UNIVERSITY OF LOUISIANA AT LAFAYETTE

STEP Committee

Technology Fee Application

Computer Workstations
New Media and Digital Art/Visual Arts
Department

Professor Jamie Baldridge,
Name of Submitter

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College of the Arts

Title: Computer Workstations for New Media and Digital Art/Visual Arts Department
Date: July 10, 2023
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ABSTRACT

The ability to work with cutting edge technology is at the core of ensuring student success in the New Media and Digital Art curriculum. As the program has grown over the past eight years to become the third largest concentration in the Visual Arts, maintaining a studio space outfitted with hardware and software that meets industry standards is integral to our students' future success. However, lack of consistent funding compounded by the rapid evolution of technology makes this very challenging and threatens to undermine instructional integrity. This grant proposal requests funds for three (3) Desktop Workstations for New Media and Digital Art in the Department of Visual Arts. These computers are necessary to facilitate the curriculum's ongoing instruction in VR (virtual reality), CG (computer generated) imagery, and UHD (ultra-high-resolution) digital cinematography. Access to powerful computer systems allows students to work with the latest industry-standard tools and is crucial to build the skills necessary for employment in these emerging fields. This will make them more prepared to enter the workforce and make an immediate impact in the industry. Projects utilizing software such as the Unreal Engine, DaVinci Resolve, and Autodesk Maya create extremely heavy computational workloads that cannot be accommodated by current departmental computers and are far beyond the capacity of student laptops. In the past 30 years, New Media and Digital Art has only received a single round of STEP grant funding in the Spring of 2018 and is in desperate need of this infusion of technology.

A. Purpose of Grant and Impact to Student Body as a Whole

The skills taught in New Media and Digital Art, which explores emerging technologies as a medium of creative expression, have vast creative and commercial applications which are in high demand. Diverse industries outside of the arts are looking to hire these creative individuals because they bring unique perspectives and problem-solving skills to the table. They not only possess expertise across a wide range of highly impactful technologies, but

are also able to think outside the box and come up with innovative solutions to problems. These industries have learned that having students such as those from New Media and Digital Art on a team spurs innovation and can lead to a more successful and profitable business.

The purpose of this grant is to provide 100+ Visual Art students per year taking New Media and Digital Art and Animation classes access to specialized, highly capable, industry-standard workstations in the New Media and Digital Art classroom. Technology is rapidly advancing and students need to have access to the latest tools and equipment in order to stay current in the field. The hardware in these workstations is optimized to meet the rigorous computational demands of creating immersive content, CGI rendering, and editing modern UHD (ultra high resolution) video footage. These workstations are the keystone in an ongoing comprehensive effort to maintain the New Media and Digital Art curriculum in a state of industry readiness. There implementation will fulfill four immediate needs in the classroom infrastructure:

First, the New Media and Digital Art concentration constantly updates curriculum to meet student needs and remain relevant and conversant with emerging technologies such as game engine utilization and virtual reality. As such, instruction in utilizing the Unreal Engine for immersive and cinematic content creation is now a permanent fixture in our curriculum. The Unreal Engine is a powerful tool with vast creative and commercial applications, but it requires a significant amount of computing power to run effectively. The concentration's current workstations, installed over half a decade ago, cannot run industry-standard applications like Unreal Engine 5 and do not serve the students' needs in this rapidly evolving medium. The requested computer workstations are necessary for students to be able to work with the Unreal Engine 5 and create high-quality cinematic and immersive projects.

Experience with these powerful computer workstations will ensure that students develop skills that are in high demand across the multi-media industry and make them more competitive in the job market. Real-world examples include companies such as Facebook, Google, and Microsoft investing in VR research and development, which shows the importance and demand for skilled professionals in this field. Additionally, industries like gaming, real estate, healthcare, and education are adopting VR technology and providing jobs for skilled professionals.

Second, these workstations will have the processing power necessary to run DaVinci Resolve, an industry-standard, resource intensive non-linear video editing program, allowing students to edit and color grade ultra-high-resolution footage (6K, 8K, and 12K) in real time. Once again, providing them with practical, hands-on experience utilizing these workstations and familiarizing

themselves with production workflows currently in use in the film and media industries will make them more prepared for opportunities already available in the film industry right here in Louisiana. Many New Media graduates currently make their living in the film and television industries.

