

Undergraduate Design Portfolio

Brian Espinosa
University of Florida



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| <p>01</p> <p>Location: Chelsea, New York Architectural Design 7: Fall 2020 Instructor: Alfonso Perez</p> <p>Pages 01 - 04</p> | <p>02</p> <p>Location: Palm Point Park, Gainesville Florida Architectural Design 5: Fall 2019 Instructor: John Maze</p> <p>Pages 05 - 06</p> | <p>03</p> <p>Location: Delancy, New York Architectural Design 7: Fall 2020 Instructor: Alfonso Perez</p> <p>Pages 07 - 10</p> | <p>04</p> <p>Location: Atsena Otie Key, Florida Architectural Design 5: Fall 2019 Instructor: John Maze</p> <p>Pages 11 - 12</p> | <p>05</p> <p>Location: In Studio, Gainesville Florida Architectural Design 4: Spring 2019 Instructor: Mark McGlothlin</p> <p>Pages 13 - 14</p> | <p>06</p> <p>Location: 212 SE 1st St., Gainesville Florida Architectural Design 6: Spring 2020 Instructor: Michael Kuenstle</p> <p>Pages 15 - 16</p> | <p>07</p> <p>Location: In Studio, Gainesville Florida Architectural Design 3: Fall 2018 Instructor: Martin Gundersen</p> <p>Pages 17 - 18</p> | <p>08</p> <p>Location: In Studio, Gainesville Florida Architectural Design: Summer 2019 Instructor: N/A</p> <p>Pages 19 - 20</p> |
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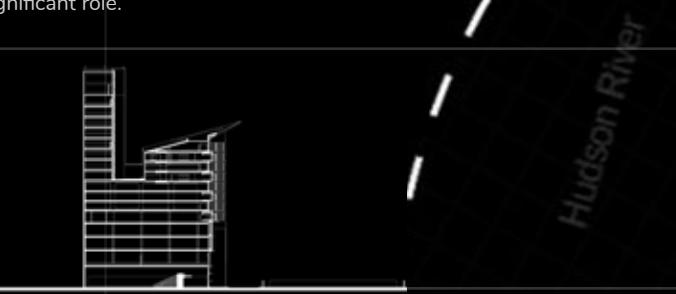
01 Cultivate

Techniques:
AutoCAD
Lumion
Photoshop
RayTrace
Rhino

Traditional farming will no longer be able to satisfy the growing populations and will need to be supplemented and eventually replaced. Vertical farming would be introduced into the site to **enrich** the new technology.

The experimental and artistic nature of the Chelsea neighborhood provide an ideal location for this new agricultural program that is **uniquely** qualified to be in dense cities but has yet to take on a significant role.

Exhibition Section



Library Section



Vertical Farm Section



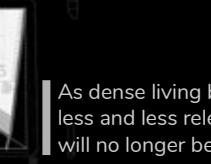
Chelsea park is considered one of the busiest public spaces in the neighborhood. The existing park was designed for the community with many attractors that vary from **passive** to **active** recreation.

01

ChelseaMap Diagram



Environmental Effects of Traditional Agriculture



As dense living becomes an undeniable reality, field farming will become less and less relevant as cities expand into rural areas. Traditional farming will no longer be able to satisfy the growing populations.



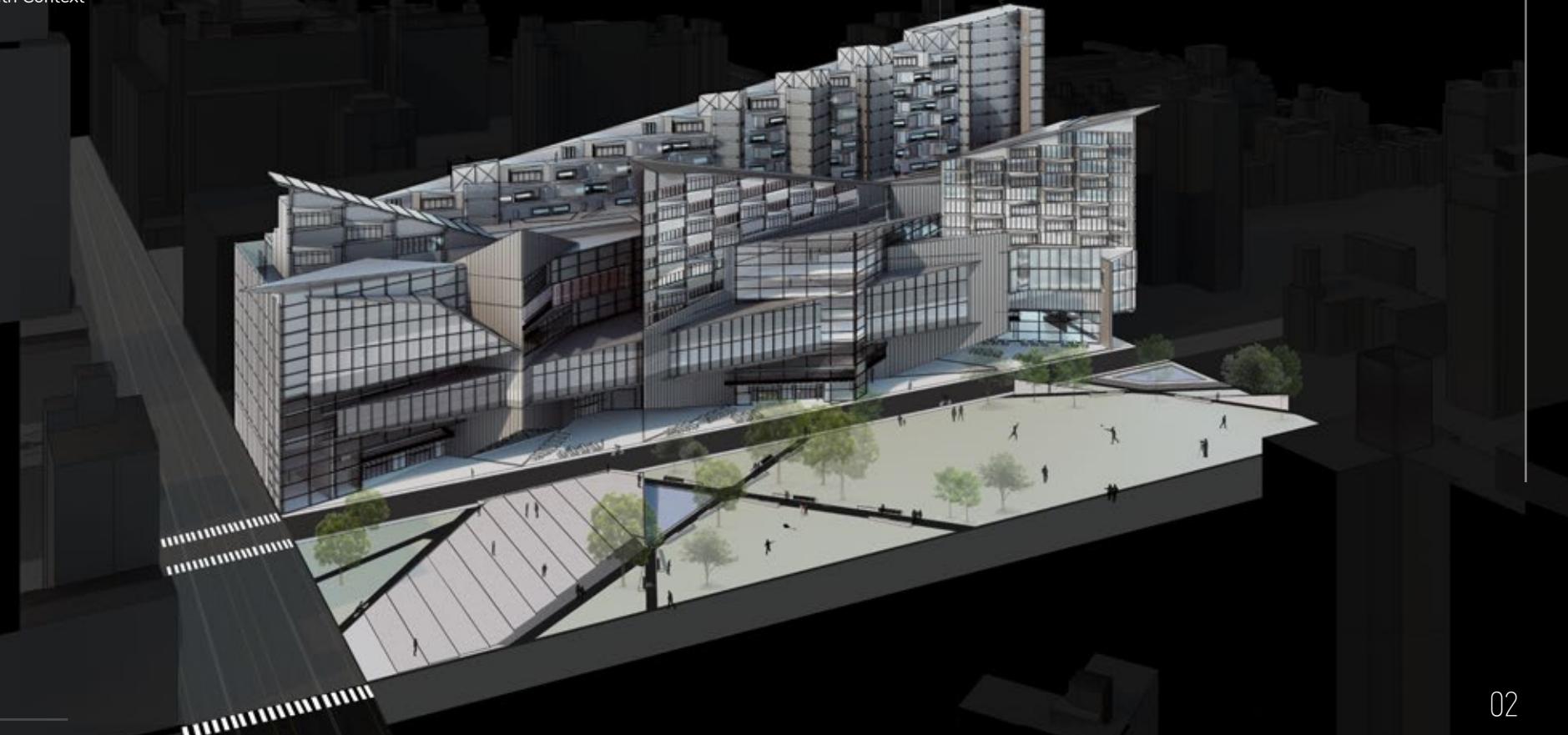
Project Cultivate introduces **controlled environment farming** to the Chelsea neighborhood. The high-density nature of this type of agriculture uses 95% less water than field agriculture and allows for the water to be recycled



