Technology Fee Full Proposal Template

Title: **P**rofessional **P**roduction **S**tudio for Experimental Art Practice

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Sponsoring Organization: University of Florida, School of Art + Art History and the College of Fine Arts

Purpose and Specific Objectives: School of Art + Art History (SAAH) students are taught how to develop and maintain a lifelong artistic and creative practice. Some graduates will pursue careers exclusively focused on the gallery environment, but more likely, their primary income will be derived from employment in various industries that desire creative individuals who have multimedia expertise. Their forte as compelling and meaningful image-makers requires them to be engaged with technology in ways that push the limits of computer graphics. Familiarity with professional level hardware, software, and production workflows would allow our students to immediately contribute their artistic and creative talents, better positioning them post-graduation. Contemporary technologies involving 3D modeling, 4K (or UltraHD) video production, video game development, motion graphics, digital fabrication, and various simulation techniques require storage and computing capabilities far exceeding what we have been able to afford with maximized equipment fees. No other campus facility that is accessible or convenient for SAAH students and faculty provides this level of computing. In order to be a top-tier institution, the University needs to provide facilities that offer students the opportunity to engage with technology on a deeper-than-consumer level, exposing students to professional workflows. This paradigm shift in our existing educational strategy represents a creatively liberating and fundamental change.

Increasingly, this workflow is descended from the world of cinema production. Creative image-makers are intimately aware that there is a convergence around the motion image that has begun to standardize on the creation and capture of high-resolution source material (be that live or computer generated) that is subsequently scaled down for multiple types of distribution: cinema, television, web, print, etc. Work is authored at high resolution, allowing the artist maximum fidelity and control, and offering the ability to manipulate the image with CG, animation and compositing techniques. Recognizing this trajectory, the Art + Technology program has invested in the purchase of a high-resolution, professional, digital cinema camera. Our goal is to leverage this existing asset, and provide students in the SAAH with professional-level supporting tools and infrastructure. To date, we have been limited by the lack of graphics and storage capabilities that would allow us to work efficiently with this high bandwidth imagery. With the help of the UF Tech Fee, we propose to repurpose an existing computer lab in FAC 306, and create a new facility called the **P**rofessional **P**roduction **S**tudio (**PPS**) in FAC 302. In collaboration with Art + Technology, this will, for the first time, provide computing facilities tailored to visual artists to students in all SAAH departments: Painting, Drawing, Photography, Graphic Design, Sculpture, Ceramics and Art History. Graduate and undergraduate students will have access to the kinds of technologies and workflows with which they are likely to engage, post-graduation. Our goals are to technologically enhance our offerings in four primary areas:

1. Repurposing and expanded availability of the FAC 306 computer lab.
2. Professional mid-level computing for the **P**rofessional **P**roduction **S**tudio (FAC 302).
3. Professional high-end computing for dedicated video and audio stations in the **PPS**.
4. Storage area network (SAN) that will provide fast, high capacity shared storage for the **PPS**.

Repurposing and expanded availability of the FAC 306 computer lab (1): Currently, FAC 306 is supported by, and limited to Art + Technology and to a lesser extent, Photography. We will open this lab to all SAAH students and improve the equipment. An expanded fee base and increased availability will allow us to drastically improve this facility.

*Professional mid-level computing for the **P**rofessional **P**roduction **S**tudio (FAC 302) (2):* We propose to install 10 Mac Pros outfitted with the middle specification processor, memory, graphics card, and hard drive in FAC 302. These machines will allow students to work efficiently with our current software applications such as Maya, Final Cut X, After Effects, Resolve, SynthEyes, and Unity3d. They will be used for studio work that requires professional-level equipment not requiring the maximum performance required by certain high-end tasks. Additionally, with startup support provided by the College of Fine Arts, we will introduce new software that we are currently unable to run on existing hardware in FAC 306.

*Professional high-end computing for dedicated video and audio stations in the **PPS** (3):* We propose to replace two existing machines in FAC 302 with top-of-the-line Mac Pros. These will be primary-purpose machines used for the highest demand jobs. The audio machine will be configured to operate our existing Avid Digidesign Pro Tools hardware and software. The video machine will be designed to support the real-time editing and output of 4K imagery, and double as display driver for our general-purpose critique space. The space will be outfitted with a 65" LED, 4K capable display, allowing students to present and critique imagery at full resolution.

*Storage area network (SAN) that will provide fast, high capacity shared storage for the **PPS** (4)*: One of the biggest challenges to working with motion imagery, especially of the type used in professional environments, is the amount of storage and bandwidth needed to handle files. Dropped frames, data corruption, lost projects, inadequate space and wasted time spent copying files across slow interfaces conspire to discourage students from conceiving work of even marginal complexity. We propose to address this problem with the creation of a storage area network (SAN). This solution is common in the industry and allows multiple people to store their work on a shared hard drive that is large enough, and fast enough, to provide the data rates needed for video editing, compositing, and distributed rendering of computer graphics. This is critical to exposing students to the creative potential of the motion image and to educating them in professional workflows.

