

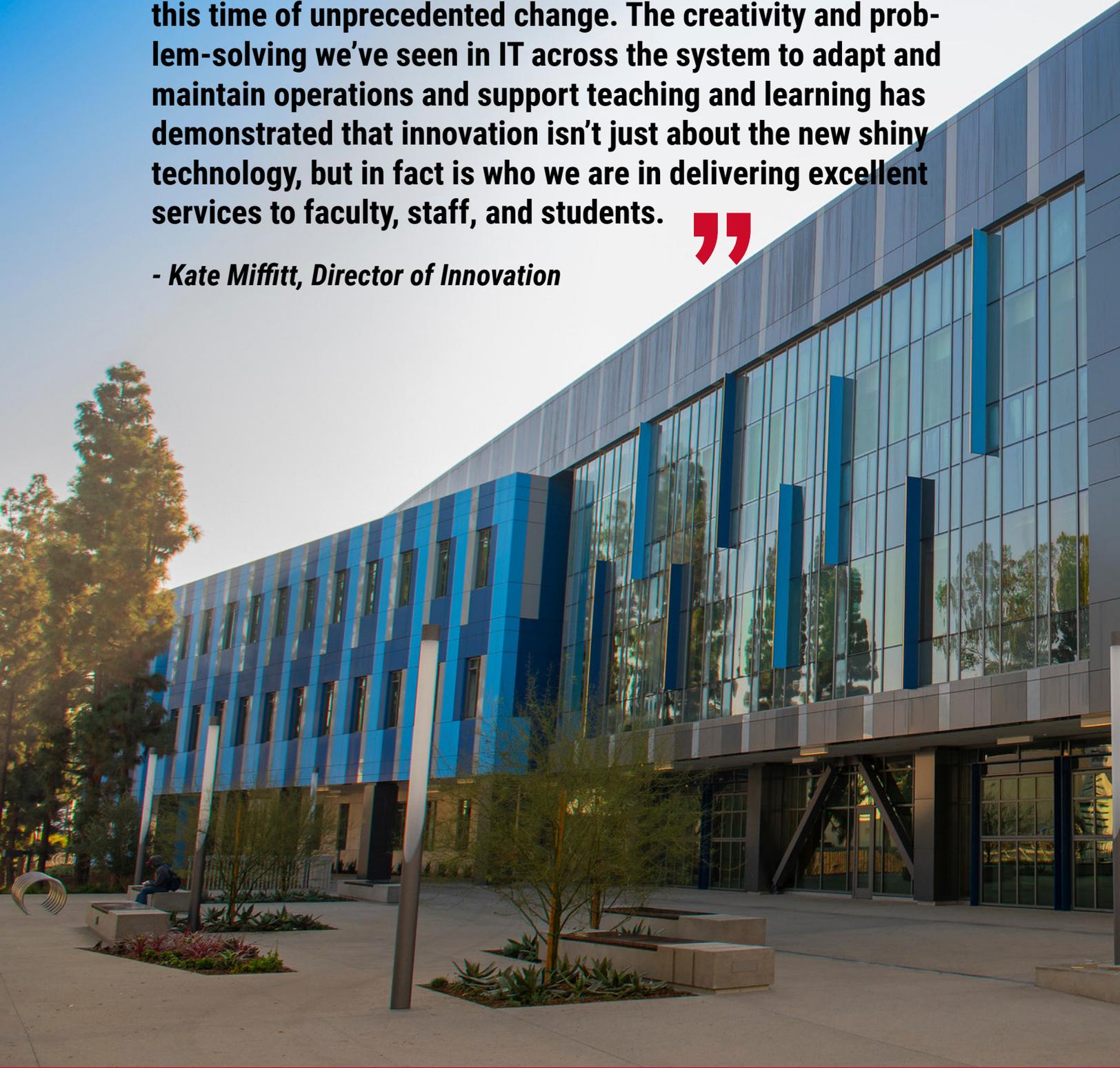


CAL STATE INNOVATE

2022 Impact Report

“ Innovation has proven to be essential as a cultural value in this time of unprecedented change. The creativity and problem-solving we’ve seen in IT across the system to adapt and maintain operations and support teaching and learning has demonstrated that innovation isn’t just about the new shiny technology, but in fact is who we are in delivering excellent services to faculty, staff, and students. ”

- *Kate Miffitt, Director of Innovation*



OVERVIEW

The start of this year brought with it signs of a return to a “new normal” - students strolling on campuses, staff working in offices, and colleagues gathering at conferences and campus visits. But the year also included continued uncertainty and change. As we navigate these challenging times, it is increasingly clear why innovation is a priority for CSU IT. Innovation is often associated with a product, a shiny new technology that promises to disrupt. But it is more important as a value, a cultivated culture of creativity and problem-solving to meet user needs and achieve organizational goals. That was evident in IT across the system, as it took innovators in many roles to maintain operations and support the teaching and learning mission, regardless of modality. And it is evident in the projects and initiatives Cal State Innovate supported and collaborated on throughout the year. We’re excited to feature the innovation stories from the last year, and to reflect on our continued mission to:

- Accelerate innovation at the campuses through funding programs and collaborative projects
- Foster a culture of innovation through community-building, webinars, and events
- Explore emerging technology areas to develop communities of practice and stay on top of trends
- Research innovation and the student experience to advance IT goals

ACCELERATING INNOVATION AT THE CAMPUSES

Innovation Minigrant Program

Since 2017, the Innovation Minigrant program has provided campuses with microfunding awards through a competitive process to support innovation. Minigrant projects explore areas such as chatbots, AR/VR, robotics, and blockchain to create pilots and prototypes, foster experiential learning, and to test tangible IT solutions to campus pain points.

