# Project Deliverable G - Prototype II and Customer Feedback

GNG1103

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### Introduction

In the previous deliverable, the project team developed the first prototype for this project with the objective of creating the storyline of the experience, as well as generating a basic environment in Unity that the user can move around and interact with objects in. The progress made and feedback received from this prototype was presented to the client, professor, panel members, and other students in the class during the third client meeting, where the project team had the opportunity to get more feedback that will inform our future design choices and improve our concept.

The focus of this deliverable is to develop the second prototype, document the test plan, gather and analyze user feedback, and update the target specifications, detailed design, and BOM based on these results. The main objectives of this second prototype are to create a detailed task list of the experience, develop the user interface (UI) for the entirety of the experience, and implement tasks in Unity. Once all the work on this prototype was completed, feedback was again received from potential clients and users and a test plan for the final prototype was developed to prepare for the next two weeks of project work.

## Feedback Received from Client

On March 7<sup>th</sup>, the project team had a chance to present the progress made in the first prototype and feedback received from potential users to the client, Hanan Anis, the panel members, the professor, and the other students in the class. From this, the project team was able to receive more feedback on the progress made in the prototyping process.

The client was pleased with the amount of work that was completed in the first prototype and the direction of the project thus far. The only suggestion that she gave was that we focus on getting one of the experiences done (ADHD or anxiety) first, as it is better to do a few things well with depth in the storyline rather than implement lots of things but with less depth. The project team recognizes this as a concern given the short timeline of the project and is handling this by fully developing one experience (ADHD) first before adding the second experience (anxiety). This way, if timing becomes a major concern, at least one experience will be developed fully. Moreover, since we are reusing many of the assets, animations, and characters in both experiences, once one is fully developed, adding the second will not take as much time as many things will be able to be reused with little to no changes. Overall, the client meeting was very helpful in guiding the project team as we continue the prototyping portion of the project.

## Prototype

The primary objectives of this prototype are to create a detailed task list of the experience, develop the user interface (UI), and implement tasks in Unity. Therefore, the critical components of this prototype can be split into 5 general areas: the unity prototype, sample diagrams for animations in Unity, the task list, the UI, and the content of the reflection questions, disclaimer, and additional resources.

### **Unity Prototype**

The VR experience continues to be developed within Unity. For this prototype, several new features have been added. Environmental interactions and animations, such as the ability to open doors, have

been added to the experience's primary environments. Players can either push on the door, or press either of the hand controllers' primary button, and doors in the environment will open, expanding the virtual world.



Figure 1: Player Opening Door

Grab interaction capability has been added to all objects within the environments which realistically should be interactable. The primary game manager has also begun development, as has the UI manager, and the scene manager. These three features are responsible for controlling the flow of the experience and are well under way. The task assignment system that is the core of the experience is in a working state, with the capability to assign tasks, perform them, and register them as complete.



Figure 2: Player Tasked with Picking up Rubik's Cube

Inspector					а:
Player Manager					
Tag Untagged					
▼ 🙏 Transform					
Position	X 2.1207		Y 0.8400671	Z 4.315382	
Rotation					
Scale					
🔻 # 🗹 Player Manager (Script)					
Script					
▼ Tasks_Outstanding					
List is Empty					
▼ Tasks_Completed					
= Element 0	Pick up 1	he Rubiks cube.			

Figure 3: Player Object Tracking Tasks Assigned to it

Finally, UI elements, such as the players' Heads Up Display (HUD), and the character select menu are in their programming phase of development and should be graphical within the next day.

### **UI Design**

To make the process of adding the user interface in Unity more efficient, the project team worked to develop sketches of what we plan for each module of the experience to look like. This includes the main menu, accessibility options, character selection, disclaimer, introduction, task list, reflection, resources, and end screens.

GNG1103-Team 1.1	accessibility options menu (selected options shown are default);
EDI Training Experience	Accessibility Options subtities: Expone I small font
Begin	□ medium font □ large font voice over: ☑ yes □ no volume: ↓0 [ ] ] ]
Accessibility	background : () noise & music
Options	

Figures 4 & 5: Sketches of the Planned UI for the Main Menu and Accessibility Options Screens

The experience will begin with the main menu screen, as shown in figure 4. If the user selects the accessibility options button, it will take them to the accessibility options screen, as shown in figure 5. The selected options drawn in the rough sketch will be the default options. This way, if users wish to have subtitles in a small, medium, or large sized font, or if they wish to change the volume of the voiceover or background noises, they can do so before starting the experience. Once the user presses begin, the character selection screen will be shown, as sketched in figure 6 below. Although we are only planning the ADHD experience at this time, in the future, this is where users will choose which character (and thus, invisible disability) they will experience. Once the user opts to enter the experience, a disclaimer will appear (discussed in the next section of this report).



