Virtual Reality Technologies@UNM

Karl Benedict, Tim Castillo, Kevin Comerford, and Mary Wise

Virtual Reality Technologies@UNM

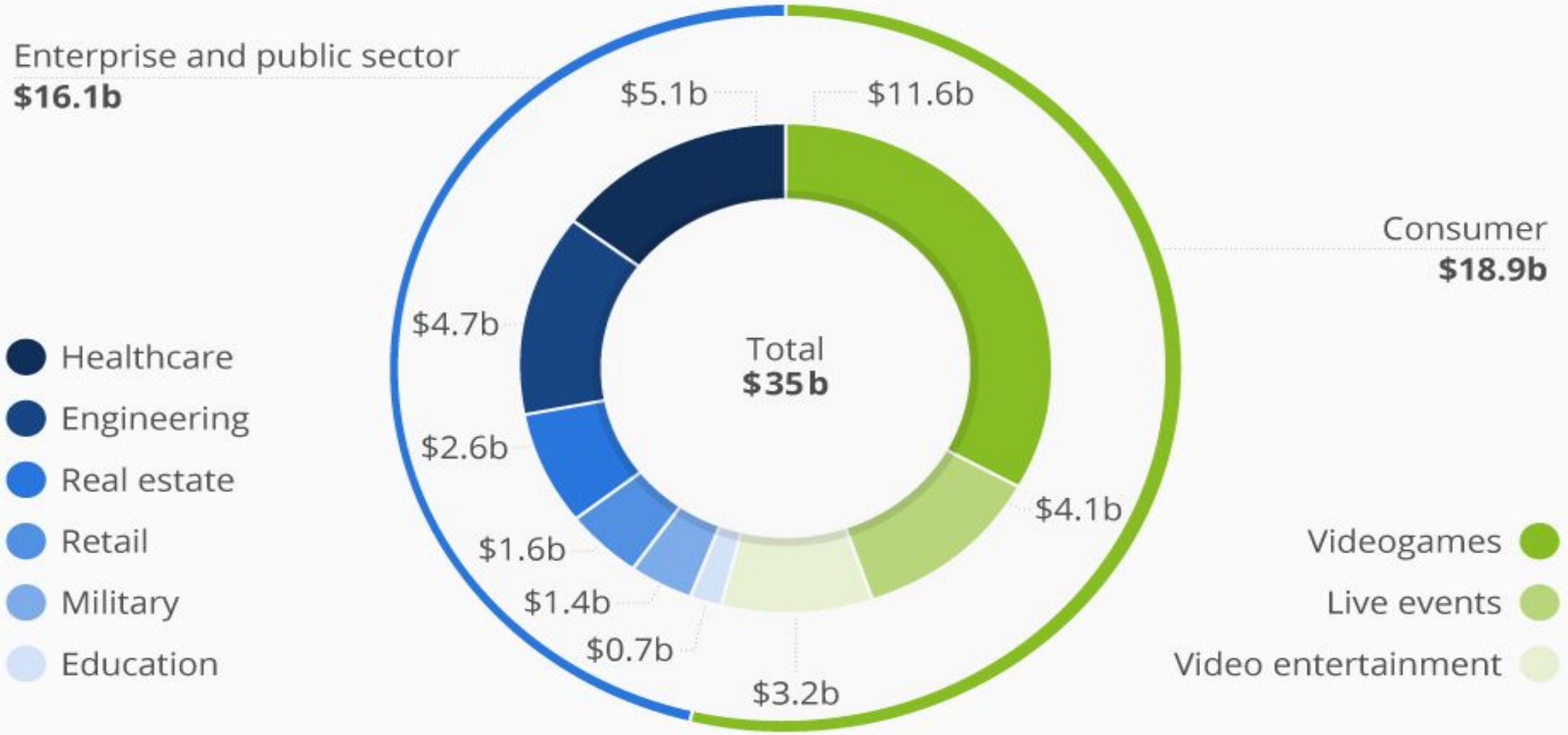
Tim B. Castillo
Associate Professor/Associate Dean of Innovation School of Architecture + Planning

Emergent Technology for Designers

Arch 462/662 IFDM 491

The Diverse Potential of VR & AR Applications

Predicted market size of VR/AR software for different use cases in 2025*



@StatistaCharts

* Base case scenario

Source: Goldman Sachs Global Investment Research

statista

Ready Player One

Emergent Technology for Designers

Arch 462/662 IFDM 491

Guest Innovators

Brandon Garrett, AIA
Architect + Design Technology Leader
Dekker/Perich/Sabatini

Brandon has over a decade of experience as an Architect and Technologist. He specializes in the adoption, implementation, and training of new applications in order to leverage the latest technology to enhance the design process and bring added value to clients. He leads the firms Design Technology and Visualization team and enjoys keeping pace with the rapid rate of technological advancements. Brandon is currently overseeing development of custom software applications, Building Information Modeling (BIM), Virtual Reality (VR), Data-driven Parametric Design, Energy Analysis, Smart Building Sensors and Interactive/ experiential design

John-Mark Collins
Founder/Creative Director
StoryLab Inc.

John-Mark is a creative problem solver whose passion lies in using technology to augment the real world in beautiful and engaging ways. John-Mark received his BS in Computer Engineering (Minor in Electronic Art) and MBA from the University of New Mexico. In addition to technology, John-Mark has studied in both Art and Architecture and has participated in several public electronic arts exhibitions. He has worked with a variety of clients, including Coca-Cola, Starbucks, HP, Intel, several Smithsonian Institutions as well as Fermi, SLAC, and Sandia National Laboratories. Since early 2017, John-Mark has been pushing his new

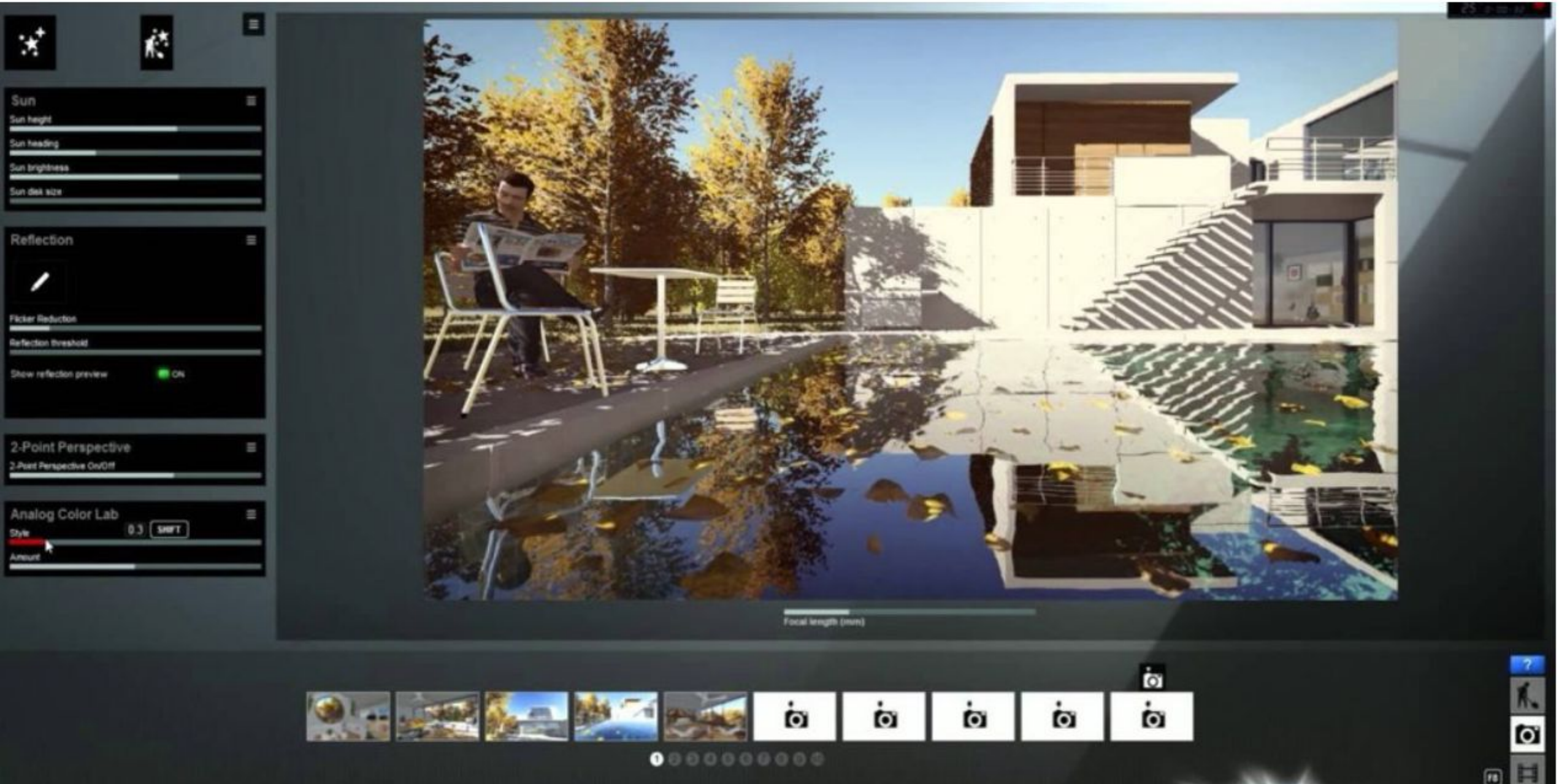
Felipe Mendoza
CEO
Simian Apps, LLC

Research and develop augmented reality wearables and also develop software for them. We are dedicated to modernize various domains such as education, aviation, transport, heavy industry and defense industry through cost effective augmented reality applications. Our applications are designed to enhance the productivity and provide better user experience with real time analytics.

