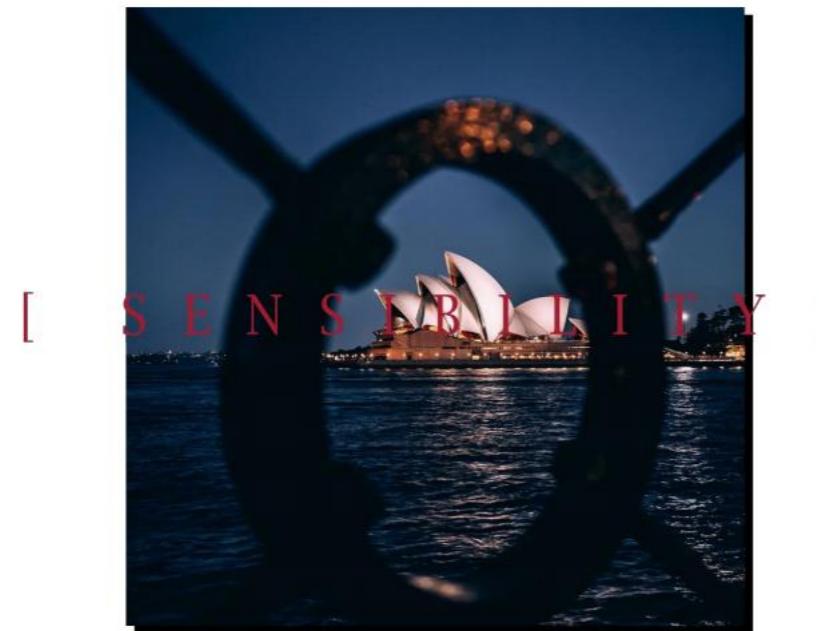


PORTFOLIO

Lifan Zhao

Selected Works 2021-2025

PROLOGUE



Thanks for reading my portfolio.

There is one special photos lying in my prologue, that took in Sydney Opera House, the first theater I visited when I was 11. Captivated by the unique light and shadow as well as the novelty of the architecture, the uniqueness of the art fascinated me. This fascination brought me back to this museum three times and made me want to explore my architecture career in Australia.

Through my academic and professional experience, I gradually find that today's architecture is dogmatism in education and formulaic in practice. I believe that architecture should have a strong identity independent from others, similar to human beings : born with unique DNA, grown with different background and thus form a distinctive emotion and soul.

Economic globalization has become an unstoppable trend, and the rapid construction of architecture has brought about the phenomenon of chasing economy and efficiency. In China, professors are too immersed in rational methodology of designing process. Every design assignment starts with standard way of site analysis and function arrangement, which lead to floor plan designing and form generating. It seems without site and its history, they don't know any other ways to start their design. In architectural practice, real estate developers hold the key and copying profitable pattern of construction from north to south on this land. However, architecture can be useless but interesting, inefficient but heart-moving. We are so good at making practical buildings that we almost forget the unique experience that sensibility can bring to people. Architecture is not a formula, but an art. It has to consider its relationship with the city, society and the people of tomorrow.

It can bring criticism, reflection and creation to human beings; it can cross time and space as well as trigger the common emotion of human beings.

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2021-2025

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Discovering interaction and changing



01 THE PEARL MUSEUM

Marine Museum - A mild relationship between sensibility and architecture

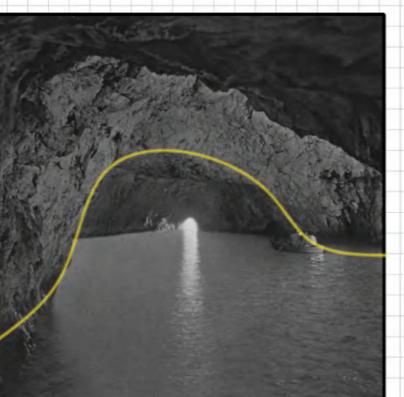
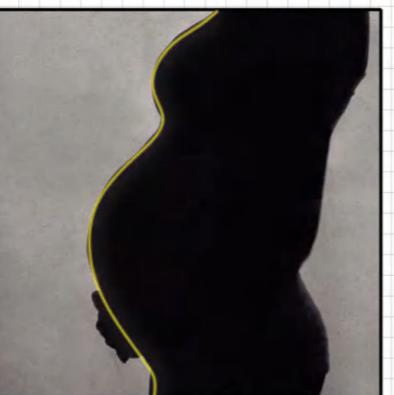
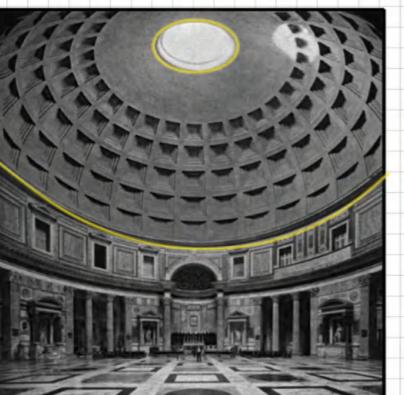
Year:2024

Location: Trekroner Fort, Copenhagen, Denmark
Individual Work

Project Description:

Before the fetus is born, it is the first to have the touch sensation, and later forms the sense of hearing and sight. In today's life, it seems that we all rely on vision and forget to feel. Architecture without emotional support loses the connection between architecture and human beings. This project focuses on the ambiguous relationship between nurture, music and architecture, extracting light and curves as tools to condense music into space to create a museum where people can fully feel the ocean, art, and themselves.

LIGHT & CURVE



Giving a glimpse to the busy urban life, the efficiency brought by fast-paced life is paramount leading people to have no time to experience architecture, which is only built for function. Compared with the coldness and hardness brought by steel and concrete, the power of sensibility seems to be gradually weakened in architecture.

The light from the vast dome of the Roman Pantheon heals Catholics over the millennia, the embryo is nurtured in the mother's body to bring a sense of wrapping and security, humans initially live in caves to seek the shelter of nature, whales leap up from the ocean to obtain oxygen and dive back down again. Whether it is religion, fertility, animals or nature, the blurred relationship between the outside space and the inside space brings a unique emotional experience to humans.

This program extracts light and curve from it as a tool, tying to find a mild relationship between sensibility and architecture. This time we're talking about emotions and nature power instead of rational conditions.

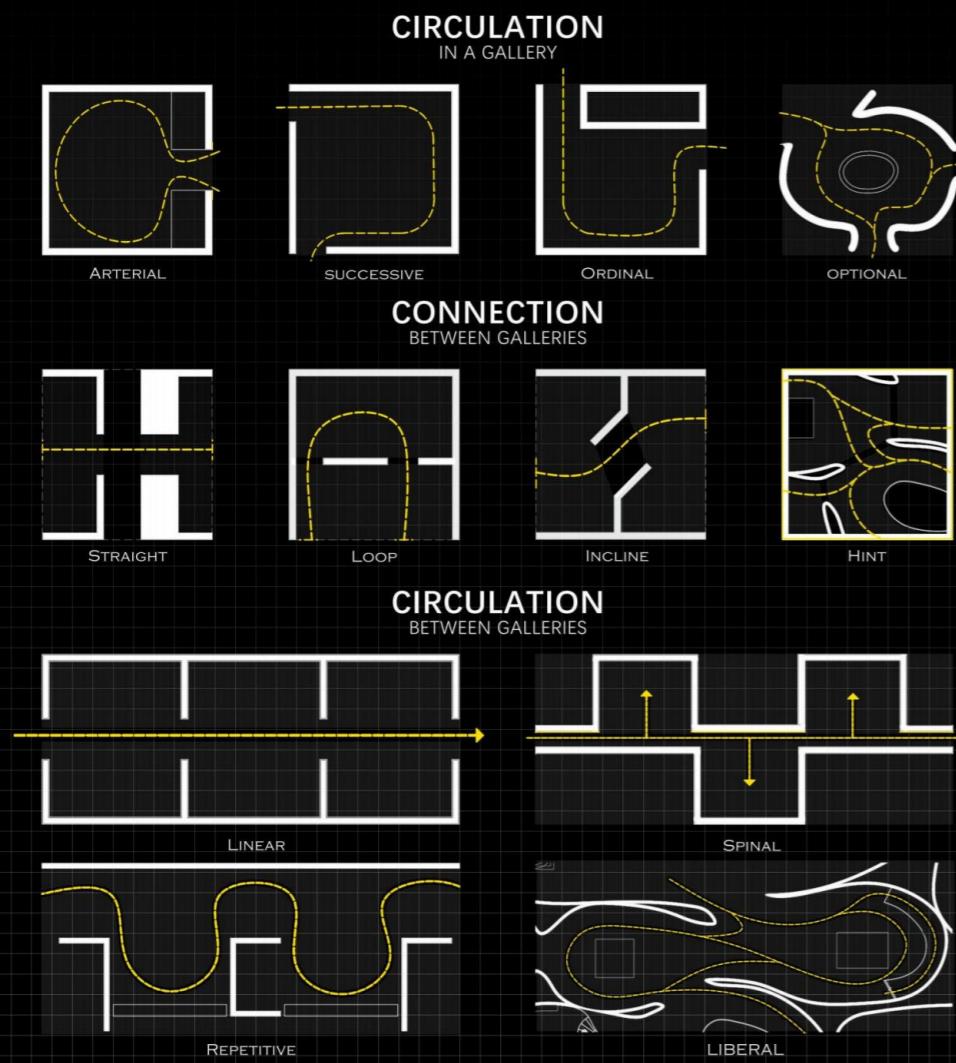


Trekroner Fort

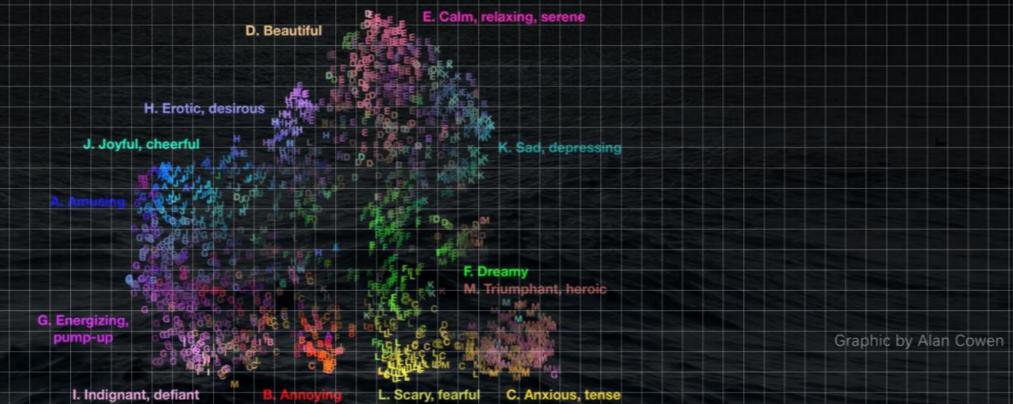
Trekroner Søfort is a sea fort right at the mouth of Copenhagen Harbour. From 1713 until after World War I, Trekroner Fort was part of the fortifications of Copenhagen.

Construction of the current fort began in 1787. The fort was an important part of the Danish line of defense during the Battle of Copenhagen in 1801. The fort also was engaged during the British attack on Copenhagen in 1807.

This fort is definitely a hidden gem and covers a long history of the city. Grand views of the whole Copenhagen can be seen here, there are cafes, galleries and restaurants on the island now.



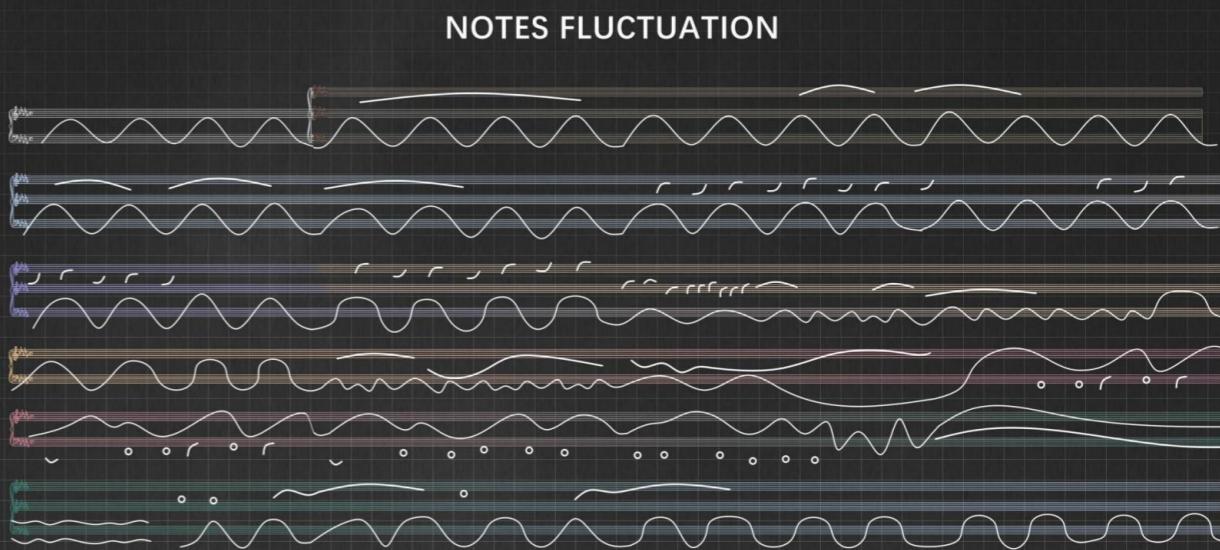
We start with figuring out the circulation of the gallery itself, the connection between the galleries and the circulation of the whole museum. I chose Suzhou Museum, National Museum of Finland, Site Museum of Paracas Culture as control group. In the above cases, we can find that most of the galleries designs are composed of straightforward openings and simple movement patterns. The direct connection brings a settled walking circulation, which makes people lose the power of choice. I wanna provide a variety of options, the sequential choice of galleries will vary from visitor to visitor, making the museum unique to each visitor.



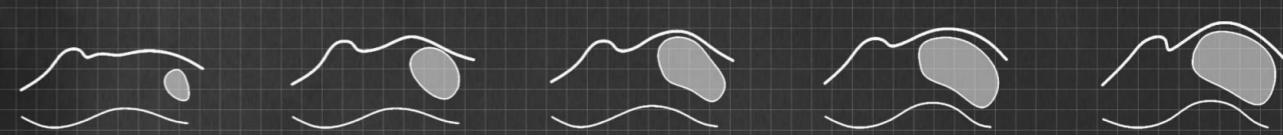
The subjective experience of music can be mapped within at least 13 overarching feelings: amusement, joy, eroticism, beauty, relaxation, sadness, dreaminess, triumph, anxiety, scariness, annoyance, defiance, and feeling pumped up. Music and emotions in architecture is intertwined, we can transform a score of ocean into the spatial sequences with the different pitches and scales, changing major and minor keys, length of notes and rests.



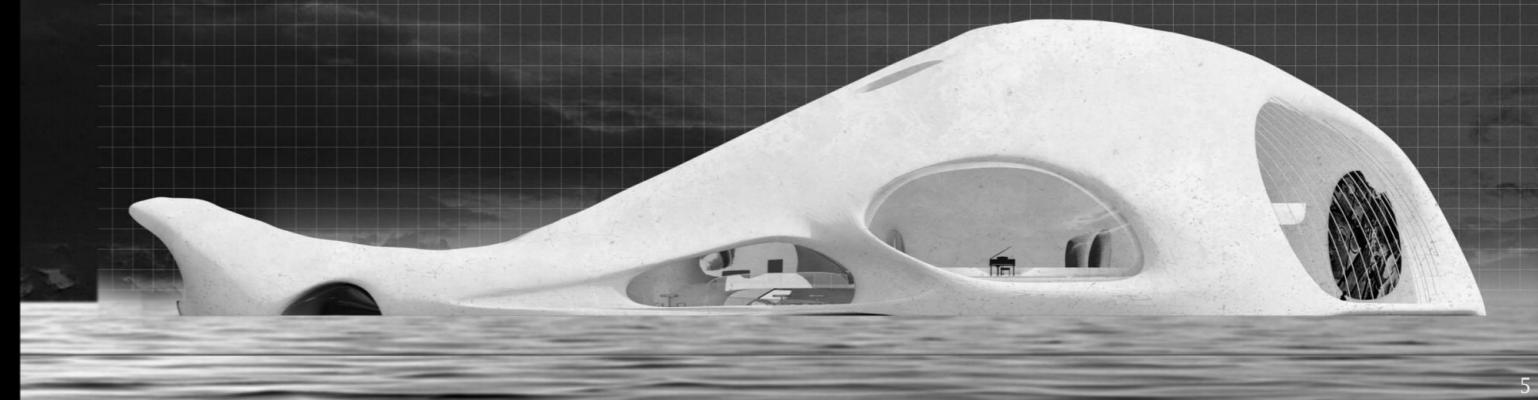
The accompaniment weaving is septuplet or octuplet, and in some unique link position also transformed its continuous, such as triplets and sextuplet, bring people a more continuous feeling, like a loose beat to bring people a sense of flow. The accompaniment does not exist in a fixed form, there is no fixed pattern in the composition process to restrain the free flow of emotions, and will not present a stable state, just like the sea.

