

## Designers Lighting Forum

### From RFQ to Copyright: Light Art Lessons Learned

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March 15, 2022



Credit(s) earned on completion of this course will be reported to **AIA CES** for AIA members. Certificates of Completion for both AIA members and non-AIA members are available upon request.

This course is registered with **AIA CES** for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any

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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

## Learning Objectives

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At the end of this course, participants will be able to:

1. Participants will be able to describe the conceptual, practical and technical characteristics of Radiant Echo, a permanent light art piece completed in 2019.
2. Participants will understand the process of proposing and realizing a major light art commission including content development, community engagement, project management, fabricator oversight and programming.
3. Participants will gain insight into the workflow and processes when working with programmable LED pixel arrays.
4. Participants will gain understanding of basic intellectual property topics associated with commissioned light art and work-for-hire.





- RFQ

- Artistic Intent

- Execution

- Technology

- Copyright





- RFQ  
Washington College  
Sandbox Initiative
- Artistic Intent
- Execution
- Technology
- Copyright

## SANDBOX

...Initiative fostering collaboration between the creative arts and sciences...

### Request for Qualifications, July 2015

“Envisioned is a work which would sit within a dramatic three-story glassed atrium connecting the two major science buildings on the Chestertown campus.”

“The use of light is seen as essential, and the ability of the sculpture to elicit the excitement and nature of fireworks is basic.”

“Projects are expected to employ an interplay between art and science.”

“Projects must have a clear impact on Washington College students.”





- RFQ

- Artistic Intent

Lightness / Site Specific

Participatory / Metaphor

- Execution

- Technology

- Copyright





Midsummer Night's Dream, Video by Diane Lehr, 2017

Approaching the Toll Science Center from the campus lawn, the sculpture will appear as a **fireworks display encountered from afar**, a distant sky illuminated by a faraway celebration. As one moves nearer to the building, the sculpture will **grow increasingly more immersive**.



The bridges crossing the atrium on the second and third floors will afford the most **intimate experience**. From here each observer will occupy the sculpture, **enwrapped within the space of the fireworks themselves**.







The sculpture will be framed by interior windows from the study rooms on the second and third floors. It can be viewed from a distance as a **momentary visual respite from work**, or approached through the balconies that look out over the atrium.

Viewed from below, on the ground floor of the atrium, the display will evoke the experience of standing underneath the stars **watching for meteors flashing across the sky**, faraway yet intimate.



PIXEL STRANDS



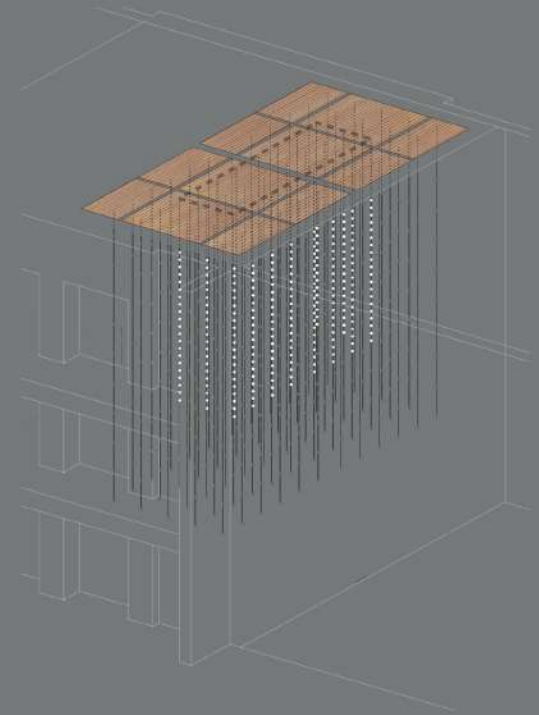
individual nodes emit varying intensities of light in programmed sequences to recall the composition of fireworks



REFLECTOR STRANDS



reflective elements receive and scatter light from the LED strands, multiplying their effect throughout the atrium



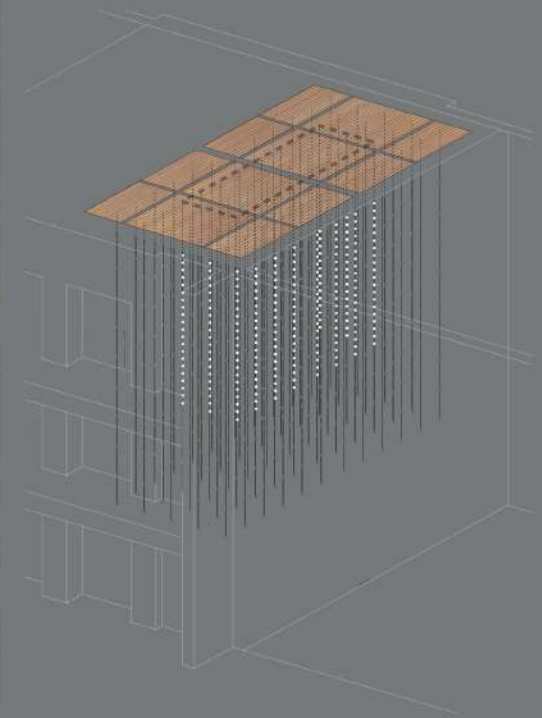


PIXEL STRANDS



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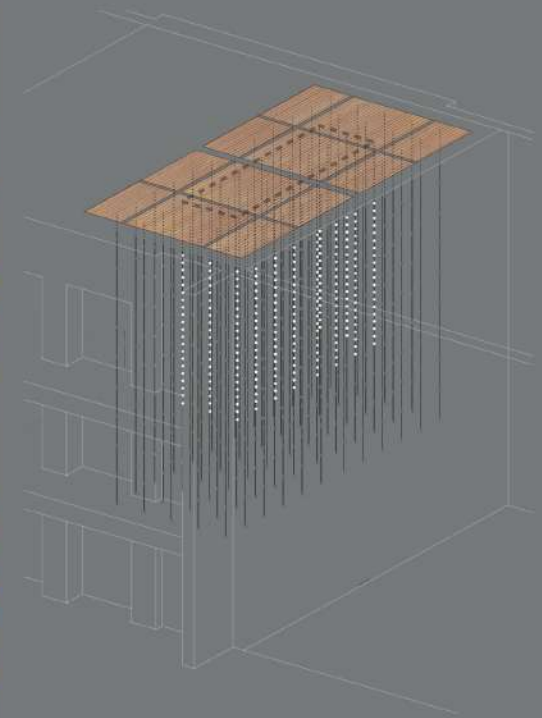
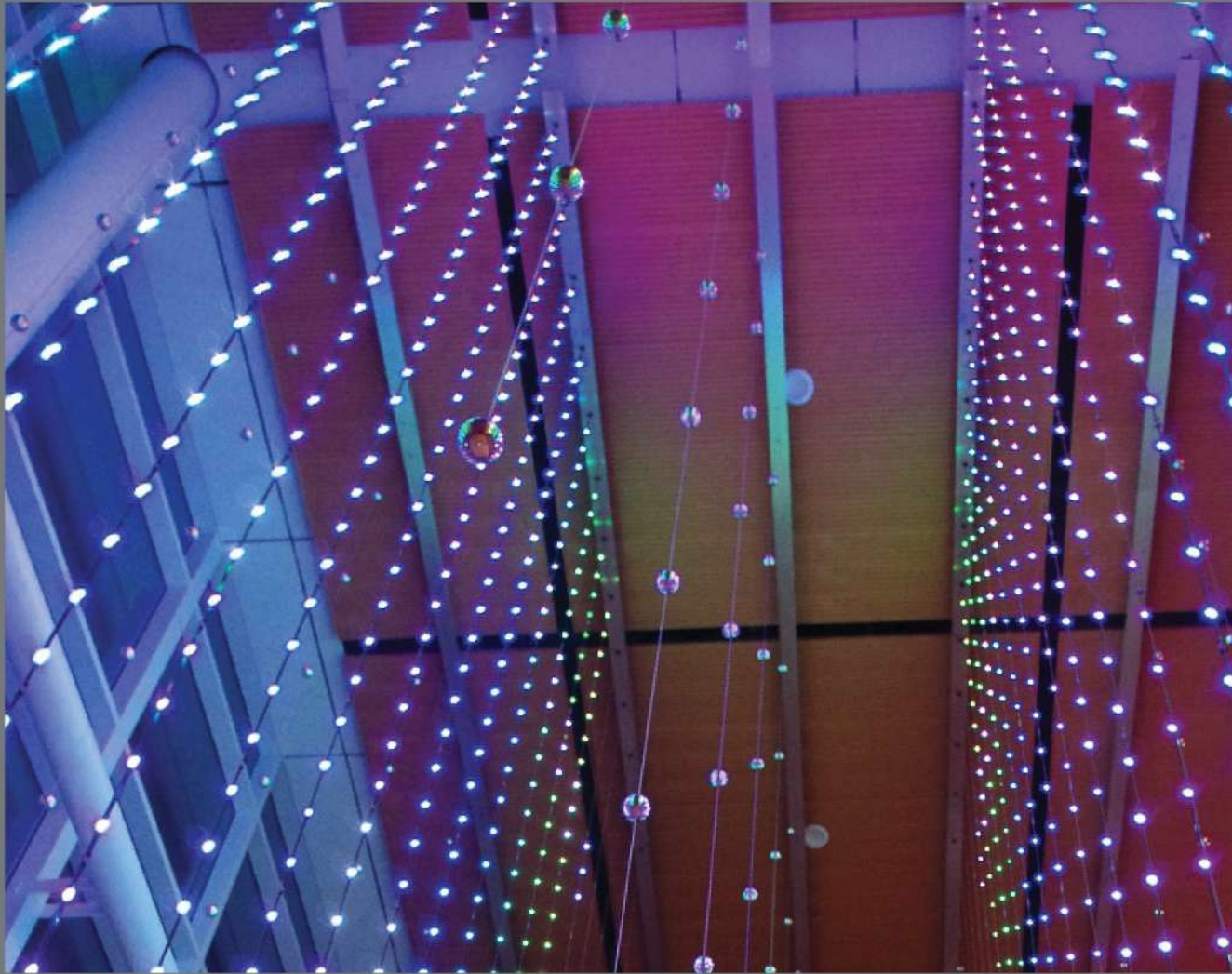
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PIXEL STRANDS

REFLECTOR STRANDS



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Experience of the sculpture should be immersive and site-specific, considered with respect to both day and night light conditions





The **Resting State** features subtle shifts in light intensity that animate the otherwise static lighting composition, lending a degree of surprise to the space.