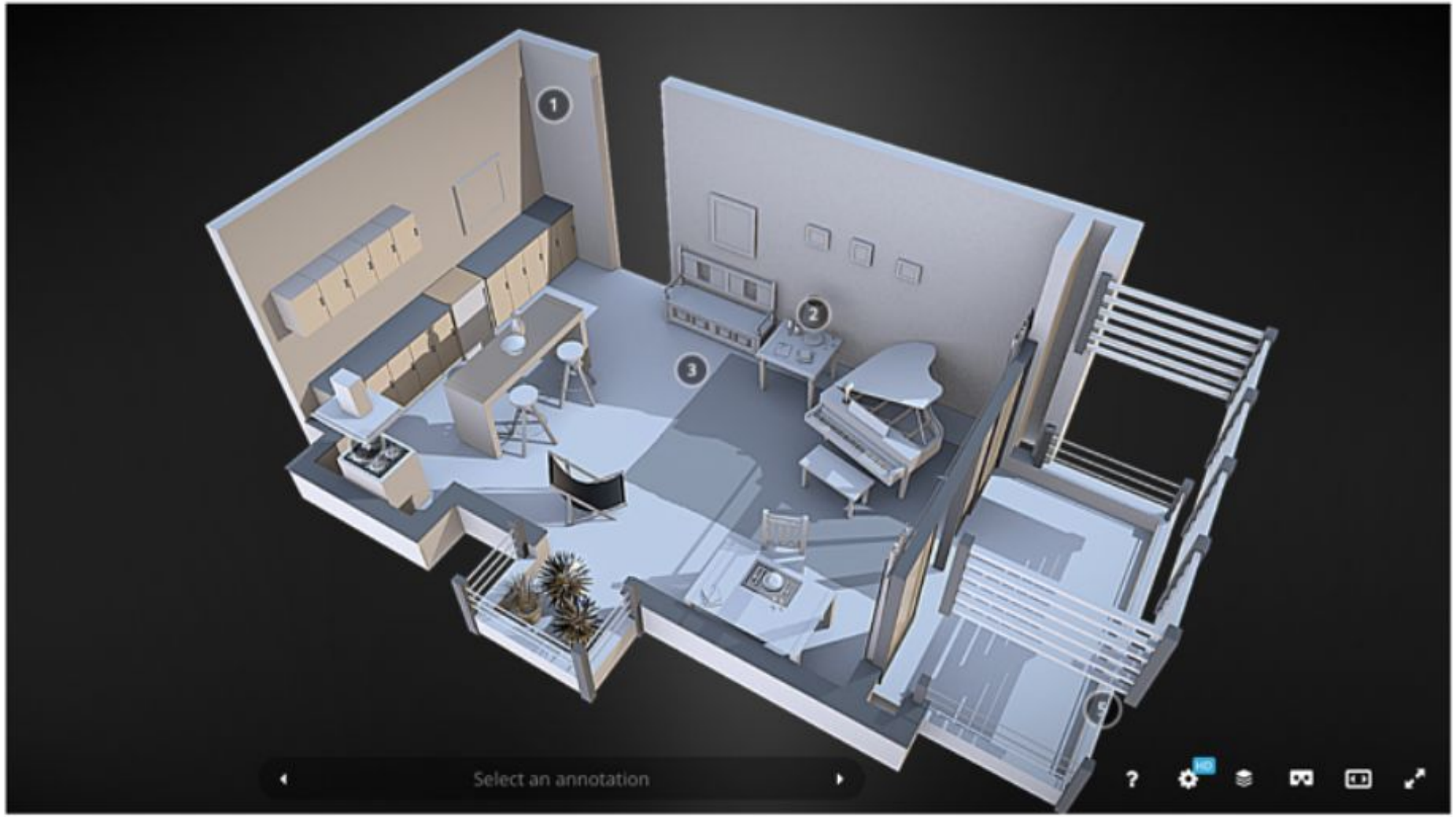
VR video

VR movie :: Frias Jaime - Master of Architecture student https://www.youtube.com/watch?v=b9NgbqGgZiY

VR Environments


Sun
Sun height
Sun heading
Sun brightness
Sun disk size
Reflection
Flicker Reduction
Reflection threshold
Show reflection preview
ON
2-Point Perspective
2-Point Perspective On/Off
Analog Color Lab
Style
0.3
SHIFT
Amount
Focal length (mm)

Sketchfab EXPLORE STORE BETA COMMUNITY Search Upgrade UPLOAD



IN COLLECTIONS

Rooms
Paul (Sketchfab)
139 116

Architecture
Studio3Axis
209 67

Architecture
Bart
52 26

SUGGESTED MODELS

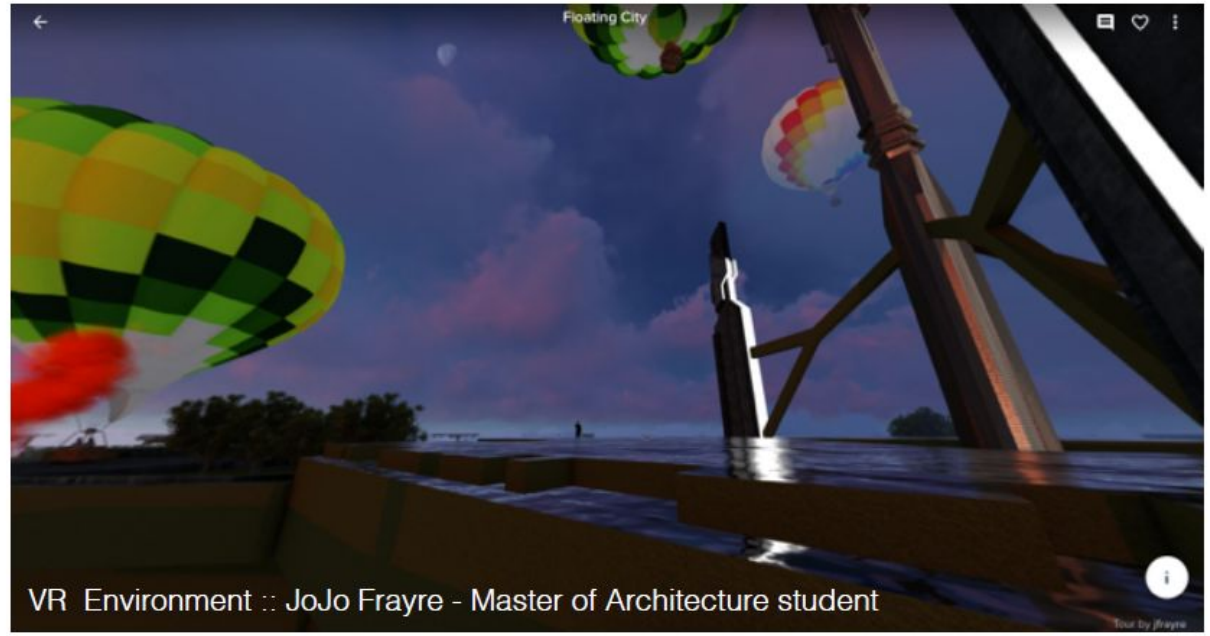
Modern Studio Apartment

ENSCAPE™

GALLERY COMMUNITY BUY FREE TRIAL VIDEOTUTORIALS SUPPORT

Visualization Gallery

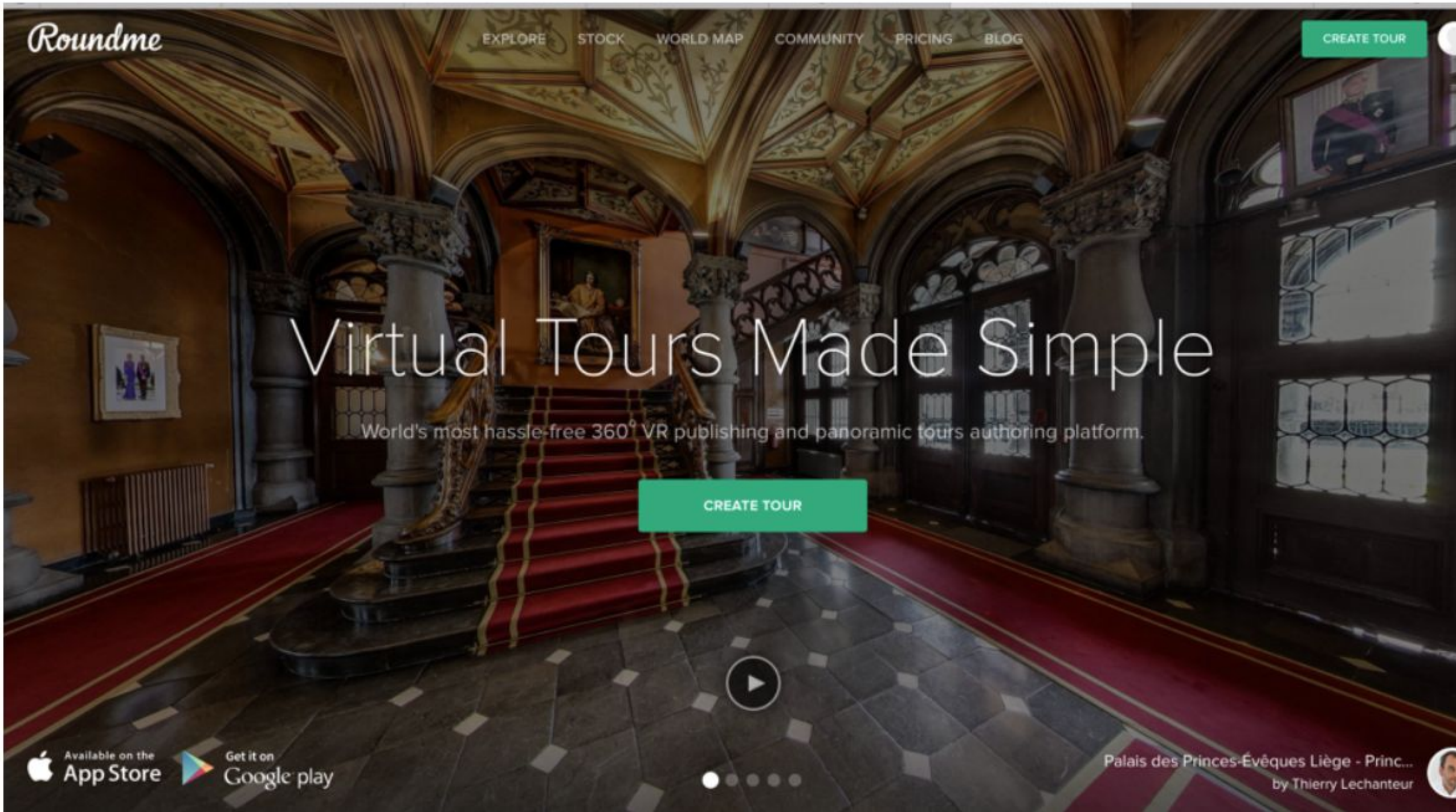
See what other architects achieve with Enscape!



