



Learning Futures Collaboratory

LFC Team



Heather Haseley

Co-Executive Director,
Lead Design Architect



Dan Munnerley

Co-Executive Director,
Lead Design Architect



Lorenzo Vallone

Director, XR Initiatives



Robert LiKamWa

Director, Immersive
Creation Studio



Charmaine Farber

Director, Learning
Futures Initiatives



Immersive Creation Studio Student Workers

130+ Student Workers in 12 Guilds

Learning Futures Collaboratory



ASU Arizona State University
University Technology Office



ASU Arizona State University
Office of the University Provost

ASU Arizona State University
EdPlus at Arizona State University



ASU Arizona State University
Knowledge Enterprise

ASU Learning Enterprise
Arizona State University



Charmaine Farber, M.A., M.F.A.

Director, Learning Futures Initiatives

Background

Award-winning and published design-thinker, entrepreneur and educator. .

Works at the intersection of design, tech and community for 20+ years for orgs and communities like: CVS Health, NASA JPL, Toyota, CIVCO Medical Solutions, Leepfrog Technologies, Congressman Loeb sack, Elevate Network, SMC Marketing Hong Kong, MacArthur Foundation and City of Youngstown, OH and Balboa Park, CA. Education in interaction design and game design.

- Founder + CEO of 2 successful design studios and 3 tech start-ups
- Spoken nationally and internationally Yale, NYC, Japan and UK
- Tenured professor in UX, design-thinking and innovation (Cal Poly)
- Transformed Cal Poly CIE and launched 100+ companies (XR, fashion, medical, EV's, education, environmental)
- Just elected - Elevate Network, Phoenix chapter Co-President (professional women's network)

What I do at LFC

Leads interdisciplinary, cross-institutional, agile teams to undertake the exploration, design, research, evaluation, piloting, planning, assessment, and implementation of innovative, next-generation learning models, concepts, and technologies. Builds community internally at ASU and with external partners to co-design, co-create, and advance future-focused, learner-centered strategies, projects, and initiatives.



Dr. Robert LiKamWa, Ph.D.

Director, Immersive Creation Studio

Background

- Assistant Professor in the School of Arts, Media and Engineering and the School of Electrical, Computer and Energy Engineering (2016 - present)
- NSF CAREER Award Recipient
- Google Faculty Research Award Recipient
- PI on 4 NSF grant awards, totalling ~\$2M
- Supervises 8 Ph.D. students
- Top 5% Teaching Award (Fulton Schools of Engineering)
- Unity Engine Certification Subject Matter Expert

Meteor Studio

- **M**obile **E**xperiential **T**echnology through **E**mbedded **O**ptimization **R**esearch
- ASU research lab studying computer systems for visual computing, multi-modal sensory augmentation, and virtual XR content creation

What I do at LFC

- Direct teams of students to design and develop XR prototypes as proof-of-concepts for educational platforms fueled by augmented reality and virtual reality technologies
 - Empower students to operate at intersections of skills of the future



Lorenzo Vallone, MBA - Director XR Initiatives

Background



An experienced COO and CTO with 23+ years of global business development and management expertise in strategic enterprise technology and digital transformation. Ability to see and map innovative business opportunities and possesses the technical, financial, operations, and marketing skills to bring them to fruition. Experience leading digital programs across a wide range of organizations (SMB, Fortune 500, Education, Government). MBA, International Business, Johns Hopkins, Post-Grad Certificates in e-Commerce (JHU) and Corporate Finance (Cornell).

- Co-Founder and CTO of Xennial Digital - a creative design and technology company that develops XR platforms and experiences focused on K12 education, corporate training, CTE, and social impact.
- 14 years as CTO of digital agencies within WPP
- Launched Mirum Learning - a WPP / Adobe JV that developed an integrated, enterprise learning platform focused on interactive mobile content and offline use.
- Co-Founder and CTO of a digital agency acquired by WPP
- CIO of Public Defender Service of DC (Fed Gov)
- Experience in XR, digital transformation, software architecture and development
- Deeply interested in the transformative convergence of XR, 5G, ML/AI & Blockchain
- Aspiring journalist/writer focused on transformative human journeys

A perspective view of a long tunnel formed by strings of warm white lights. The lights are densely packed and create a strong sense of depth and brightness, with the light intensity increasing towards the center of the tunnel.