Figure 6: Sketch of the Planned UI for the Character Selection Screen

The user will then be informed of the objective of the introductory element of the experience (getting ready for the workday), and that it is completely optional and can be skipped by going to the front door.

1 number	Cot conduct Ho day
LATroduc	tion Get ready for the day
The purpose o	f this scene is to get you used to VR and
the controls re	quired in this experience. It is completely
optional, Head	to the front door once you are ready to beg
Controller	
the	e main experience.
th	e main experience.
+ha +ha	e main experience.
На	e main experience.

Figure 7: Sketch of the Planned Message Before the Introductory Scene Begins

Once the main experience is over, the reflection element of the experience begins. The user will be informed of this with a message like the one for the introductory scene, shown in figure 7, and then a series of guided reflection questions will appear. Examples of the guided reflection questions are provided in the following section of the report. Then, the end screen will be shown, allowing for users to easily exit the experience, go to the main menu, or play through a different experience by returning to the character selection screen.

Guided Reflection	The End.
The purpose of this module is to give you time to reflect on	Thank you for participating in this experience. We hope that
the experience: While your responses are not recorded, we hope	it was able to provide a new perspective on the challenges
that this module allows you to think more deeply on the impact of	faced by those with mental health challenges and invisible
invisible disabilities	disabilities.
continue	(Try another Experience Main. Menu

Figures 8 & 9: Sketches of the Planned UI for the Guided Reflection and End Screens

#### **Reflection Questions, Disclaimer, and Additional Resources**

Since it was emphasized by the client in the first client meeting, one of our main design concepts is to give the user the opportunity to reflect at the end of the experience. Therefore, in this prototype a list of potential reflection questions was created. The sample reflection questions that were generated are as follows:

• "Which of the following invisibilities do you think you were experiencing?" Options: Anxiety, depression, ADHD, OCD. Once the user answers, the text that appears will say "You were following the life of someone with ADHD"

- "You took \_ minutes and \_ seconds to complete the experience. During this time, you completed \_ tasks. How different do you think your experience would have been without the constant distractions?"
- "Were you able to focus on reading the report?"
- "Did some tasks just feel like distractions in themselves?"
- "Did it really feel like the whole day had gone by or did the time passing sneak up on you?"
- "How did it feel when you had to check in with the supervisor?"
- "How could you be more supportive of those who have ADHD?"

Moreover, the disclaimer and additional resource messages were created. The disclaimer message will be shown after "begin" is pressed on the main menu, and the additional resources message will be shown after the guided reflection questions. The resources will include University of Ottawa resources, mental health crisis lines, and ADHD-specific resources.

Disclaimer
Divisible disabilities, especially those relating to mental illnesses, can present in many ways, and these experiences can vary from person to person. The <i>experiences</i> presented in this training tool present the developers' interpretation (and in some cases personal experiences with) some common symptoms of various invisibilities.
This tool showld not be seen as an all encompassing depiction of the invisible disabilities covered.
continue

Figure 10: Sketch of the Planned UI for the Disclaimer Module

Peca	10000				
LE SOL	ILLS				
Mental health crisis line:	(613) 722-	6914			
	1-866-996	-0991			
	www.crists	line.ca			
uottawa resources : www	w2. uottawa.	ca/campus-li	fe/healt	n-welli	ness
Wall	z-in counsellin	g at 100 Mari	e-Curie,	4th Fl	oor
to learn more about ADHD: www.	cheo.on.ca/en/re	esources-and-sy	pport/ad	nd.asp:	x
		1	cont	inue	2

Figure 11: Sketch of the Planned UI for the Resources Module

### **Detailed Task List**

The following diagram is an updated and revised version of our original storyline diagram which was created based on the original design concepts and design specifications. This diagram focused purely on the tasks for the ADHD experience since that is what we decided to focus on for the rest of our project. The main framework and organization of the rest of our experience have not changed other than the added details indicated above so they are excluded from this diagram.

