Collaborative Virtual Reality: The Creation of VR Without Geographic Borders

Jon Ferguson

Corporate Manager Visualization @ Layton Construction

AUTODESK. UNIVERSITY

About the speaker

Jon Ferguson

Jon Ferguson is a Visualization expert with over 13 years' experience in the AEC Industry. Jon is currently the Corporate Visualization Manager with Layton Construction, overseeing all creative direction and pursuit graphic and visuals for the company. Since developing this aspect of the company 8 years ago, Jon has lead and developed industry leading innovations and game changing applications.

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About the speaker

Austin Lay

Austin Lay is a Visualization Coordinator with Layton Construction, based out of Salt Lake City, Utah. He is a leader in the Drone Industry, and has assisted in the development of several large scale Virtual Reality applications, and experiences. He has applied his knowledge of UAV’s to Layton Constructions VDC efforts.

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About the speaker

Peter Pang

Peter Pang is a Senior Product Manager at NVIDIA. He is responsible for NVIDIA’s Holodeck product, focusing on customer workflow, UI/UX, and workflow features critical to enterprise professionals. Working closely with development and marketing, his role is to promote end user requirements and to identify partner relationships and growth opportunities. Pete joined NVIDIA in his current role after a 17-year career at Toyota’s Calty Design Research, where he held positions in CAD, IT, and visualization operations. Pete holds a BS from Art Center College of Design, Pasadena, CA in Industrial Design with focus in Automotive.

