

3-D Virtual Tour of The Olson Center

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Background

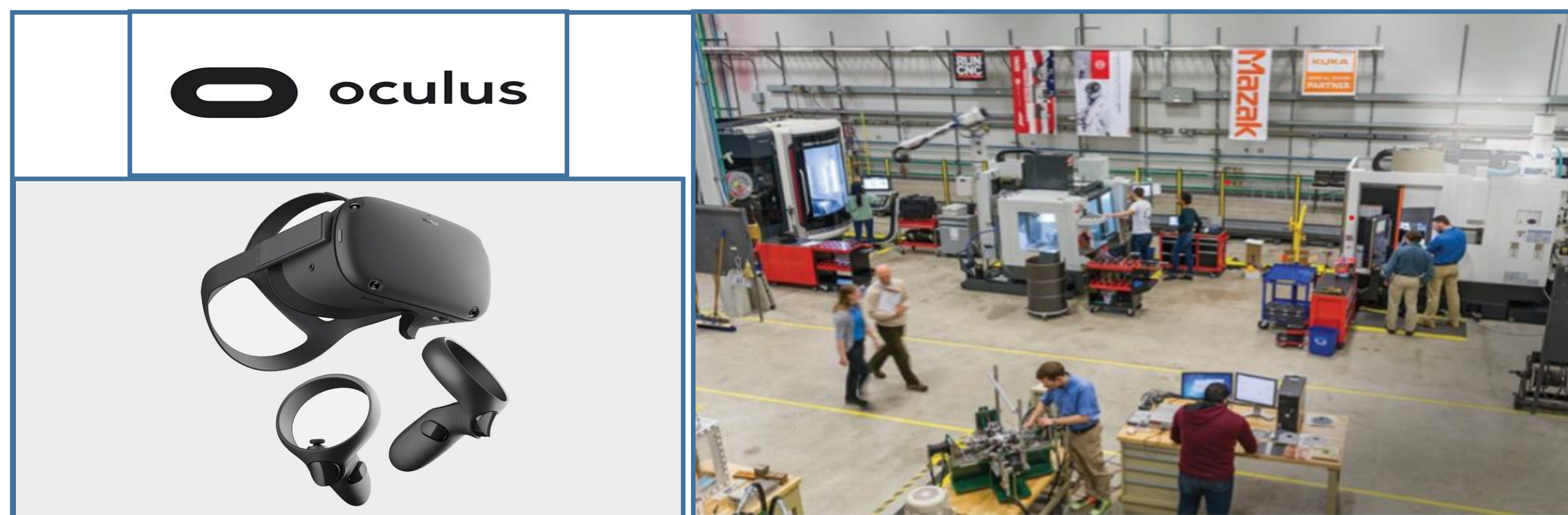


Image 1&2 – Oculus headset

Image 3 – Interior of Olson Center

Advances in modern technology have allowed us to reproduce training environments in a way that was only thought possible in the distant future. Through virtual and augmented reality applications, new workers can gain real experience using potentially dangerous machinery with no risk to themselves and without wasting valuable machine or tutor time. Once the program is created, new workers can be educated on a guided lesson with no interaction by instructors or fear of damaging expensive machinery or parts.

Introduction

Our goal is to advance the use of technology in the production industry through the use of virtual reality to help train and familiarize new people to the New Hampshire's Olson Center and its equipment. Such an endeavour paves the road for effective training tools for other manufacturing facilities, as well as provides the Olson Center with a template for future workers.