	Main Experience
	ADHD
Main characteristics	
<ul> <li>FILO tasks</li> <li>Distractions: Inne</li> </ul>	r monologue. Constant auditory and visual distractions
<ul> <li>Ex: Many different light</li> </ul>	ts or people moving, excessive sounds such as coworkers chatting, papers being moved,
computer clicks, the elec	ctricity sound
User find a note on their des about the task that	k on top of a report (or email) as they get to work from their supervisor needs to be completed (must find information in specific paper)
	NOTE: This task would seem like the entire point of the experience but would realistically not get done.
Reading a paper or	TASK DETAILS: The user would have to go through the pages of the report given to him (skimming $\rightarrow$ could be showing the user part of a report after another)
Would have to try to	to find the particular XXX. After the second part is shown the user would get
concentrate on the report	distracted by one of the subtities (such as organizing) SYMPTOMS: To represent not being able to focus on the report, the writing
	would periodically get blurry for a short amount of time and then more focused
	NOTE: Would change depending on what exactly the report says. USER WOULD
+ Random task based	NOT FINISH ORGANIZING THE DESK (papers would not get sorted) TASK DETAILS: The user would start organizing their desk (they would have a list
on report _	of things that come to mind): pencils in pencil holders, throw away garbage, put
Certain word from the paper starts another task	dishes away (mug), sort out the stacks of papers SYMPTOMS: This particular task is a distraction in itself but otherwise there
	wouldn't be any specific distraction, simply background noise that we can adjust
<b>\</b>	TASK DETAILS: Once the user is done with quickly organizing their desk they would have a dirty mug to put away and decide to go get a cup of coffee. They
Gets coffee and	would walk to the coffee machine put their dirty mug away and start making themself a new cup and would randomly remember that they need to undate a
conversation with	signing in document.
coworker User gets distracted to go get	Would then be approached by a coworker: The coworker would mention a particular project that the company has been working on which would remind
coffee	the user via inner monologue about a particular document he was supposed to give to another coworker
	SYMPTOMS: Once again his particular task is a distraction in itself
+	
Having to find a	The user must the specific paper to give to coworker: There would be 2 short stacks of paper or folders for the user to go through User would have to go
Specific paper	through whichever they first pick followed by the second and then go back to the
not being able to find things	TIFST TO be able to find the right report.
Cive coveries a	NOTE: at some point during this task the organizing desk (report based task) would disappear
paper	TASK DETAILS: They needed to send a document to the coworker or if no
What the user was reminded	computers we could have a letter that they need to give to them instead SYMPTOMS. This particular task is a distraction in itself but otherwise there
by the coworker (indirectly) at the coffee	wouldn't be any specific distraction, simply background noise that we can
	adjust volume and play around with
Find misplaced	User would hear the sound of the coffee machine as soon as they get back to their office then remember the coffee they had made before. Could have
User must find the coffee that	forgotten coffee cup at coffee machine (or have the cup fully be at a different
they misplaced	place) when distracted by coworker
	NOTE: This task is related to what the user remembered at the college machine
Lindata -	we could have this be another task the user forgets if needed
opdate a spreadsheet	TASK DETAILS: User would remember that they have to update a specific sign-in sheet (sign their name and a date or smt)
Task based of conversation	SYMPTOMS: This particular task is a distraction in itself but otherwise there
with coworker at coffee	wouldn't be any specific distraction, simply background noise that we can adjust volume and play around with
	NOTE: At this point the user would be able to return to the main task
	TASK DETAILS: The user would have to continue trying to find the particular
+	information asked by the supervisor and at some point the user would simply have to stand up to prevent themselves from getting fidgety
Task sitting down at	SYMPTOMS: The same constant distractions would be applied but to indicate
desk and then having	that the user must move, the sound and visuals be changed. Dissonant sounds and playing around with the colour and the light will be used to give a sense of
to stand up	unease to the user. Everytime the user seems to start to move these effects would fade. After a while the user would be given a hint such as an inner
	monologue saying "yikes, idk whats going on here but i think i need to get up and move"
	NATE. This would be an
	MULE: This would happen once the user realises that they need to stand up and move around so they think of checking on a mail room.
	TASK DETAILS: The user would just need to stand up and decide to go to the mail room and check-in an their mail. Once they get there they used if if it is in
Check on the mail	box and grab a package.
and notices time	SYMPTOMS: Time distortion would be one of the symptoms included at the end of this task. Once they are done getting their mail, they would notice a clock on
	the wall and realise that it is much later than they realised and that it is the end
	of the day
Ļ	NOTE: the conversation with the supervisor would happen as the user gets to their desk/office $\rightarrow$ the supervisor would be waiting for them to get back
Check in with	TASK DETAILS: The user would have to update the supervisor about the work
supervisor	that has been done and have to answer a few questions. The supervisor is upset that they didn't get more done/didn't get the main task assigned
Supervisor comes to check in	finished.
	SYMPTOMS: Constant distractions when speaking to the supervisor, forgetting what they were going to tell them.