NVIDIA VRREADY

About the speaker

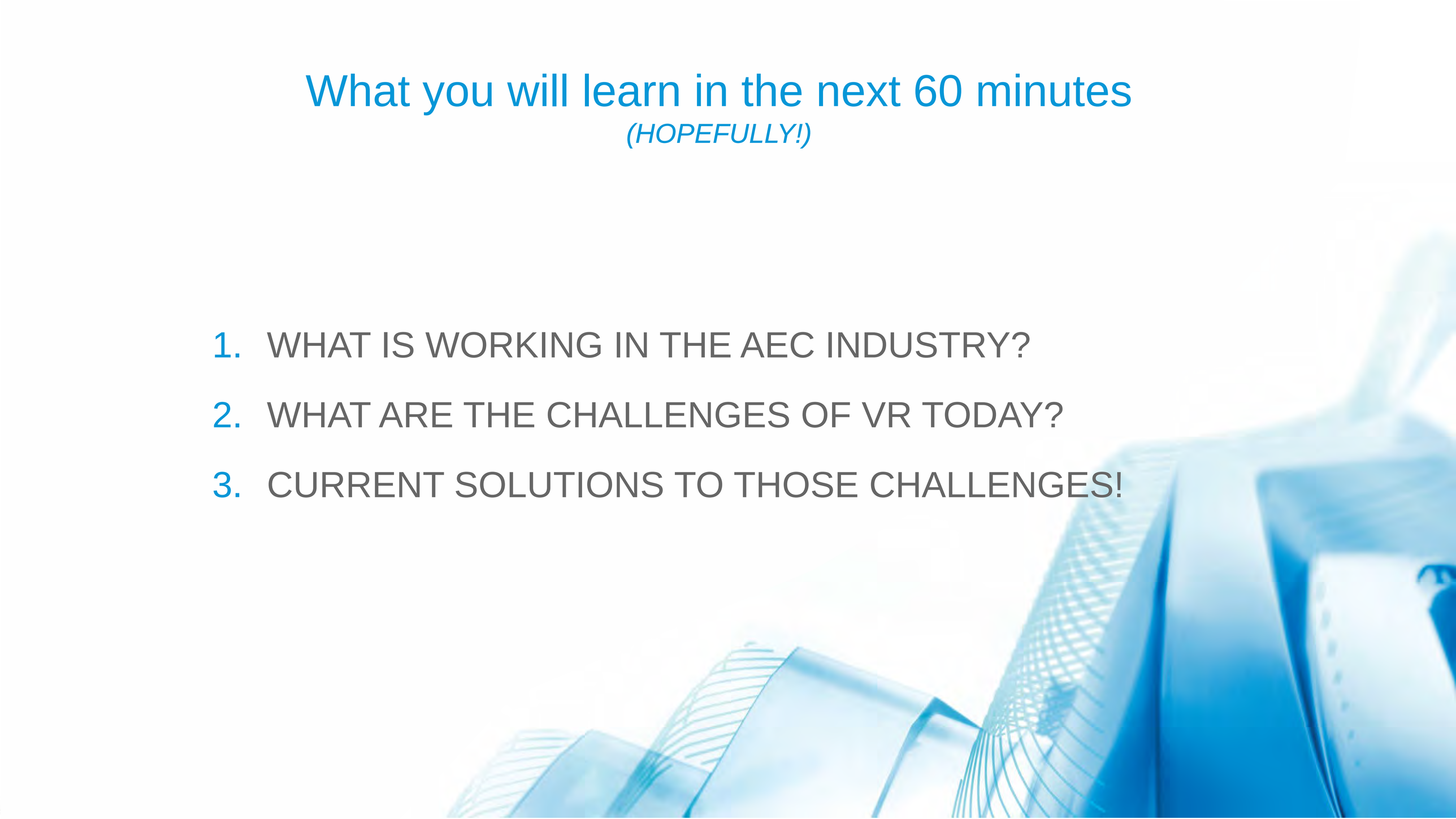
Markee Foster

Markee is focused on uncovering the unique use cases of VR, like visualization, marketing, and learning, that result in creative and business impactful transformations for HTC's commercial and enterprise clientele.

What you will learn in the next 60 minutes

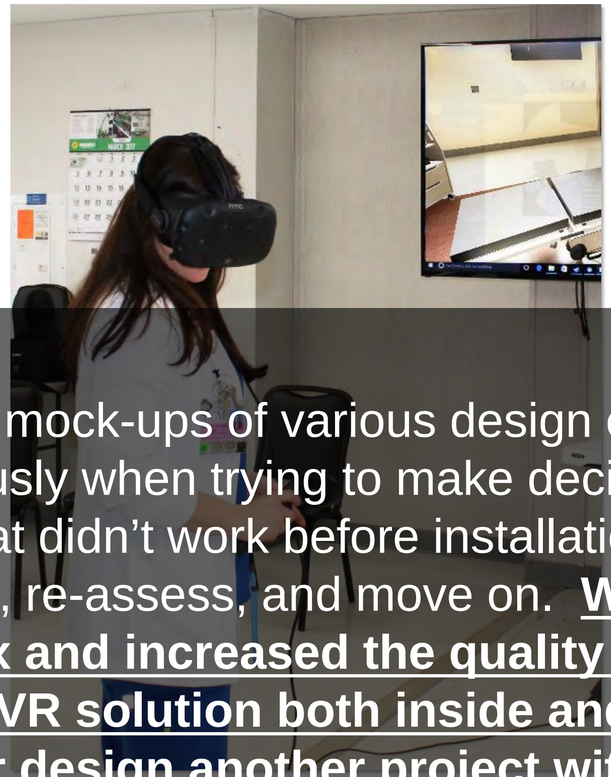
(HOPEFULLY!)

1. WHAT IS WORKING IN THE AEC INDUSTRY?
2. WHAT ARE THE CHALLENGES OF VR TODAY?
3. CURRENT SOLUTIONS TO THOSE CHALLENGES!