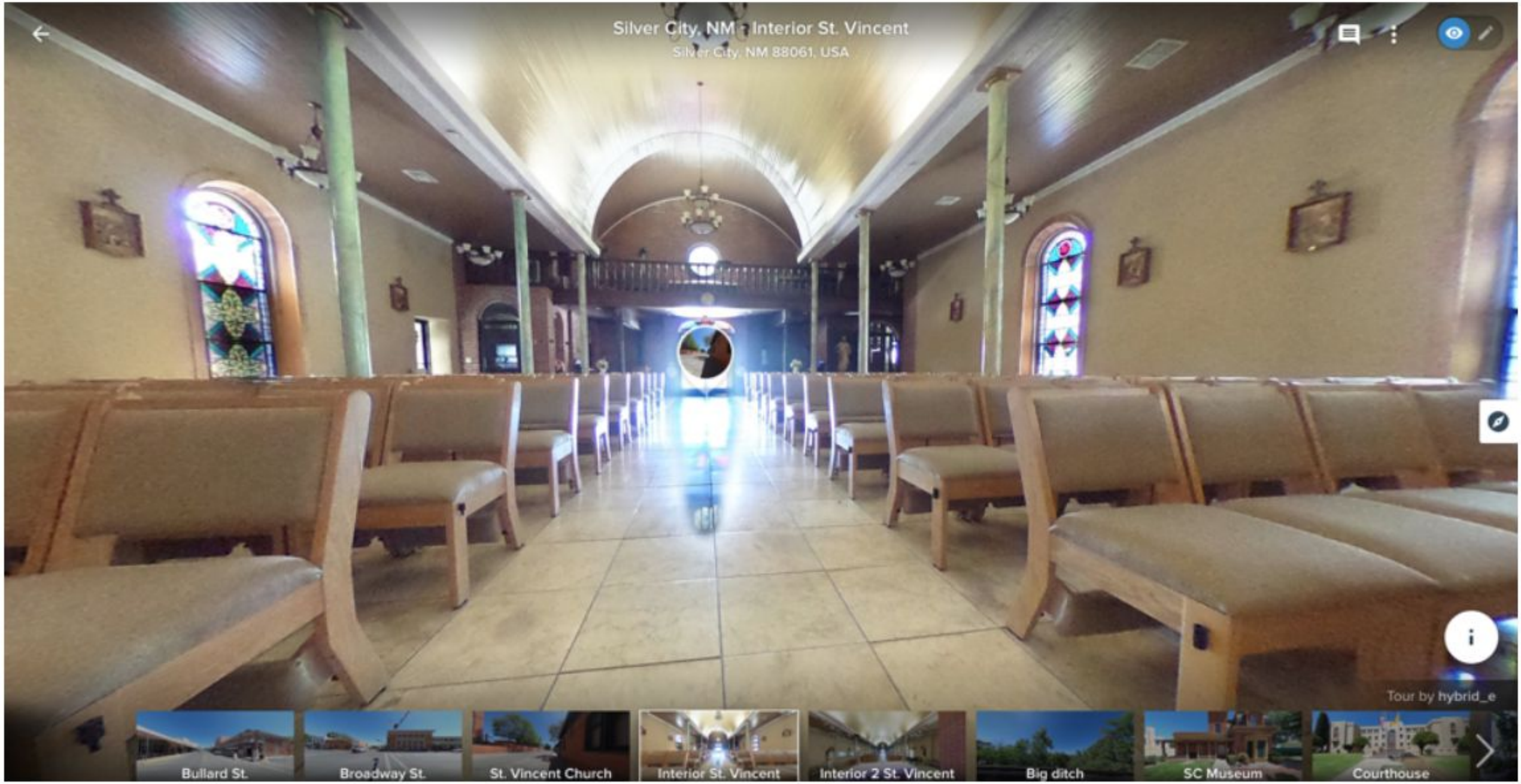
VR Environment :: JoJo Frayre - Master of Architecture student

VR Environment :: Frias Jaime - Master of Architecture student

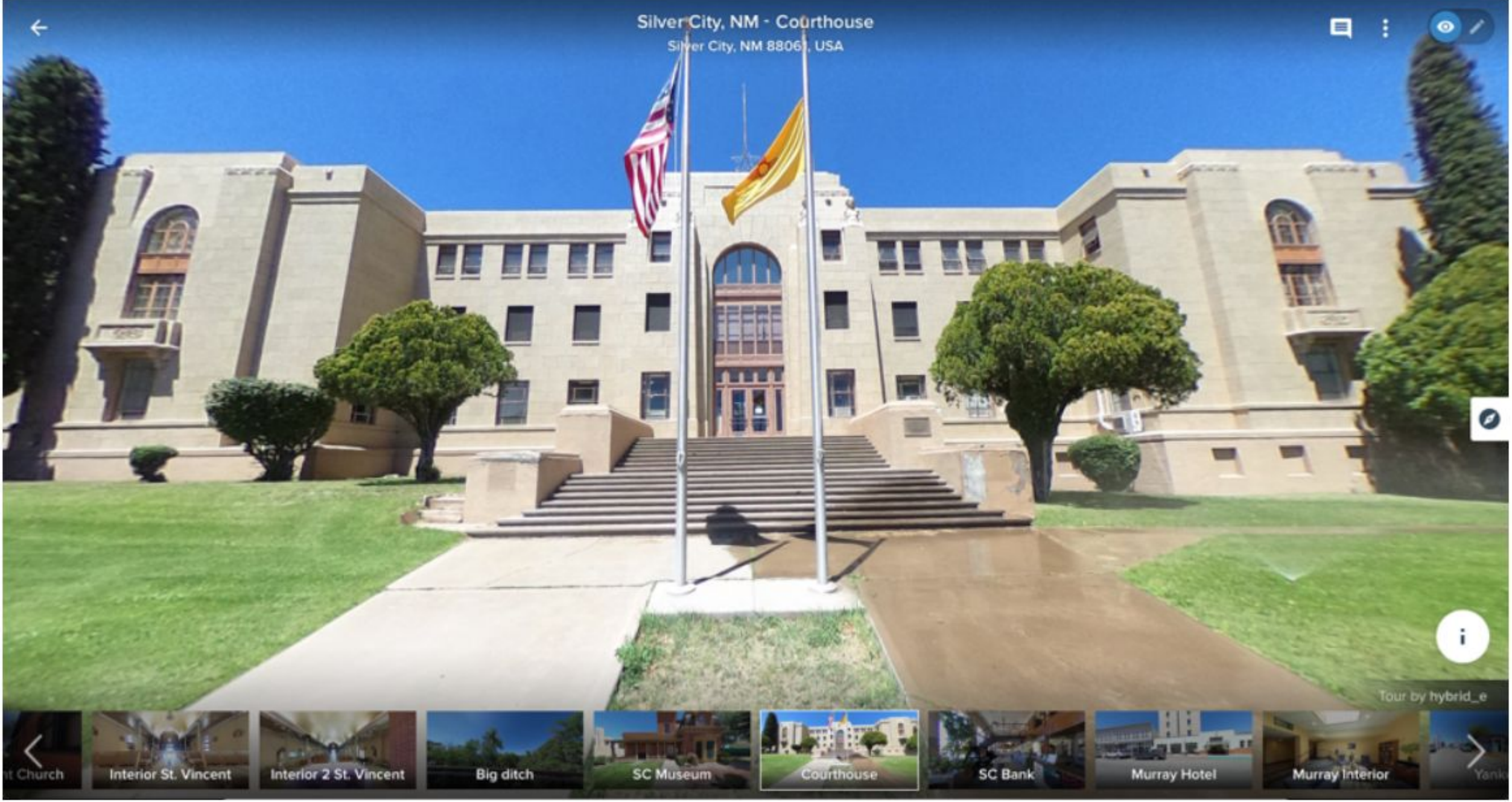
Cultural VR


Roundme
EXPLORE
STOCK
WORLD MAP
COMMUNITY
PRICING
BLOG
CREATE TOUR
Virtual Tours Made Simple
World's most hassle-free 360° VR publishing and panoramic tours authoring platform.
CREATE TOUR
Available on the App Store
Get it on Google play
Palais des Princes-Évêques Liège - Princ...
by Thierry Lechanteur

