GNG1103 Deliverable E

Project Schedule and Cost

Team 1.2

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# Introduction

In the previous parts of this project, we used the initial client meeting to determine their needs and interpreted them in technical terms. We ranked these interpreted needs in importance from 1 to 5, and used the most important requirements to form our problem statement for this project. This allowed us to come up with design criteria that includes functional and non-functional requirements, as well as constraints. These design criteria helped us identify target specifications for our requirements and we assigned metrics and ways to measure their effectiveness. After identifying our target specifications and our important requirements, we were then able to benchmark our ideas to existing products in the market that relate to our future product and compare our design criteria. Previously, we took our design criteria to determine the three subsystems that can allow us to tie together all of our concepts into a final conceptual design: the Virtual Environment, the Interaction component, and the Information & Research component that will allow us to promote empathy. In this deliverable, we will be combining our work so far to come up with a detailed design, a Bill of Materials, and a list of equipment. Moreover, we will identify project risks and how to counteract them, as well as outline a prototyping test plan to ensure a successful transition to prototyping.

# Detailed Design

## Detailed Design Description

The purpose of the whole product is to make users of the product more sympathetic to people with disabilities and more understanding of their inconvenience after using the product. Our team will use Unity to build scenes and environments that are as close to reality as possible, allowing users to understand the lives of people with disabilities and experience their identities. First, the product will provide users with professional information and data in the form of text (these information and data will be from the Internet or professional books articles or reports). The second part will be interviews with people with disabilities and let them tell their own life experiences. These two parts are for users to understand people with disabilities. The last part will be the user experience interaction link, allowing users to bring people with disabilities into the first perspective (maybe VR will be presented to make them feel more involved), to experience the inconvenience of their life and to increase users' empathy.

## Detailed Design Drawing



This button will show info regarding this building for this area



Figure : Detailed Design Drawing

# Project Costs & List of Equipment

|  |  |
| --- | --- |
| **Equipment** | **Cost ($)** |
| Unity | $0.00 |
| Unity Assets | $20.00 |
| Total | **$20.00** |

Table 1: Bill of Materials

# Project Risks & Task Plan Update (on Wrike)

## Project risks

The following risks are possibilities that will have impacts on the progression of the prototyping of the project iterations.

* Failing to find adequate sources or interviewees. Not finding the correct people to interview would limit our project to studies and digital sources, rather than primary sources.
* Lack of communication. When we first started the project, we had issues communicating and almost fell behind on the project. While we may be progressing at a steady pace now, someone missing a few messages and falling behind on their tasks is still a risk.
* Technical issues, like a computer not working well, or missing assets in Unity. These are issues that would be a risk to schedule of our project.

In order, the risks could be countered by the following solutions:

* Finding reputable studies beforehand would help us be prepared for such an eventuality, but the best way to solve this issue is to get in contact with family and friends who belong to the minority groups. In our group, Leo’s oldest brother has a physical handicap and would be a possible source. However, just one person is not enough to build a whole project off of.
* This can be remedied by staying organized. We now use a system of assigning tasks on Wrike and writing out our work in the same document, which allows us to know what every person is doing.
* For an issue in the computer hardware variety, having shared online files would allow to simply move over from one device to another and complete the work. Missing Unity assets would be a larger issue as it would force us to either use free assets, which might not meet our specific technical requirements, or find online tutorials to make our own textures and assets. Either way, the prototyping would be slowed down considerably, but not halted.

## Wrike Snapshot: Task Plan Update

<https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=2hLJRSiw7qX3d1BOC5dNJg0RPy0rkhkv%7CIE2DSNZVHA2DELSTGIYA>

# Prototyping Test Plan

## Objective

Our objective is to get a first working version of our experience. The prototype would be a simple room to test out our textures and to recreate and illustrate barriers.

## Stopping Criteria

Once we’re able to achieve a simple room with textures and the mechanism that allows the pop ups with the information to come up, so that we can cover the basic mechanisms of our experience.

## Fidelity

Our first prototype will have some elements that will be included in the final version. The actual environment will be greatly developed in future prototypes, but we will finalize the textures we want to use and the mechanics that we want to add into the experience.

# Conclusion

In conclusion, we aim to develop a product that will promote empathy for people with disabilities through a Virtual Reality experience that allows users to see how a person with a disability may view experiences and how they live their day to day life. This will be done by using Unity to try and replicate parts of the uOttawa main campus as our Virtual Environment, adding an interactive component that will allow the user to experience things in the shoes of people living with disabilities and develop empathy, and lastly, detailed information and experiences in the form of text and/or interviews for a more personal approach. We determined the equipment needed to develop our product to be Unity and Unity assets. In our Bill of Materials, we estimated the total cost to be around $20 for the Unity assets, since Unity is free to use. We determined risks we may face as we move forward into prototyping: a lack of source of interviews, a lack of communication, and technical issues; then we identified key solutions to these risks. An updated task plan was also outlined in order to stay on track and keep making consistent progress. Finally, we developed a prototyping test plan by identifying the objective for our first prototype, our stopping criteria, and the level of fidelity that we will aim for.