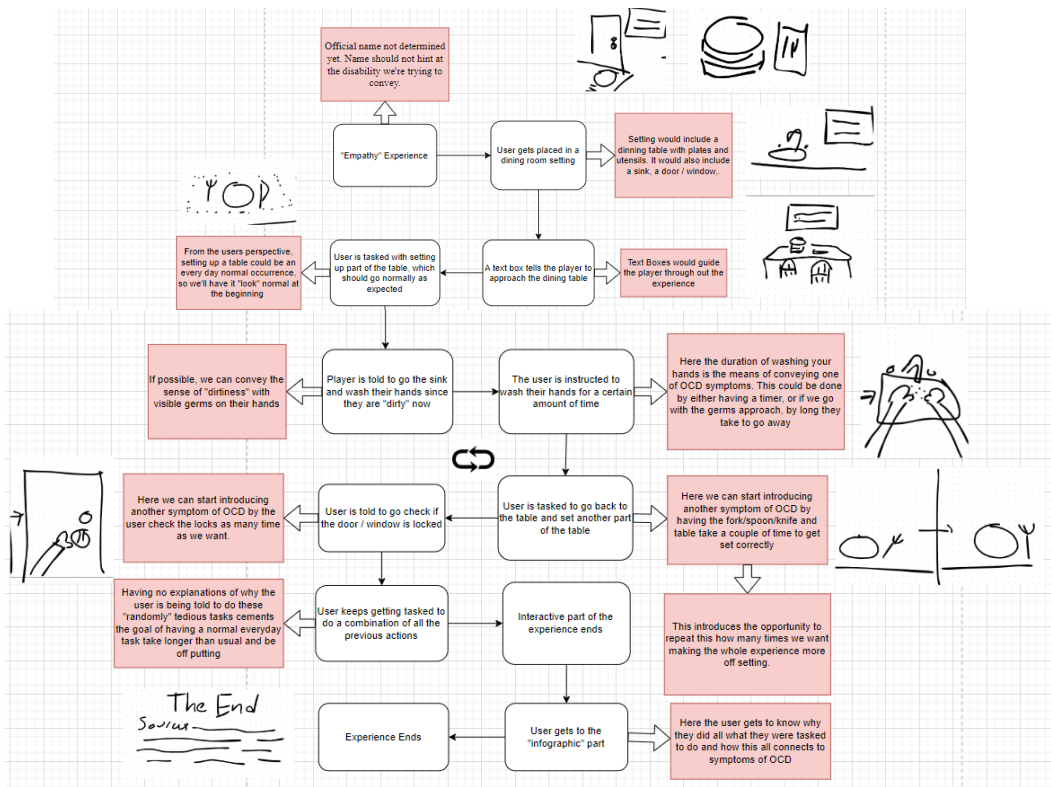
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## Refined Problem Statement

