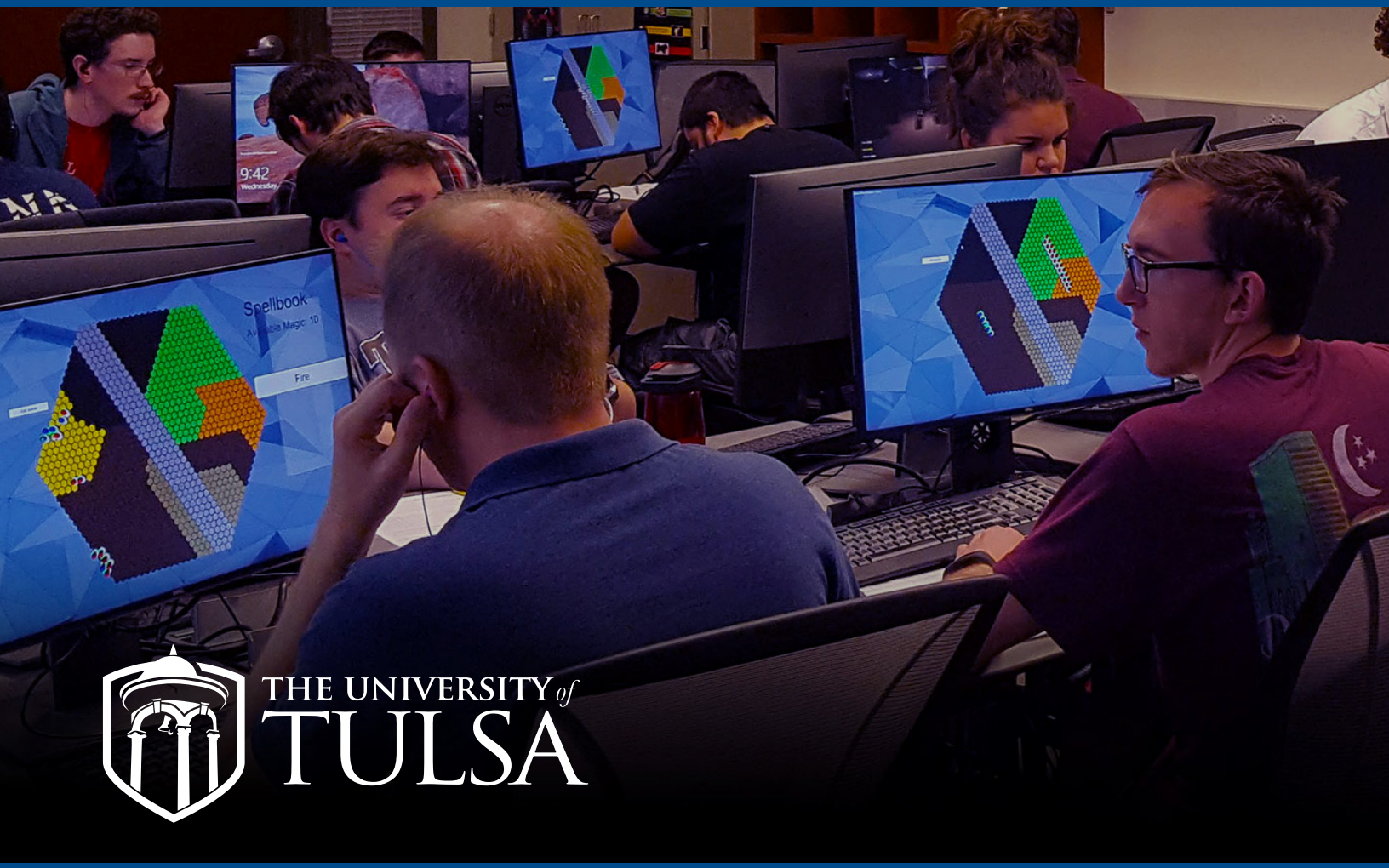
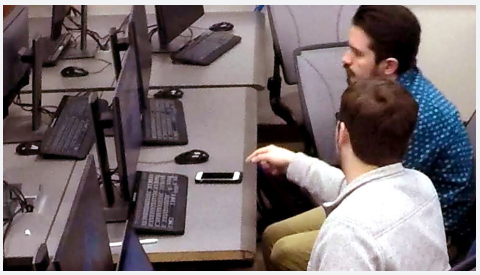


High industry demand for 3D and XR developers drives the University of Tulsa to adopt Unity

The Unity Academic Alliance lowers CSG program costs and provides courseware and valuable certifications.