A series of **Active States** recall the choreography of fireworks displays, each show incorporates a gradual crescendo that culminates in an immersive experience akin to occupying the space of the fireworks themselves.



## Academic Workshop April 12, 2018

### Objective:

Consider how Radiant Echo sculpture can generate learning opportunities for the Washington College community

### Impact:

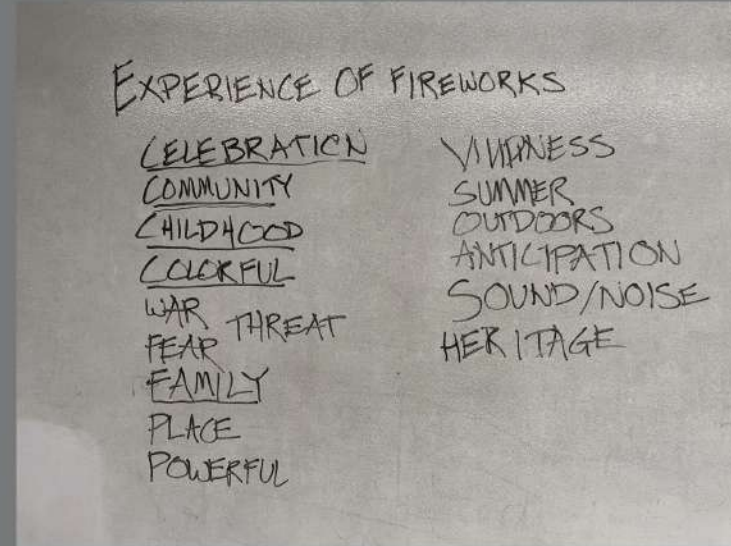
Programming approaches were informed by feedback

### Participation:

10 faculty  
9 students

### Academic departments represented:

Art  
Biology  
Chemistry  
Computer Science  
Environmental Science and Studies  
Math  
Psychology  
Physics





- RFQ

- Artistic Intent

- Execution

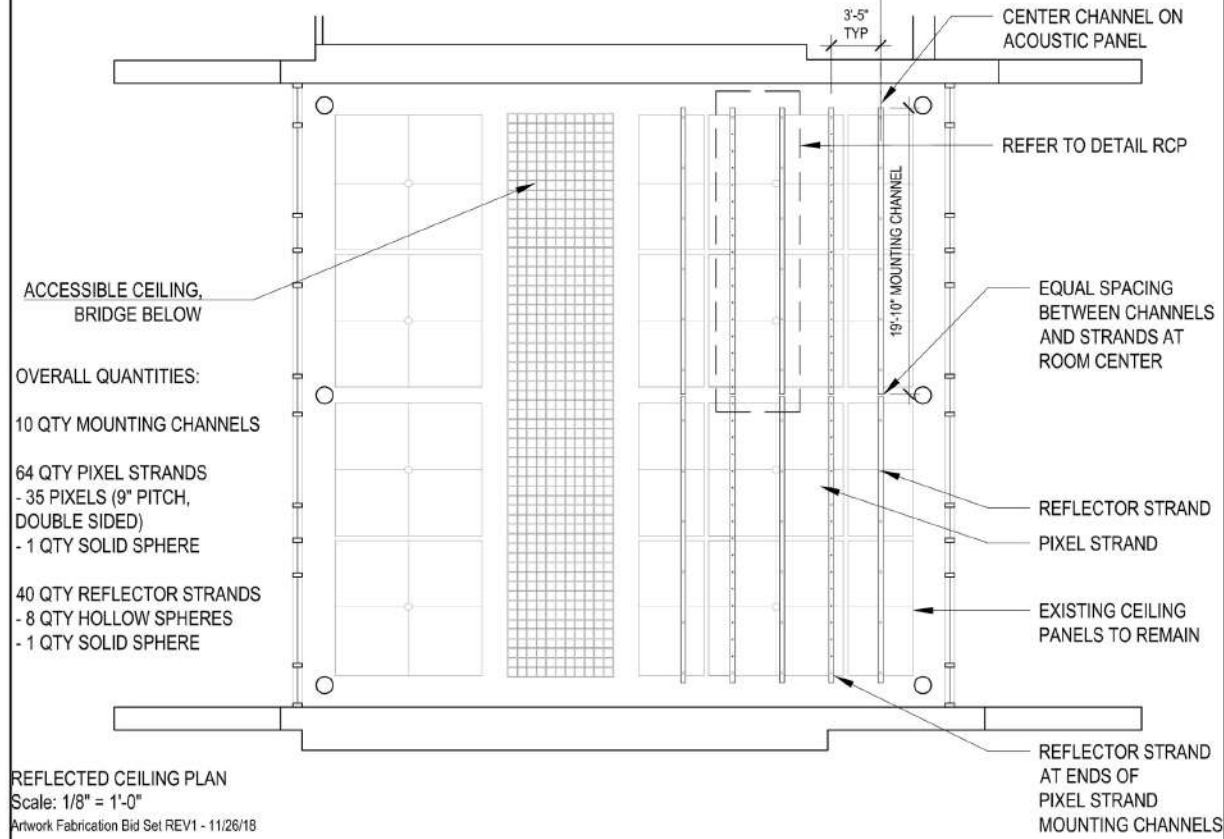
Contract Negotiations

Bidding Approach

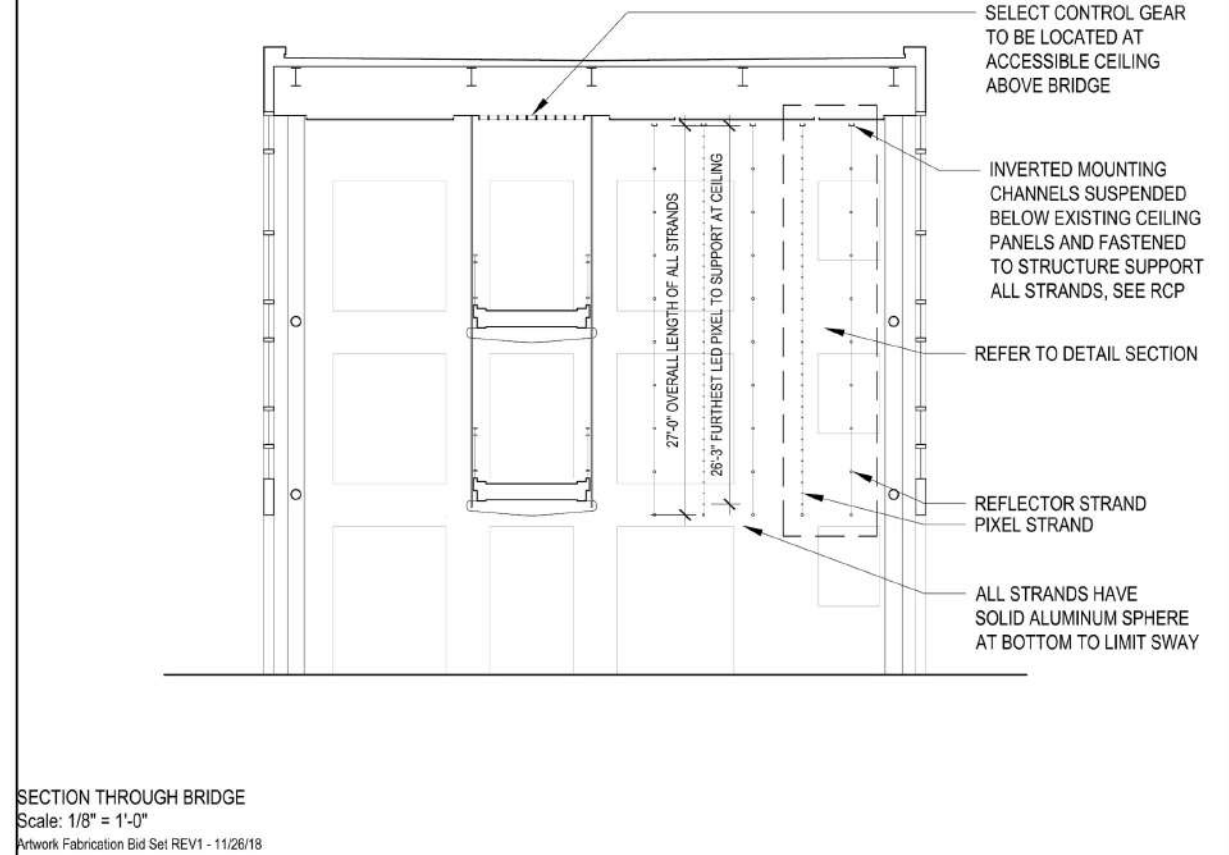
- Technology

- Copyright

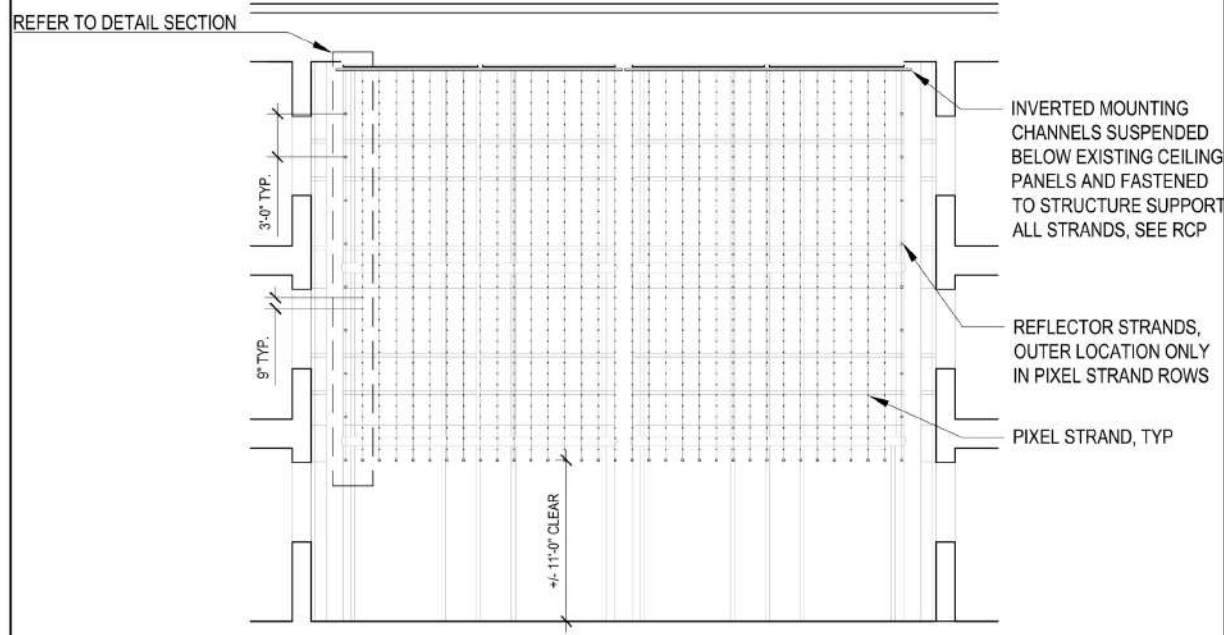
**RADIANT ECHO**  
Washington College  
Toll Science Building, McLain Atrium