Round Me :: Silver City, NM

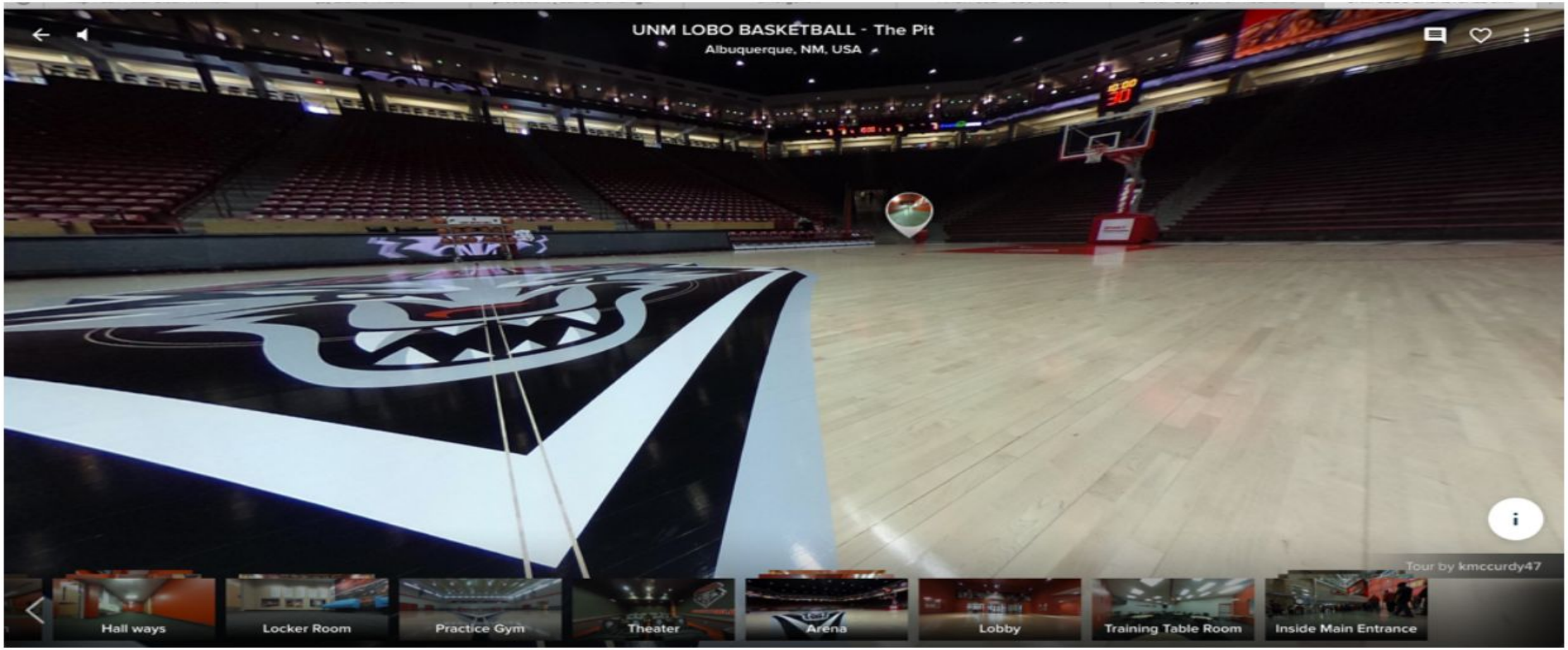


Round Me :: Silver City, NM



https://roundme.com/tour/243535/view/704816/

Round Me :: Silver City, NM

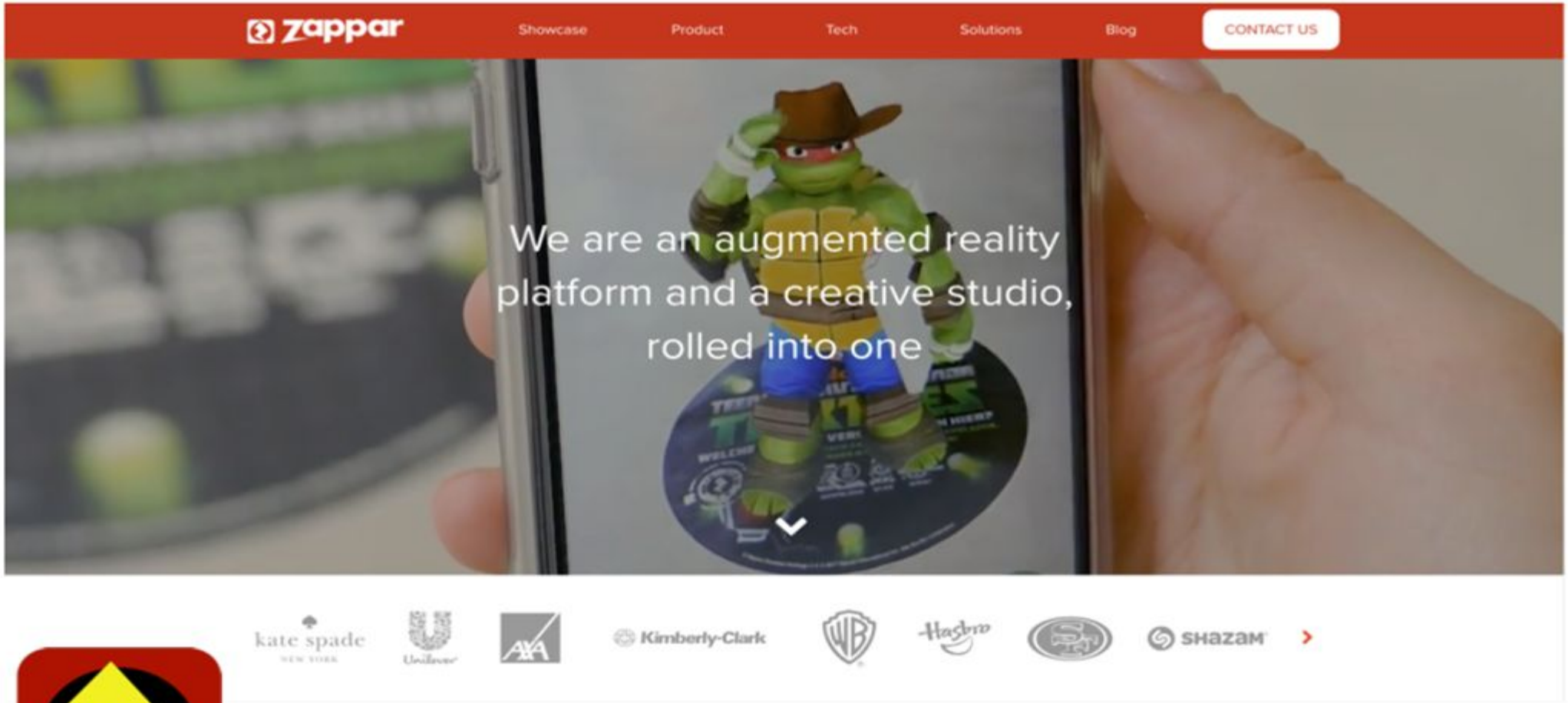


VR Experience :: Kurtis McCurdy – Bachelor of Architecture student

https://roundme.com/tour/214783/view/633381/

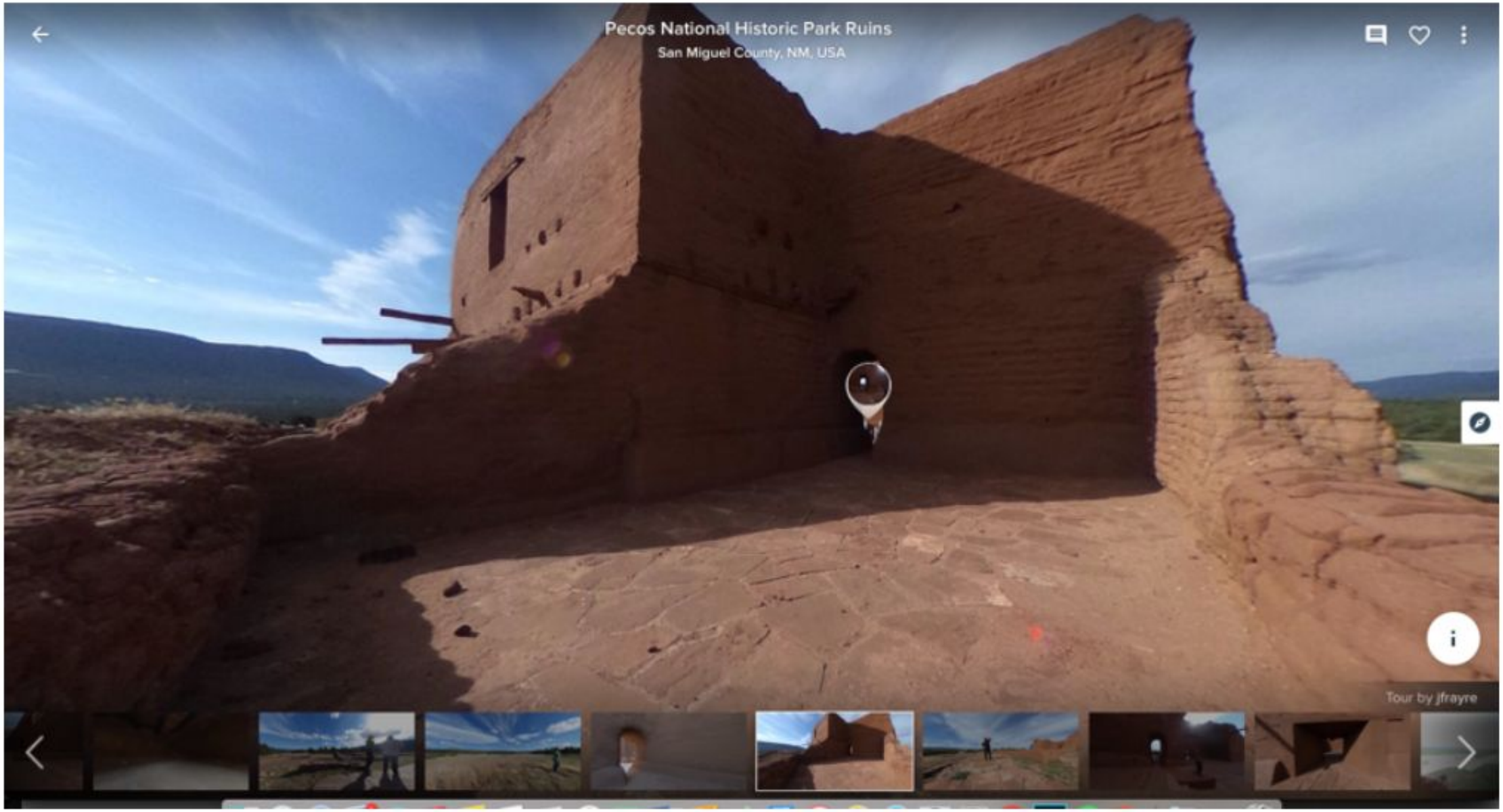
Round Me :: The Pitt

Cultural AR



zappar

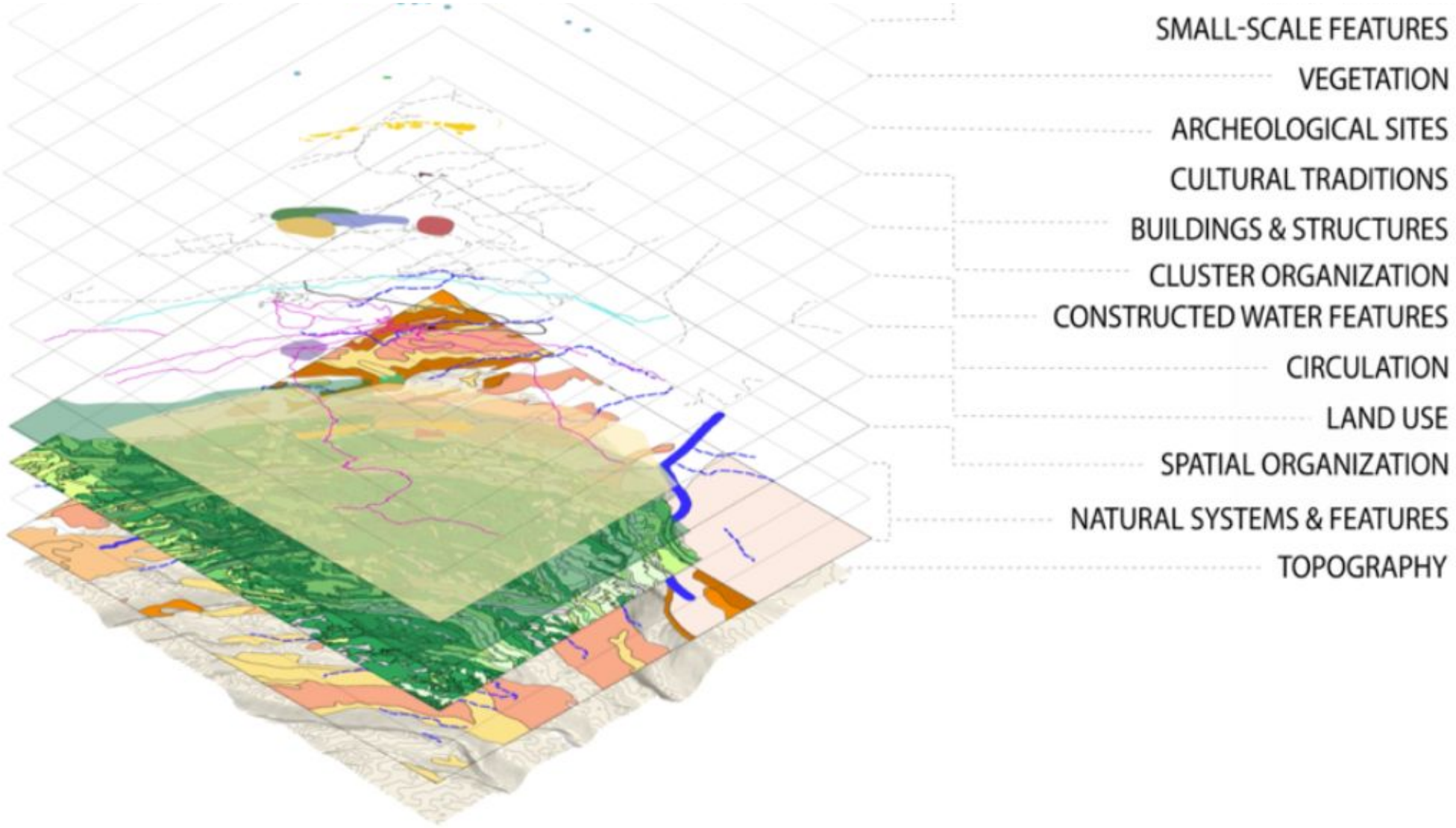
Zappar AR :: Silver City, NM



VR :: JoJo Frayre - MS Arch student

Zappar AR :: Pecos National Park Ruins, NM

Systems Animation :: NPS Bandelier National Park :: Tim Castillo, PI



Zappar AR :: Bandelier National Park

Macaw Bowl

Photogrammetry AR bowl :: Ethan Ortega – Master of Museum Studies

Zappar AR :: Macaw Bowl : Maxwell Museum

AUGMENT

Augment AR

Get Ready for ARKit 2