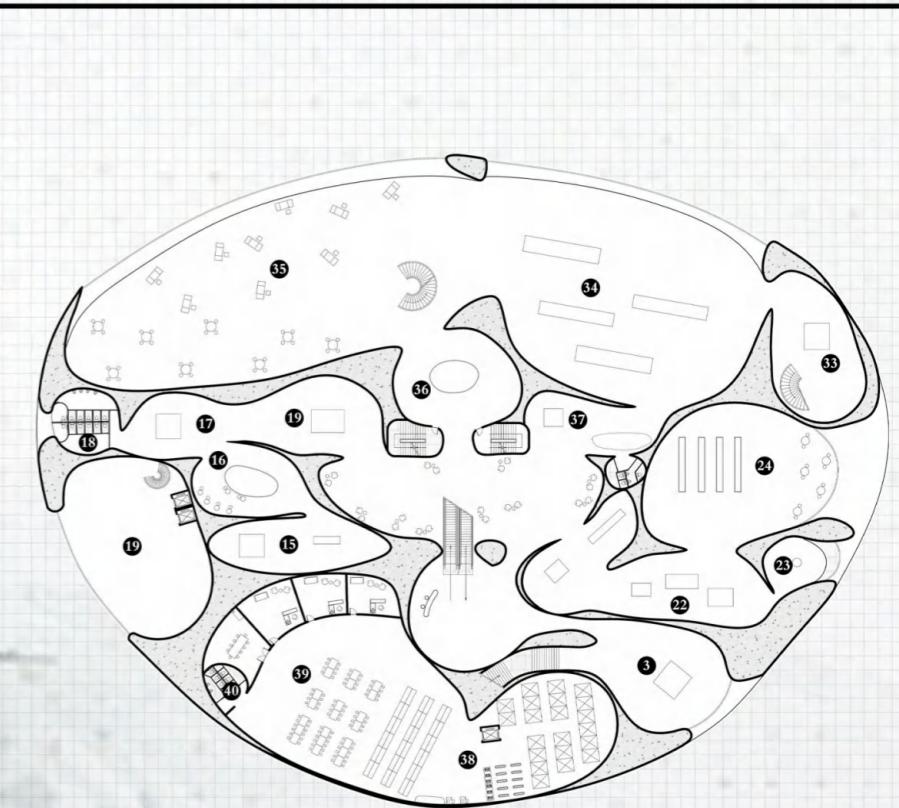
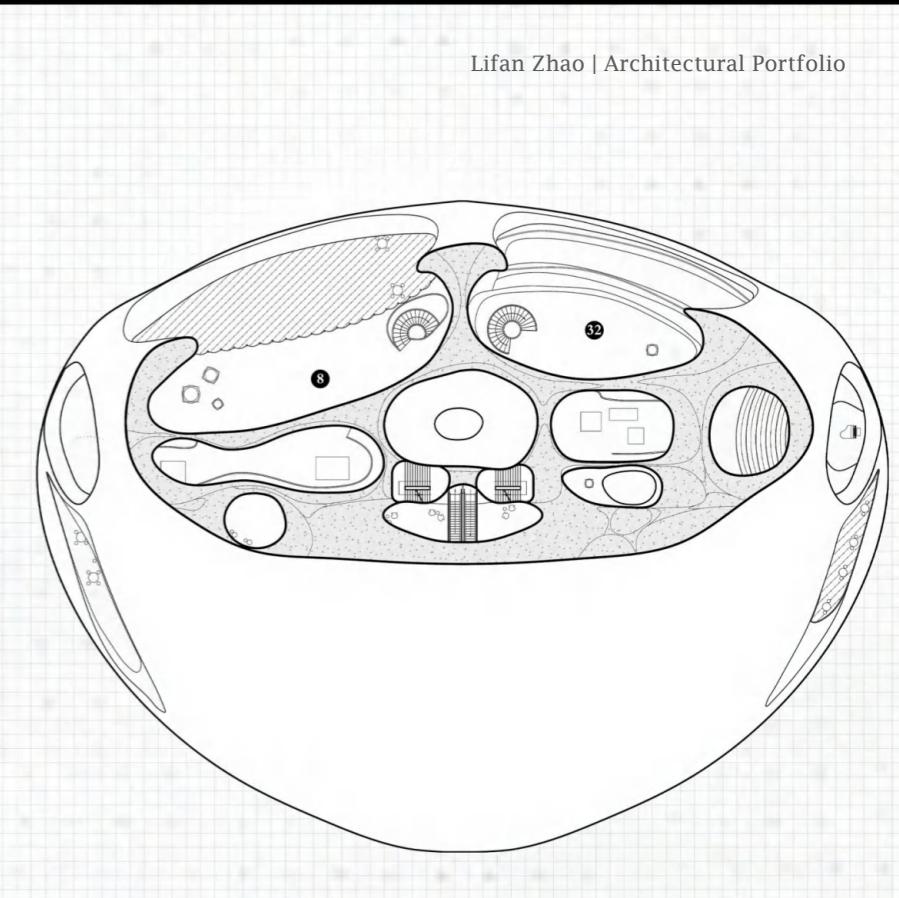
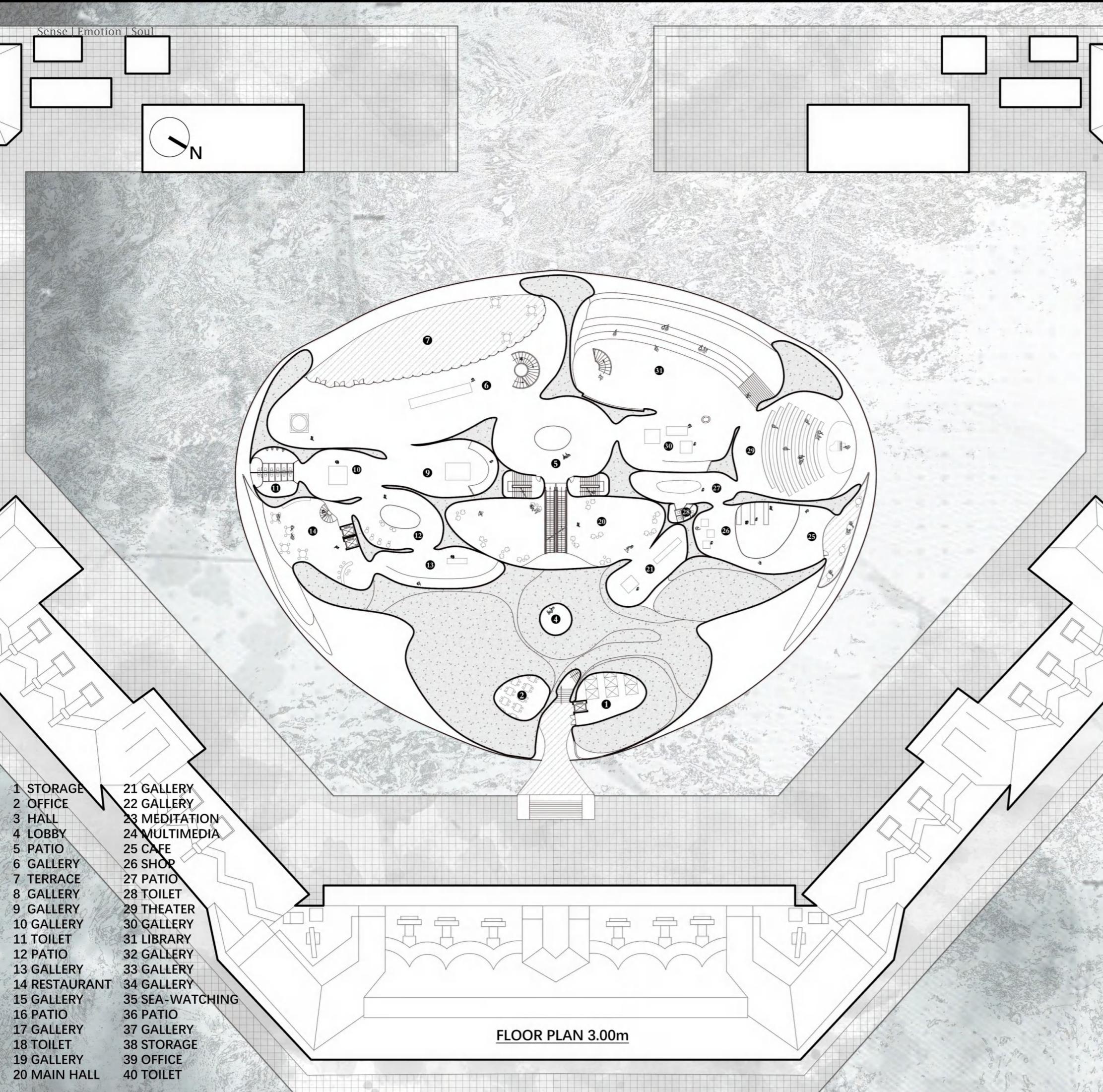


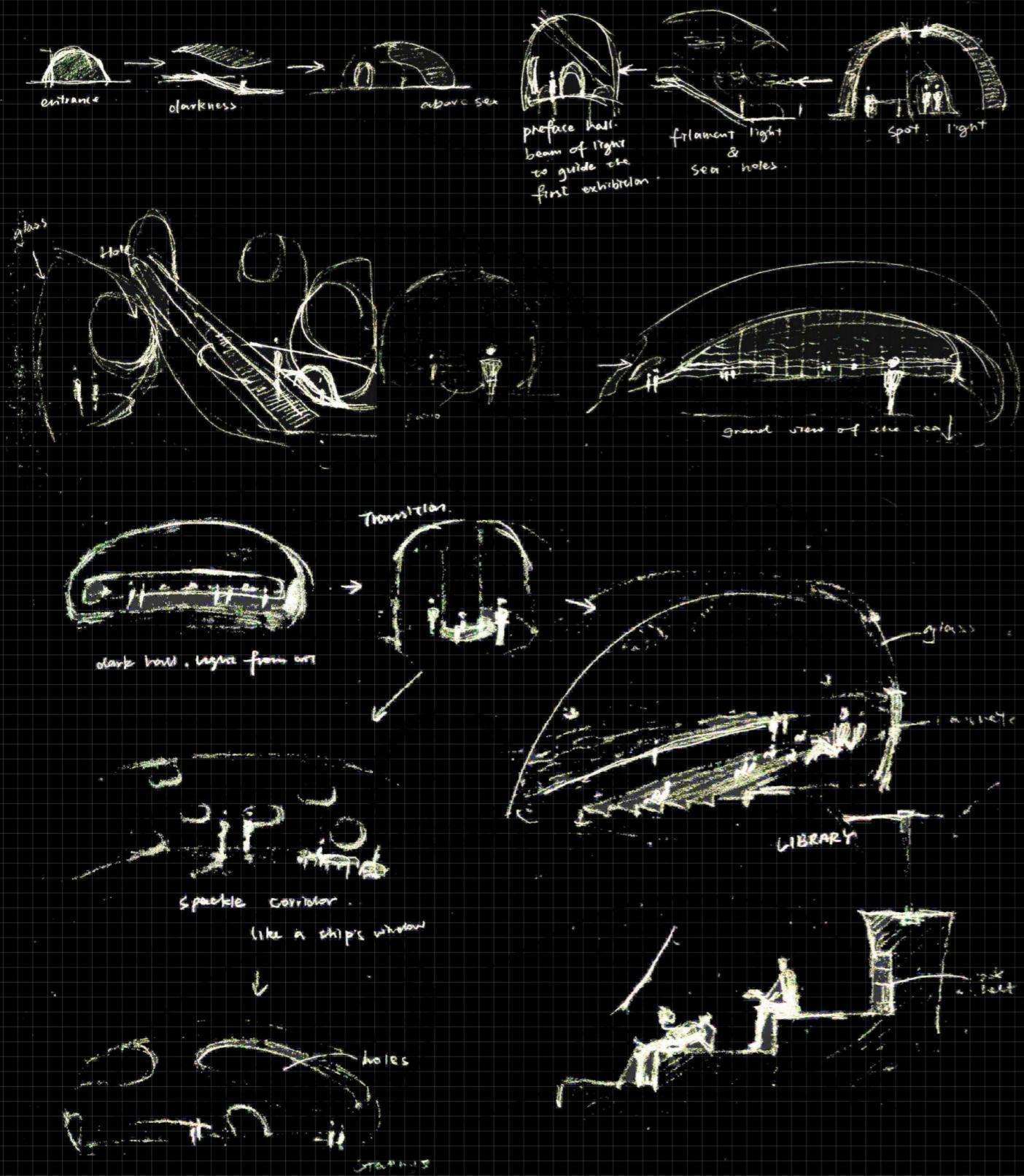
The music score is extracted to distinguish the curve of note changes from the feelings brought by different stages, with the change of note the building creates various spaces, bringing the corresponding emotional experience. This time we are capable of speaking two languages at the same time. One is addressed to the eyes, the other to the ears.



In the art of conception, the embryo grows and the mother gives it nourishment and changes with it. The abdomen rises, the spine curves, and the ambiguous relationship between the mother and the fetus brings about a dramatic change in shape. Soft curves gradually form, like waves on the sea, like the body of a whale, giving a sense of envelopment and security.

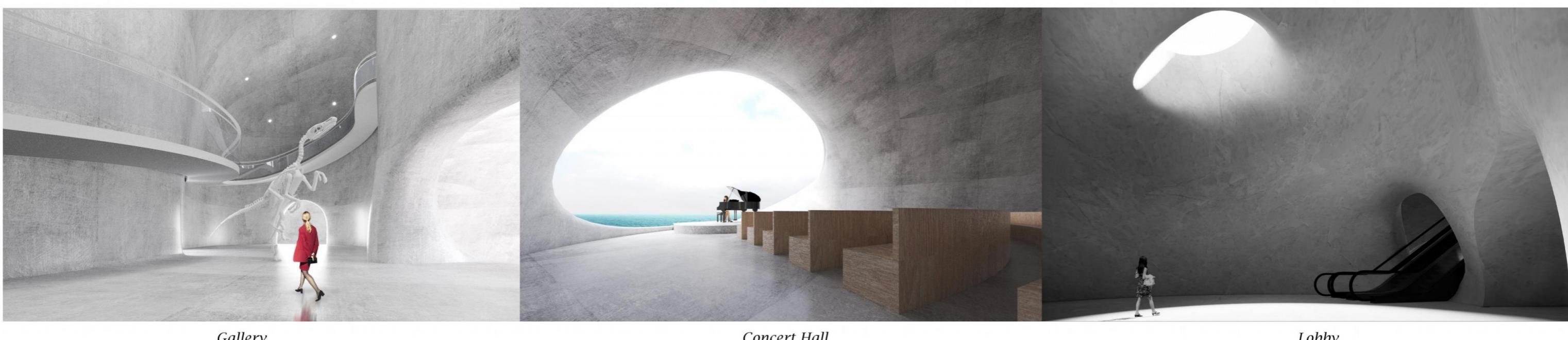
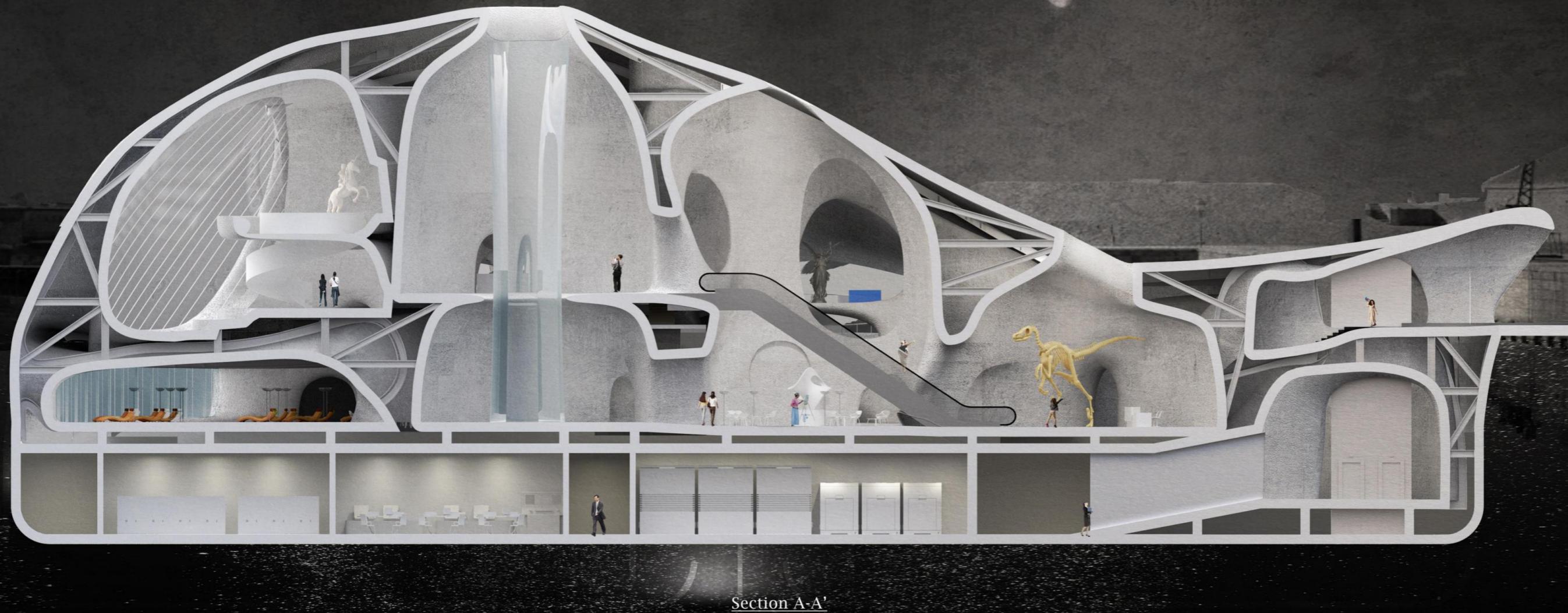






Enter through the entrance to feel the faint light and slowly walk into the sea to meet it. As the light source leads, visitors are led by the subconscious into different spaces. As each visitor makes his or her own choice, the building becomes unique to each person at the same time.