The form is inspired by an **abstracted form** of the standard New York City block. The architecture of the modularity of brownstones was pulled pushed by creating edges into the jagged structures on the 28th street Façade. In a city where relaxed public outdoor space is highly coveted, this form allows for smaller pockets of relaxed space in a public setting.

Interior Library Perspective

First Floor Plan with Context



Exterior Render

Agriculture is the most fundamental invention in human history. However, 70% of freshwater contamination is a direct resultant of traditional agriculture.

Nearly 3-quarters of usable fresh water goes to agriculture. Despite the high-water use, traditional crop yield is under .75 pounds per square foot.

02



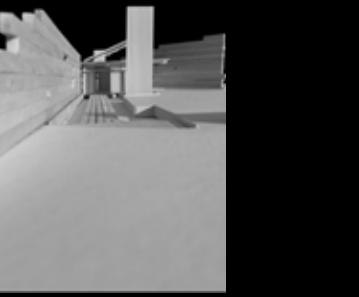
02 Invigorate

Techniques:
 Hand Drawing
 Layering
 Physical Model Building
 Photography
 Photoshop



Lighting Study Photo

The Florida landscape is unique with its flooded, flat landscape. The design intent of the Florida Landscape project is to create a structure that could **manipulate** and **accentuate** the perks of the flooded landscape. The project houses a bath house that would accommodate individual and group baths. The main inspiration of the project was Japanese traditional bath houses. The research on Japanese bath houses introduced rituals and chores that the individuals would perform prior to bathing.



Entrance Model Photo

The material palette would contain rammed earth and concrete to assist with the hot climate of Florida. The project **manipulates** the water and sunlight to create a **harmonious** experience to the individual. The plan was to create an **invigorating** and **celebrated** space that continues beyond the confines of solid land and spans across the water.

The inhabitant would walk above the water and be able to touch the rammed earth upon entering the bath house. Entering the space, a genkan step invites the individual to remove their outside footwear which creates a moment of **pause** before entering the main space.



Diagrammatic Map Plans

The form of the bath house resulted by finding the winter solstice line and creating an **axis** the project would revolve around.



Exterior Entrance Perspective



Main Space Interior Perspective

The rammed earth wall was designed to be placed across the water to create a **seamless** connection between defined and undefined ground. The inspiration came across a fisherman and the limit of his ability to move beyond the defined ground before him. By understanding the limitations, the architecture can stitch the define line between ground and water.



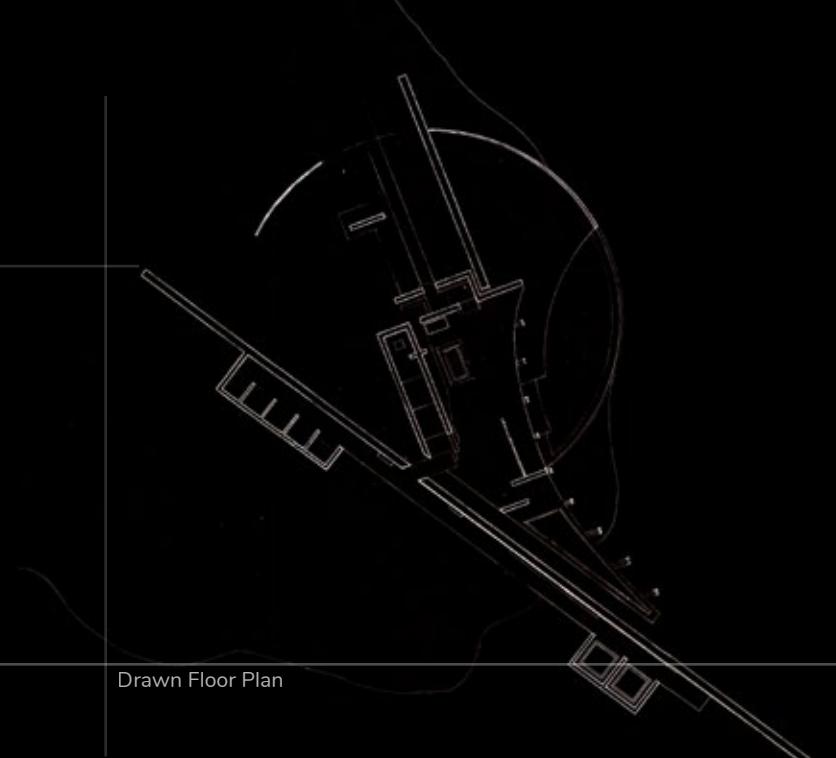
Site Diagram



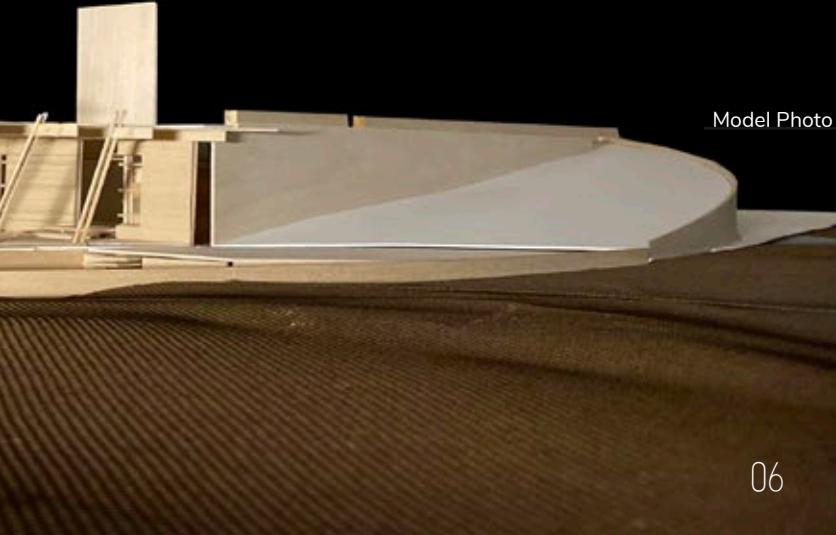
Interior Model Photo

The **reflection** space that is tucked between the wall and furnace creates a dark space that emits small **slivers of light** to penetrate the space and create moments of **reflection** across the ground.