**RADIANT ECHO**  
Washington College  
Toll Science Building, McLain Atrium

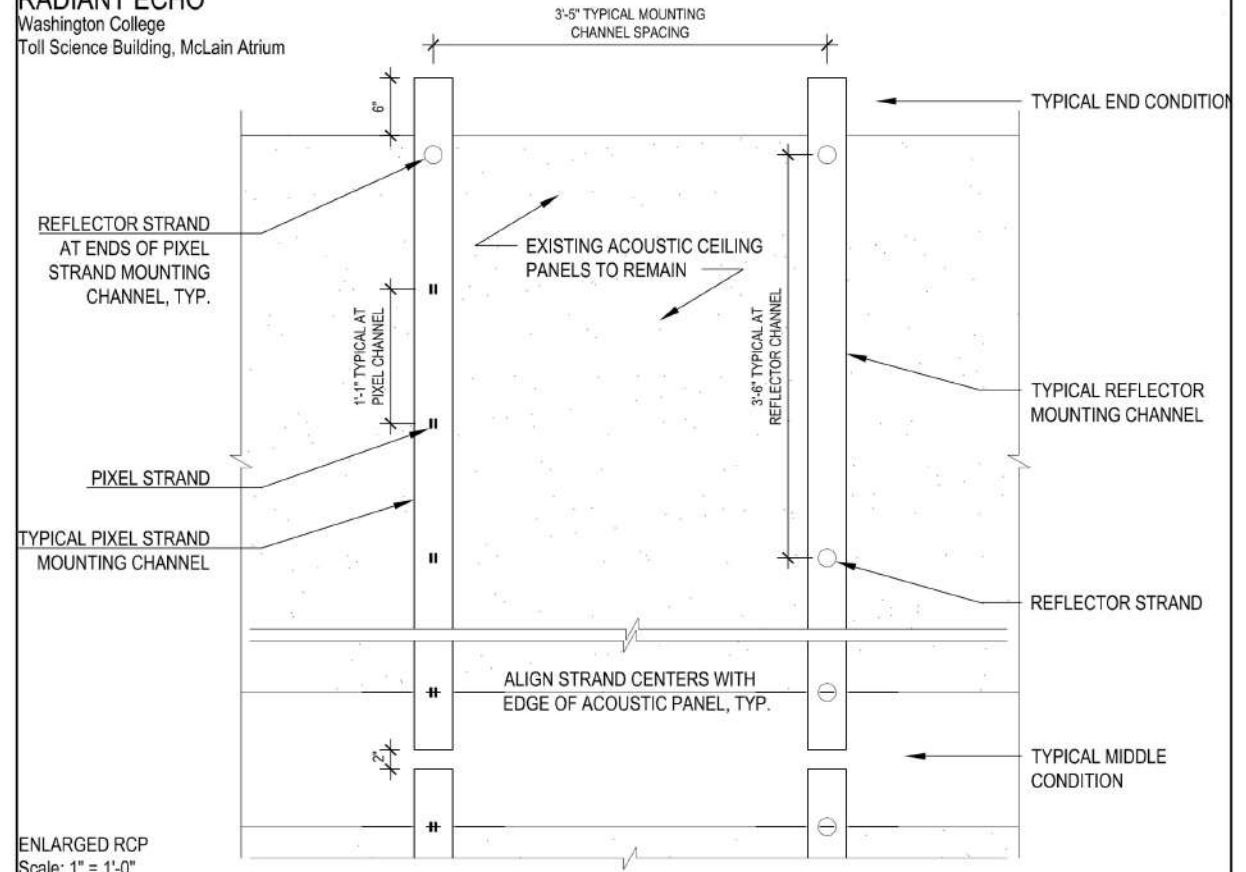


**RADIANT ECHO**  
 Washington College  
 Toll Science Building, McLain Atrium



ELEVATION LOOKING TOWARD EXTERIOR  
 Scale: 1/8" = 1'-0"  
 Artwork Fabrication Bid Set REV1 - 11/26/18

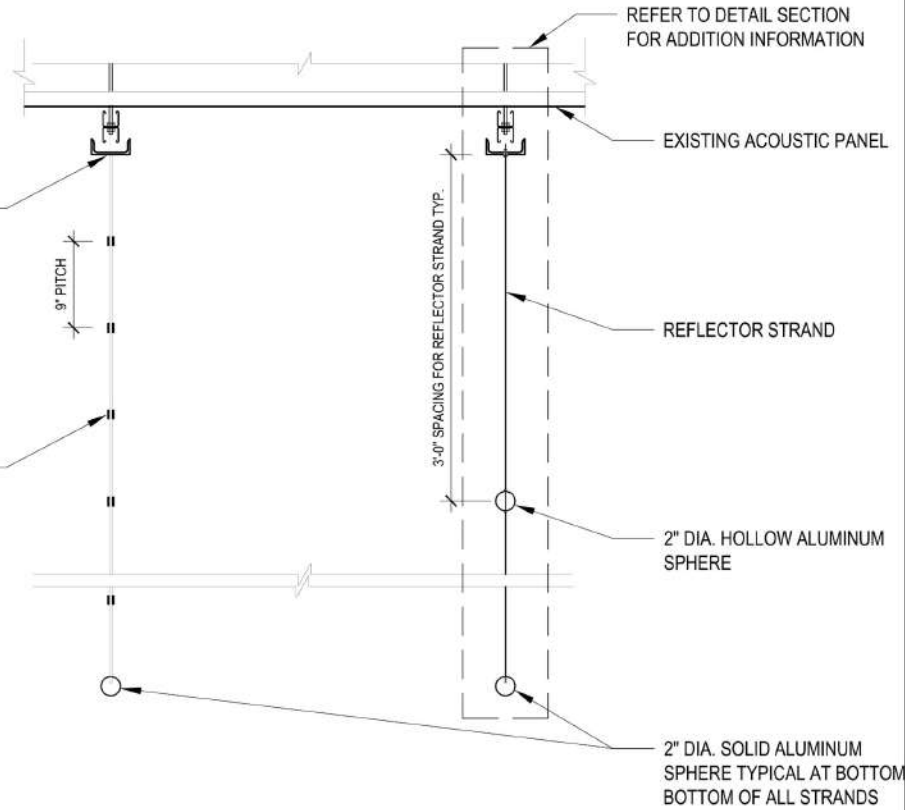
**RADIANT ECHO**  
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 Toll Science Building, McLain Atrium



ENLARGED RCP  
 Scale: 1" = 1'-0"  
 Artwork Fabrication Bid Set REV1 - 11/26/18

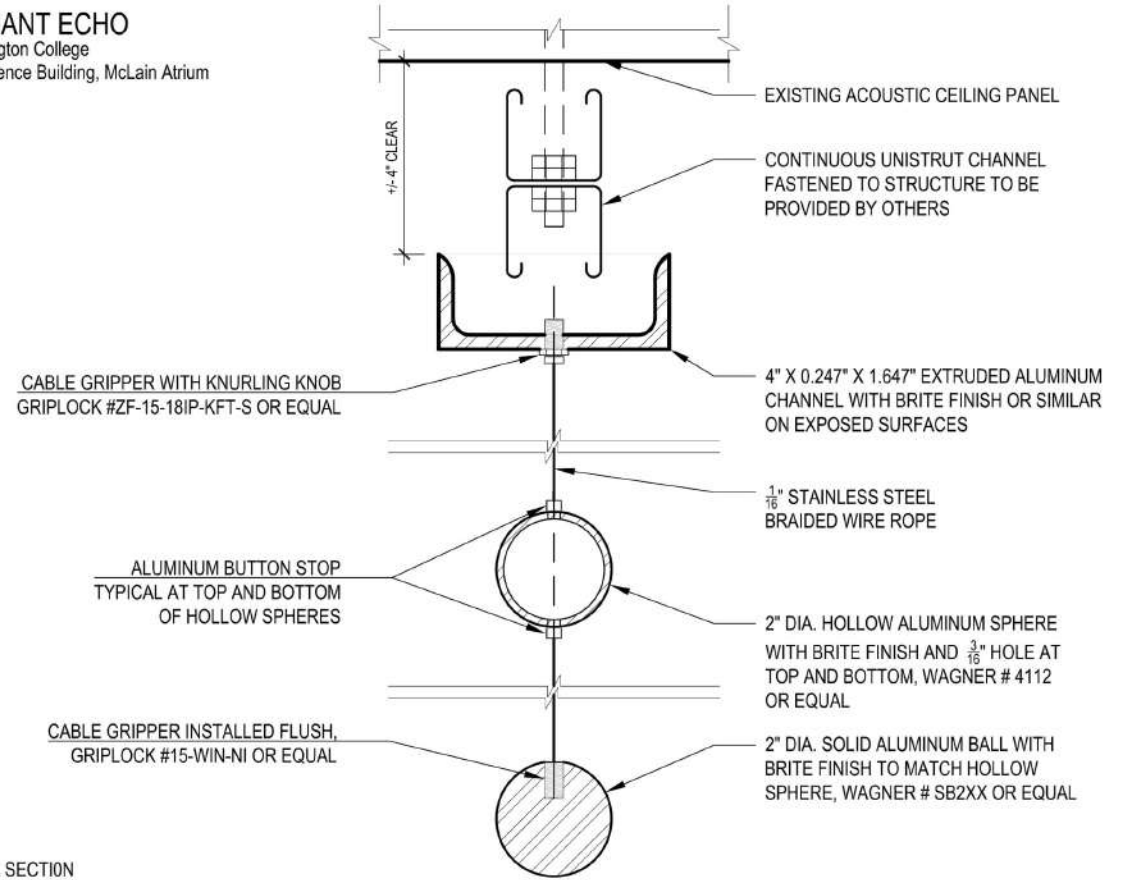


**RADIANT ECHO**  
Washington College  
Toll Science Building, McLain Atrium



ENLARGED SECTION  
Scale: 1" = 1'-0"  
Artwork Fabrication Bid Set REV1 - 11/26/18

