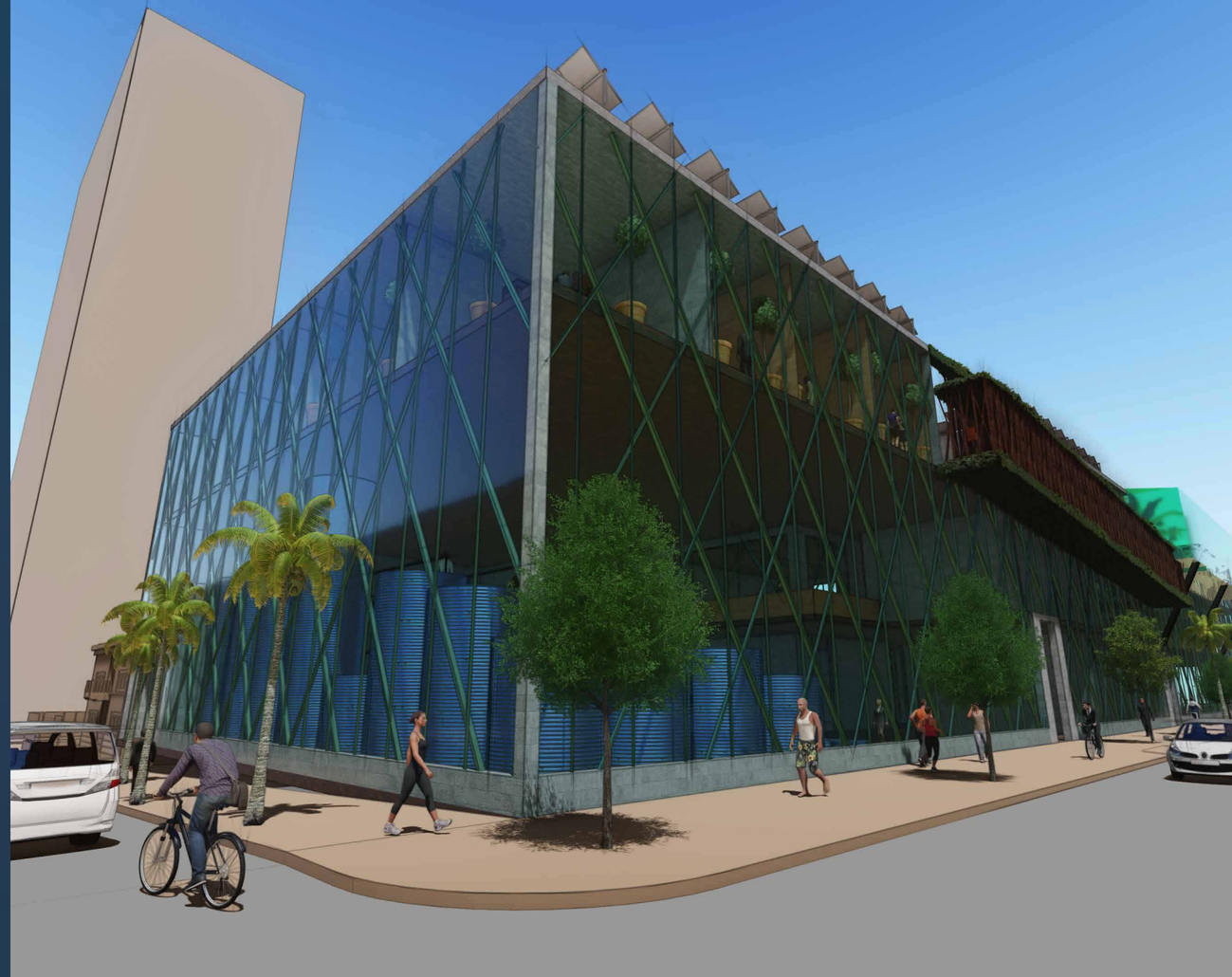
SHANE GUNDELFINGER

2021 ARCHITECTURE PORTFOLIO

Table of Contents

FermLab | School for Brewing & Fermentation

C.A.S.H. Second Place Winner



FermLab | School for Brewing & Fermentation

Coalition for Adequate School Housing (C.A.S.H.) Second Place Winner

Brewing Space - Facing West | 3D Model in Rhino - Rendering in Lumion

Rooftop greenhouse and spent grains from brewing provide food for restaurant

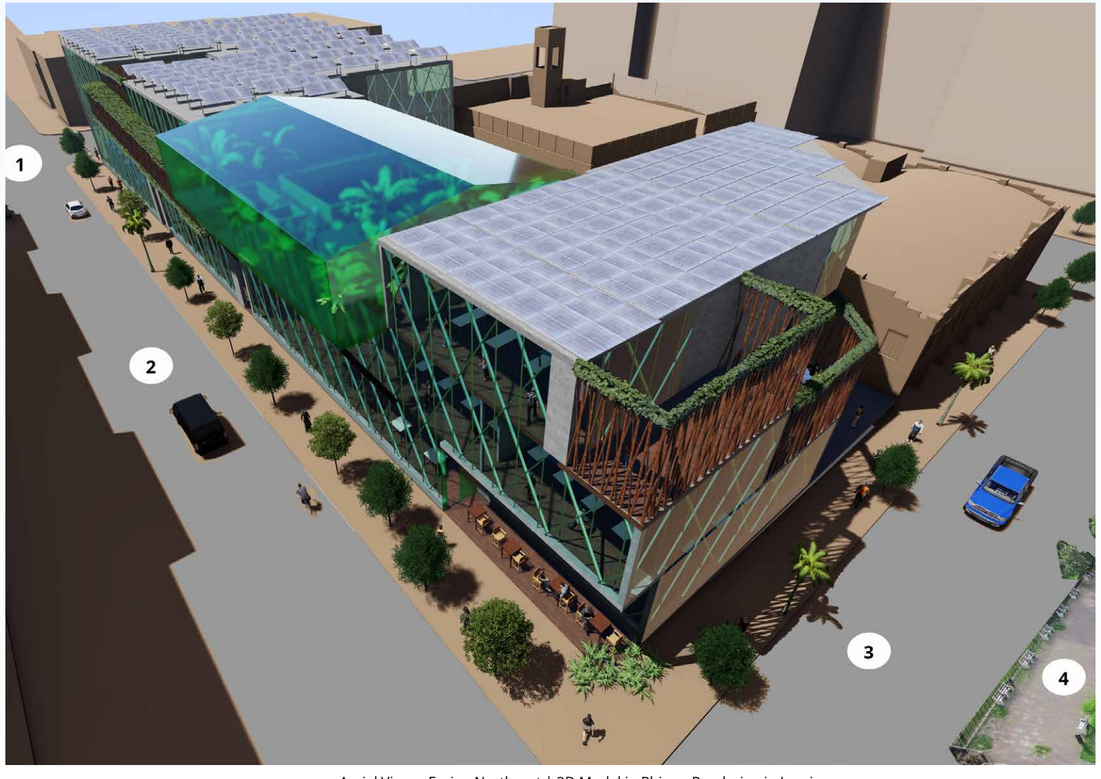
Brewing provides in-house internships and full time jobs for students and alumni

Public workshops offered on weekends for local community brewing

Brewing waste recycled at local farms

Set in East Village Downtown San Diego, the Fermlab School for Brewing and Fermentation would open as the first of its kind, providing a comprehensive curriculum covering all facets of fermentation and brewing to prepare students with a holistic scope of knowledge that can be applied to a variety of booming micro industries.

Featuring both liquid and food fermentation, the school's ground floor will combine a public tasting room & restaurant featuring student brewed drinks and fermented food dishes, a semi-public courtyard, and brewing operations, while classrooms and labs will be located on the second and third floors.



Aerial View - Facing Northeast | 3D Model in Rhino - Rendering in Lumion

FermLab | School for Brewing & Fermentation

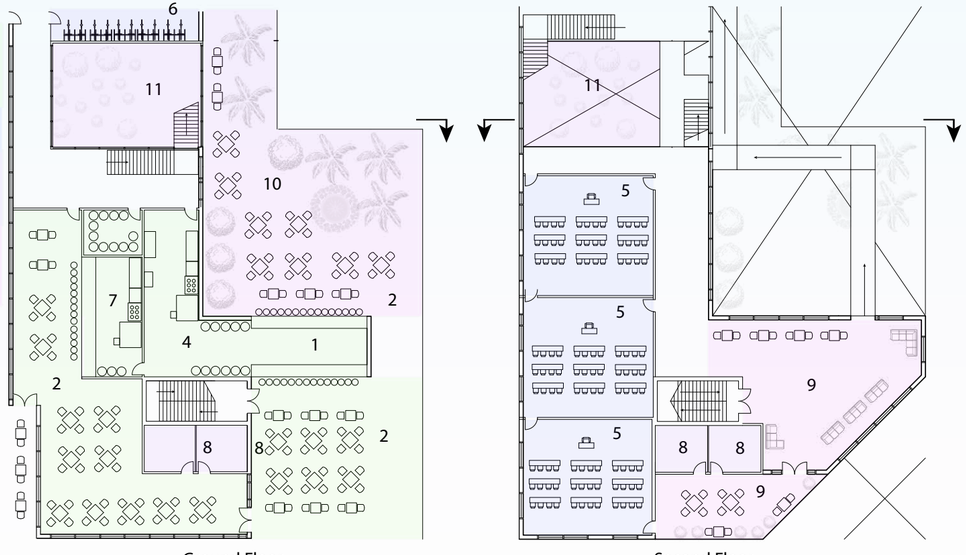
C.A.S.H. Second Place Winner

Public Food Service
1. Bar
2. Seating
3. Food Counter
4. Kitchen

Student Education
5. Classrooms

Support Spaces
6. Bicycle Storage
7. Storage
8. Restrooms

Assembly and Exterior Space
9. Student Lounge
10. Outdoor Courtyard
11. Atrium



Ground Floor

Second Floor

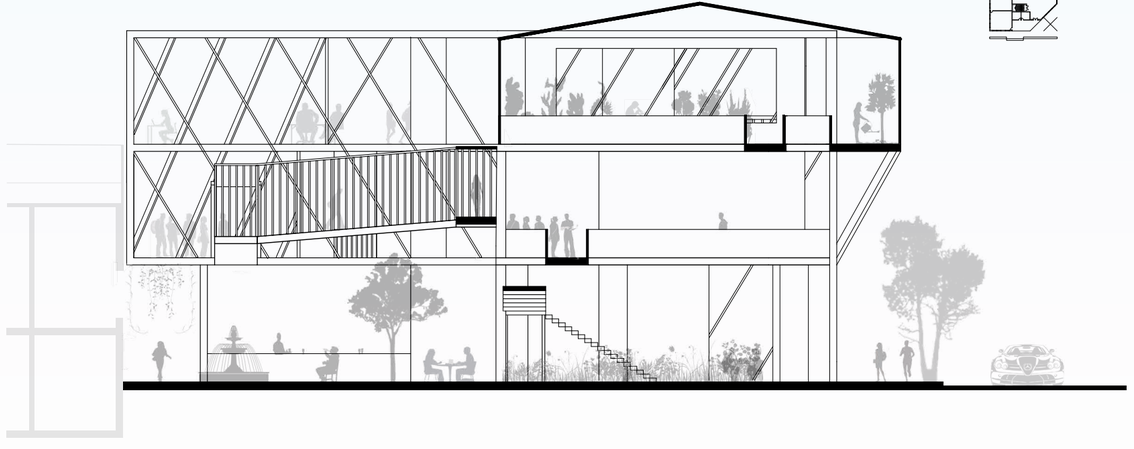
Selected Floor Plans - South Corner| Drawings in Rhino - Lineweights in Illustrator - Imagery in Photoshop

