



HONGHAO CHEN

INTERIOR
DESIGN

TABLE OF CONTENTS

01

THE FLOATING HOMES

02

FOOD, CULTURE, AND NATURE

03

FIRE + CHARCOAL CAFE

04

RIVER LAND

05

RED BLUE YELLOW

06

FLORAL ONIONS

01

THE FLOATING HOMES

Individual Project Dwelling Design

Fall 2020 Design Studio

Located in Busan, Korea



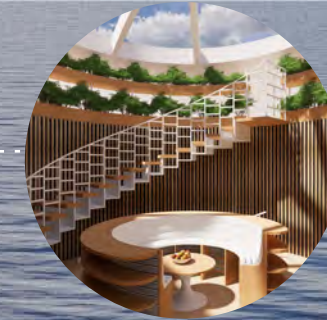
PART 1

As sea level rises, we need to think about how to adapt to the condition when we need to live on water. The project aims to design homes for people living in area with danger of flood and to enhance the connection between neighbors. The project reuses materials to make furnitures to reduce waste that people may throw away.

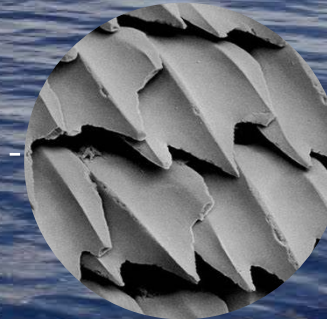
VESSEL CONCEPT



Inspired by the metal sachet from Tang Dynasty. It has two layers of structure. The outer layer prevents the inner layer from moving despite the movement of the whole sachet.



Interior view of the lounge on the second floor and roof farm



Shark scales are applied on the surface of the outer layer.
1. Help the movement of the vessel
2. Bio adsorbent for heavy metal
3. Generate electricity
4. Avoid bacteria



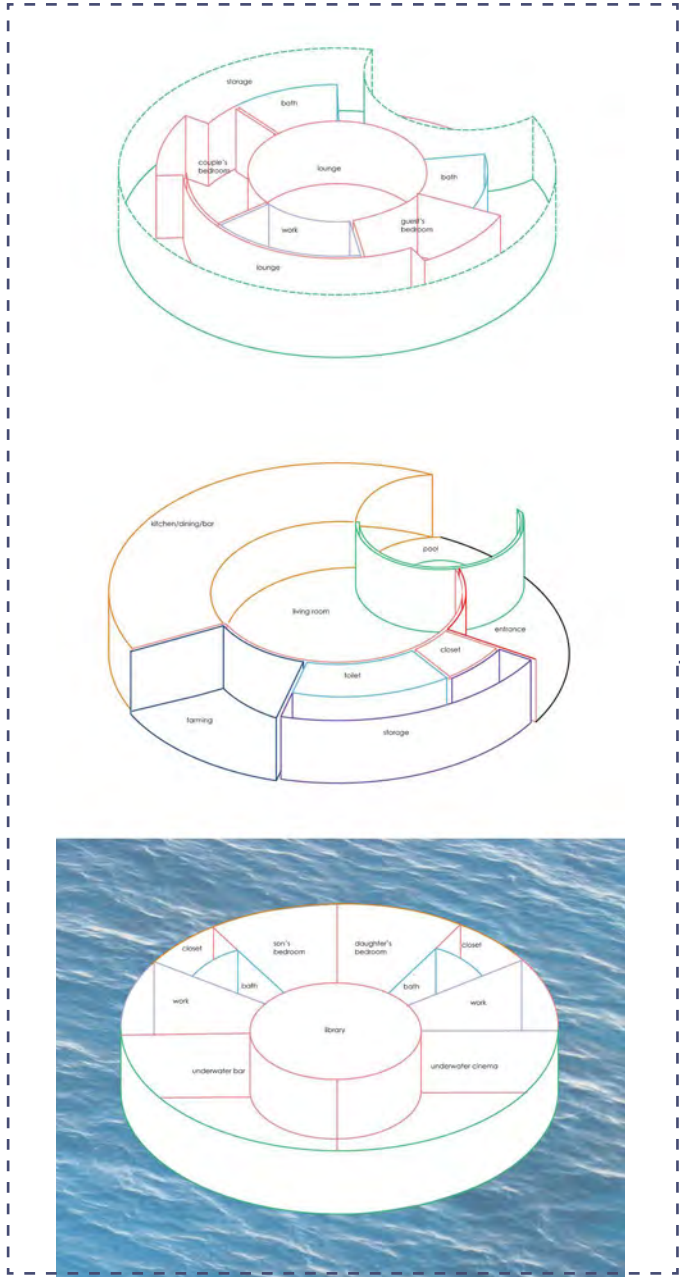
The openings of the outer layer corresponds to the functions of the inner layer