The rammed earth wall **splits** the main space into two spaces: **private** and **public**. On the public side, the space contains the group bath and light **reflection** space. The water is heated by a wood burn furnace. The water is then dispersed onto the bath locations initially upon entering the baths.

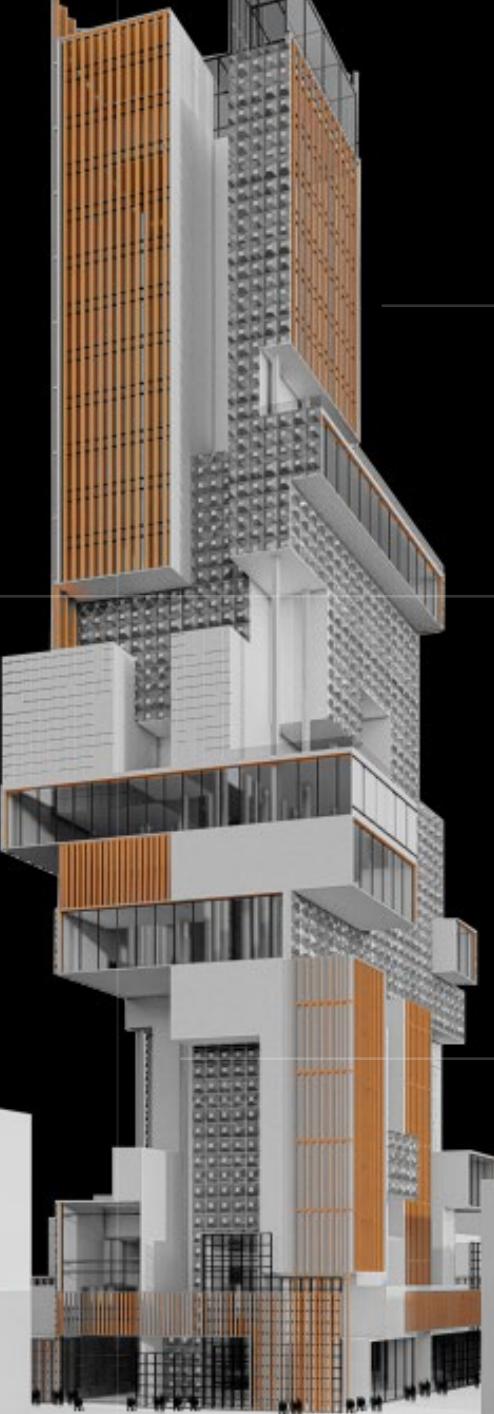


Drawn Floor Plan



Model Photo

Techniques:
AutoCAD
Lumion
Photoshop
Rhino
Sketchup



Exterior Render



Interior Perspective

Project Dismantle houses a variety of amenities such as shops, lounges, bars, and restaurants. The objective of Project Dismantle is to create a space that **unifies** what is considered many different cultures and **blend** into one Identity.

Project Dismantle offers the ability to house apartment units that **encourages** the local community to engage with the visiting community. Project Dismantle is taking what is many individuals with **different objectives** and creates one **unified system** that makes up New York.

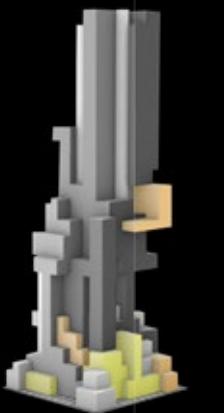


Street Perspective

Project Dismantle emphasises the singular **modular units** that combine the main space of the tower. The spaces are uniquely defined by the **shifts** of the modular components that **expand** or **contract** into the new engaging space.

Section Elevation





Initial Mass Model



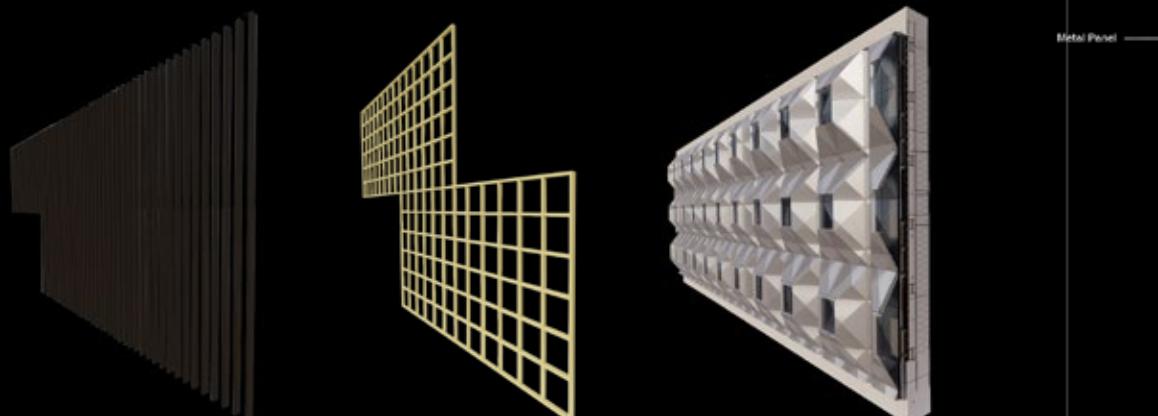
Main Interior Perspective

Due to the **pushing** and **pulling** of masses on the physical form, there is no concise straight line that holds the form of the city on the first floor. New York is known for holding the edge of the city blocks.

To maintain the city block edge, the tower contains an external **gate** that **holds** the cities edge while also creating special **pockets of space** that allows for people to gather before entering the project.

Diagram Section

Diagram Section



Façade Gate Study

Grid Gate Study

Façade Section Perspective

Diagram Section

The intent of Project Dismantle is to create a physical understanding of **breaking** preconceived notions of New York Buildings. The modular design of the building is slowly **taken apart** and **pulled** to show the manipulation of the external factors of the city. The building represents the saying "I am one", the accumulation of the masses into one form while speaking, "I am many" based on the singular forms that uniquely define its shape from the mass.