Upskilling learners with the

Skills

Learning Platforms

Learning Environments

of the future

Learning Futures - Values-Driven Design

We design human-centered systems, models,
and experiences at scale to enable:



**Inclusive
and
accessible
learning for
all**



**Learners as
explorers and
creators**



**Learners as
self-determined
agents of their
own learning**



**Learning as a
social act**

ASU Learning Ecosystem

Investing in the
future of learning

Creation/
Building

Curation
Personalization
Distribution

Curricular
Modification/
Integration

Community

Partnerships

Research



Digital Credentials, Skills Mapping, and Skills-Workforce Pathways

Skills of the future

Immersive Creation Studio

Responsibilities of each guild:

Depth-oriented learner development

to operate at the intersection of the skills of the future



Upskill

Communally develop skills in focused areas of exploration. Learn the cutting edge.



Disseminate

Organize tutorials and workshops for their guild, the ICS, and the ASU community



Construct

Create reusable infrastructure platforms (tools, templates, processes, workflows)



Undertake

Form teams across multiple guilds to become a workforce for the learning products of the future



Guilds



Cloud Infrastructure

Virtual Reality tooling

Narrative/Gameful Learning

Mobile Augmented Reality

Data Visualization

Immersive Web Design

Modeling, Materials, Animation

Media Production

Project Management

UI/UX Design

Haptics and Physical Electronics

Projects



Dreamscape Learn
Alien Zoo Mobile App

Dreamscape SDK exploration

AME 494: “Designing for Dreamscape”

Career Arcade (Kern FSE, University College ASU
101 Exploratory Students)

Starbucks Gaia (Luminosity collab)

Creativity Commons Exploratorium

AR Scavenger Hunt

Project Huddle

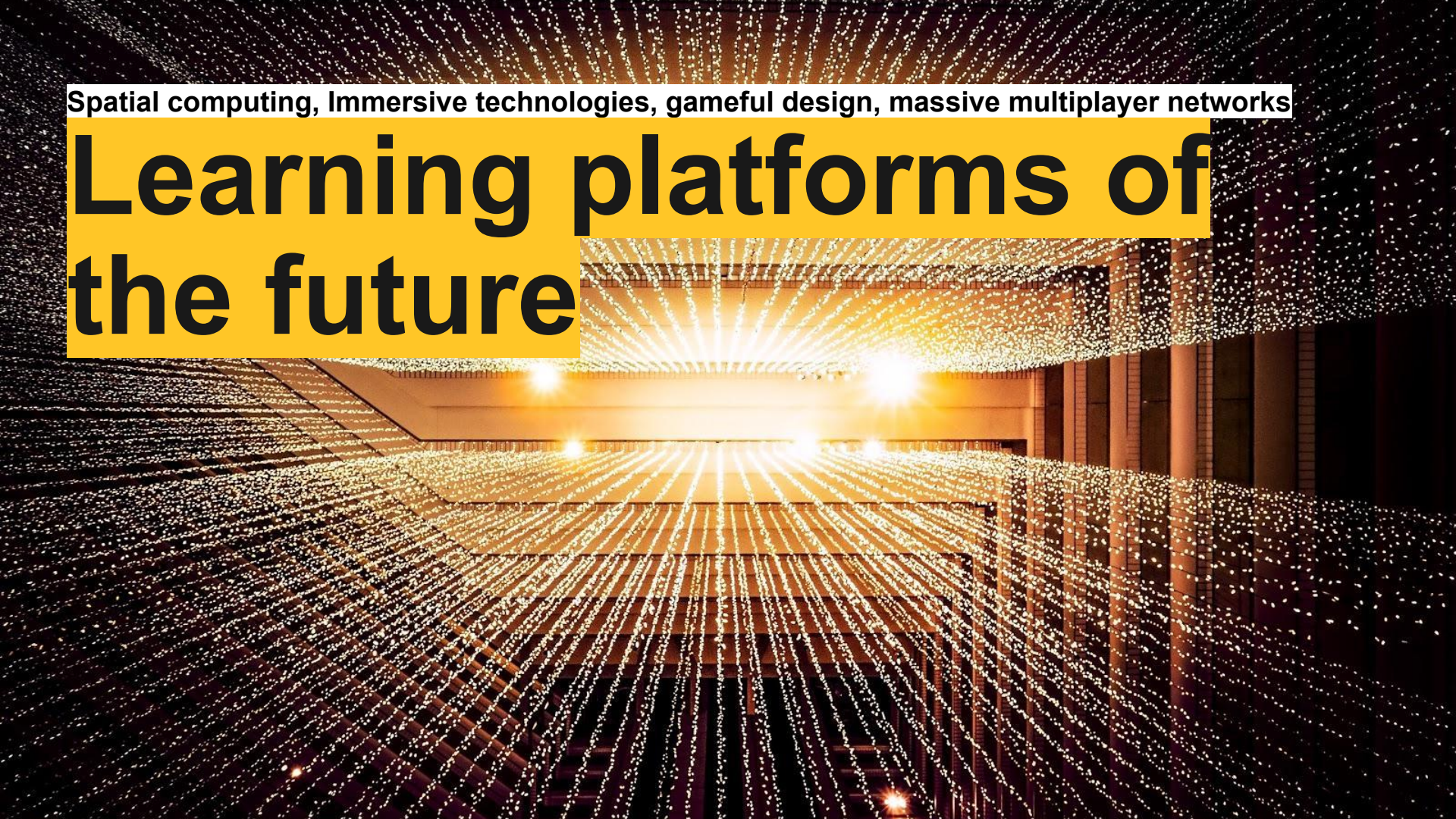
USAF Next-Gen Debrief (Luminosity collab)