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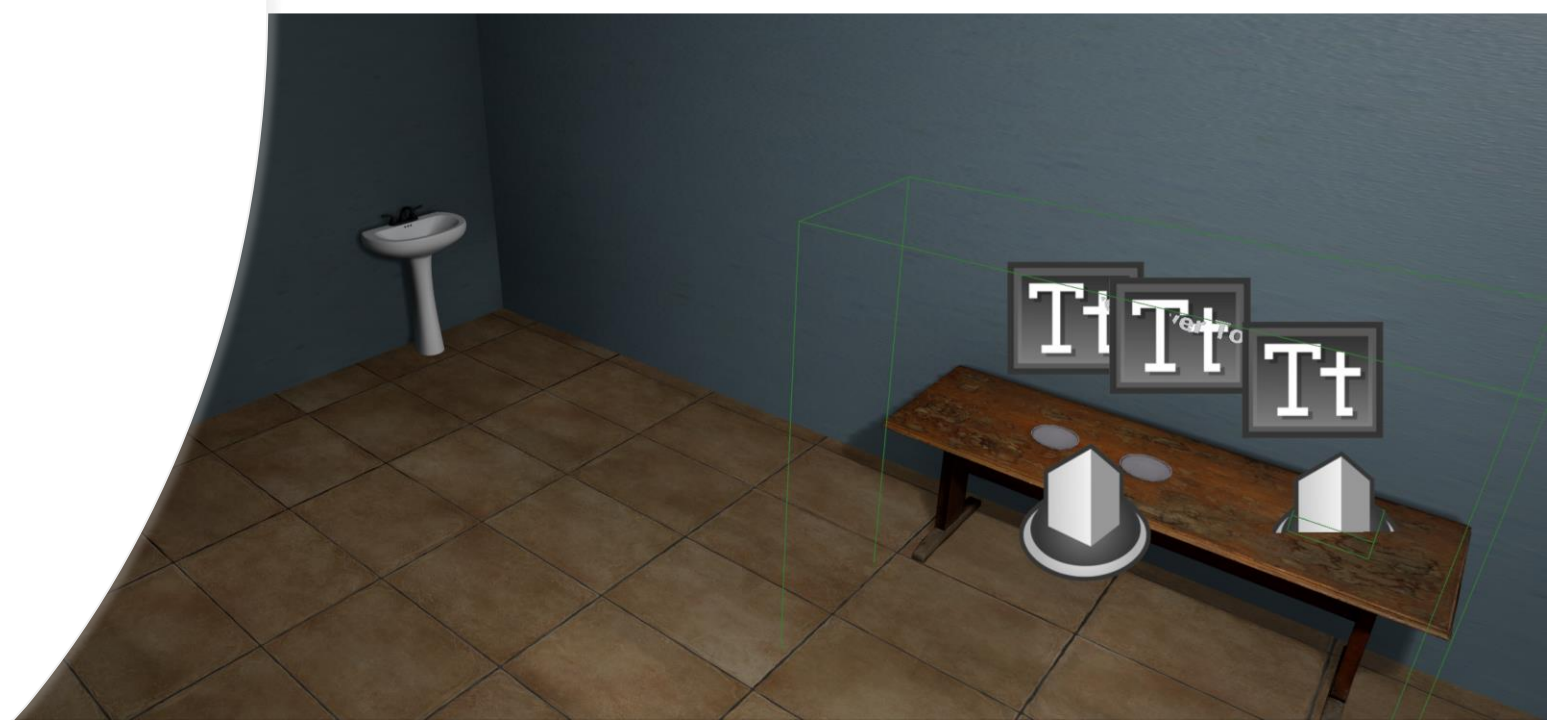
*Our client wants to create an immersive virtual experience for university students and alike that helps them empathize and understand the difficulties of people who suffer from OCD. That will be by getting them to experience some of the OCD symptoms through a constructed storyline.*

# Initial developments of our Story



# Prototype 1

- Basic Functionalities
- Barebone Progression Tracking System (Action Systems)
- Text Boxes
- Preliminary and Basic Textures and Graphics



# Prototype 2

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- Expanded the progression system.
- Connecting all Basic Functionalities.
- Preliminary Starting and Ending Areas.