Unity®



The challenge
To bolster a university training program that teaches students marketable real-time 3D development skills and helps them advance their careers

Unity solutions in use
Unity Pro, XR Interaction Toolkit, Asset Store, Unity MARS, AR Foundation, ProBuilder, ArtEngine

Program size
50+ students, 4 instructors

Location
Tulsa, Oklahoma

How does a top private university help students meet industry demand for certified Unity developers and all-around 3D and XR skills? The University of Tulsa (TU) created its Computer Simulation and Gaming (CSG) program to provide students with exactly that – hands-on, project-based skills in all aspects of leading-edge interactive design and development.

A program focused on Unity development

CSG lead faculty Akram Taghavi-Burris has taught game development and design, computer graphics, animation, and web development for nearly 15 years. She settled on using Unity after trying several different tools for advanced 3D projects. “Unity is very easy to pick up and start using,” she says. “That’s why when we first developed the Computer Simulation and Gaming degree program we focused on developing for Unity.”

“The Unity Certification program gave us a clear roadmap of the objectives a student needs to master, and the certification itself is a huge addition to their resumé.”

– Akram Taghavi-Burris, Lead Faculty, CSG Program, The University of Tulsa

The results

— A steadily growing Computer Simulation and Gaming program with 50+ declared majors

— A manageable department budget leveraging deeply discounted Unity licenses

— Students access high-quality courseware and can achieve industry certification at no extra cost

— Job placement rates of 85%+ for graduating computer-science seniors

Demand for developers drives a popular program

TU is rated as one of the U.S.'s top private research institutions and as one of the top 10 universities for engineering majors. As a response to both external and internal influences, TU's Tandy School of Computer Science launched the CSG program in 2016, and in 2017 Taghavi-Burris was brought in to spearhead the program. The external pressure was the skyrocketing industry demand for skilled XR developers (more than 1400% from 2018–19 on hired.com); local training and flight-simulation companies CymSTAR and FlightSafety Simulation have since been consistent recruiters for CSG graduates. At the same time, there was considerable internal interest from students who, after taking a few special-topic courses on gaming, loved it – and pushed for a formal game-development degree.

Comprehensive development skills for non-programmers

From the beginning, TU aligned its degree program on two tracks: development and design. While both tracks include specific computer science and art courses, all students take the same CSG core courses. Taghavi-Burris says, “Whether a student wants to write their own shader scripts or just be a 3D modeler, they’ll still know how to make a complete game on their own using Unity.” The program enables specialization, but is rooted in teaching an overall understanding of the game-development process. “This is where our program stands out from the rest.” As it turns out, TU’s development and design tracks dovetailed perfectly with UAA’s programming and art certification pathways.

In addition to coordinating the CSG program and guiding curriculum development, Taghavi-Burris runs TU’s annual Computer Simulation and Gaming Conference that hosts six different game design/development competitions. “We see entries from students from many backgrounds, so they don’t have to be programmers to use Unity,” she says, also noting that Unity’s C# programming core language makes it easier for students with Java backgrounds to master.

“With Unity, they’re creating fully customizable games, not just modding out death matches.” Taghavi-Burris also appreciates Unity’s considerable educator resources, an essential component for any academic solution.

“Unity is very easy to pick up and start using. That’s why when we first developed the Computer Simulation and Gaming degree program we focused on developing for Unity.”

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“Joining UAA let us offer more students training in high-demand skills. This makes a TU CSG degree more impressive when it comes to actually getting a job.”