**RADIANT ECHO**  
Washington College  
Toll Science Building, McLain Atrium



DETAIL SECTION  
Scale: 6" = 1'-0"  
Artwork Fabrication Bid Set REV1 - 11/26/18

	Client (Washington College)	Structural Engineer (Mbrabito Consultants)	(Gipe Associates)	General Contractor	Electrical Contractor	Artwork Fabricator (4-Yr/all)	FLUX Studio (Consultant)
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GENERAL							
Lift Rental	R						
Permits					R		
BASE BUILDING INTEGRATION							
Electrical Engineering Documents			R				
Engineering / Framing Plan		R		I			
Unistrut attached to Building Structure				S / R			
Control Rack Power				I	S / R	C	
Power/Data Supply Power					S / R	C	
High Voltage Terminations					R	C	
Low Voltage Terminations <60V						R	
Plenum Cable (Pixel Strand Data/Power)					R	S / C	
Button Station					R	S / C	
Programming Port					R	S / C	
Internet Connection to Building Network	C				S / R	C	
FABRICATION							
Mounting Channel Assembly						S / R	
Pixel Strand Assembly						S / R	
Reflector Strand Assembly						S / R	
INSTALLATION / INTEGRATION							
Control Rack Installation					R	S / C	
Control Rack Low Voltage Terminations <60V						R	
Pixel Strand Power/Data Supply Installation					R	S / C	
Mounting Channel Assembly Installation						S / R	
Pixel Strand Assembly Installation						S / R	
Reflector Strand Assembly Installation						S / R	
Plenum & Non-plenum Cable Installation (Pixel Strand Data/Power)					R	C	
Labeling / Engraving Power Supplies						S / R	
Labeling / Engraving Pixel Strands						S / R	
Labeling Control Cable (Plenum & Non-plenum)					R	C	
UL Field Certification						S / R	
CONTENT DEVELOPMENT / PROGRAMMING							
Content Creation						S / R	C
Pixel Strand Programming						R	C
Commissioning / Startup						R	
Post Commissioning / Startup Refinements						R	C

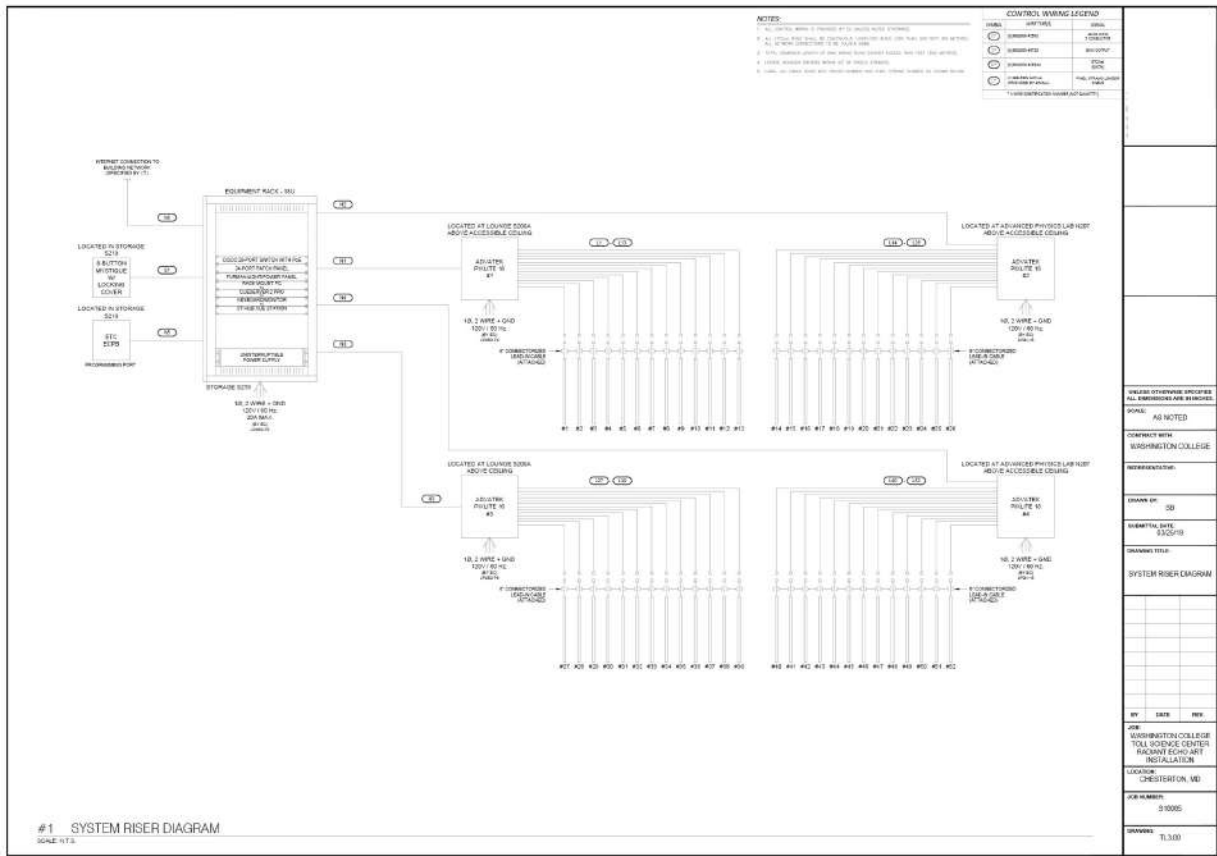
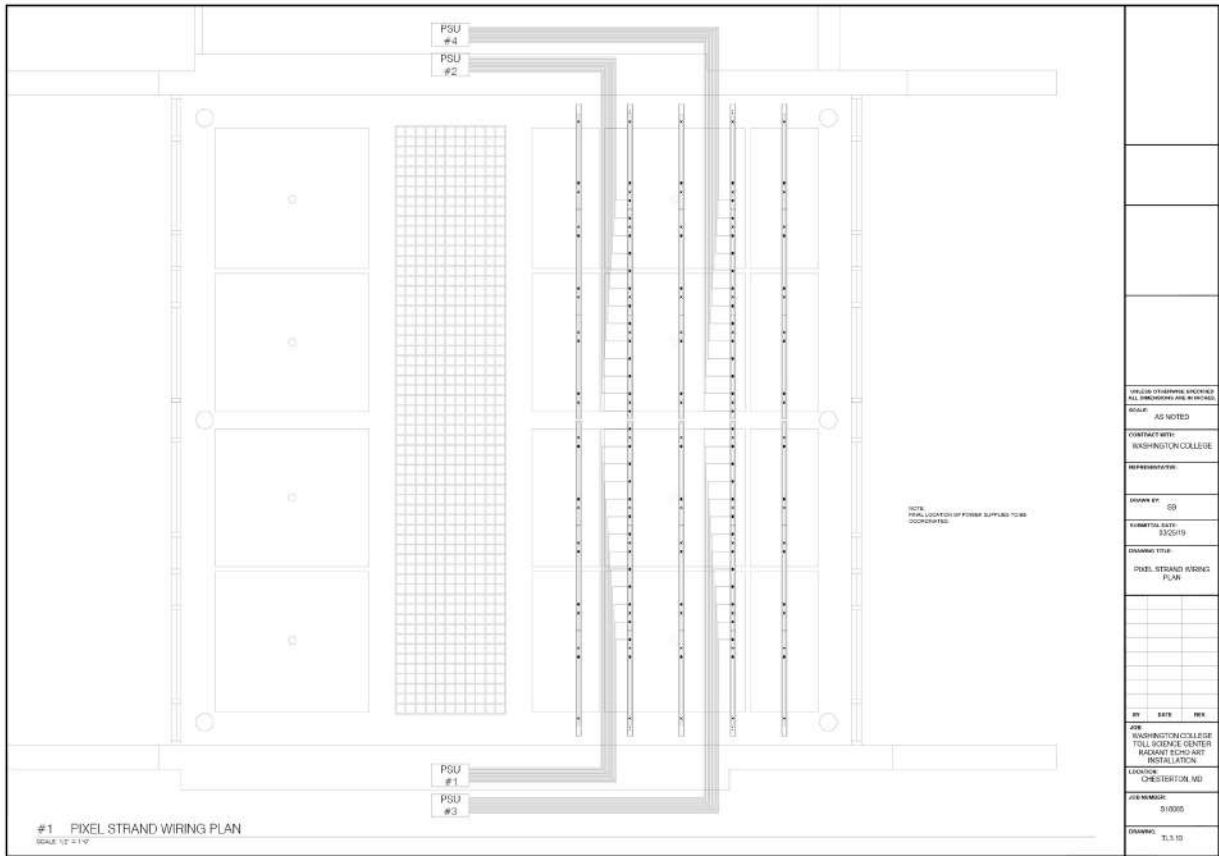
R = Responsible  
A = Accountable  
C = Consulted  
I = Informed  
S = Supplier

Artwork Fabricator Bids:

- I. Base Bid
- II. Content Development / Programming
- III. Building Integration
- IV. Lift Rental
- V. Maintenance / Service

