

GNG 1103

# Deliverable C

Design Criteria and Target Specifications

Team #F3.3

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**Table 1:** Design Specifications. Outlines the functional and non-functional requirements for the product.

|     | Design Specifications                       | Relation | Value     | Units             | Verification Method |
|-----|---|----------|-----------|-------------------|---------------------|
|     | <b>Functional Requirements</b>              |          |           |                   |                     |
| 1.  | Quick setup time                            | =        | 5         | mins              | Test                |
| 2.  | Ability to exit the application at any time | =        | yes       | N/A               | Test                |
| 3.  | Quick response time after a user action     | <        | 1         | secs              | Test                |
|     | <b>Constraints</b>                          |          |           |                   |                     |
| 4.  | Number of components                        | ~        | 3         | parts             | Test                |
| 5.  | Memory/storage                              | <        | 1         | GB                | Analysis, Test      |
| 6.  | Time of simulation                          | <        | 45        | minutes           | Test                |
| 7.  | Budget                                      | >        | 50        | \$                | Analysis            |
|     | <b>Non-Functional Requirements</b>          |          |           |                   |                     |
| 8.  | Number of languages available               | >        | 1         | Number            | Test                |
| 9.  | Image Resolution                            | =        | 1920x1080 | pixels            | Test                |
| 10. | Framerate                                   | =        | 90        | frames/<br>second | Test                |

**Table 2:** Benchmarking. Describes and compares products that achieve similar goals.

|                            | <b>Equal Reality</b>   | <b>Wee You-Things</b>  | <b>The Diversity Gap</b>   |
|----------------------------|--|--|--|
| <b>Description</b>         | <p>A VR inclusion and diversity training module were created for the workplace. They have developed a wide variety of VR environments that are aimed to promote positive behavioural changes. Their VR library allows individuals to experience and rehearse difficult situations to be better prepared and to understand how to react and overcome hardship.</p> <p><a href="https://equalreality.com/">https://equalreality.com/</a></p> | <p>A friendly, positive phone application designed for young kids to learn to appreciate differences in people. It encourages them to ask questions and allows the kids to create their own character and become part of the story.</p> <p><a href="https://weesociety.com/products/wee-you-things-app">https://weesociety.com/products/wee-you-things-app</a></p> | <p>A Podcast series that aims to create a world where all people are seen, heard, respected, and given what they need to thrive, through thoughtful conversations and authentic storytelling.</p> <p><a href="https://anchor.fm/bethaney-wilkinson">https://anchor.fm/bethaney-wilkinson</a></p> |
| <b>Customer expense</b>    | Dependent on the company needs   | \$3  | \$0 with Spotify premium and other podcast platforms   |
| <b>Age Range</b>           | 20+  | 3-7  | 14+  |
| <b>Needs met</b>           | <ul style="list-style-type: none"> <li>- VR experience</li> <li>- Educates to increase empathy and inclusivity</li> </ul>  | <ul style="list-style-type: none"> <li>- Easy to use and access</li> <li>- Promotes diversity and differences to reduce discrimination</li> </ul>  | <ul style="list-style-type: none"> <li>- Engaging</li> <li>- Provides personal experience</li> </ul>   |
| <b>Storage/Size</b>        | 4 GB RAM   | 55MB   | N/A  |
| <b>Number of languages</b> | English, as well as some others if required by the company.  | English  | English  |

**Table 3:** Target Specifications. Putting numeric values on targets we can strive for and ensure we meet.

| Target Specifications  | Ideal    | Acceptable                 |
|------------------------|----------|----------------------------|
| Memory                 | 4GB      | 8GB                        |
| Budget                 | \$1000   | Min:\$0<br>Max:\$50        |
| Time                   | 5 months | 1.5 months                 |
| Languages              | 3        | Min: 1<br>Max: 5           |
| # of interactive parts | >5       | Headset, and 2 controllers |

**Table 4:** Interpreting what broader sector of the design criteria each specific need falls into

|    | Need   | Design Criteria          |
|----|--|--------------------------|
| 1. | Develop a way of understanding an individual's life experience via virtual reality (VR)                        | Educational              |
| 2. | Educate the user on different races, religions, sexualities and disabilities, and appreciate their differences | Immersive/ interactive   |
| 3. | Users can go through the experience with minimal help, regardless of familiarity with technology               | Ease of Use              |
| 4. | Appropriate for all ages   | Family-oriented          |
| 5. | Easy to access, can be implemented in most schools, businesses or homes  | Compatibility            |
| 6. | Reasonable cost for businesses/ schools/homes to purchase  | Cost (\$)/ Affordability |

### Reflection/Conclusion

The client meeting increased our understanding of the desired outcome for the design project. Learning about the different hardships that the individuals on the panel went through allowed us to think outside of the box for the type of needs that this augmented experience should include, such as; a variety of languages, since people come to the University of Ottawa from a variety of different countries, compatibility for different ages and settings, as well as acceptable computer storage to be able to run the images at high quality and for a reasonable amount of time. In this deliverable, we were able to better specify the needs that the device needs to have.

## References

*Diversity inclusion training in virtual reality*. Equal Reality. (2021, September 10). Retrieved January 28, 2022, from <https://equalreality.com/>

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