Case study

University of North Carolina School of the Arts

State-of-the-art Animation and Visual Effects Departments mirror top industry studios with HP Z Workstations

Industry
Higher Education
Media & Entertainment

Objective
Equip new Animation and Visual Effects studios with the same ultra-fast workstation technology filmmaking professionals rely on in the world's top studios

Approach
UNCSA turned to HP experts to help configure fully-loaded HP Z Workstations with high-end NVIDIA® graphics cards and HP DreamColor displays to create a professional caliber filmmaking environment

IT matters
- HP Z Workstations with multi-core, hyper-threaded processors, fast storage and up to 1 terabyte of RAM make quick work of complex tasks
- Equipped with industry-leading NVIDIA® graphics cards, the systems support multiple monitors and high frame rates.
- Highly expandable HP Z Workstations extend systems' adaptability to changing instructional needs

Business matters
- Students learn on the same HP Z Workstations found after graduation when they pursue careers at top studios
- Cutting-edge systems enable nearly unlimited creativity, including complex animation and complicated visual effects with high-end software
- HP expertise adds immense value to the technology investment by UNCSA

UNIVERSITY OF NORTH CAROLINA

SCHOOL OF THE ARTS

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– Henry Grillo, associate dean, UNCSA School of Filmmaking

The University of North Carolina School of the Arts is ranked among the best film schools in the country with recent graduates working on leading productions for film and television release, not only on the East Coast, but also in Los Angeles and London. When the UNCSA had the opportunity to equip a new building for the Animation and Visual Effects Departments, it turned to HP Z Workstations to help establish an environment that reflected professional film production studios.

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Anticipating an increasing demand in film and television industry educational training, the University of North Carolina School of the Arts designed and launched a unique program attracting the attention of highly qualified faculty with active careers in their professions. Enthusiastic students in filmmaking programs are bringing enrollment in the film school to an all-time high.

As part of its growth efforts, the University of North Carolina School of the Arts had a rare opportunity to build and equip a new building aimed at preparing its students for careers in the film, production design, animation and gaming industries. Architects offered bold ideas for collaborative spaces, lighting, heating and cooling. But the architects weren't experts on the computing hardware and software students needed to efficiently and effectively turn ideas into professional-level entertainment. It was equally important to obtain technical expertise from industry and technology experts.

"We're end users, not systems designers. We were challenged by this building," recalls Henry Grillo, associate dean for the School of Filmmaking. "We knew what we wanted to do. But we weren't completely sure of how to get there."

Grillo explains UNCSA is a conservatory. The School of FIlmmaking is one of several arts schools on the Winston-Salem campus, with small, professionally oriented arts classes enhanced by a solid liberal arts base.

"The model we follow is to train them in a professional-level environment," he says, "so they make that transition into the profession very, very smoothly. We don't want them surprised when they get on a real set or sit in an animation studio."

Focusing on storytelling

The filmmaking faculty, Grillo explains, focuses on teaching students first to be great storytellers, regardless of whether they concentrate in Directing, Producing, Screenwriting, Cinematography, Picture Editing & Sound Design, Production Design & Visual Effects or Animation. The school also offers a Masters of Fine Arts in Filmmaking, with concentrations in Creative Producing, Screenwriting and Film Music Composition.

Tiger Poston, UNCSA's post officer who oversees the Animation and Visual Effects studios, says to create the desired environment, this much was clear: "We knew we were going to have to outfit the studios with very high-end equipment that would do the work the students needed to do."

Grillo and Poston turned to UNCSA's instructors—experienced and active in the industry—and its wide network of alumni and other contacts in the visual communications world. Those they contacted pointed to high-performance workstations that drive Hollywood and London animation and visual-effects studios, specifically referencing HP Workstations.

"Because HP already has a presence in the professional world, we were eager to look at HP technology," he says. "We want students to have the same caliber of technology they will have when they work for a top Hollywood studio after graduation."

Grillo and Poston also investigated other manufacturers' solutions. They decided early in the process their new systems would be Windows-based, because that's the industry standard. But that left them plenty of choices.

"When we approached HP, not only did they give us strong, reliable workstations to test," he recalls, "but also their position was far and away the best for us. They were more interested in creating an environment that would benefit our students than they were eager to just sell us equipment. They wanted to help us determine the ideal options to meet our objectives."

The Filmmaking school's challenge was to move from mainstream desktop solutions scattered among existing computer labs to workstation hardware and software in four new labs or studios. Grillo and Poston explain that their HP Workstation specialist went to work configuring those solutions.

"HP provided us with resources we didn't have," Grillo says. "The HP engineers who designed the HP Z Workstations came to talk with us. We talked with the people who made the graphic cards. And HP presented options that made it possible to assemble this incredible facility."

UNCSA's Production Design and Animation programs consist of three sequential years. Three identically equipped studios serve Animation students in each year of study. Animation studios now have HP Z820 Workstations, each sporting dual HP Z24 and DreamColor displays. "There are HP Z

Customer at a glance

Hardware
- HP Z820 Workstations
- HP Z420 Workstations
- HP DreamColor Displays
- NVIDIA® Quadro® Graphics
- Thunderbolt™-2

Workstations for each student, and another for the instructor. The fourth studio is for Visual Effects, with HP Z420 and Z820 Workstations, virtual reality stations and game consoles," Poston says.

"Most of our HP Z820s have Quad-Core Intel® Xeon® processors, and some of the HP Z420s are eight-core processors; with the hyper-threading, you have about 40 cores per Workstation," Poston says. "We've been able to throw some really serious data at them, and they've outperformed our expectations."

He and his team assumed the Animation studios would need the most computing power, but they've found the Visual Effects studio heavily benefits from the resources as well. The primary software applications include Autodesk Entertainment Creation Suite, Adobe® Creative Suite, ToonBoom Animate, Nuke, Qube, and a host of additional options.

Looking toward the future, Poston also ordered Thunderbolt™-2 technology for high-speed data transmission options.

In the past, Grillo says, Animation students might require several computers to design and render their projects. A few years back, he says, they had to send one complex project to North Carolina State University's render farm. Now students can finish their projects at the same location, sitting at familiar HP Z Workstations.

"With the fully-equipped HP Z Workstations and the connectivity, everything is so much more robust than before," Grillo says. "And putting everyone in the same building really made a difference. Everyone is working together, collaborating, talking to each other more and seeing their work on the same screens."

The results have been impressive. Even before the building was complete, Poston prepared two HP Z820 Workstations for a pair of Animation students deeply into their project. "They jumped from a slower system and were able to create a charming animated story short that looks like something you would see in an animated movie release," he says.

But that was just the beginning. This past year, the pair produced a story that included extensive rendering of water, which is particularly hard to animate.

Upperclass students at UNCSA direct and shoot as many as sixteen digital films as part of hands-on courses in every facet of modern film production. Within each filmmaking concentration — directing, producing, editing, animation and more — students collaborate with classmates on ambitious shorts, shot digitally and occasionally on 16mm film, submitted to film festivals around the world. The school is an official partner of the highly influential Sundance Institute. Recent alumni have produced an episodic television series for HBO, been recognized at the Sundance Festival and honored at the Independent Spirit Awards.

"Our students push their creativity to exciting levels when operating with the latest technology at the pace and rigor of the filmmaking projects at UNCSA," Grillo says.

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Learn more at
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