Through the section, it can be seen that the building starts to sink into the sea from the entrance, and the dim and narrow walkway wraps people with weakened vision and perception by hearing and touch. The first patio comes to the lobby, and a slow ascent along the escalator gradually rises from under the sea to the sea, where one can glimpse the change of one's position through the surrounding holes. The light wells suggest that the visitor arrives at the next stage, where, through personal choice, one can tour the museum and perceive the sea and art.



Gallery

Concert Hall

Lobby



02 HER PLACE

A dancing healing space for childhood sexual abuse survivors

Year:2022

Location: Devachuli, Lumbini, Nepal

Individual Work

Competition Design - Nepal Girls' Development Center

Project Description:

In the harsh environment of Nepalese women's existence, the building serves as a refuge, providing protection and sustenance for girls who have been abused and harmed. Dancing as the main function, using modern dance as a medium to heal themselves, allows the victims to achieve self-realization and lead to a different life. Establishing a dialogue with the site, a slender piece of wood deck stands firmly on the ground. Inside the local wood and fabric, an intimate and warm void is modeled, provide privacy and security.

The first fear of birth was to die
 I have no right to come to this earth this time
 If the cry is too loud, it will become bad omen for the town.
 No name to identify, no bloodline to cling to
 Just an abandoned baby

The second fear is that the hotbed of sin, the telescope with the peeping eyes
 The ice cream truck will turn into a wolf, the floral skirt will attract filth
 Even if you're lucky to be with your relatives, you're still inferior to the rest of the world.
 I'll tell you what a girl should be afraid of all her life
 Fear of short skirts, fear of close people, fear of even pretty flowers.
 Fear of cars, fear of crowded elevators and even fear of strange passers-by
 And most of all, girls are used to living in the swamp.

Thirdly, they are afraid of the narrow classroom, the old thought of deserving to be the underdog
 The teasing of adolescence, growing up in shame of oneself
 To be pure, to be soft, to not compete with another boy
 To submit to the imminent hand

The fourth fear is that if the lover holds a knife, there is nowhere to run
 The word "love" can absolve violence, even if the cries for help are loud.
 But if you wanna fight for your life, you deserve to be executed.
 I'll tell you what a girl should be afraid of all her life.
 Fear of pinholes, fear of fancy suits, fear of gossip.
 Fear of marriage, fear of family greetings, fear of a rowdy drinking table.

The fifth fear of discrimination is tacitly accepted that she has to climb a million high walls than he.
 Unequal competition, walking remoter the narrower ideal square became
 Rumors of sex to get ahead can never be prevented
 Successful people cannot be beautiful

The sixth fear is to be sold to the marriage market
 Don't pick and choose just become an object to be considered
 The achievement of life is the marriage hall. What other ideals do women talk about?
 Let me tell you what a girl should be afraid of all her life
 Fear that civilized society will always go backwards and give up on themselves
 Fear of being brave enough to create a storm

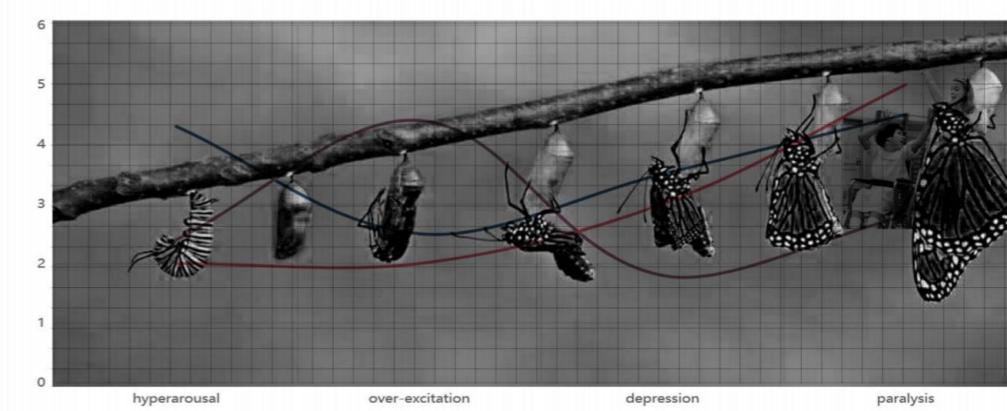
And most of all, I am afraid that people in the world will think that girls are inherently weak
 The seventh fear is that the neonate ward, a near escape with dripping with blood.
 If the baby's gender is like yours.
 If the baby's sex is like yours, you have to be considerate and understanding and get used to raising it alone.

<what should girls afraid of>



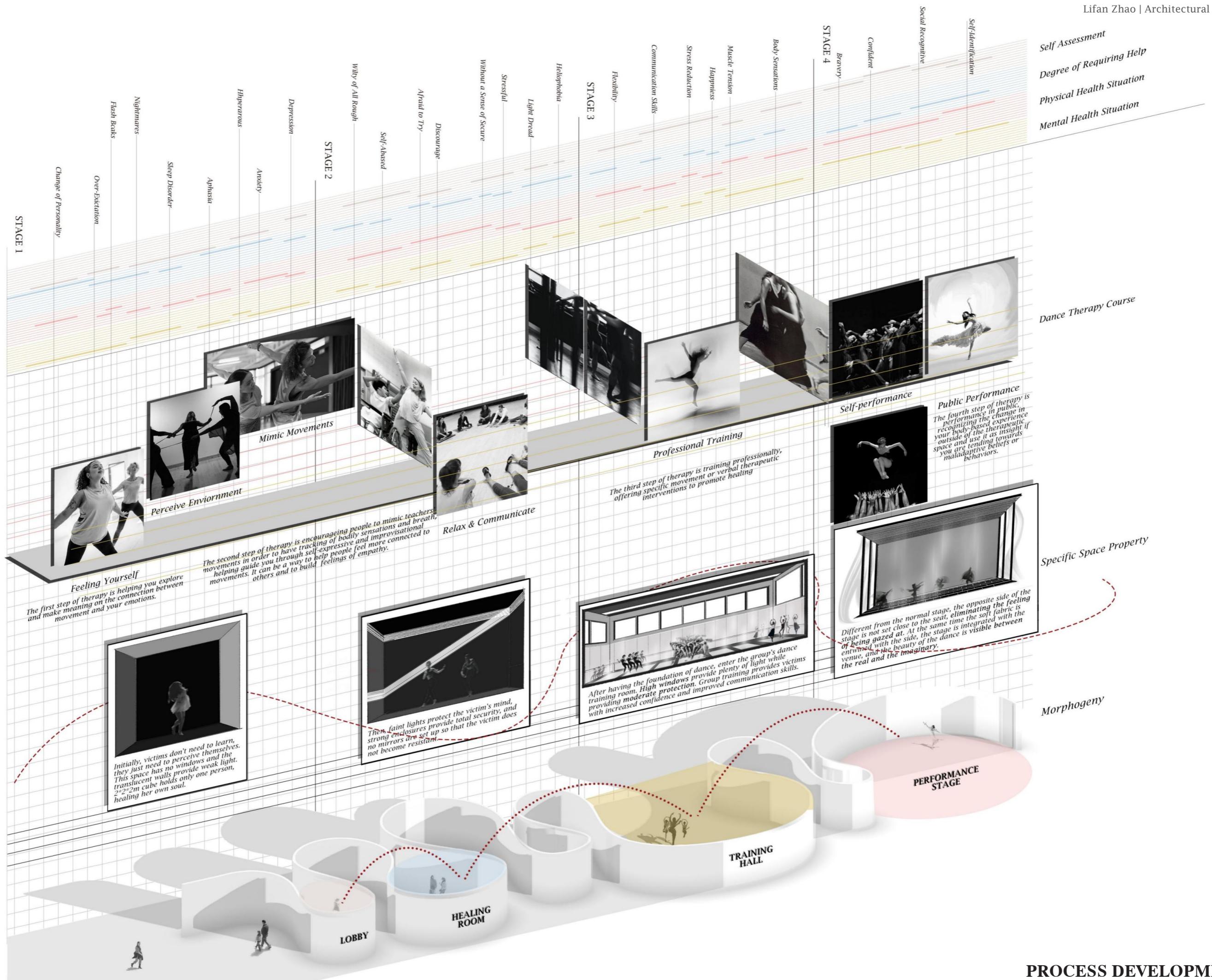
The Brutal State of Girls in Nepal

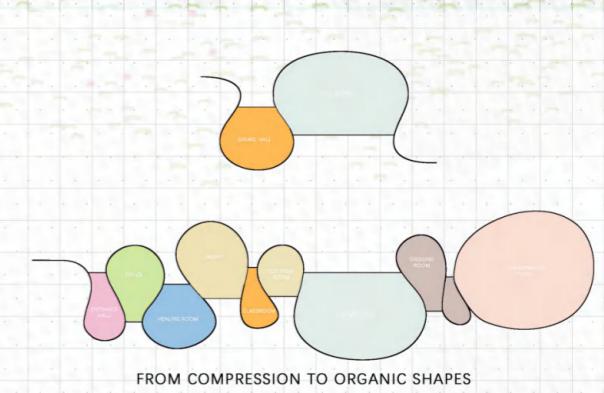
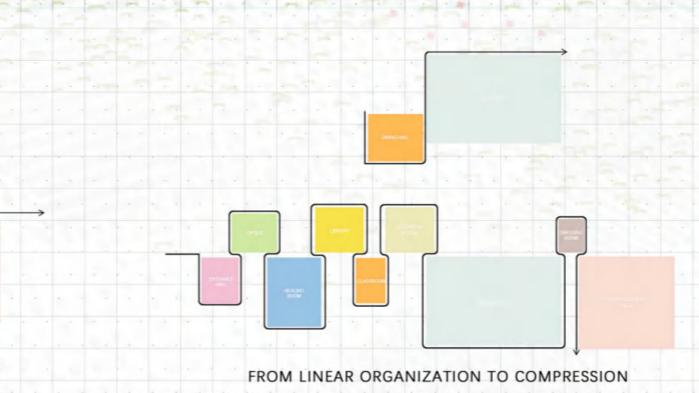
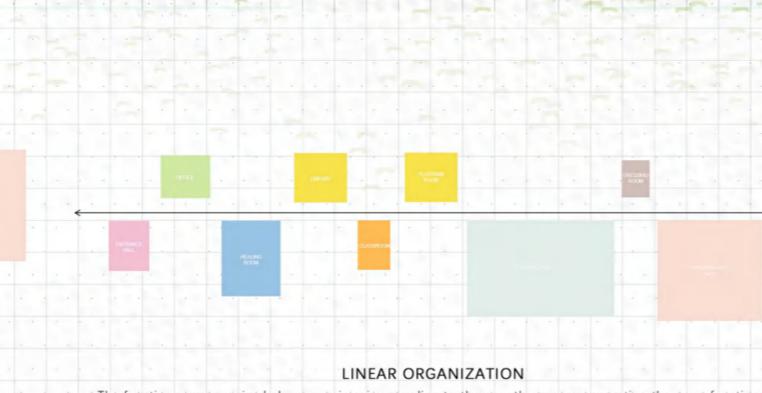
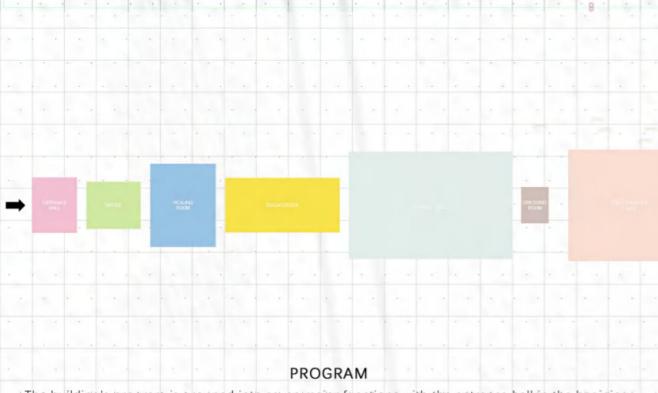
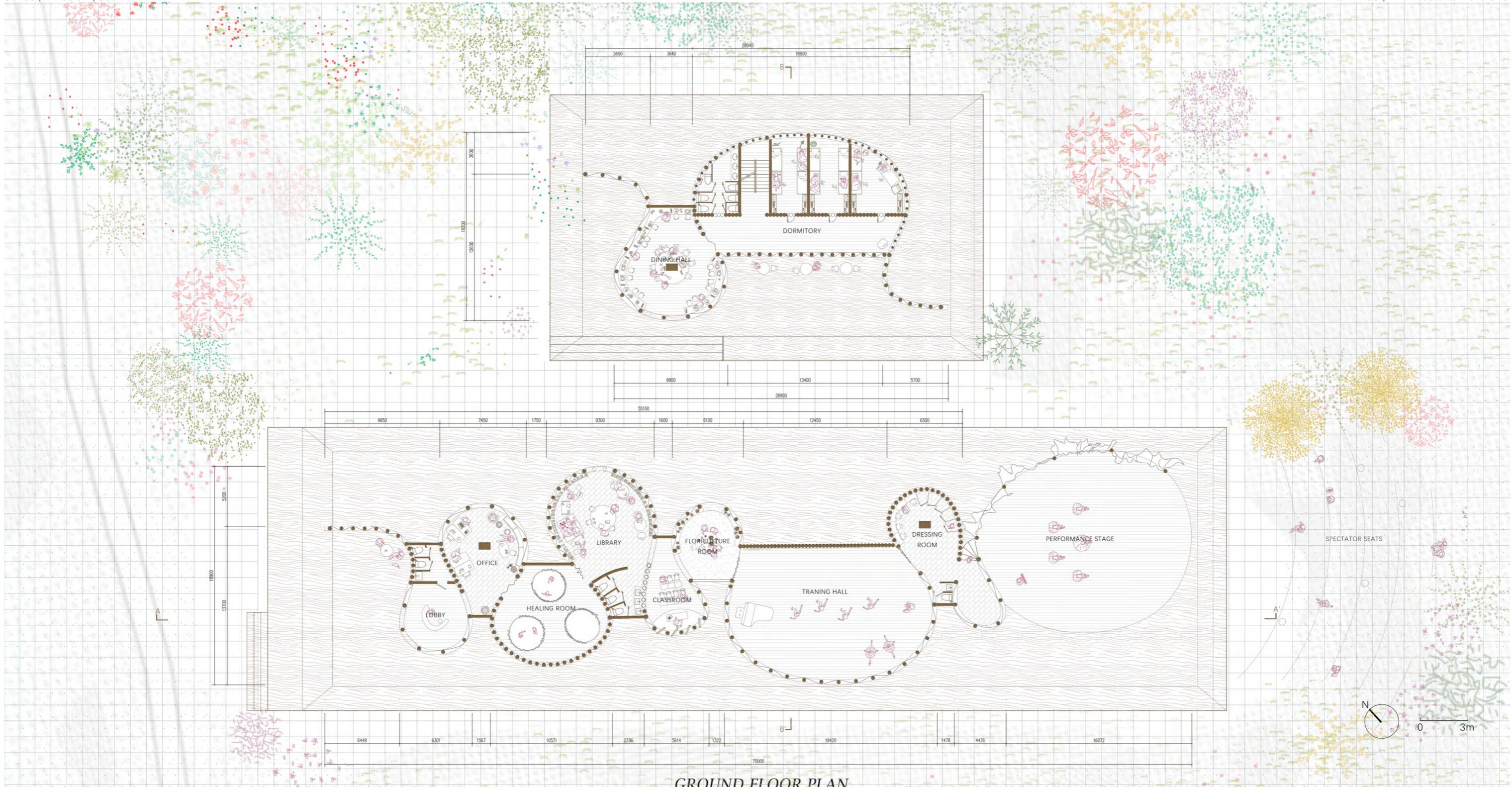
Aid organizations estimate that about 10,000 Nepali girls are tricked by traffickers or sent away by their families each year - because they all have hopes of working abroad. But the hopes don't come true; instead, nightmares come. The girls are abducted to India, forced into prostitution, tortured and raped, and made to do whatever they are told because they are addicted to drugs. Once they are "overused" and unable to make money, they are thrown out of the brothel, physically scarred and mentally traumatized. Many of the girls also contracted venereal diseases, hepatitis and AIDS.



Break the Cocoon into A Butterfly

A cocoon is a casing spun of silk by many moths and caterpillars, and numerous other holometabolous insect larvae as a protective covering for the pupa. Cocoons provide camouflage and additional protection for the chrysalis. Just like the process of breaking the cocoon into a butterfly, from a weak pupa to a beautiful butterfly, my architecture will act as a "cocoon" to provide protection and help the girls grow.