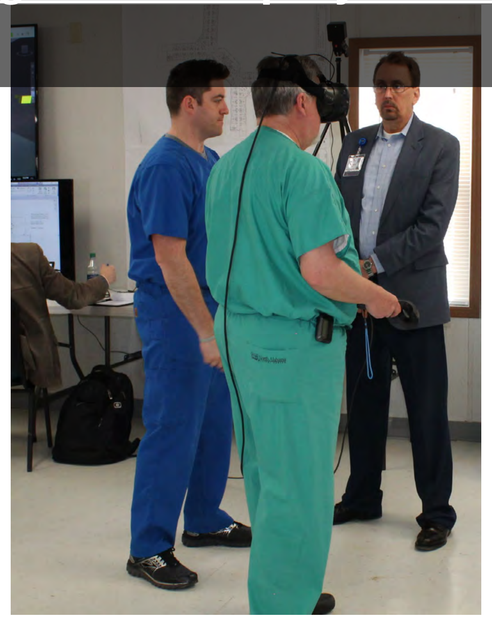
1. WHAT IS WORKING IN THE AEC INDUSTRY?

- Software is producing Higher Quality experiences without the excessive “pains” or time commitment
- Hardware has developed to include more user.
- Industry-wide acceptance of Virtual Reality.



“Using the VR technology to create mock-ups of various design elements helped our development team tremendously when trying to make decisions. The VR approach allowed us to find out what didn’t work before installation, and we were then quickly able to make changes, re-assess, and move on. **We reduced our decision making time down by 5x and increased the quality of the decision by the same factor. We used the VR solution both inside and outside of our buildings, and would never design another project without it.”**

-DLM DEVELOPMENT



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2. WHAT ARE THE CHALLENGES OF VR TODAY?

- Still a major “destruction of data” when creating Photorealistic experiences
- $$$ Investment is still larg
- COLLABORATION & GE