ASU Digital Twin

Knowledge Exchange for Resilience AR event app

Spatial computing, Immersive technologies, gameful design, massive multiplayer networks

Learning platforms of the future



Immersive Learning in XR

Encompassing virtual, augmented and mixed reality



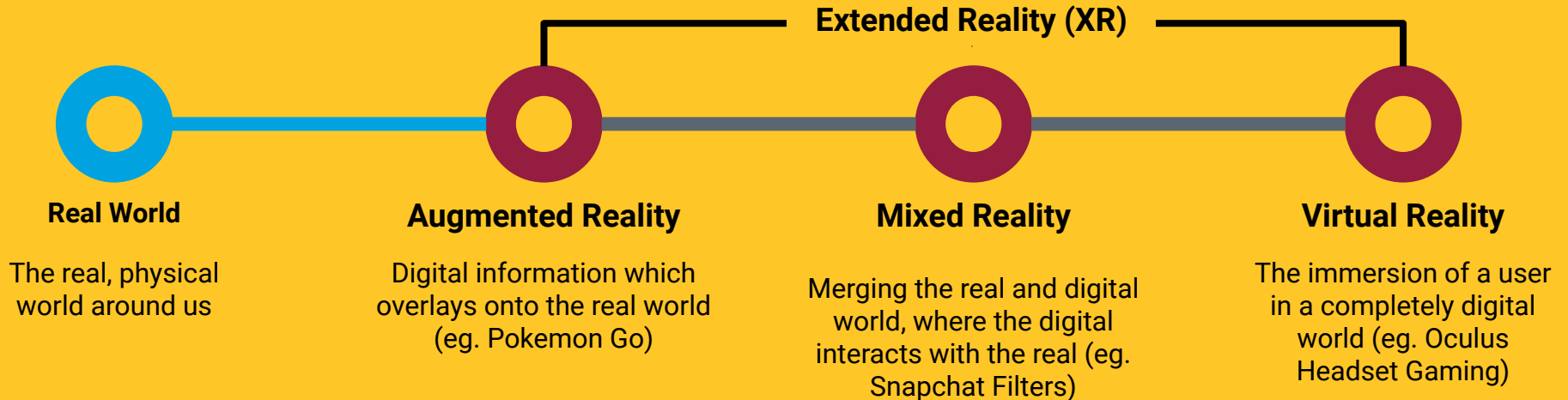
Augmented



Mixed



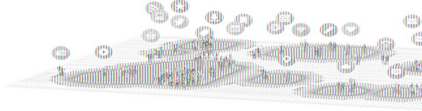
Virtual



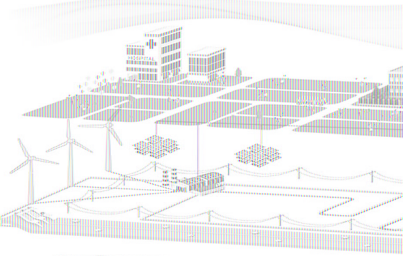
Learning



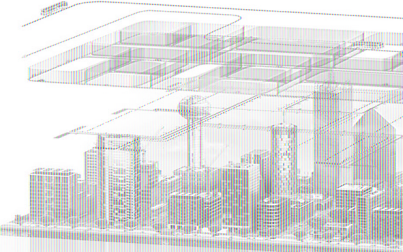
Entertainment



Communication,
Health & Wellness



Energy & Water



Mobility



Digital World

Physical World

Digital Immersive Learning as a component of Spatial Computing

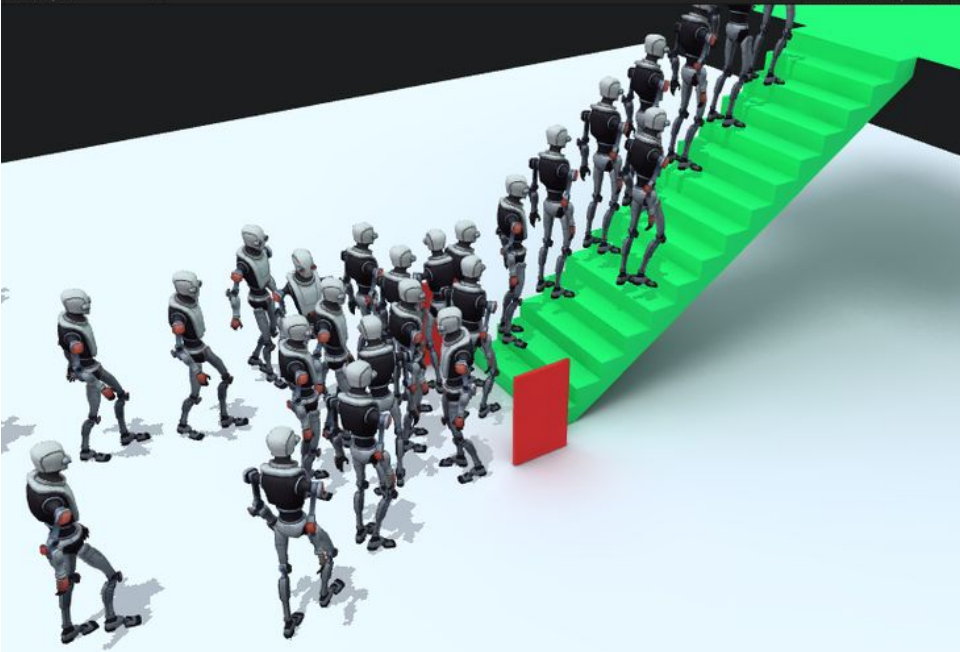


Opportunities for Partner Engagement Design and Creation

Real-time 3D learning experience creation projects for the ICS

New platform/app creation projects for the ICS

Sponsorship of the ICS to create DEIB or other social impact learning experiences (like an immersive course on African Architecture or open access immersive curricula based on Mars Rover data)



Opportunities for Partner Engagement Research and Innovation

Open source and proprietary technology co-creation (haptics, software, hardware, platforms)

Advancement of immersive ecosystem (including the Metaverse)

Sustainable approaches/carbon offsets

New pedagogical models and approaches

Simulation of physical environments, logistics pipelines, robotics

Intelligent virtualized systems - automation, modeling, etc.

