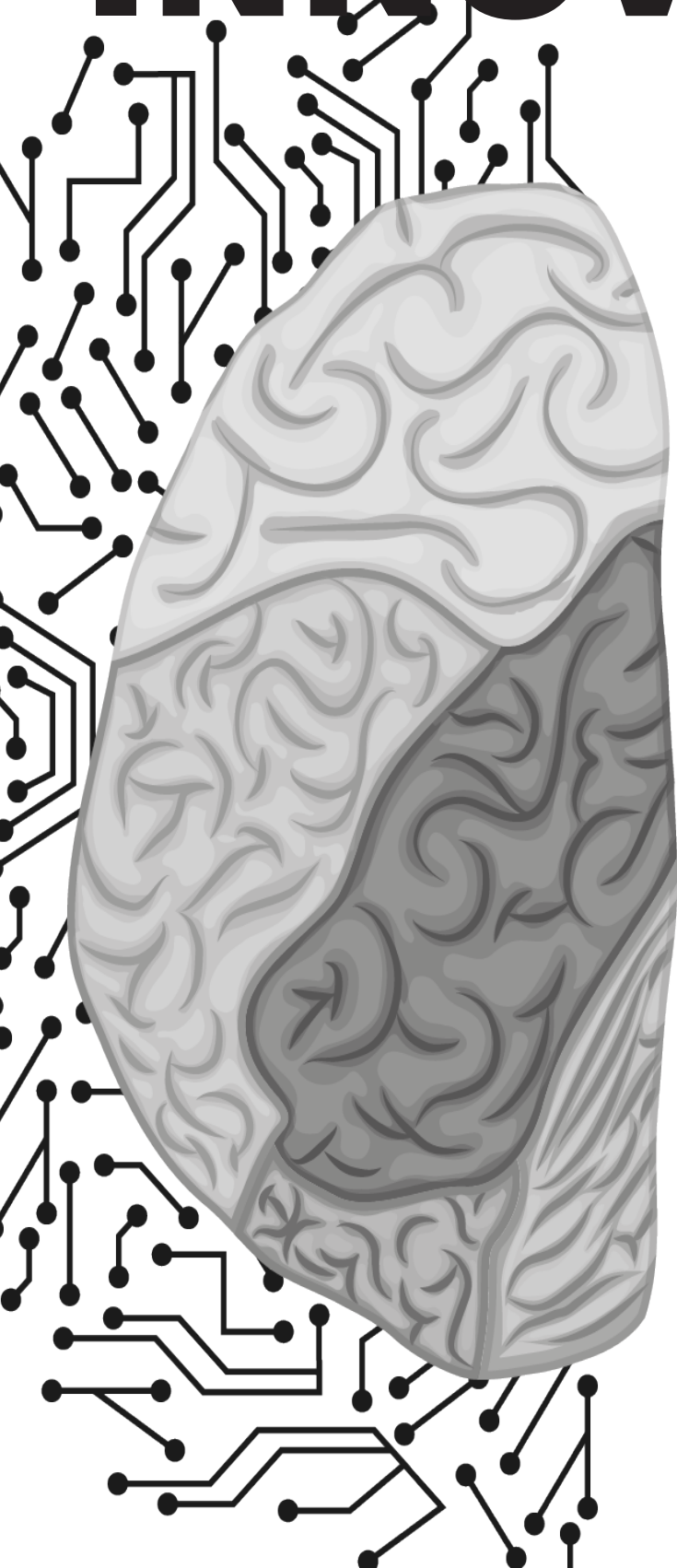


INNOVATION



“Disruptive innovation is a powerful way of thinking about innovation-driven growth. These bold stories of the ASU community designing new, never-before-seen programs, platforms, and services is an expression of the creative force that is ASU. Our University Technology Office is proud to be a catalyst and an enabler of the New American University.”

Lev Gonick
Chief Information Officer,
Arizona State University



Table of Contents

02

Voice First Technology
at Arizona State
University

15

Emerge Exploring Tech
Through Intentional
Dialogue

06

The ASU App
Reimagined

16

Cloud
Transformation

08

Student Success
Expressed through
Tech

18

Canvas
Meeting students
where they are

12

Lola Project Lets
Musicians, Miles
Away, Play Together

20

Experience
Innovative
Infrastructure

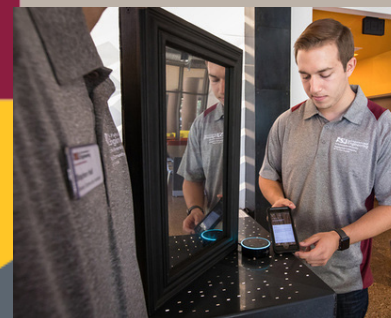


Voice First Technology at Arizona State University

Alexa, as a voice-enabled technology, is a true tech disruptor. It is like the mobile phone in the mid-to-late 2000s or the Internet in the mid-1990s. Voice is not a replacement; it's an additive technology, which makes life easier for 109,500 students and over 3,500 faculty and staff at ASU.