Build unparalleled augmented reality experiences for hundreds of millions of users on iOS — the biggest AR platform in the world. With ARKit 2 on iOS 12, your AR apps can now be experienced by multiple users simultaneously, and resumed at a later time in the same state. You can also incorporate real-world objects into your AR experiences, giving your users even greater immersive opportunities.

Apple AR Kit

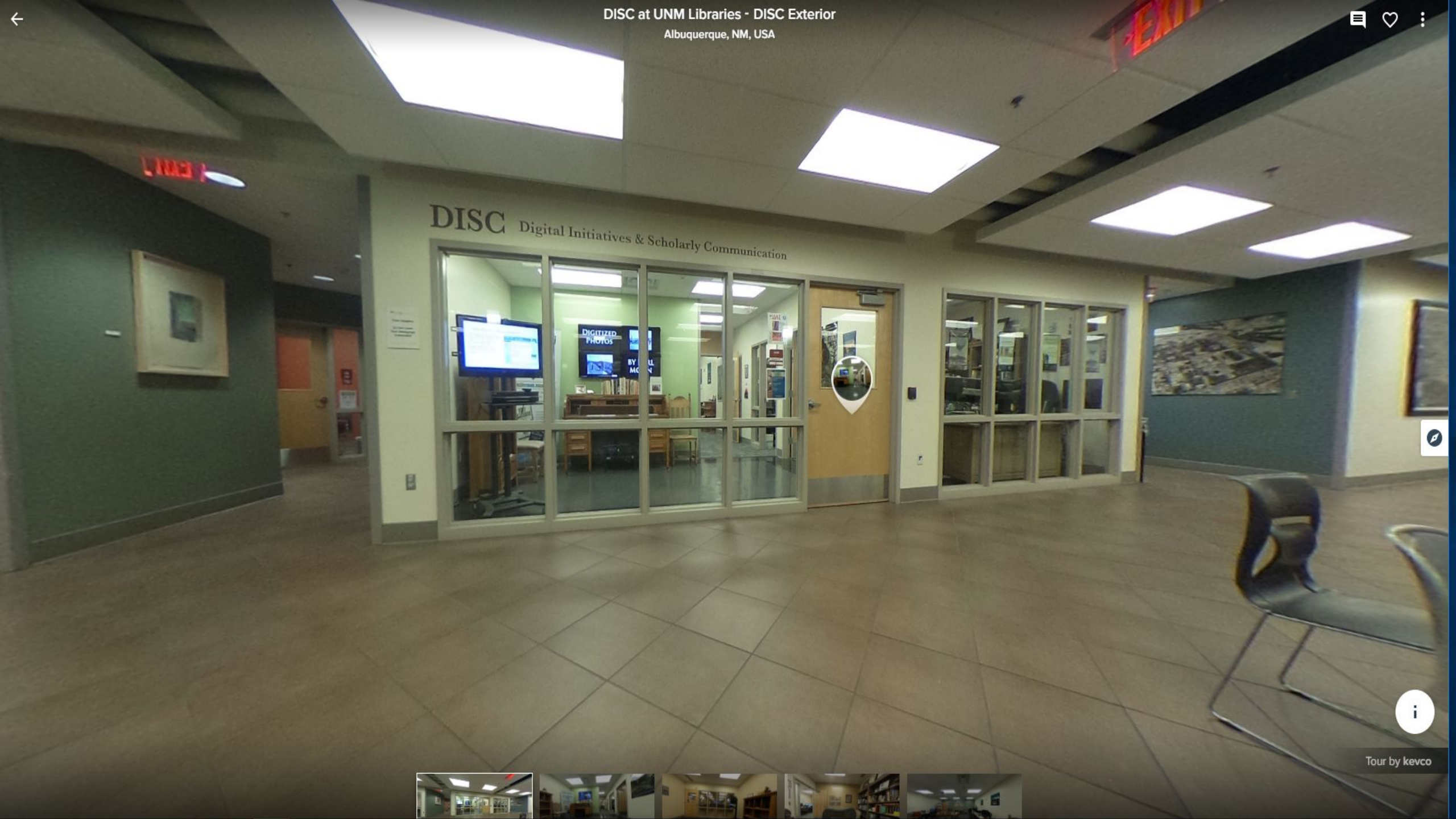
DISC: VR for Preservation and Access

Kevin Comerford and Mary Wise

Digitial Initiatives and Scholarly Communication,
Zimmerman Library

Introduction

- To your presenters: Kevin Comerford and Mary Wise
- To our interest in VR: DISC is interested in using VR to improve access to library resources and to digitally rendering cultural heritage sites.
- To the technology:
  - As we have seen, VR can be an umbrella term used to describe a plethora of digital experiences.
  - Categorize VR Experiences:
    - Immersive VR Experiences (In a headset)
    - Desktop VR


