

SARIF Equipment and Infrastructure Fund FY16

Proposal: Projection design/video mapping system

Submitted by:

Joe Payne
Assistant Professor of Sound and Digital Media
Department of Theatre
College of Arts and Sciences

September 16, 2015

This proposal seeks funding for a theatrical projection system. Replacing and enhancing an incomplete and outdated system will benefit the creative research of both faculty and students. This equipment would complete the Department of Theatre's ¼ scale Media lab, which is used for research, exploration, and pre-visualization (scale mockups of systems, choices, and execution), and to fill large gaps in the creative abilities in projection design for the Department's three spaces. The package being proposed includes projectors, software, hardware, and peripherals. This will allow for creative growth through integration with other design areas such as lighting, sound, and live content interaction with humans.

Projection design (often referred to as projection or video mapping) consists of digital content such as imagery, video, and 3D models, which is projected onto surfaces allowing performers and/or audience to interact with that content. Projection design is the newest field in the entertainment industry, and because of emerging technology has taken the world by storm in the last decade. You can see examples everywhere, from choreographed integration with media on *America's Got Talent*, to digital content on Cinderella's Castle at *Disney World*. Everyone in the industry is clamoring to integrate digital imagery into live entertainment. Because of this, there is an incredible number of employment and research/development opportunities available, and no one wants to be left behind.

Since adding projections into our productions a mere 6 years ago for *The Who's Tommy*, The CBT and I have explored digital scenery as backdrops and wall textures, characters of ghosts in *A Christmas Carol*, magical effects, political commentary, and moving textures. We wish to expand these explorations using industry standards, and equipment meant for its purpose, to create projections on a wider variety of surfaces and textures, map projections to objects more thoroughly, allow content to interact with performers, allow for pre-visualization and mockups that translate tot the stage, and fulfill artistic vision in brightness and clarity that we have not been able to achieve.

In the recent past, The Clarence Brown Theatre, The Department of Theatre, and I have actively pursued new avenues of creative activity through the use of projection design in the following ways:

- Recent CBT productions that have involved projection design include *A Christmas Carol*, *Sweeney Todd*, *Fuddy Meers*, *Monty Python's Spamalot*, *The 39 Steps*, *Threepenny Opera*, and *The Who's Tommy*.
- My projection design for CBT's *A Christmas Carol* was accepted into the prestigious international Prague Quadrennial 2015 design exhibit. I was the only US designer to be accepted under multiple categories.
- Beyond the 7 production's I have designed for CBT, I have designed 9 others in Salt Lake City, Chicago, Illinois State University, and The Repertory Theatre of St. Louis/Cincinnati Playhouse in the Park co-production of *Ring of Fire*.
- I am the projection designer for the London based pop band WRENNE, and a series of international concerts.
- The department's newly created projection design curriculum is popular and exciting, and has generated the following research/creative activity:
 - CBT's *A Midsummer Night's Dream* designed by Kent McQuilkin (MFA Art Transmedia candidate),
 - CBT's *CTL+ALT+DEL* designed by Jason Ammons (MFA Theatre Scenic graduate),
 - CBT's *Lonesome Highway* designed by Kristen Geisler (MFA Theatre Lighting graduate)
 - Thesis: *STORIES ON A WALL: A Video Art Installation Exploring the Isolation of Abortion* by Kristen Geisler. (MFA Theatre Lighting graduate)
- Research collaboration with Norman Magden on the integration of projection design in the Performance Art class of the Art Department.
- The creation of an MFA in Theatre Concentration in Sound and Digital Media, which will encompass projection design, is currently pending approval.

In accomplishing the pursuits listed above, we faced many creative obstacles. This SARIF proposal is designed to solve consistent challenges such as:

- In the recent production of *The 39 Steps*, most of the artistic design choices were dictated by the deficiencies of the equipment, rather than what was best for the moments being created.
- Our faculty and artists do not have access to industry standard projection system components, including media servers, specific mapping software, and high resolution projectors. Access to industry standard equipment is absolutely essential for me to generate local, regional, and national creative activity.
- The department has collected an assortment of used and classroom-grade projectors, shareware software for playback, and an out-of-date version of the industry standard playback software, Watchout. This cobbled together system is insufficient for true theatrical pursuits.
- All but one of the projectors we currently own (the rear projection projector at CBT – often used as backdrops) is far below industry standard in resolution and brightness.
- The CBT does not have access to projectors that are appropriate for non-traditional surfaces, such as textured walls, heavy paint, and severe shape mapping. These surfaces need higher resolution and contrast projectors.

- We are proud of our departmental media lab, which creates an environment for experiential learning and researching execution methods. However, this lab's current equipment lacks the appropriate lens configurations, resolution, and lumens (brightness) for translation to the stage. This particularly frustrating for pre-visualization of all CBT production design, and my current work for the WRENNE project.
- The CBT's successful productions have been based on dark lighting and moody atmospheres. As of yet, we have not had success in brighter conditions. Our current equipment is too limiting to accomplish the desired creative vision.
- Graduate creative activity, research, and exploration has been diminished due to lack of access to appropriate equipment. This could be devastating to the pending approval of the proposed MFA Concentration in Sound and Digital Media.
- Currently we do not have any means of performer/media interaction, such as infra-red mapping or motion capture, which will become more important as future projects develop.