Giving students these devices is not simply for convenience. Students can actually join the growing voice-activated field of technology and the leading edge of Alexa development while still studying at ASU. This initiative has already yielded positive results. Many students use Alexa and Echo Dots to interface with their community. Programming classes, regardless of whether you own an Echo Dot or not, feature the building of skills in anticipation of a new, growing market. Two students have already been hired based on their work in developing Alexa skills.

Carter Kwon is one of those students. Carter was a community assistant at Tooker House when ASU gave out around 1,600 Echo dots to building residents. As a senior majoring in Computer Science and minoring in business, Carter



decided he would build an Alexa skill for the residents of Tooker House. This skill allowed residents to ask Alexa questions about events happening in the building.

Shortly after Carter met the Alexa team at ASU, he was offered a full-time position with the University Technology Office (UTO). Since he started his new position, Carter has worked on several new innovative and exciting “voice-first” projects. He particularly enjoys being able to push Alexa’s limits and truly test its capabilities. For example, the “proof of concept project” is trying to connect Alexa to MyASU. This would allow students to access personal information by simply asking Alexa.

Arizona State University continues expanding their Alexa team by inviting more developers to join. University departments are becoming more involved by making suggestions and requests. Voice technology is here, and it is here to stay.



Carter Kwon
ASU Student and Alexa Skill
Developer

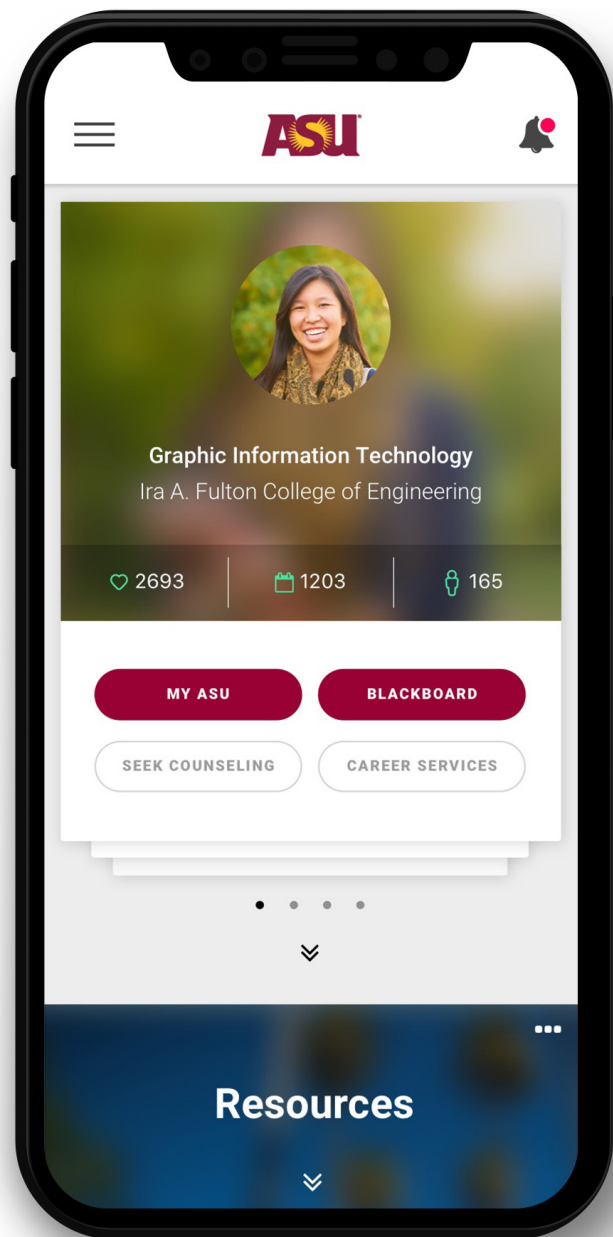
“Voice technology is growing so quickly and there is a great demand for it. Any university that does not expose their students to these opportunities is putting them at a disadvantage.”

The ASU App Reimagined

Arizona State University recently revamped its mobile app to focus on students' dynamic needs. The original application was developed in 2007, and it had about 18,000 active users. The new and improved application formally launched in August 2018 and already has over 56,000 users and counting. This is an astonishing 186% increase over the previous application.