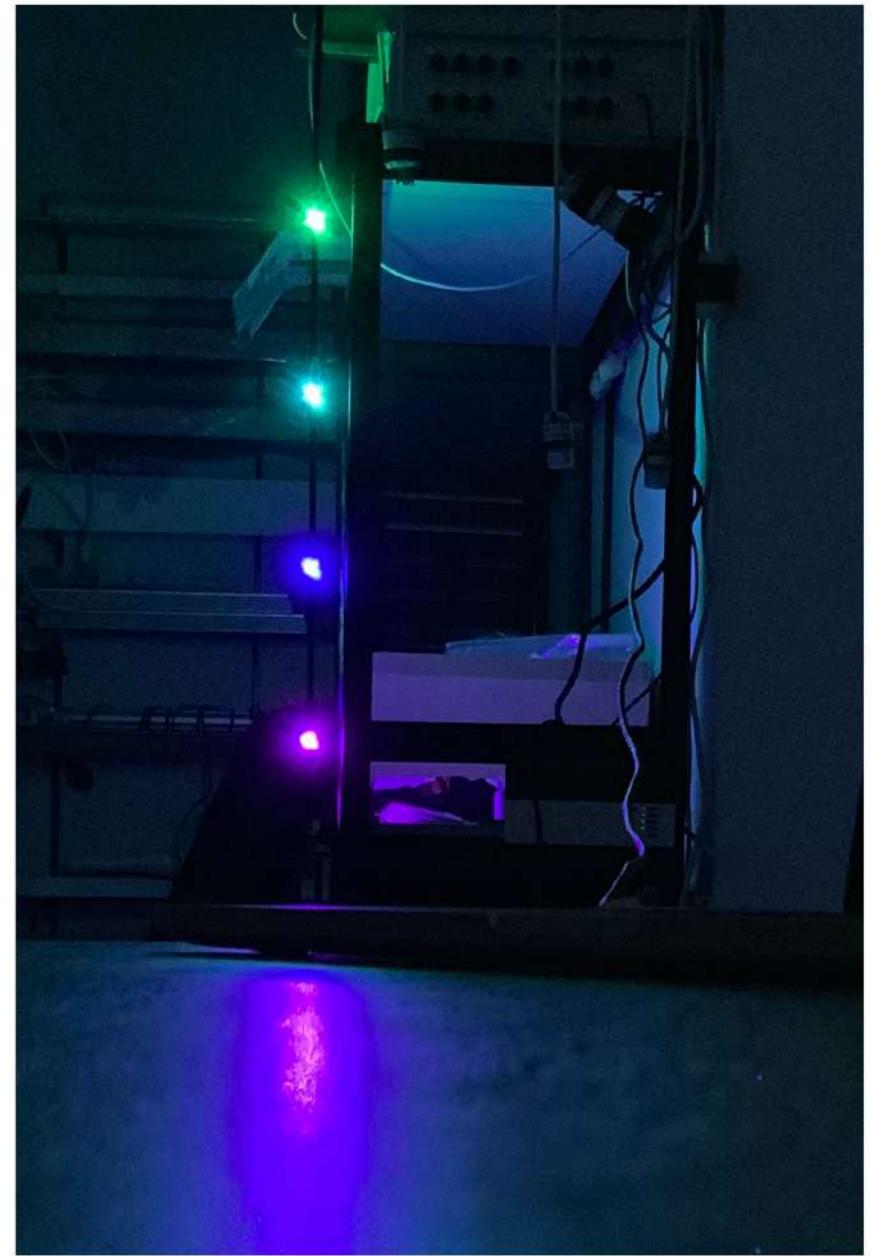
Base Building Contractor Bids:

- Carpentry (Existing Ceiling, Structural Attachment)
- Electrical (Demo and connections to existing, Permit)





Strand Assembly Prototype



Pixel Strand Demonstration Kit





Partial Working Full Scale Prototype



- RFQ

- Artistic Intent

- Execution

- Technology  
Pixel Mapping  
Content Creation

- Copyright



## **Programmed Shows**

TRICKLE FLASH (Resting State)

AXIAL SHIMMER (Active State)

FIREWORKS (Active State)

EXPLODING STARS (Active State)

SUPERNOVA (Active State)

MIRROR NODES (Active State)

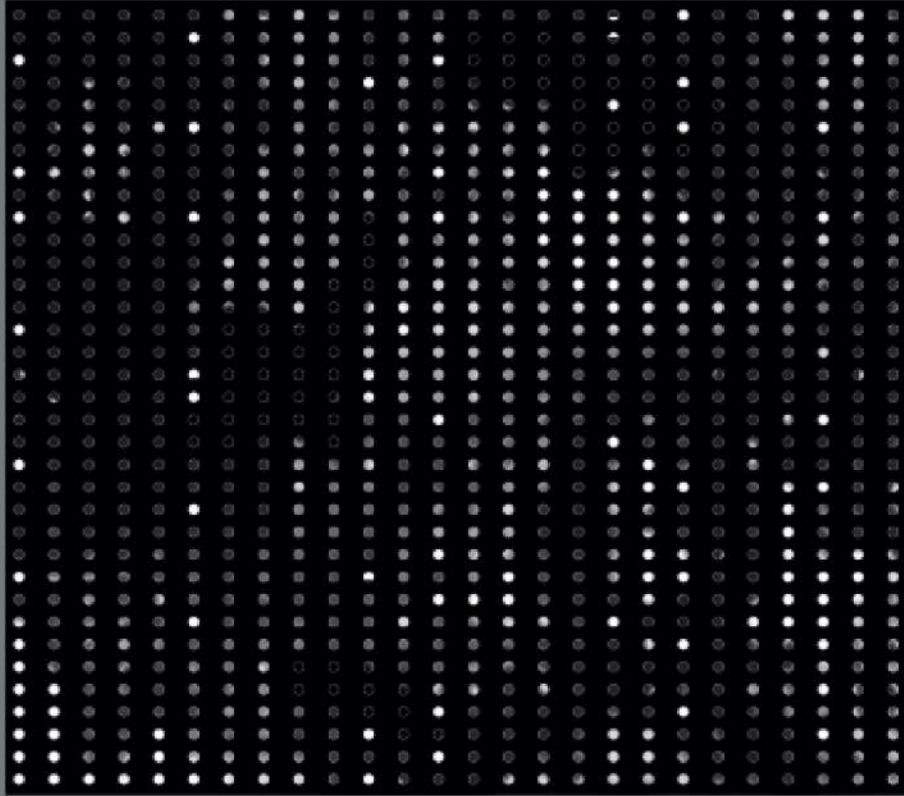
Resting State is the typical condition, beginning daily at 9:15am

Active State show sequence beginning automatically at sunset daily.

Active States shows can be recalled manually by college faculty to support learning

Viewers should not need to understand the educational content of the sculpture in order to appreciate their experience of it, but learning the content should enhance their experience, prompt them to share it with others.

## TRICKLE FLASH (Resting State)



Computer software translates video content into format displayed on Radiant Echo pixel strands

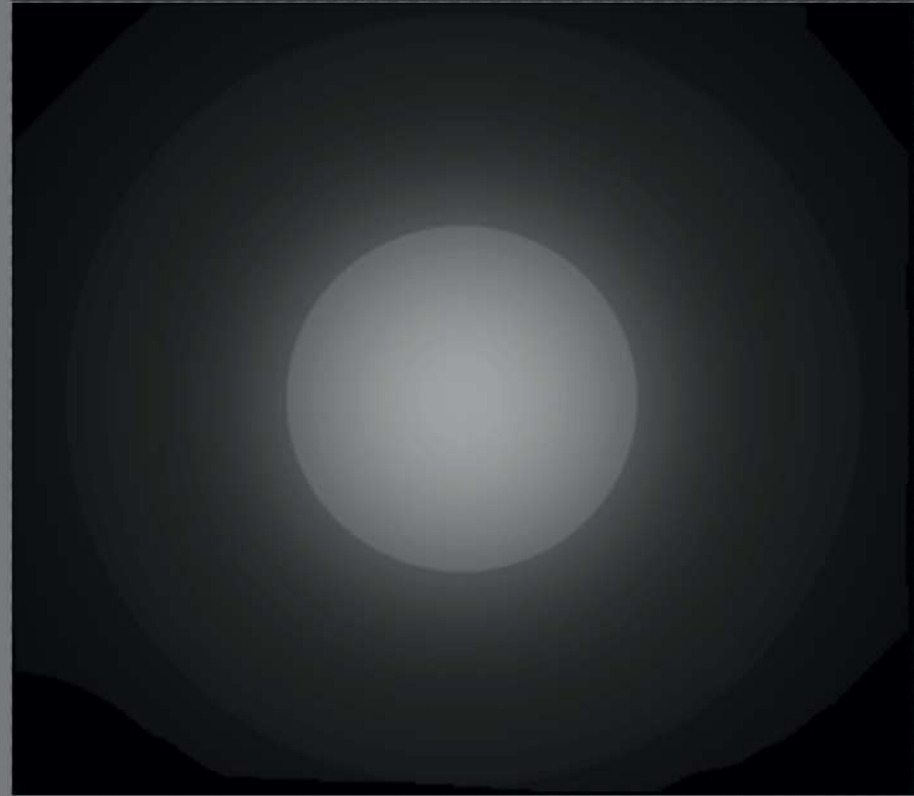
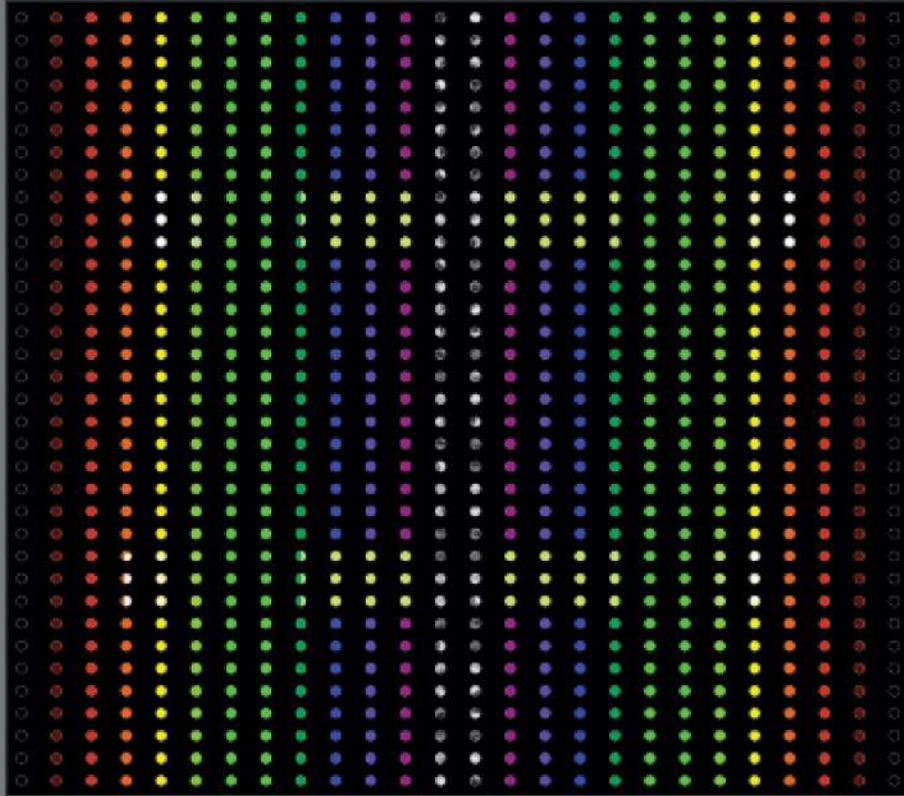