Creative Activity/Designs already in process that would specifically use and benefit from the proposed system. The full creative vision cannot be accomplished with the current projection system in all following cases:

- *Titus Andronicus* CBT 2016. The CBT wishes to create projections that include interactive imagery on the stage floor, which emulates drawing words with a stick in the sand, and the projected image of Caesar on a large velvet curtain which the audience believes is printed on the fabric rather than projected.
- *A Christmas Carol* CBT 2015. MFA candidate Tannis Kapell. The student is hoping to motion capture the live ghost of Christmas future, allowing projections to follow/track its location and movement. We cannot accomplish this with our current system. This project will also include a great deal of pre-visualization and exploration in the ¼ scale media lab.
- *South Pacific* CBT 2016. MFA candidate Maranda DeBusk. This production will include many projected scenic backdrops, and video of flying WWII bombers. This project will also include a great deal of pre-visualization and exploration.
- *Hamlet* CBT 2016. The director has a desire for digital media in the form of generated news content, and poltergeists in TVs.
- *Peter and the Starcatcher* CBT 2016 (pending). This production will use projections.
- Designer, CD release of WRENNE's "I Said Yes to Everything" and subsequent European tour. I am the projection designer and content creator, which involves detailed pre-visualization in the ¼ scale media lab.

Other UT collaborations the design program would actively pursue if this proposed system were to exist:

- James Marvel, and the UT Opera program, is interested in generating creative activity for MFA projection design students in his seasons. We have rarely been able to collaborate due to lack of equipment.

- Boss Dance Company, our only dance organization on campus, has shown extreme interest in adding projection design and digital interaction to their choreographed pieces. This package would allow this collaboration to exist, and opportunities for strong creative activity for the MFA candidates.
- In the past there have been collaborations between the Art Department and the theatre department's projection design classes. This system would allow for more collaborative opportunities to take place in the future.
- The Clarence Brown Theatre and the Department of Theatre hires guest designers to work in our productions. These guests often teach master classes to our graduate and undergraduate students. This system could be instrumental in the quality of workshops they might offer.

Budget summary:

• Total system cost:	\$59,400
• Department of Theatre committed support:	\$19,800
• College of Arts and Sciences committed support:	\$15,000
• Proposed SARIF Funding:	\$24,600

Budget breakdown:

1. Industry standard media server playback system, Dataton's Watchout:	\$25,450
a. 2x watchpax Dataton mini media servers	
b. 5x watchout software dongle upgrade	
c. 1x watchmax media server	
2. HI lumen and resolution projectors for ¼ scale and full scale projects:	\$12,300
a. 2x Epson Powerlite 1940w projectors	
b. 2x Epson G6750wu projectors	
c. 2x Optoma ML750 WXGADLP projectors	
3. Small format digital lighting and sound consoles for integration:	\$9,900
a. Yamaha 01V96I 16-Channel Digital Mixer	
b. ETC ION 2000 lighting console	
4. Motion capture interactive hardware/software:	\$6,050
a. YEI technology 3-Space Starter Bundle	
b. 2x Isadora USB dongle	
c. Canon VIXIA HF G20 HD Camcorder	
5. Touch screens for interaction:	\$3,300
a. 2x Philips 231C5TJKFU 23" Touch Monitor	
b. 2x Sharp LC-60LE650 smart TV	
6. Peripherals (stands, mounts), cabling, digital storage media:	\$2,400

Subject: FW: Theatre proposal

Date: Thursday, September 17, 2015 at 3:19:10 PM Eastern Daylight Time

From: Payne, Joe

From: "MacLean, Calvin Abbott"

Date: Wednesday, September 16, 2015 at 3:28 PM

To: Joe Payne, "Boake, Christine R B"

Cc: "Parks, Catherine Belk (Cathy)"

Subject: RE: Theatre proposal

Dear Chris:

I have read Joe's SARIF proposal for Media Equipment. It is a very meritorious proposal that THEATRE is willing to support with 1/3 matching funds– or just under \$20,000, should it be approved .

Many thanks,

Calvin MacLean
Head, Department of Theatre
Producing Artistic Director, Clarence Brown Theatre

Subject: Payne SARIF equip request
Date: Thursday, September 17, 2015 at 2:26:59 PM Eastern Daylight Time
From: Boake, Christine R B
To: Payne, Joe
CC: MacLean, Calvin Abbott, Parks, Catherine Belk (Cathy)

Hi Joe,

Thank you for your request for A&S support for your SARIF equipment proposal.

In the event that the Office of Research agrees to fund your SARIF request, A&S will provide \$15,000 towards its cost. You may attach this memo to your application as evidence of the College commitment.

Regards,
Chris

CHRISTINE R. BOAKE, PhD
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