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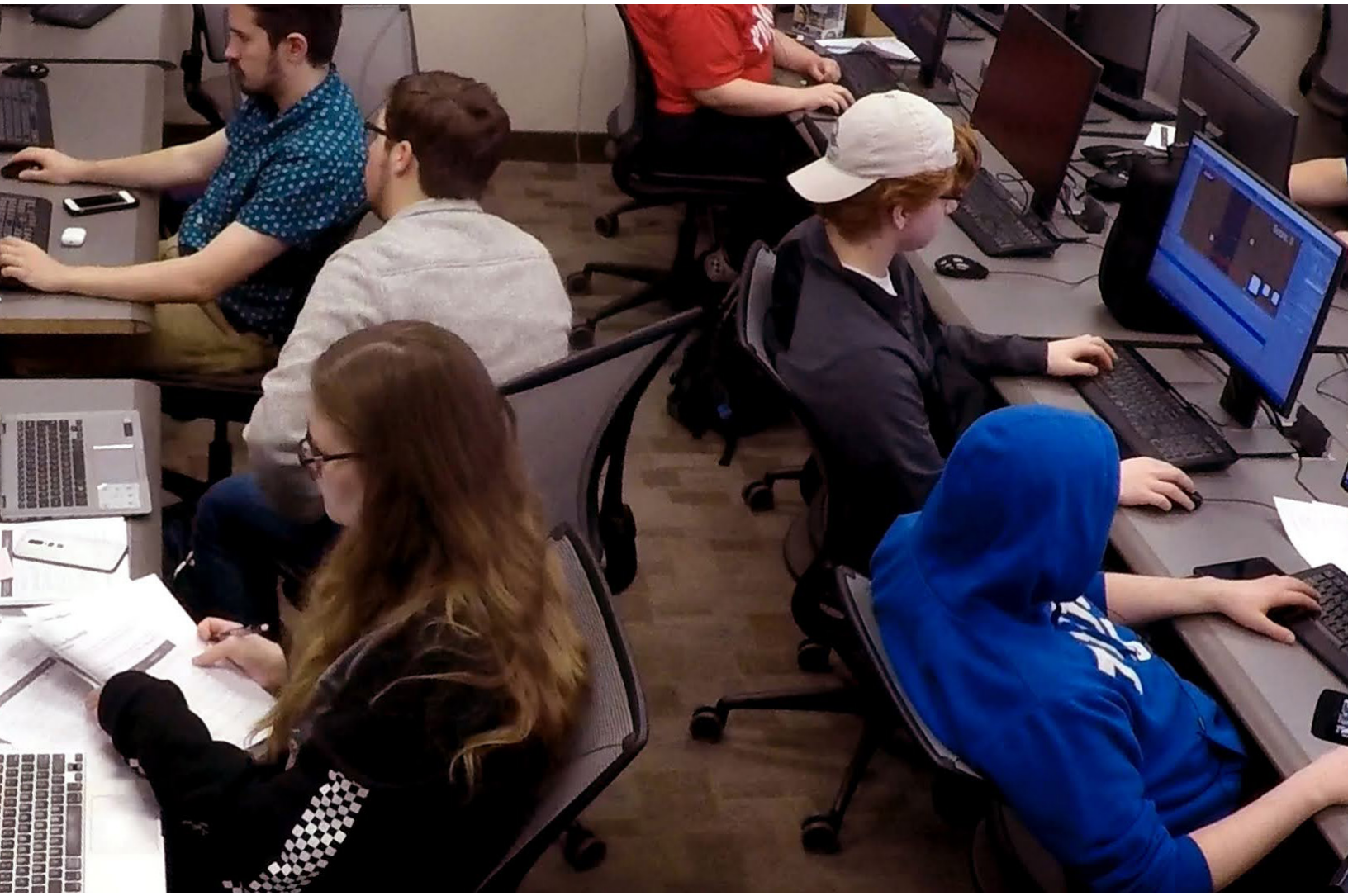
Unity Academic Alliance helps expand the program

TU, like all academic institutions, has felt the financial impact of COVID-19. Up to a third of colleges nationwide expect significant budget cuts. Most expect reduced applications as students defer their decisions about schooling for extended periods. These factors make ensuring student access to technology – and maintaining student engagement – critically important challenges.

To help meet these challenges, Taghavi-Burris recommended that TU join the Unity Academic Alliance (UAA). UAA provided TU with Unity licenses at significant discounts to quickly expand their CSG program. UAA also provided courseware, certifications, and accreditations for students and instructors. “Joining UAA let us offer more students training in high-demand skills. This makes a TU CSG degree more impressive when it comes to actually getting a job,” says Taghavi-Burris. “The Unity Certification program gave us a clear roadmap of the objectives a student needs to master, and the certification itself is a huge addition to their resumé.”



“Connecting the Unity Certification badge to my LinkedIn account significantly increased my profile views. A few of my industry connections told me the badge makes my profile appear more credible and experienced than others. I am so grateful for both the program and the Unity Certification.”