This year, over half of the funded projects explored AR/VR/XR, signaling an increasing interest in these environments and experiences for teaching and learning.

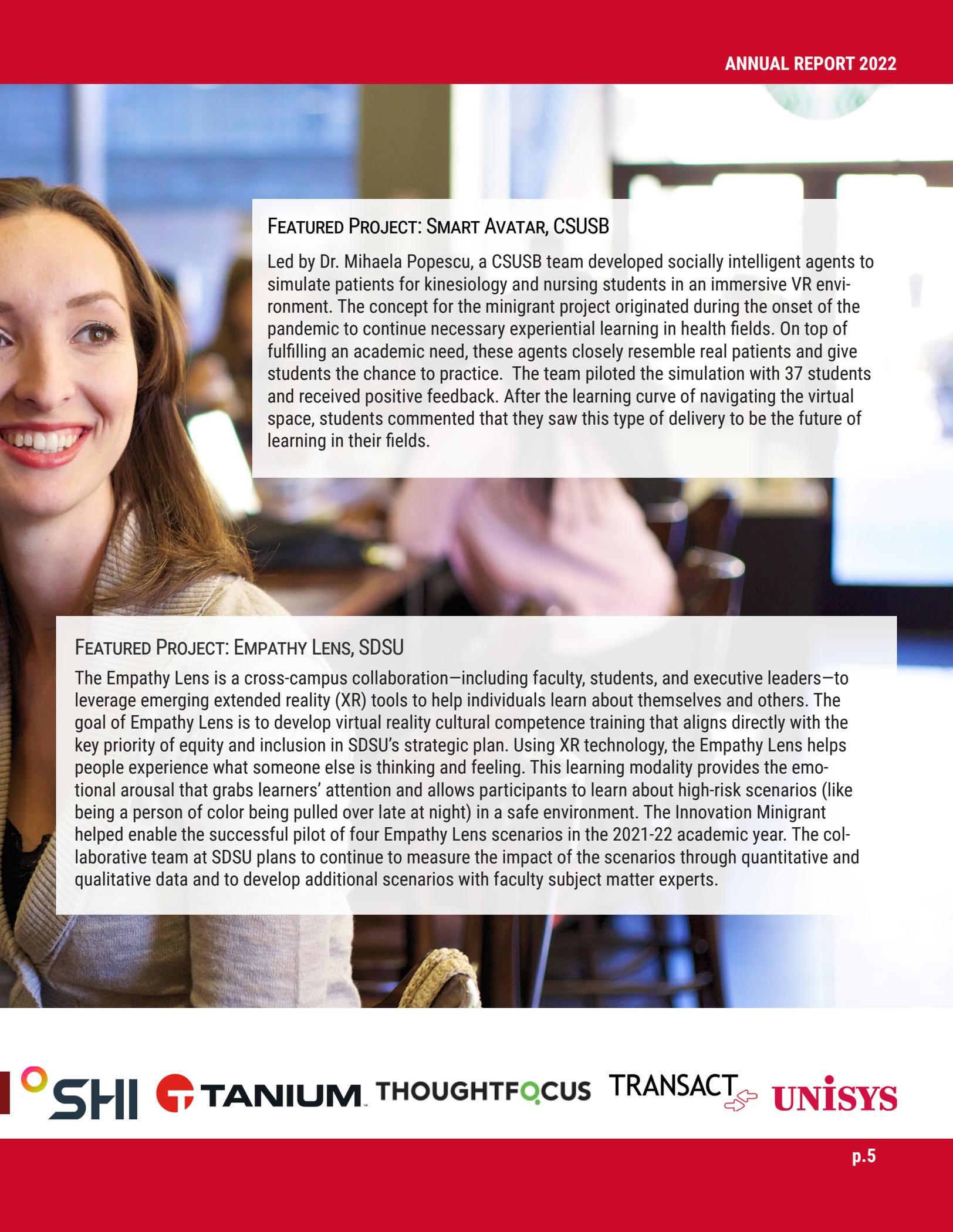
2021-2022 PROJECTS

- Bring the Ancient Instruments back to Life through an Augmented Reality App, *SFSU*
- Empathy Lens, *SDSU*
- Better Learning with "Smart" VR Avatars, *CSUSB*
- Community Gardens Sensor Data Initiative, *Cal Poly Pomona*
- HackHER Gals Cybersecurity Outreach Initiative, *Cal Poly Pomona*
- Enterprise Data Transformation Through DataOps, *Cal Poly Humboldt*
- Virtual Learning Genie: A Smart Avatar in XR, *Fresno State*
- Virtual Spaces for Job Interviews and Career Development, *CSUCI*

Thank you to our 2021-2022 Sponsors!



