

INTRODUCTION

Many outdoor activities these days require a large initial mental and economic investment to get started. This makes people less likely to try new outdoor activities. In collaboration with **Columbia Sportswear** and **Intel Corporation**, we set out to develop an interactive product demonstration with virtual reality to combat this issue.

This project has the potential to inspire people to get outdoors and try new things by first getting them comfortable in new environments or performing new movements. It strives to make outdoor activities accessible to everyone regardless of their experience level.

This project will not only inspire but also improve the retail experience by making it more immersive, interactive, and informative while being entertaining at the same time.

BACKGROUND

The current retail experience for outdoor gear is disconnected from the experience that consumers have when using the gear in the outdoors. Additionally, the current experience is neither interactive nor immersive.

An ideal retail experience needs to be informative yet entertaining to inspire consumers to get outdoors. Columbia Sportswear has already created a few projects that involve displaying clothing virtually so the main focus of our project was to incorporate a physical aspect into the experience. We also hoped to create a bridge between our new ideas and Columbia's existing projects.

While the overall idea of this project could be translated to many different outdoor activities, the focus of this project is fishing, in order to promote the Performance Fishing Gear (PFG) line at Columbia Sportswear.

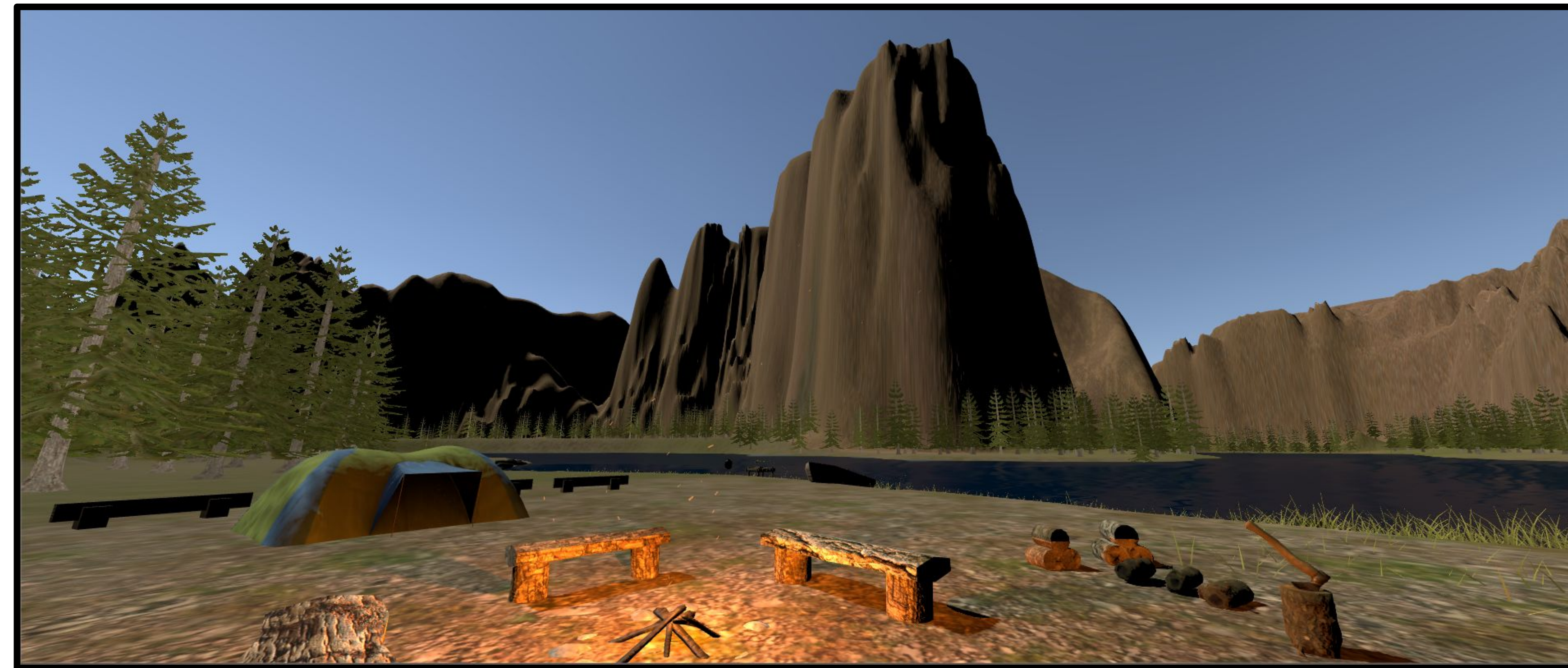


CLIENTS

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Outdoor Experiences in Virtual Reality

Simulated Fishing in the Retail Space to Generate Consumer Confidence and Engagement



Our Unity Engine outdoor environment including an animated river, a river-side campsite, and potential product placement.

PROJECT DESCRIPTION

We developed the project using the Unity Game Engine and the HTC Vive. The primary components of our virtual reality experience are the terrain and the user interaction.

We modeled our environment off of Smith Rock State Park in Central Oregon. More specifically, the iconic sheer cliffs and vegetation were the inspiration behind our design process.

