

A New Performance Venue - Lighting



The design challenge of light fixtures involves a confluence of the light source, the specific site and the form suspended in space, while also examination of the embedded logic of the material proposed. SCALA is a departure from our SWORL series of pendant fixtures, where we explore the flow of lines. SCALA is pure geometry.

LIGHTING OPCMUSIC

Suspended in the tall ceilings of OPCMusic, the SCALA fixtures are mysterious and symbolic – **are they African? Spiritual? Geometry? A musical instrument? The simple answer is, “Yes, all of the above.”**

SCALA is an assemblage of 3D-printed components attached to linear bulbs and inserted into a small performance space

3D PRINTING TECHNOLOGIES PRODUCE
REAL-TIME SOLUTIONS
AT ACCESSIBLE COSTS AND POSSIBILITIES

Project Design: June Grant

Installation: Valerie Chan, Electric Work Solutions
(Oakland, CA)

Fabrication: blinkLAB architecture and SolidState 3dPrint
Farm (Oakland, CA)

Photography: June Grant

SCALA TRIANGLE

3D-PRINTED CONNECTORS

SIX LINKABLE LIGHT FIXTURES

at the base of the historic California Hotel along San Pablo Boulevard, Oakland, California where we proposed a lighting scheme which included track lights, stage spot lights; and Triangle lights.

DIGITAL FABRICATION

Current computational, sensing and fabrication technologies provide new opportunities for architects and designers to explore “grafting” the ready-made with the bespoke into architectural forms. This design tactic is particularly useful when faced with the challenges presented by low-budget / high-need clients such as Not-For-Profit institutions.

Our in-house 3D Printer and CNC-Machine allow the design studio to instrumentalize our design ideas into direct action, without a third-party intermediary. Have an idea, hack an idea.

The first challenge was to locate an off-the-shelf linear LED light bulb which as also linkable. Next, the means to hide the cords linking each bulb. At first we attempted to 3D print a single form which would force the cords into a compact spiral. However, after several attempts, the final solution was a tightly fitted box with lid. Last was the resolution of the depth of the connector-box. The challenge was to maximize the length of the exposed light emitter but housed

deep enough and held securely within the connector-box. Neoprene gaskets were used to lock the bulbs in place.

By employing a read-made / bespoke-designed methodology, we had the opportunity to focus on constructability. In today’s world of magazine shopping for pre-made solutions, it is rare that, as architects, we are able to create an object that did not exist prior.

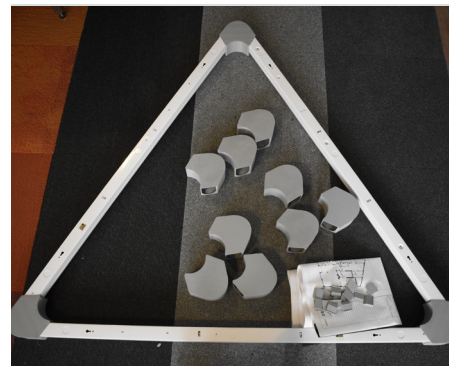
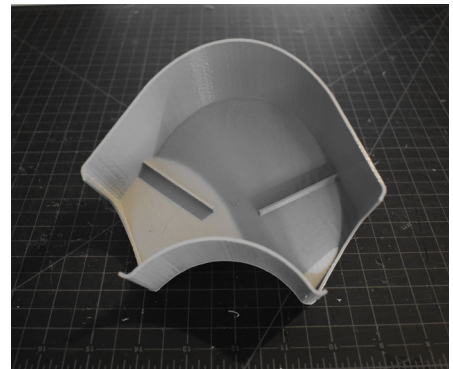
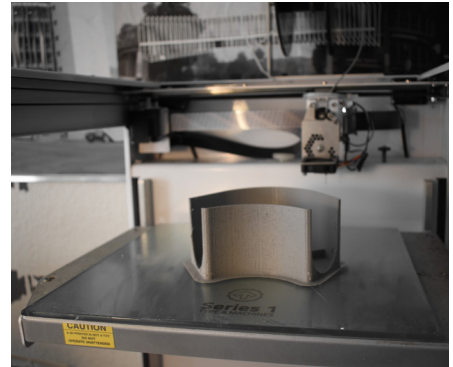
THE JOY OF CODING BY DESIGN.

With SCALA and the exclusive use of software coding, we are able to fabricate several geometric light formations.

The 3D printed connector/joint is actually designed through coding not analog sketched lines. This way of working was chosen in order to accommodate design changes and variation, an option easily afforded through digital modeling processes. Not only can the angled-joints be printed in any color, we are able to quickly 3D print connectors for a wide-range of other angled geometries.

3D Printed Light Fixtures

We enjoy the flexibility and immediacy that digital fabrication tools allow us to explore in the office. We’ve designed one light fixture every year for the past four years.



Design + Planning

Advocacy

Technology



However, the decision to design one specifically for OPCMusic was driven by the budget. We simply could not afford the commercially available triangle fixture. Necessity (or Budget) is the Mother of Invention – we decided to make it!

SCALA adds a particular exploration in solution-creation and that is the reason we enjoy design – the challenge to solve for a gap...elegantly.

3D printed light fixtures are simple to produce.

Features & Benefits:

- Immediate
- Durable
- Wide color options
- Ability to manipulate shape
- Cost-effective – lower cost than commercially available design.