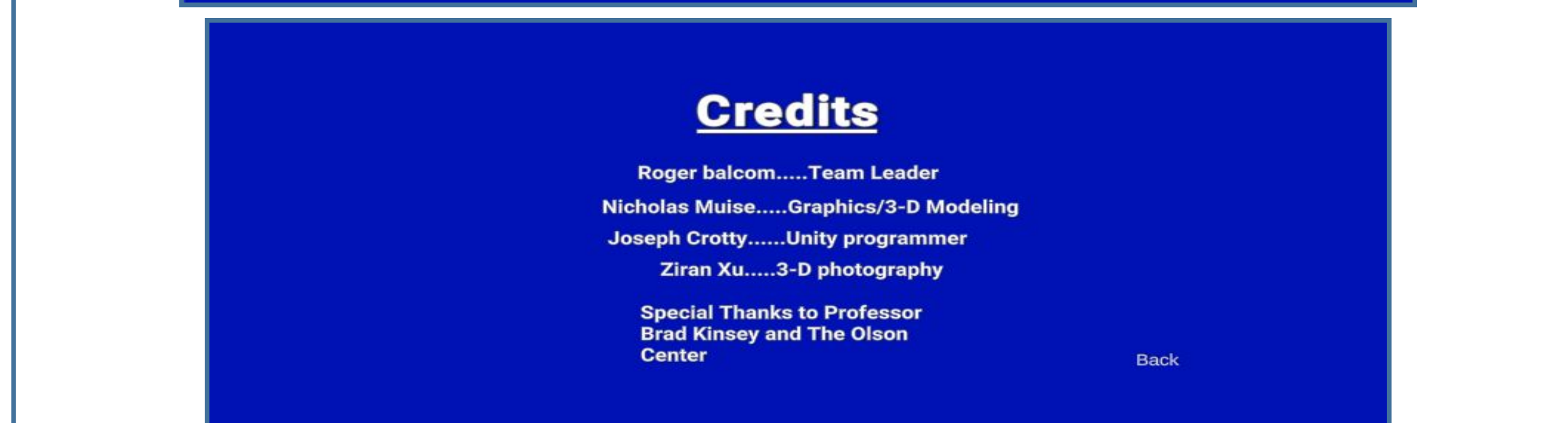
Research Objectives

- Record 3D Tour of Olson Center
- Learn and utilize Unity to create a menu
- Upload final product to Oculus Quest for VR tour

Acknowledgements

Special thanks to Professor Kinsey and the Olson Center

Results



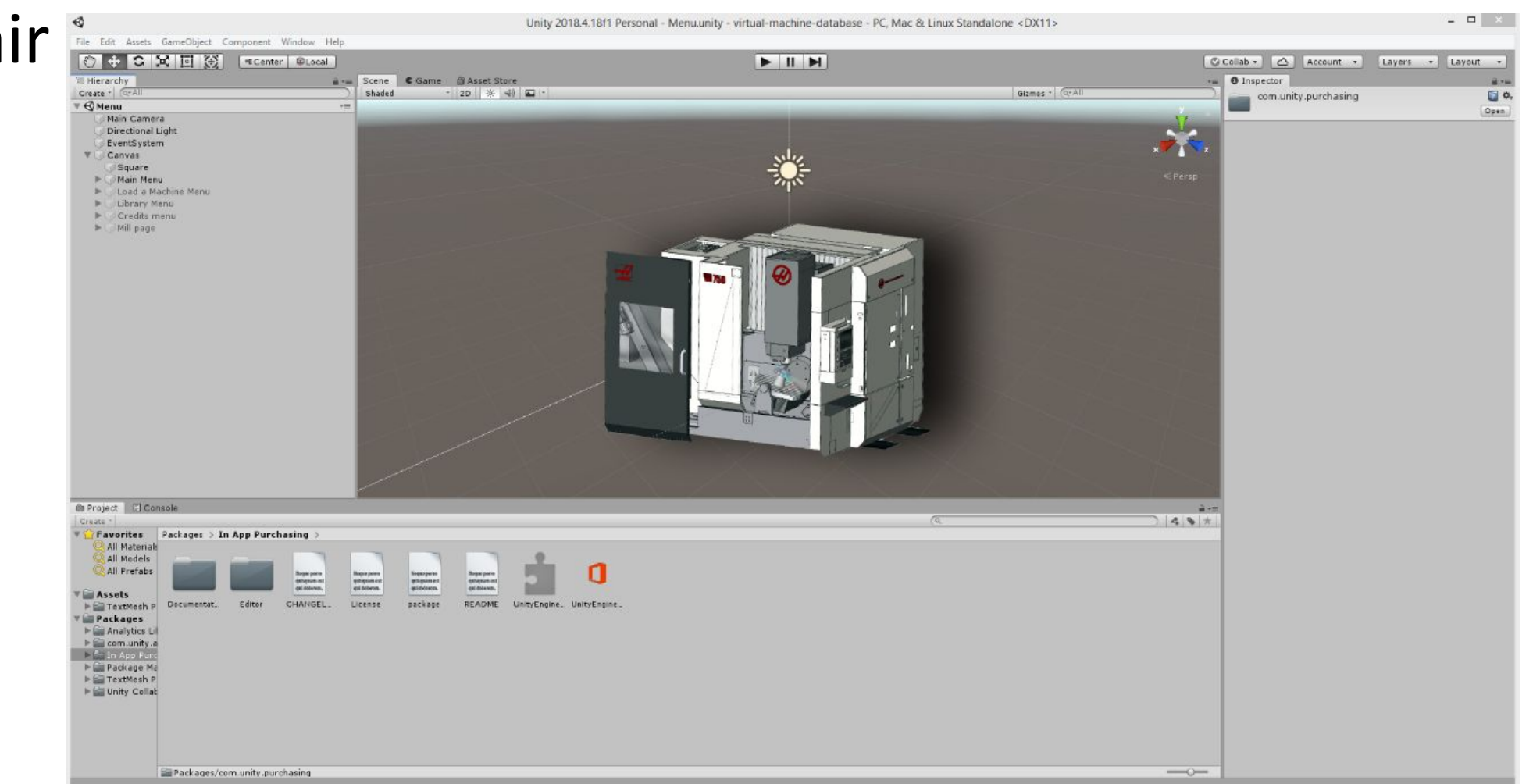
The figures above show the menu created from our Unity program. The goal is to create an easy to use program for the user to be able to navigate and use the menu to either watch the 3D tour or load a machine model.