ShareStream



FEATURED PROJECT: SMART AVATAR, CSUSB

Led by Dr. Mihaela Popescu, a CSUSB team developed socially intelligent agents to simulate patients for kinesiology and nursing students in an immersive VR environment. The concept for the minigrant project originated during the onset of the pandemic to continue necessary experiential learning in health fields. On top of fulfilling an academic need, these agents closely resemble real patients and give students the chance to practice. The team piloted the simulation with 37 students and received positive feedback. After the learning curve of navigating the virtual space, students commented that they saw this type of delivery to be the future of learning in their fields.

FEATURED PROJECT: EMPATHY LENS, SDSU

The Empathy Lens is a cross-campus collaboration—including faculty, students, and executive leaders—to leverage emerging extended reality (XR) tools to help individuals learn about themselves and others. The goal of Empathy Lens is to develop virtual reality cultural competence training that aligns directly with the key priority of equity and inclusion in SDSU's strategic plan. Using XR technology, the Empathy Lens helps people experience what someone else is thinking and feeling. This learning modality provides the emotional arousal that grabs learners' attention and allows participants to learn about high-risk scenarios (like being a person of color being pulled over late at night) in a safe environment. The Innovation Minigrant helped enable the successful pilot of four Empathy Lens scenarios in the 2021-22 academic year. The collaborative team at SDSU plans to continue to measure the impact of the scenarios through quantitative and qualitative data and to develop additional scenarios with faculty subject matter experts.

INNOVATION MINIGRANTS: A FIVE YEAR REVIEW

As the Innovation Minigrant program wraps up its fifth year, we reflect on its impact on the campuses and the network of innovators in the CSU. “This program was a game changer for us because it really allowed us to dream,” shared Dr. Mihaela Popescu, professor of communication studies and faculty director for the Extended Reality for Learning Lab at CSUSB. Cal State San Bernardino has been awarded 4 minigrants since the start of the program, a subset of the 46 minigrants awarded to principal investigators at 16 other campuses. “What [the minigrant program] also taught us is to start thinking like professional project managers, to really get very focused, to learn the process of scoping. It forced us to research, how to organize a lab professionally so that we can deliver within the timeframe,” Popescu shared.

During his tenure as chief innovation officer, Michael Berman originated the minigrant program with the first round of grants being awarded in 2017. “We were looking to build a cohort of people interested in innovation that could work together and share ideas, and that it would potentially involve a lot of campuses and we’d see a lot of different types of innovation,” explained Berman. In the five years since, the program has helped campuses explore and experiment with new technologies. But an unanticipated benefit has been the network of innovators across the CSU. “While hearing the success stories of the projects is rewarding, the best part of the program has been the relationships with colleagues across the system, and the opportunity to surface clusters of interest in emerging technologies and being able to connect folks across campuses as they explore new areas,” said Kate Miffitt, director for innovation.

Awardees have noted minigrants have elevated the image of IT on their campus and led to collaborations with faculty on research efforts. “It was like the credibility of an outside entity saying, ‘yeah, this is something interesting.’ Then, even though it’s not a large amount of money by any stretch, it got the attention of people on the campuses,” added Berman. Awardees have presented at conferences, collaborated with faculty on grant proposals, and secured external funding from vendor partners as a result of the prototypes developed through minigrants.

“If you’ve got a BOLD idea to try out, Cal State Innovate is your chance! Opportunities such as the Cal State Innovate Minigrant and the design thinking program with the Cal State Innovate team have enabled our DXIHub interns to fully explore technology innovation in a diversified and collaborative setting,” said Max Tsai, Fresno State’s digital transformation & innovation officer. “[Innovation Minigrants] have supported students as they ideate, explore, and transform technology experiences at Fresno State.” While the minigrant program will undergo some changes this year, the core of the program – to help accelerate innovation at the campuses – will persist through the redesign.



“ This program was a game changer for us because it really allowed us to dream.

- Dr. Mihaela Popescu, CSUSB

“ If you’ve got a BOLD idea to try out, Cal State Innovate is your chance!

- Max Tsai, Fresno State

FOSTERING A CULTURE OF INNOVATION

Foundations in Innovation Professional Development Course

In the spring of 2022, we launched a professional development course for IT staff and others in the CSU that focuses on topics in innovation. The course is comprised of four modules that cover innovative mindsets, introductions to design thinking and user experience, and the characteristics of creative teams. The course is completely online, and learners who complete the course earn a digital badge.

By the end of the course, learners will be able to recognize that the building blocks of innovation – empathy, creativity, and open-mindedness – are capacities that can be developed with practice and intention. Participants will also apply a design process to a project of their choosing throughout the course, get a chance to practice brainstorming techniques, writing a problem statement, developing a design plan, creating a user persona, and drafting a team charter that applies best practices of creative teams.

The course will be offered several times a year moving forward, with offerings shared through the CIO Council.