Creativity Commons and nodes, Dreamscape Studio, LFC

Learning environments of the future



Creativity Commons

Where we are

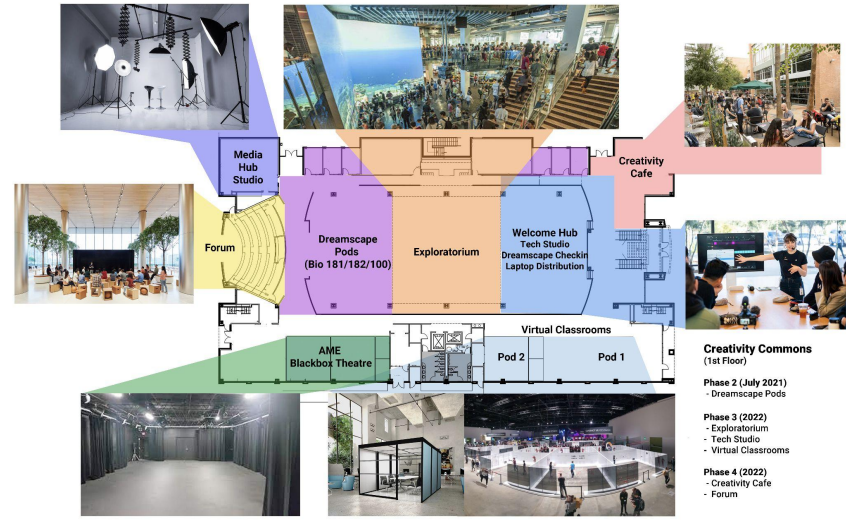
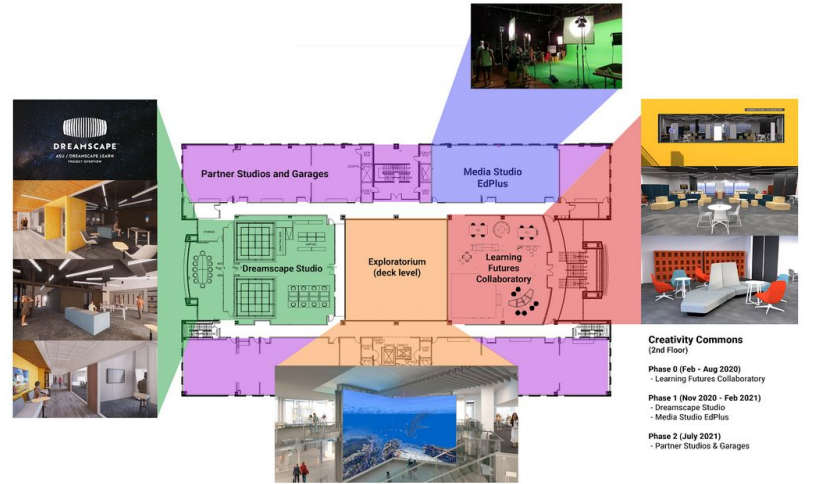
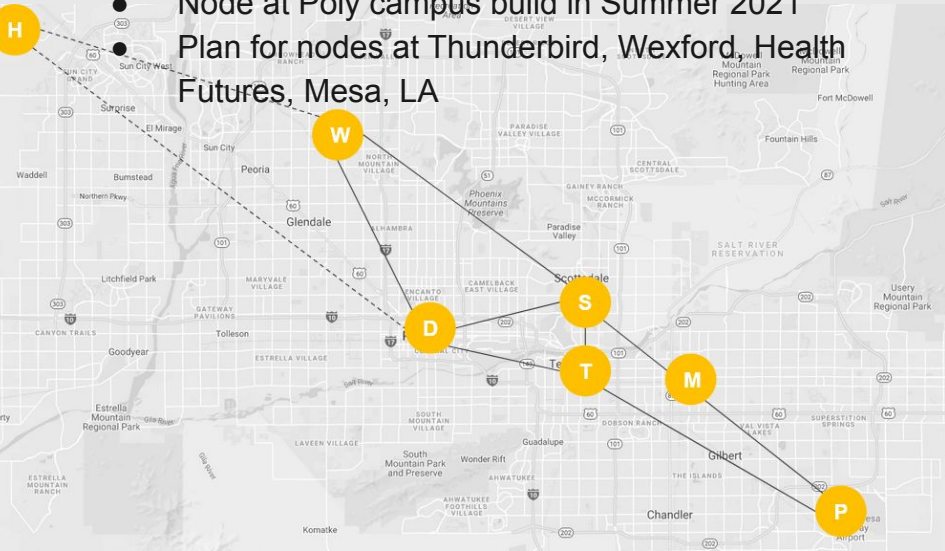
- Phase 1 completed
 - Learning Futures Collaboratory
 - Dreamscape Learn Studio