We also put an emphasis on heavy user interaction within the experience as we found this was one of the most effective ways of aiding in immersion in virtual reality. We broke down the experience into two sections: a campsite area and a fishing area. Users will start in the campsite area where they can pick up and play with various items. When the fishing rod is picked up, the user will be teleported to the river where they can go fishing.

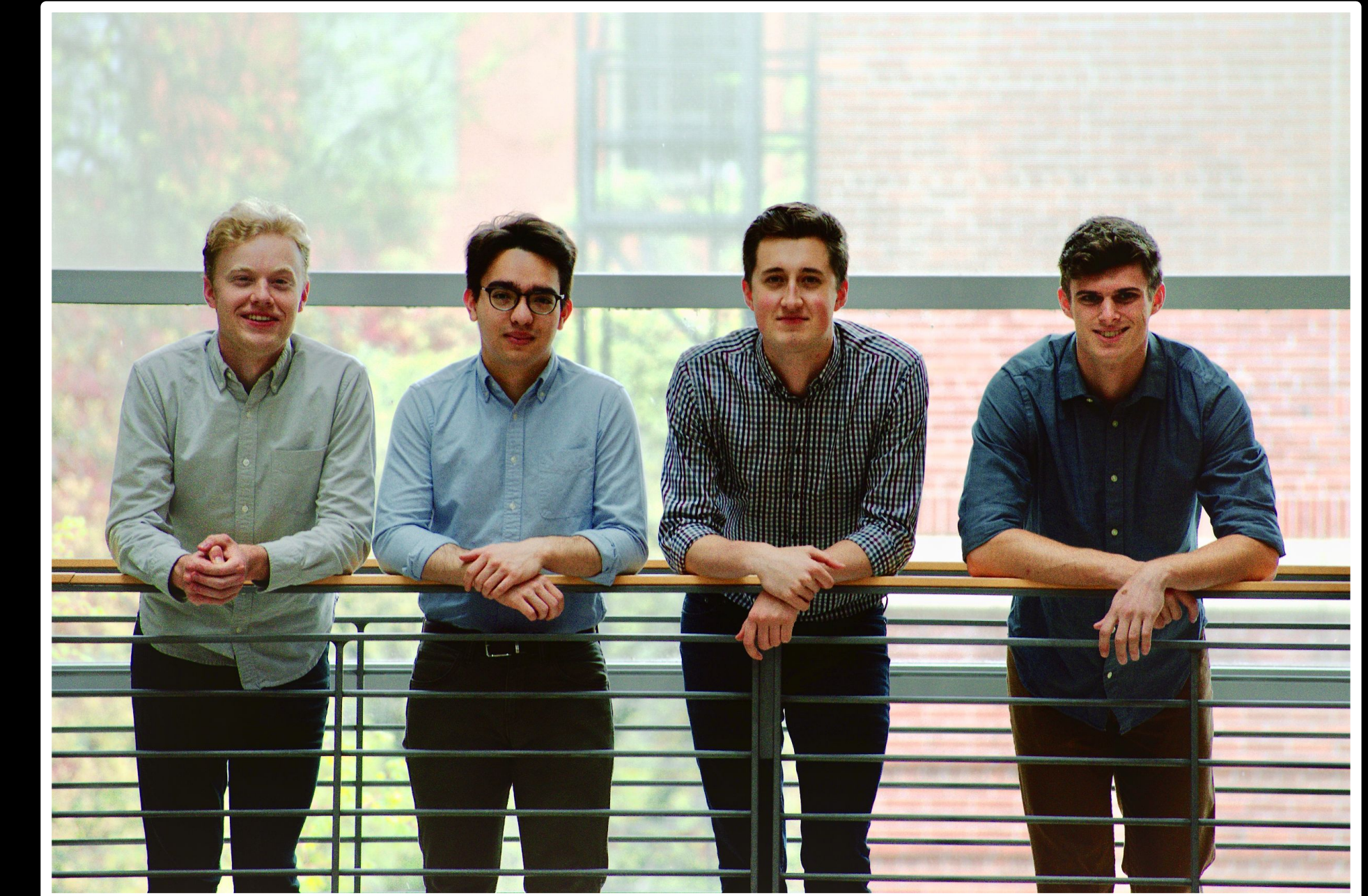


RESULTS

- Added gameobject touch-logic and animation to increase user engagement and in-turn improve virtual realism.
- Harnessed the Unity physics engine alongside the Ultimate Rope Editor to develop an interactive fishing rod and line.



- Took advantage of collision dynamics and velocity manipulation to create catchable fish with realistic movement animations and random swimming behaviour.
- Used position vectors and transforms to create teleportation pads within the environment to allow more user flexibility despite space limitations.



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LOOKING FORWARD

Our main goal throughout the project was developing virtual realism. We found that the most important factors that influenced realism were realistic interactions, responsiveness, and graphical clarity.

With our limited virtual reality background and knowledge we completed an experience that can certainly help Columbia and many other companies. Looking forward, this project can be taken in a variety of directions and we know there is huge potential in the retail space.

- We were able to create an immersive, virtual retail space in which users can partake in a outdoor fishing experience alongside virtual product lines.
- A physical activity users can engage in while wearing outdoor gear gives them the opportunity to test clothing while performing realistic movements.
- Our application could help improve the retail experience by making it fun, interactive, and informative.
- This project has demonstrated the great potential of Virtual Reality to redefine and transform outdoor gear shopping.

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