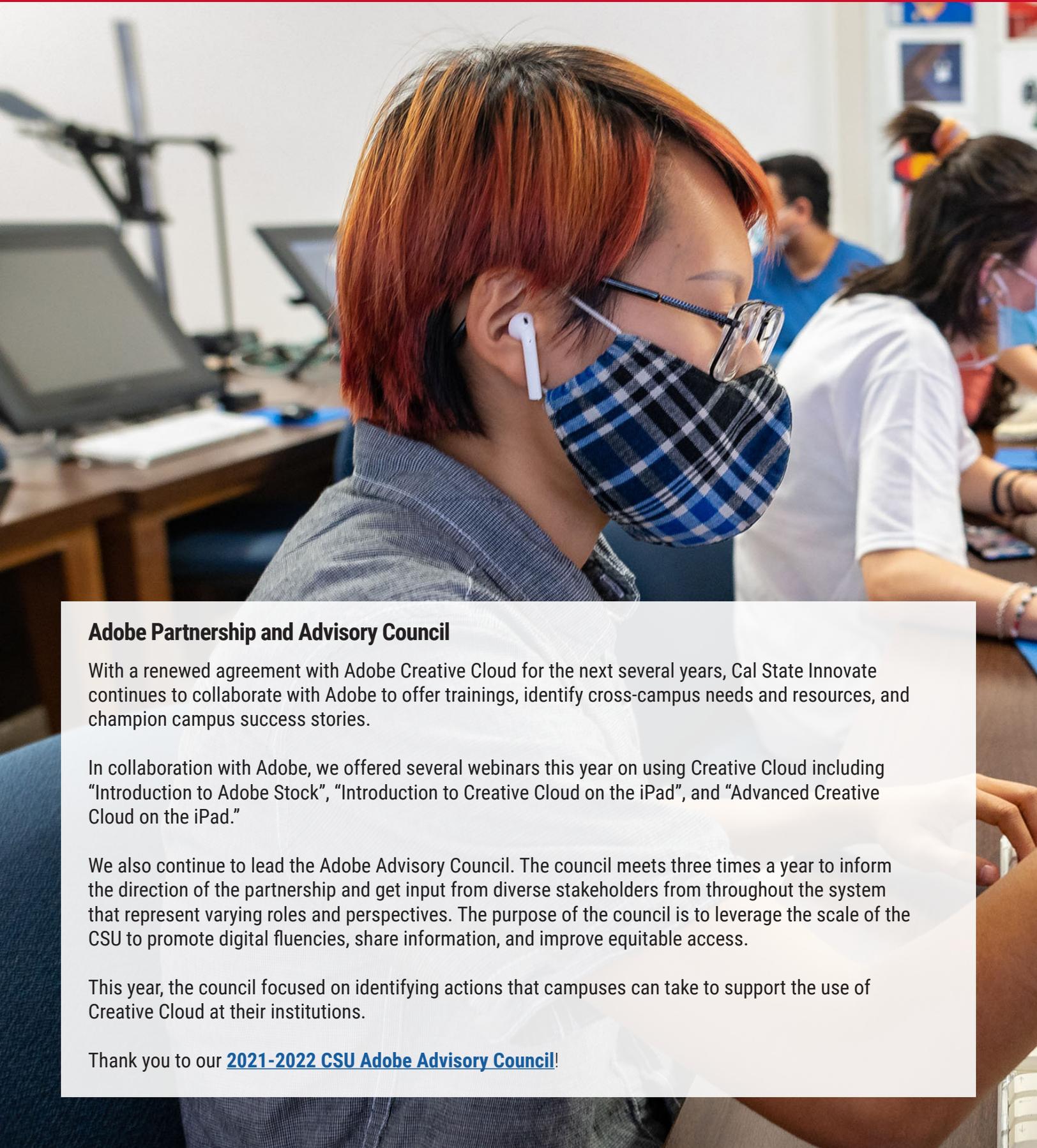


“ There are a lot of things I have experienced... or figured out for myself but never learned officially. So, through this course I was able to put terms to concepts, understand specific concepts (like UX vs UI) in a more formal way.

- Innaugural Participant

“ The general premise of teaching and enacting innovation was refreshing. Often, those in my position are just told to ‘be creative’ and there’s not much discussion about what that is.

- Innaugural Participant



Adobe Partnership and Advisory Council

With a renewed agreement with Adobe Creative Cloud for the next several years, Cal State Innovate continues to collaborate with Adobe to offer trainings, identify cross-campus needs and resources, and champion campus success stories.