– Cheyanne Wheat, Senior, The University of Tulsa

Going beyond simple games

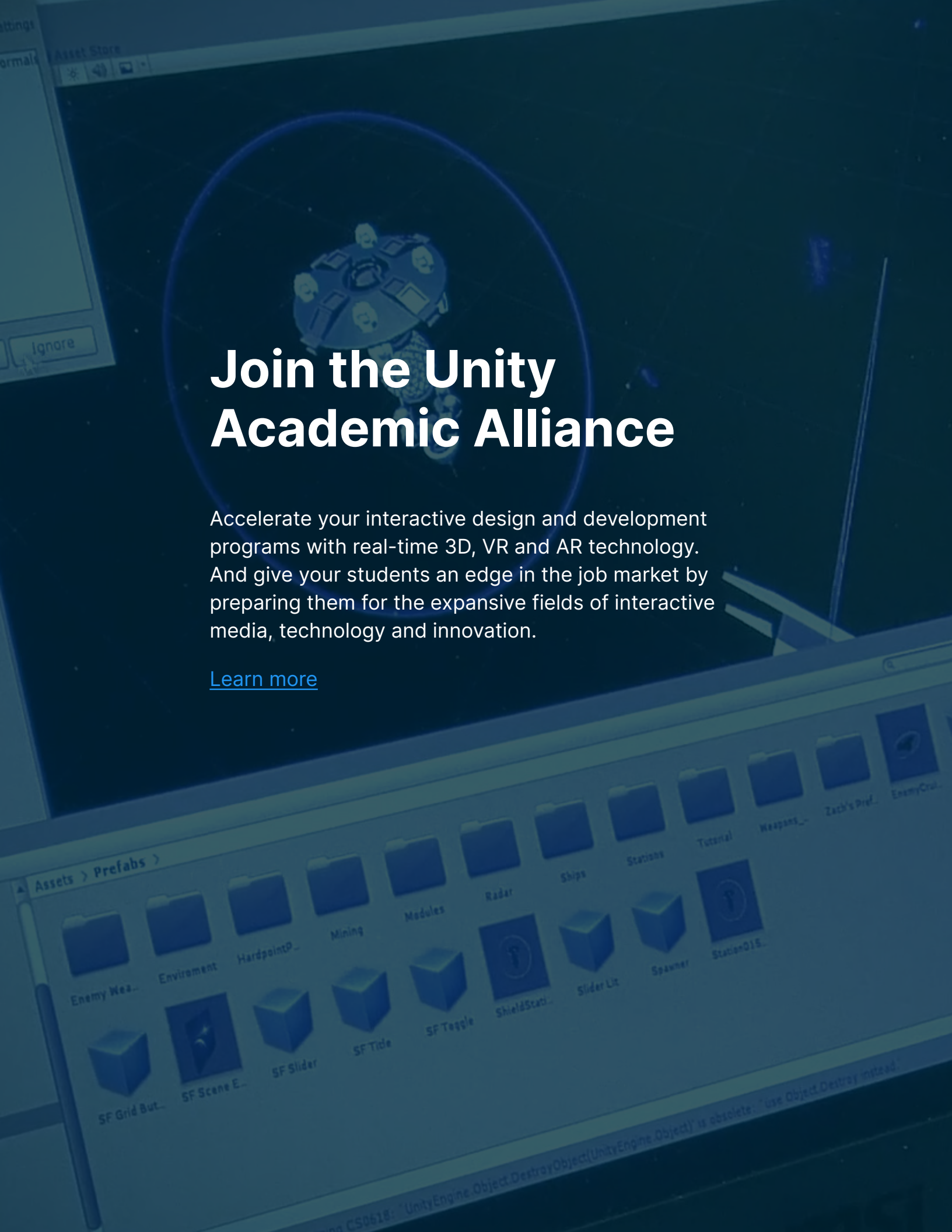
Basic Unity features such as ProBuilder let CSG students quickly create a variety of games, from first-person shooters to puzzles and even a game to avoid sleeping in class. According to TU senior Samuel Locicero, “With Unity, I was able to get a rudimentary game going in just a couple days. What’s exciting is that the more you do, the more possibilities you see. I’m excited about what I could do with this game as a professional developer.”

The platform also includes a variety of specialized packages that let students drill down on more advanced skills. For example, they’ve used the XR Interaction Toolkit and the AR Foundation package to configure 3D and UI interactions for different controllers and headsets. Unity MARS helps students create intelligent AR apps that are context-aware and responsive to real-world environments, while Unity ArtEngine automates and accelerates photoconversion to physically based rendered (PBR) materials. In addition, students are able to access third-party assets, tools, and resources from the Unity Asset Store.

Building consistent student success

Over the last four years, the TU CSG program has steadily grown and now includes more than 50 declared majors eager for Unity certification. TU senior Cheyanne Wheat says, “Connecting the Unity Certification badge to my LinkedIn account significantly increased my profile views. A few of my industry connections told me the badge makes my profile appear more credible and experienced than others. I am so grateful for both the program and the Unity Certification.” The UAA partnership has also provided considerable professional development opportunities, including use of the certification courseware and webinars for CSG’s core faculty.

Preparing students for careers developing augmented, mixed, and virtual reality (XR) apps opens the door to jobs in industries from gaming, film and automotive to architecture, engineering, and construction. Unity takes great pride in helping institutions like TU – and educators like Taghavi-Burris – create and sustain efforts such as the CSG program to ensure their students consistently excel.



Join the Unity Academic Alliance

Accelerate your interactive design and development programs with real-time 3D, VR and AR technology. And give your students an edge in the job market by preparing them for the expansive fields of interactive media, technology and innovation.

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