Immersive Media Production Tools

College of Communication & Information

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Project description

This is a proposal to acquire display hardware to expand the capabilities for students and faculty to develop immersive media – 360 video and stereo 360 video for 3D virtual reality.

Impact of this project on instruction

The Digital Media Production Program (DMP) in the School of Communication has been a leader in stereo 3D/VR production education, teaching classes in this technology for the past 6 years and integrating 360 video and virtual reality production in 2016. DMP is an undergraduate major with approximately 100 majors in the program at any one time. In addition to the undergraduate DMP majors, graduate students pursuing the Graduate Certificate in Digital Video Production (GCDVP) are eligible to take 3D/VR production classes. The GCDVP is open to any graduate student across campus and typically has 40-50 graduate students pursing the certificate at any one time. Finally, this proposal is a partnership with The Collaboratory, an open workspace in the iSchool where any undergraduate or graduate student can access new media and technology tools.

This proposal will build on the generous 2015 Tech Fee supported infrastructure ($6251) and the matching contributions from the DMP Program that expanded 360/VR production capabilities. This new infrastructure includes a series of 360/VR cameras but not the headsets required for display. At the 20-30 student class level of instruction, this technology requires both the cameras and headsets to allow students to create and view material in this emerging format. This grant would expand the capability for students across campus to learn the production skills of an emerging trend in digital media and visual storytelling.

Courses that will offer training in the development of immersive media include:

RTV 4467/6425 – Immersive Media Video Production – 20 undergraduate and 10 graduate students.
COM 3930 – Special Topics seminar in VR – 20 undergraduate students.
iMaker/Collaboratory Open Work Space: This space is open to the entire campus community, potentially reaching all 41,000 students.

Graduate Certificate in Digital Video Production is open to all 8,000 graduate students on campus so any graduate student enrolled in the certificate program will have access to this equipment.

Progress Report

Following the generous 2015 Tech Fee Award ($6251) supporting initial equipment purchase for immersive media/VR production and a matching commitment from the Digital Media Production Program, we have been able to purchase a series of 360/Stereo-360 cameras including the Theta S, Nikon Key Mission, Kodak PixPro, Orah 4i and Elmo Qbic. In addition, DMP has preordered 5 units of the Vuze[1] camera, the first prosumer "all-in-one" stereo 360 camera due to be released in March 2017. This selection of cameras was purchased with the goal of identifying the best unit for functionality and durability, a standard equipment purchasing practice for DMP. In addition, DMP has purchased Kolor editing software for VR post-production.

Courses: The new technology will be used in two classes in the spring of 2017.

1. The first is RTV 4467/6425 Virtual Reality Video Production, a combined undergraduate/graduate course accommodating up to 30 students. This course was available to DMP majors and a special invitation was sent out to student members of the ACM-Siggraph Facebook group (277 members) as these students have a demonstrated interest in emerging technologies. Two students from the ACM-Siggraph group responded and were admitted to the class. 10 seats for Graduate students in the Certificate program were also made available.
2. The Apalachicola River Project is an interdisciplinary project combining almost 100 students from Communication, Environmental Science and Policy and English, all working on developing media projects that tell the story of the nation's #1 most threatened wild and scenic river. VR/360 video will be used as one of the modes of storytelling in this project.
3. An official course has been submitted to the University for approval and will become RTV XXXX – Immersive Media Production. This course will have both an undergraduate and a graduate section and will be offered every year beginning in 2018.

Collaboration: Interdisciplinary Immersive Media Working Group

This group was established by Andy Opel and meets once a semester to share information about classes, hardware, software, research and grant funded projects and opportunities. This group is open to any faculty member on campus. Current participants include:

Andy Opel, Faculty, School of Communication
Ken Baldoff, Director, Program on Interdisciplinary Computing

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1 (https://www.bhphotovideo.com/c/product/1290533REG/vuze_vuze_1_blu_4k_3d_360_spherical.html)

Jonathan Stone, Faculty, Film School
Ron Honn, Faculty, Film School
Keith Robeson, Faculty, Visual and Performing Arts
Andrew Syder, Assoc. Dean, Film School
Brian Graves, Faculty, Communication
Malia Bruker, Faculty, Communication
Tim Glenn, Faculty, Dance

Project plan

Summer 2017 – Review and make purchase decisions. Given the moving nature of this technology, new products are likely to emerge.