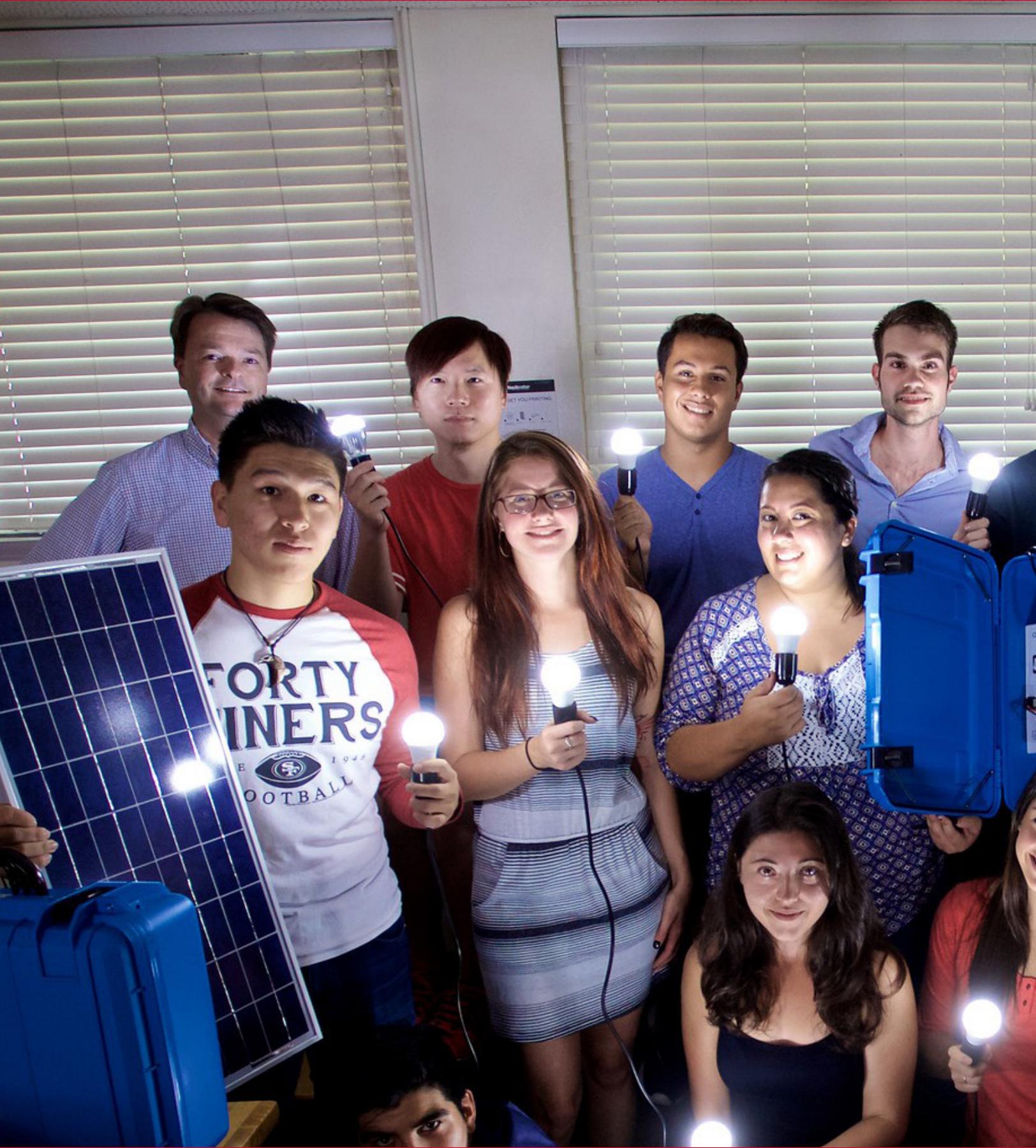
In collaboration with Adobe, we offered several webinars this year on using Creative Cloud including “Introduction to Adobe Stock”, “Introduction to Creative Cloud on the iPad”, and “Advanced Creative Cloud on the iPad.”

We also continue to lead the Adobe Advisory Council. The council meets three times a year to inform the direction of the partnership and get input from diverse stakeholders from throughout the system that represent varying roles and perspectives. The purpose of the council is to leverage the scale of the CSU to promote digital fluencies, share information, and improve equitable access.

This year, the council focused on identifying actions that campuses can take to support the use of Creative Cloud at their institutions.

Thank you to our [2021-2022 CSU Adobe Advisory Council!](#)







Innovation Advisory Council

In July of 2021, we convened an Innovation Advisory Council to provide strategic guidance on initiatives and priorities for Cal State Innovate. The council is comprised of leaders from different institutions within and outside of IT to recommend focus areas and to surface challenges at the campus level. The council met several times this year and discussed opportunities and challenges that higher education faces in the next one to five years that have a technological component. We also considered ways that we might improve the innovation minigrant program and what the role of user experience services and a community of practice might look like moving forward.

The goals for the Council include:

- Recommending focus areas for the Cal State Innovate program.
- Engaging in forecasting exercises to project out 18–24 months what innovations might be worth pursuing.
- Sharing campus problems that might be solved through innovative technology or processes.

We are grateful for the experts who served on the [2021-2022 Innovation Advisory Council](#) this academic year and look forward to their thought leadership moving forward.