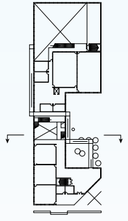
5′ 25′
10′

N

School for Brewing and Fermenation

FermLab





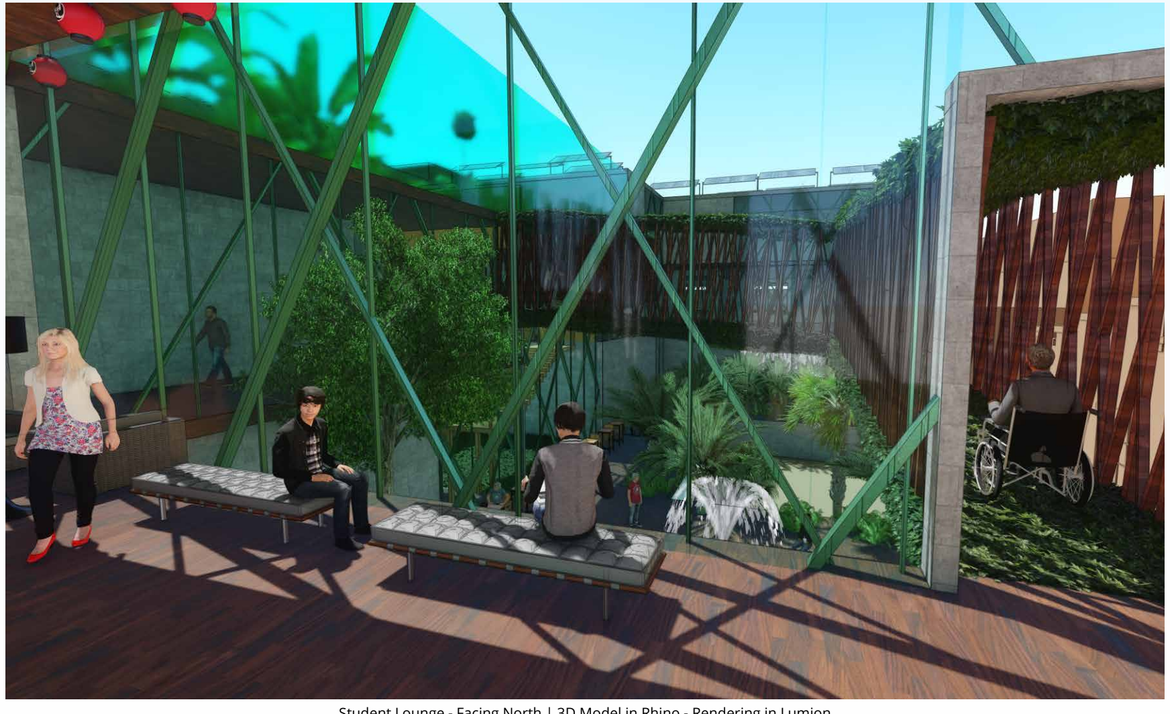
Transverse Section | Drawings in Rhino - Lineweights in Illustrator - Imagery in Photoshop

5′ 15′
10′

FermLab | School for Brewing & Fermentation

C.A.S.H. Second Place Winner

Public Cafe and Courtyard | 3D Model in Rhino - Rendering in Lumion



Student Lounge - Facing North | 3D Model in Rhino - Rendering in Lumion

Tijuana Library | Discovery in Motion

Spring 2019 - Newschool of Architecture & Design

Tijuana Library | Discovery in Motion

Spring 2019 - Newschool of Architecture & Design

Main Foyer - Facing West | 3D Model in Revit - Rendering in Lumion

Set in the heart of Downtown Tijuana

Decentralized program encourages movement and exploration

Integration with pasajes increases pedestrian circulation through city block

Narrow passageways and outdoor courtyards provide plentiful passive lighting

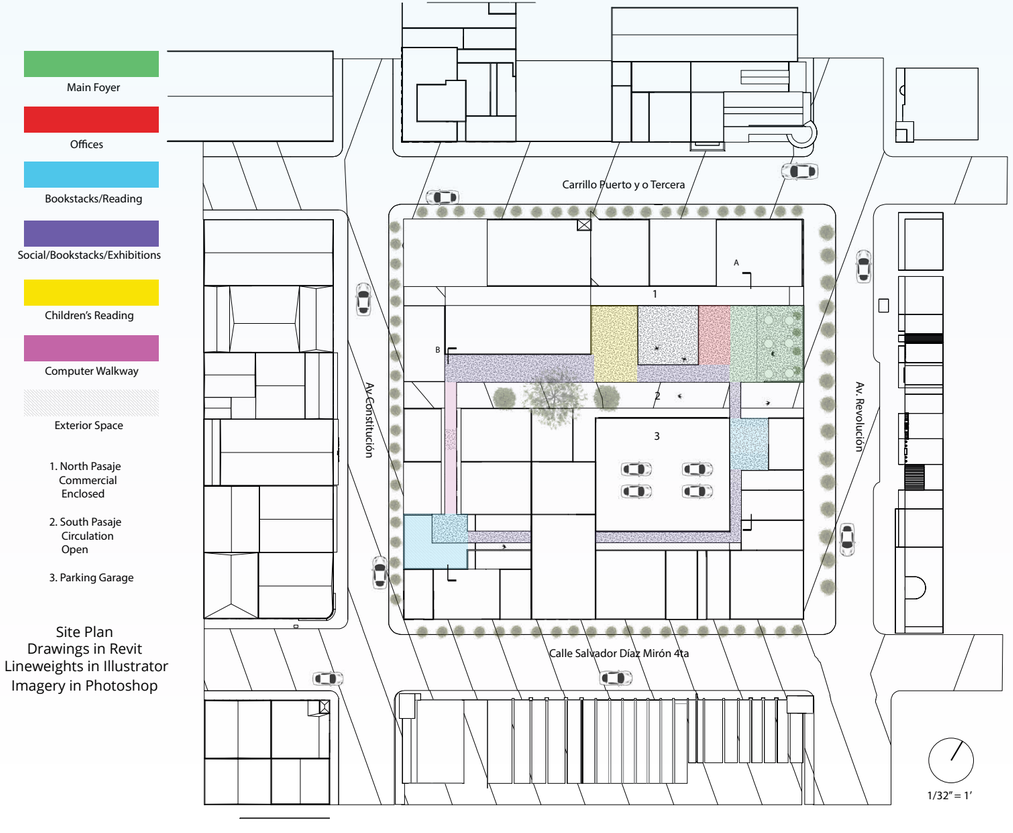
In the 21st century the public library stands alone as a unique urban asset that is radically inclusive and accessible to all public citizens for no monetary charge.

While knowledge becomes available in an instant at our fingertips, the tangible, multisensory experience of a library will remain an important urban opportunity for social engagement, cultural development, and personal wayfinding.

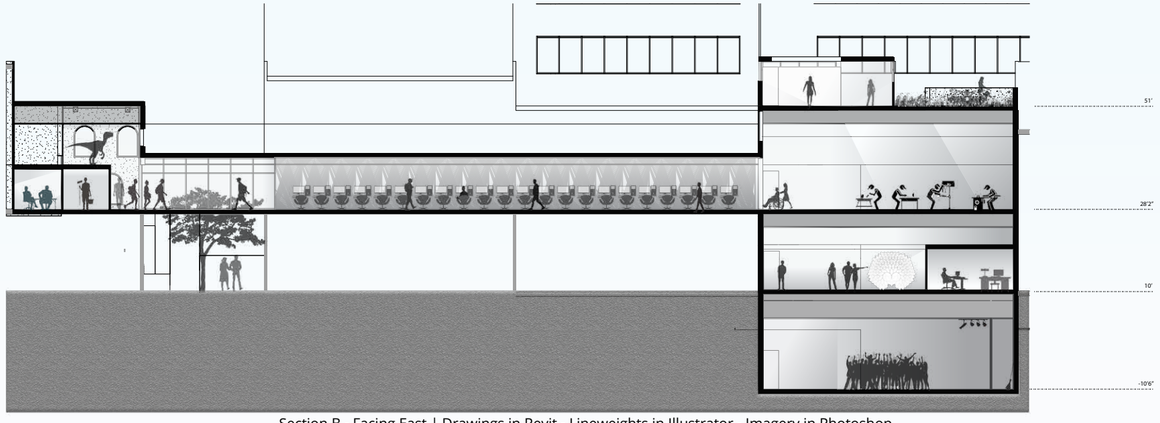
Sectional Perspective A - Facing West | 3D Model in Revit - Imagery in Photoshop

Tijuana Library | Discovery in Motion

Spring 2019 - Newschool of Architecture & Design



Site Plan
Drawings in Revit
Lineweights in Illustrator
Imagery in Photoshop



Section B - Facing East | Drawings in Revit - Lineweights in Illustrator - Imagery in Photoshop