Figure 12: Detailed Task Diagram

# Sample Diagrams for Animations in Unity



Diagram 1: Manual Animator Controller



Diagram 2: Neat and Tidy Animator



Diagram 3: Animation for Dirty Cup

## **User Feedback**

Since the amount of feedback required for this prototype is more limited than for the first prototype, a survey for potential users and clients was not conducted. The plan is for another survey to be done for the third and final prototype since the script and the unity elements of the experience will be more complete.

Feedback was gathered from potential users on the effectiveness of the disclaimer, reflection, and resource modules of the experience. The feedback was positive, signaling to the project team that these elements of the experience will be effective and are ready to be implemented in Unity.

## Justification of Prototype

During our first analytical prototype we created a baseline for all the tasks that would be included as well as ideas for the storyline and had a very general idea of how our introduction and conclusion would go. After receiving feedback on our first prototype, we changed the order of certain tasks and created more detailed tasks and distractions for our ADHD experience so that they can properly be implemented in unity during our last prototype. To give us a more specific idea of how and what we would include in our introduction and conclusion sections, UI sketches were also created during this prototype. For the next prototype, we will be able to focus a lot more on the unity parts of our project because we've completed most of the analytical framework.

We were also able to develop the framework and the first environment of the experience as a first physical prototype and have added the possibility for the user to interact with many objects in our first environment. We have also been working on the ability to give tasks to the user and have developed the base code for the tasks that the user will complete during the experience. The experience can also now detect once a certain task has been completed, which will make adding the rest of the tasks much easier.

Overall, during this prototype, we have improved and added details to our storyline as well as the beginning and end of our experience and significantly improved and added components to our physical unity prototype.

## Prototype 2 Test Plan and Results

After tests were performed and potential user and client feedback was received, the test plan for this prototype from the last deliverable was modified to reflect the true objectives and results of this prototype.

Test ID	Test Objective (Why)	Description of Prototype used and of Basic Test Method (What)	Description of Results to be Recorded and how these results will be used (How)	Estimated Test duration and planned start date (When)	Test Results
1	Reflection: One of our main design concepts is to give the user the opportunity to reflect at the end of the experience. This was also emphasized by the client. This guided reflection will be an important part of eliciting empathy in the experience.	A list of guided reflection questions will be created.	Feedback was gathered from potential users and clients on the proposed guiding reflection questions and their effectiveness.	This task was done independently of the Unity tasks. It required the creation of reflection questions and gathering feedback from potential users and clients. It was started on March 7 <sup>th</sup> .	A list of guided reflection questions for ADHD was created and the user feedback was positive.
2	<b>Object Interactivity:</b> The purpose of this test would be to see if the user can do different things and interact with objects.	Low fidelity physical and focused prototype required to test the basic function of the environment	We will record the different objects that were able to be interacted with and how they affected the following actions. We will make use of the ending statistics page to help us track the decision and to see how they affect the rest of the experience.	This test requires some of the elements to be added to the base VR environment. This test will need to be completed earlier on in the process as it is required to create the rest of the experience. It was started on March 7 <sup>th</sup> .	In the introductory scene of the experience, the user can interact with different objects such as doors, books, and plates.
3	Task implementation: Another main concept of our product is that the user can interact with objects to complete tasks. The	Low fidelity physical and focused prototype required to test the basic function	The extent to which the user can interact with objects to complete tasks in the world will be recorded.	This task was started at the beginning of the week since the user could already move around the world in VR in the first prototype.	The game manager successfully assigns tasks to the player on Unity.