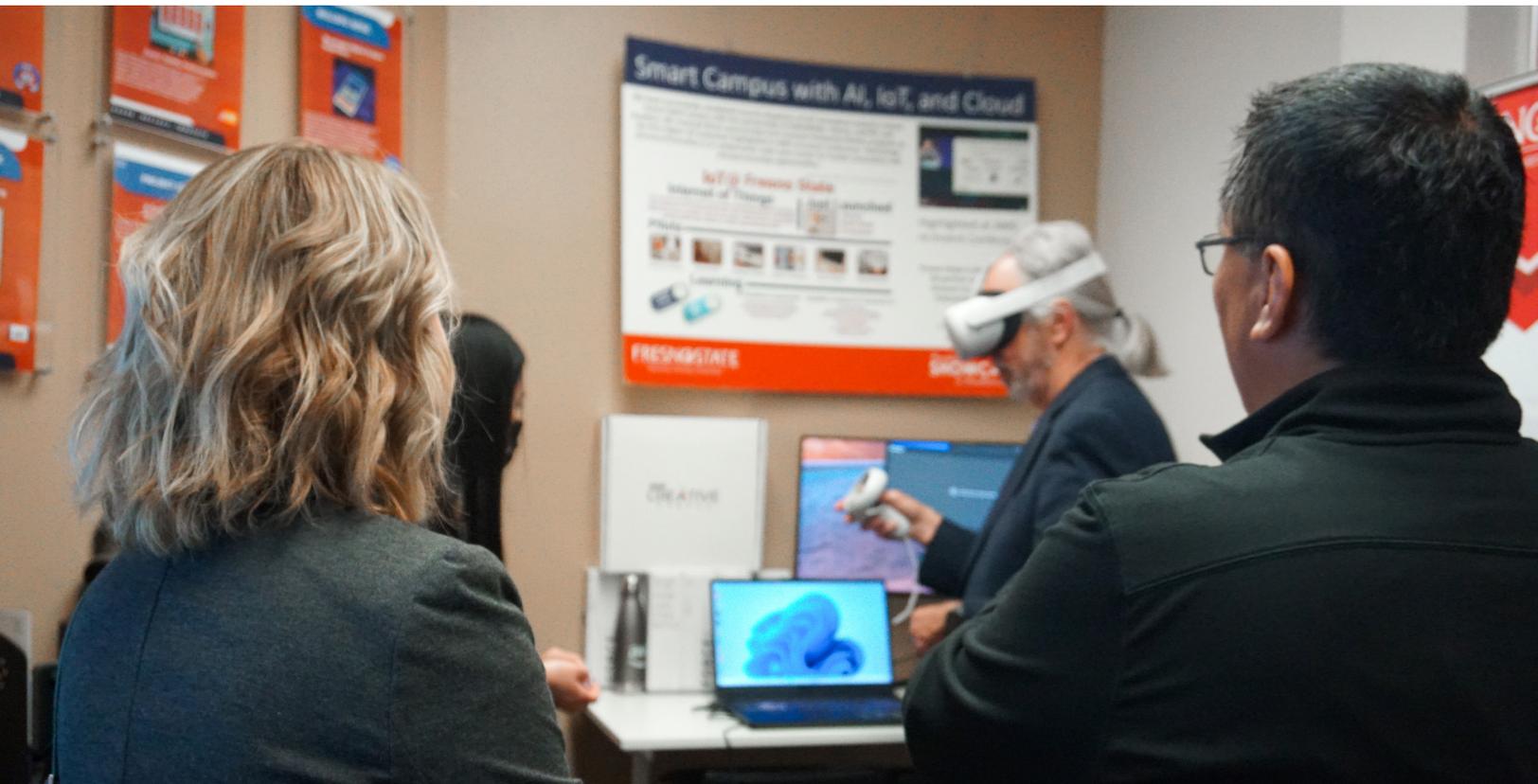
EXPLORING EMERGING TECHNOLOGIES

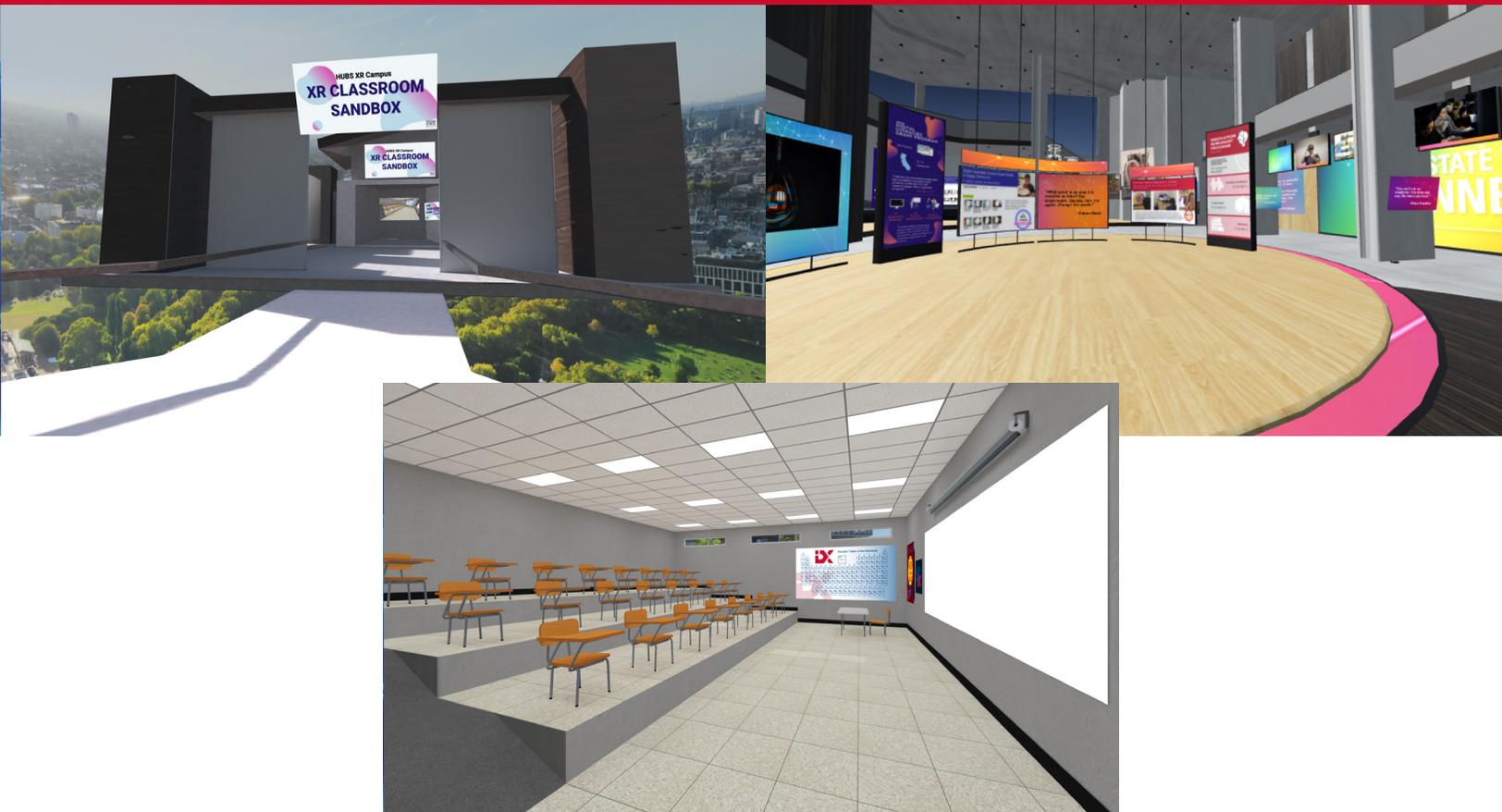
Cal State XR Sandbox

In response to COVID and remote learning, the Digital Transformation Hub at Fresno State began exploring Mozilla Hubs, an open-source VR platform that could easily be customized with low or no coding. After early successes, the DXI Hub partnered with Cal State Innovate and the XReal Lab at CSUSB to customize spaces for the Cal State Tech Conference. The XR spaces offered virtual attendees places to network, watch keynotes, play games, and view posters. The environment was so easy to use and allowed attendees to join from any device.

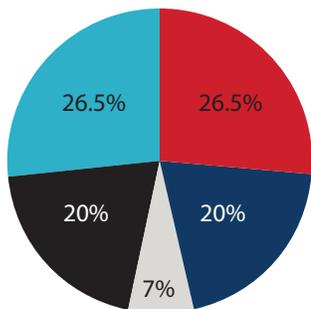
With the increased interest in AR/VR/XR across the CSU evident, Cal State Innovate partnered with DXI Hubs to create the XR Sandbox, an environment with templated spaces for uses in teaching & learning and engagement, to make available across the CSU. The partnership, which intended to explore scaling a minigrant project to other campuses, offered demos, consultations, and training in addition to access to the XR space. Interested faculty and staff can use the existing spaces, request customized spaces through a charge back model, or stand up their own instance of Hubs with guidance from DXI.

In the spring semester, the Cal State XR Sandbox team hosted three live demonstrations and individual consultations by request for the CSU community with a total of 48 faculty, staff, and administrator participants. Moving forward, the team is interested in exploring new features such as incorporating learning analytics and documenting additional use cases.





