





# Virtual Reality Provides IMMERSIVE EXPERIENCE

AT BRIGHAM YOUNG UNIVERSITY

by Anna Johnson

• Metal skyscrapers reflect in your eyes as you are transported to the cultural, financial and media capital of the world with its more than eight million inhabitants—and you are 50 feet tall.



### Enhancing the BYU Academic Experience

The Harold B. Lee Library allows students and faculty to have that experience using an HTC Vive headset the library purchased last year. Students and faculty can use the VR headset—located on the second floor of the library at the Science and Engineering Help Desk—to enhance their overall BYU academic experience.

“Not only could you walk through the streets of Manhattan, but you could do it while being the size of King Kong,” said HBLI science reference specialist Jed Johnston.

### Using VR to Intensify Learning

Professors and students are already using the VR applications in many ways to intensify and improve their academic learning experience.

“We’ve got a virtual model of Jerusalem that a religion professor and a computer science professor are working on in conjunction with the Church Motion Picture Studio. Right now, it’s just the city of Jerusalem at the time of Christ, but they will eventually develop other locations mentioned in the New Testament,” Johnston said.

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Anatomy students are also using the VR headset to study the human body. An app called Organon allows students to pull apart a virtual human body and point to the different organs to learn their names and more information about them.

A mechanical engineering student who designed a car could climb inside of a virtual version of the vehicle. Through the VR headset, he or she would be able to look at the dash and the controls to test out his or her designs before actually building it.

Animation students interested in game development are benefitting from testing many different types of mechanics for video games within the headset.

“Even for just understanding the mechanics of games, they have to be able to experience it because there’s no better experience other than being inside of it,” research assistant Scott Faress said.

Students can even travel the world using Google Earth. “There’s something surreal about being able to visit almost anywhere in the world at just the touch of a finger and experience it immersively. It’s unreal,” Faress said.

The Harold B. Lee Library hopes to use virtual reality to plan future construction. Administrators can simulate construction virtually before spending hundreds of thousands of dollars.

### Projects in Progress

The library also has its own projects in progress that use VR technology. For example, the HBLI is trying to scan the human body so medical schools that don’t have access to cadavers — especially in developing nations — can explore the human body in the classroom.

“Dr. Wisco, a former professor of human anatomy, told us that 3D models of organs and systems would be very helpful because students studying off of pictures tend to only recognize body parts from certain viewpoints, but as soon as a liver or another organ gets rotated, the students often no longer know what they’re looking at,” Johnston said.

### Using VR to Plan Future Construction

The library also hopes to use VR to plan future construction. Administrators can simulate construction virtually before spending hundreds of thousands of dollars.

Additionally, VR could make virtual tours of the library and virtual models of the library’s exhibits to make them more interactive.

“Traditionally we spend thousands of dollars putting amazing exhibits together, and then after a while, they’re taken down and you can’t experience them ever again,” Johnston said. “However, now that we have virtual reality, we’re working with the exhibits manager/designer to digitally preserve the experience even after an exhibit comes down.”

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### Pushing for Awareness

Although BYU students and faculty can reserve the VR headgear online or at the Help Desk, most people on campus don't know it's available in the library, and if they do, they don't know how to use it.

"Now we really just want to push greater awareness of it. That way, people know the resources are available," Faress said.

### Engaging Faculty

Physiological sciences librarian Meg Frost is conducting a study to see how the VR technology is being used in the library and how students would like to use it.

"I think it would be great if we could work more closely with specific faculty or with specific courses to support assignments related to virtual reality. I think that would be really fun," Frost said.

### BYU Grad Makes VR Tech Possible

BYU mechanical engineering grad Jeffery Smith made it possible for the VR technology to be in the library. During his junior year at BYU, Lockheed Martin entered into a partnership with Smith to fund his research on VR's applications in industrial training processes.

Smith envisioned how VR technology could be beneficial for the library and could bring BYU together in an interdisciplinary way, and he submitted the proposal for the library to purchase the headset.

"It's like to me the future of immersive collaborative learning. Instead of learning audibly from a lecture and someone just telling you, or learning from a textbook and reading, it's an all-inclusive sensory experience," Smith said.

ABOUT THE AUTHOR: Anna Johnson writes for "The Daily Universe" at Brigham Young University.

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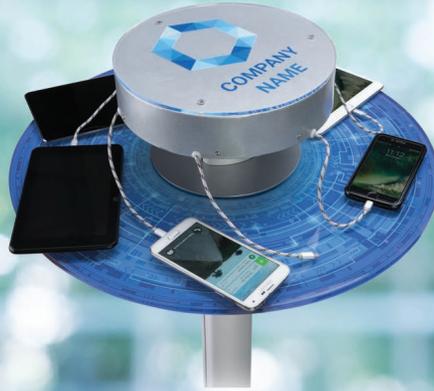
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