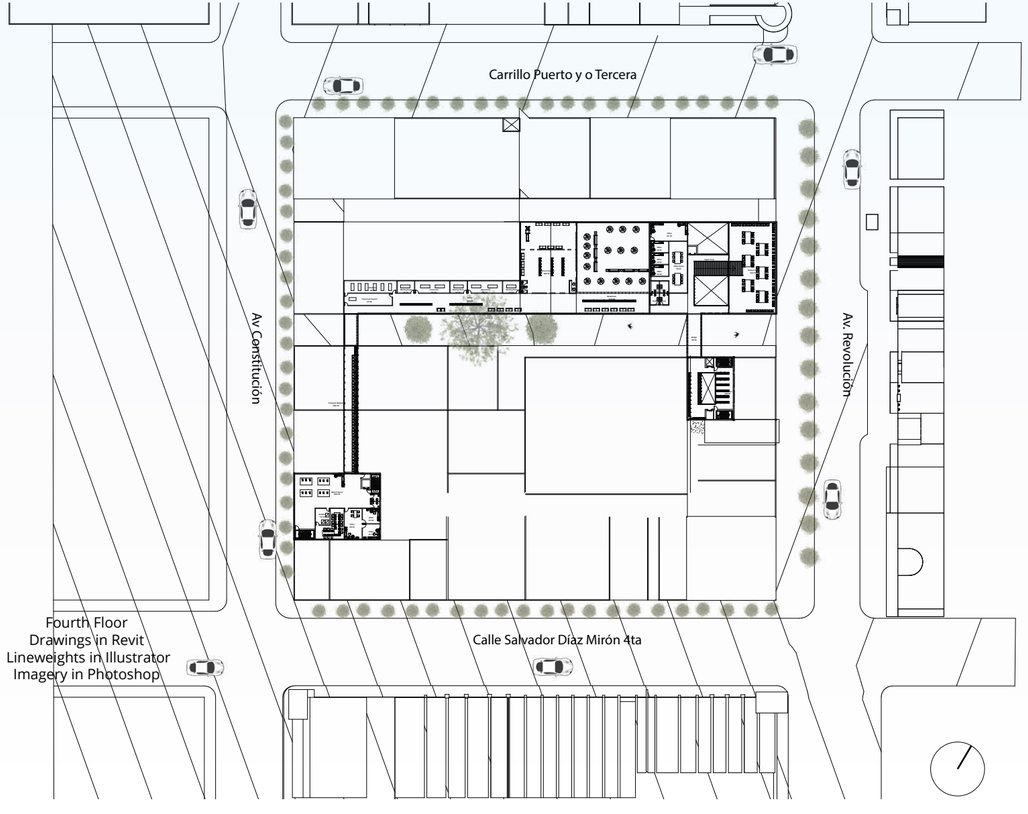
Reading Hallway - Facing West

Rooftop Garden Gateway - Facing East

3D Model in Revit - Rendering in Lumion

Tijuana Library | Discovery in Motion

Spring 2019 - Newschool of Architecture & Design



Aerial View - Av. Constitución | 3D Model in Revit - Rendering in Lumion

Low Income Housing Project

Winter 2018 - Newschool of Architecture & Design

Low Income Housing Project

Winter 2018 - Newschool of Architecture & Design

Phase One - Physical Model

Phase One - Physical Model

Basswood and foamcore used as primary model materials

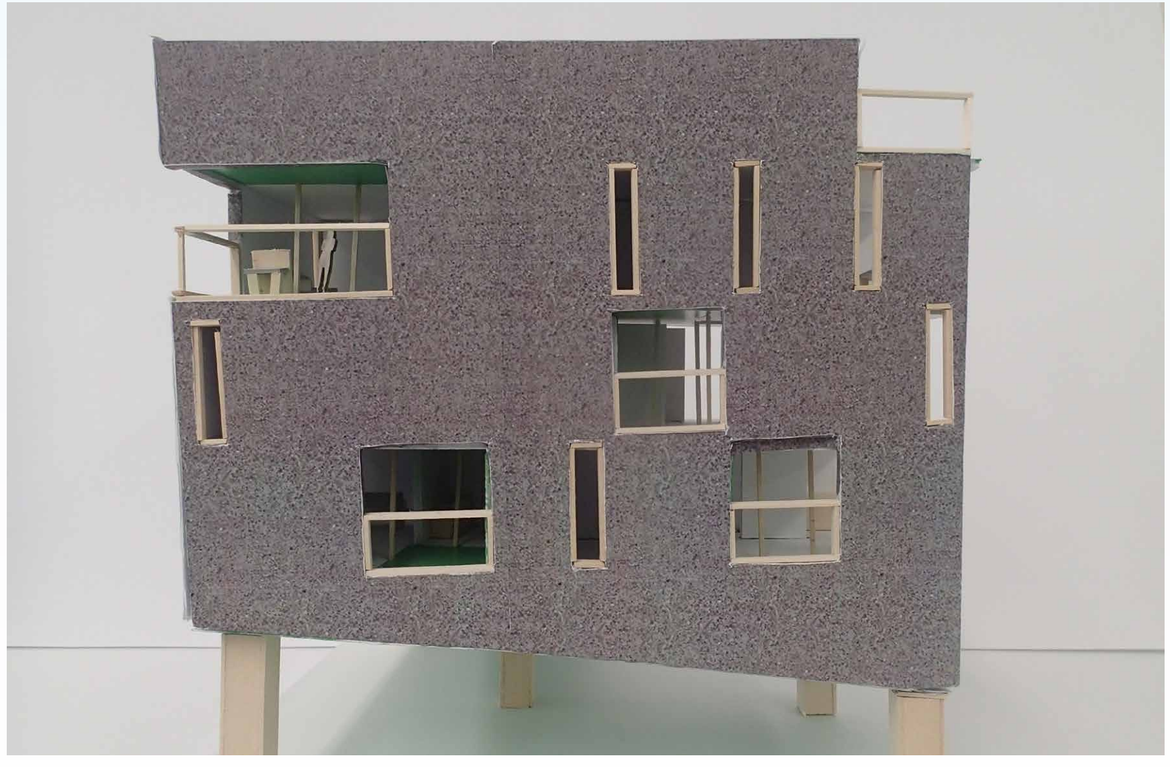
Acrylic paint marks semi-open spaces

Textured skin uses spray-on adhesive

Multicolor LEDs augment Phase Two model

Based on the case study of Inakasa apartment housing in Las Palmas De Gran Canari, Spain, this project took a series of mutations focusing on the themes of semi-public spaces and indoor/outdoor relations before implanting itself on a site intervention in Little Italy,
San Diego, CA.

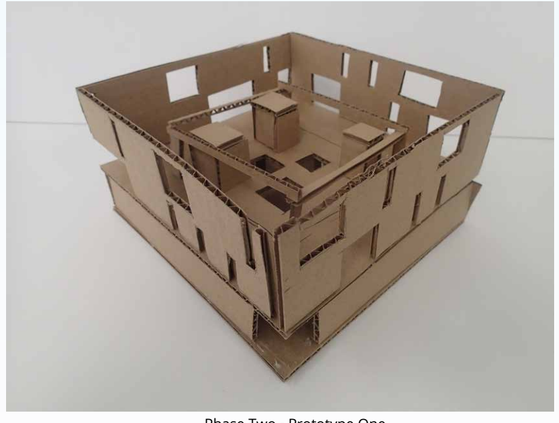
For the second phase, pictured across, I chose to invert the case study's horizontal patios to create vertical patios partially protruding underground, casting a void of light reminescent of personal cave explorations.



Phase One - Physical Model

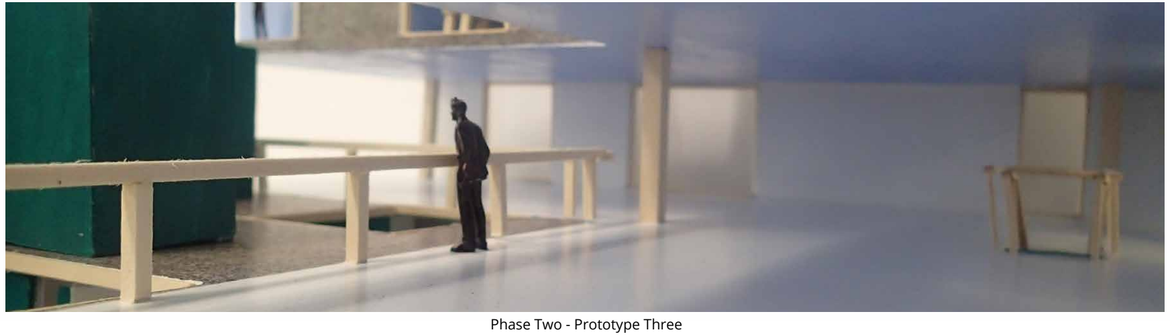
Low Income Housing Project

Winter 2018 - Newschool of Architecture & Design

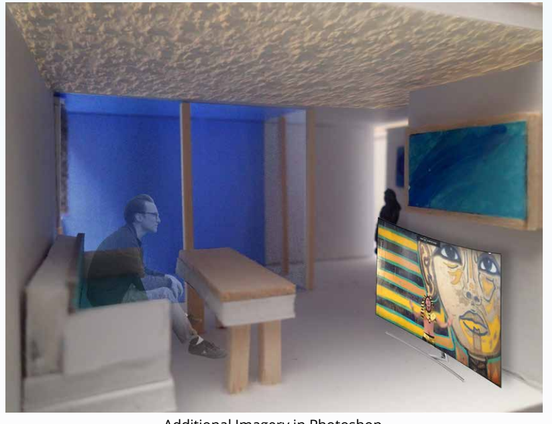


Phase Two - Prototype One

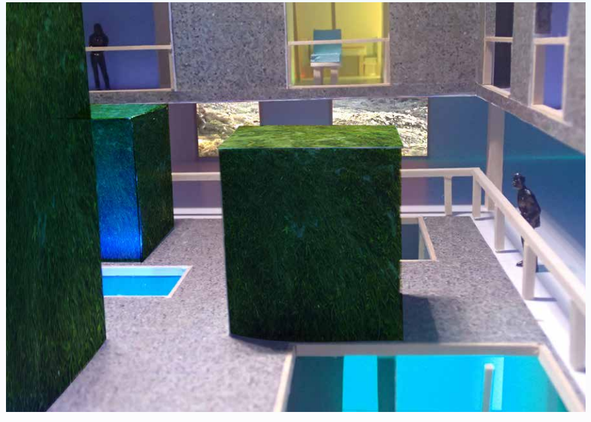
Phase Two - Prototype Two

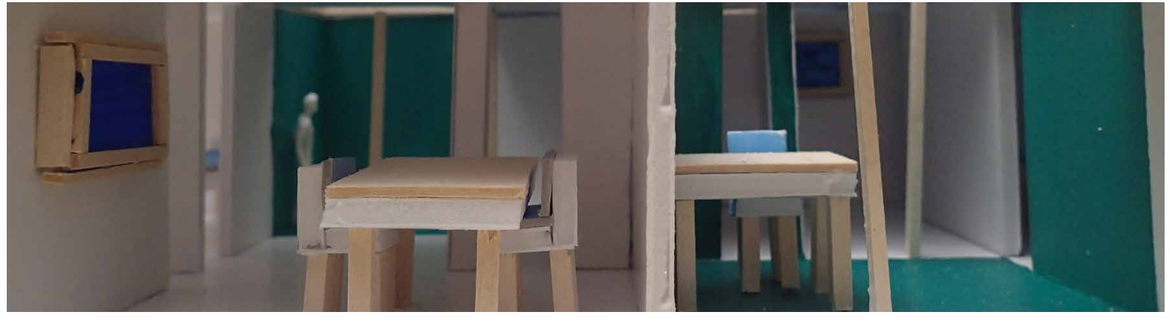


Phase Two - Prototype Three



Additional Imagery in Photoshop

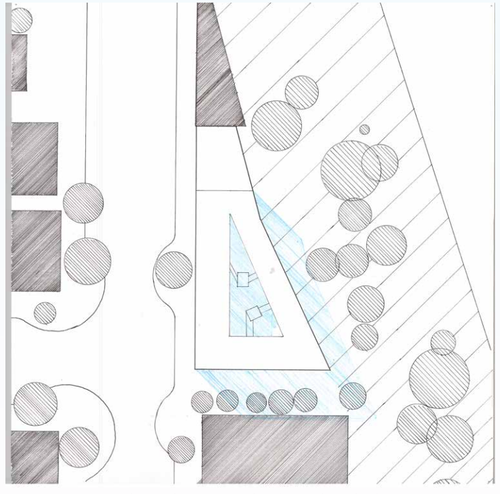




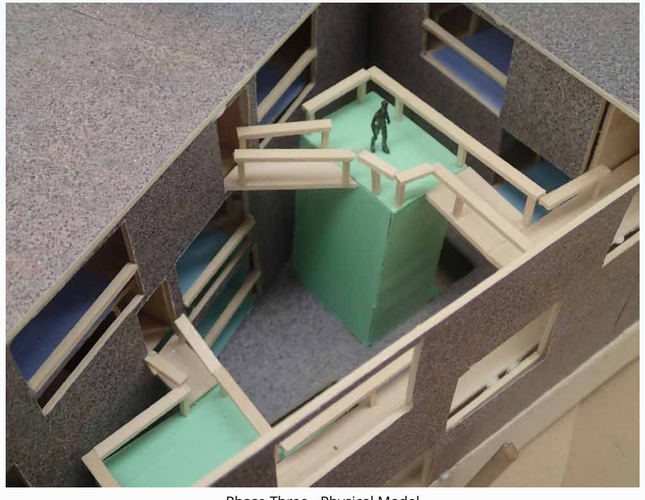
Phase Two - Prototype Three - Day Views

Low Income Housing Project

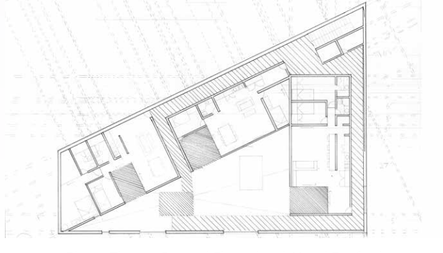
Winter 2018 - Newschool of Architecture & Design