Diagram Section

Q/Conceal

Techniques:
AutoCAD
Photoshop
Photography
Physical Model Building
RayTrace
Rhino

Project Conceal is located in Atsena Otie Key, a small island off of Cedar Key, FL. The island previously contained a city before being devastated by a hurricane in 1896. The community eventually moved out until the 1950's before being bought by the Suwannee River Water Management District and converted into a wildlife sanctuary.

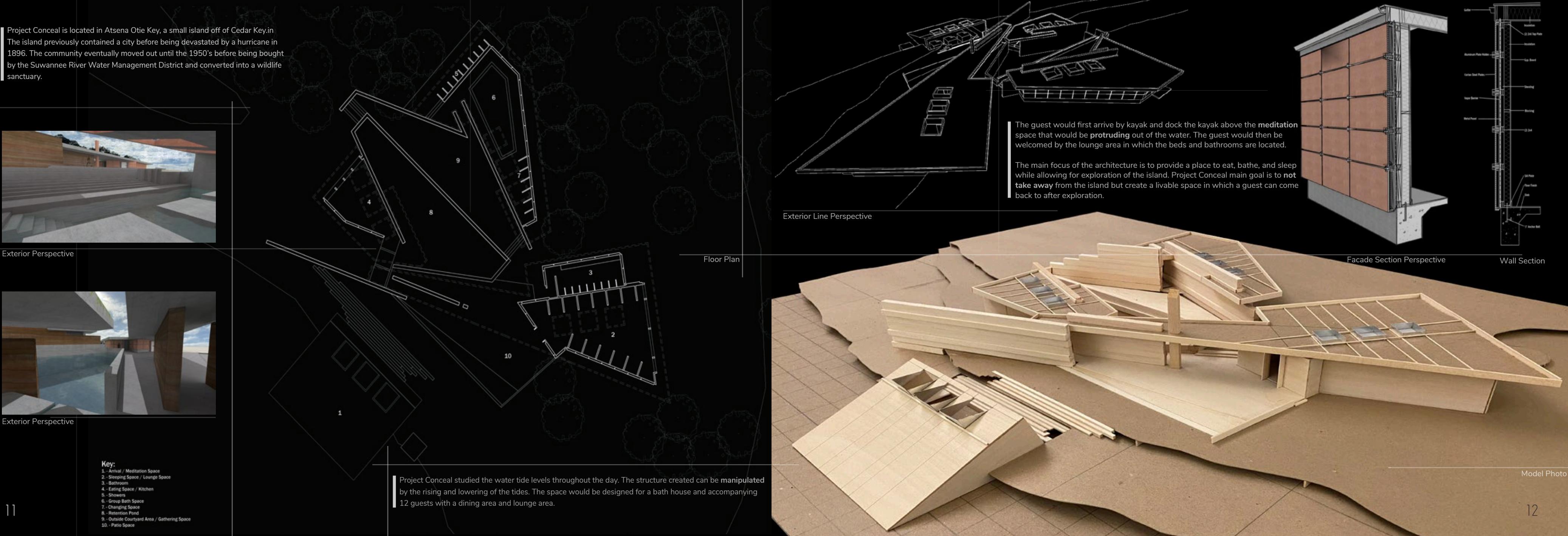


Exterior Perspective



Exterior Perspective

Key:
1. Arrival / Meditation Space
2. Sleeping Space / Lounge Space
3. Bathroom
4. Eating Space / Kitchen
5. Showers
6. Group Bath Space
7. Changing Space
8. Retention Pond
9. Outside Courtyard Area / Gathering Space
10. - Patio Space



Q5 Enlightenment

Techniques:
Hand Drawing
Photoshop
Photography
Physical Model Building
RayTrace
Rhino

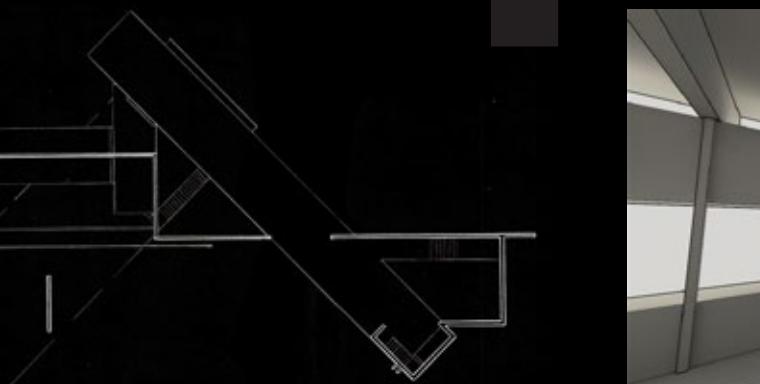


Section

The function of the Project Enlightenment is to explore **open space** and focus on how the site can **engage the architecture**. Project Enlightenment contains a bell tower, water well, and individual sleeping pods. The proposal was to create a space that would house monks and their ritualistic meditation.

The **meditation space** is designed after the Buddhist ritual of malas. Malas are a traditional tool used to count the number of times a mantra is recited, breaths while meditating, counting prostrations, or the repetitions of a buddha's name.

The architecture **mirrors** the prayer beads by creating a material pallet around the wood that these beads can be made from. These woods are typically the wood of *Ficus religiosa*. The beads themselves are called the moon and stars which helped guide project Desolate by creating an **open environment** that focuses on the **rise and fall** of the moon and stars.



First Floor Plan



Interior Perspective



Section

The space is created to be **open** and allow for the inhabitant to view all parts of the space.

The inspiration came across the Buddhist temples in which prayers would be both **stagnant** and **volatile** meaning the space would need to atone for the **constant movement** of people and spaces that could hold a single person for hours during prayers.

The space also focused on small **close corridors** to allow for sound to travel and **echo** the chants of the prayers.