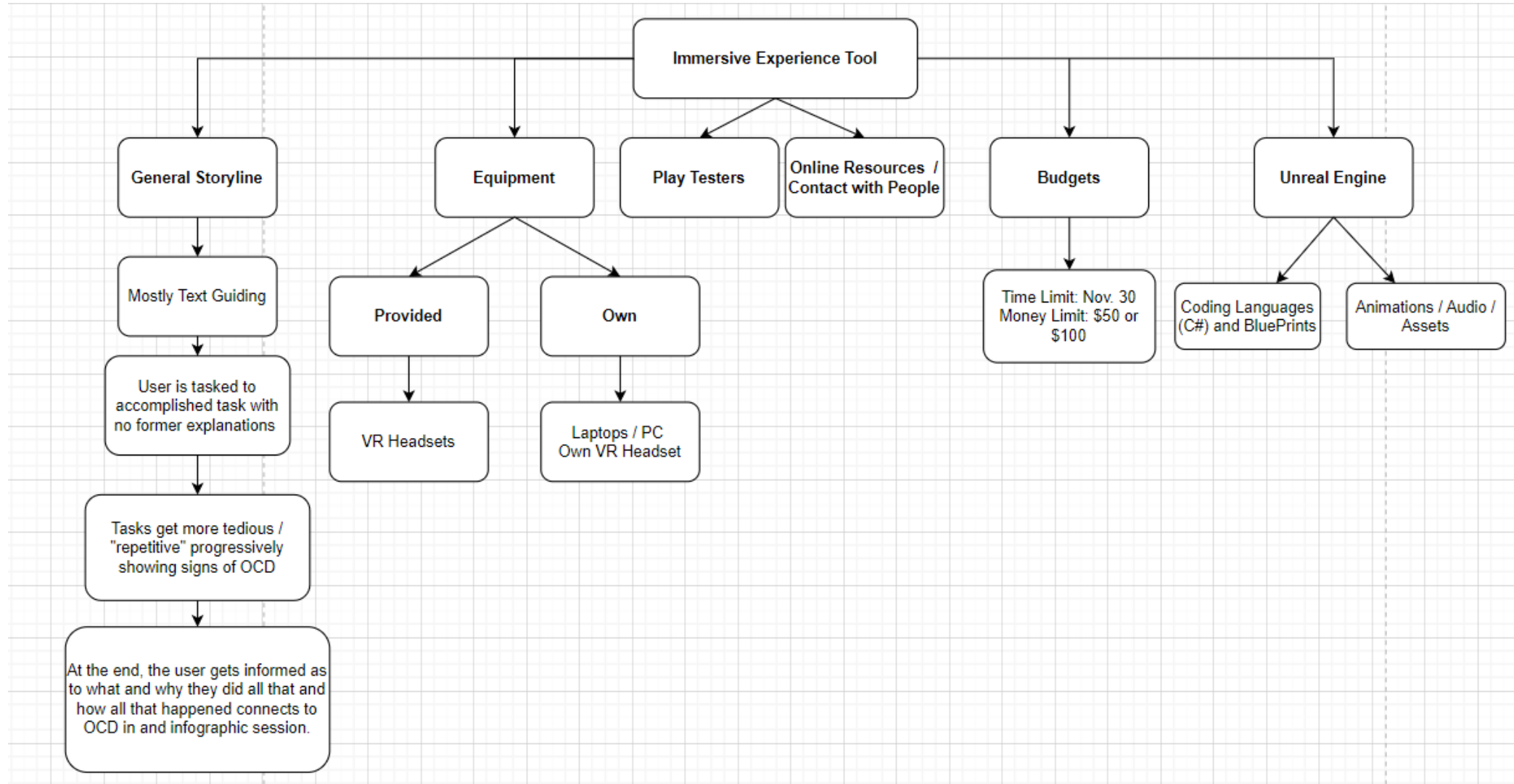
Use Right Analog Stick to move  
Use Lower Trigger To Grab  
Move Forward To Start



— **FINAL**

**DEVELOPMENTS**

# Software Development Flow Chart





**STORY  
DEVELOPMENT  
AND SCRIPT**

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# Purpose

1

Develop **Empathy**.

2

Show means of how common **OCD symptoms** can manifest in different ways.

3

Draw a parallel on how **different** an experience can vary for people who suffer from such disorders.



# Storyline

You're Chance Harper. **You have an OCD disorder.** You agreed to meet your friends at 6 PM to hang out and have fun. Before you started to head out, you remembered that your mother asked you to set up the table for the family to have dinner before going out. How could that play out? Let's see.