Allison Sorgeloos, a member of the Council of Presidents, was genuinely engaged with the University Technology team during the relaunch of the mobile app. She ensured the application provided exactly the information students needed.

After surveying students across ASU campuses, the top five requested functionalities included notifications, appointment details, resources, maps, and event information. For example, every student at Arizona State University has free admission to Sun Devil football games. It was especially important to students that the new application integrate with Ticketmaster so that they did not need to download an additional application to receive their digital tickets.



The University Technology Office partnered with Ticketmaster to create the integration, making it easier for students to attend games and cheer on their team. However, they didn't stop there. To improve students' football game experience, the app includes a "light game" function. The light game allows students to press a button on their app at the beginning of the fourth quarter and enable flashing lights. In the game against Michigan State, the full student section used the light game. As a result, ASU received the week two ESPN/Taco Bell Student Section of the Week Award.



Bobby Gray
Director of Digital Transformation

“This process was really started as a partnership with the Provost Office and driven by students to deliver a product to best fit their needs. They are really the stars of the show here.”

Student Success Expressed Through Tech

Barbara Klimek

Director, Office of Global Social Work (OGSW)

“To use digital portfolios vs a traditional way of collecting student outcomes is a natural progression of utilizing modern technology to demonstrate the work students are conducting in an academic setting. It also allows us to show the connection between academic learning and practical scientific application of the work and outcomes students are achieving while at ASU.”

“To use digital portfolios vs a traditional way of collecting student outcomes is a natural progression of utilizing modern technology to demonstrate the work students are conducting in an academic setting. It also allows us to show the connection between academic learning and practical scientific application of the work and outcomes students are achieving while at ASU.”

In order to graduate with a Master of Social Work in Policy, Administration, and Community concentration (PAC) at Arizona State University, students are expected to create and submit a digital portfolio. Digital portfolios are free individualized websites for students, faculty, and alumni post-graduation.

“The research shows that successful portfolio initiatives are driven by pedagogy and not the technology. The research also shows that sophisticated portfolio practice can advance student success, deepen student learning, and catalyze institutional change (Eynon, Gambino, and Torok 2014).” Says Christopher Sheehan, Digital Technology Platform Coordinator, “In a fast-changing learning ecosystem marked by the high levels of digital innovation, which we see here at ASU, we believe digital portfolio practice can help us build a more integrative and adaptive university”.

Although digital portfolios are designed for current students, over 5,000 ASU alumni take advantage of this no-cost resource. Additionally, digital portfolios are used in more than 60 programs representing over 110,000 student accounts at the University. These students have created over 175,000 portfolios in a variety of unique and innovative use cases.

As of September 24, 2018, ASU had over 52,000 active users representing one

of the largest portfolio initiatives in the nation.

Barbara Klimek, Director of the Office of Global Social Work (OGSW) at Arizona State University, encourages students to use digital portfolios to demonstrate the end results of their social work practicums.

“To use digital portfolios versus a traditional way of collecting students’ outcomes is a natural progression of utilizing modern technology to demonstrate the work students are conducting in an academic setting,” says Dr. Klimek. “It also allows us to show the connection between academic learning and practical scientific application of the work and outcomes students are achieving while at ASU.”

Digital portfolios allow students to showcase the amazing work they are doing across the globe and share it with others. Student projects range from making waves in small refugee communities across Phoenix to designing and building a sustainable infrastructure for an orphanage in Nepal. Other equally important student projects include the development of sustainable peace clubs in a Nepalese high school and the Amazing Africa project, which allows students to work remotely with a Mandela YALI Fellow to develop a digital platform for an entrepreneurship venture.

THE IMPACT
OF

DIGITAL PORTFOLIOS

Users
110,862

Faculty
3,669

Total
Portfolios
created
152,256

Total
Individual
Page Views
29,459,002

Alumni
5,369

Students
107,193

Active
users
52,314

(portfolios used at least
once in last 365 days)

Total
Courses
6,423

LOLA Project Lets Musicians, Miles Away, Play Music Together

Imagine being able to play music with another person miles away with essentially zero delays. That's what ASU School of Music and Paradise Valley Unified School District (PVUSD) students can do because of an innovative partnership between ASU, the Sun Corridor Network, and Information Technology at PVUSD.