Design>Revit>FBX>3DS>FBX>UE4
CHANGE IN OFFICE
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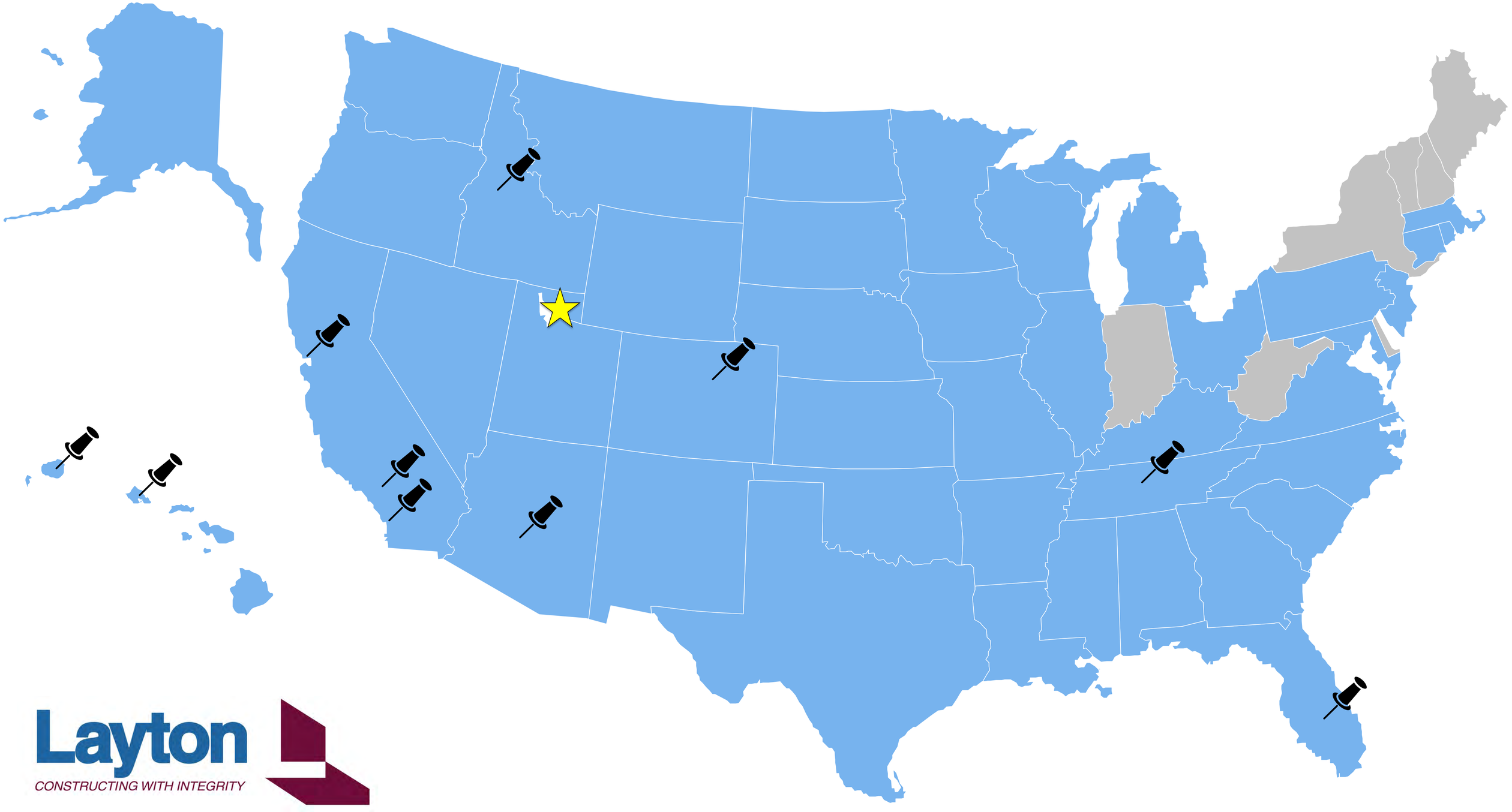
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