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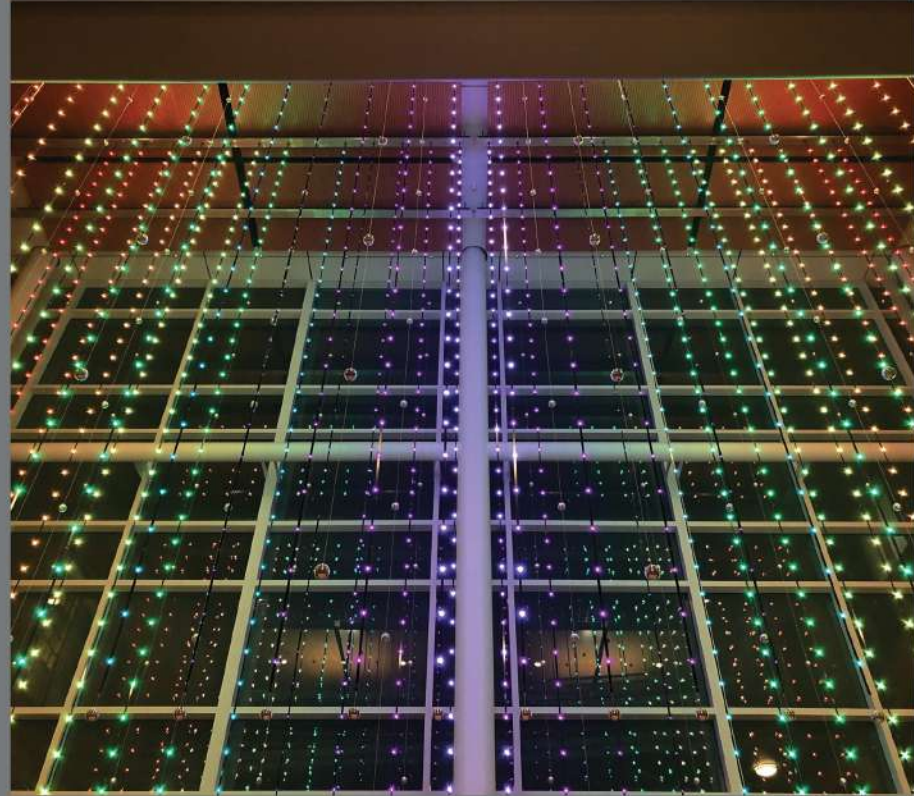
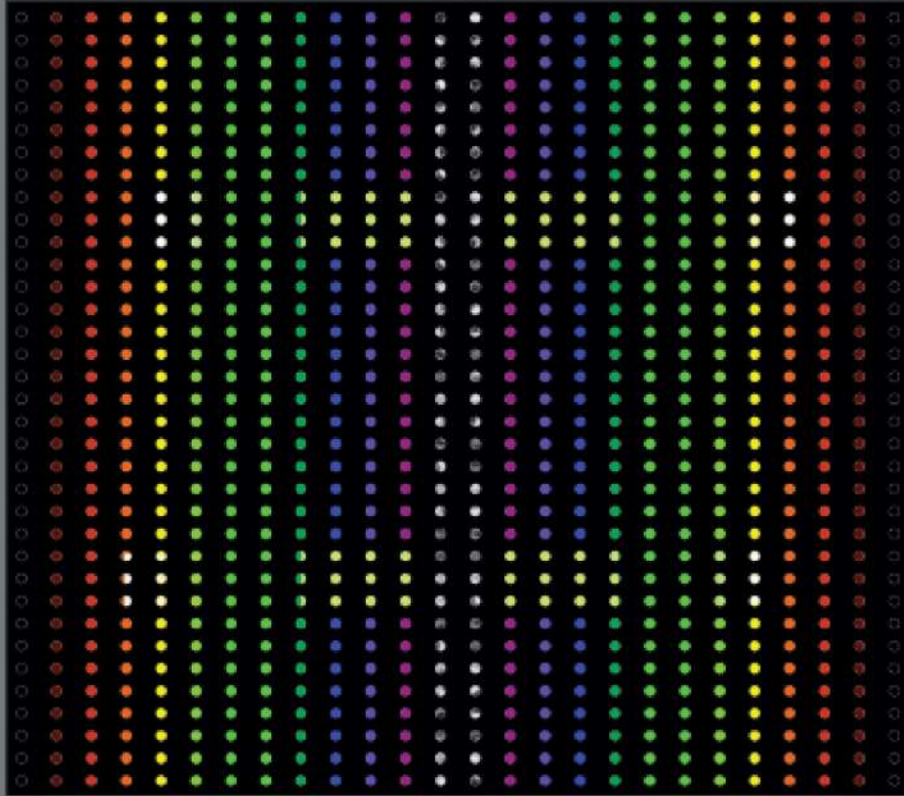
## AXIAL SHIMMER (Active State)



With its glittering columns and prismatic array of colors, this show responds to prominent architectural features of the McLain Atrium site.

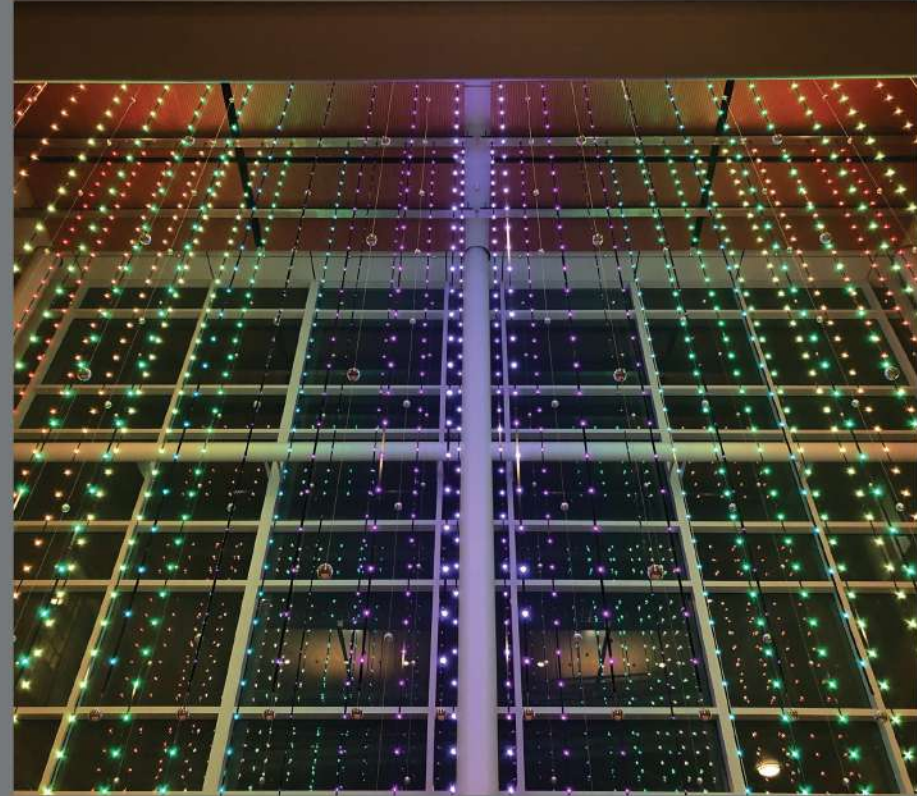
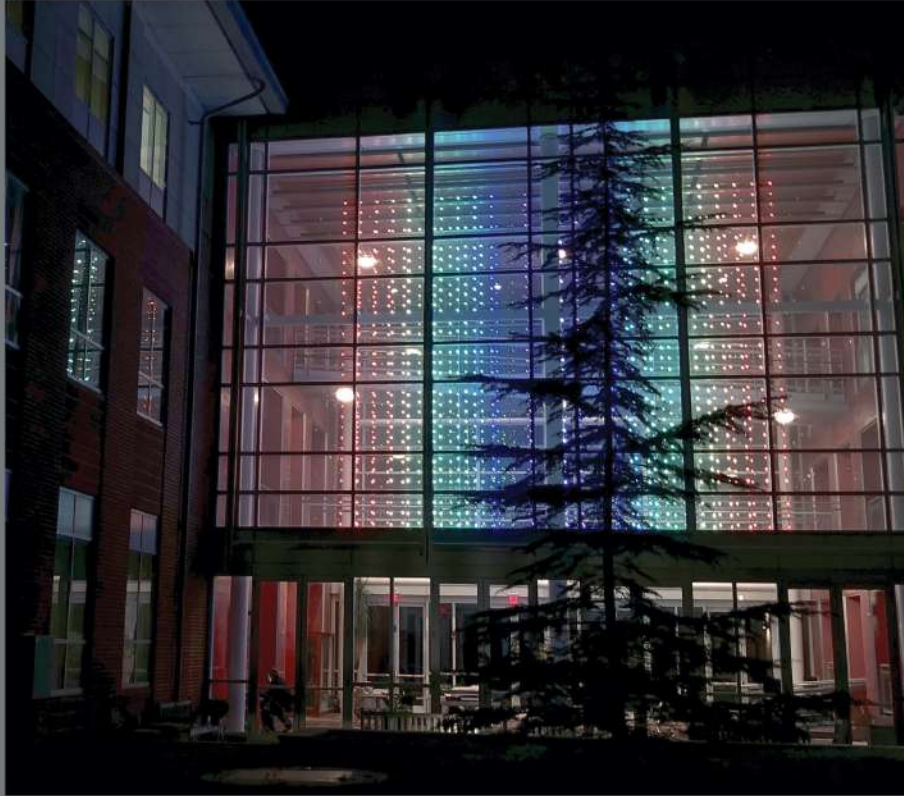


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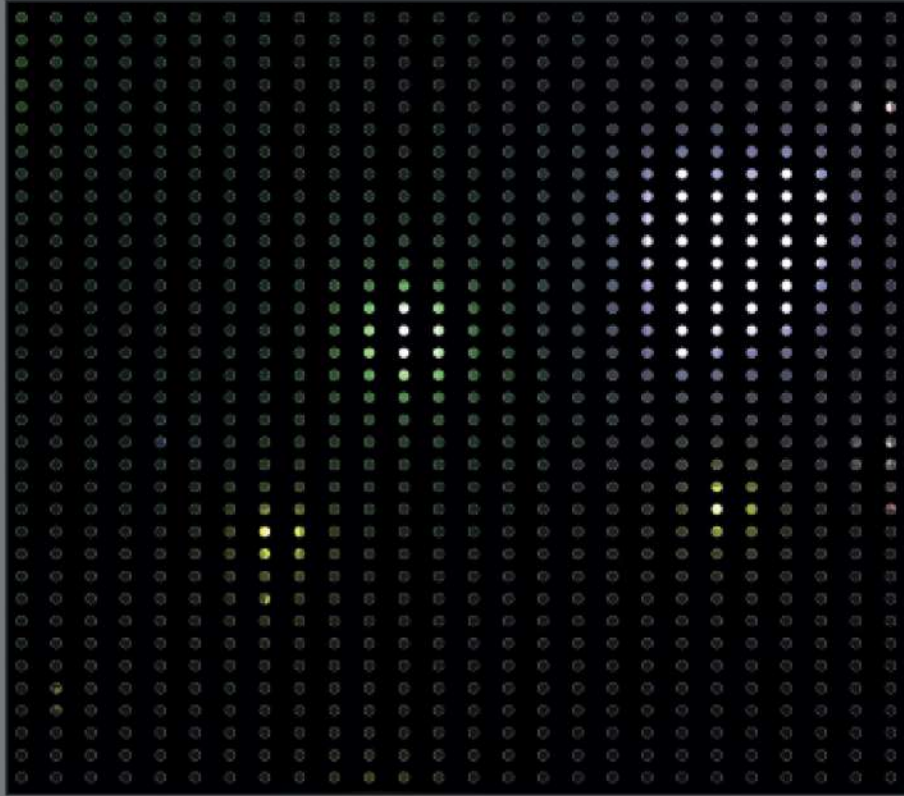
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## FIREWORKS (Active State)



A gradual crescendo followed by a cascade of colorful explosions recalls the experience of watching a typical fireworks display.

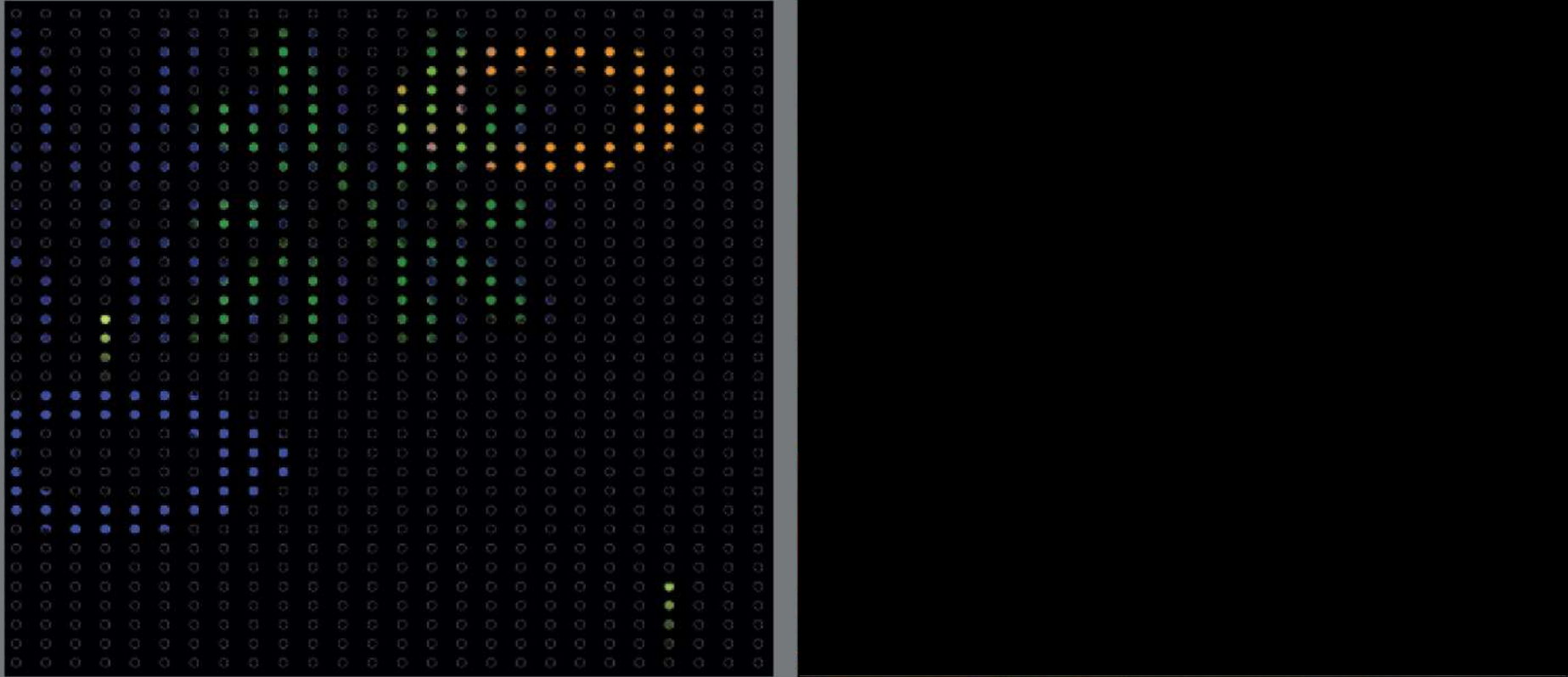
## EXPLODING STARS (Active State)



With a color palette that references metallic salts commonly used in the production of stars, the components of fireworks that determine their color, this show follows the process of their explosion from lift to ignition to burst.

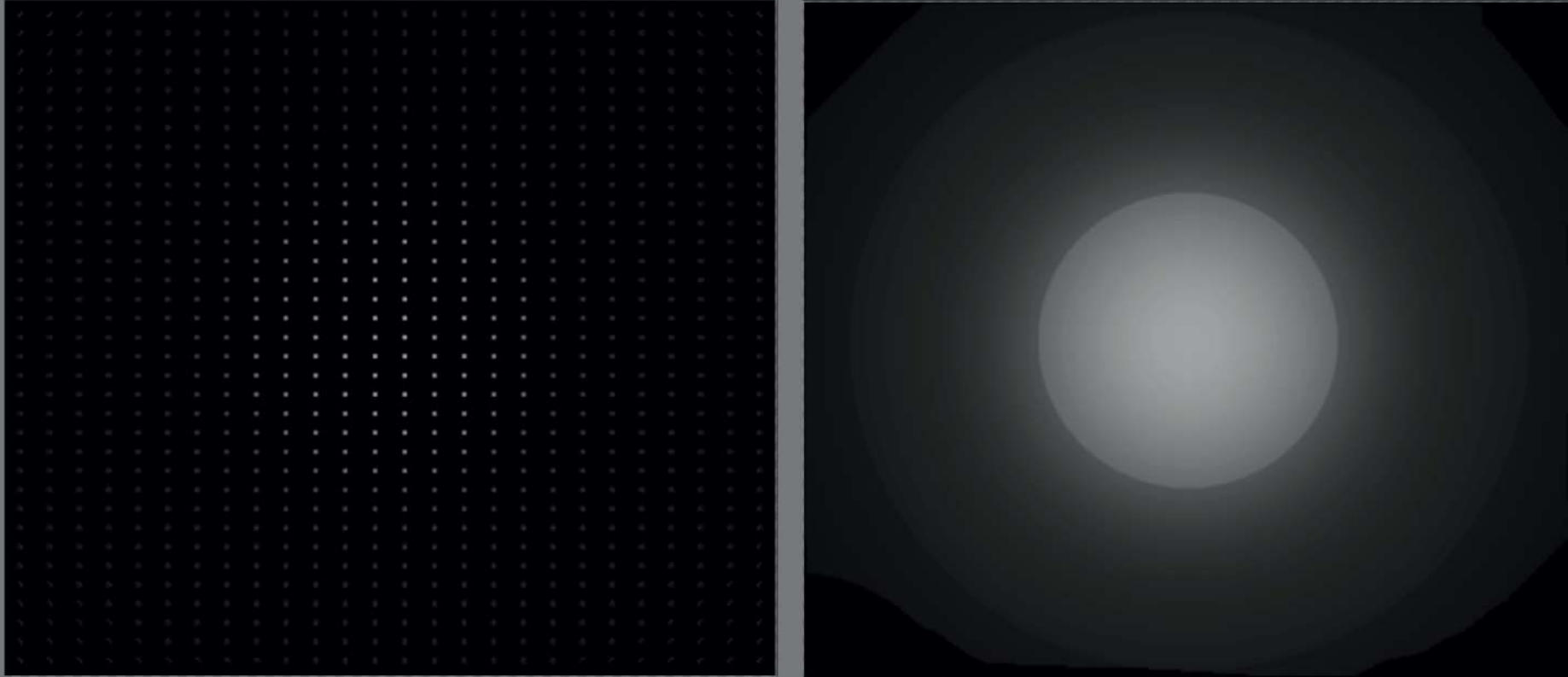


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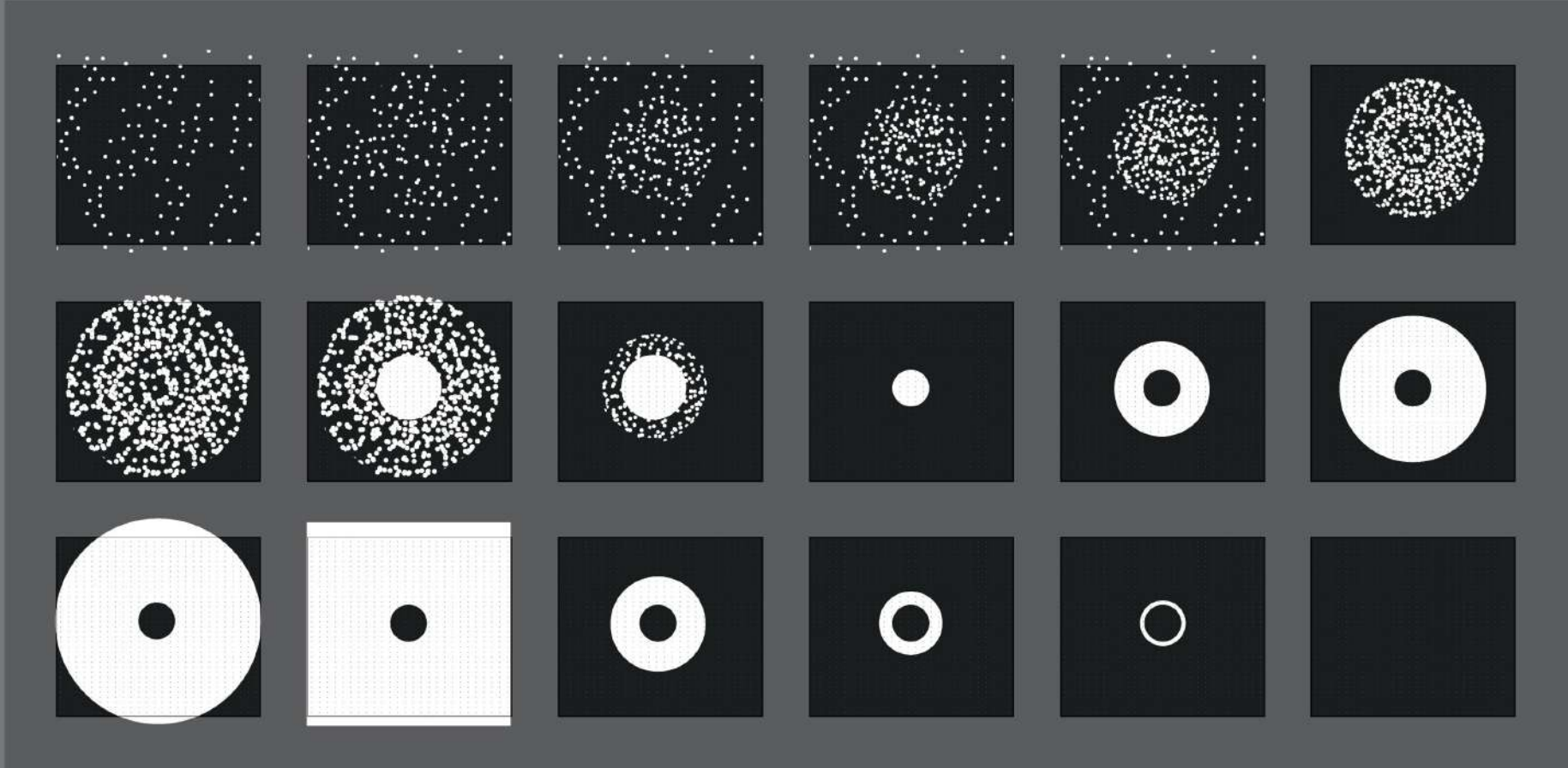
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Drawing on parallels between pyrotechnics and astronomy, this show charts the formation and destruction of a massive star, culminating in the explosion of a supernova and subsequent formation of a black hole.

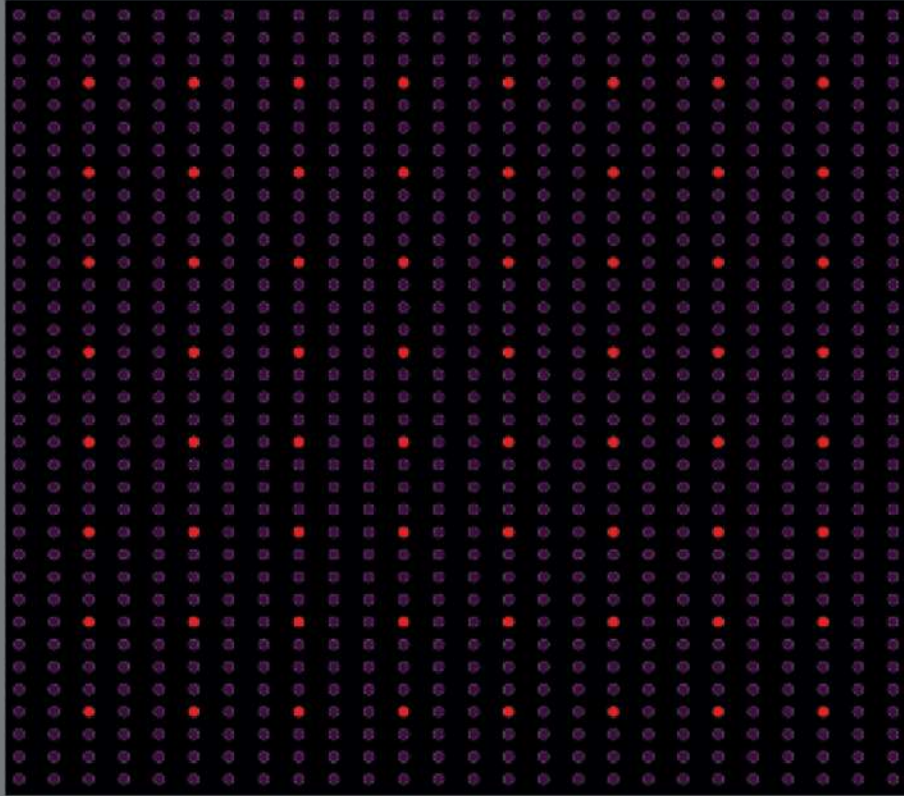


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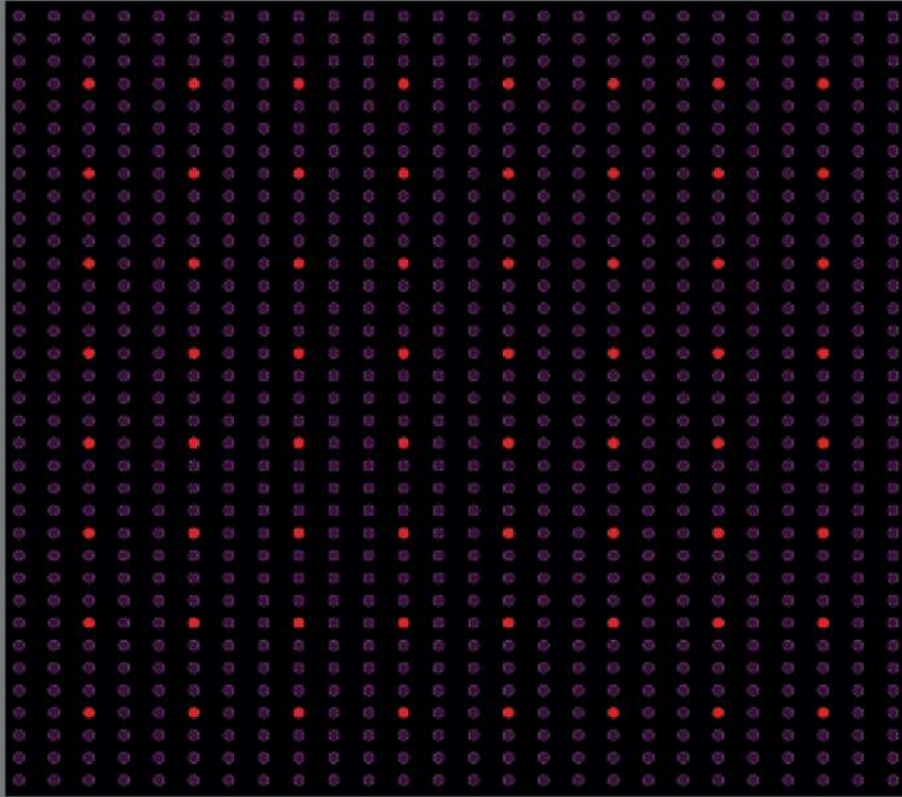
## MIRROR NODES (Active State)



After-images and additive color mixing inform the choreography of this show, in which clusters of colored light pulse around the reflective spheres in varying configurations.



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After-images and additive color mixing inform the choreography of this show, in which clusters of colored light pulse around the reflective spheres in varying configurations.





- RFQ

- Artistic Intent

- Execution

- Technology

- Copyright  
Work for Hire

The Work is also a “work of visual art” under 17 U.S.C. §101.

Although the College solicited and paid for the Work, the Work is not a “work for hire” under copyright law, and the College is not a copyright owner of the Work. The College accepts [redacted]’s representation that [redacted] is the sole copyright owner of the Work, and that any of [redacted]’s project subcontractors’ contributions were works for hire at the instance and under the creative supervision of [redacted]

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This license does not preclude [redacted]’s making two-dimensional copies or derivative works of the Work for [redacted]’s own publicity and public relations, as, for example, by photographs or videos on its or others’ websites, in a book or other printed matter, or in portfolios to potential customers. Nor does this license preclude [redacted]’s use of similar techniques and approaches as it used in the Work to make other artwork that is not identical or strikingly similar to the Work.

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**Commented [LMcL4]:** The test for whether a new work is a derivative work is whether it is “substantially similar” to copyrightable expression in the underlying work. “Strikingly similar” is a higher standard, giving [redacted] much more leeway than a third party would have.

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## 2. Limitation of §106A and Other Rights.

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This concludes The American Institute of Architects Continuing  
Education Systems Course



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Thank you!

Glenn Shrum

Principal and Founder

**FLUX**studio

Assistant Professor of Lighting Design

THE  
NEW  
SCHOOL

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**PARSONS**