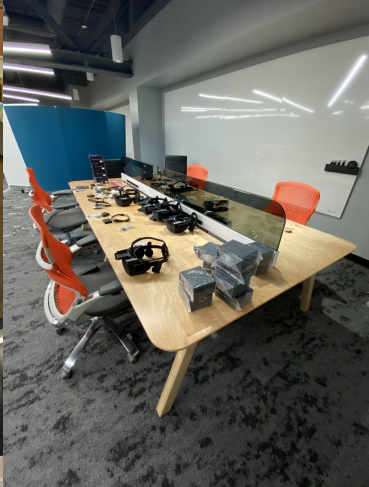
Next steps

- Phase 2 design concepts
 - Dreamscape pods for Bio 181/182
 - Tech studio & Exploratorium

● Node at Poly campus build in Summer 2021

● Plan for nodes at Thunderbird, Wexford, Health Futures, Mesa, LA





Learning Futures Collaboratory

Where we are

- LFC opened in October 2020
- Verizon 5G fit-out in progress

Future directions

- Verizon Innovation Hub inside LFC to open
- Temp home for Immersive Creation Studio
- Hackathons, design sessions, in-person events



ASU Sign in with ASURITE

Sign in with E-mail



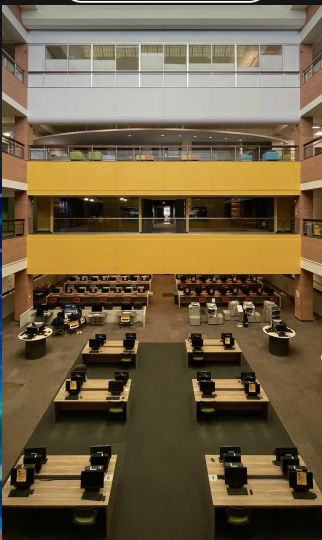
Dreamscape Learn Studio

Where we are

- Two VR pods installed in Dreamscape Learn Studio, Creativity Commons (opened April 5, 2021)

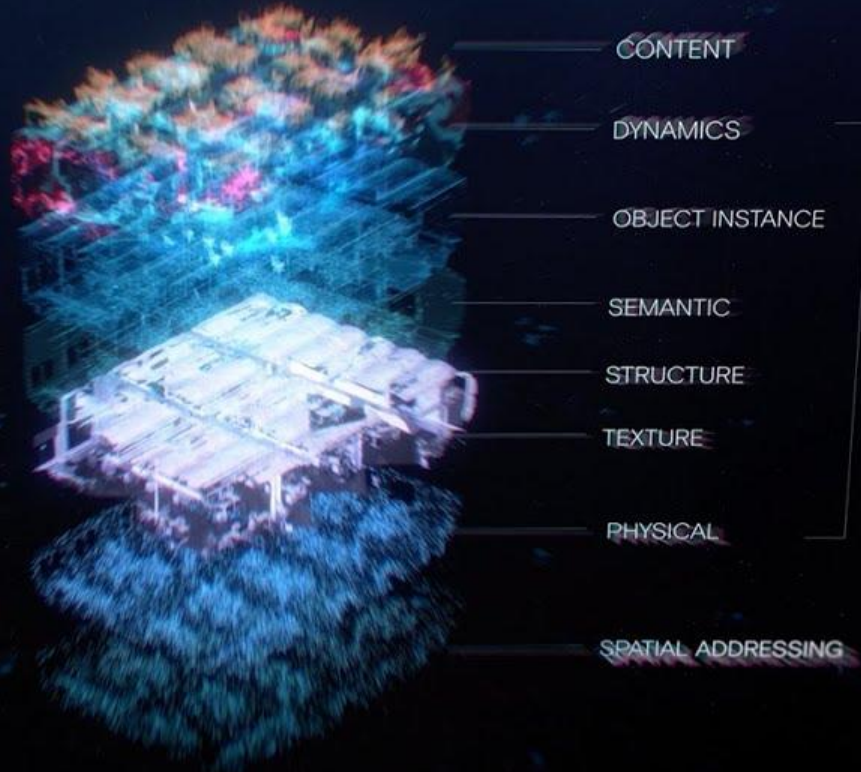
Future directions

- Two additional Dreamscape pods on the first floor of the Creativity Commons



Opportunities for Partner Engagement

Types of Partners for the Immersive Partnership Network



5G and SDN network providers

Head mounted display and haptics developers

Real-time 3D software houses

Creative industries

AAA and indie game studios

Education/training and skills pipeline development

Sustainability and entrepreneurship initiatives

Volumetric capture and display tech providers

Metaverse dreamers, explorers and creators