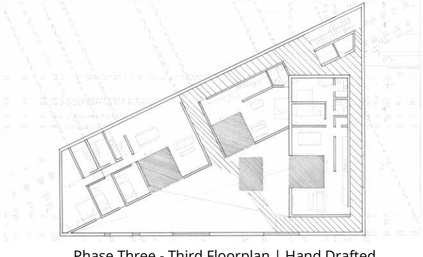
Phase Three - Site Plan | Hand Drafted



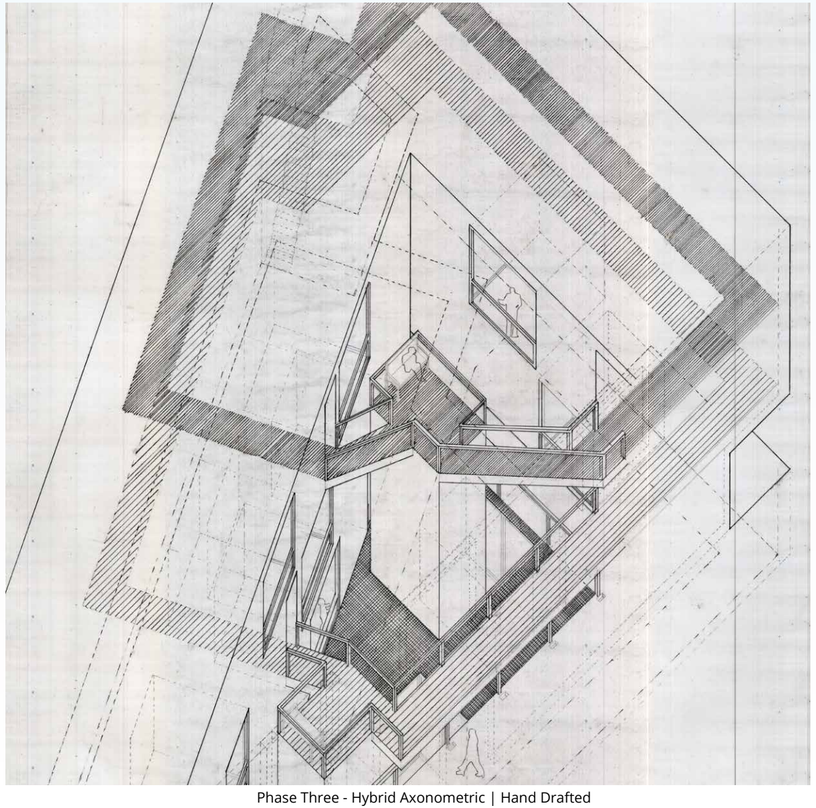
Phase Three - Physical Model



Phase Three - Second Floorplan | Hand Drafted



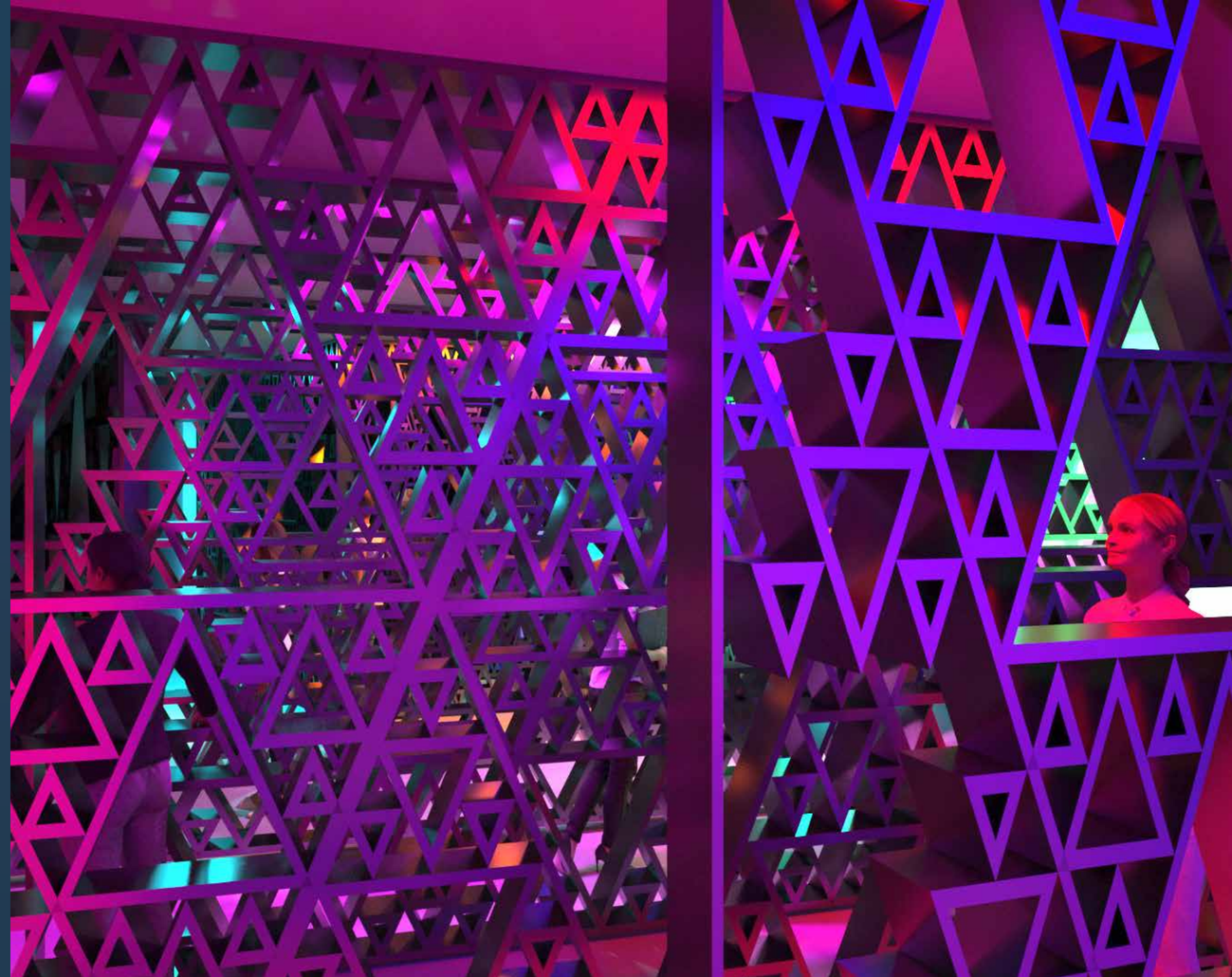
Phase Three - Third Floorplan | Hand Drafted



Phase Three - Hybrid Axonometric | Hand Drafted

M. Arch. Thesis - Lost in Immersion

2020 Most Outstanding Graduate Thesis Design Award



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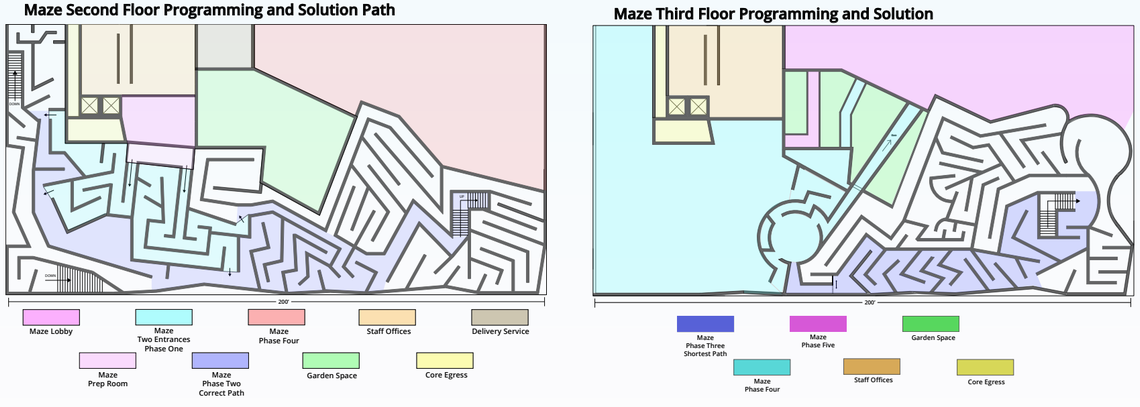


Second and Third Floor Maze Design and Programming | Drawings in Rhino - Diagramming in Illustrator

Partial maze designed with dynamic, varying spaces of vulnerability and relief

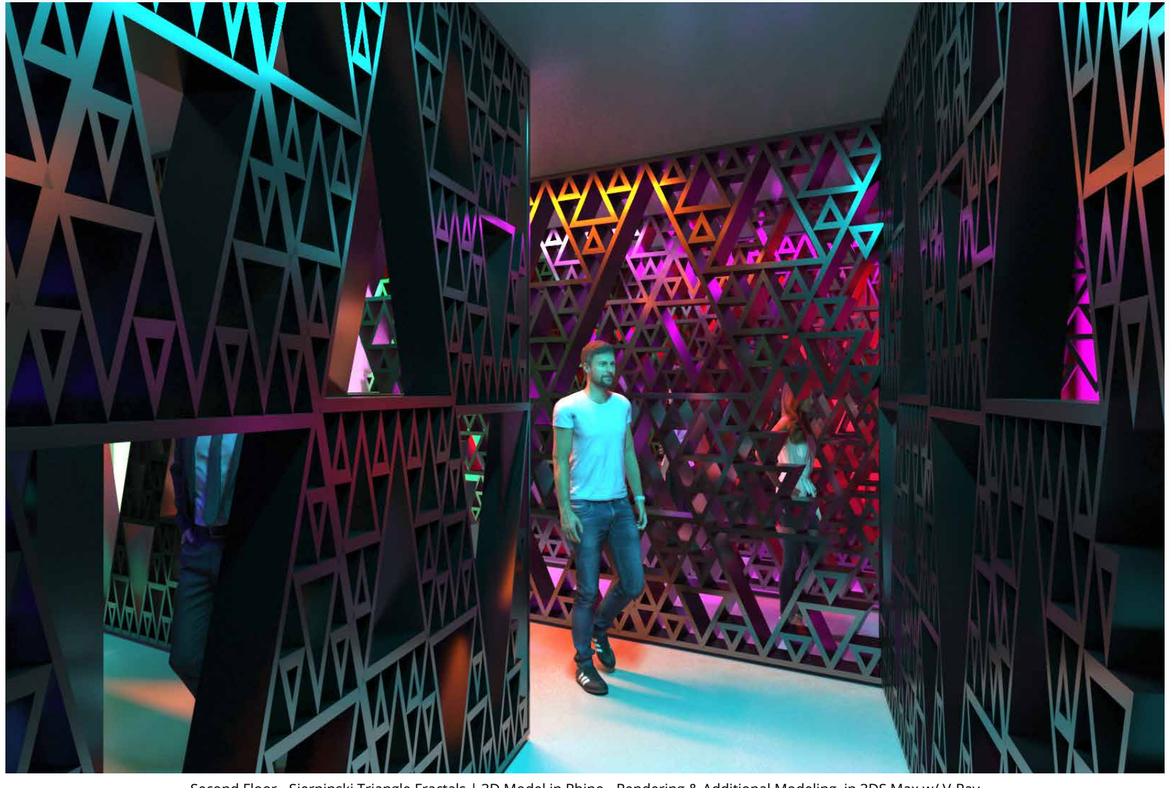
3DS Max and V-Ray used for custom 3D modeling, lighting design, and rendering

Maze includes commercial garden bar programming

Data supports positive effects on social interaction, physical presence as immersion, and memory health

My award winning Thesis, Lost in Immersion - Vulnerability and Interaction in a Multisensory Maze, proposes the design of a three story interactive maze combined with a commercial garden bar atrium. The design takes cues from chaos theory, simply-connected fractals, and musical movements. A variety of spatial conditions are fully rendered to illustrate both the individual experience and group interaction on a large-scale architectural form.

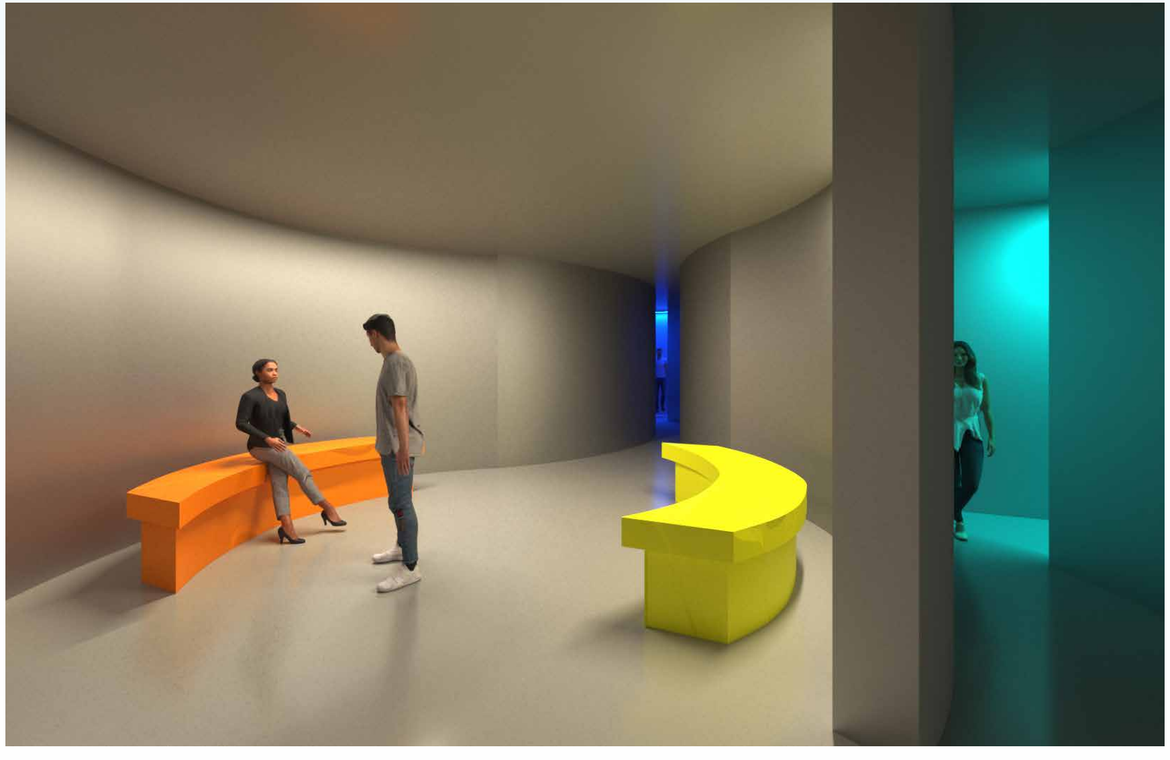
The research from my Thesis study and experiments suggests that these spatial conditions may promote positive interaction with the physical environment and the people within it. This is partially due to hippocampus stimulation. A video presentation of my Thesis study may be viewed at the following link: Lost in Immersion Video