Entrance Perspective



Interior Perspective



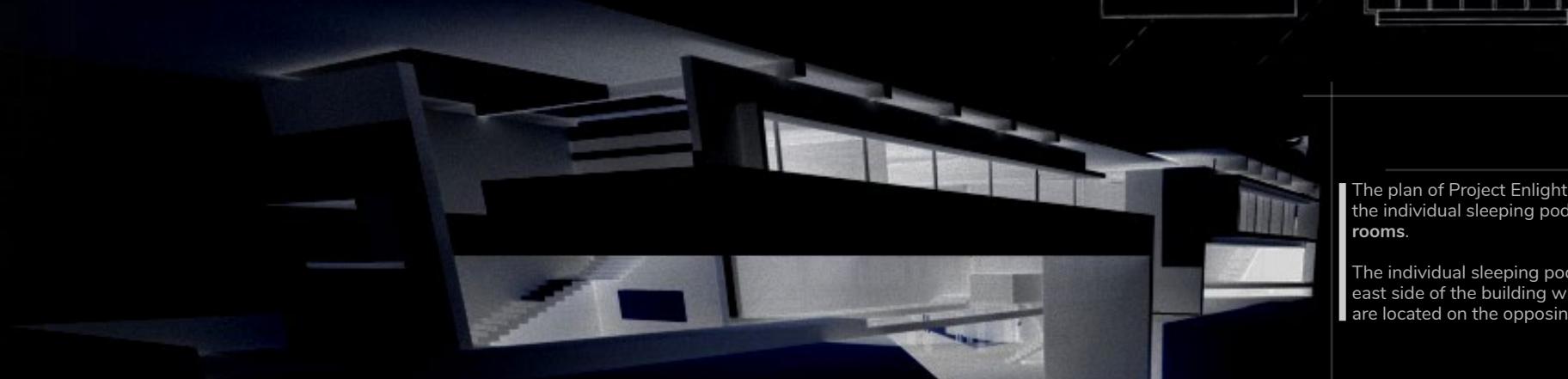
Section

Since the **bell tower** is utilized to track time, the bell tower would be positioned on the east side with the individual pod spaces. The **bell tower** is angled to **face the moons path** and position to signify the **importance** of the moons position relative to the site.

By splitting the two spaces, the inhabitant would have to walk from the east side to west side by walking outside on an **overhead bridge** that connects the two spaces from the back of the architecture to create a **journey**.



Model Photo



Light Study Render

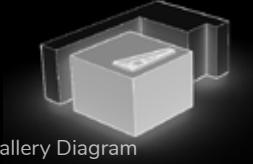
The **entrance** of the space is dug **underneath** the architecture to signify the depths or starting point of the journey to correlate with **purifying** or **enlightenment**. The inhabitant starts at the lowest point and gradually **moves up** in the architecture in which each level becomes more holy and utilized for prayers.

06

Experiment

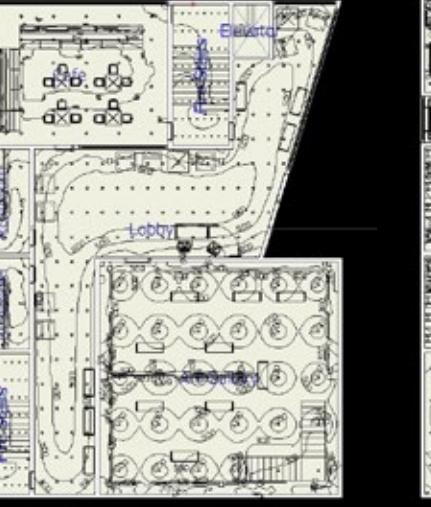
Techniques:
DiaLux
Lumion
Revit

The Experimental project explored new program fundamentals such as Revit and Dialux. The Experimental project is a site in Gainesville Florida which explores the ideal architecture in a **confined corner block**.

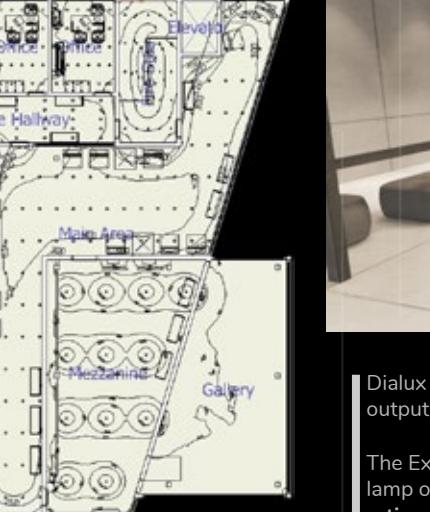


Mezzanine Diagram

First Floor Lighting Simulation



Second Floor Lighting Simulation



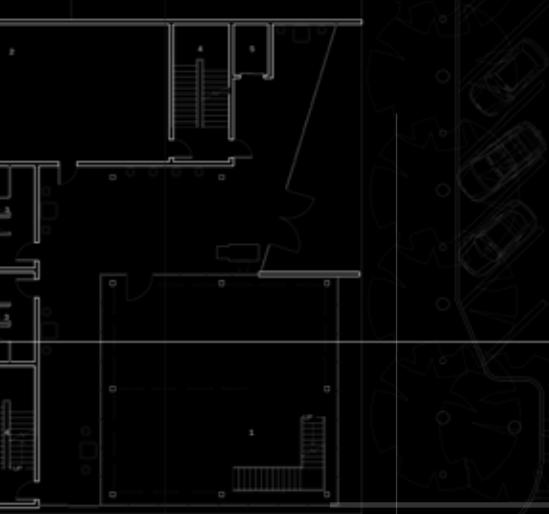
Mezzanine Perspective

Dialux is a lighting program that runs **lighting simulations** in spaces that would output the light index and the efficiency of lighting in the space.

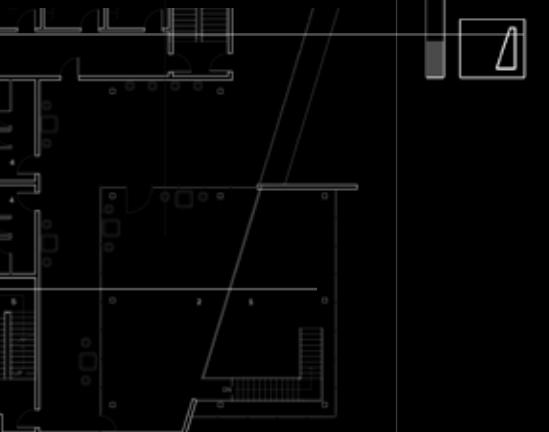
The Experimental project ran multiple simulations with LED and Fluorescent lamp options. The best lighting scenarios was LED with a greater **efficiency rating** and **low consumption cost**.