DISC at UNM Libraries - DISC Exterior
Albuquerque, NM, USA
DISC Digital Initiatives & Scholarly Communication
DIGITIZED PHOTOS
Tour by kevco

Desktop VR: Second Life

1920's New York

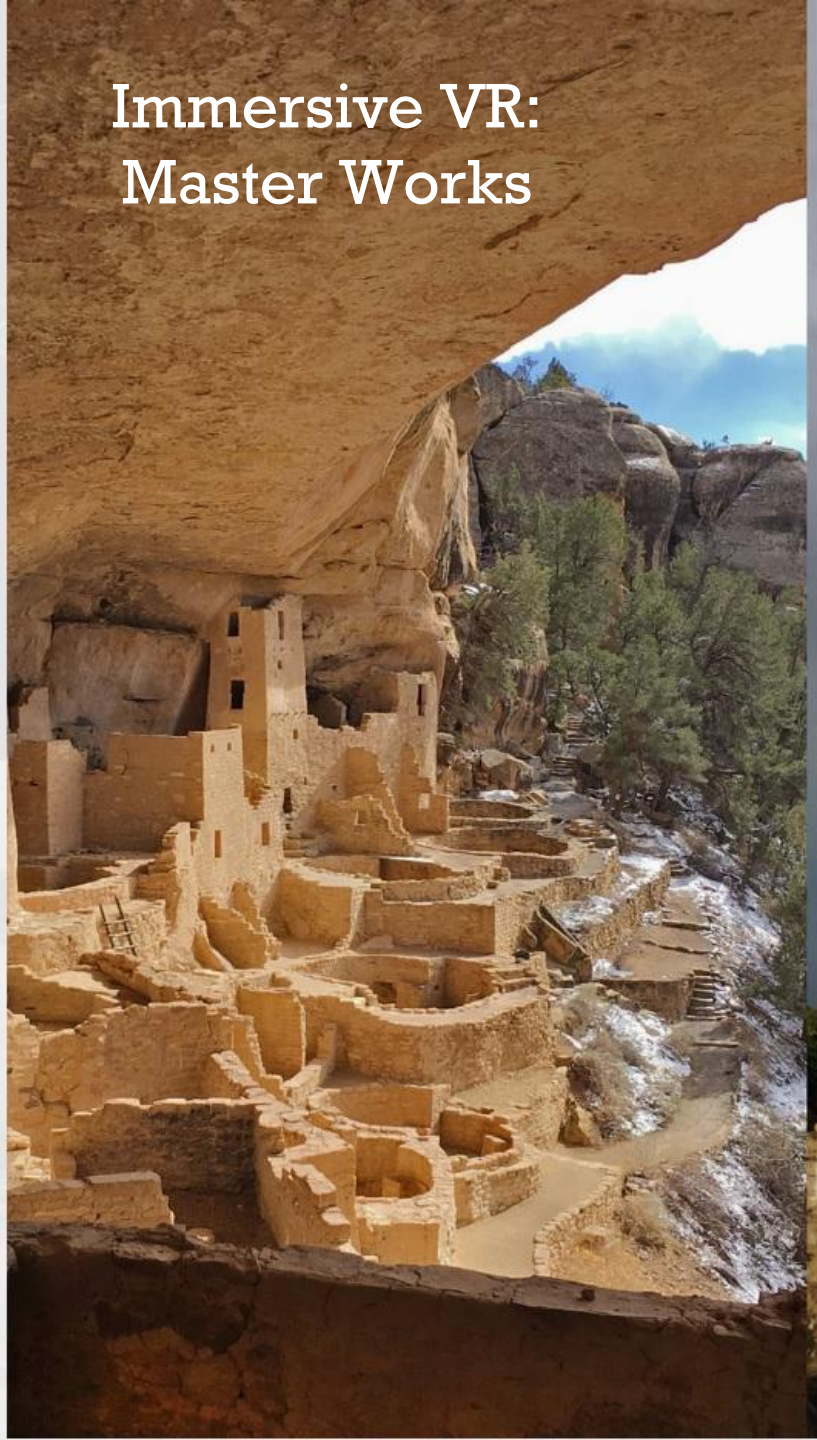
Desktop VR: ActiveWorlds

File Teleport View Options Show Login Avatar Visibility Tools Help
Total Credits: 0
Continuous
Expressive
Activities
Dance
Facial
El Rancho
de las
Golondrinas

File Teleport View Options Show Login Avatar Visibility Tools Help
Total Credits: 0
Continuous
Expressive
Activities
Dance
Facial
The Blessing Way
Listening Woman
The Ghostway
Skinwalkers
About The Tony Hillerman Portal

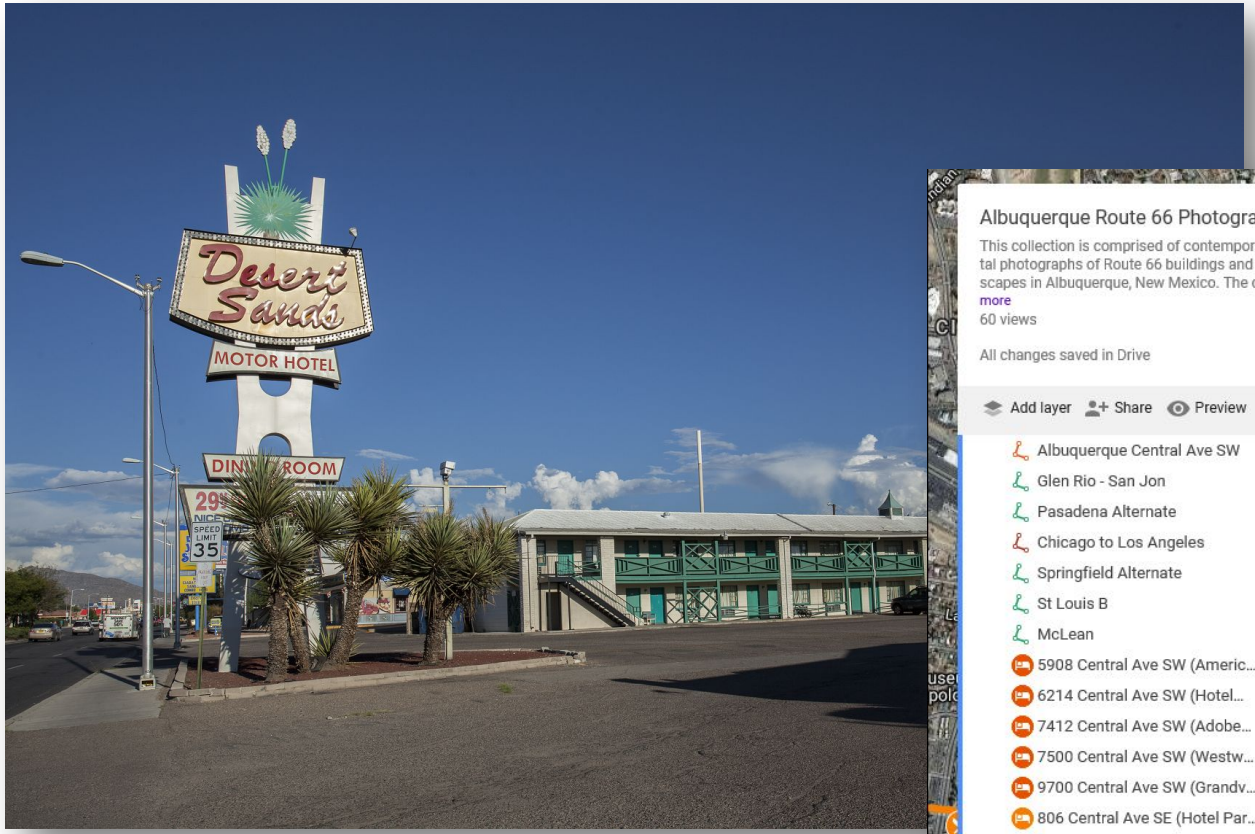
Desktop VR: ActiveWorlds: Van Gogh World