If you try to play music with someone over Skype or Facetime, you'll find it incredibly difficult due to varying Internet speeds and the delays inherent in the programs and commercial Internet. In normal speech, and in most situations, the delay from these services is nearly unnoticeable. Musicians, however, need perfect timing to practice or perform their work to the fullest. This connection, through a technology platform called LOLA (LOW Latency), allows ASU and PVUSD students to perform together, in fact, they already have.

"LOLA is a multi-site telematic system that transmits high-quality audio/video designed specifically for network-based arts creation and collaboration," says Jason Caslor, assistant professor and associate director of bands and orchestras in the ASU School of Music. "While it functions similar to programs like Skype or Facetime, LOLA allows for high-quality audio and video with almost zero delays. With LOLA, coupled with Arizona's very low latency Sun Corridor Network and the national Internet2 Network, musicians can actually perform with fellow artists in real time even though they are physically miles apart."

PVUSD generously loaned a LOLA node to ASU, and live sessions between the university and the district began in January. Eventually, and with great success, a full live demonstration was staged on April 10 at ASU Gammage with PVUSD high school band and orchestra students at a location 25 miles away.

The project was brought to life by the Sun Corridor Network, its Executive Director Michael Sherman, the ASU Gammage staff, and ASU network engineers Daniel Tischendorf and Bob Belisle.

"The Sun Corridor Network is very proud to enable a collaboration between one of our school district users and ASU", says Sherman. "PVUSD and ASU are among the first institutions in the country to deploy LOLA and collaborate like this. It is a thrill for us to see the unique characteristics of our network used for such a wonderful purpose."

Caslor thanked the ASU School of Music and the Herberger Institute for Design and the Arts for their financial assistance in making the demonstration possible. The project with PVUSD was presented at the Internet2 Global Summit Meeting in San Diego on May 6-9.

Additionally, the ASU Wind Ensemble accomplished a recording session with composer John Mackey via LOLA on April 19 from the Berklee College of Music.

From Sun Corridor Network: "The Sun Corridor Network is Arizona's gigabit speed network dedicated to research and education that enables the mission of the three public universities and provides service to other schools and community colleges across the state. And as a regional connector for the national Internet2 research and education network, the Sun Corridor Network connects to thousands of educational research partners across the country and globally. Eligible organizations can access Internet2 services in Arizona by becoming a user of the Sun Corridor Network."

EMERGE

In May of 2017, the University Technology Office invited the entire ASU technology community to a day-long event at the beautiful new Student Pavilion to build community, catalyze learning, and to find out what the participants are most passionate about. There were several opportunities to learn about innovative initiatives and technology trends being picked up across ASU. Participants engaged in discussions about the “15 Big Innovations” that are expected to enhance Universal Learning and they were invited to host their own sessions focused on the question: When you think about Information Technology and the New American University, what are you most curious and passionate about?

From the welcome address by Mark Searle, executive vice president and university provost, to the panel of ASU leadership and student leaders, to a series of lightning talks meant to spark ideas, the tone of thinking about big ideas was strategically set for the day.

Christine Whitney Sanchez
Chief Culture Officer

“Innovation, working on the edge of

emergence, and the power of community were at the core of the Emerge event. We were conscious of beginning the process of developing an ASU IT community that is grounded in appreciation, collaboration, innovation and distributed leadership.”



EXPLORING TECH THROUGH INTENTIONAL DIALOGUE

Deputy Provost Stefanie Lindquist, the event’s emcee, moderated a discussion between Tempe campus Dean of Students Nicole Taylor; Executive Vice President, Treasurer and CFO Morgan Olsen; Associate Vice President Research Tamara Deuser; and two incoming undergraduate student government presidents, Tempe’s Allison Sorgeloos and West’s Alexander Haw.

“This event is the first of its kind at ASU,” said Tina Thorstenson, Deputy CIO, “And given the amazing energy in the room, it certainly served as a catalyst for creatively exploring and ultimately delivering a new level of service to students and faculty.”

Capping off the event, Gonick said, “There is enormous talent across the IT professionals at ASU. If we are intentional about emerging as a loosely coupled community of practice, we can, and we will be a catalyst for advancing the mission of the New American University.”

The conference was a joyous and productive time full of generative conversations about the future of technology and education at ASU.



