Deliverable B

GNG 1103 - B04

University of Ottawa

Faculty of Engineering

October 8, 2020

Jackie Zhou - Youssef Yacout - Shubham Ambalia -

Rawan Al Sayed - Mustafa Warsame

Introduction

Throughout the years, technology has advanced to the point where it can be useful in any type of working field. With immersive technology such as augmented reality and virtual reality, the building industry is evolving rapidly.

Planning interior projects in virtual reality will save both time and expense. Around the same time, augmented reality strengthens the method of building at all levels and personnel preparation.The goal of the project is to create a virtual environment where construction workers are able to visualize their whole project with AR/VR. Both AR and VR can enhance communication among project stakeholder/construction workers which will reduce the time and errors of the project. Patrick from EllisDon had the following requirements:

Client Statements and Observations

This client wants to push boundaries in this industry, creating a 3 dimensional view of the infrastructure, while being able to switch from a first person perspective to a third person perspective. The goal is to discard 2 dimensional drawings which can often lead to misinterpretation, to immerse the workers into the structures, and be able to create the best possible infrastructure. The following are client statements and observations:

Priority Chart

Need #	What is the need?	Importance
1	Compatibility with IOS and Android devices	3
2	Free to use - open source	3
3	To visualize structures/buildings in 3D	4
4	Can be viewed without connecting to the web	2
5	The ability to view IBM(Mechanical, Electrical, etc)	4
6	To be used while standing for safety reasons	5
7	Training/implementation documentation provided	3
8	Design a platform or an interface for VR/AR	2
9	Minimal hardware requirements	3
10	Navigation and interface must be user friendly	1
11	Can only be viewed at the project site	1
12	Can see dimensions	2

Customer Needs

- Establish a user-friendly and easy to navigate program that is simply accessible
- Have the ability to either use VR or a tablet
- Used with any device, it is an open source for anyone
- Construction worker should be relaxed and free of hazards
- Program needs to be bilingual for accessibility purposes

Problem Statement

There is a current demand that is existent in the construction industry to efficiently and effectively help construction workers and any worker on-site to be educated on all aspects of their current project. The interface needs to be bilingual, user-friendly, easy to control and compatible with different operating systems, though, we face financial constraints and a short time frame.

Conclusion

In conclusion, the goal of this project is to introduce construction workers/personals to a VR based learning environment. That will help them understand their project on-hand better and increase their productivity and efficiency. This product will provide them with a good solid understanding/overview of their on-hand project.