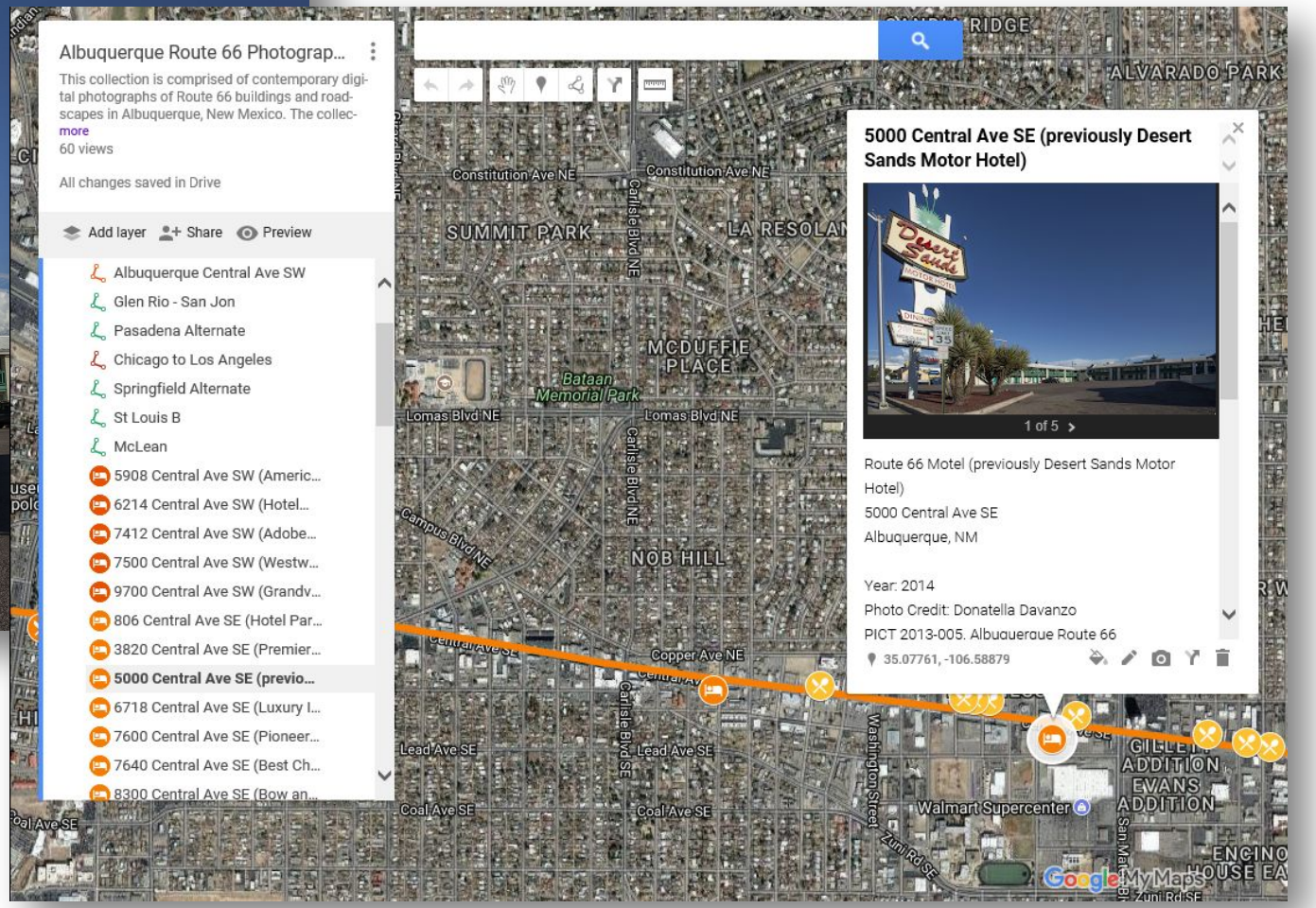
Immersive VR: Master Works



Immersive VR: Google Earth VR

Route 66 Immersive VR Project



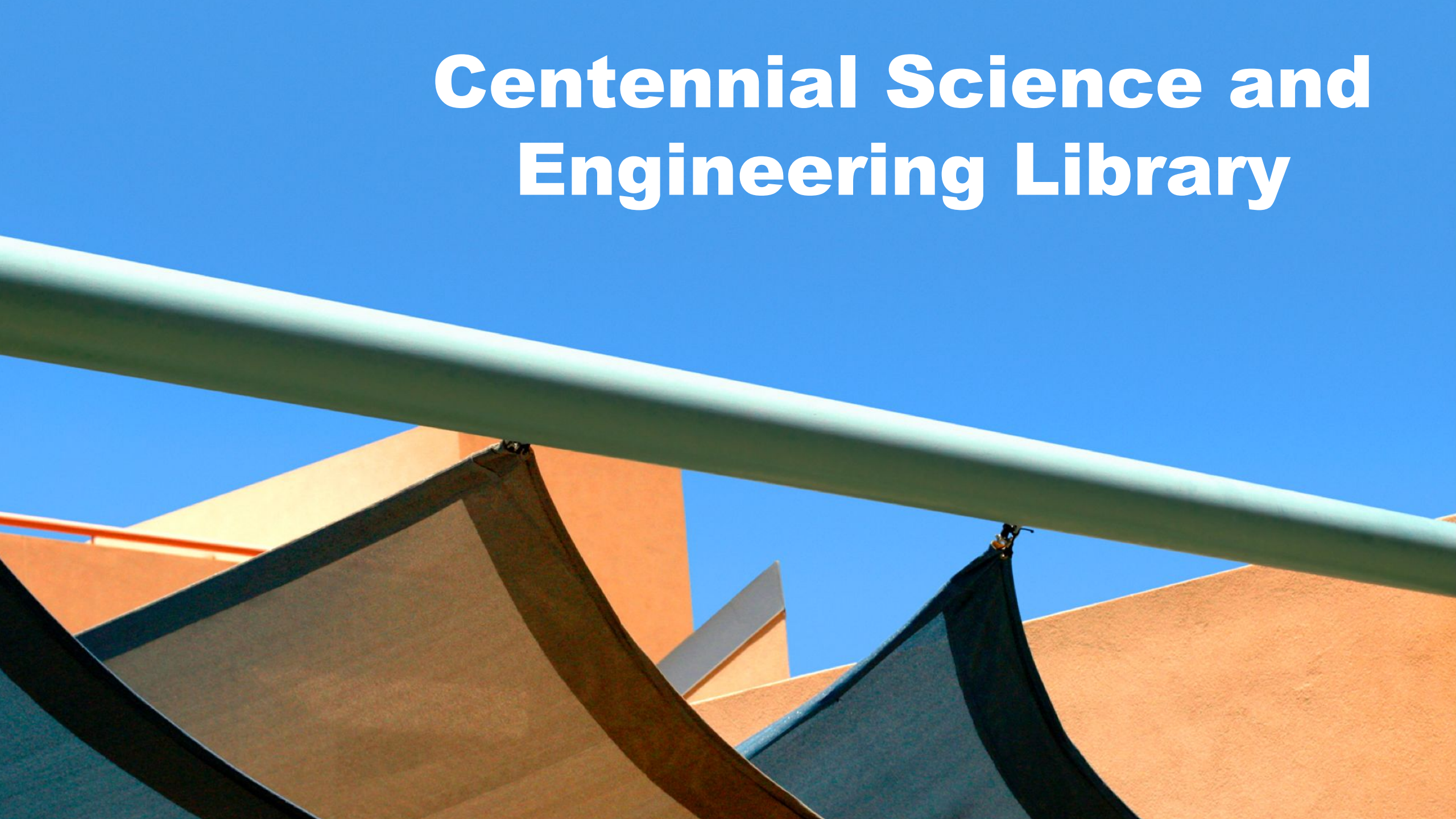


DISC work focuses on developing resources for library users. However, there are campus resources where students and faculty can go to get training on these resources . . .

VR You Can Use

Karl Benedict

Centennial Science and Engineering Library



Learning and Collaboration Space

DEN 1

High End Workstations

Specialized Software

~ Qualitative Analysis ~
~ Statistical Tools ~
~ Content Development ~
~ GIS ~
~ Software Development ~

Reserve for up to 3 Hours

DEN 2

Flexible Workshop Space for up to 16

Specialized Presentation Software

Audio & Video Capture and Web Meeting Capacity

Large 4k Display

HTC Vive VR System

Reserve for up to 3 Hours

Started Construction in Fall 2016

Grand Opening in February 2017

DailyLobo.com

News | Sports | Culture | Music | Multimedia | Opinion | Wolf Tracks | Submissions | Classifieds | Events | Archives

Virtual reality, other features now available at Centennial Library

By Elizabeth Sanchez Published 02/26/17 5:15pm

By John Acosta
Derek Luna, library technical assistant and junior civil engineering major at UNM, plays a game on the new VR system inside Centennial Library. Luna says that, aside for gaming purposes, he plans to use VR to view his architectural designs.