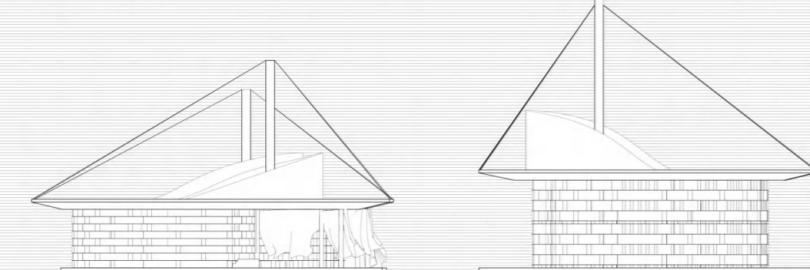
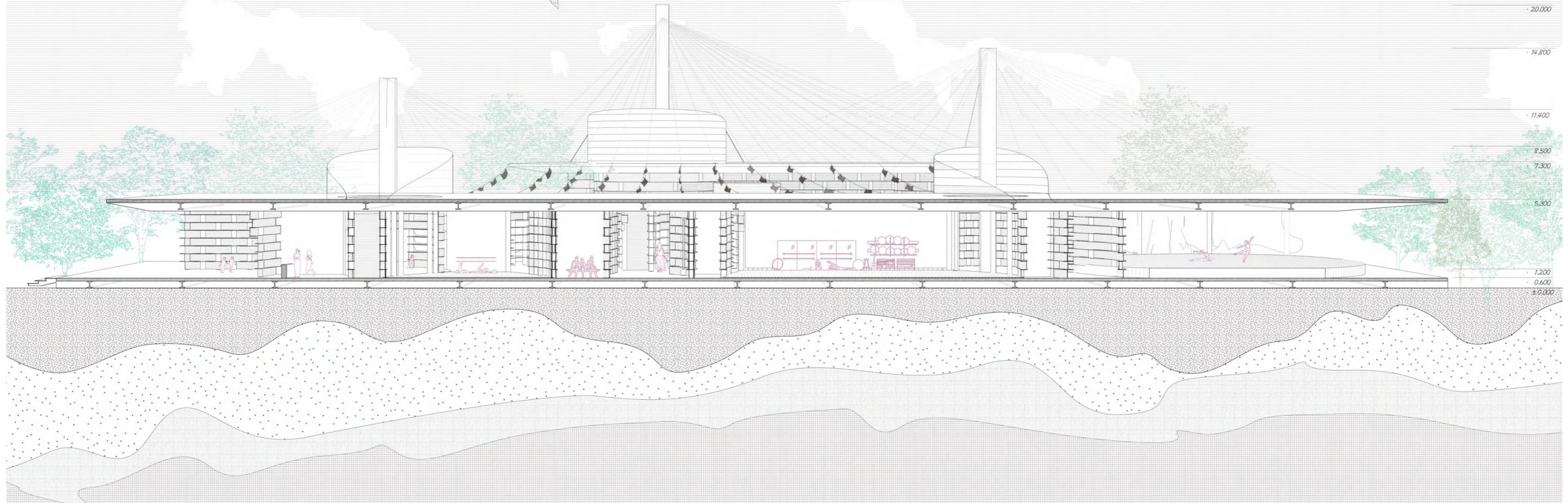




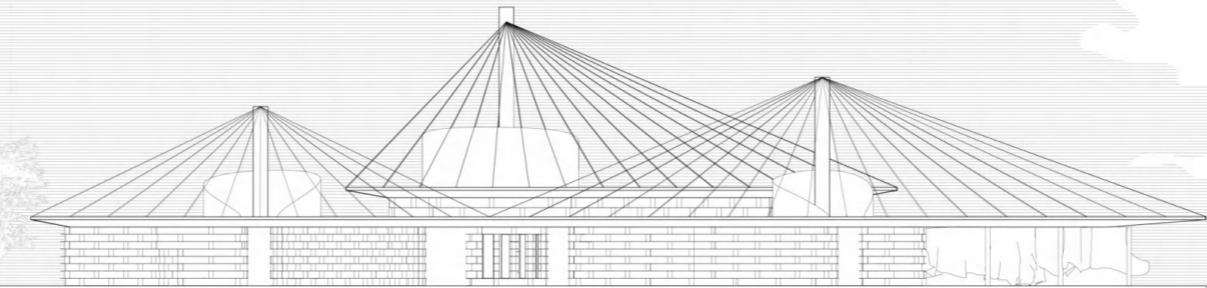
Reinterpreting the Figure of the Circle

Section A-A'

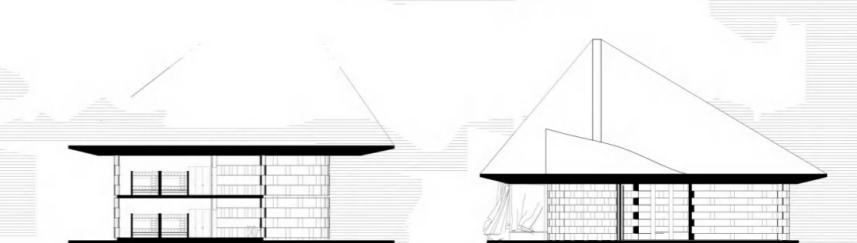
Present in the settlements of primitive cultures, two semicircles forge the space, offering the girls a dynamic interactive scope, receptive to hosting various itineraries. The formal perception of the monolithic piece is altered by the convexity and concavity of these elements; that shape an entrance threshold with an opaque and shaded depth, and a private area that connects the two parts serving as shelter and contemplation respectively.



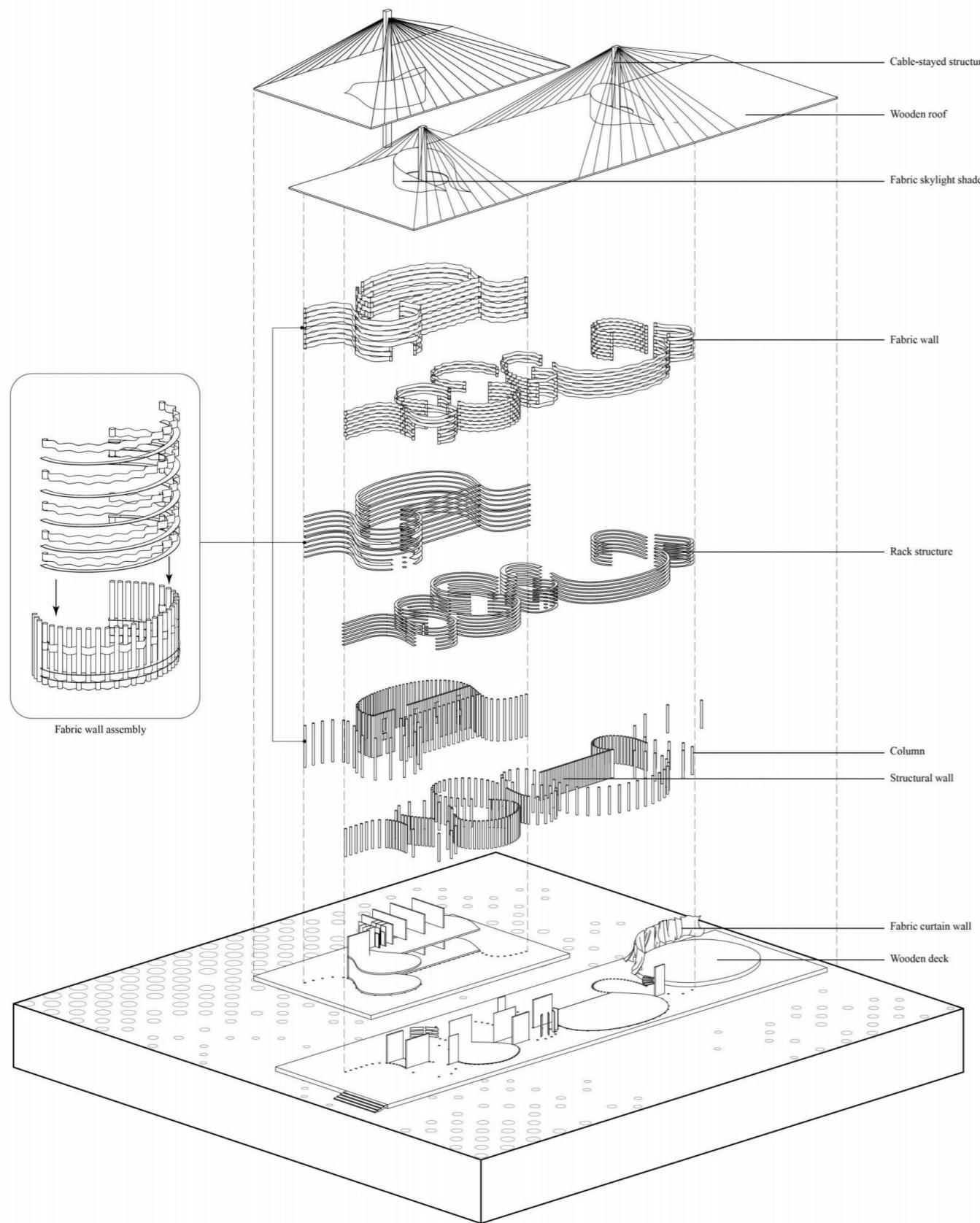
east north facade



west north facade



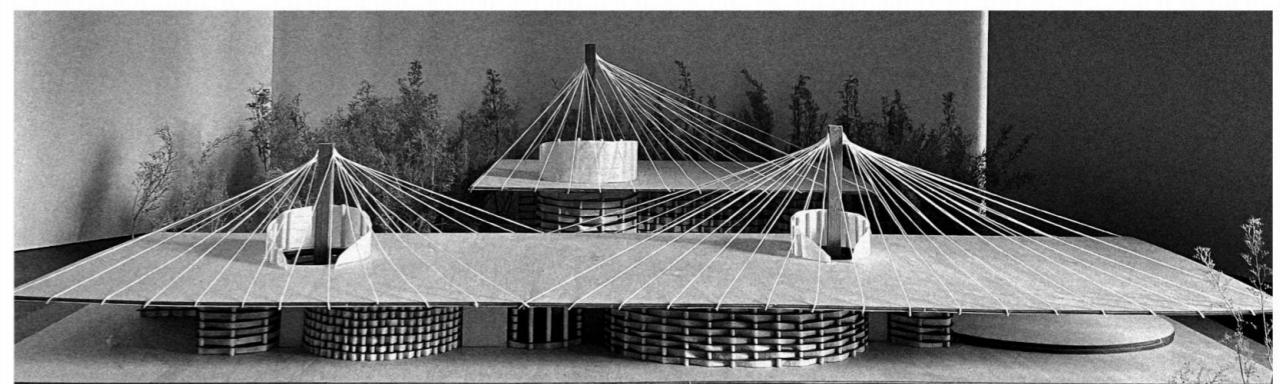
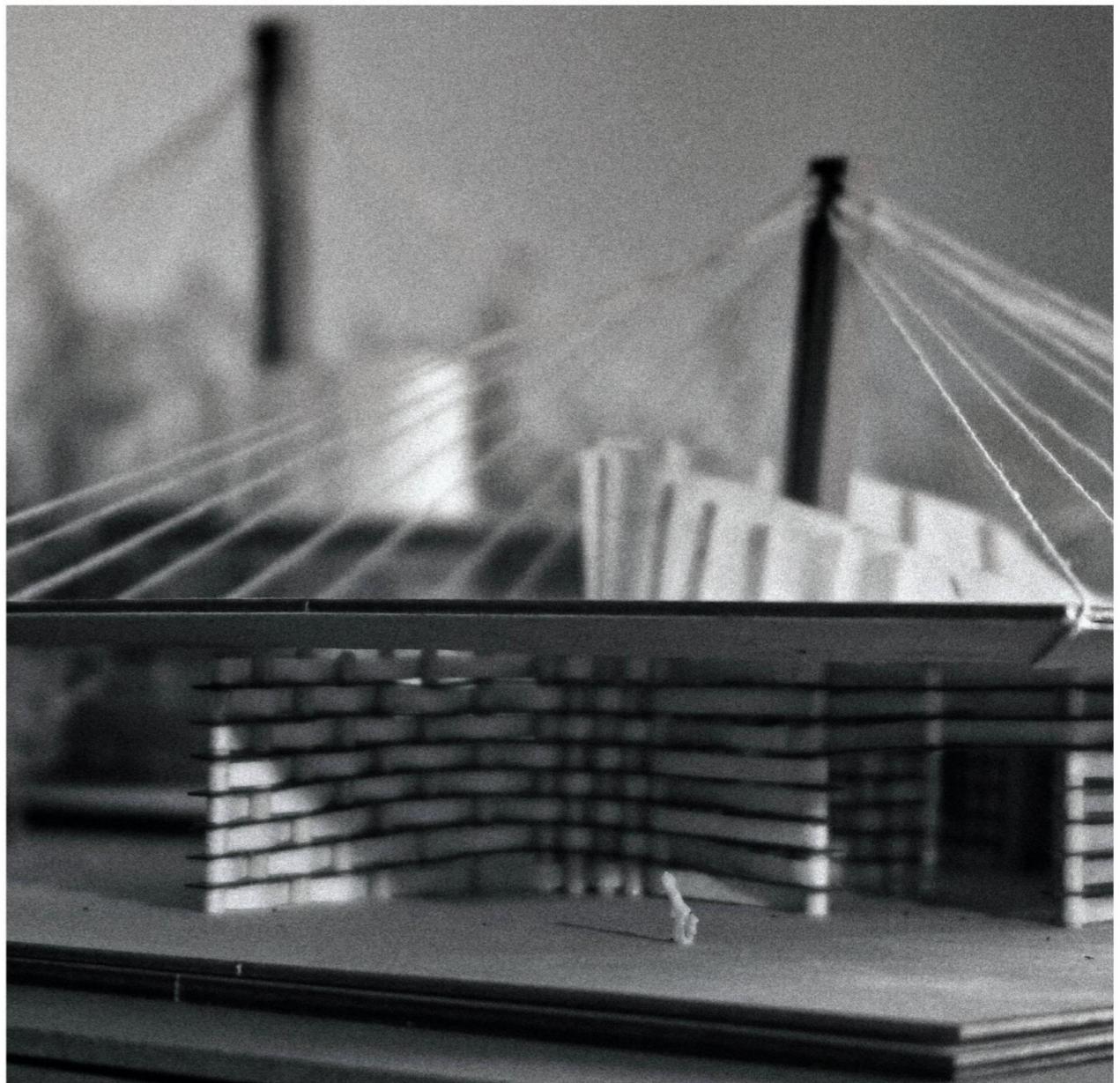
section B-B'

*Form Fits the Theme*

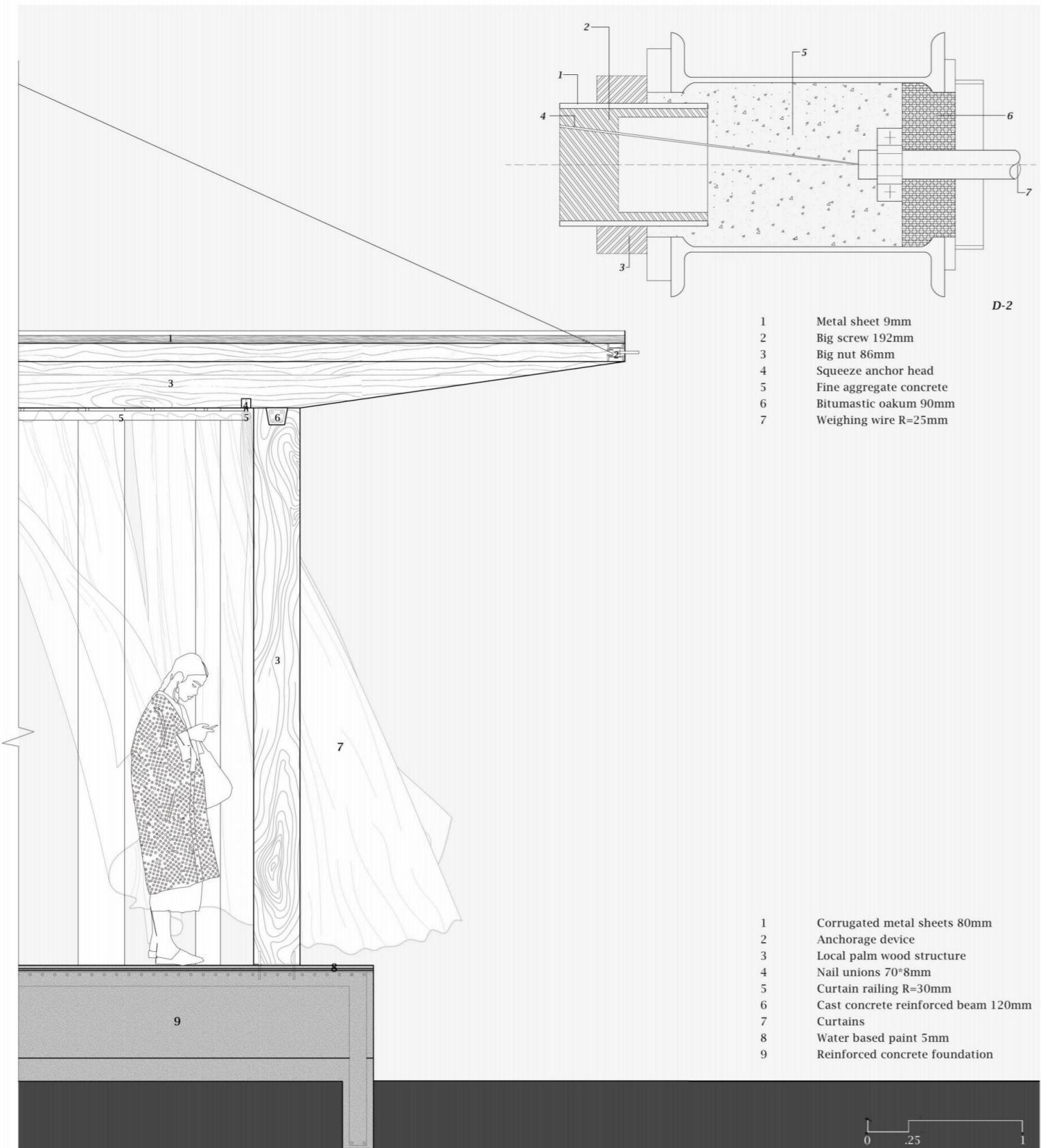
Local material timber is used as the base and roof, and a suspension structure is used to release the constraints of the building plan.