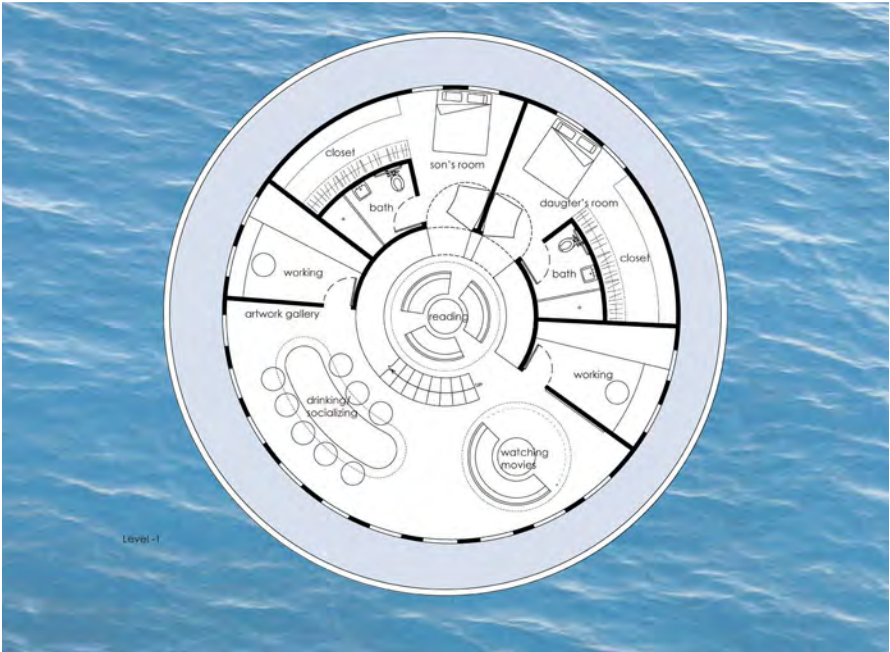
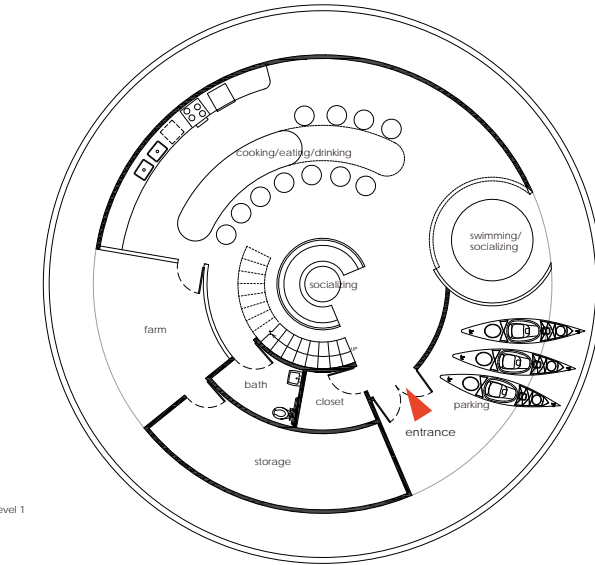
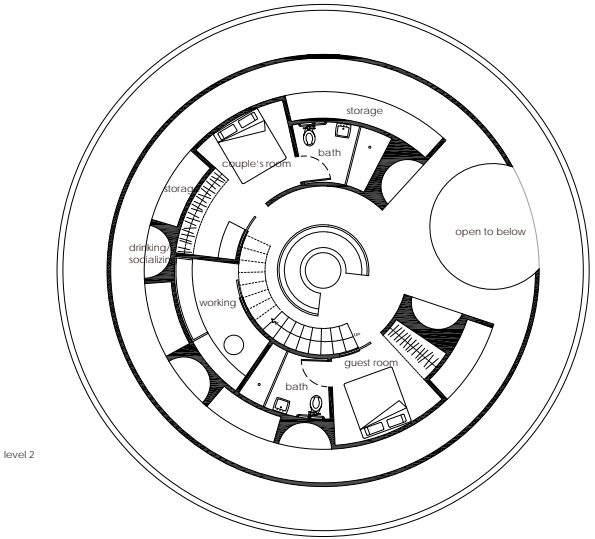
The rotating outer layer is the mechanism that makes the vessel mobile

Concept Statement

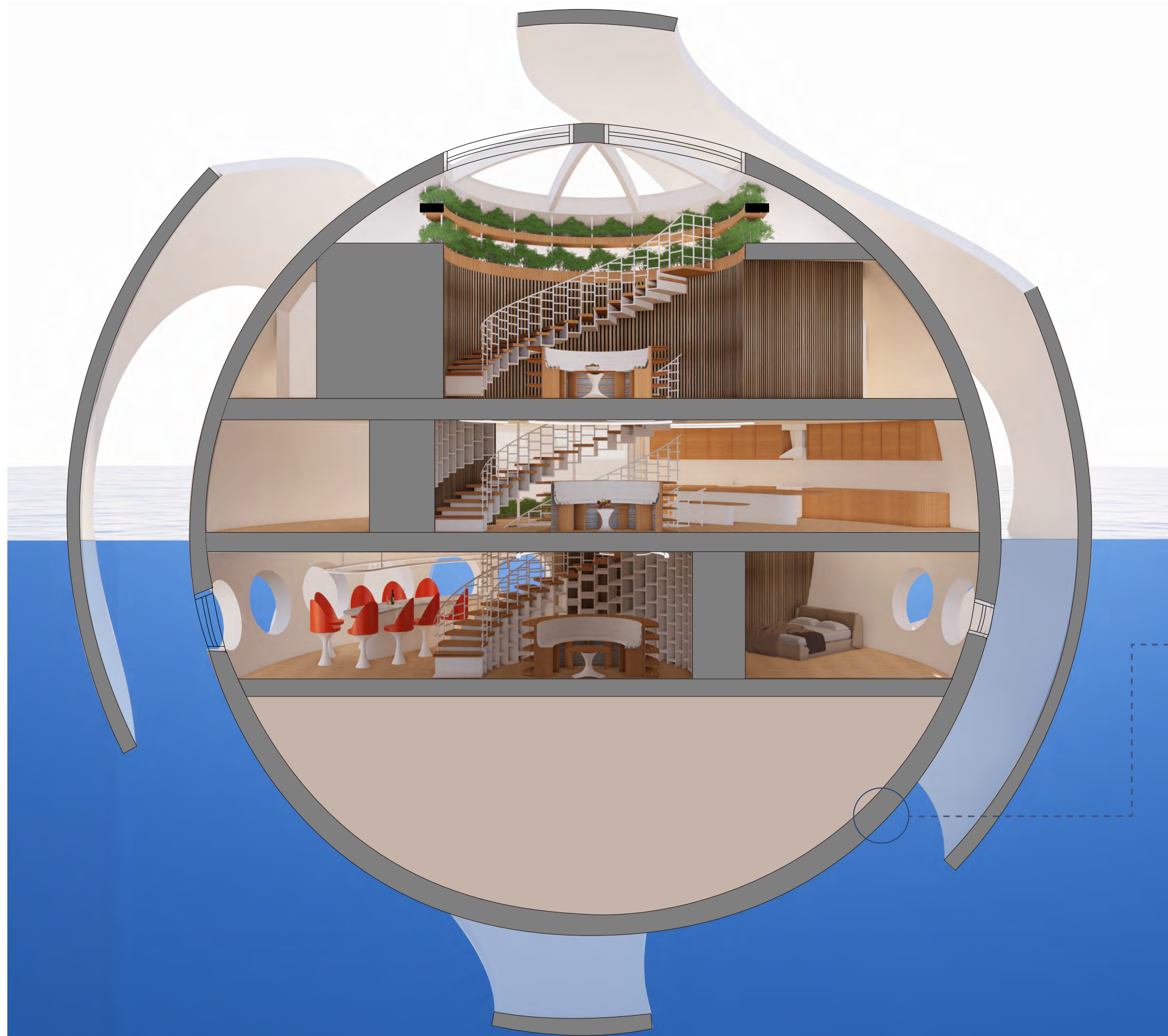
Establish a balanced relationship between human and marine environment by developing a system to reduce human waste to the environment and to enhance the connection within families and community.