Third, these workstations will have the processing power necessary to carry out the extremely heavy demands of rendering computer generated imagery with Autodesk Maya. Both the Arnold render engine and Redshift render engine are employed in our students' work and require the robust resources present in these workstations. Student laptops and our existing workstations were simply not designed to meet the rigorous demands of CPU and GPU based rendering with our most current Autodesk software. The requested computers will eliminate this bottleneck in student productivity.

Finally, this grant will help to promote diversity and inclusion in the field by providing access to high-end computer workstations that many of my students from diverse backgrounds do not otherwise have access to. Investments such as this provide all students with the necessary tools to work with the latest technology, regardless of socioeconomic background, making them more prepared to enter the workforce and make an immediate impact in the industry and drive innovation in the field.

Over the past eight years, the New Media and Digital Art concentration has increased exponentially in size and scope, growing into the department's third largest concentration. Due to the continued success of New Media and Digital Art graduates in a wide variety of industries, its population will continue to expand, and more resources are desperately needed to support this already large student population. Currently, student needs for superior processing power are being met by one of Professor Baldridge's own personal custom built computer workstations, brought to the university from his home studio. Though this stop-gap measure has given a handful of students in Senior Capstone a chance to develop work using these resource intensive technologies, it leaves the rest of the students without access to necessary processing power. That this was even necessary at an R1 designated institution has affected both student and faculty morale and will certainly have long-term impact upon recruitment and retention if such necessities become the norm. The three (3) requested workstation computers are the bare minimum needed to fulfill current needs and will have an immediate and lasting impact on a multitude of fronts.

This grant will have significant and immediate impact on the following classes:

VIAR 236 (Introduction to Digital Art)
VIAR 235 (Art & the Computer)
VIAR 335 (New Media & Digital Art I & II)
VIAR 365 (Introduction to Animation)
VIAR 366 (Intermediate Animation)
VIAR 409 (Senior Project I)
VIAR 410 (Senior Project II)
VIAR 435 (New Media & Digital Art I, II & III)
VIAR 465 (Advanced Animation)

In addition, the department's New Media and Digital Art classes are open to all students in the concentrations of Painting, Sculpture, Ceramics, Metals and Jewelry, Printmaking, Animation, Photography, Graphic Design and Art Education, as well as Computer Science and Informatics. As such, the equipment from this grant will conservatively directly impact 100+ students per year.

B. Projected Lifetime of Enhancement

The equipment requested in this grant will have a service life of ~7 years.

Alienware Aurora R15 Desktop Workstation: ~7 years

C. Persons Responsible for Implementation, Installation, Maintenance

The requested equipment will be located in room 209I, Fletcher Hall in the Department of Visual Arts. This room is locked and will be accessible during class times only. Professor Jamie Baldridge is an expert in the field of computer hardware design and maintenance and will oversee all equipment listed in this grant with support provided by the College of the Arts Digital Media Resource Center.

D. Budget Equipment Budget and Justification

1. **Alienware Aurora R15 (w/ 4 year warranty)**
   This workstation is necessary to run Unreal Engine 5, DaVinci Resolve, and
   Autodesk Maya.

   Quantity: 3
   Price: $5,575.00
   Total: $16,725.00
   Shipping: Free

Quantity	Item Description	Cost Per Unit	Total Cost
	Equipment:		
3	**Alienware Aurora R15** ***Includes 4 year warranty from DELL**	$5,575.00	$16,725.00
	Personnel		
0	N/A	$0	$0
	Shipping		
0	N/A	$0	$0

Grand Total (Requested Funds): **$16,725.00**

Previous STEP Funding:

Professor Jamie Baldridge has received seven (7) previous STEP grants in
support of the modernization of the Photography, Animation, New Media and
Digital Art concentrations, and the Visual Art department's Digifab Lab. All

grants were completed and met all the outlined goals and objectives with the majority of equipment still in use beyond their projected lifespans.