Project Deliverable C: **Design Criteria and Target Specifications**

GNG 1103 – Engineering Design

Faculty of Engineering – University of Ottawa

Prioritized Design Criteria

#	Need	Design criteria
1	The design is safe for users	Space required Ease of use Consider health conditions Low range of motion
2	The design is suitable to be shown in public	Violence Graphic imagery
3	The design keeps groups and countries confidential	Reference to real world entities
4	The design has important messages and themes	Anti-racist Feminist A call to action at the end
5	The design can be used by bilingual people	Languages
6	The user can see themselves in the situation	Realistic Reliable Relatable Aesthetic
7	The design is under 5 minutes	Duration of experience

Benchmarking

Values	Colors	#
High	Green	3
Average	Yellow	2
Low	Red	1

Specifications	Importance	Product 1	Product 2	Product 3
Product Name	-	Bear 71 VR	Meet your carbon footprint	Universe Sandbox
Company	-	National Film of Canada	United Nations Environment Program	Giant Army
Cost	3	Free	$26.99	$38.99
Duration	3	30 minutes	5 minutes	No limited duration
Graphics	2	Simplistic	Stylized	Realistic
Emotional Stimulation	3	High sentimental value	Abstract interpretation	No emotional value – purely educational

Numerical Evaluation

Specifications	Importance	Product 1	Product 2	Product 3
Product Name	-	Bear 71 VR	Meet your carbon footprint	Universe Sandbox
Company	-	National Film of Canada	United Nations Environment Program	Giant Army
Cost	3	**3**	**2**	**1**
Duration	3	**1**	**3**	**1**
Graphics	2	**1**	**2**	**3**
Emotional Stimulation	3	**3**	**2**	**1**
Total		**24**	**25**	**15**

Engineering Design Specification (EDS)

Design Specifications	Relation =, < or >	Value	Units	Verification Method
Functional Requirements				
Space required (Play area)	<	1	Meter squared (m^2)	Estimate, test, final check
Headset model	=	HTC Vive	N/A	Continuous testing during development
Ease of use	=	Yes	N/A	Beta testing prototype
Languages	=	English, French	N/A	Consult OLBI at uOttawa
Constraints				
Violence	=	No	N/A	Ensure/analysis
References to real world entities	=	No	N/A	Ensure/analysis
Consider health conditions	=	Yes	N/A	Ensure/analysis,
Cost	<	50	Dollars ($)	Estimate, final check
Duration of experience	<=	5	Minutes (m)	Estimate
Delivery time	=	3	Months	Estimate
Feminist/anti-racists	=	Yes	N/A	Ensure/analysis
Operating conditions	=	Enclosed environment	N/A	Ensure/analysis
Non-functional Requirements				
Graphic Imagery	=	Yes	N/A	Test
Safety: (Low range of motion)	=	Yes	N/A	Test
Reliability	=	Yes	N/A	Test
Relatability	=	Yes	N/A	Test
Realistic	=	Yes	N/A	Test
Call to action at the end	=	Yes	N/A	Test
Aesthetic appeal	=	Yes	N/A	Test

Introduction

As we progressed in our project, we had to have a better understanding of the client's needs and specifications of the product. Since researching on our own was just to grasp the idea about the concept in general, it was still lacking guidance by more direct instructions from the client of what to expect and what to not. So, as we hit a plateau, we had to meet the client and shape our map of what design criteria and specifications are in target, and what more unspoken desires we can observe from the client in a real meeting that cannot be obtained from any other research.

Reflection

The first client meeting helped us to have a better understanding of the desired product. The client explained their expectations and needs in the first meeting, and we had the chance to ask more questions about issues we thought needed more clarification. The client perception of the product of being impactful on the target audience and demonstrative of the message was reflected in the design criteria we produced. The client also rightfully emphasized the safety aspect of the design, which should always be a priority.

Functional Requirements

Our design aims to be quick to setup, concise, and portable. A small play area and a narrow range of motion are important parts of our solution, as indicated by the client several times during the meeting. The target audience includes Canadian politicians and organizations, and thus must be English/French bilingual. The solution must be easy to use and optimized for an HTC Vive VR headset, the headset model provided by the university.

Constraints

During the meeting, the client explicitly specified several details that must be present in or absent from the end result: most important of them being no extreme violence or references to real world entities. The solution must be effective yet as inoffensive as possible, as the client has mentioned the possibility of showing it to a larger general audience.

The whole experience must not exceed 5 minutes and should have additional themes in addition to the main theme. The client also wishes to have a greater social impact and incorporate feminist and anti-racist messages with the grand message.

Non-Functional Requirements

It is important for our design to include specific aspects, such as an aesthetic appeal, graphic imagery, etc. As well, our product must be reliable, relatable, and realistic. Evidently, it must be safe, therefore it is necessary for us to maintain a low range of motion in our software. To ensure this, we will test our software and make sure all these factors are included and are satisfactory.

Conclusion

All in all, the specifications and the criteria of the product are laid down to be carried out to the next stage of the project. We have a clear image of what we want to produce to satisfy the client's demand. Some nuances might come up along the way, but they are manageable as long as we have the big picture spelled out and planned as we did in this part of the project.