The façade uses fabric wrapped around wooden columns to correspond the sense of wrapping to the material.

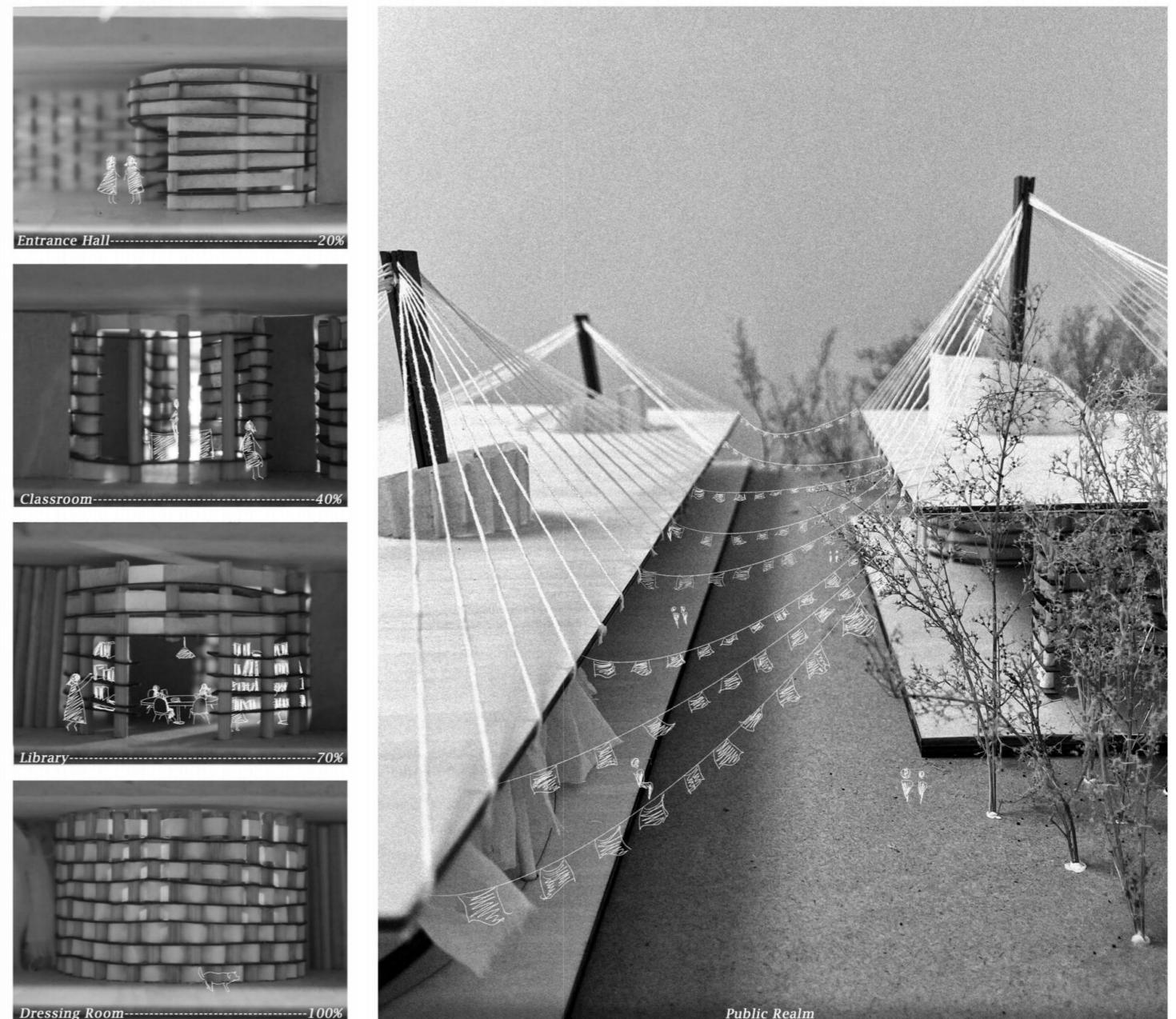
Depending on the openness of different functions, the sparseness of the columns and the transparency of the fabric are then changed to achieve the healing effect.

*Corresponding to the Site*

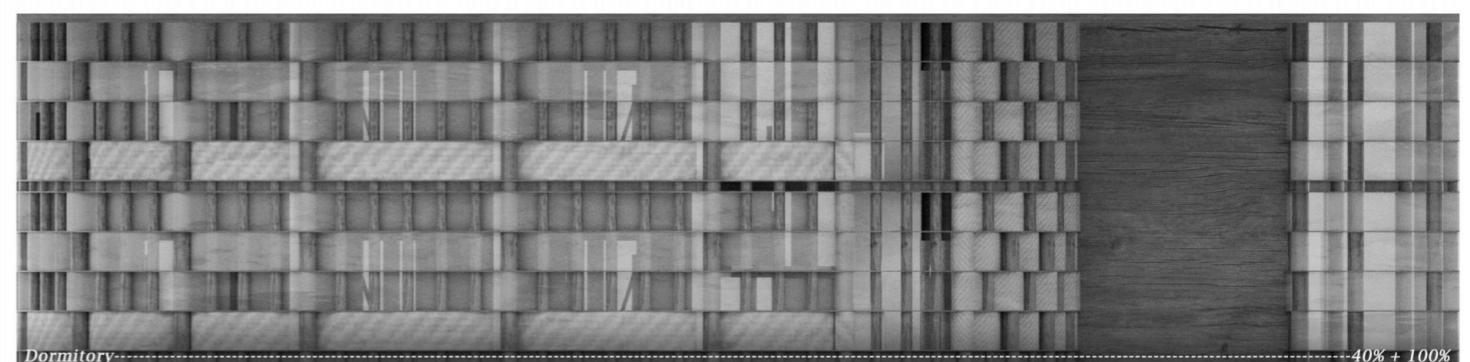
Her Place is distinguished from the local architecture by a distinct structure, while the suspension of the building echoes the local sloping roof. Warm fabrics and wooden columns combine to extend the entrance, providing a safe and welcoming shelter for local girl victims.

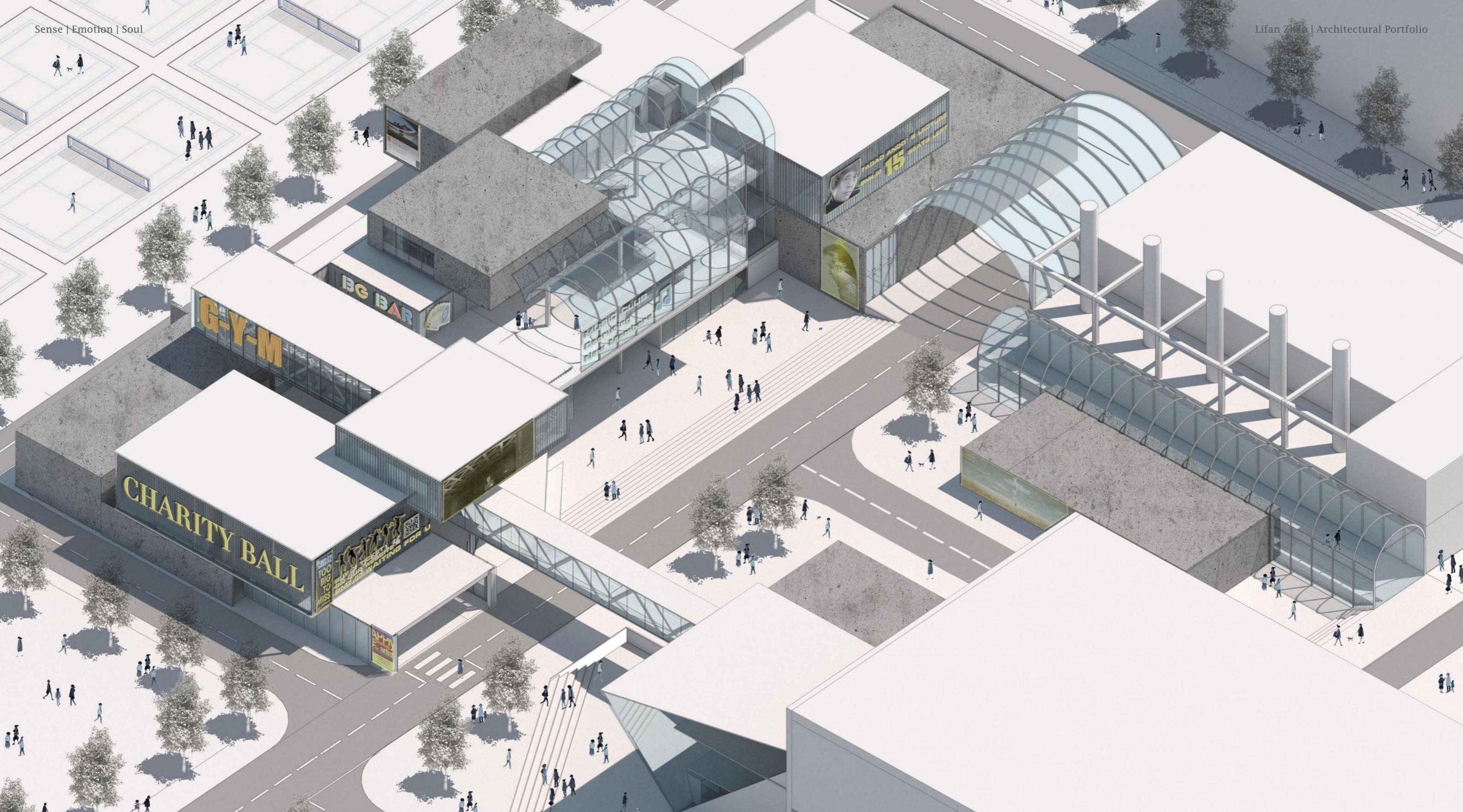
**Detail**

The average temperature in Devachuli is high and the year is divided into a dry season and a rainy season. To adapt to the local climate, wood is used throughout and corrugated metal panels are installed on the roof for waterproofing. At the same time, fresh air can enter the room through the gap between the fabric and the wooden columns to keep it cool and dry.

**Material & Opaqueness**

Various activities are taking place in different realms, and disadvantaged' privacy are protected by the change of fabric's opaqueness. The transparency varied due to teachers' supervision, degree of mental health and functions, thus lay the foundation of safety and practical.





03 CAMPUS 2050

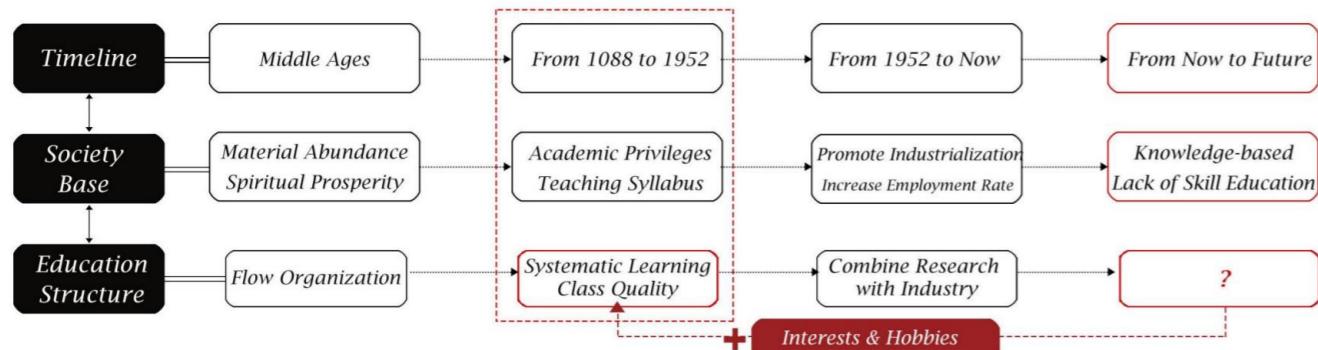
Campus for evolution based on voluntary will and natural feedback.

Year:2021
Location: Daxing, Beijing, China
Individual Work
Instructor: Prof. Jiang Fang

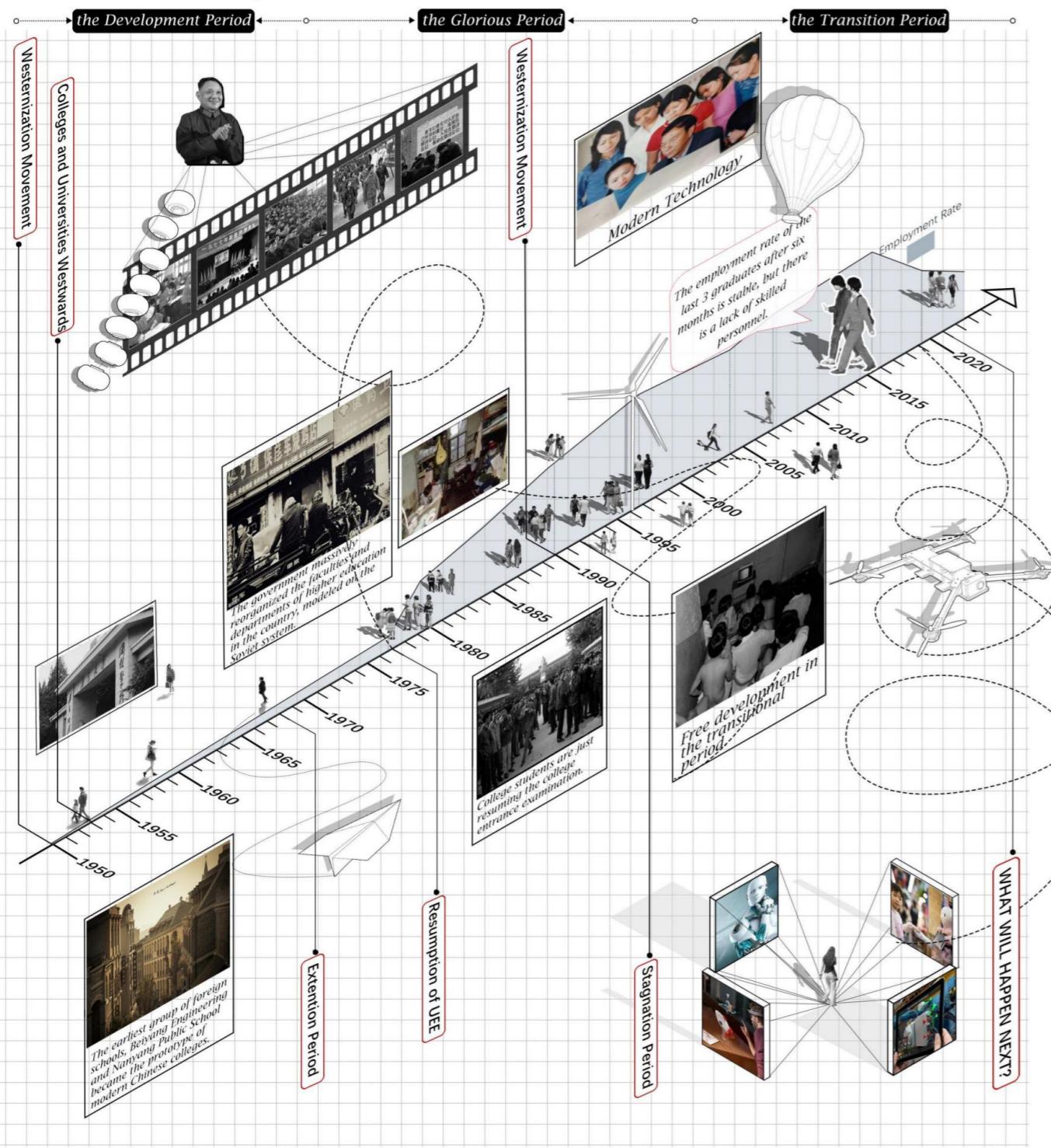
Project Description:

Nowadays, universities are faced with such problems as waste of old space for a long time, lack of functions that meet the needs of students, less personalized space, inequality of teaching resources, and excessive rigidity of society. From the research of future education development, it is found that education has the trend of individuation, information and lifelong. For the vision of the future university and the problems facing the university today, the design is based on the phenomenon of natural selection, through the exploration of new functions and the re-creation of existing space values, with the help of modular technology, to create an iterative university complex for teachers and students.