Conclusions

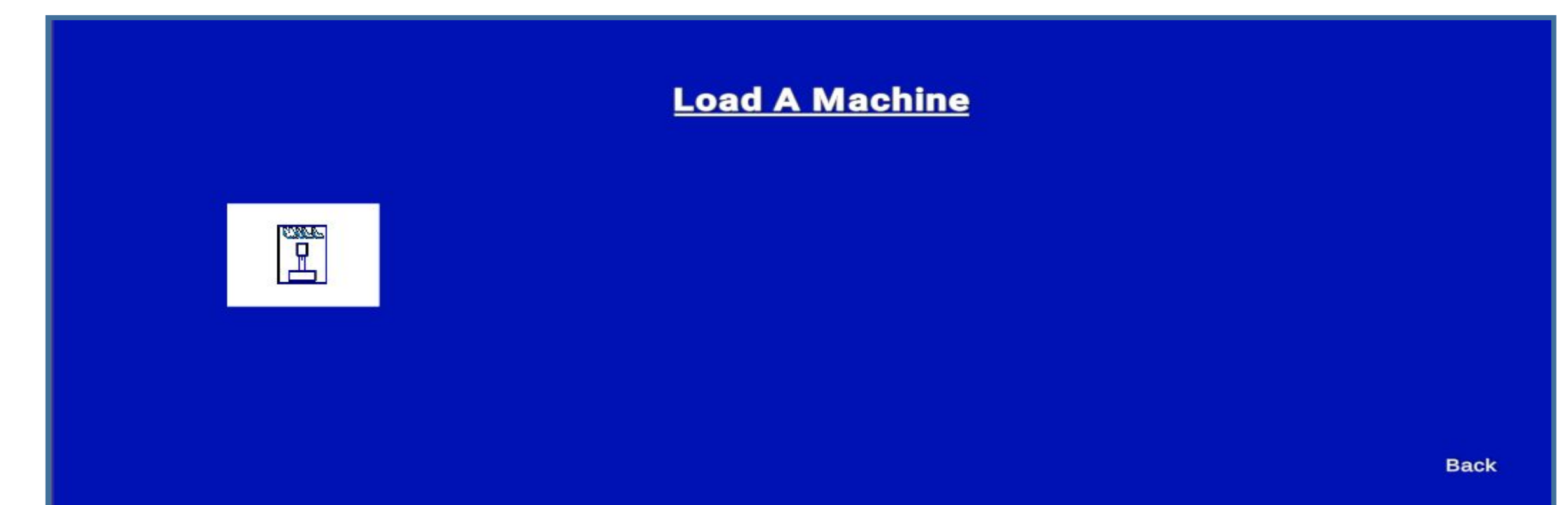
Overall, our group has successfully bridged the gap between the virtual world and reality through the use of unity and oculus. We are furthering the uses of technology and training which is the future of the production industry and the goal of the Olson Center. After learning the Unity software programming our group was about to utilize its capabilities to create a simple and easy to use menu page that will allow users to have the option to take a 3D tour of the Olson Center or be able to view a machine model on the Oculus Quest virtual reality headset. This will be used to efficiently and effectively familiarize people with the Olson Center as a whole or with specific machines in the center, ultimately saving time and money.

Areas for Further Study

Implementation of different machine types in a 3-D atmosphere
-Training or repair



Better Compression of Files
Different types of headsets/controlling methods
-PC vs OCULUS RIFT/QUEST



References

- Unity Software (<https://unity3d.com/get-unity/download>)
- Oculus VR Lens (<https://developer.oculus.com/downloads/>)
- Microsoft HoloLens (<https://www.microsoft.com/en-us/hololens>)
- Olson Advanced Manufacturing Center (<https://ceps.unh.edu/Olson-Center>)



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