Similar Resources

The Digital Worlds Institute (DWI) is a facility that works with digital media, sometimes involving media production or animation. The **PPS** is not a duplication of facilities because the student expectations and emphases are very different between DWI BA/MA and A+T BFA/MFA students. Our students emphasize the use of professional tools in the production of experimental artworks instead of the field of entertainment; therefore our needs are very different. Our students are also not well served by the location or limited access to DWI facilities. Working with these tools requires a great deal of out-of-classroom studio work, often over night that is impossible to schedule tightly. Also, current DWI facilities do not provide the level of computing or software needed to accomplish our goals.

Similarly, the High Performance Computing Center provides facilities that could accommodate certain aspects, such as distributed rendering. In preparation for this proposal we contacted Dr. Erik Deumens, Director of UF Research Computing. We discussed our bandwidth requirements and our need for sustained read/write data rates of 1200MB/sec. We also discussed how small projects can be 250GB or more, therefore making it desirable to move files around as little as possible in the interest of time and efficiency. He agreed that the current infrastructure is not able to handle such flows:

> "*I think the proposed project is complementary to existing services.*
>
> *It should be funded and tried if possible as a pilot project. It will create a state-of-the-art environment for art students with a small budget and the required very high bandwidth.*
>
> *Once it is shown that it works, there can be efficiencies by collaborating with Research Computing and using the Campus Research Network to scale out to more people and bigger data sets. But until we build the proposed lab and learn what it really takes, that second step cannot be taken. It will be too expensive and too risky.*" – Dr. Erik Deumens, email 02.24.2014

Peer institutions have also had to grapple with these issues and have solved them with similar initiatives. Distributed renderfarms, high definition video facilities, sound laboratories, robotics labs, XSAN networks, Red Rocket graphics acceleration, and more are core equipment at [Ohio State](), [School of Visual Arts (NYC)]() [(2)](), [SAIC](), [Arizona State](), [University of Texas](), and many others.

Focusing on the four areas enumerated above, with the support provided by the Tech Fee, students will be better prepared to make a difference in the world, develop the artistic possibilities of new technology, and find the jobs they seek. This support will allow them to create without the constant need to compromise their vision because of a lack of access to quality technological infrastructure. Our students will have access to hardware and software that they could never afford on their own, but are commonly used in industry and professional practice. Removing existing technological barriers will give our outstanding faculty the tools they need to unleash the creative potential of our students. We are confident, given the opportunity, UF students will excel when compared with students from other, top-tier institutions.

Impact/Benefit: SAAH students are intimately involved throughout the university, community, national and international communities of creative practice. From University Gallery, Focus Gallery, Reitz Union Gallery, Harn Museum, Philips Center, Hippodrome Theatre, WARPhaus, and innumerable Gainesville spaces, to residencies and internships from Miami, to New York, to Los Angeles, and in exhibitions as far as Berlin, London, and Tokyo. Our students' work addresses the Gainesville community, documenting and engaging with issues related to sustainability, education, poverty, and underserved youth. SA+AH students collaborate with other disciplines across the university and students from across UF take our courses and benefit from our approach to creative, technological practice. The type of work enabled by this proposal supports, exactly, the types of collaborations other disciplines, and the community-at-large, seeks when they imagine working with artists. A professional studio configuration would allow students to work on projects that are unthinkable with our current facilities, benefiting their professional development and unleashing our students' creativity and ability to produce national and international caliber content. This will benefit the University by enhancing the level of work that is seen by the public, directly influencing recruitment. This proposal will allow us to expand and improve technological access from approximately **30** students to over **400** students in the SAAH. Of course, improved facilities will benefit the increasing number of students who take our courses from outside the SAAH.

Sustainability: Funding via the Tech Fee would provide a dual benefit in that it allows us to expand technological access to more students while simultaneously allowing us to drastically improve the quality of that access. The SAAH is committed to this endeavor and will support this initiative through lab and equipment fees, and labor/infrastructure investments dedicated to maintain and improve the facilities. If we are awarded this funding, the College of Fine Arts (CFA) has committed to invest $16,637.98 (see budget) in one-time startup costs including software, electrical/network infrastructure, and furniture. Additionally, both the CFA and SAAH are committed to supporting annual software renewal costs of $7061.00.

Timeline:

- Research and Proposal Development – hardware and software research, estimates, study peer-institutions. September 2013 – January 2014 (completed)
- Purchasing – pending approval of funding via this proposal we are prepared to begin to place orders and assemble necessary resources. April/May 2014 (place orders before Summer A begins).
- Infrastructure Installation (funded via SAAH/CFA contribution) – pending approval of funding of this proposal we will schedule installation of network drops and electrical work. May 2014 (to begin during Summer A).
- Equipment Installation – install, configure and test hardware. June 2014.
- Training – train faculty and staff, troubleshoot and set guidelines for use/management. July 2014.
- Commence Use – August 2014.

Professional Production Studio
FAC 302

SAN

New Workstations (typ.)

All other infrastructure
via CFA funding.

Video
Workstation

Audio
Workstation

SILL HEIGHT @ 37" AFF