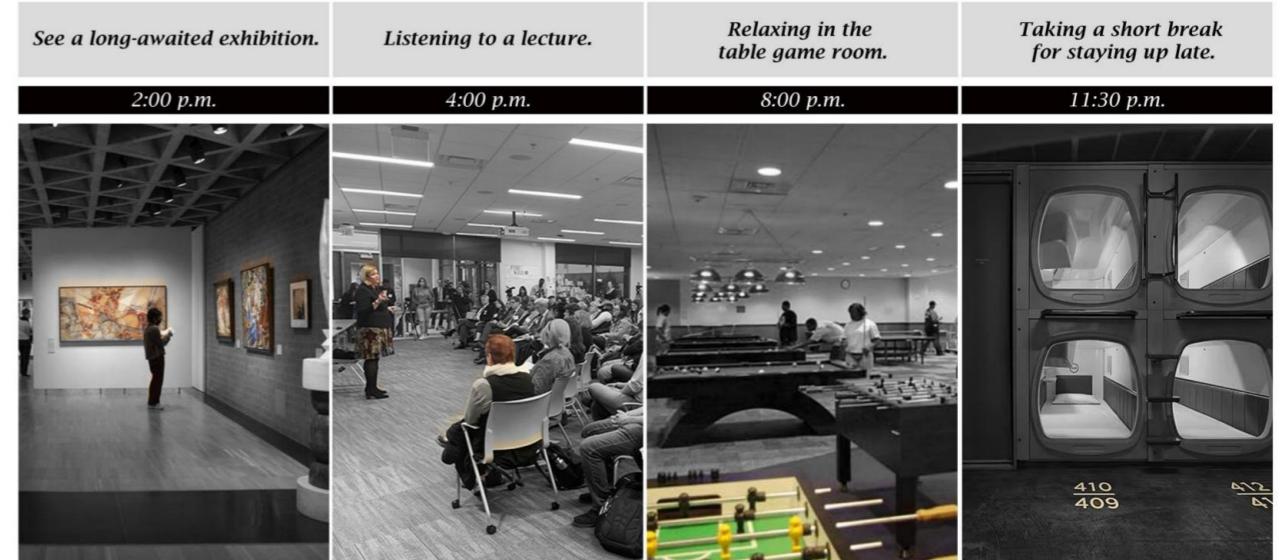
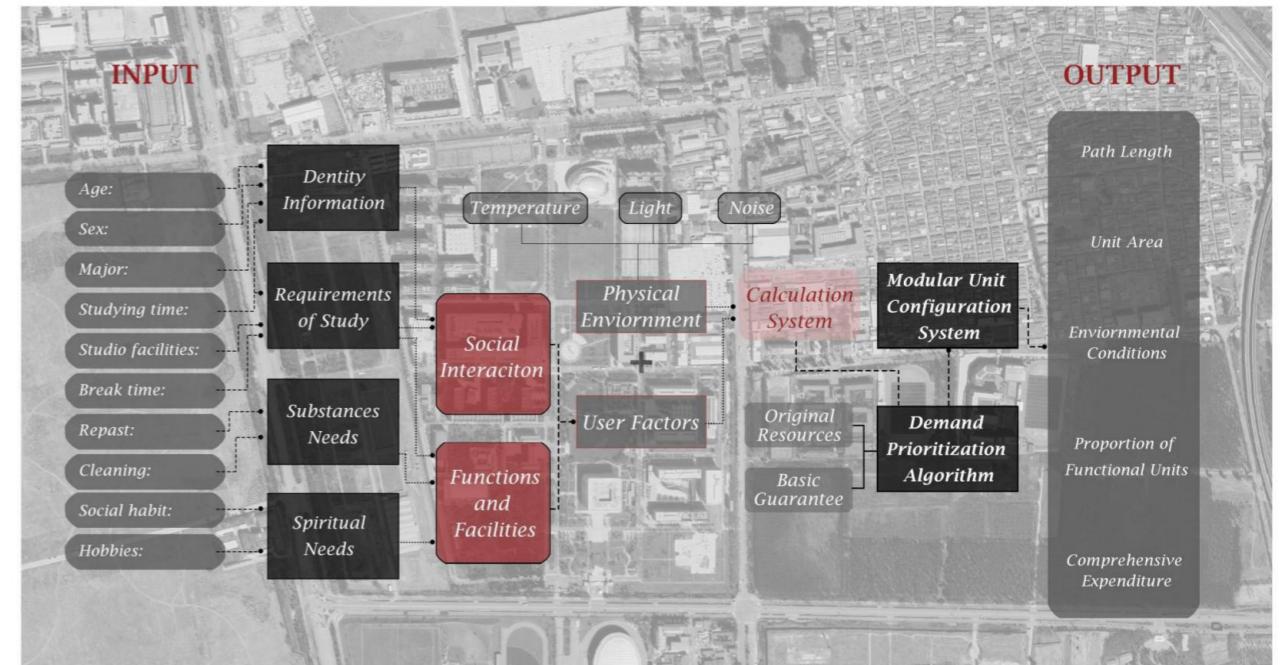
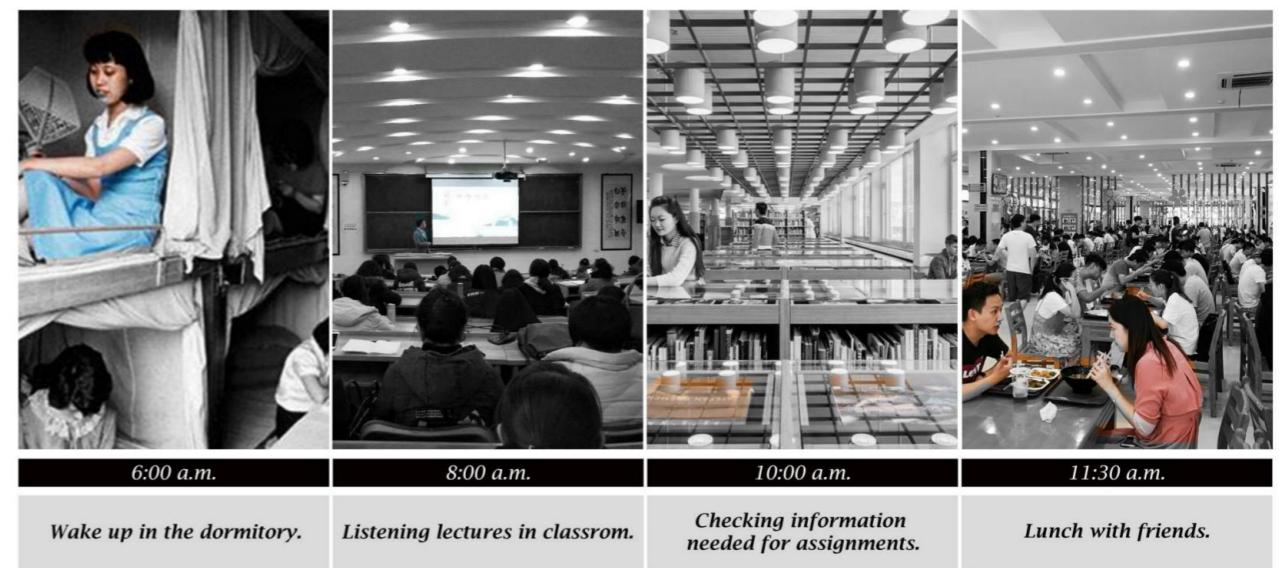
Origin and Development of Universities

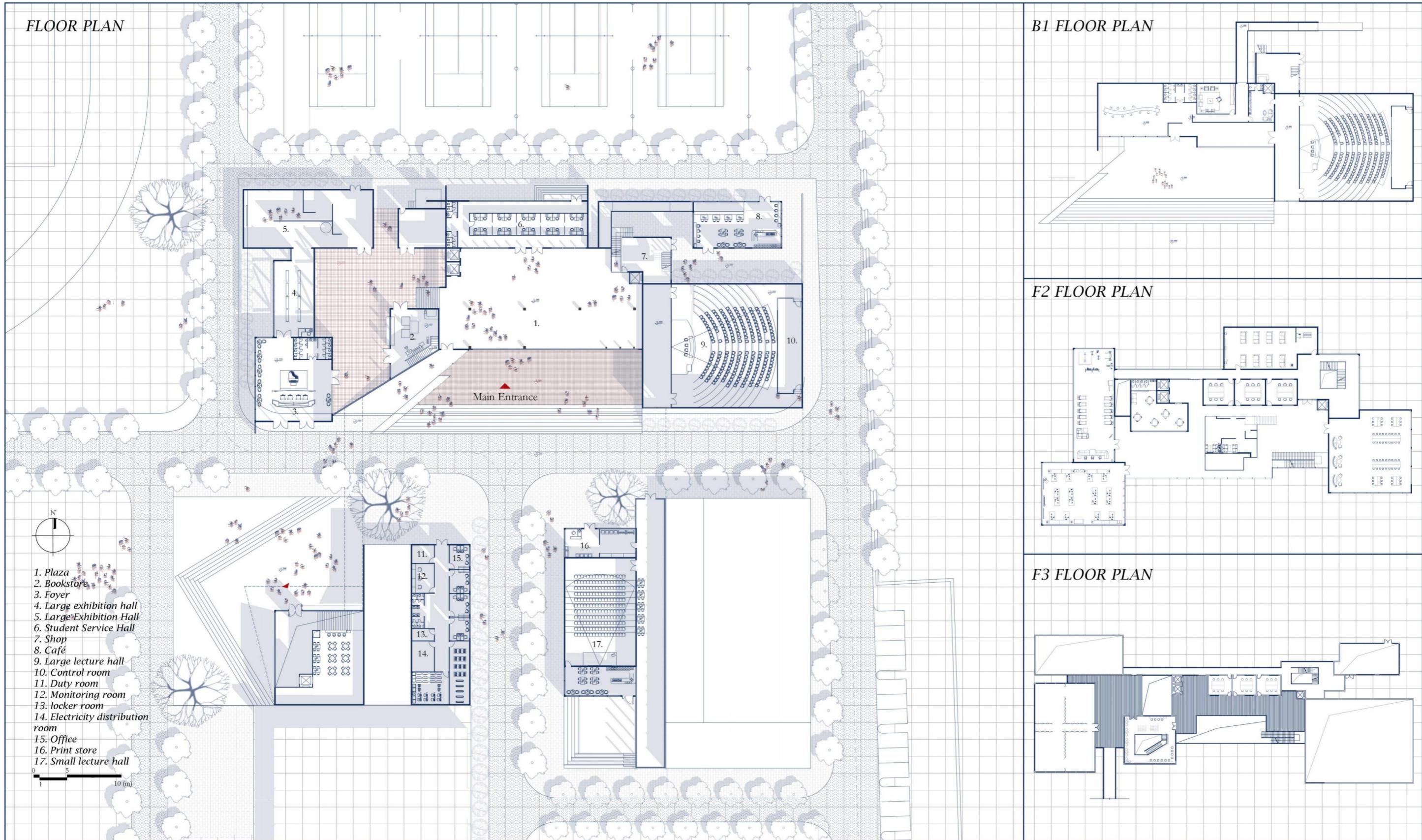


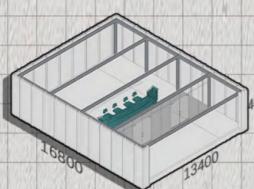
Timeline of China Campus



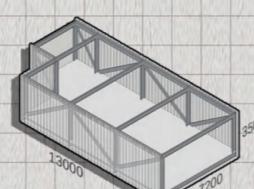
Personalization = Basic Function + Optional Function



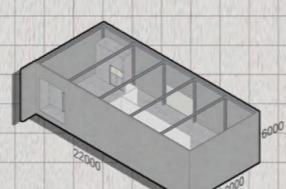


Functional Planning

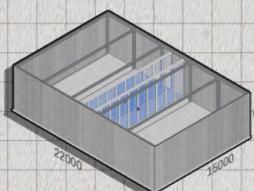
A LOBBY
Area: 225m² Dim:4.5×16.8×13.4
Material: U-shaped glass
Contains a service center, the main function is to receive students and teachers as well as external guests.



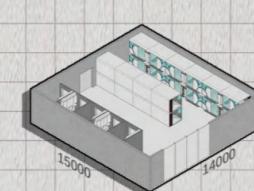
B GALLERY-1
Area: 104m² Dim:7.2×13×3.5
Material: U-shaped glass
A long sub-bar for holding exhibitions on and off campus space, which is connected to the foyer.



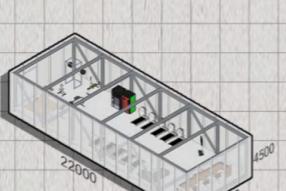
C GALLERY-2
Area: 220m² Dim:10×22×6
Material: Concrete Slab
The main space for holding on-campus and off-campus exhibitions, which is connected to the small exhibition hall.



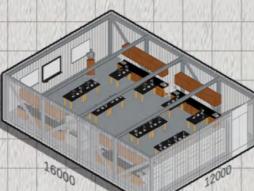
D MULTIFUNCTION CLASSROOM
Area: 330m² Dim:15×22×6
Material: Glass Brick
It can be used as a classroom in normal times and the partition can be retracted to form a large space during events.



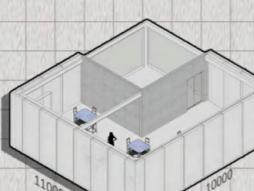
E CAPSULE STUDY LOUNGE
Area: 210m² Dim:14×15×3.5
Material: Concrete Slab
Provide students with a separate study and rest space for dormitories and solve the problem of long distances arises.



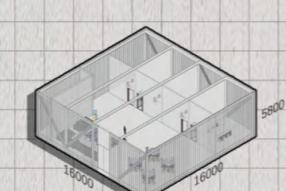
F GYM
Area: 176m² Dim:8×22×4.5
Material: Ultra-white Glass
As an indoor exercise space to increase the amount of exercise for students and faculty and provide exercise needs.



G HANDICRAFT WORKSHOP
Area: 192m² Dim:12×16×4.5
Material: U-shaped Glass
Faced with the need for independent learning and exercise of manual skills, we offer handicraft workshop service.



H TABLE GAME ROOM
Area: 110m² Dim:10×11×4
Material: Ultra-white Glass
Provide teachers and students with after-school a convenient offline entertainment space that promote social activities.



I ASSOCIATION ROOM
Area: 256m² Dim:16×16×5.8
Material: Ultra-white Glass
It is used for student union office and club activities, providing the function of student independent communication.

Transparency Study

Pure Structure



Glass Brick



U-shaped Glass



Perforated Aluminum Plate



Ultra-white Glass

By means of modular technology, each block is built as a module. The building utilization is realized according to the students' needs, the building functions are visualized, and the design is carried out using the transparent difference of different facade materials.



WEST PERSPECTIVE



04 HORIZON HAVEN

Interior Design - Residential between function and aesthetics

Year:2023

Location: Swan Street, Rydalmer, NSW

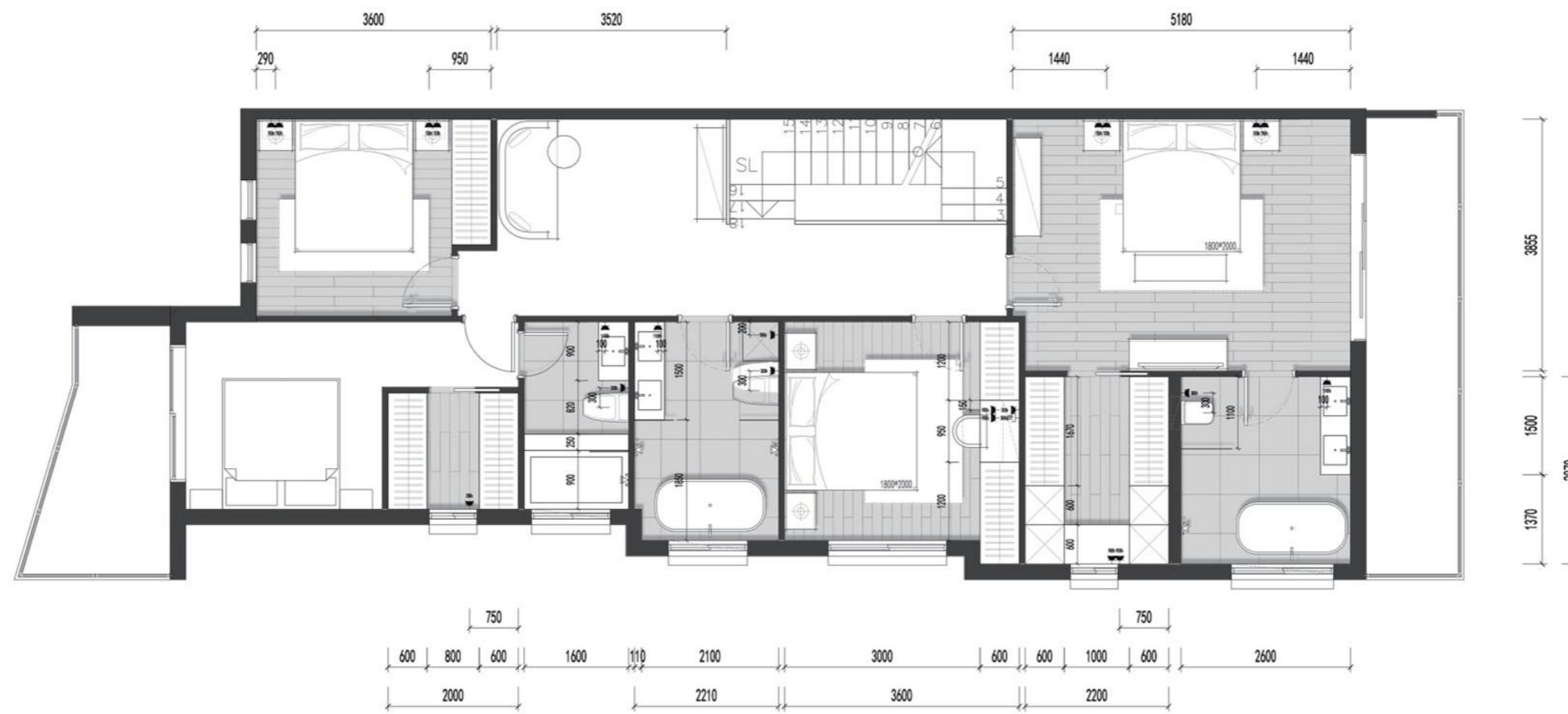
Individual Work

Project Description:

A contemporary living space that harmonizes functionality, aesthetics, and sustainability. The design concept focuses on creating a seamless blend of natural textures, modern finishes, and smart spatial planning to enhance everyday living. With three core principles: Spatial Harmony & Flow, Material Synergy, Lightning & Ambiance, this project is a celebration of balance and refinement, blending modern aesthetics with functional elegance.