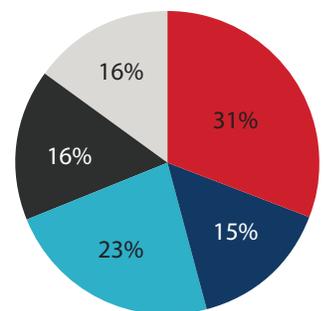
Which features of Hubs appeal the most to you (select all that apply)?*



- Personalization of space to replicate classrooms/campus/other familiar spaces
- Accessibility with different devices
- Customization of avatars
- Ability to host events/meetings virtually other than on Zoom or Teams
- Supports a hybrid/flexible format for students and faculty

Which types of experiences can you see Hubs benefiting in your institution (select all that apply)?*

- Teaching/alternative classroom spaces
- Vocational or other skills-based training
- Special events (conferences, lounges, etc.)
- Co-curricular activities (orientations, club fairs, etc.)
- Other



*Results from XR Sandbox Post-Demo Survey, Spring 2022

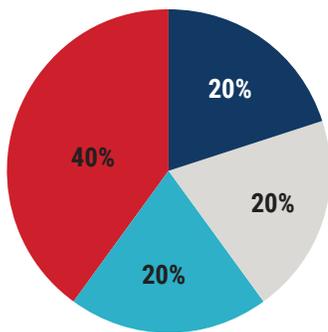


Esports Common Interest Group (CIG)

With the success of the eSports Unconference in the spring of 2021, the collaborative team comprised of ITS departments of Innovation, Engagement, and Operations behind the event has been working to cultivate a community of eSports partners across the CSU. The eSports Common Interest Group (CIG) kicked off regular monthly meetings in April 2022, with a focus on campus updates, space and equipment needs and goals, and organizational structures that support esports for students.

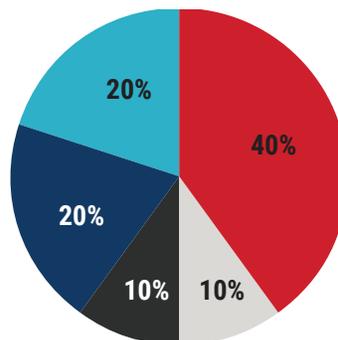
From a survey distributed to the CIG, the eSports administration team gathered the following data:

How long has esports been active on your campus?