#### Table 1: Test Plan for Prototype 2

	tasks would then affect	of the			
	the results in the	environment.			
	statistics at the end of				
	the experience.				
4	Completion of the	Low fidelity	The extent to which the	This task will be	Although it is not
	Introductory Scene:	physical and	user can complete the	completed after task	complete, most
	Since many people are	focused	introductory scene will	implementation and	interactions in the
	not familiar with VR	prototype	be recorded.	object interactivity.	introductory scene
	controls, we wanted to	required to test			have been
	include an introductory	the basic function			implemented.
	element of our	of the			
	experience where the	environment.			
	user can test using				
	objects and moving				
	around.				
5	Empathy - Inner	Focused	We will gather feedback	This will be done	After the first client
	monologue:	analytical	from potential users	independently from the	meeting, the project
	How does it make the	prototype to	with and without ADHD	VR environment and	team was advised to
	user (without the	follow the	and Anxiety to gauge	involves creating a script	focus on only one
	disability) feel? Do	storyline and	the accuracy of the	and gathering feedback	invisible disability.
	those feelings match	tasks that the	script to real	from potential users and	Since we chose to
	the feelings of people	user would face.	experiences of the	clients.	focus more on
	with ADHD and		invisible disabilities and		ADHD, the inner
	anxiety? Does it		the level of empathy		monologue was not
	generate empathy from		elicitation.		completed for this
	the user?				prototype since it
	One of the main client's				was more important
	needs was to generate				for the anxiety
	empathy from the user				experience. Instead,
	in this training tool, to				we will work on the
	accomplish this, we				script of the
	need to assure that the				experience for the
	user feels the same way				next prototype.
	people with the				
	disability do.				
6	Disclaimer & Resources	A focused	Feedback was gathered	This was be done	Disclaimer and
	messages:	analytical	from potential users	independently from the	resource messages
	It is important for us to	prototype in the	and clients to gauge the	VR environment and	were created, and
	ensure that users know	form of a	effectiveness of our	involves creating the	the feedback from
	that our experience	paragraph at the	disclaimer messages	disclaimer messages and	potential users and
	may not cover all	beginning and	and the resources	gathering feedback from	clients was positive.
	aspects and symptoms	end of each	provided after the	potential users and	
	of the invisible	experience.	experience.	clients. It was started on	
	disabilities and that			iviarch /".	
	there are additional				
	resources they can				
	access it needed.				

7	Detailed Task List:	A focused	Once created, this	This task was done	The diagram was
	Since the project team	analytical	detailed task list will be	independently of the	created, and the
	is now focusing on the	prototype in the	used to create the script	Unity tasks. It required	script based on it will
	ADHD experience, it is	form of a	of the experience.	the creation of a diagram,	be written for the
	important to have a	diagram.		research on the	next prototype.
	detailed task list with all			symptoms of ADHD, and	
	the planned symptoms			taking inspiration from	
	and distractions, so we			the storyline created in	
	know if it is accurately			the last prototype. It was	
	to ADHD and what to			started right after the	
	implement in the Unity			client meeting on March	
	beforehand.			7 <sup>th</sup> .	

### **User Feedback**

Since the amount of feedback required for this prototype is more limited than for the first prototype, a survey for potential users and clients was not conducted. The plan is for another survey to be done for the third and final prototype since the script and the unity elements of the experience will be more complete.

Feedback was gathered from potential users on the effectiveness of the disclaimer, reflection, and resource modules of the experience. The feedback was positive, signaling to the project team that these elements of the experience will be effective and are ready to be implemented in Unity.

# Test Plan for Prototype 3

Based on the results and user feedback from the second prototype, a test plan for the third prototype was generated.