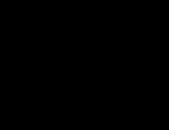
Exterior Render



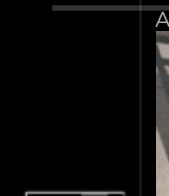
First Floor Plan with Context



Second Floor Plan



Fire Stair Diagram



Fire Exit Diagram



Fire Exit Sign Diagram



Fire Exit Diagram



Fire Exit Sign Diagram



Fire Exit Diagram



Fire Exit Sign Diagram



Fire Exit Diagram



Fire Exit Sign Diagram



Fire Exit Diagram



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Fire Exit Sign Diagram

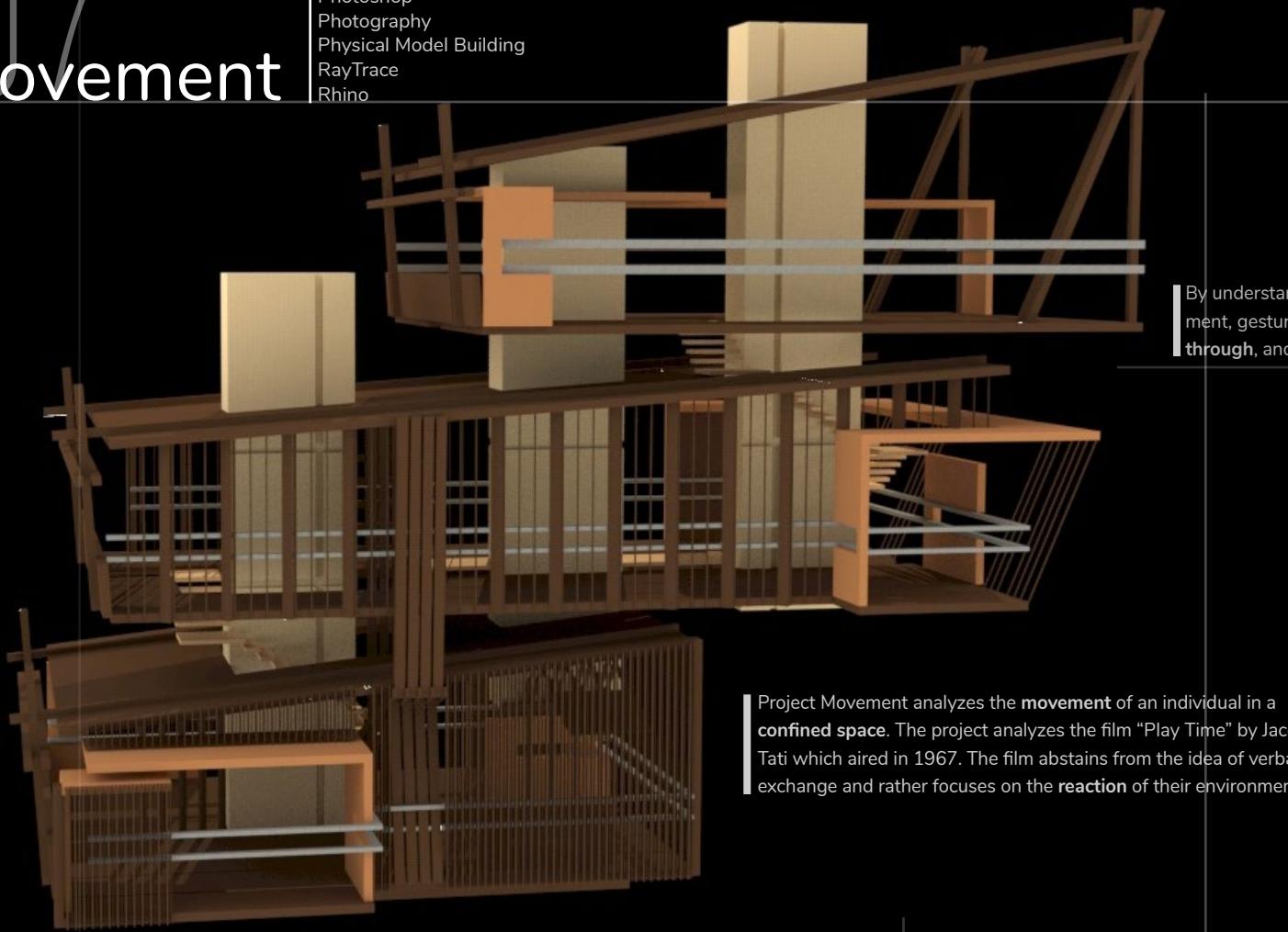


Fire Exit Diagram



Fire Exit Sign

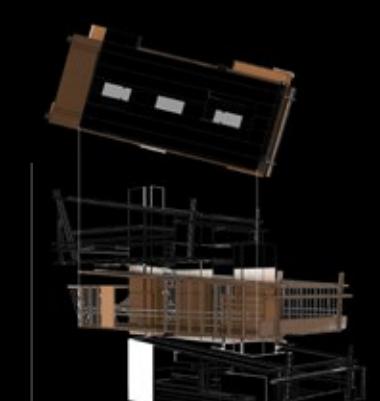
Techniques:
 Photoshop
 Photography
 Physical Model Building
 RayTrace
 Rhino