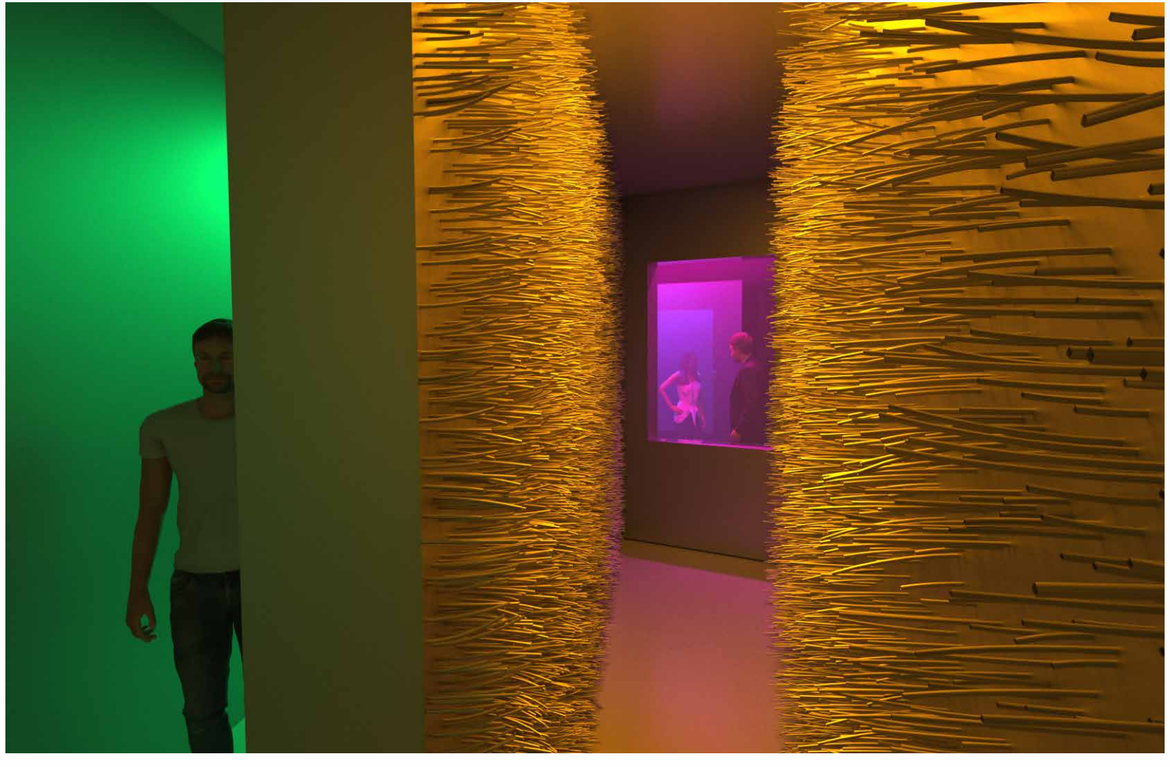
Second Floor - Sierpinski Triangle Fractals | 3D Model in Rhino - Rendering & Additional Modeling in 3DS Max w/ V-Ray

M. Arch. Thesis - Lost in Immersion

2020 Most Outstanding Graduate Thesis Design Award



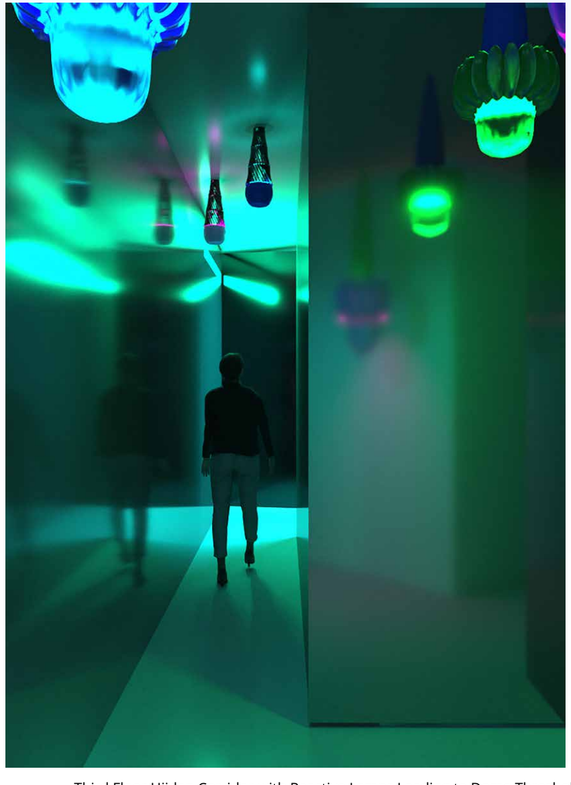
Third Floor - Curvilinear Moment of Relief | 3D Model in Rhino - Rendering & Additional Modeling in 3DS Max w/ V-Ray

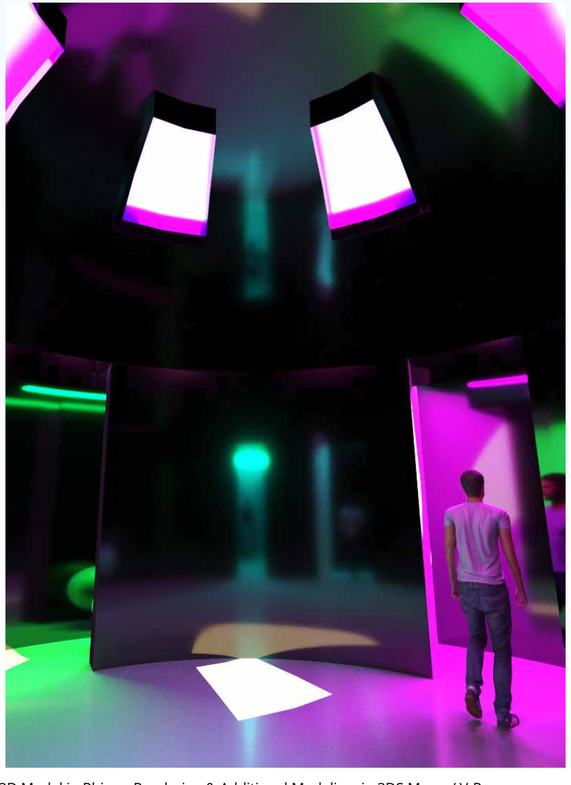


Second Floor - Hairy Walls and Interaction Through Windows | 3D Model in Rhino - Rendering & Additional Modeling in 3DS Max w/ V-Ray

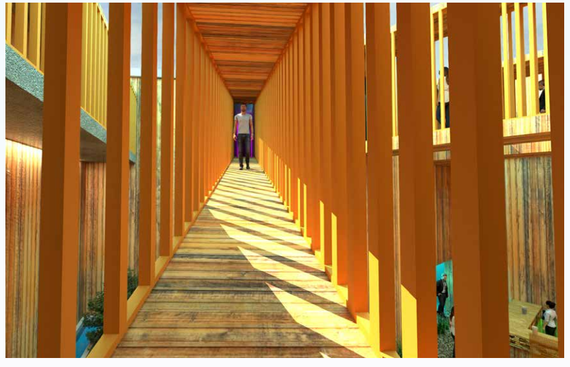
M. Arch. Thesis - Lost in Immersion

2020 Most Outstanding Graduate Thesis Design Award

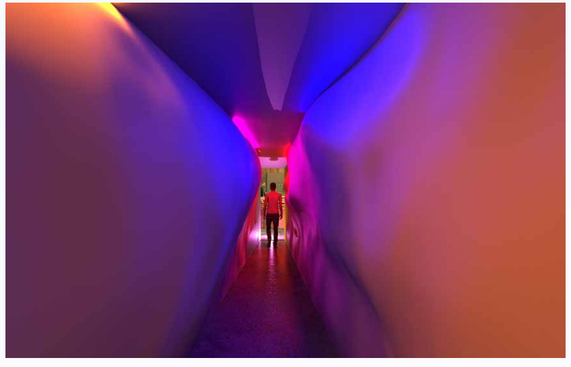




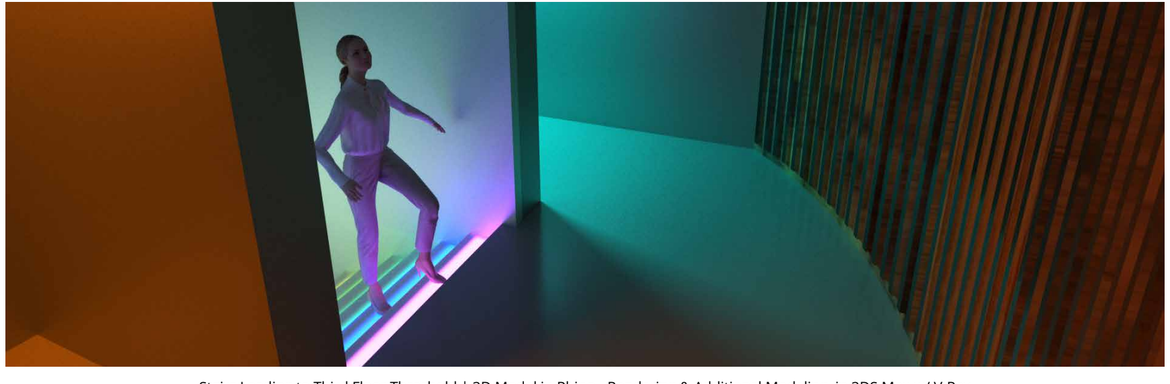
Third Floor Hiiden Corridor with Reactive Lamps Leading to Dome Threshold | 3D Model in Rhino - Rendering & Additional Modeling in 3DS Max w/ V-Ray



Ramped Bridge Carving Through Garden Bar



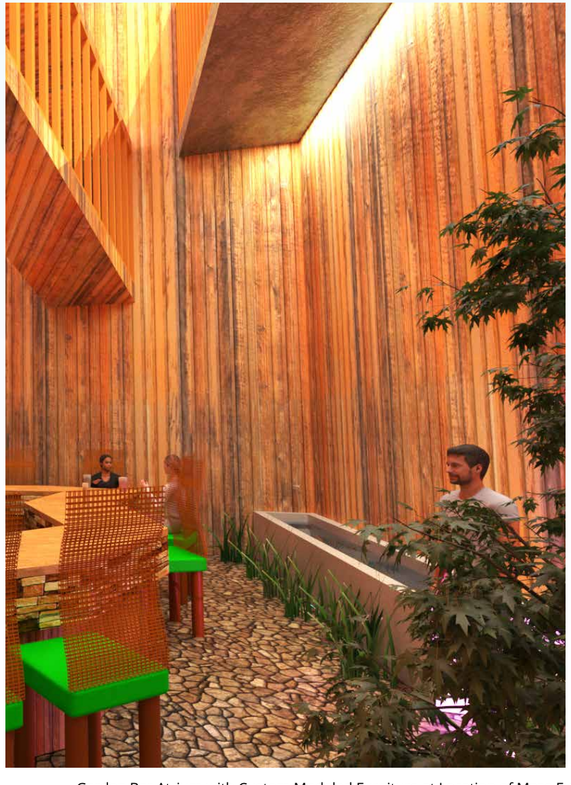
Final Maze Exit Towards Garden Bar

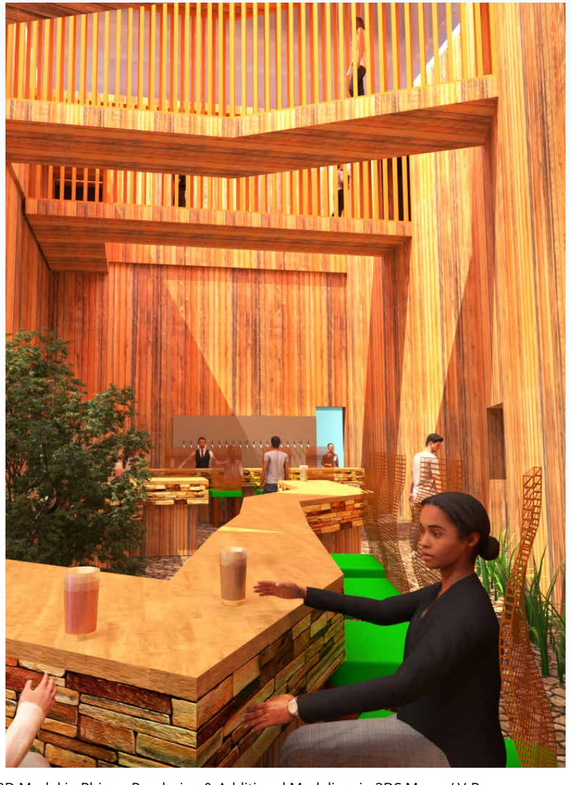


Stairs Leading to Third Floor Threshold | 3D Model in Rhino - Rendering & Additional Modeling in 3DS Max w/ V-Ray