Test ID	Test Objective (Why?)	Description of Prototype used and of Basic Test Method (What?)	Description of Results to be Recorded and how these results will be used (How?)	Estimated Test Duration and Planned Start Date (When?)
1	Measure the level of performance and empathy elicitation: To gauge the success of our prototype, the user's subjective and objective feelings and behavior states will be recorded. To	A high-fidelity prototype will be created and tested with potential users and clients.	We will find potential users to test the entirety of our VR experience and provide feedback via a questionnaire like the one sent out for the first prototype.	This test will be conducted after the main experience, all the UI, and the voiceovers are implemented in Unity. It will be the last thing needed to be done for this prototype.
	ensure the product is effective in eliciting			March 20 <sup>th</sup>

#### Table 2: Test Plan for Prototype 3

	empathy in users, we will need to select appropriate measurement indicators and optimize products in each measurement.			
3	Experience: This is the most important piece of the prototype. It will focus on putting the user in the shoes of someone who has ADHD. Addition of all User Interfaces: All the user interfaces outlined and skathed in	A high-fidelity prototype will be created and tested with potential users and clients. A high-fidelity prototype will be created and tested with potential users and clients.	we will find potential users to test this module of the VR experience and provide feedback via a questionnaire like the one sent out for the first prototype. We will find potential users to test the effectiveness and ease-	After the introductory scene is complete, work will begin on the main experience. Estimated start date: March 15 <sup>th</sup> This test will be conducted at the same time as test ID 1, but the addition of all UI can be
	prototype 2 will be implemented in Unity. This will give users access to modules such as accessibility options, guided reflection questions, and additional resources if they need.		provide feedback via a questionnaire like the one sent out for the first prototype.	possible (it does not require the main experience to be implemented). Estimated start date: March 14 <sup>th</sup>
4	Empathy - Inner monologue: How does it make the user (without the disability) feel? Do those feelings match the feelings of people with ADHD? Does it	A focused analytical prototype to follow the storyline and tasks that the user would face will be created.	We will gather feedback from potential users with and without ADHD to gauge the accuracy of the script to real experiences of the invisible disabilities	This will be done independently from the VR environment and involves creating a script and gathering feedback from potential users and clients.
	generate empathy from the user? One of the main client's needs was to generate empathy from the user in this training tool, to accomplish this, we need to assure that the user feels the same way people with the disability do.		and the level of empathy elicitation.	Estimated Start Date: March 14 <sup>th</sup>

				Estimated Start Date: March 18 <sup>th</sup>
6	Functional Failures: Functional failures contain testing all functions of the experience and verifying specific functions in extreme cases. This will help us improve the overall performance of the system and ensure that users do not experience any software glitches during use.	Some special conditions will be tested in Unity to test the operating conditions of the system and ensure that glitches or error messages do not appear for potential users or clients during use.	These results will be recorded by the project team exhaustively testing the product in Unity to see if any errors occur that can be fixed before the project is shown on design day.	This will be done after all planned features have been implemented in Unity. Planned start date: March 21 <sup>st</sup>

# Conclusion

The objective of this prototype was to create a detailed task list of the experience, develop the user interface (UI) for the entirety of the experience, and implement tasks for the introduction scene in Unity. The second prototype was created by implementing object interactivity, tasks, and completing the introductory scene of the experience in Unity, creating a diagram showing all the tasks in the main experience and how they work to show ADHD, and having a clear layout of the UI planned. Tests were performed to check for interactivity in Unity, and feedback from potential users and clients was gathered on the guided reflection questions, disclaimer, and resource modules. The project team was able to use this feedback to develop our next prototype test plan and improve the overall quality of our product.

# Appendices

## Appendix A - Target Specifications (No update since Deliverable F)

Design Specification Relation		Ideal Value	Acceptable Value	Units	Verification Method			
	(=, < or >)							
	Functional Requirements							
Level of Interactivity	=	Significant amount of	Fair amount of meaningful	N/A	Analysis			
		meaningful user interaction	user interaction					
Relatability to	=	Experience meaningfully	Experience meaningfully	N/A	Analysis			
marginalized groups		addresses challenges	addresses challenges faced					
		universally faced by all	by one marginalized group					
		marginalized groups						
Effectiveness of fostering	<	User leaves the experience	User leaves the experience	N/A	Analysis			
diversity and inclusion		with a thorough	with a respect for the					
		understanding and respect for	challenges faced by					
		the challenges experienced by	marginalized groups					