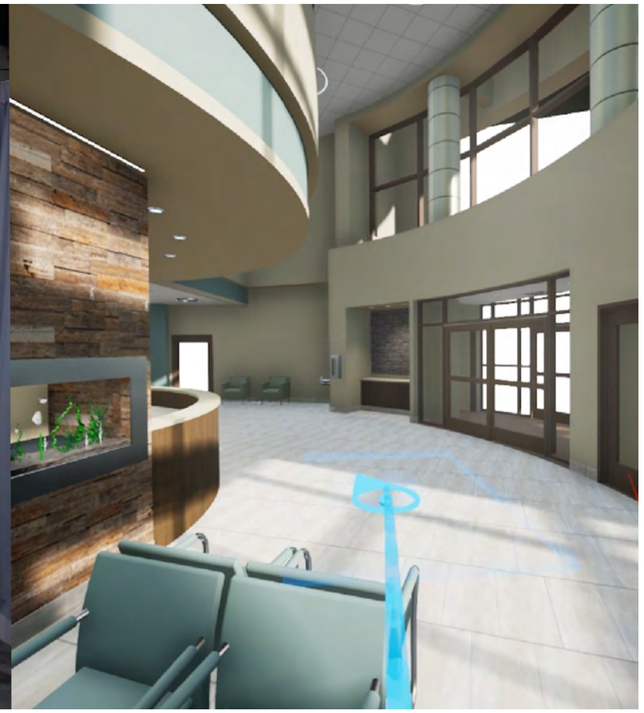
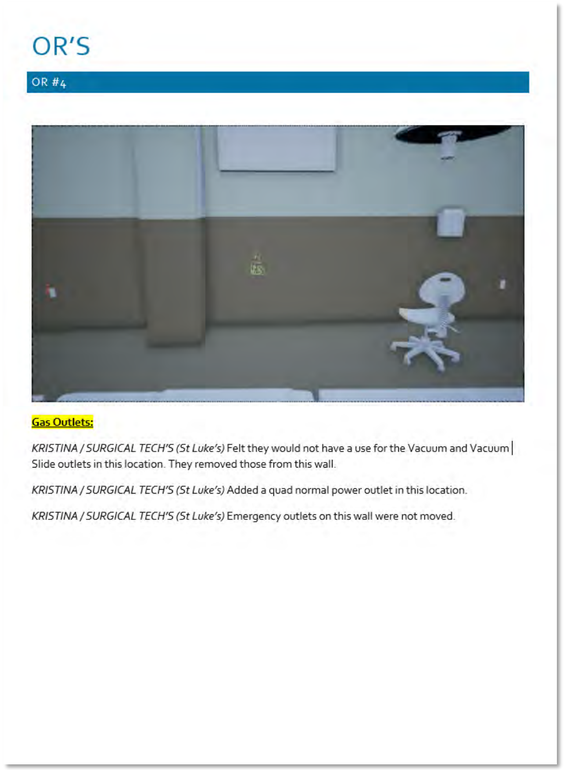
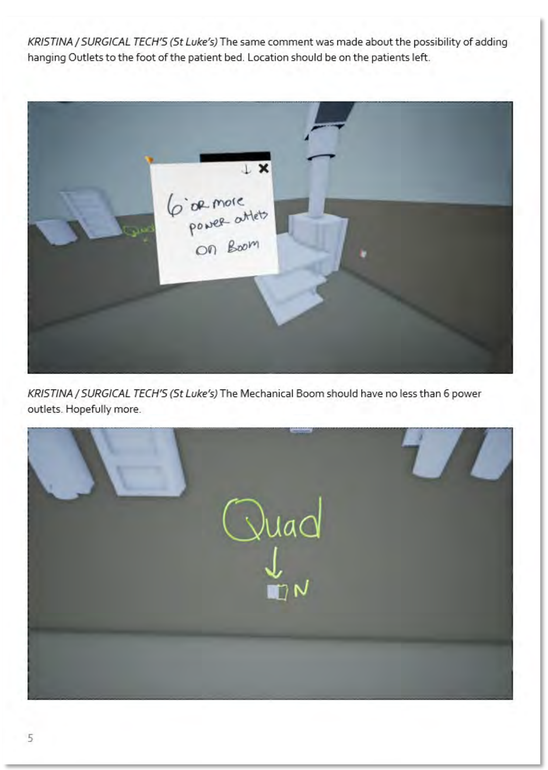
3. CURRENT SOLUTIONS TO THOSE CHALLENGES!