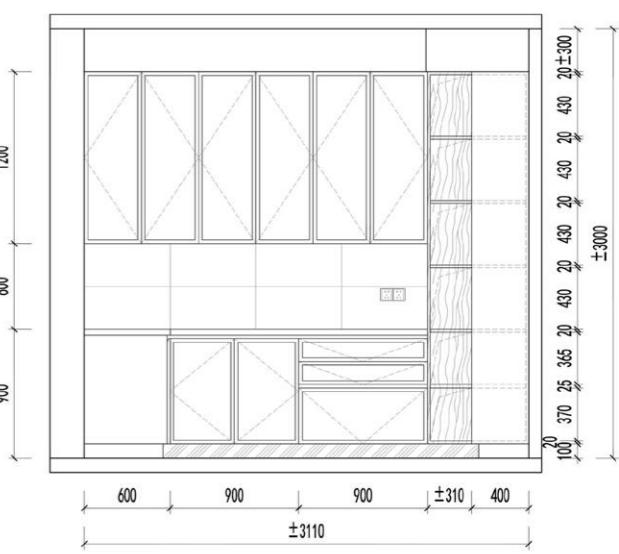
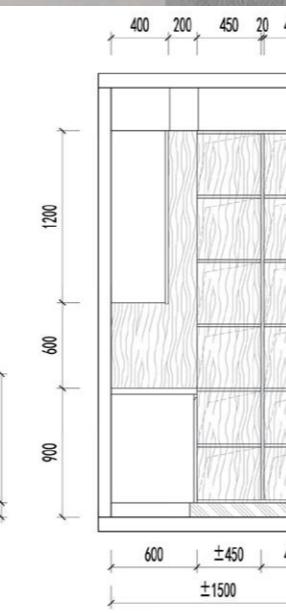
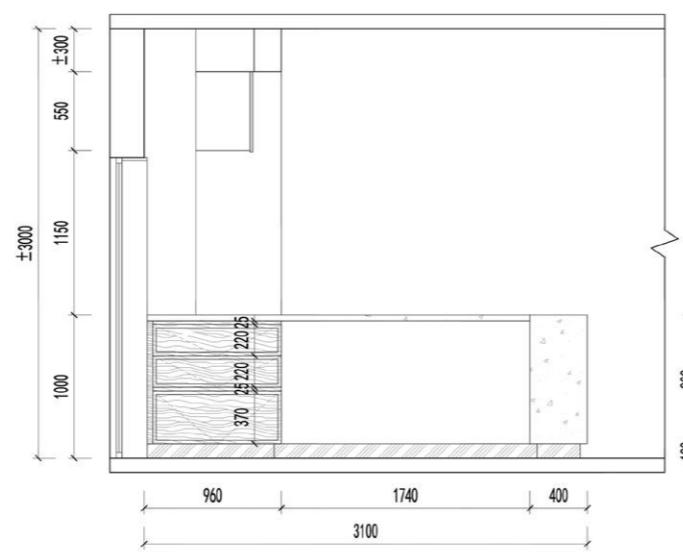
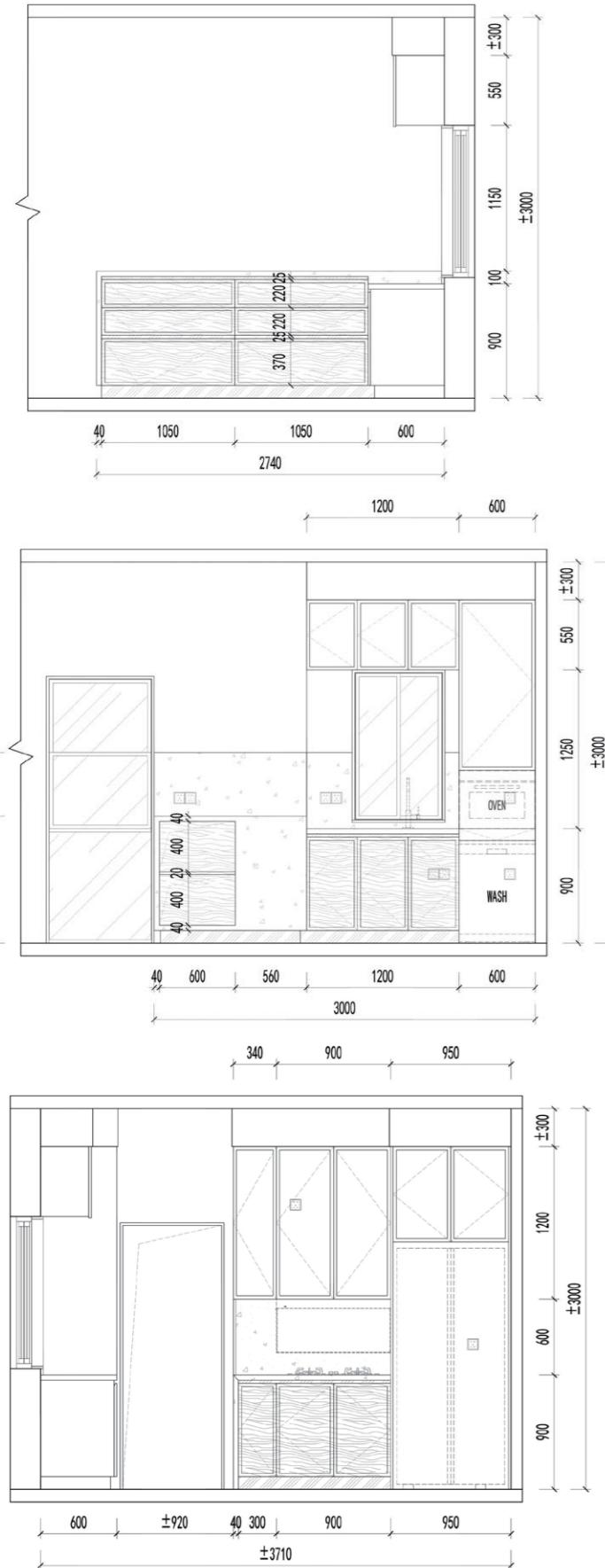


First Floor Plan



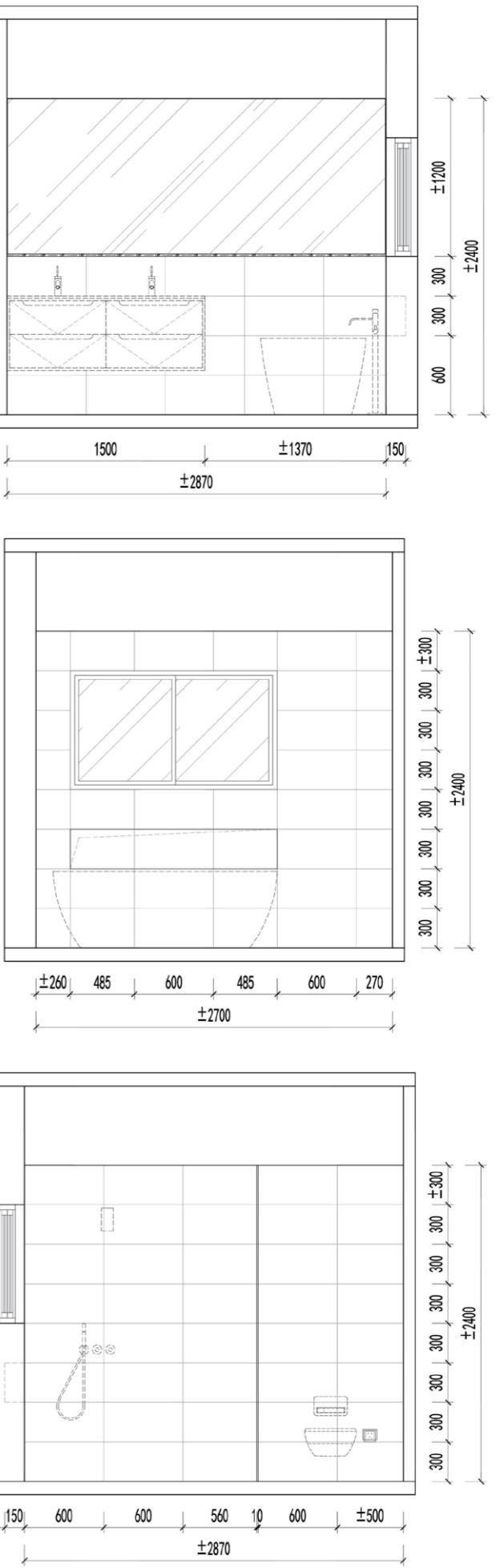
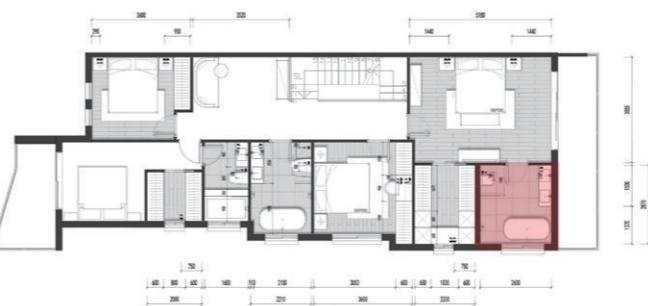
Ground Floor Plan

DINING, KITCHEN AND BUTLERS



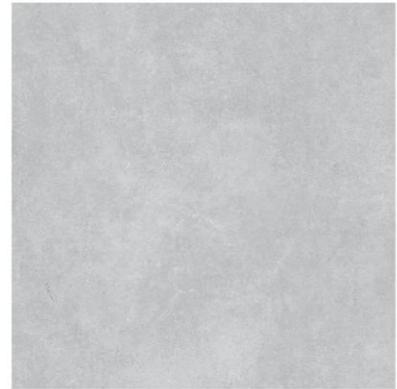


Bathrooms in Horizon Haven
large-format grey tiles
Palace stone accents
frameless glass shower partitions
Dark grey and wood-textured cabinetry
white waterproof latex paint
5000K LED downlights
3000K ambient strip lighting for a relaxing atmosphere.
Floating vanities and minimalist fixtures complete the design, transforming the space into a refined yet practical retreat.



Bathroom Elevation

TL-01



La Vida Tiles
Grey,Matt Finish, Grey Grout
Match Tiles Color
1200Lx600W(mm)
Garage, Laundry, Living,
Kitchen, Dining And Butlers
Floor

TL-02



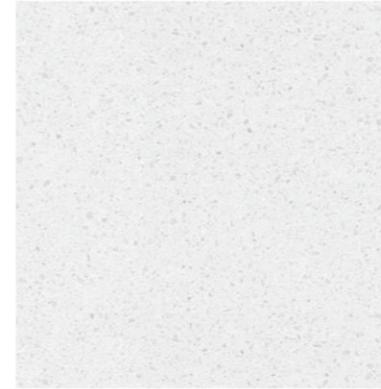
La Vida Tiles
Dark Grey,Matt Finish, Grey
Grout
Match Tiles Color
600Lx600W(mm)
Laundry Wall, Laundry And
All Ens&Bath Floor

TL-03



La Vida Tiles
Grey,Matt Finish, Grey Grout
Match Tiles Color
600Lx300W(mm)
Butlers, All Ens And Bath
Wall

ST-01



Stone
Alpine Snow (AC8517),
Grey Grout
Match Stone Color
20D(mm)
Laundry And Kitchen
Wall&Benchtop, Butlers
Benchtop

ST-02



Stone
Palace (AC21),
Grey Grout
Match Stone Color
20D(mm)
Bed2 Ens Tub

GL-01



Glass
10D(mm)
All Shower Partition

WD-01



Light Grey Baking Varnish
18D(mm)
Match Cabinet Color
Garage, Bedroom Cabinet,
Living Wall

WD-02



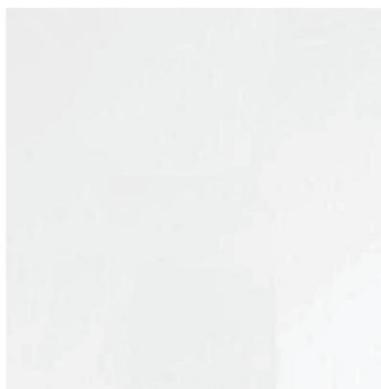
Dark Grey Baking Varnish
18D(mm)
Match Cabinet Color
Laundry, Kitchen, Butlers
And Living Cabinet

WD-03



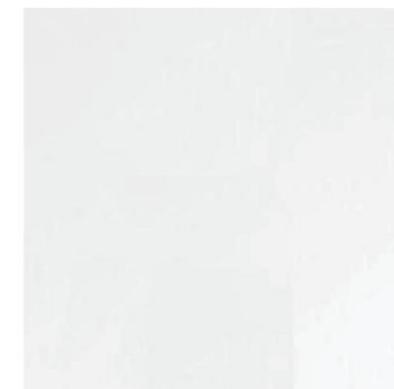
Wood
18D(mm)
Match Cabinet Color
Kitchen, Butlers, Living And
Wir Cabinet, Living&Master
room Wall And Staircase
Wall

PT-01



White Latex Paint
Dulux Paint
Large Area Wall And Ceiling

PT-02

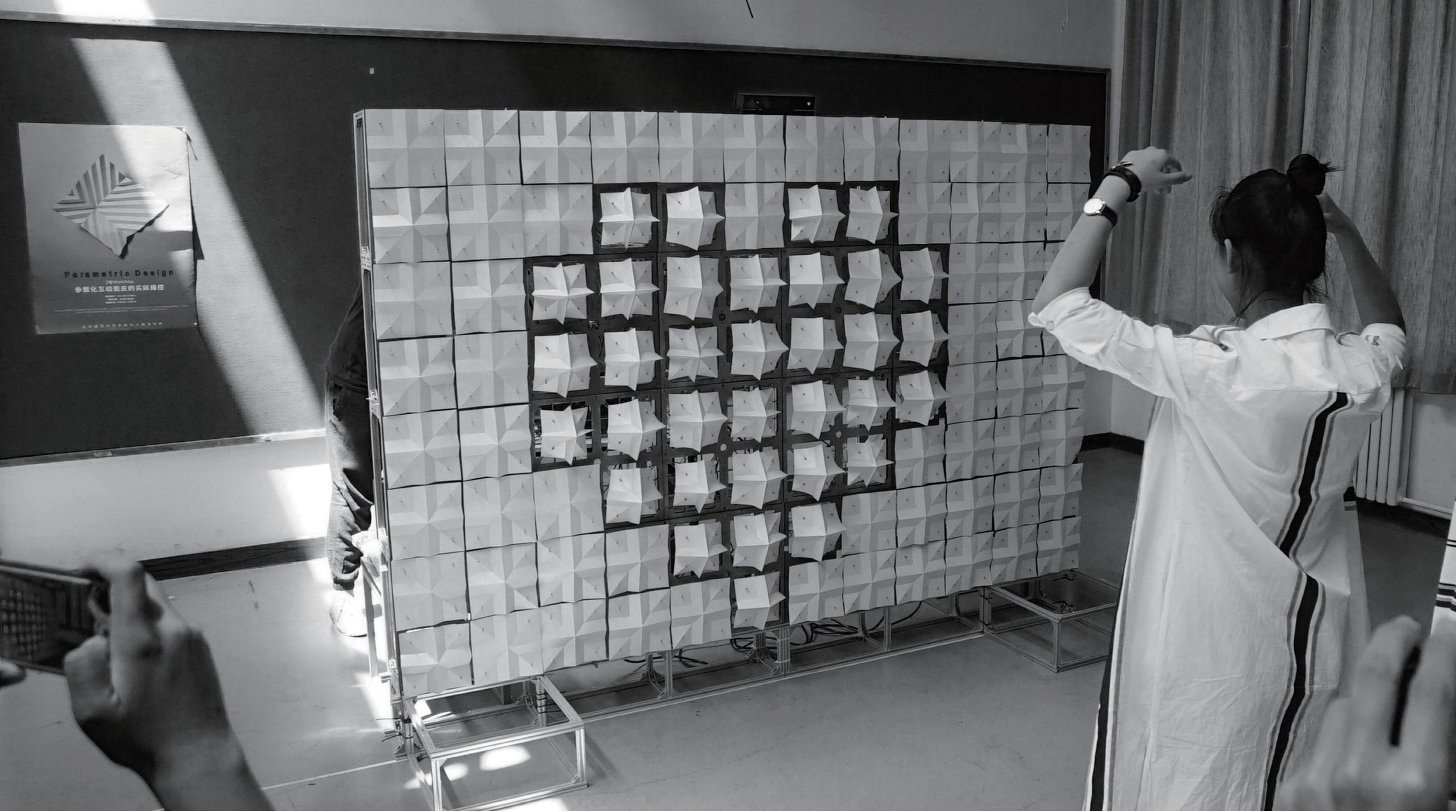


White Waterproof Latex Paint
Dulux Paint
Laundry, Bath, Ens And Kitchen
Wall
Laundry, Bath, Ens, Butlers And
Kitchen Ceiling

MR-01



Silver Mirror
5D(mm)
Master Ens Cabinet



· PARAMETRIC ARCHITECTURE RESPONSIVE FACADE WORKSHOP

Discovering interaction and changing

Year:2021

Location: Beijing University of Civil Engineering and Architecture

Group Work

Collaborator: Team 3 -Dan Luo, Jiaqi Xie, Hangyin Lin, Tuping Wang, Gudao Fang, Jiemin Wu