### Table 3: Target Specifications

		marginalized groups and can						
		empathize with their struggles						
Effectiveness of empathy elicitation Change in POV	<	Users leave the experience able to identify many of the challenges faced by marginalized groups, meet those challenges with empathy, and are committed to positive change Yes	Users leave the experience able to identify several of the challenges faced by marginalized groups and meet those challenges with empathy Yes	N/A N/A	Analysis Test			
Conveyance of otherness	>	User feels that they are	User recognizes they are	N/A	Analysis			
		different, feels marginalized as a result, and experiences significant challenges due to their otherness	different and experiences minor challenges due to their otherness		Anarysis			
Opportunities for reflection	=	Experience is designed with thoughtful reflection in mind, and user is prompted to reflect multiple times within the experience	User is prompted to reflect at the end of the experience	N/A	Analysis			
Level of immersion	=	User feels completely immersed in the virtual world and their new identity	User feels immersed in the virtual world, and takes to their newly assigned identity; user is keenly aware of the limitations of their virtual world	N/A	Test			
Ease of use	v	Experience controls are intuitive, and users require no facilitator training to complete the experience. Within a few seconds the user is acclimated to the unfamiliar environment and its controls. Nausea is not induced in users.	Experience controls are unintuitive, but users only require minimal training from the facilitator to complete the experience. Users are acclimated to the unfamiliar environment in less than 5 minutes. Nausea is induced in those new to VR.	N/A	Test			
Level of user engagement	>	Experience captures the attention and focus of the users and never loses it	Experience captures the attention of the user, but user's attention and focus wanders occasionally.	N/A	Estimate, check			
Accessibility	>	100% Accessible	Accessible to most	N/A	Test			
	Constraints							
Cost	=	No more than \$50	\$70-\$80	\$CAD	Estimate, check			
Incorporation of VR	=	Yes	Yes	N/A	Final check			
	Non-Functional Requirements							
Ease of deployment	>	Users can easily access the device	Most users can easily access the device	N/A	Test			

### Appendix B - BOM (No update since Deliverable F)

Name	Description	Cost	Link
Low Poly Cartoon House Interiors	Low poly house- themed asset pack including a demo house scene	\$9.99	https://assetstore.unity.com/packages/3d/props/interior/low- poly-cartoon-house-interiors-167425
POLYGON Office	Low poly office- themed asset pack including character models, objects, and office demo scene	\$39.99	https://assetstore.unity.com/packages/3d/props/interior/polygon- office-low-poly-3d-art-by-synty-159492
Universal Sound Effects	2305 general purpose sound effects and ambient environment noises	\$7.00	https://assetstore.unity.com/packages/audio/sound- fx/universal-sound-effects-206856
		Total Cost	\$56.98

Table 4: Bill of Materials

### Appendix C - Task Plan and Wrike Snapshot

The base task plan for the third prototype deliverable is going to be like the first two prototypes because of the nature of the deliverable. The following is a written breakdown of for the first the plan for our next deliverable (Prototype III). The task plans for the other deliverables have also been updated on Wrike as the following snapshot demonstrates:

Main Task	Details and subtask	Main
		Assignee
Physical	During this last prototype we will be attempting to add all the tasks	Anthony
prototype	outlined in our storyboard diagram into our VR experience in Unity.	
Analytical	Now that almost all the analytical parts of our prototype are	Nicole
prototype	completed, the only part that is left that is separate from the physical	
	implementations of the tasks in unity is recording things such as the	
	script and what will be said by the different characters in the	
	experience as well as the different distraction sounds.	
Test plan	Based on the prototype test plan outlined in this prototype, we will	Yuteng
	conduct the test and document the analysis and the results of each test	
	we complete.	
Feedback and	We will gather feedback in a similar way that we did for the first	Honor
comments	prototype as it seemed to be quite effective in getting comments.	
	However, in addition to that, we will be trying to get people to really	

Table 5:	Task plan	for Deliverable H
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	try out the VR experience that we have created. We will then use the feedback to improve our prototype.	
Updated important documents	We will keep updating important documents such as the target specifications, detailed design, and Bill of materials throughout our experience as needed. Any changes made will be included in the appendices of the deliverables.	Yuteng
Presentation	Given that our presentation is on March 21 <sup>st</sup> , we will also be working towards creating the presentation PowerPoint as well as figuring out what exactly needs to be added into our presentation and what the best way of presenting it will be.	Nicole
Justification of prototype	We will make sure to include a justification and reasoning of this prototype. We will include the results of our previous prototypes and how this prototype continues to develop our solution.	Honor

# Wrike Snapshot link:

https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=a3rJbmDYUFkSjXPAt8Uizt9obbEnL3Ux%7CIE2DSNZVHA2DELSTGIYA