programing diagram



plans

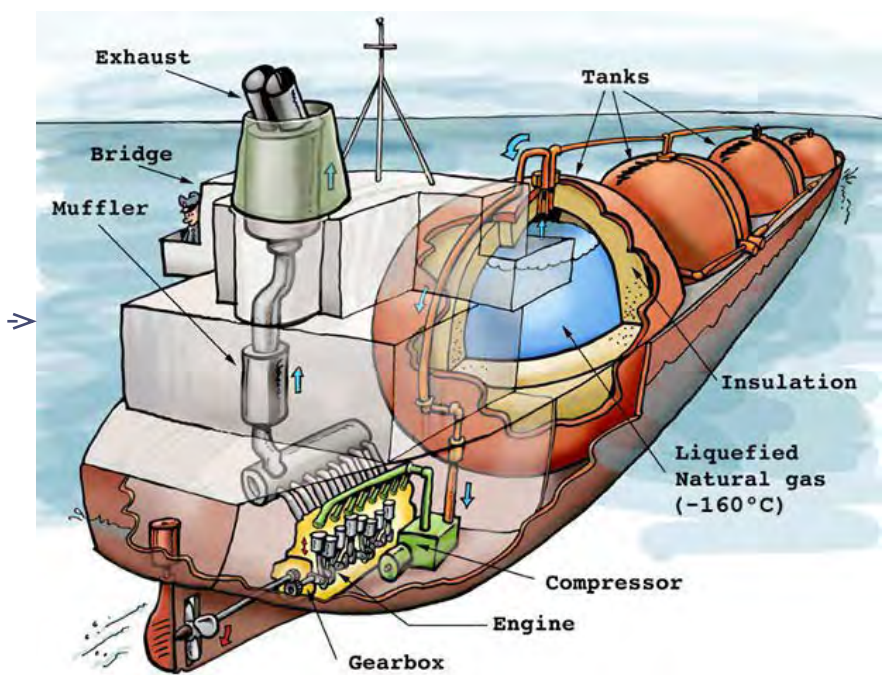


section

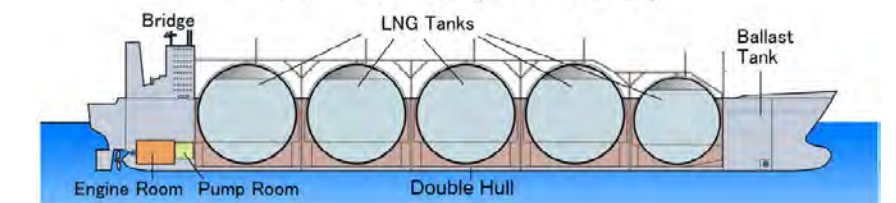
Material of the spheres

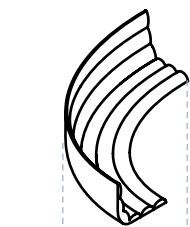
Recycled G.R. Engineering Horton Sphere

- used to transport liquefied natural gas (LNG)
- size ranging from 33' to 82' in diameter, 2.8" in thickness
- container of 57' in diameter is used in the project
- made of aluminum

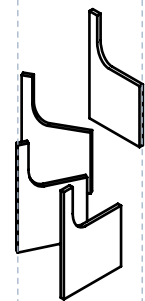


LNG tanker (side view)

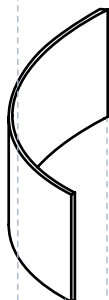




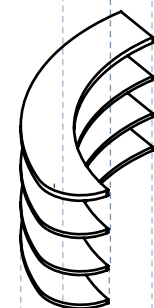
nylon finish
polyurethane
sponge filled



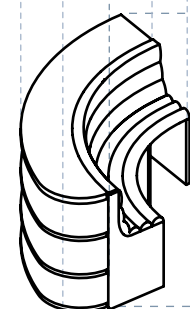
cedar wood



recycled
water tank



cedar wood



lounge on the second floor



underwater library

Bookshelf is built under the stairs to make better use of the space. The bookshelf continues along the wall of the bedrooms, which separates the library from other functions of this level underwater. Habitants can enjoy the readings in a private and quiet environment.



living room



spherical pool



underwater bar



underwater cinema

01

THE FLOATING HOMES

Individual Project Dwelling Design

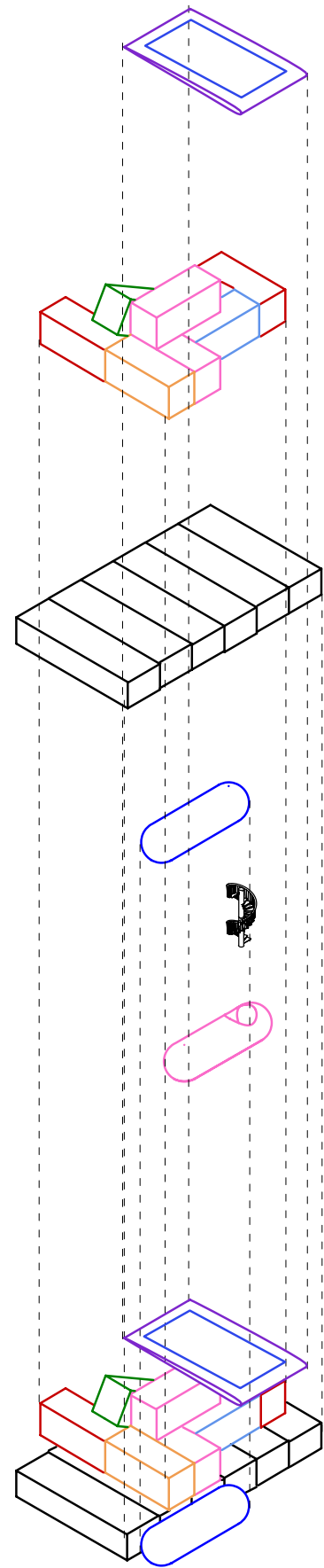
2020 Fall Design Studio

Located in Busan, Korea

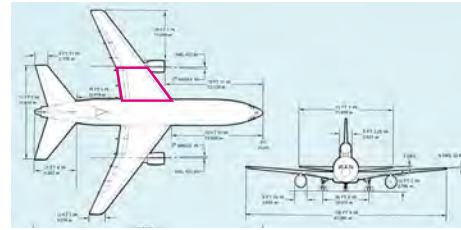


PART 2

As sea level rises, we need to think about how to adapt to the condition when we need to live on water. The project aims to design homes for people living in area with danger of flood and to enhance the connection between neighbors. The project reuses materials to make furnitures to reduce waste that people may throw away.



recycled airplane
wing and solar panels
35'L X 20'W



shipping container
20'L X 8'W X 8.5'D X 7



Flexifloat H-50
30'L X 7.5'W X 3.8'D X 6



recycled oil tank
45'L X 9'diameter



recycled car tires



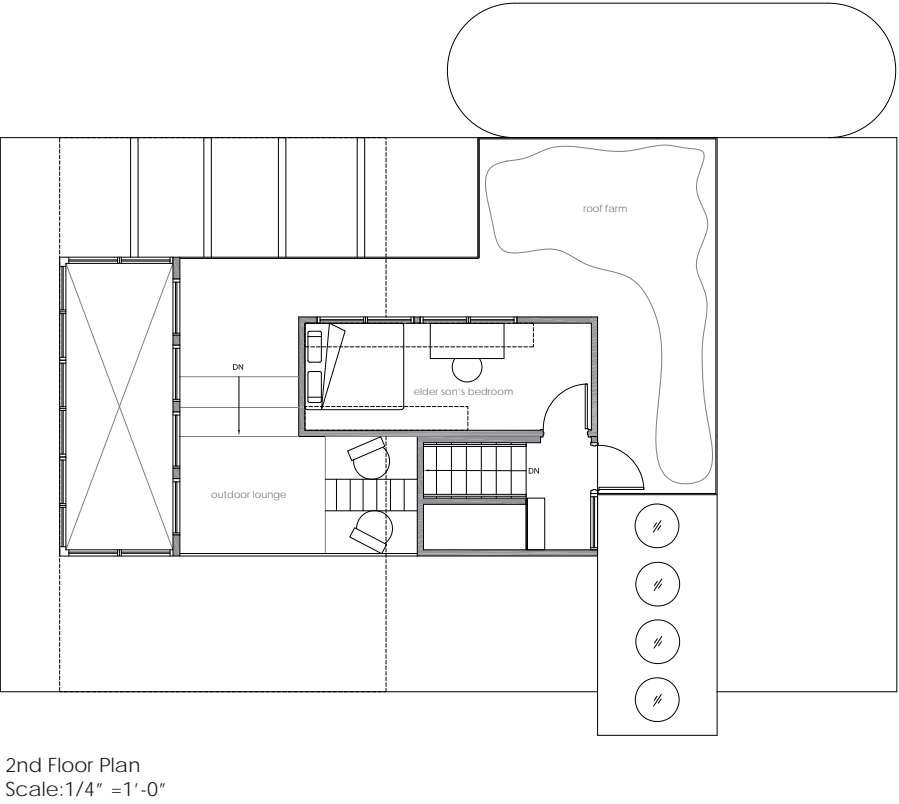
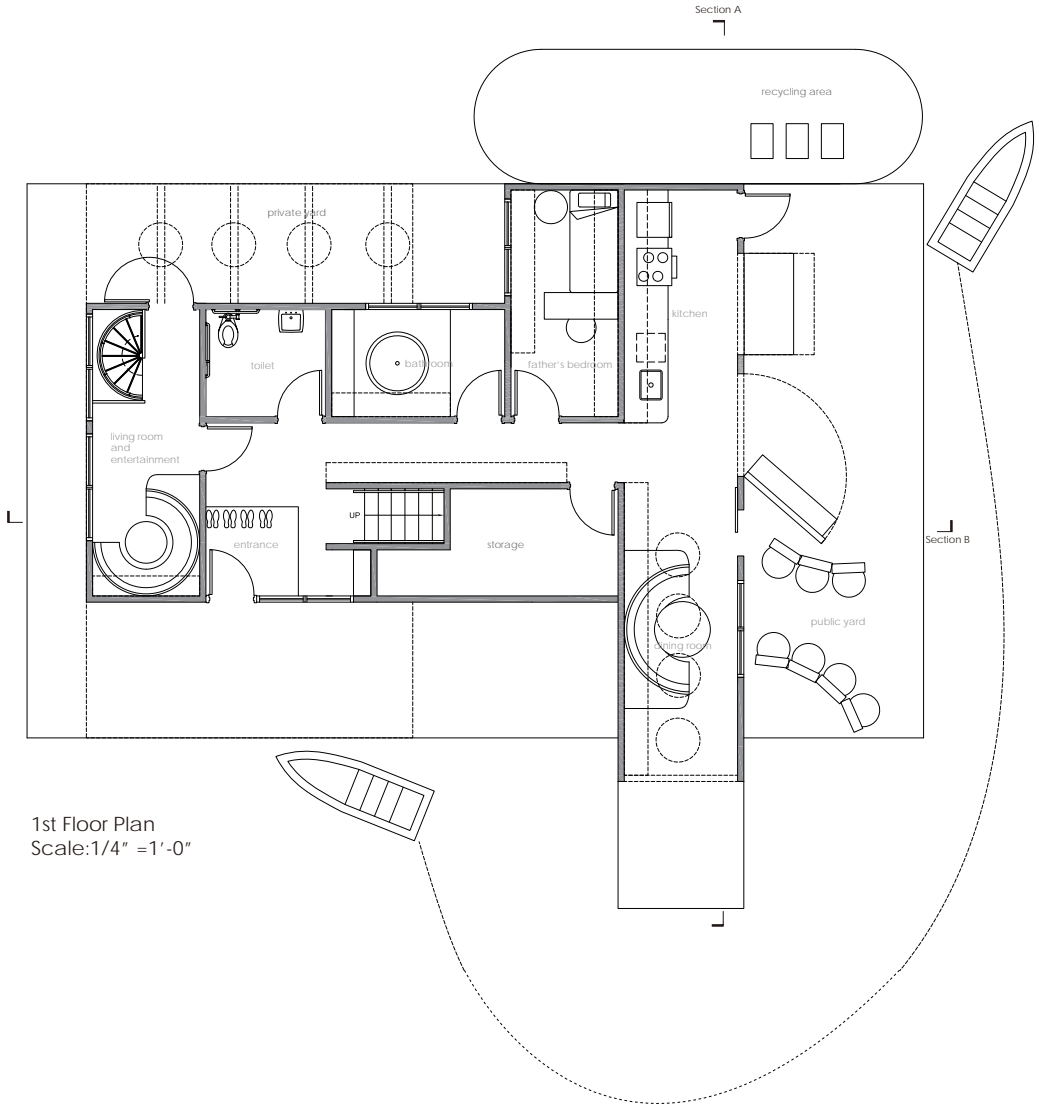
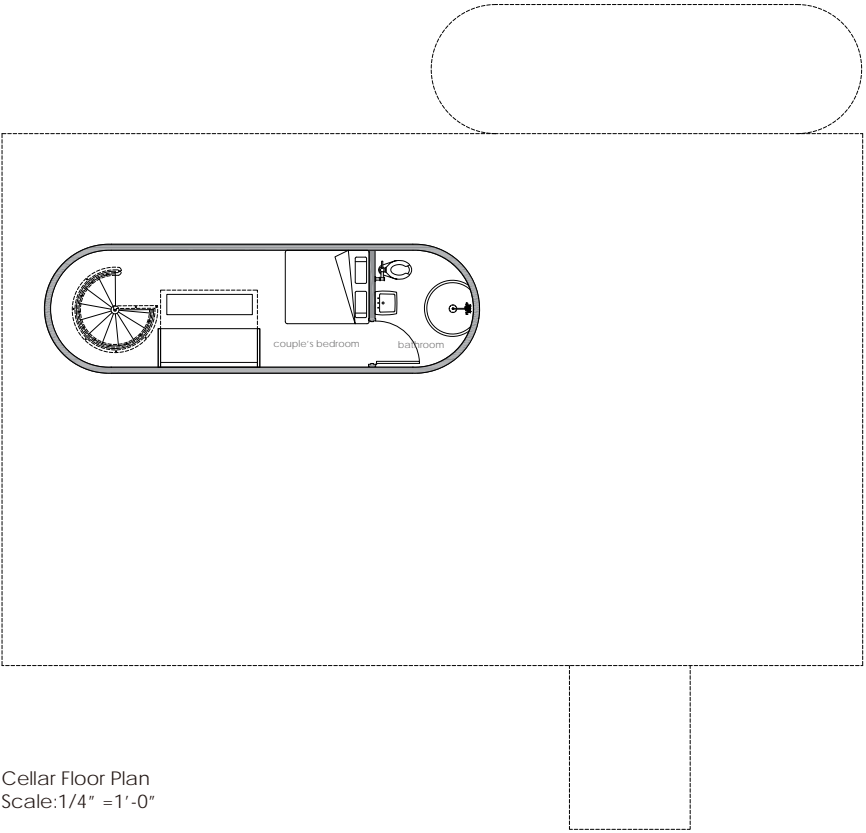
recycled bicycle tires



recycled oil drums



material palette



The circular structure controls the light of the exhibition. The light and shadow created by the structure attracts attention to the furniture inside, where furnitures are located. Two onions are hanging on the ceiling to hold the furniture in order to create an interesting perspective.

The structure is operated by solar energy. When there is less sunlight, the structure becomes more closed, as many flowers close at night. Outside is an onion made of stretch metal, which has more closed surface on one side and more open surface on the other side in order to encourage circulation to move around.



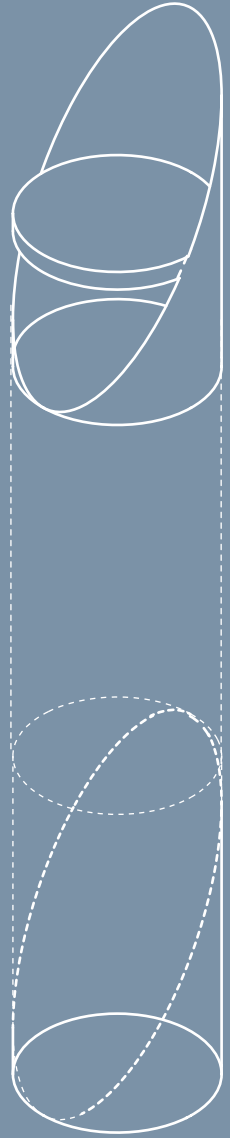
bedroom



dining area



underwater bedroom with transformable furniture



recycled oil drums



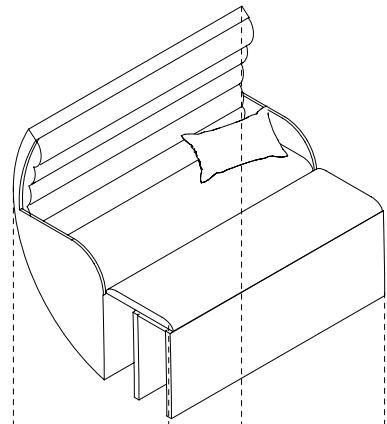
private yard



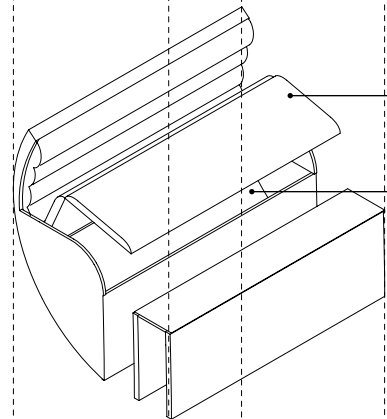
openable kitchen that can be share by neighbors



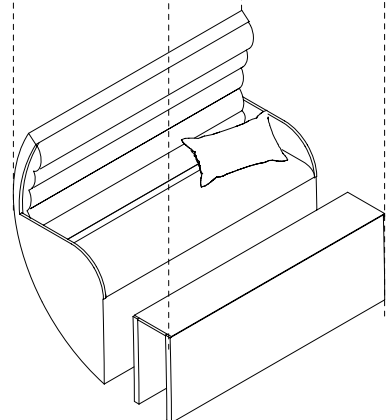
living room



bed for two people



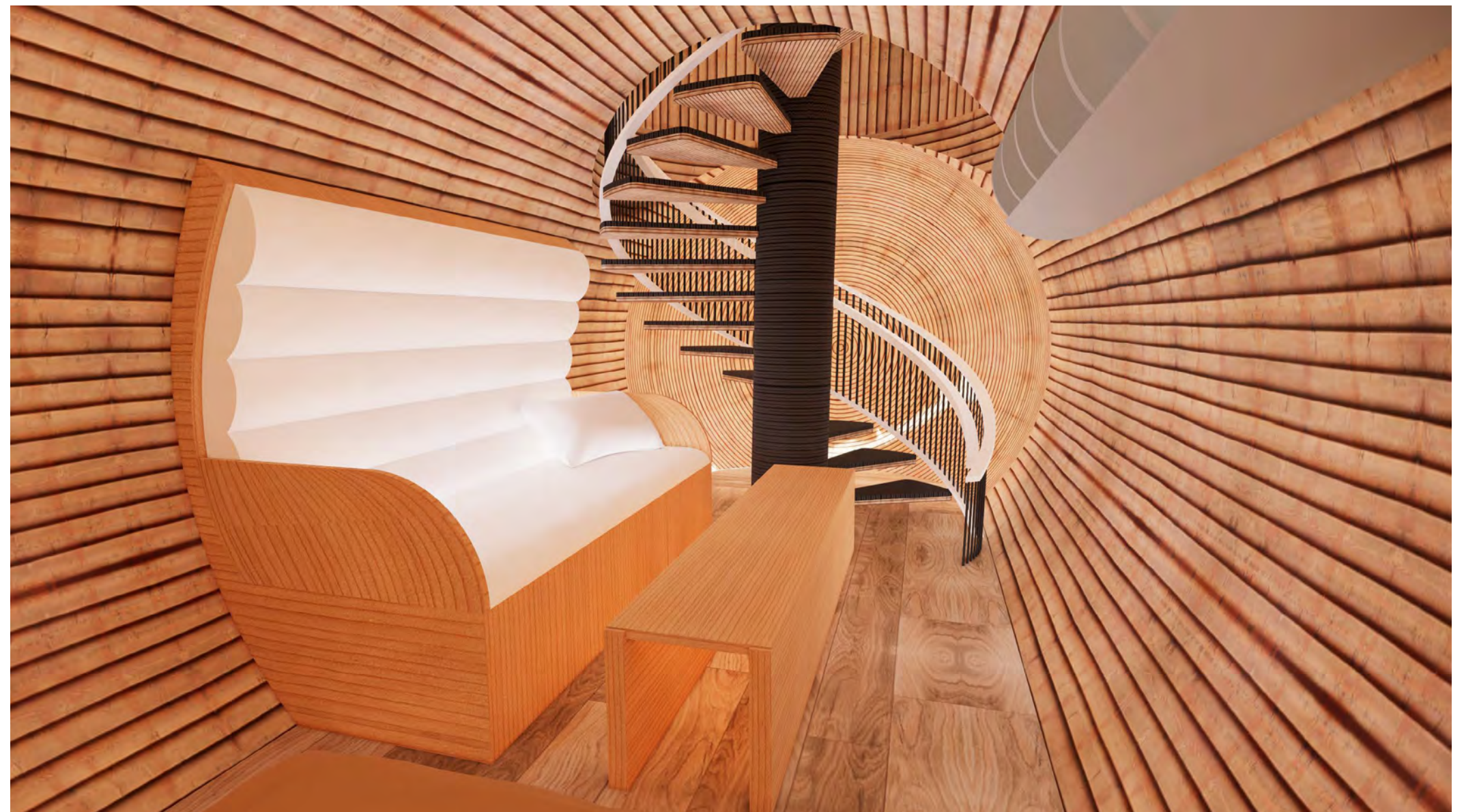
foldable seating/bedding
storage underneath the seating



sofa

The circular structure controls the light of the exhibition. The light and shadow created by the structure attracts attention to the furniture inside, where furnitures are located. Two onions are hanging on the ceiling to hold the furniture in order to create an interesting perspective.

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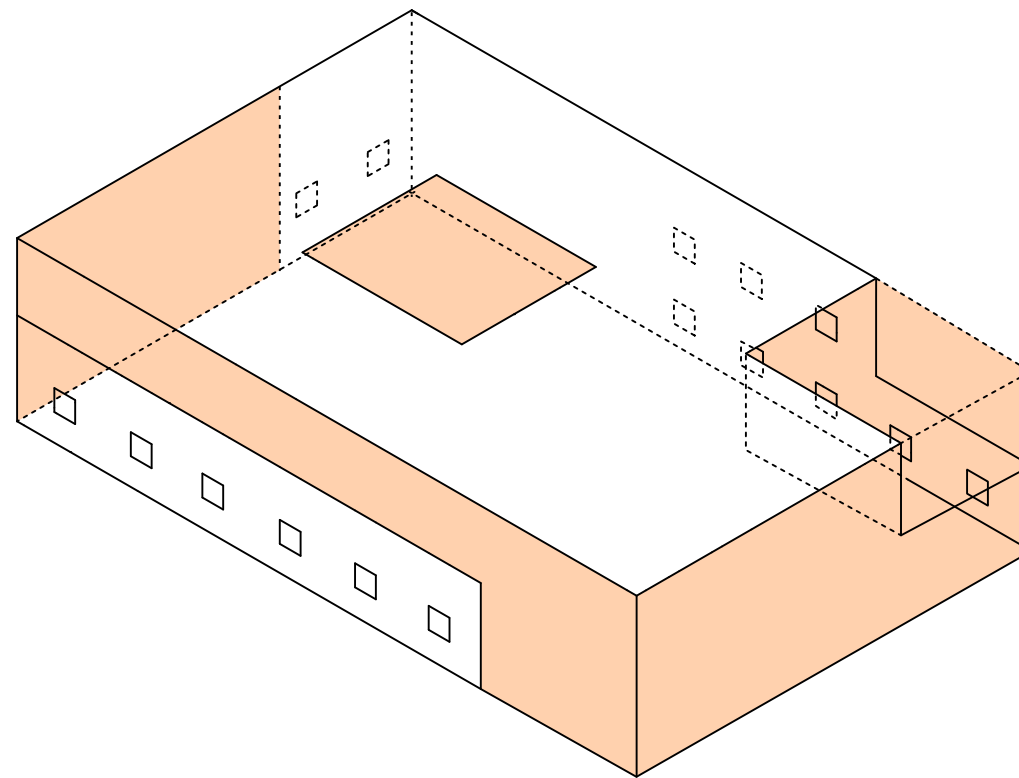


FOOD, CULTURE, AND NATURE

Individual Project
Adaptive Re-use
Spring 2020 Design Studio
Copenhagen, Denmark



The culture house is divided into two main functions. The lower floor is designed to be a cooking school for children and teenagers. The second floor works as a flexible space for different activities, including a permanent library and other kind of public facilities. The intention is to create a space for children to learn and share in a comfortable and welcoming environment, which connects to the outdoor nature.



rebuilt window treatment

The site was originally built for sort letters so the windows were small.

In order to adapt for human needs, the original facade is redesigned to have more openings to introduce more natural light into the space.

The rest of the windows are kept the same in order to remind people the previous history of the building.