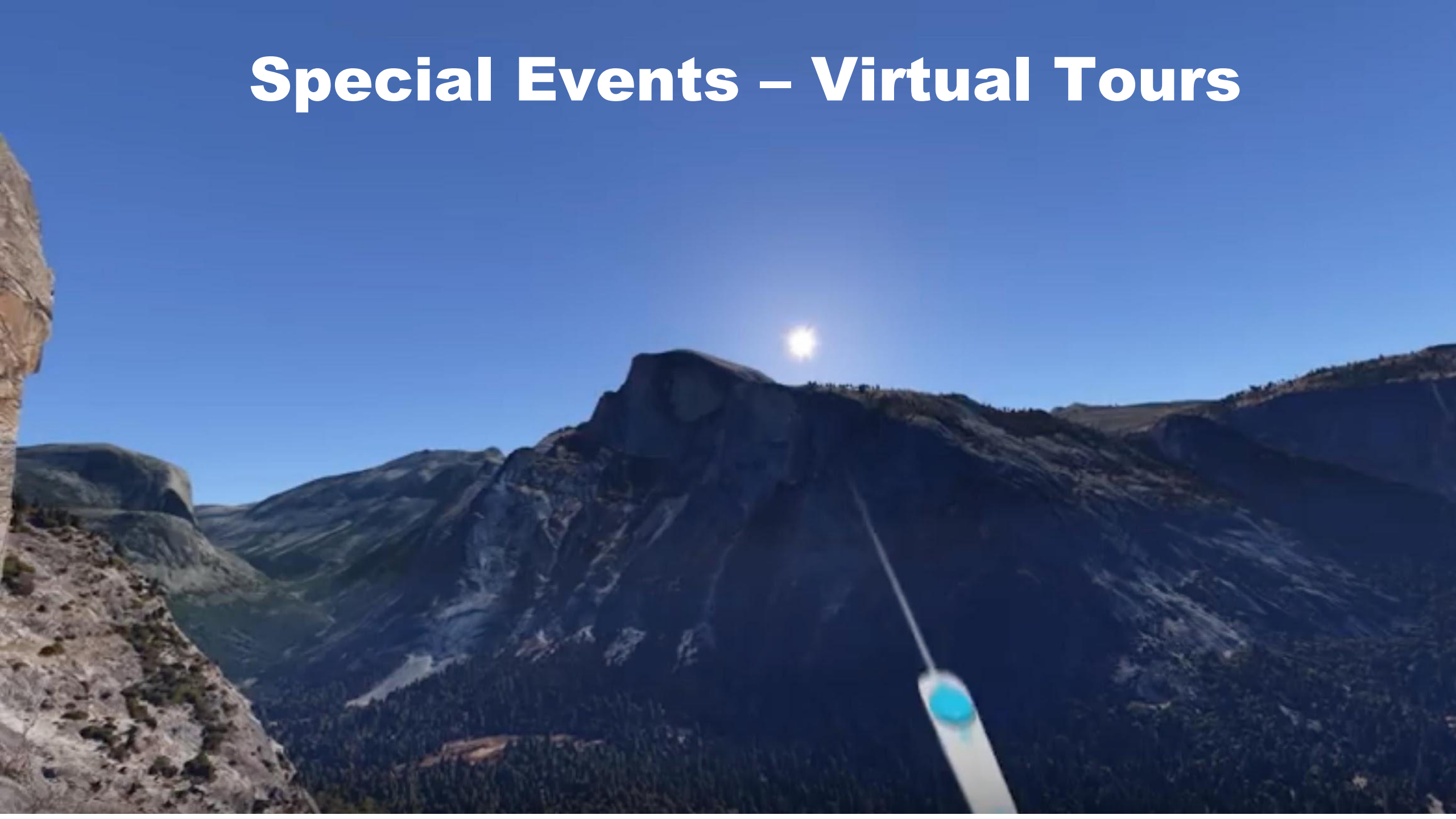
At an open house earlier this month, UNM's Centennial Library unveiled several permanent new features in two new working and collaboration spaces that include VR platforms, among other things.

The features are: geographic information systems; Mac, PC and Apple TV presentation platforms; and the HTC VIVE virtual reality platform, according to Karl Benedict, director of Research Data Services in the College of University Libraries and Learning Sciences.

Data Curation Librarian Jon Wheeler said analysis workstations provide applications with many common platforms for quantitative analysis, geospatial analysis and coding.

The new features take up a space previously occupied by an office and computer lab with limited access. Wheeler said that through "opening up both rooms and refreshing the technology," they have provided students with "novel ways to interact with library and information resources."

Special Events – Virtual Tours

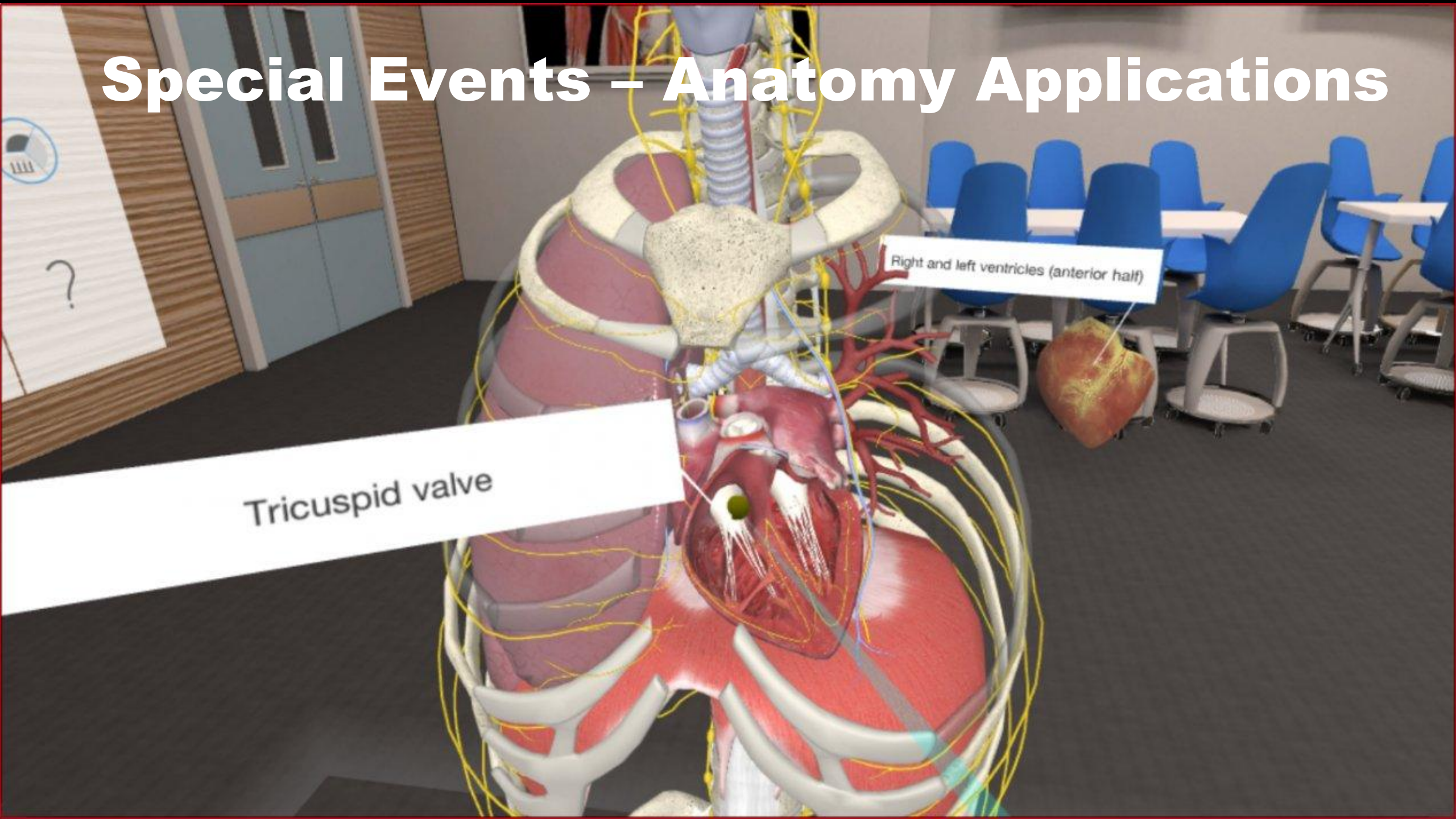


Special Events – Content Creation

Special Events – Content Creation

Unreal Engine 4 - DX11 Tessellation by Joshua | Ezzell CC By-ND 2.0

Special Events – Anatomy Applications



Reserve DEN 2

https://libcal.unm.edu

The University of New Mexico | UNM A-Z | StudentInfo | FastInfo | myUNM | Directory

UNIVERSITY LIBRARIES

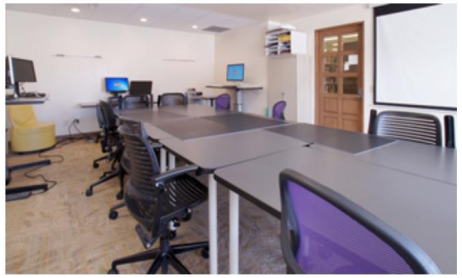
Ask a Librarian

FAQs • TXT (505) 431-4711
Email • Phone (505) 277-9100

University of New Mexico / LibCal

Rooms & Spaces

Reserve a Group Study Room || Reserve a Locked Room || Reserve a Locker || Graduate Student Commons || Find Quiet Spaces || Learning Commons || Indigenous Nations Library Program Spaces



Questions? Comments? Concerns?

Karl Benedict: kbene@unm.edu

Tim Castillo: timc@unm.edu

Kevin Comerford: kevco@unm.edu

Mary Wise: mwise@unm.edu

VR Open House in Zimmerman Library

- WHAT: Come experience a hands-on demo of the Oculus Rift in the DISC workroom in Zimmerman Library
- WHEN: Thursday, June 7th from 1:30 p.m. to 3:30 p.m.
- WHERE: DISC Workroom (Basement of Zimmerman Library; take the stairs or elevator in the main lobby to the basement and we are the offices directly in front of you)

Audience Questions

How many of you are interested in VR?

- Answers:

How are scholars or professionals in your field using VR?

- Answers:

What specific uses of VR interests you?

- Answers: