

Light Art For The Masses

Golsana Hesmati

The Seed
Principal



Golsana Heshmati is a designer with a diverse professional background that includes experience as an architect, lighting designer and an educator. Currently she is the founding principal at The SEED as well as a lecturer at Pratt Institute School of Architecture and teaching faculty member at New York School of Interior Design Graduate program. She was selected as one of 40 under 40 top lighting design talents in 2017 and was also a recipient of design retail honor awards.

Golsana currently serves as a member of illumination engineer society education committee and as a Jury member for international association of lighting designer's awards program. Golsana's portfolio includes an extensive and diverse group of projects spanning over twelve years throughout her career as a Lighting Designer.



Maria Dautant
CD+M Lighting Design
Associate

Maria Dautant is an Associate at CD+M Lighting Design in Dubai. She is a passionate architectural lighting designer with experience as an educator and light artist.

Her interest in lighting started in community theater in her home town of Caracas. After obtaining her Bachelor of Science in Geophysical Engineering, Maria moved to Australia where she obtained a Master of Design Science in Illumination Design from the University of Sydney.

Maria's lighting design experience has been cultivated around the world, working for firms such as Lighting Design Partnership and Vision Design in Sydney, Australia, HLB Lighting Design in New York and manufacturer Traxon Technologies.

Maria is an Associate Member of the International Association of Lighting Designers and a Professional Member of the Illumination Engineering Society of North America. Her expertise includes lighting design for commercial, hospitality, education and healthcare developments, parks and plazas, master planning, media facade and light art pieces."



LEDUCATION 2020
PRESENTATIONS SPONSOR

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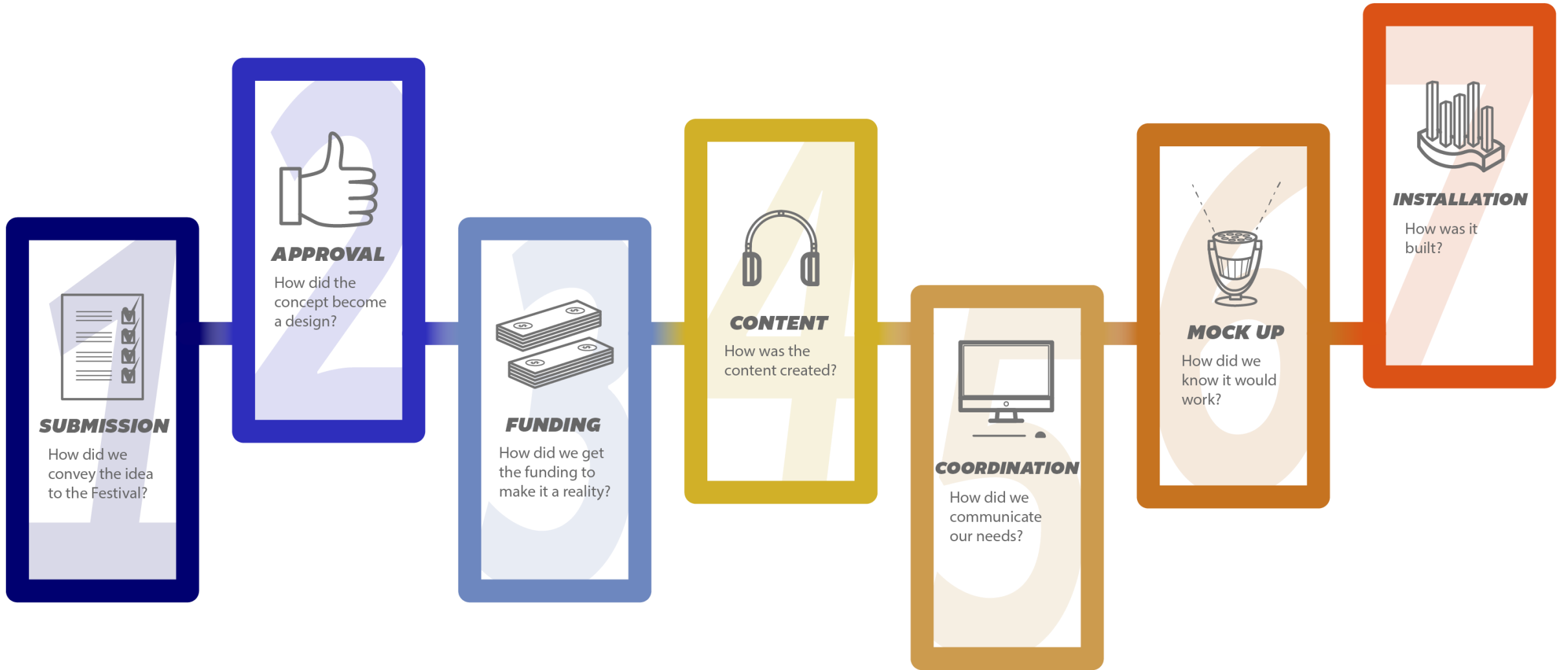
Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

Learning Objectives

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

1. Navigate the requirements of an international light festival.
2. Successfully integrate light and sound effects to create an immersive experience that attracts people's attention.
3. Communicate with an international engineering and manufacturing team located on the other side of the world.
4. Obtain the necessary funding to bring a light art piece to life.

**H E ' E
N A L U**



Introduction

WHY VIVID?

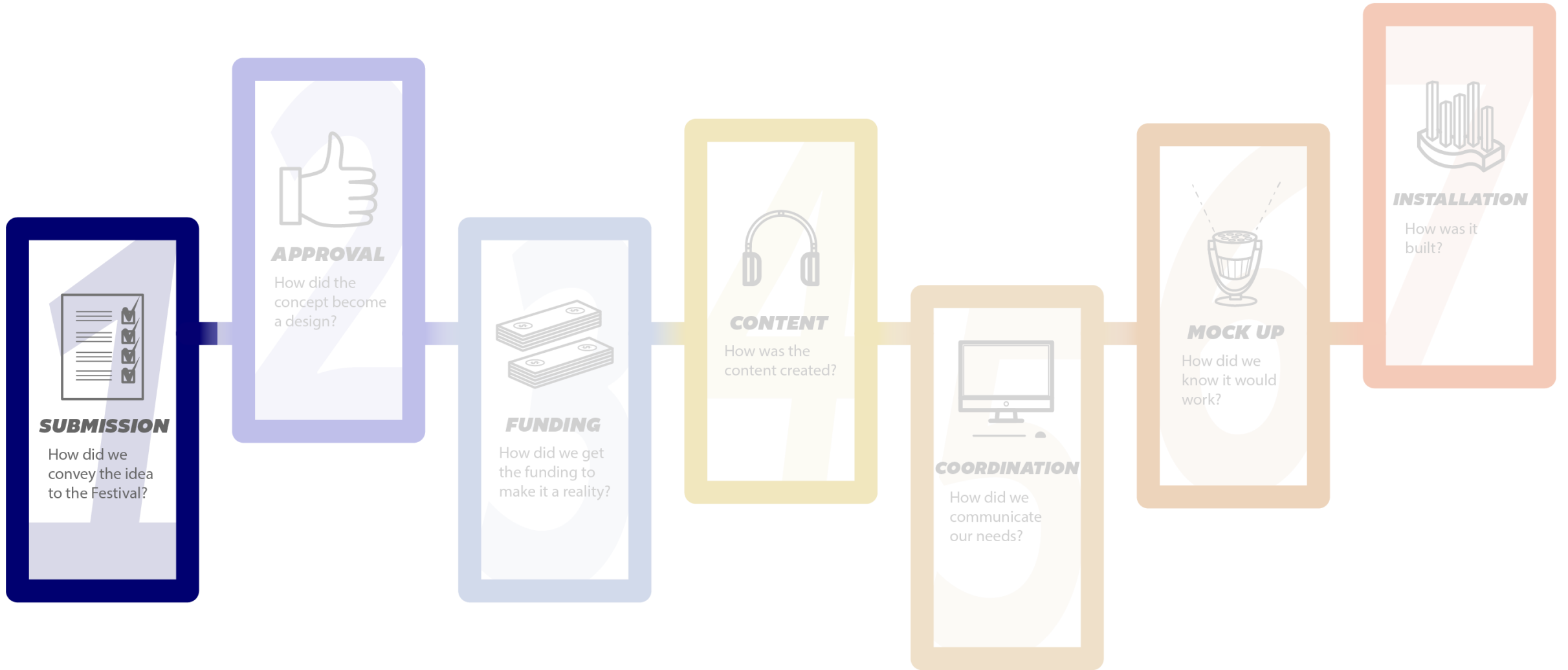
VIVID SYDNEY

The largest festival of light, music and ideas of the southern hemisphere

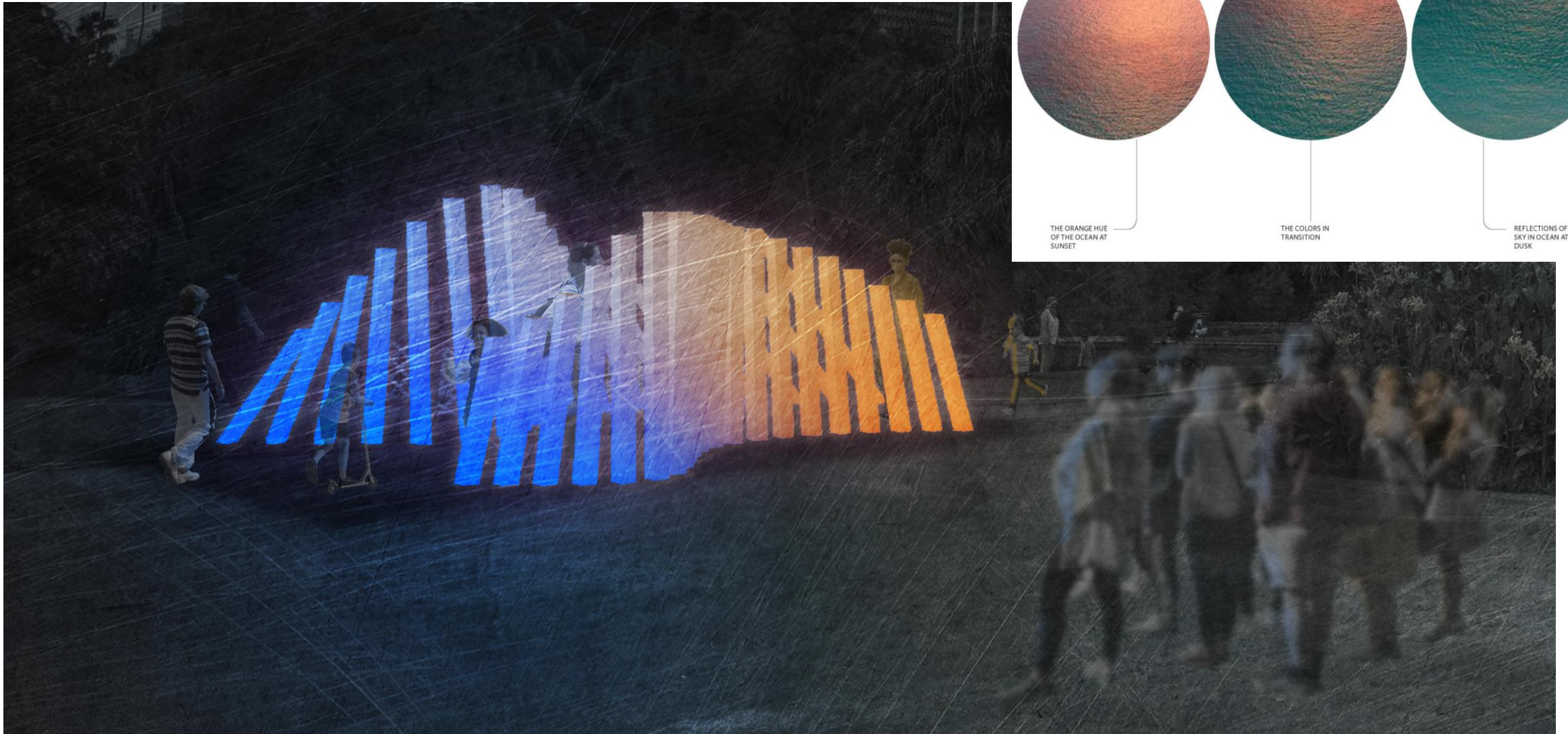


Part One - The Submission

WE CAN DO IT!



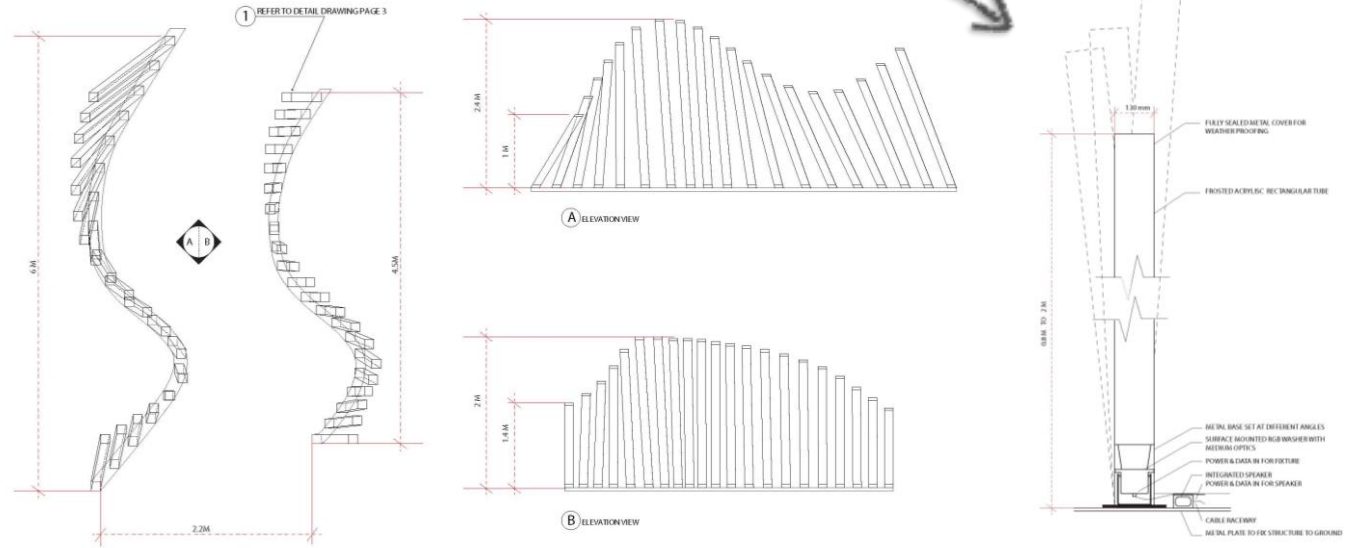




Concept Renderings



Drawings - plans, elevations and details



Item	Budget (AUS)	Weight (Kg)	Wattage (W)	Notes
Fixtures	\$9090.91	26Kg	432W	http://www.griven.com/index.php?action=t_products_eng&id_prod=187&idS_ubCat=10
Driver Box	\$7532.47	42Kg	0W	Based on given this is the fixture driver and power/data "junction box"
Cables	\$1298.70	20Kg	0W	Belden 7922A Multi Connector Cat5e Data cable (22AWG) 1000 ft
Controller	\$12987.01	0.48Kg	4W	https://www.etocconnect.com/Products/Architectural-Systems/Mosaic/Controllers/Show-Controller/Features.aspx
Motion Sensors	\$259.74	0.12Kg	1W	https://www.adafruit.com/product/189
Speakers	\$3896.10	8.5Kg	350W	https://www.crutchfield.com/p_109CHRC38/BL-Charge-3-Black.html?tp=188 http://www.jbl.com/best-speakers/CONTROL-X.html https://usa.yamaha.com/products/audio_visual/speaker_systems/ns-aw150/specs.html#product-tabs
Acrylic Tubes	\$5454.55	202.86Kg	0W	http://www.usplastic.com/knowledgebase/article.aspx?contentkey=884 Weight calculated in Kg per sqft (30sqm = 322sqft) for 6mm thick acrylic (0.63Kg/sqft) \$47/sqm
Metal Base	\$5194.81	80Kg	0W	Assumed \$100 and 2Kg each
Photovoltaic System	\$6493.51	120Kg	0W	https://www.wholesalesolar.com/1898705/crown/battery-banks/crown-430-ah-12vdc-5-160-wh-2-battery-bank https://www.homedepot.com/p/Sunforce-5-Watt-Solar-Battery-Trickle-Charger-Twin-Pack-S2022/100660090 https://www.homedepot.com/p/

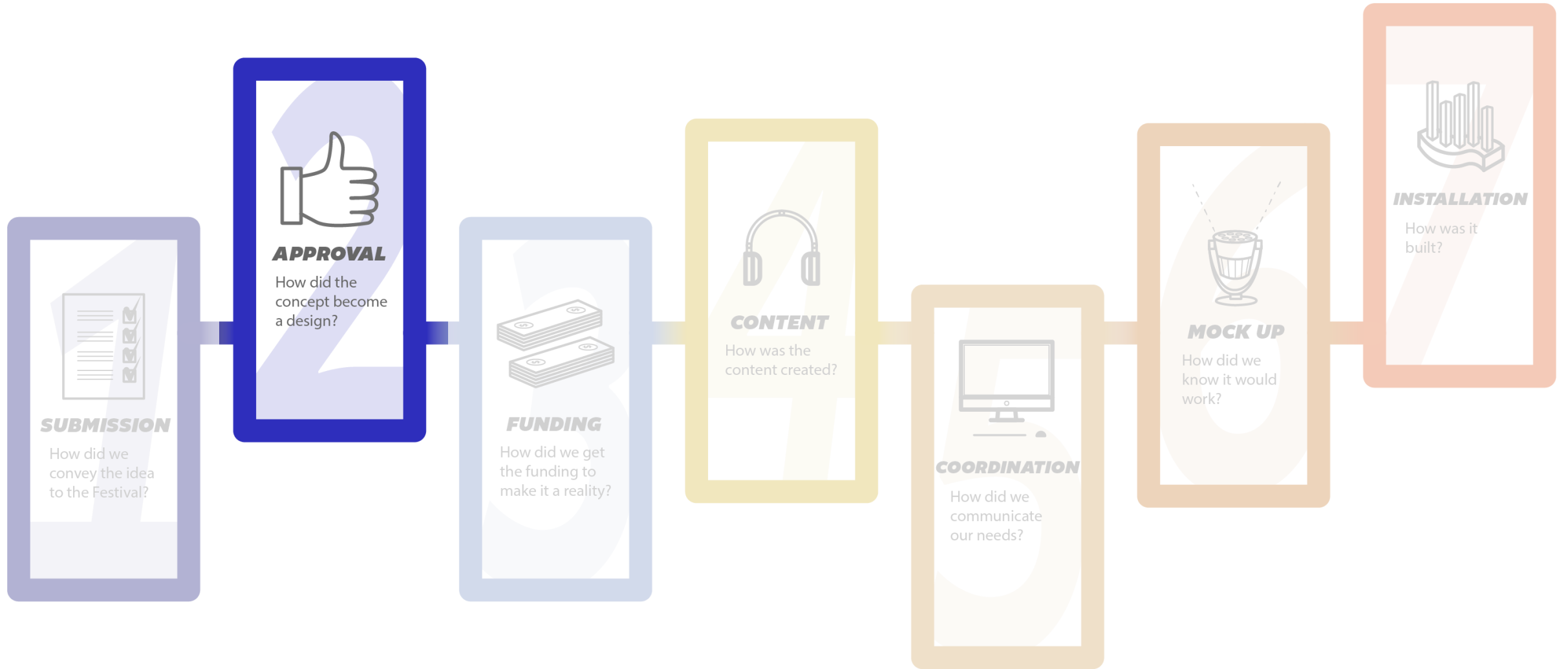
Materials, budget and power estimates

Initial Deliverables

Submitted for consideration

Part Two - Your concept has been approved

WHERE DO WE START?



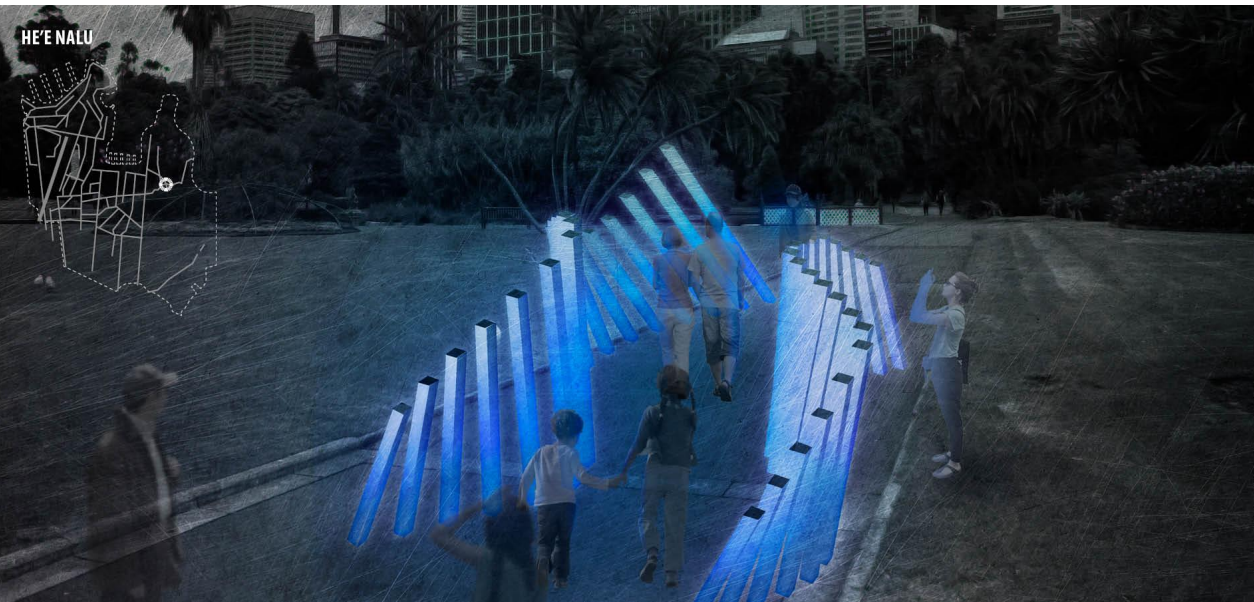
DELIVERABLES AND REQUIREMENTS

- **Deliver** a piece that was:
 - Suitable for installation in an outdoor public space
 - Within the approved budget
 - Certified by a local engineer
- The Festival **required**:
 - Updated marketing materials that showed the approved location of the final installation
 - Certificate of insurance
 - Part of the funding to be provided by the artists
 - Calls with the organizers to verify the progress



The approved location!





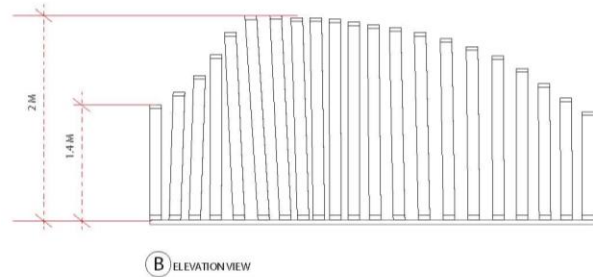
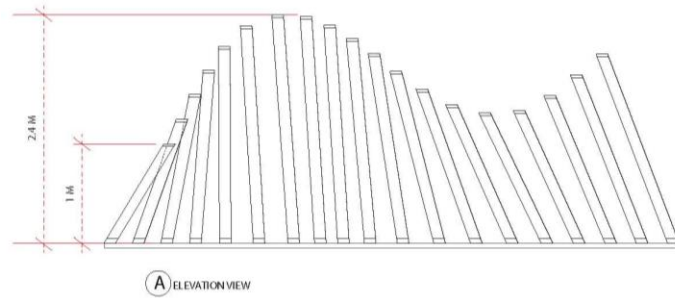
Original Rendering

Submitted for consideration



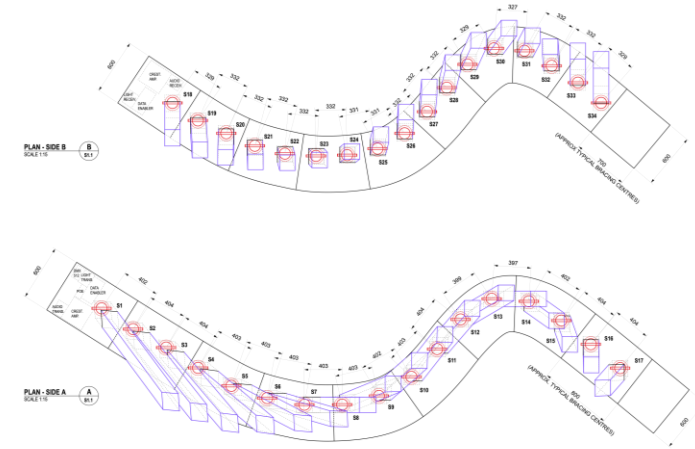
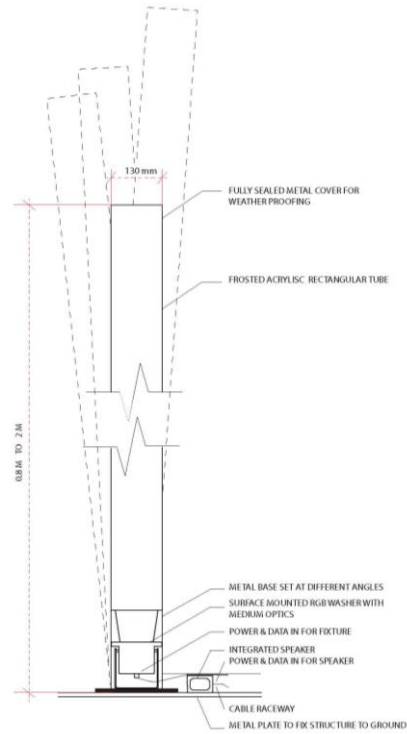
Final Rendering

Submitted for promotion



Original Design

Submitted for consideration

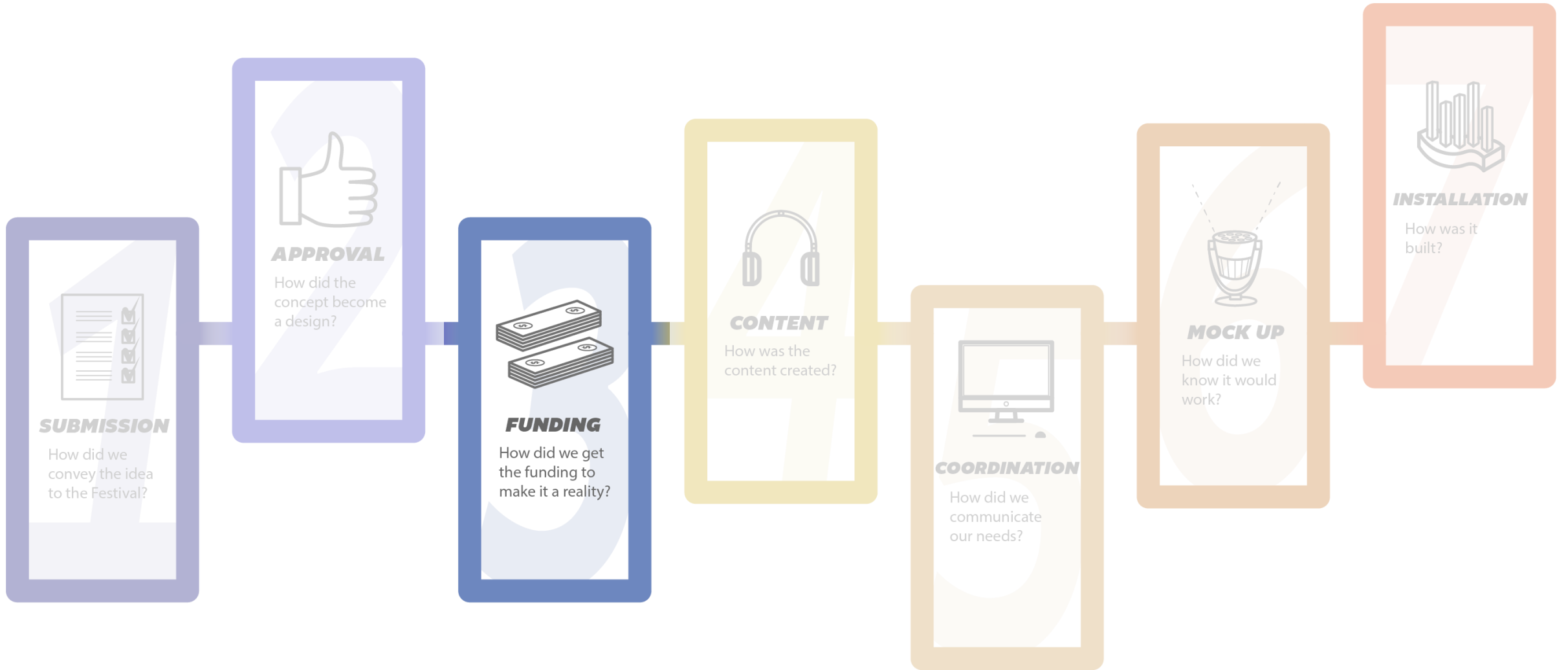


Final Design

As-built

Part Three - The funding

HOW CAN WE GET THE MONEY?



THE FUNDING

Sponsored lighting, controls and sound equipment was the highest contribution!



The rest paid for mock ups, additional equipment and accommodation for five (5) weeks of festival.



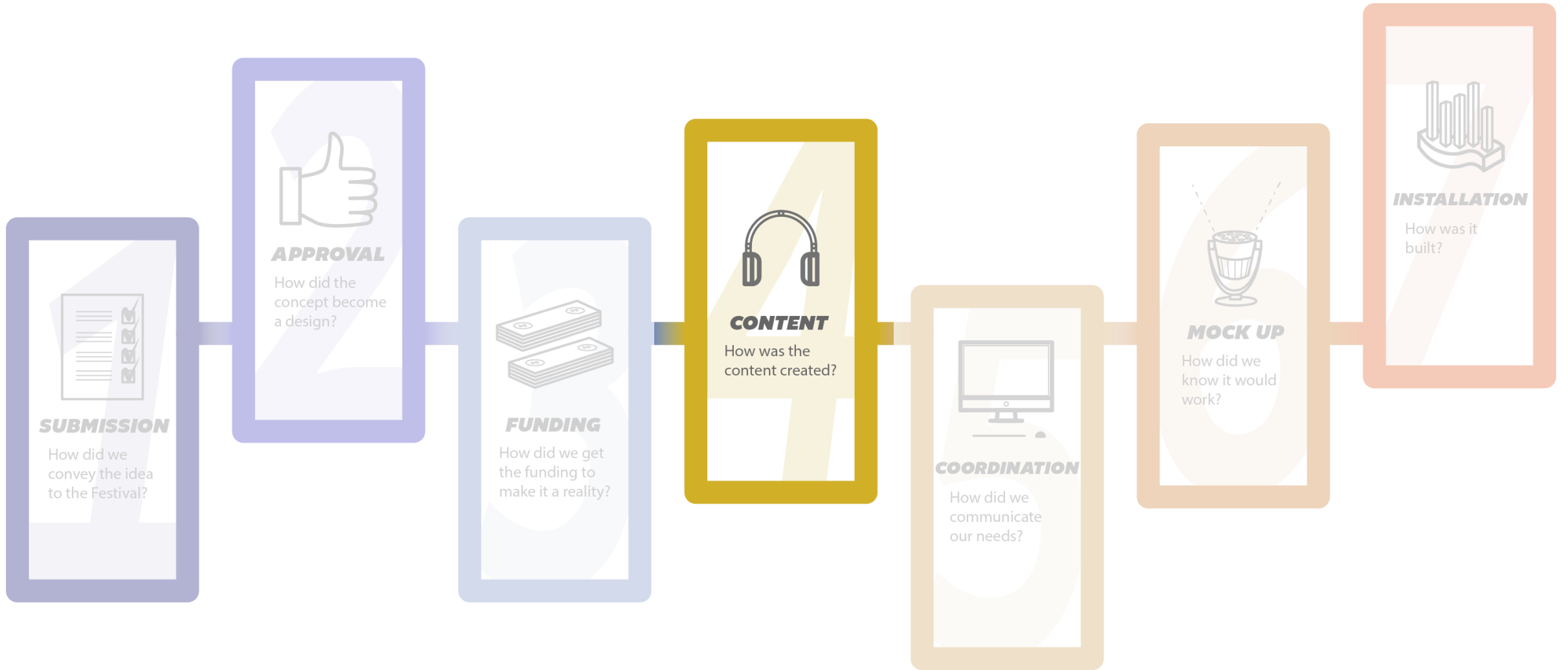
Source	%
The Festival	24%
Sponsored Equipment	43%
Lighting Community Sponsors	10%
Organizations outside the Lighting Community	1%
Crowd Funding	17%
Our Pockets	5%
TOTAL	100%



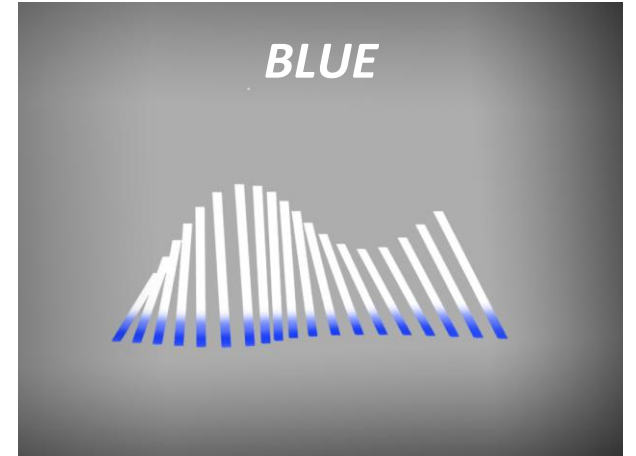
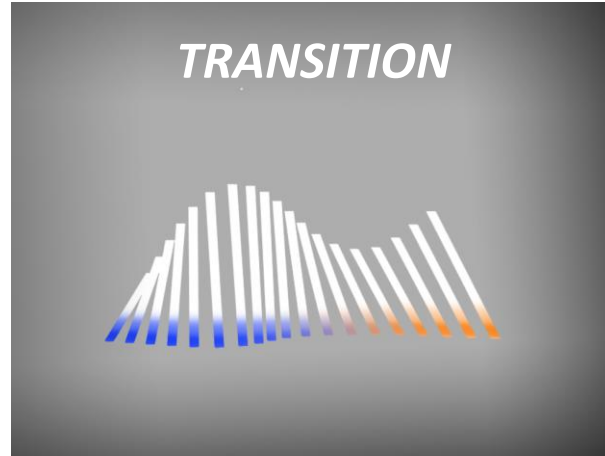
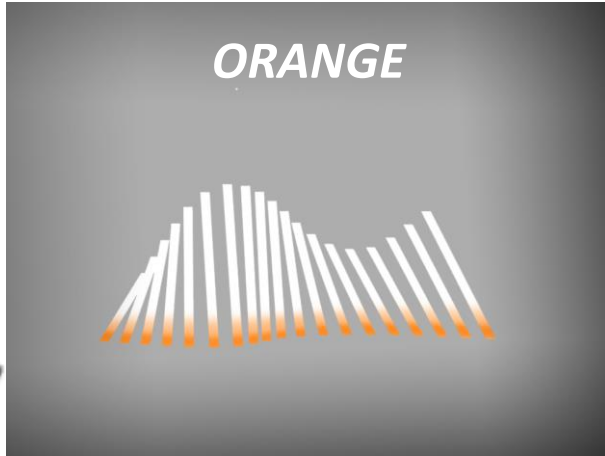
The festival paid for the fabrication and installation of the piece

Part Four - Design and Coordination

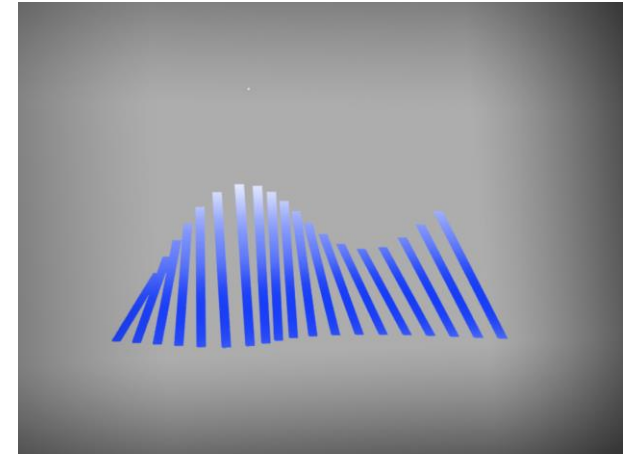
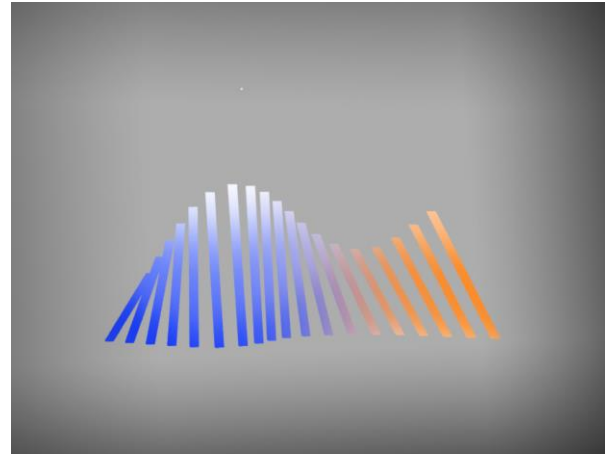
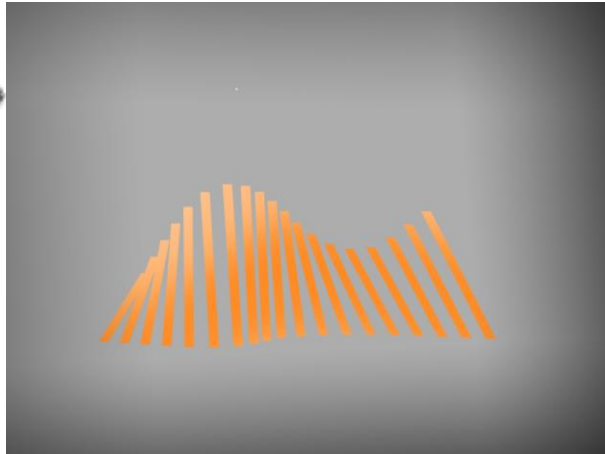
WHAT CAME FIRST, THE LIGHT OR THE SOUND?



Columns fade in and out randomly, from 0% - 30% during the Calm Scene

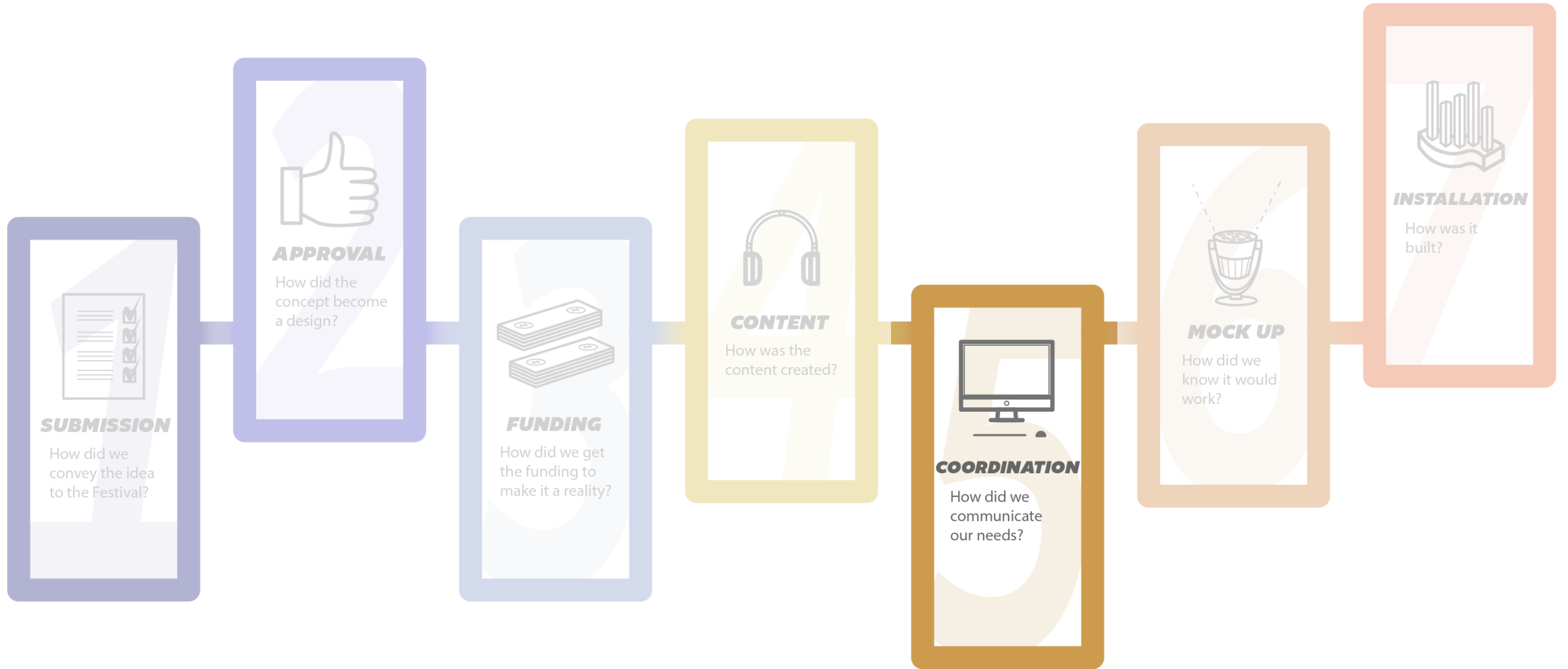


Intensity increases to 100% from first column to last during Wave Scene

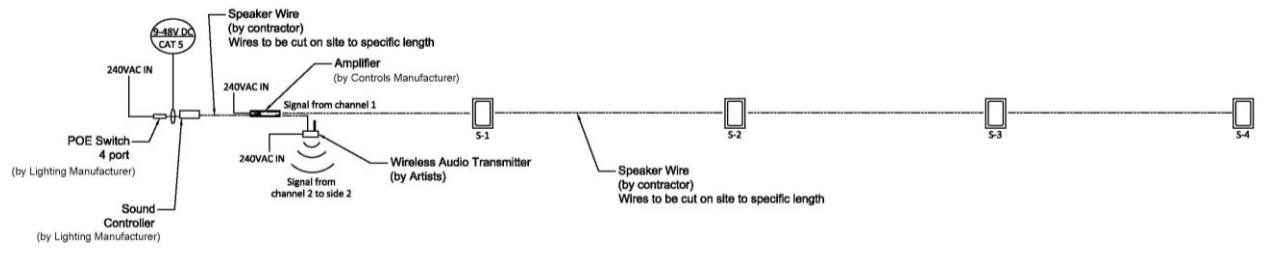
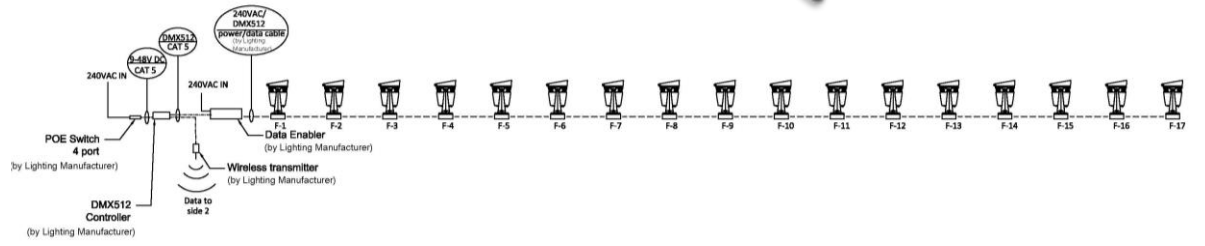
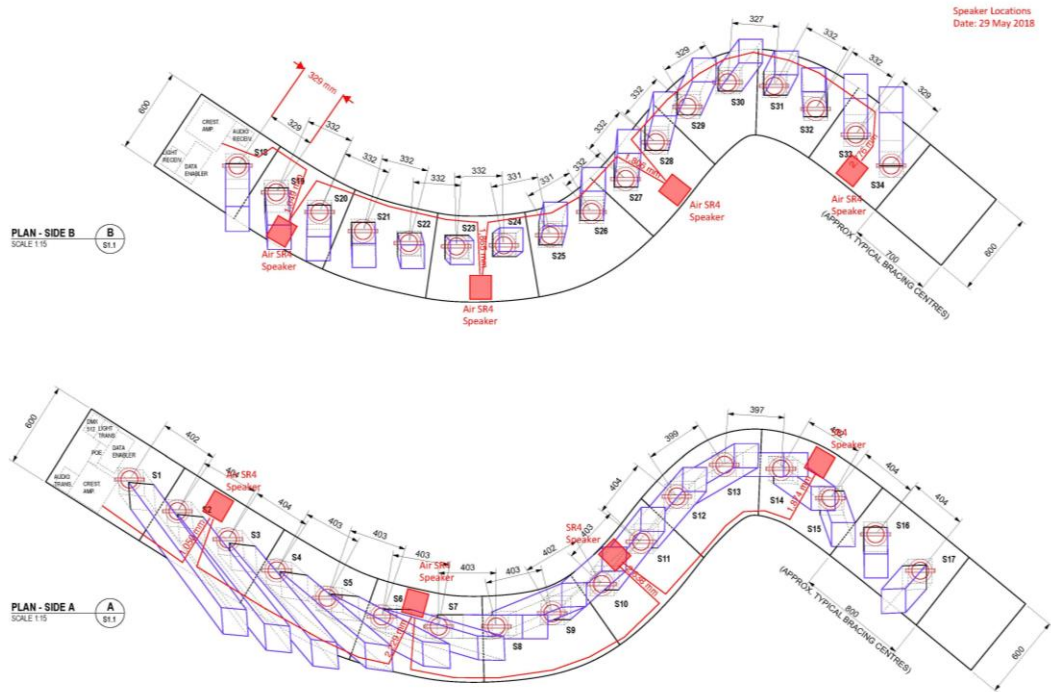


Designing the content

It started with the sound and the lighting program followed

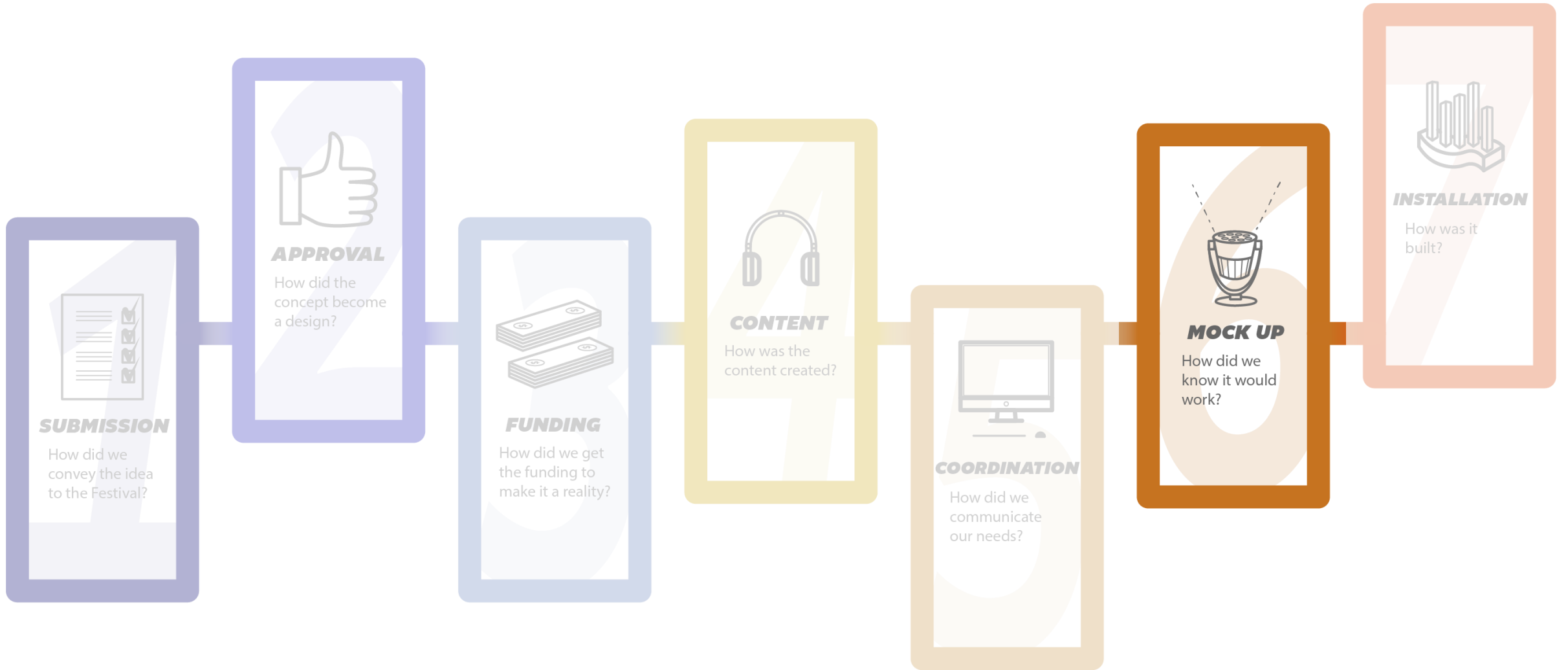


Wiring diagrams
with fixture labels
matching the layouts

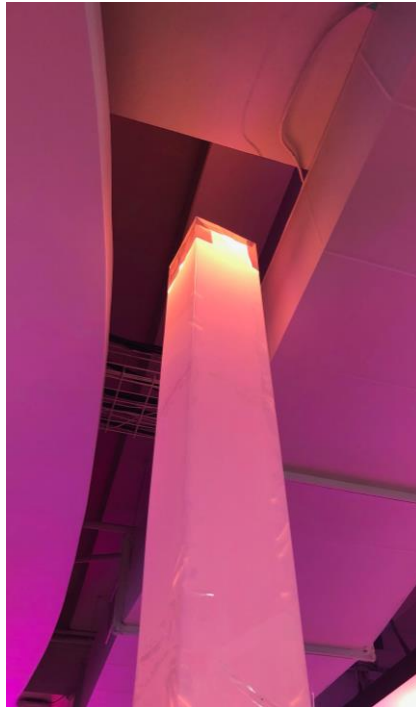


Equipment location
Speakers and fixtures
were clearly labeled

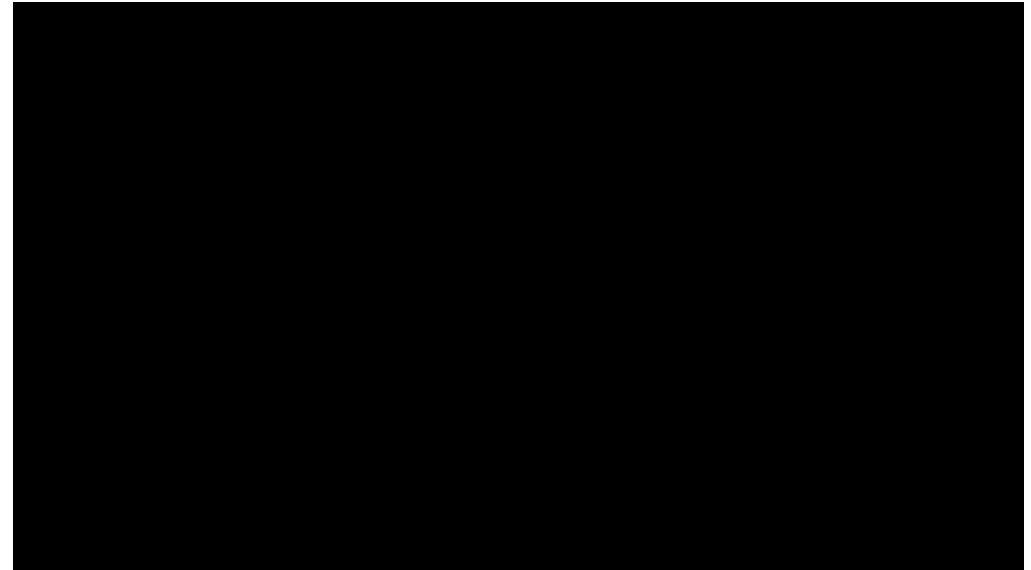
Design Coordination
Equipment locations and wiring was shared with the engineers in Australia



THE MOCK UP



*To confirm speed
and timing*



*To confirm colors
and materials*

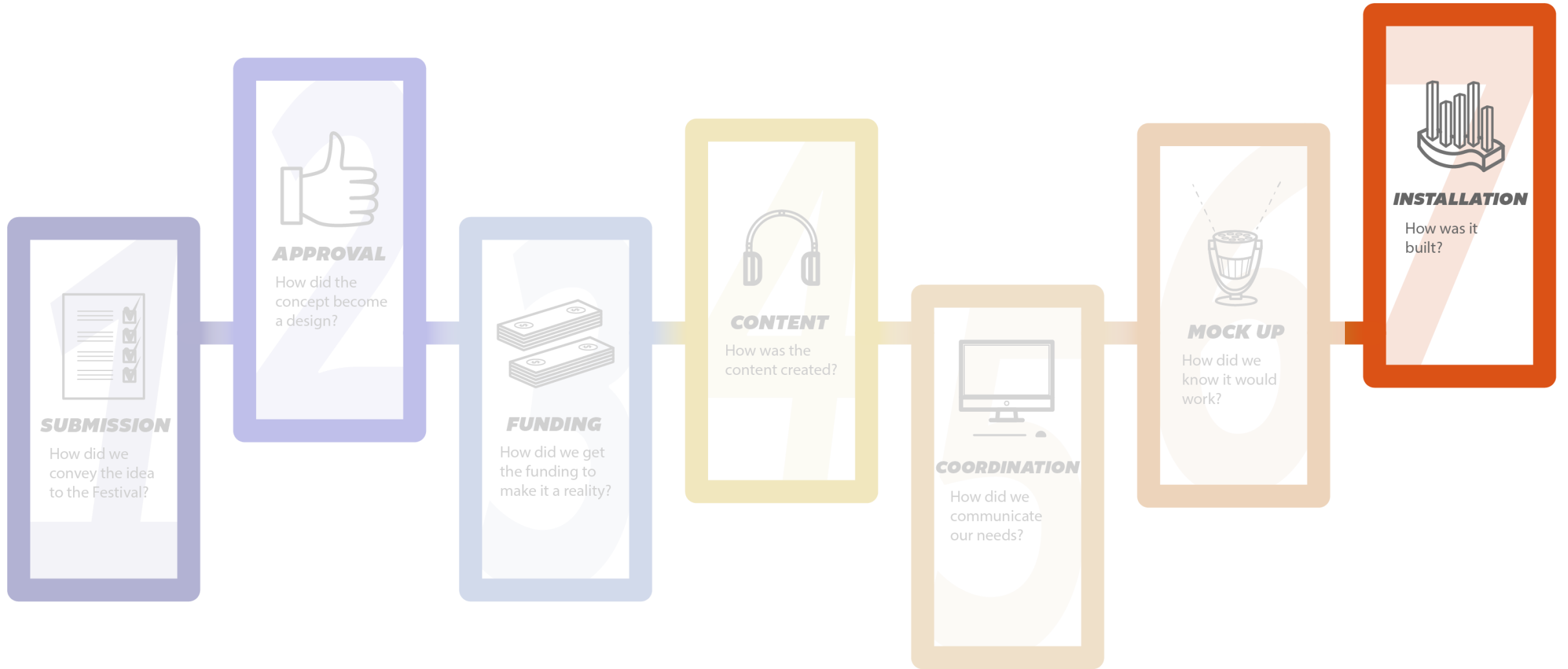


*To confirm intensity
and lighting effect*

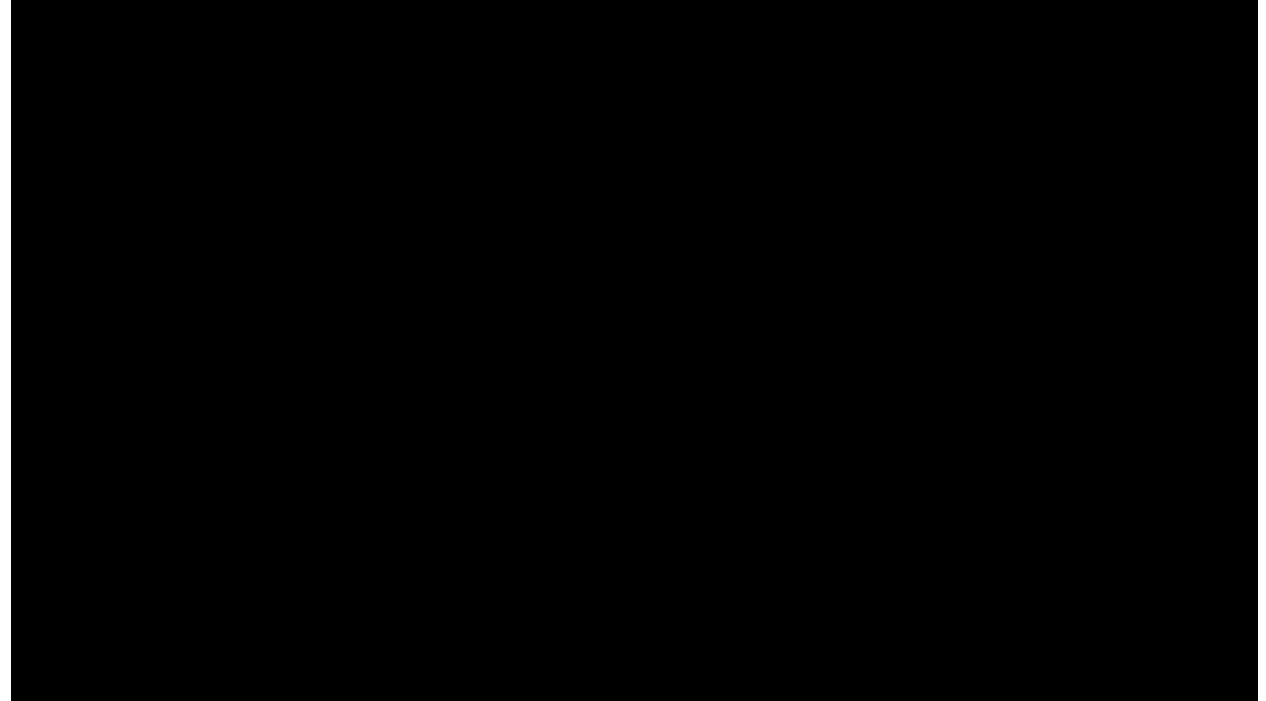


Part Five - Building the piece

IT'S ALIVE!



AT THE FACTORY



AT THE BOTANICAL GARDENS



THE FINAL RESULT



THE FINAL RESULT



THE FINAL RESULT



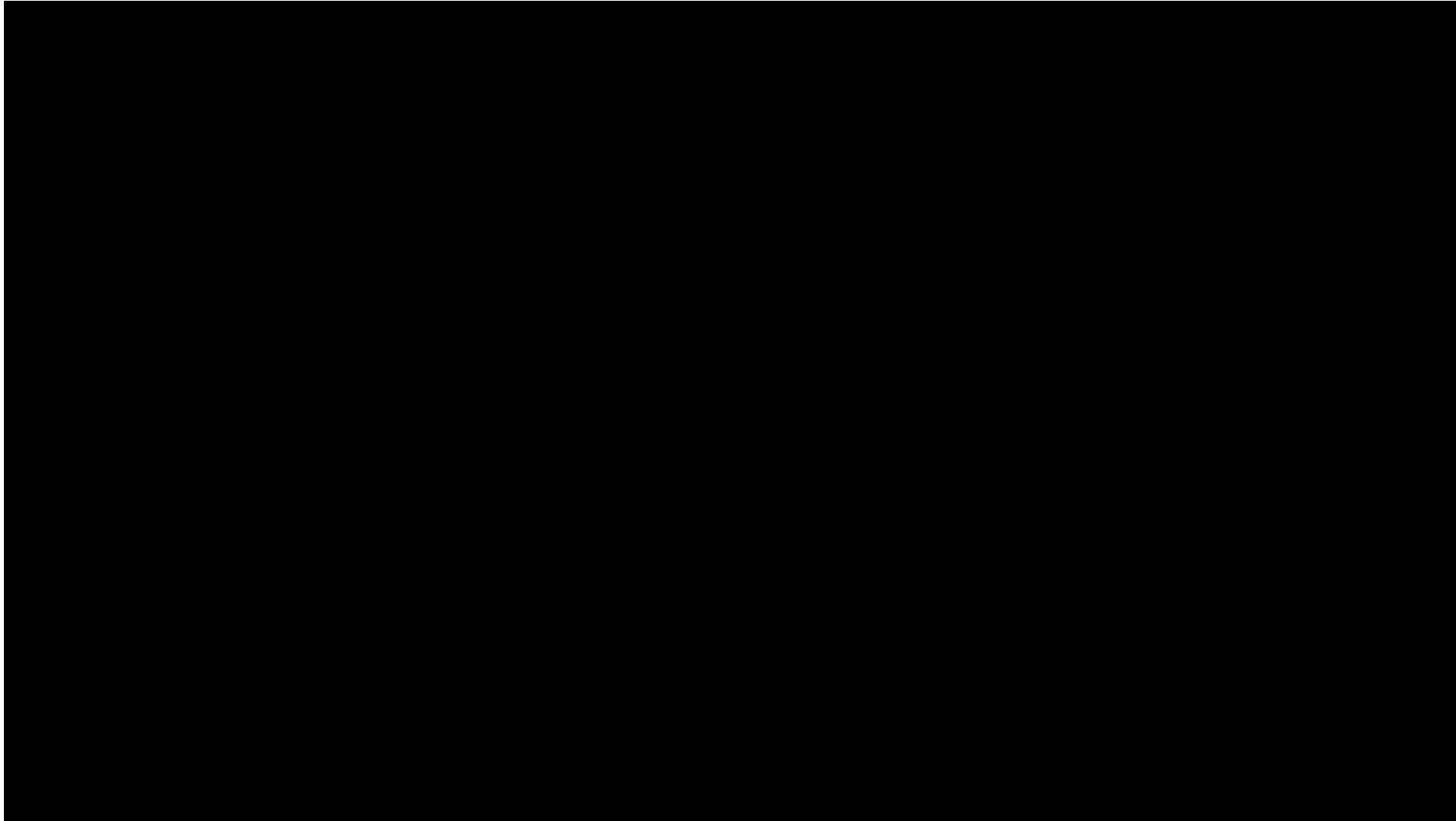
THE FINAL RESULT



THE FINAL RESULT



THE FINAL RESULT



Part Six - What we learned

IF WE COULD DO IT AGAIN...

LESSONS LEARNED

Why was it successful?

- It was different than other installations presented that year
- It was based on a concept that is popular in Australian culture - surfing
- The sound and the light effect were aligned - the sound supported the lighting and the concept of the installation
- The wave came as a surprise and people appreciated the sudden change
- The equipment was invisible
- The piece was attractive in the day and at night

LESSONS LEARNED

What would we have changed?

- **Materials**
 - Acrylic became brittle in colder temperatures - Other materials could have sustain the temperature changes better than acrylic, especially for the base
- **Coordination**
 - Base dimensions were not fully coordinated - Fixtures did not fit
 - Base length was not fully coordinated - Controls equipment had to be located outside of the base
- **Budget**
 - The budget that was done at the time of submission did not account for all administrative requirements from the Festival - Adding a buffer / additional percentage is recommended

Thank you for your attention

ANY QUESTIONS?

This concludes The American Institute of Architects Continuing
Education Systems Course