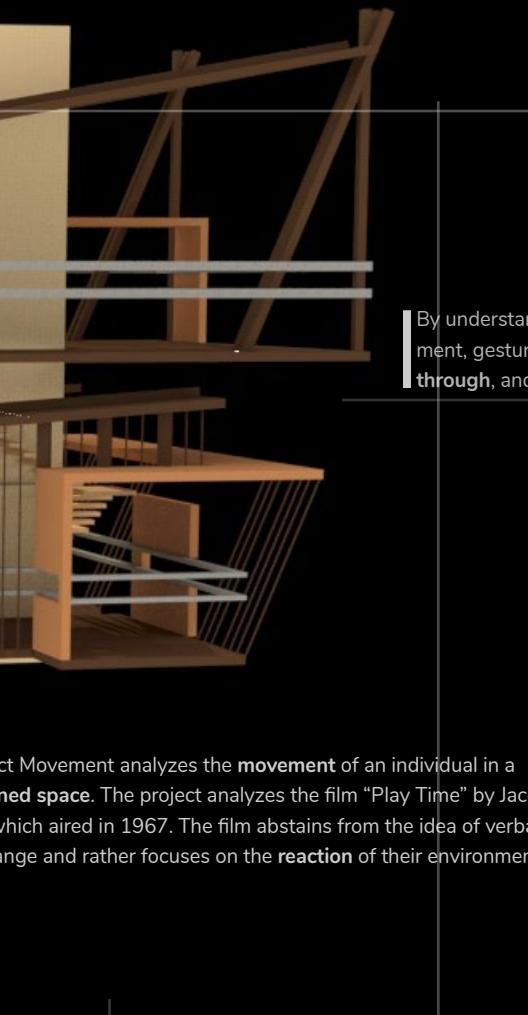
Model Render



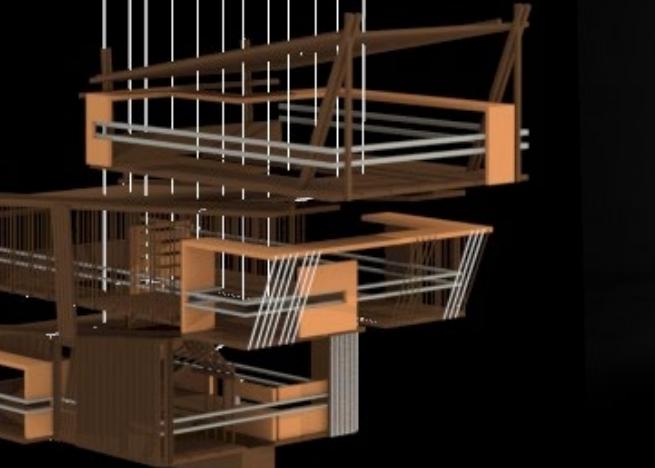
Third Floor Diagram



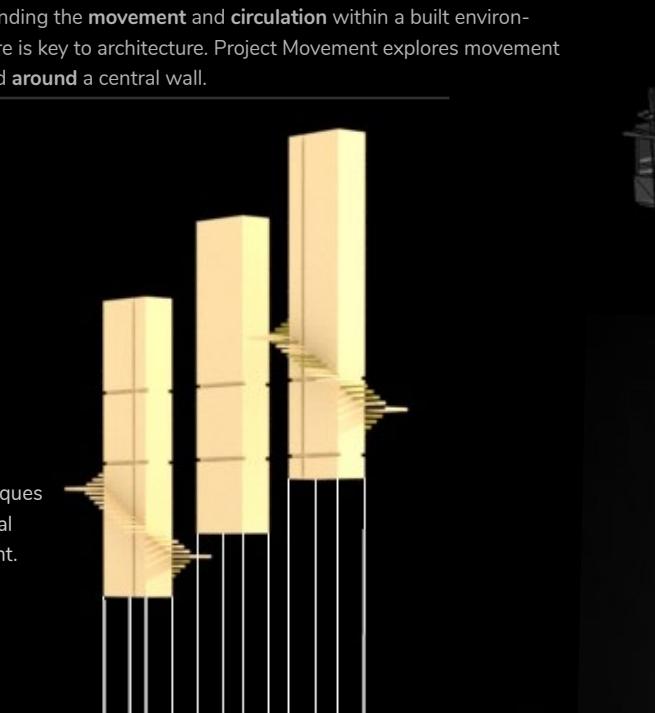
Second Floor Diagram



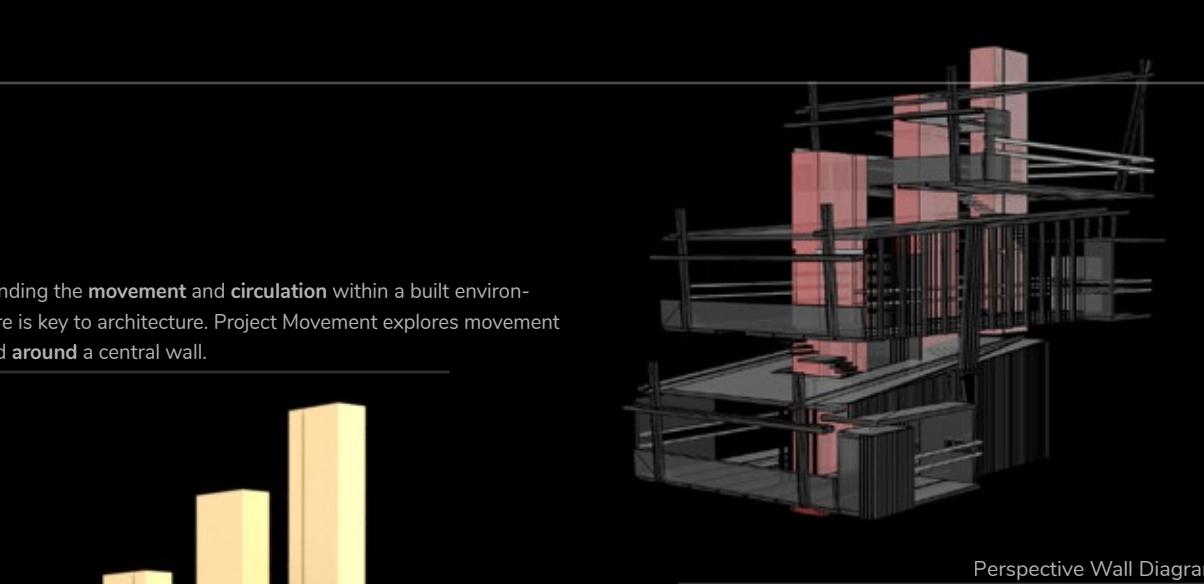
Third Floor Diagram



Exploded Wall Diagram



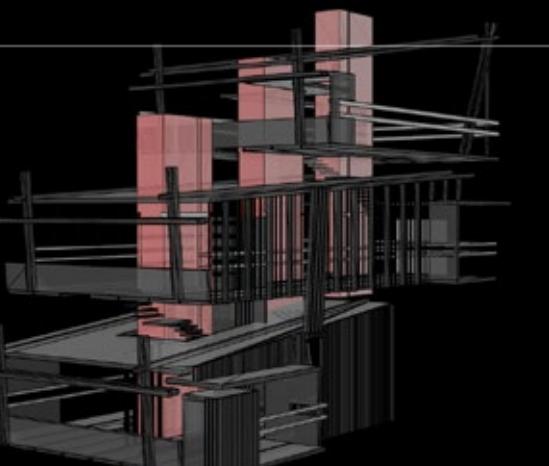
Exploded Wall Diagram



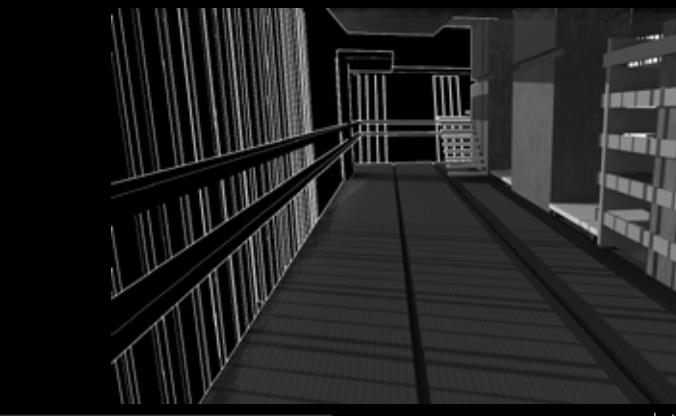
Perspective Wall Diagram



Interior Model Photo



The wall connects spaces through various thresholds. The wall was disassembled and split into three identical components. The wall segments are aligned in a row and increased intermittently. The wall becomes an **abstract wall** that is not physically bounded together by materials but instead correlates an idea of **space occupying** in between the segments as a **barrier**.



Interior Perspective



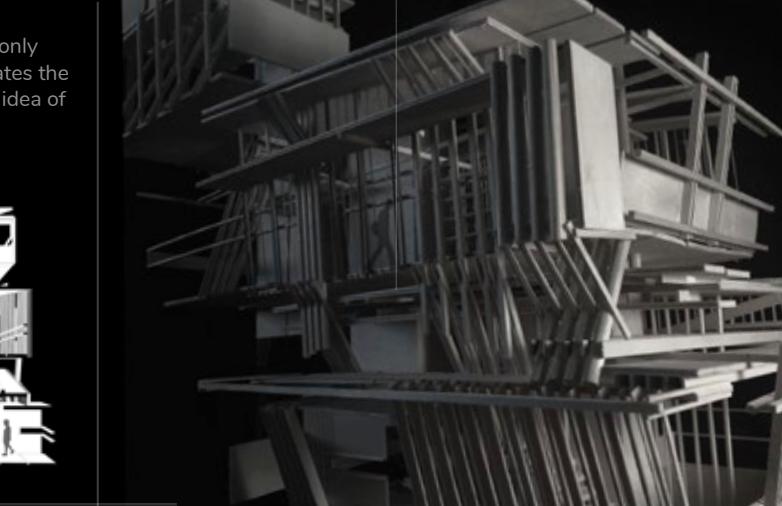
Interior Wall Photo

By presenting this idea, the space that is between the segments of wall would be **uninhabitable** and **inaccessible** from one side of the space to the other. By displaying the idea of nothingness in the space that is unable to be accessed, it creates a wall that is not physically there.

The space that surrounds the wall shows various levels only accessible through **vertical movement**. The stairs circulate the **fragmented walls** to show the vertical movement as an idea of **scaling** the wall to the next enclosed space.



Section Perspective



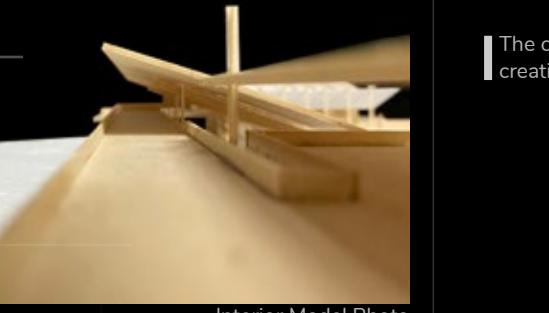
Model Photo

Project Create is a self-assigned project. The goal of the project was to create **spatial differences**.

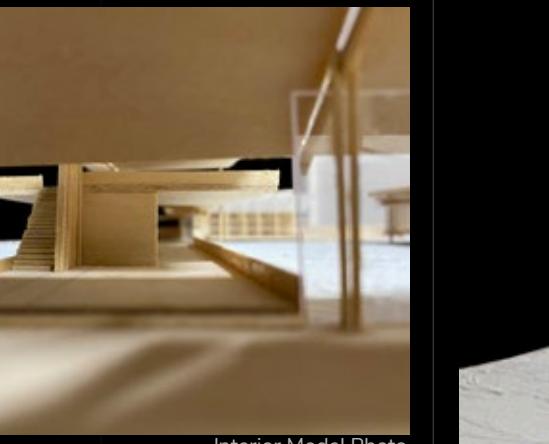