- Innovative Hardware and Software Companies
- Nvidia Holodeck & Omniverse - COLLABORATION
- HTC Vive Pro







WHAT THAT **NEW** PROCESS LOOKS LIKE

- Virtual Reality Mockups created in **ONE DAY.**
- Users interfacing with Design and Construction Team **354 MILES AWAY**
- **INSTANT** feedback to Design team and Stakeholders.
- **FEELING OF INVOLVEMENT** from end users.
- **HUGE SAVINGS**

Stages of Collaborative VR

DESIGN

IN OFFICE

Receive Design Documents from Architectural Team. Develop 3D Models if not provided. Export .FBX models Into 3DS Max. Using Iray & VMaterials, export to Holodeck.

REVIEW

ON SITE

Using HTC Vive Pro on-site, have end users login to Holodeck using SteamVR. Login to Active Project.

UPDATE

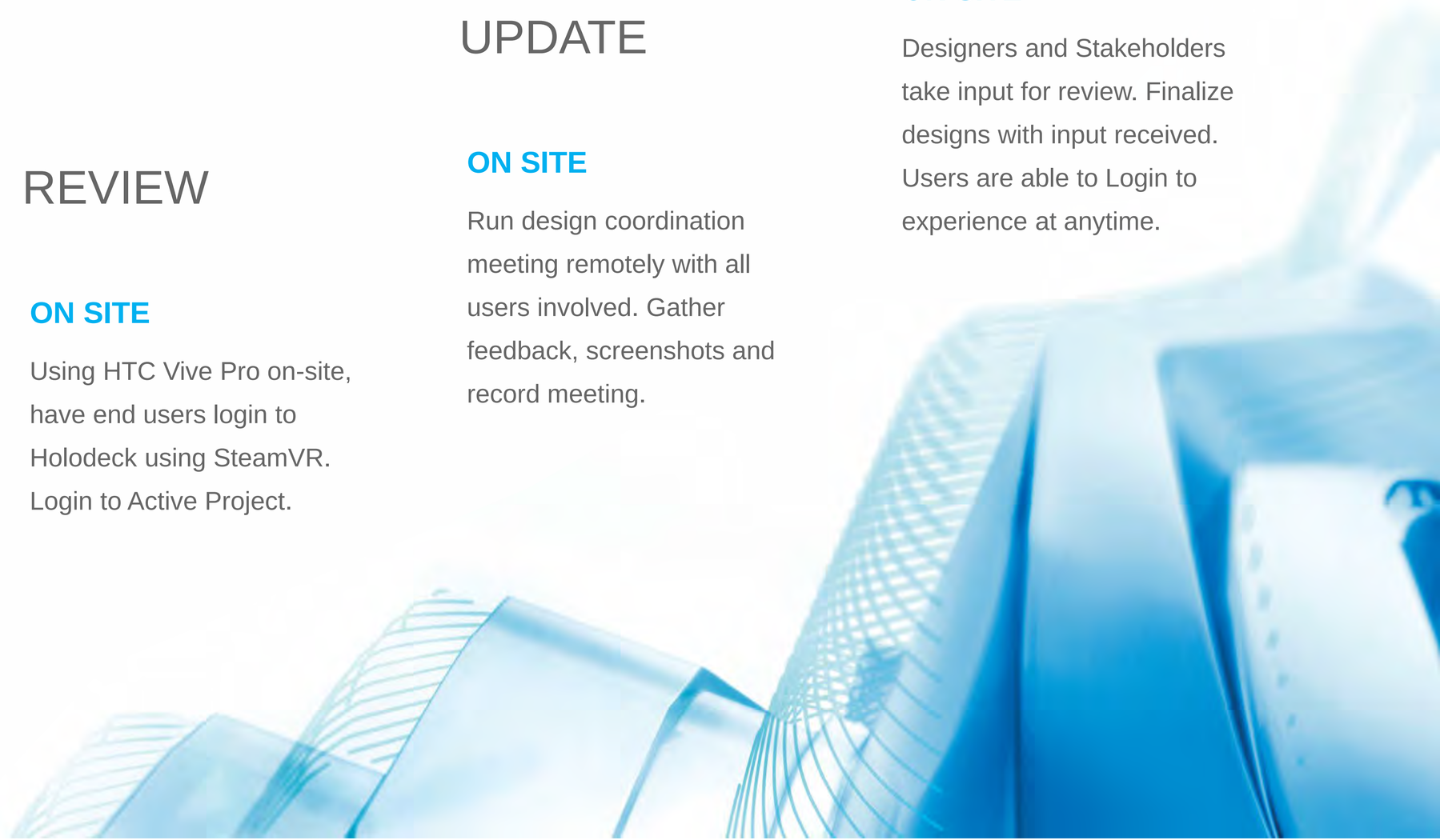
ON SITE

Run design coordination meeting remotely with all users involved. Gather feedback, screenshots and record meeting.

FINALIZE

ON SITE

Designers and Stakeholders take input for review. Finalize designs with input received. Users are able to Login to experience at anytime.



Design > Revit > .FBX > .3DS > .FBX > .UE4

CHANGE IN OFFICE

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CHANGE IN OFFICE

Design > Revit > .FBX > .HLDKMODEL > HOLODECK

MAKE CHANGES LIVE!

THE SOFTWARE

NVIDIA Holodeck™ is a virtual reality (VR) innovation platform that brings designers, peers, and stakeholders together from anywhere in the world to build and explore creations in a highly realistic, collaborative, and physically simulated VR environment.

THE HARDWARE

HTC Vive Pro . Shape the future of how your company engages with customers, develops products and trains employees. Turn VR into a more intuitive experience. Implement gaze-oriented menu navigation. Point, select, and zoom faster and easier than ever before. Enable more natural movements and gesture controls in virtual reality.


QUADRO


QUADRO
RTX 8000


VIVE

AUTODESK®

Make anything™