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# Story Development Board

Purpose

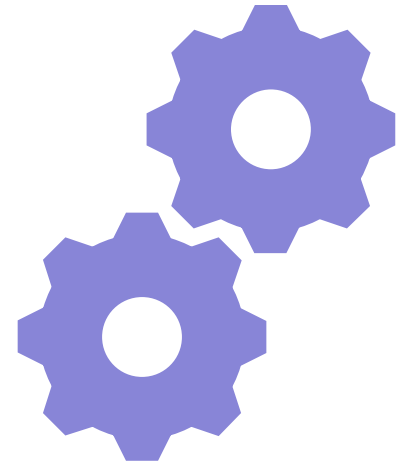
How we're showing that

Initial Orientation

Complete Script Lines and  
Scene Descriptions

Final Reflection and  
Reorientation

# — PROTOTYPING AND TESTING

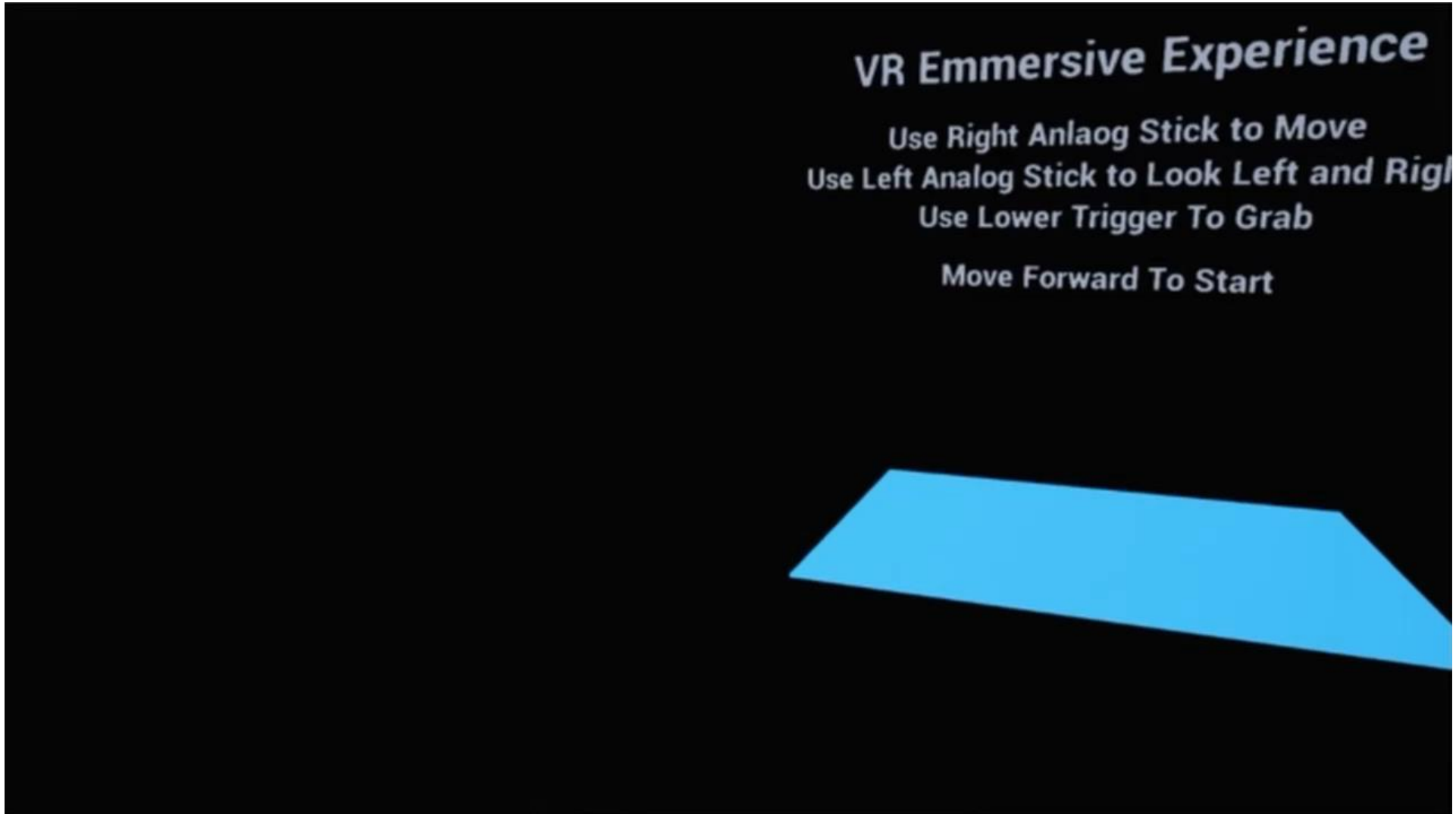


# Final Prototype

- Free roam and complete movement control
- Complete implementation of object interaction
- Task Progression
- Implementation of the story through text to imitate an internal monologue.



# Final Prototype Demo.



# Results – Comparing to Target Specifications

Metric #	Metric	Units	Marginal Values	Ideal Value	Final Prototype Values
1	Simulation Length	s	<5:00	3:00	4:00
2	Amount of people that respond with empathy	%	>75%	100%	N/A
3	The frames per second performance optimization	FPS (Frames per second)	>30	>60	60
4	Accuracy to real experiences	Scale (1-5)	>4	5	4.5
5	Amount of people able to use the experience with little to no instruction	%	80%	100%	N/A
6	Coherence and quality of story	Scale (1-5)	>3	5	4.5
7	Number of interactive events	#	>3	>5	8
8	Theme appropriate to students	Scale (1-5)	>3	5	4.5

# — Trials and Tribulations

Added more of a storyline to the final iteration

Introduce a character for the user to emphasize with more

Heavy focus on storyline aspects, less on technical matters

Removed final infographic section. Moved elements of it into parts of the story instead

Removed repeating tasks multiple times to reduce repetition

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# Lessons Learned



Importance of  
storyboarding



Importance of  
client's wants and  
needs



Group  
communication



Delegating tasks for  
better efficiency  
overall



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**THANK YOU  
FOR  