Fall 2017 – Train faculty and Collaboratory staff on new hardware acquisition and post-production workflows

Spring 2018 – New RTV XXXX – Immersive Media Production offered with both graduate and undergraduate sections.

2018 and Beyond – Immersive Media Working Group will continue to connect other units across campus for possible grant funded research projects.

Relationship of this project to other university activities

Virtual Reality (VR) has emerged as a new tool for journalism, research and visual storytelling. In November 2015, the *New York Times* included a Google Cardboard device with every print edition of the Sunday *Times*. This tool was complimented by a series of downloadable VR journalism pieces that explored such diverse topics as Syrian refugee crisis, the aftermath of the Paris terror attacks and a tour through NY City.[2] In the fall of 2016, the NY Times began releasing one new 360 video a day.[3] The combination of the affordable Google cardboard which harnesses the power of a smart phone, and the emerging camera tools for capturing 360° stereo 3D video, has opened a new space for media makers, journalists, documentarians, and researchers to explore the power and potential of immersive media.

FSU has been a leader in teaching stereo 3D video production and this proposal would continue to build on those skills and material assets, offering students access to a cutting edge technology that has a growing profile. In the School of Communication, we have a research working group, 3D@FSU that has been working on stereo 3D applications for learning and media effects. This group has expanded to include a Cognition and Emotion lab with biometric assessment tools for subject response to media. The combination of student access to

[2] See: http://www.nytimes.com/newsgraphics/2015/nytvr/
[3] See: https://www.nytimes.com/video/the-daily-360

production technology and the research tools of media effects scholars has produced some powerful synergies and opens up new possibilities of grant funded projects that employ both undergraduate and graduate students.

Also, Director of Seminole Productions Mark Rodin has been an industry leader in developing 3D college sports content. This content has had national broadcast and plays an active role in innovative coaching strategies and recruitment. The connections with VR and sports offer new areas to expand FSUs innovations in coaching and recruitment.

Plan for ongoing supporting

The Digital Media Production Program has a dedicated annual equipment budget that maintains the hardware and software required by the program. DMP was able to match the 2015 Tech Fee VR allocation and student and faculty interest in VR suggests a growing financial commitment to this component of the program.

Description of the project team

Andy Opel, PhD is a Professor and the Director of the Media Production Program in the School of Communication and has taught a 3D/VR video production course for the past five years. Assistant Professors in the Digital Media Production Program Brain Graves, Ph.D. and Malia Bruker, MFA are also learning the VR production workflow. Chris Landbeck, PhD is the Assistant Director for Experiential Learning in the iSchool and the head administrator of the Collaboratory. Mark Rodin has been working in stereo 3D for 9 years, is a recognized national leader in 3D and has equipped athletics with a small 3D theater for football training and recruitment. The team also includes Cognition and Emotion Lab researchers Professor Art Raney, Ph.D. and Assistant Professor Russell Clayton, Ph.D.[4]

[4] http://news.fsu.edu/More-FSU-News/How-does-the-media-influence-our-emotions-New-lab-aims-to-find-out

Budget and budget explanation

Oculus Rift and Touch package ($798 x 5) (https://www3.oculus.com/en-us/rift/)	$3990
HTC Vive System ($799 x 5) (https://www.vive.com/us/product/)	$3995
VR Computer ($949 x10) (http://www.dell.com/en-us/shop/productdetails/xps-8910-se-desktop/dcdcwvmax333h)	$9490
Total:	$17,475

This budget is a snapshot of the currently available technology. Given the pace of change with the newly emerging VR technology, some of the items may change. The Oculus Rift system and the HTC Vive are the current industry leaders in VR display headsets. Having 5 units of each will allow a class of 20 students to work in pairs and share a display unit. Buying both leading brands allows students to learn the unique workflows of the two systems and allows the DMP Program to assess the quality and durability of each unit. Because of the unique graphic demands of VR, Apple computers are not equipped to serve this medium, thus the need for additional Microsoft based machines. These computing issues may be resolved in the future, allowing the existing DMP post-production computers to host the VR headset software.