Upon entering the space, the angled, sloped overheads bring a **narrower attention** to the center of the space where **recreation** outside could be utilized.

By sloping the overheads, the space would be **compressed** on the first floor while the second floor loft space shares the same overhead plane. The sloped overhead creates a **scale difference** in the space and size of the overhead.

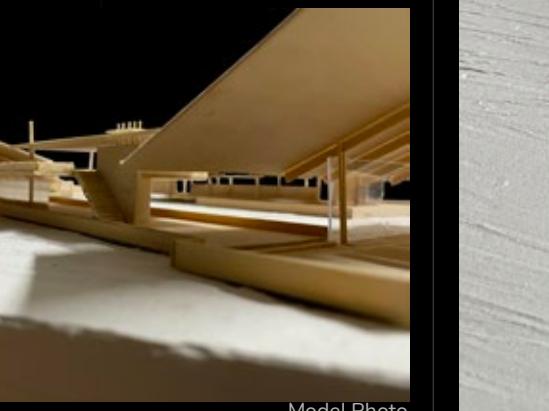


The close-up pictures explore the scale by utilizing stairs and railings. The close-up pictures also explores how the sloping overhead is creating a second overhead to the second-floor plane. The slits in the roofs allows for **exposed structure** and **natural lighting**.



The inspiration was a project that would require **complex design** while also **minimizing the physical appearance**. The difference in design between the main structure and train station is to show the formal difference in the two projects and therefore bring attention to the different **building phases**.

The function of the design is to create a train station that would occupy the people boarding the train and create a **space for gathering**.



The smaller isolated space is for the people who are arriving and leaving by train while the main space is to create a movement that **rotates** around the station. By adding a second level, the space **frames** many different views of the landscape while also focusing **internally** on the train station.



“A Poppy Blooms” by Katsushika Hokusai

I write, erase, rewrite

Erase again, and then

A poppy blooms.



Brian Angel Espinosa
(561) 310 - 6510
Brian.Angel.Espinosa@gmail.com
briespinosa.github.io