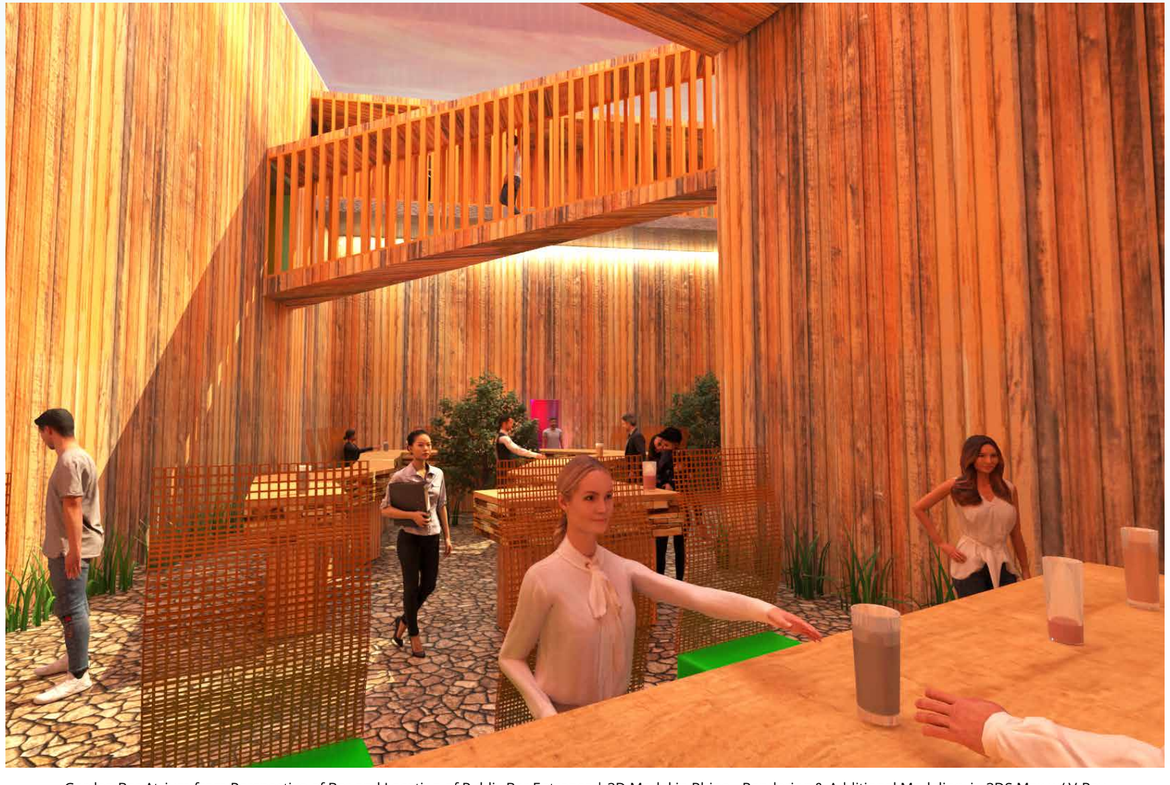
M. Arch. Thesis - Lost in Immersion

2020 Most Outstanding Graduate Thesis Design Award





Garden Bar Atrium with Custom Modeled Furniture at Location of Maze Exit | 3D Model in Rhino - Rendering & Additional Modeling in 3DS Max w/ V-Ray



Garden Bar Atrium from Perspective of Bar and Location of Public Bar Entrance | 3D Model in Rhino - Rendering & Additional Modeling in 3DS Max w/ V-Ray

Burning Man Logic Maze

2017 & 2019 - Black Rock Desert

Burning Man Logic Maze | Phase 1

Summer 2017

Logic Maze - Construction

Logic Maze - Blacklight Night View

Project completed under budget

Maze received consistent interaction throughout entire event

Camp received Good Standing and invited to return

Maze reassembled at local San Diego Youtopia Festival

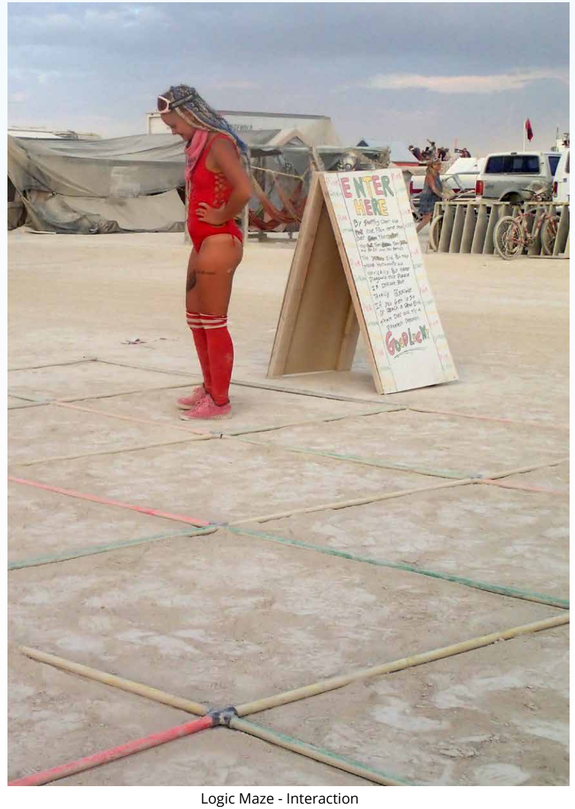
Based on a logic maze concept by Andrea Gilbert, this logic maze was constructed with PVC pipes and connectors painted with flourescent spray paint and lit by LED blacklights powered by rooftop solar panels on my campmate's bus.

Participants were required to step over single colored lines in the sequence pink, green, yellow, pink, green, yellow, etc. until they were capable of stepping over the final yellow line based on following this ruleset.

Maze design is a passionate interest of mine, and this foray served as a successful prototype for future maze projects.

Logic Maze - Interaction

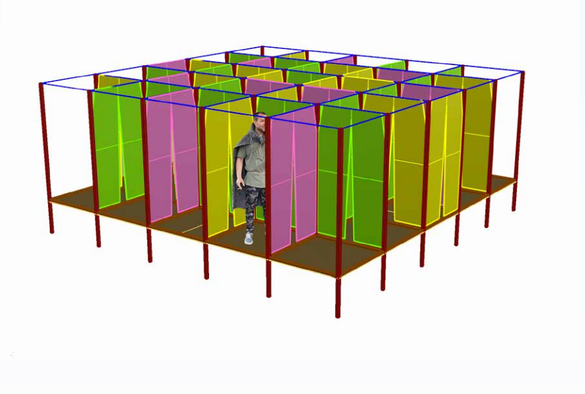
Logic Maze - Interaction



Logic Maze - Interaction

Burning Man Logic Maze | Phase 2

Summer 2019



Fabric Maze - Axonmetric Rendering

Fabric Maze - Entrance and Signage

3D iteration transforms entire experience

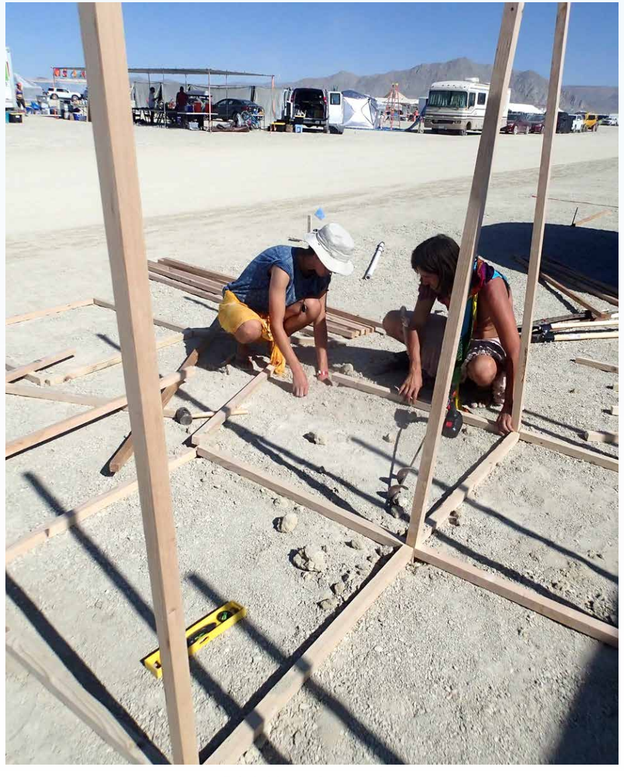
Emergency exits line entire perimeter without compromising maze challenge

Spatial navigation systems challenged in new ways

Immersive, interactive space encourages social interaction

For Burning Man 2019 my camp and I built a new version of our 2017 logic maze, this time using colored fabric portals instead of pvc pipes. By extruding the maze into a three dimensional, immersive experience, participants faced a unique, multisensory challenge with less opportunities to visually orient themselves.

Materials included 42 colored polyester curtains supported by 2x2s and parachord, “emergency exit” string along the exterior, and solar-powered LED lighting at night. The wooden materials are now being reused in a current installation for my Thesis work.