Building an on-site infrastructure to host software can be extremely costly, time-consuming, and inadequate for change. Additionally, the space and ideal conditions required to maximize hardware reliability, such as temperature and humidity, can become a challenge. Moving information from on-site servers to cloud solutions provides more flexibility and agility, and it allows technology to quickly adapt to the needs of the client. This is the key recipe needed for innovation to happen. In many cases, physical security of the hardware increases when moving to a cloud solution intentionally built to hold sensitive information. The Center for Education Through eXploration at Arizona State University works to deploy initiatives brought on by research. The center is currently

working on interactive simulations that provide a way of learning where students can see their work come to life. This technology provides a foundation, and students can easily adjust calculations once they visualize how mistakes affect the final product. Ariel Anbar, the Center for Education Through eXploration (ETX) Director and ASU President's Professor, came to the University Technology Office in search of alternatives. His team reached the limit of their current environment, and they needed to quickly come up with a solution. The University Technology Office was able to move Dr. Anbar's information and interactive simulations to the cloud. With architecture and design, UTO was able to instill a robust automated system at a fraction of the cost. A true partnership

CLOUD TRANSFORMATION

& Interactive Simulations

was created between the UTO and ETX. In addition, UTO was able to learn different aspects of cloud transformation and build a base infrastructure for similar projects in the future. UTO now has an initial data point and will continue to work with groups to properly assess capacity, and in the near future, on a broader scale.



CANVAS

Meeting students where they are

Learning management systems (LMS) have an important role in setting the tone for professor and student interactions, and Arizona State University recently searched for a new product. The steering committee working on this initiative was composed of members of the Faculty Senate, EdPlus, the Office of the University Provost, the University Technology Office, and the Associated Students of ASU. Faculty members on the committee had an end goal of enhanced student learning.

In an effort to meet diverse perspectives, each college at ASU allows faculty to provide unique content. The new LMS product must enhance student learning and grow with ASU and its distinct needs. During the evaluation process, it became apparent that moving to a cloud-based system was the best option. This change allows greater content reliability and accessibility for students and faculty regardless of their location.

Canvas outshined its competition. Although it is a newer product, Canvas capitalizes on the functionality needed by students and faculty and makes it easy to post and access content.

Donna Cataldo, Clinical Professor and University Senate President, became involved with this project over three years ago. Her mission? Ensuring that faculty were well prepared for the conversion and on board with the change. Dr. Cataldo made sure faculty were equally exposed to the old and new platforms. For example, faculty tested learning shelves for large and small courses

and different data sets.

“The faculty’s response towards Canvas was overwhelmingly positive,” says Donna Cataldo. “Faculty had a large voice during the three-year testing period. Two-thirds of faculty have already been transitioned from Blackboard to Canvas. It is exciting to witness 3,5000 faculty members have a consensus.”

Students, some of which are using Canvas for the first time, have very positive responses as well. Canvas is supported by smartphones, which facilitate faculty and students working together. It also allows students to share their thoughts in real time, and faculty can obtain instant feedback on how content was received by their students.



“UTO has been just amazing about moving forward slowly and deliberately and acknowledging everyone’s comfort level,” says Donna Cataldo.

After a three-year process, Arizona State University will be fully transitioned to Canvas by fall of 2019.

EXPERIENCE

Innovative Infrastructure

What started as a help desk for minor IT issues has transformed into a community-wide resource center, or as it is more widely known, an Experience Center. Due to an innovative infrastructure, the University Technology Office Experience Center has built a strong partnership with many cities and counties in the state of Arizona.

Gigi Speaks

Director, Information
Technology Experience Center

“The Experience Center receives 1000’s of calls a day from staff, faculty and students. Our team hears firsthand what our ASU community is saying works well, would like more of and what could be working better. Additionally, we have partnered with other members of UTO to inspire our staff to think creatively—to challenge the status quo and find new ways to better serve our community. What enables us to provide this level of support to ASU and beyond is our highly experienced and educated staff who deliver the best experience day in and day out.”

The Experience Center participates in routine full-scale emergency drills that engage the city and corresponding emergency agencies. UTO resources, infrastructure, and technology are leveraged in an effort to immediately communicate safety information with the public. The UTO Experience Center also partners with several counseling service agencies to provide information to community members affected by emergencies, if needed.

Overall, the Experience Center is a true information hub that provides specialized answers to individuals 24 hours a day, 7 days a week, and 365 days a year.

University Technology Office Leadership



Lev Gonick
Chief Information Officer



Chris Richardson
Deputy Chief Information Officer
Development, Mobility, &
Smart Cities



Tina Thorstenson
Deputy Chief Information Officer
CISO, IT Governance, & Policy



John Rome
Deputy Chief Information Officer
Data Stewardship, Augmented
Analytics & BI



Jess Shoop
Chief Operating & Digital
Transformation Officer



Charles Kazilek
Chief Technology Innovation
Officer, Senior Research
Professional School of Life Sciences



**Christine Whitney
Sanchez**
Chief Culture Officer



Inspired

by

people

enabled

by

tech