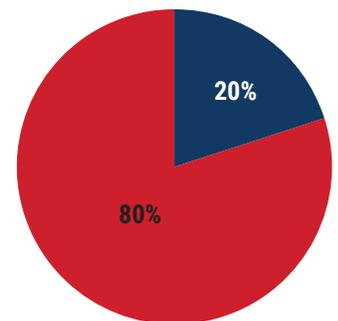
- Less Than One Year
- 1-2 Years
- 3-5 Years
- 5+ Years

What type of space does your esports team meet in?



- Gaming lounge or arena
- No space (students connect virtually)
- Room in student union/activities center
- Library or computer lab
- Other

Are eSports devices personal or university-owned?



- University Owned (ex: desktops at a computer lab)
- Student Owned

KEY TAKEAWAYS

Through survey results and ongoing conversations in CIG meetings, the team has learned that most eSports groups across the CSU are relatively new and emerging. Other findings revealed that many campus eSports teams did not operate with their own dedicated spaces nor dedicated equipment configured for gaming. A lack of dedicated resources creates frustrations, inequitable access, and feelings of a disjointed community. With ongoing CIG meetings, the group will explore ways to address these challenges and develop solutions to advance eSports.

RESEARCH IN INNOVATION

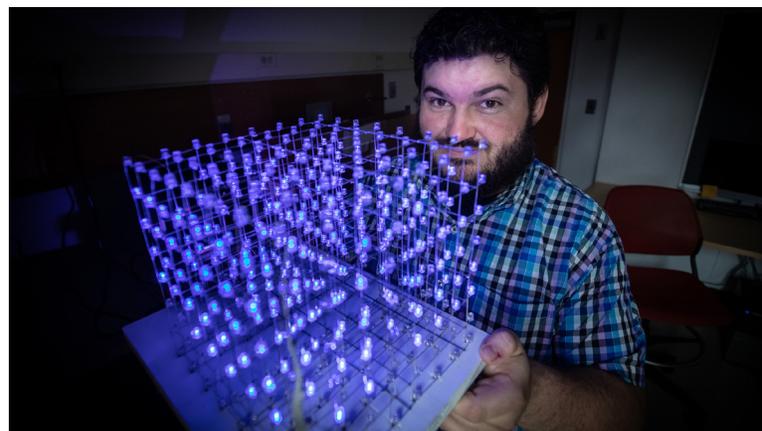
EDUCAUSE Student Study

In fall of 2020, Cal State partnered with EDUCAUSE to conduct a study on students' experiences with connectivity and technology during remote instruction due to COVID. As a follow up to the study, published in early 2021, we coordinated with EDUCAUSE to conduct a series of focus groups with students from four CSU campuses. The focus groups deepened the understanding of the findings of the survey, which showed that 10% of CSU students did not have access to Internet connectivity at home and 12.4% of CSU students reported having Internet at home that is not reliable enough to meet most or all of their student needs. The focus groups found that even intermittent connectivity issues exacerbated other technology issues and course deadlines. Students were overwhelmed by internet unreliability, inadequate hardware to complete coursework remotely, and strict course policies and requirements (such as proctoring services). The study helped to illustrate the challenges with connectivity and device access that students face, while also establishing a baseline for digital equity programs in the CSU. The full study results can be found on the [EDUCAUSE website](#).



Emerging Technologies Sub-Committee

The Emerging Technologies Sub-Committee, comprised of senior IT staff from campuses and the director for innovation, will analyze emerging innovation trends, synthesize key findings, identify potential use cases in higher education, and summarize and present findings to the CIO Council.



CSUCCESS Evaluation

The CSUCCESS (California State University Connectivity Contributing to Equity and Student Success) Program is a bold initiative to enhance student achievement and create more equitable opportunities for the CSU community by providing industry-leading technology. Under the guidance of the director for innovation, a committee of diverse members of the participating campuses convened to define the research questions and scope, develop a survey instrument and protocol, and make recommendations on iterative improvements and supporting training and resources to continually improve the CSUCCESS Program. The working group will evaluate the impact of CSUCCESS on digital equity, student sense of preparedness, and sense of belonging.

Six CSUCCESS campuses administered the survey, with over 800 student responses. The report will be shared in Fall 2022, but early data suggests that students overwhelmingly agree (>92%) that their device made them feel more prepared to be a successful student.



It made me feel like I belonged. Succeeding in college when you're struggling financially is very difficult. Having an iPad helped me feel like I was at the starting line with everyone else instead of far behind it.

- CSUCCESS Survey Respondent





LOOKING AHEAD

As we look ahead to next year, Cal State Innovate will continue to cultivate a culture of innovation in IT through training and events, collaborations, and consultative services. We plan to expand on new competencies in user experience design, and emphasize the process of innovation over innovative products. We'll continue to partner with colleagues at the campuses, listen to the wisdom of our advisory councils, and focus on how innovation can enhance the student experience.

Goals for the coming year include:

- Offering the innovation course on a regular basis, and explore delivering the course in different modalities, including self-paced and hybrid.
- Building a community of practice around user experience and offering a menu of services to campuses in user experience, design thinking training, and consultation.
- Innovating the innovation minigrant program! We plan to explore opportunities for external funding, themed calls for proposals, and providing additional support to scale successful projects.