LISTENING!**





**Extra**

# Business Model Canvas

<p><b>Key Partnerships</b> </p> <ul style="list-style-type: none"> <li>• Software Engines (Unreal Engine)</li> <li>• Transport Companies to Transport Equipment</li> </ul>	<p><b>Key Activities</b> </p> <ul style="list-style-type: none"> <li>• Running Information Sessions</li> <li>• Maintaining/Customizing Software</li> </ul>	<p><b>Value Propositions</b> </p> <p>Educate on implicit biases/difficulties of physical disabilities</p> <p>Facilitate all the equipment and technologies needed for such events</p>	<p><b>Customer Relationships</b> </p> <ul style="list-style-type: none"> <li>• In-Person Seminars</li> <li>• Online Website</li> </ul>	<p><b>Customer Segments</b> </p> <ul style="list-style-type: none"> <li>• Companies (HR Department)</li> <li>• School Teachers</li> <li>• Educational Organizations or Clubs</li> </ul> <p><b>Users:</b></p> <ul style="list-style-type: none"> <li>• University Students</li> </ul>
	<p><b>Key Resources</b> </p> <ul style="list-style-type: none"> <li>• VR Headsets</li> <li>• Game Engines</li> </ul>	<p>Easily acquired with little to no required infrastructure</p>	<p><b>Channels</b> </p> <ul style="list-style-type: none"> <li>• Seminars Brought to Companies</li> <li>• Software's on Secondary / Third Party Websites</li> </ul>	

#### Cost Structure

- Buying and Maintaining Equipment
- Travel and Transport people and equipment
- Employing developers and seminar hosts

#### Social / Environmental Costs:

- Travel Carbon Emissions
- Equipment used (Manufacturing Cost)



#### Revenue Streams

- Selling Educational Sessions to organizations
- Selling the software for personal use

#### Social / Environmental Gain:

- Raising awareness
- Offsetting the environmental impacts with donations
- Using reused equipment

