


Usability and Immersion

A virtual reality study


The issue

- ▶ Virtual reality is a relatively new technology
 - ▶ New hardware such as the Oculus Rift and HTC Vive have sparked consumer interest in VR
 - ▶ As most consumers are entirely new to this technology, software has to be easy to quickly learn and use proficiently.
 - ▶ VR relies on its ability to create a sense of presence for the user and designing around this concept could adversely affect the usability of the product.
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Previous Systems

- ▶ The inspiration for this project was early virtual reality games such as job simulator.
- ▶ Owlchemy Labs' Alexander Schwartz and Devin Reimer gave a talk at GDC about the challenges of building their VR game which gave me a lot of ideas to work with in terms of immersion and usability in VR
- ▶ <https://youtu.be/G5a5VldjiJA>

The solution

- ▶ Using unity and VRTK create two versions of the same space and build one to be extremely easy to use and the other to be as immersive as possible
 - ▶ Ask participants to test both versions of the software and answer a questionnaire about features in each version and which they prefer to use.
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Did it work?

- ▶ I believe so, yes.
 - ▶ Two of the questions on the questionnaire were; which version is easier to use? And which version was more immersive?
 - ▶ Most participants agreed that version 1 was more usable and version 2 was more immersive which is what was intended when creating the two versions.
 - ▶ Lots of feedback was provided including some that I hadn't considered during development.
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Conclusions

- ▶ Of course both usability and immersion are important in Virtual Reality.
- ▶ Usability appears to be most important in things that users frequently have to do
- ▶ Systems should be put in place that allow users total immersion until they start to feel frustration, at which point immersion is already compromised so usability features aren't so intrusive.

The product

- ▶ Unfortunately a HTC Vive isn't available in the computing department so I am unable to demo the application.
- ▶ Video of Application in use:
[https://youtu.be/\[REDACTED\]](https://youtu.be/[REDACTED])