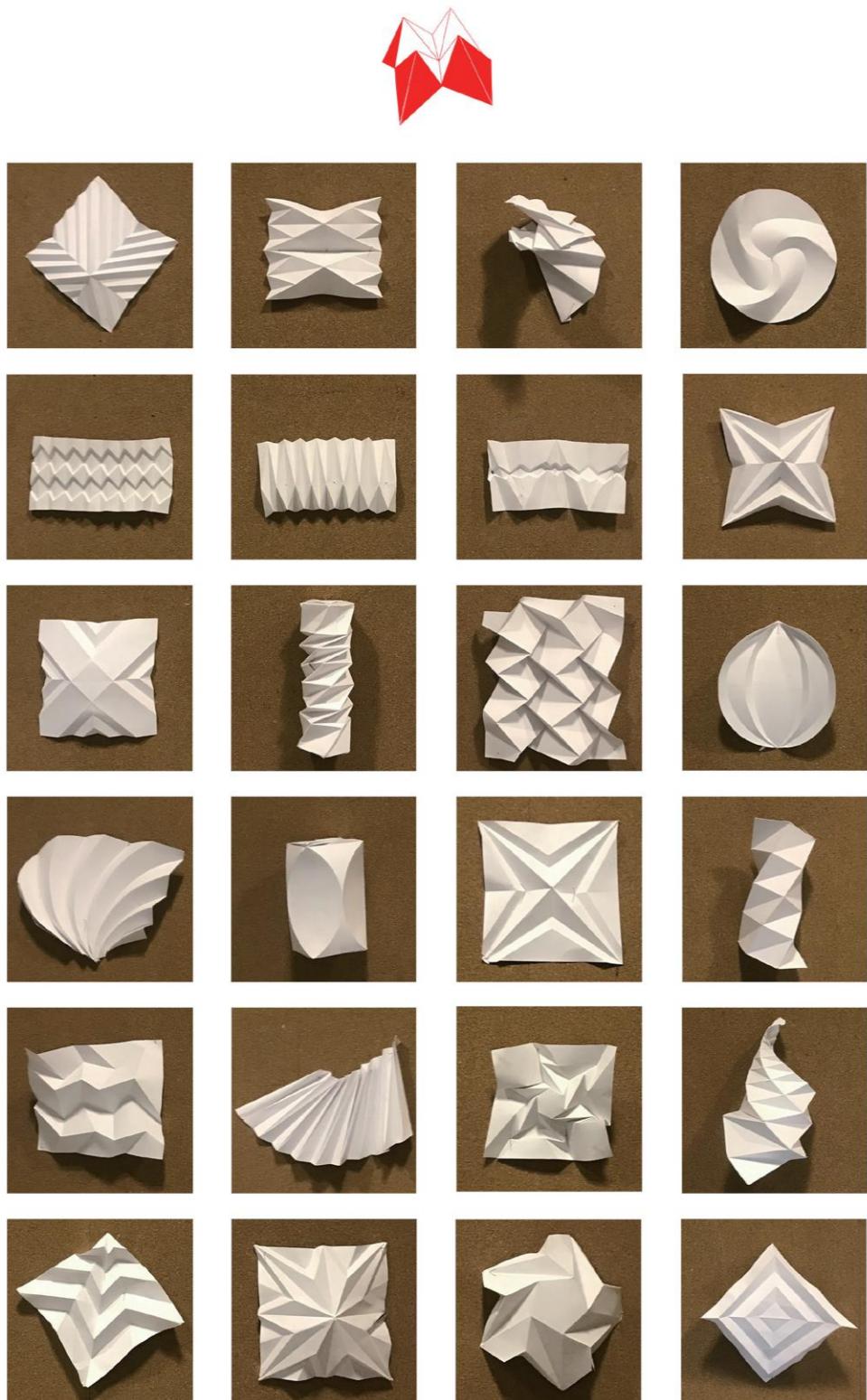
Contribution: Team leader of the team No.3, Skin design 50%, Instalation 70%, Arrangement 60%

Instructor: Prof. Hao Shimeng, Prof. Xu Yuejia

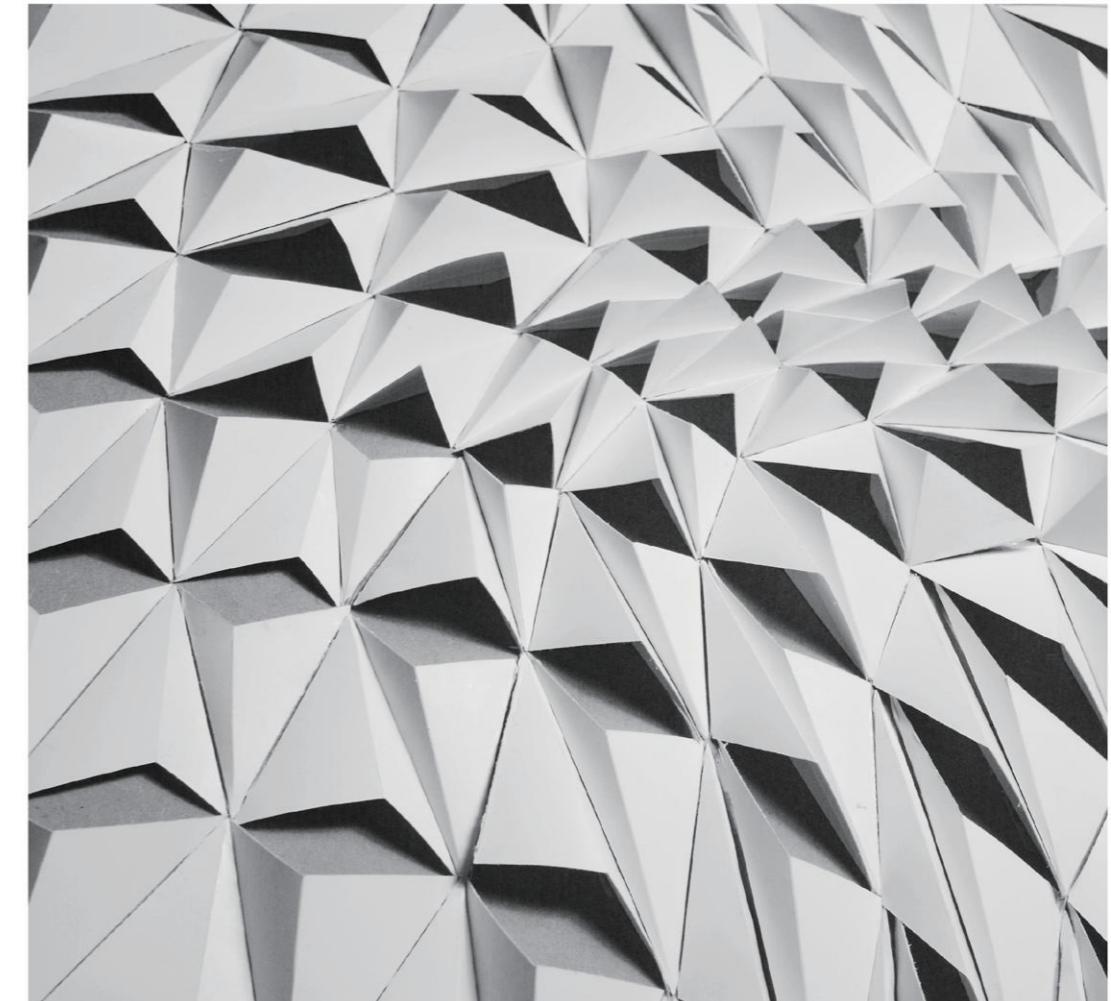
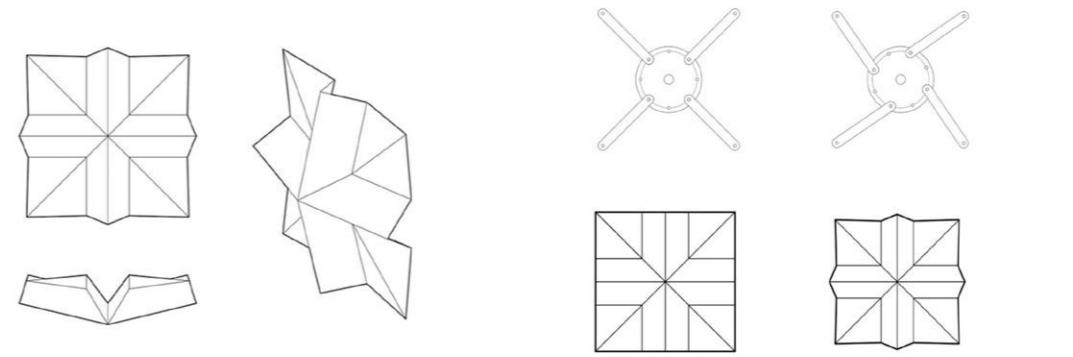
Project Description:

The Criss-cross workshop explored and studied more than thirty different manifestations of façade skins, and divided them into three aspects: the physical construction of parametric interactive skins, the actual manipulation and the manipulation and experience of parametric virtual worlds. The software Arduino is mainly used to program, connect with grasshopper, and then interact through VR.

Part 1
Form Exploration and Material Selection

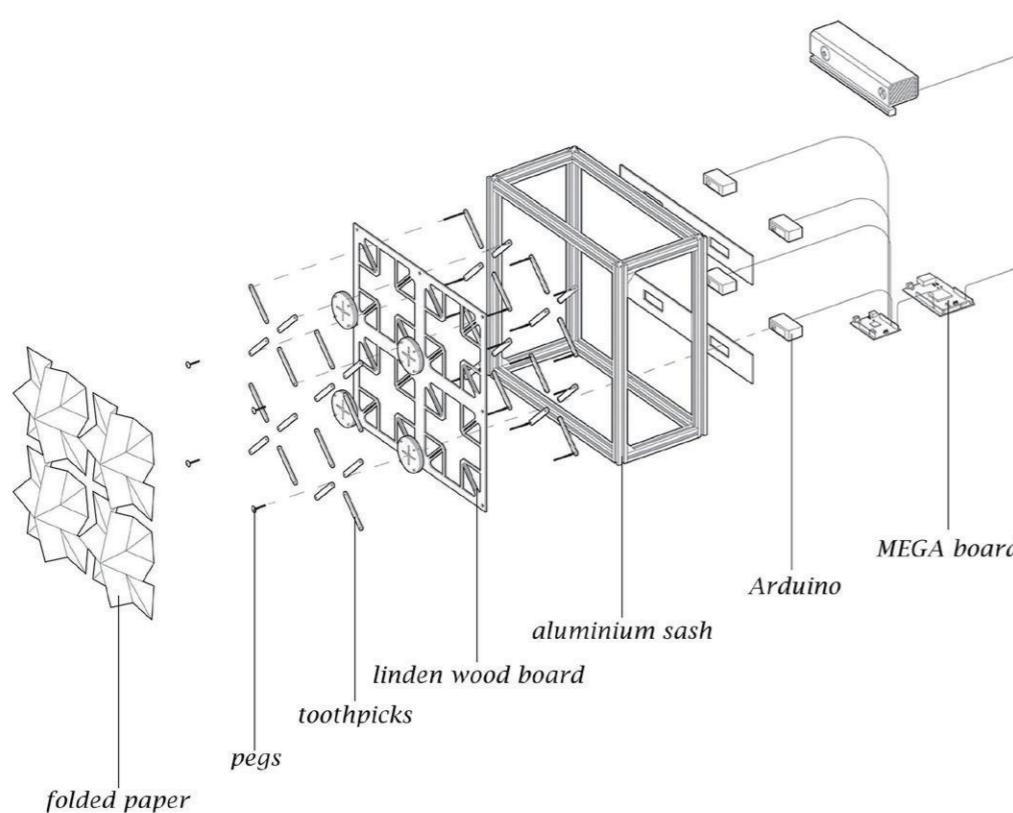


The parametric skin has multiple ways of expression. First, we chose cardboard that is easy to fold and trim for different forms of folding, and explore the feasibility and aesthetics of changes from it.

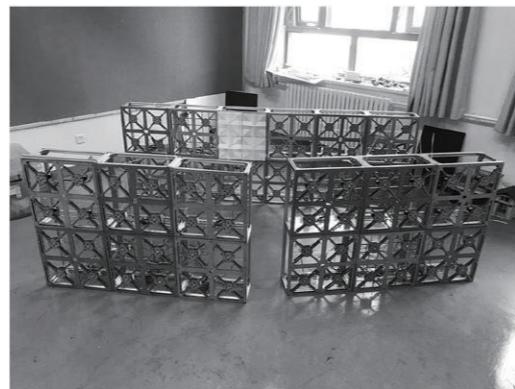


The program is selected to open and close based on a square center gathering. The advantage of this unit design is that the whole unit stretching complete and smooth, shading tightly, the unit block integrity is well, and each other directly spliced tightly. When it is driven to fold contraction, the cross direction upward contraction close fit, the edge of the four rectangles to diagonal diagonal as the center of the fold upward slightly convex, complete contraction. After shrinkage, the gap between the units appears and can be completed for practical purposes such as light transmission and ventilation. This solution design has been weighed in terms of overall, aesthetic, practical, and interactive considerations, so it is used as the skin unit.

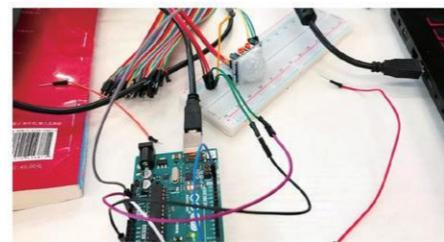
Part 2
Deformation Mechanism and Support Structure



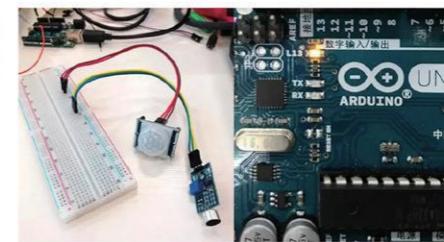
Wooden strips, toothpicks and pegs were chosen as the basis of the fit, fixed with toothpicks and transmission control of the four control points. In the second stage, we used laser engraving to make perforated wooden strips for the linden boards, and the four nodes were constructed with wooden strips for interpolation, surrounded by crossed wooden strips to realize the contraction control through the change of angle, and the flexible fixation of the nodes with pvc sticks and hollow strips.



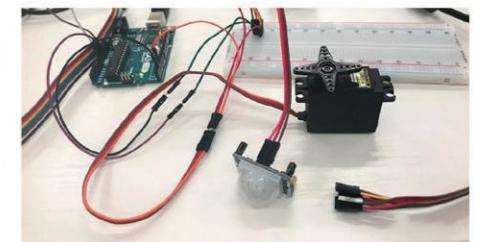
Part 3
System Architecture Control Program



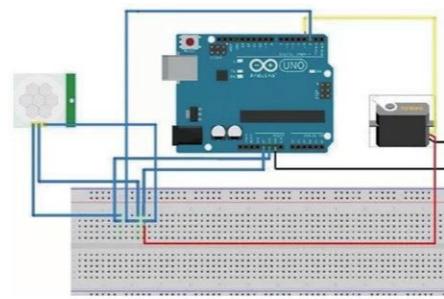
Step 1: Comparison of different sensors



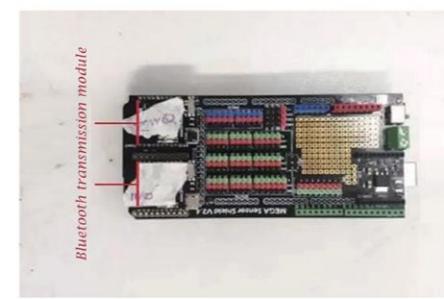
Step 2: L13 was used as a reactor to test the reception of signals from different sensors



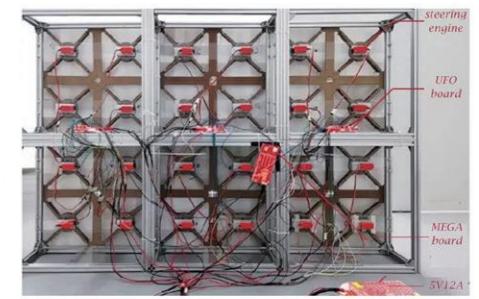
Step 3: Arduino connection diagram live shot



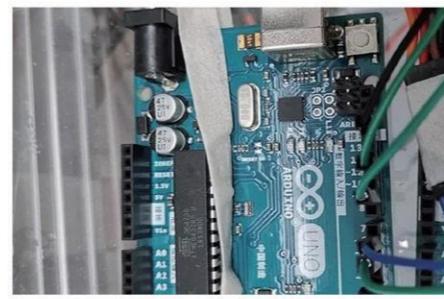
Step 4: Arduino connection diagram



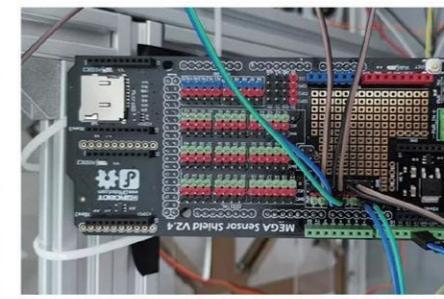
Step 5: MEGA board connected to bluetooth transmission module



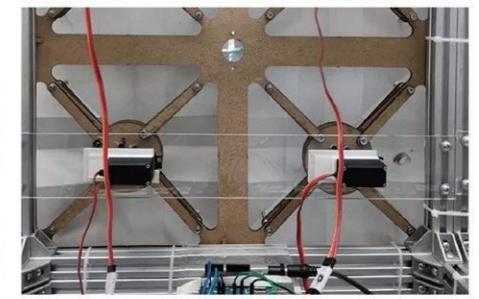
Step 6: Control system -motherboard, Bluetooth module, sub-board, UNO board, servo and power supply



Step 7: The sub-board is connected to the Bluetooth module and the signal is distributed to each UNO board



Step 8: The UNO board receives the signal and controls the motor rotation



Step 9: Servo connection



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