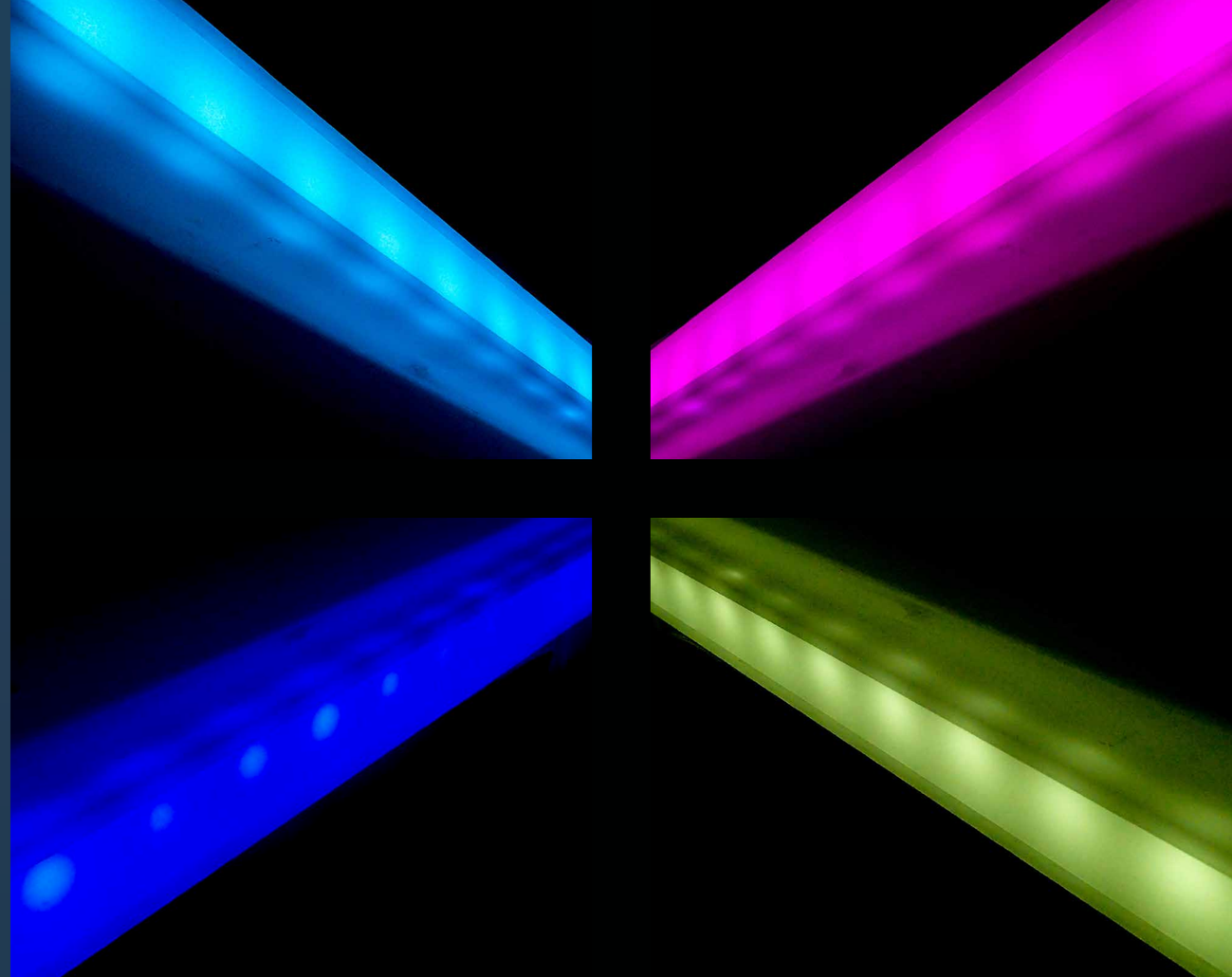


Fabric Maze - Construction

Fabric Maze - Construction

Fabric Maze - Interaction

Immersive Installation Fabrication



Immersive Installation Fabrication

2019 - 2020

Yin Yang Infinity Mirror

Fractal Infinity Mirror

Wires connected through soldering

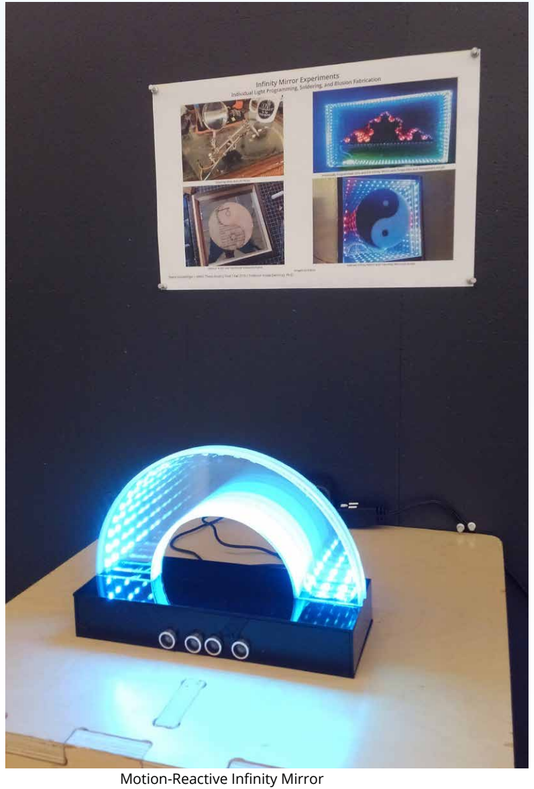
Acrylic custom shaped with laser cutting

Individually addressable LEDs receive custom programmed settings

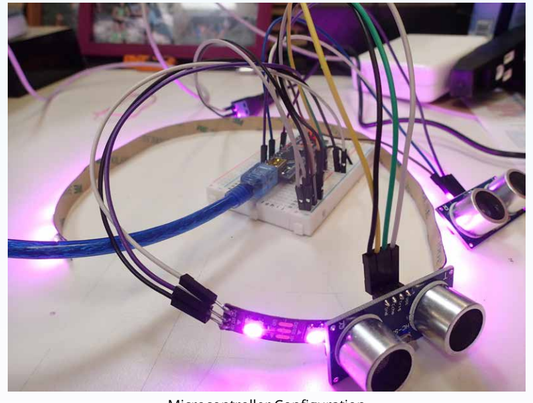
Motion sensors add interactive component to experience

This is a collection of infinity mirror projects that I have created to demonstrate immersive, interactive fabrications. These projects use microcontrollers such as Arduino and Raspberry Pi to program individually addressable LED light strips. These LEDs are then placed in between two-mirrored acrylic and regular mirrored acrylic to create the illusion of depth.

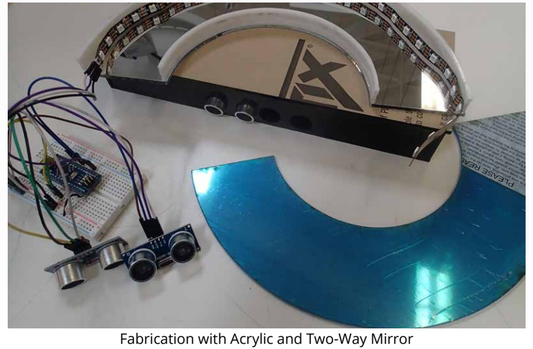
Distance measurers using sonar sensors are included to detect motion in front of the mirror, which sends a signal to the microcontroller to change the color of the lighting. This was put on display in the Winter Student Showcase at NSAD where students interacted with the color-changing sensors.



Motion-Reactive Infinity Mirror



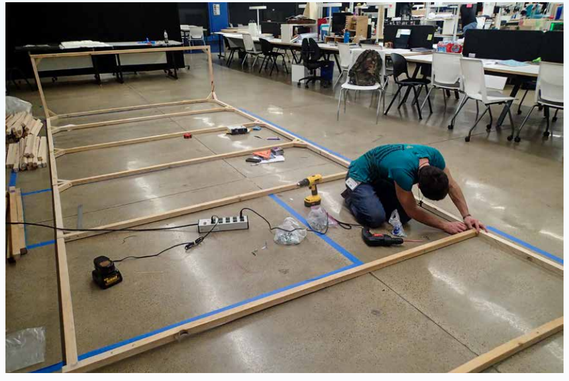
Microcontroller Configuration



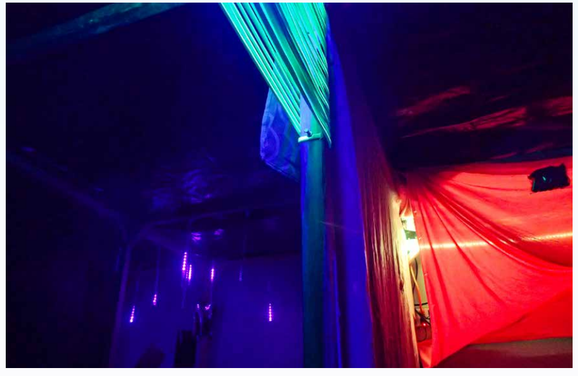
Fabrication with Acrylic and Two-Way Mirror

Immersive Experience Installation

2020



Construction in NSAD Studio VI



Threshold Between Spaces With Blacklight-Reactive Rope

Installation designed and built on campus with minimal assistance during construction

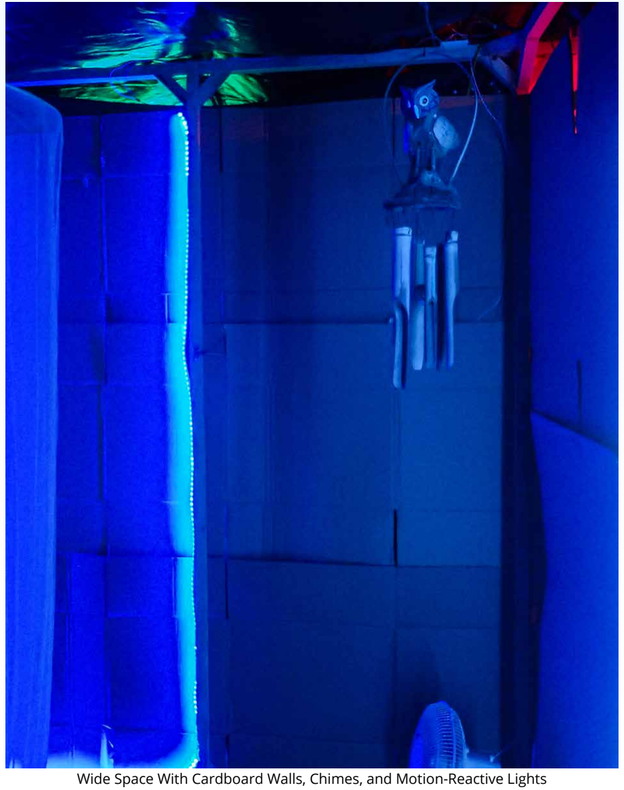
Structure, walls, and interactive features largely fabricated from repurposed materials

Hidden blacklight flashlights and messages increased level of interaction between participants and installation

55 test subjects formally tested for data on immersive architecture and maze design

This is a full size immersive installation that I designed and built to conduct research for my M.Arch. Thesis project. Much of the structure and materials were re-used from my Burning Man Maze in 2019, while many of the other materials were donated or salvaged. Maze typology elements include tight turns, winding pathways, multiple pathway options and combinations, varying pathway widths, varying ceiling heights, and disorienting aesthetics.

Test subjects were given free agency with no time limit and a variety of unprompted multi-sensory and interactive features. Durations ranged from 1-20 minutes among 55 participants, with longer participation times correlating with more hidden features discovered. Certain interactive elements such as hidden blacklight pens have gathered data on user participation, while questionairre responses were analyzed to gauge the experience's effect on social interaction and mood, as well depth of perceptive immersion.

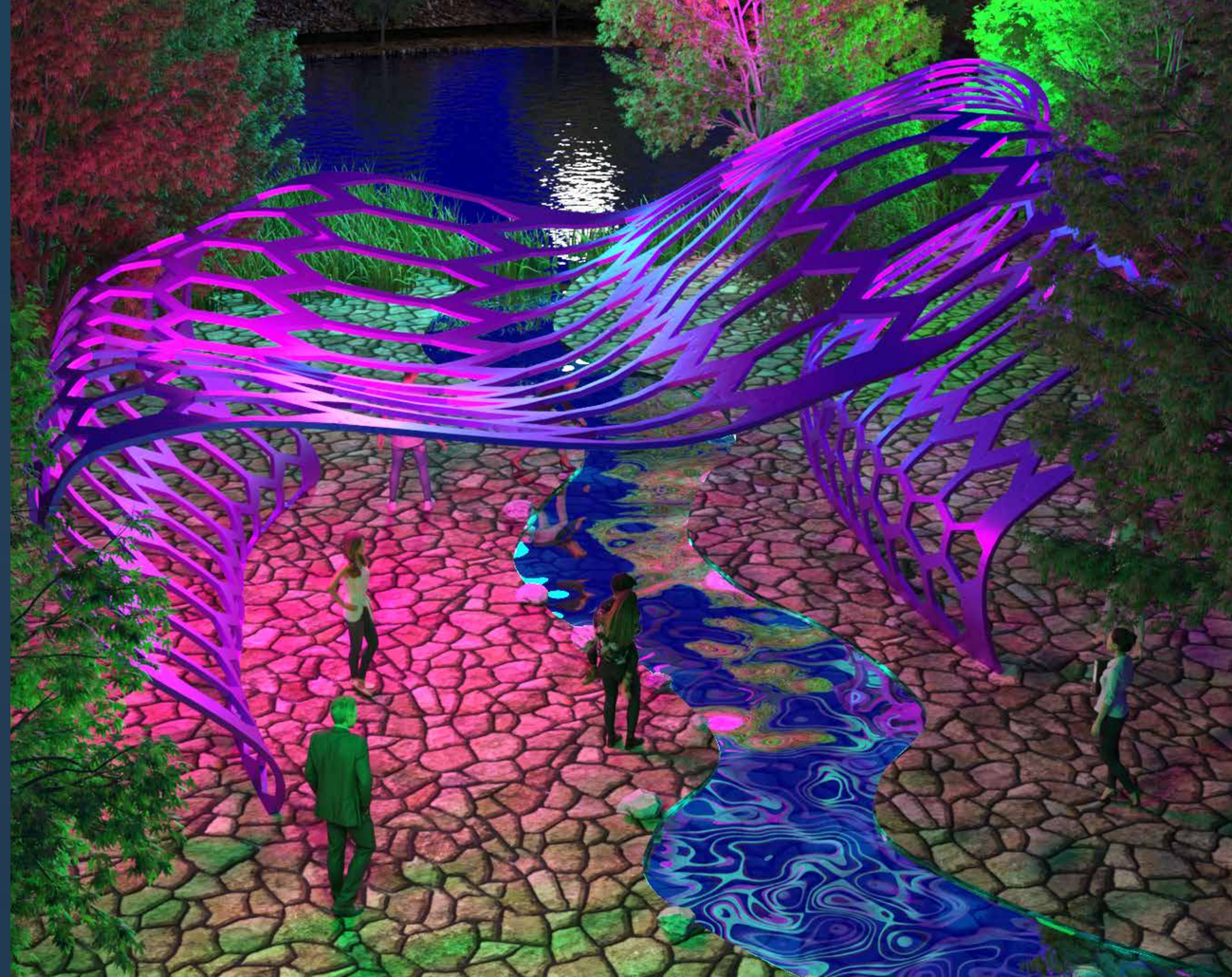


Wide Space With Cardboard Walls, Chimes, and Motion-Reactive Lights

Hidden Drawings With Invisible Blacklight Ink

Lights Reflected in Hallway of Mirrors With 2x2 Structure

3D Modeling and Rendering



3D Modeling and Rendering

2020

Pavilion 1 Night View | 3D Model and Rendering in 3DS Max w/ V-Ray

3D modeling in 3DS Max

V-Ray Engine used for rendering

Custom textures and landscaping applied

Custom lighting designed

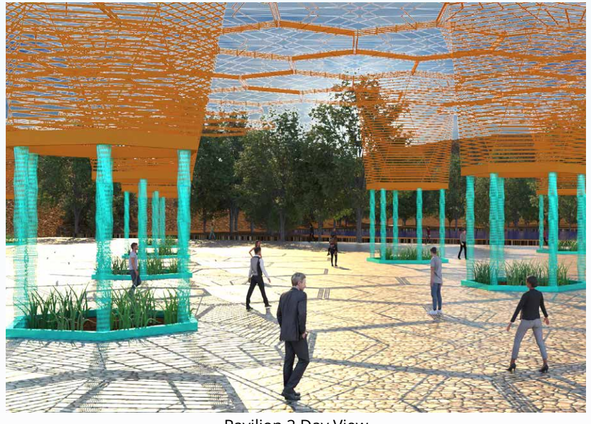
This is a collection of custom renderings using Autodesk 3DS Max and V-Ray rendering engine. Parametric modeling techniques were applied to design pavilion structures and custom hilled landscapes. Water was custom designed and textured for rivers and lakes. Lighting was designed to emulate multicolored LED lighting. Materials were custom designed to reflect this lighting.

Trees and plants were custom arranged using iToo software, while custom rigged people were imported and arranged using Renderpeople Studio for 3DS Max. These settings serve as an example of temporary architecture deisgn for festivals and installations in a natural landscape.

Pavilion 1 Sunset View | 3D Model and Rendering in 3DS Max w/ V-Ray

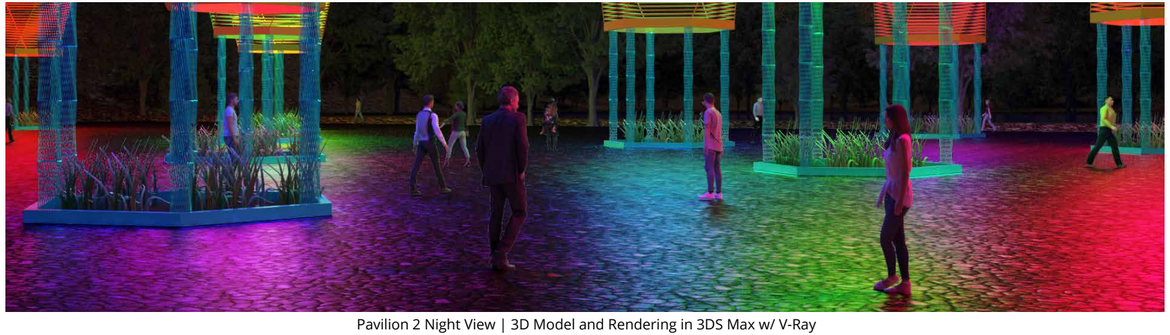
3D Modeling and Rendering

2020

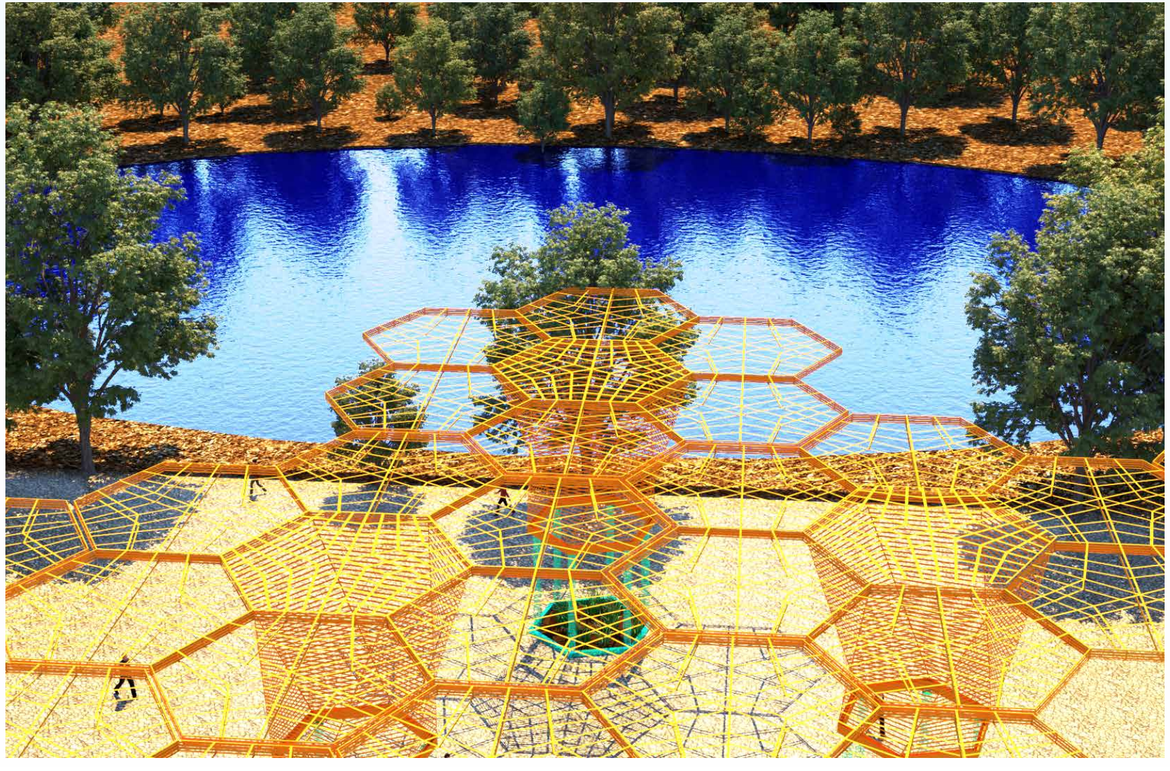


Pavilion 2 Day View

Pavilion 2 Night View



Pavilion 2 Night View | 3D Model and Rendering in 3DS Max w/ V-Ray



Pavilion 2 Day View | 3D Model and Rendering in 3DS Max w/ V-Ray

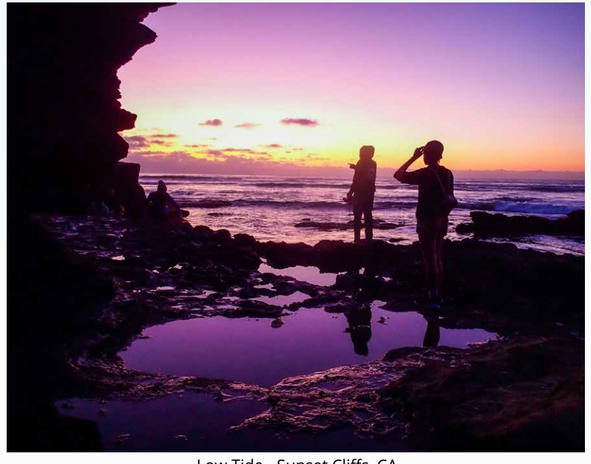
Personal Creative Photography

8

Personal Creative Photography

Low Tide - Sunset Cliffs, CA

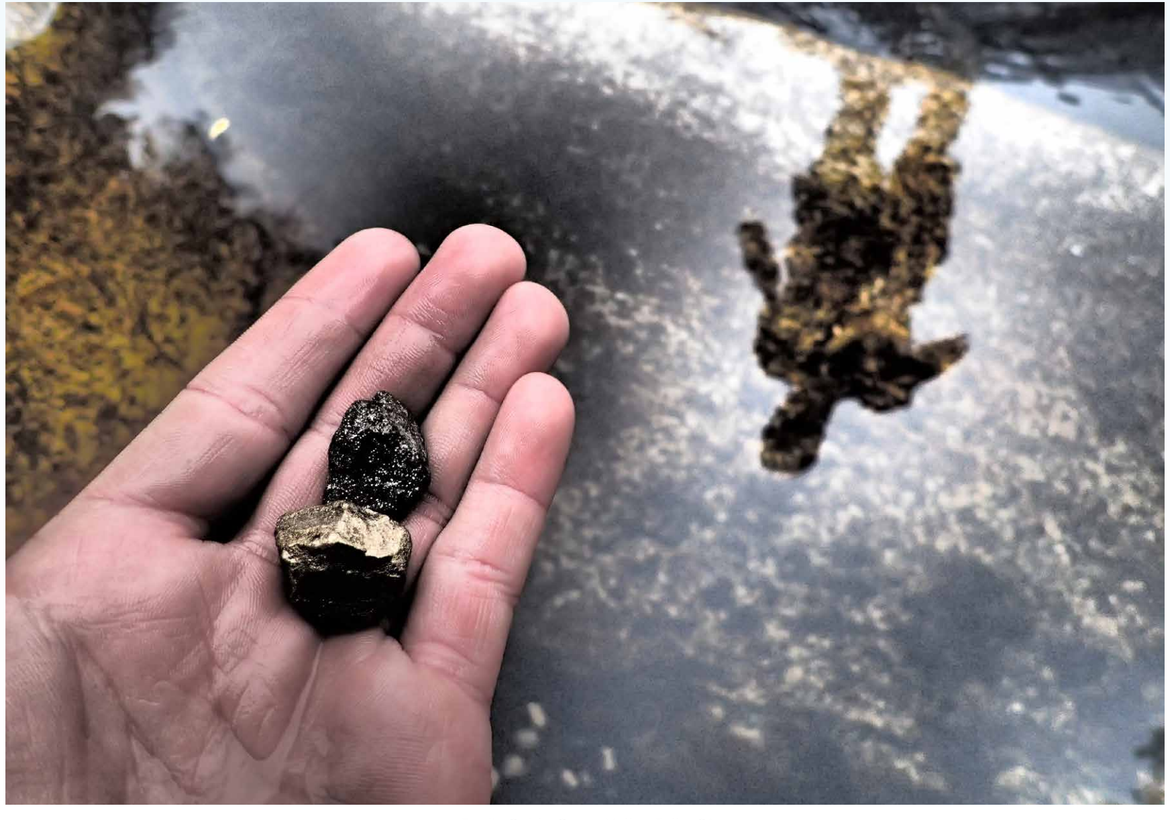
Jellyfish - Monterey Bay Aquarium, CA | Cover of my Music Album



Low Tide - Sunset Cliffs, CA

Museu de Arte Contemporânea de Serralves - Porto, Portugal

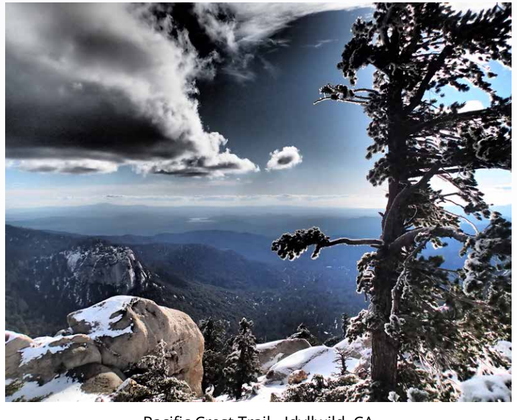
Personal Creative Photography



Fool's Gold - Green Valley Falls, CA

Blacks Beach Cliffs - La Jolla, CA

Open Playa - Black Rock Desert, NV



Pacific Crest Trail - Idyllwild, CA

Thank You

For Your Interest in My Work

Contact

858-525-2926

sn.gundelfinger@gmail.com

https://sgvision.myportfolio.com/


SG