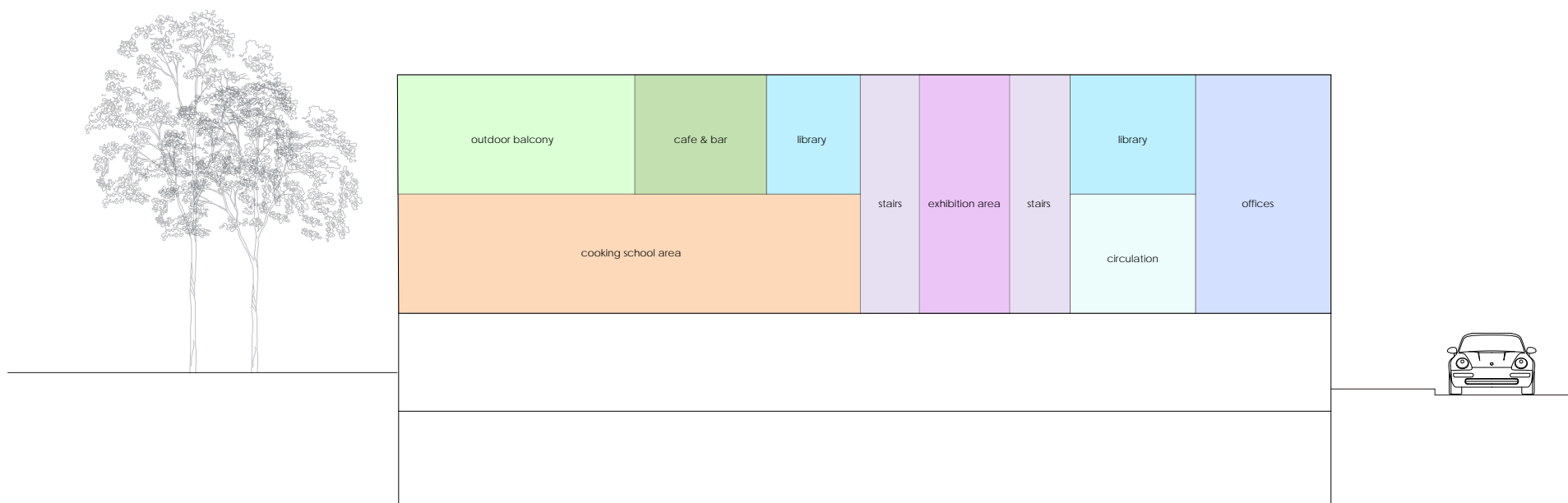
The site building has six columns on the first floor, which can be reference to the programs. Considering the generous space, I wanted to divide the space into different zones so that the scale of the space can be utilized.

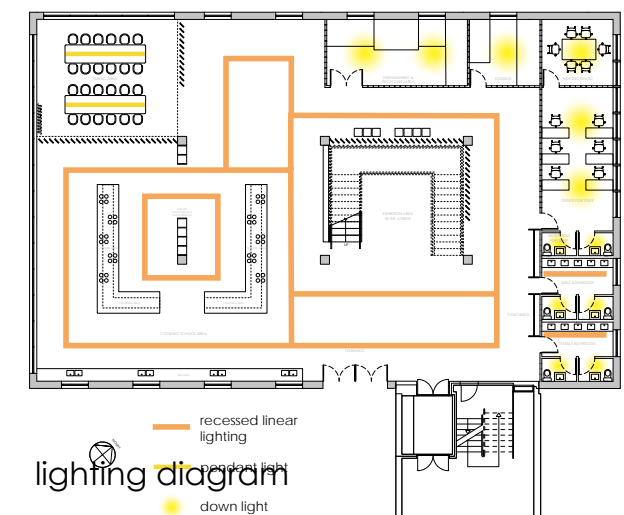
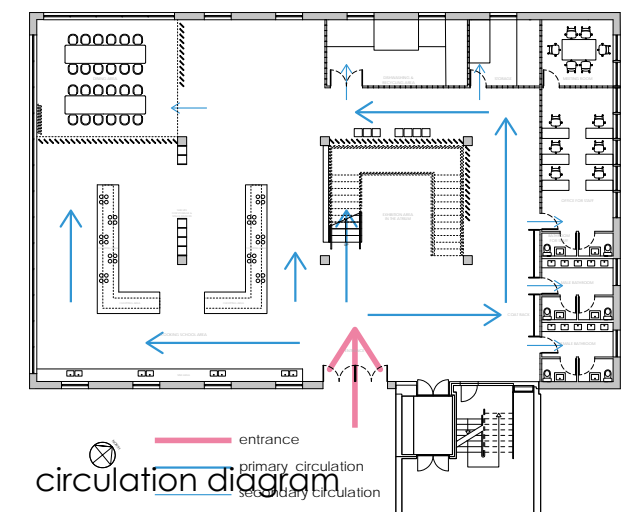
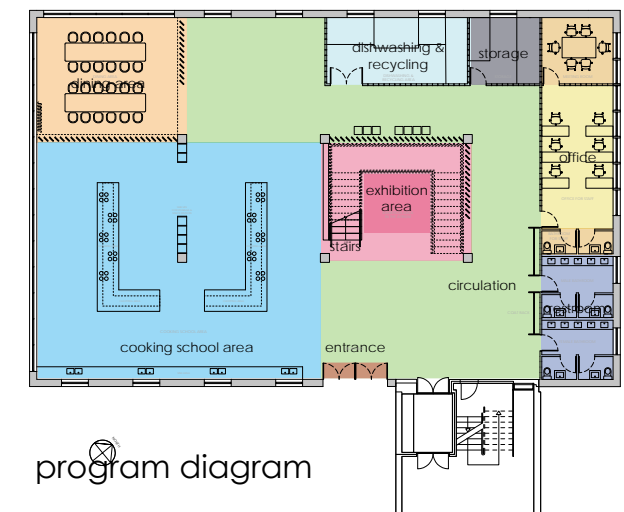
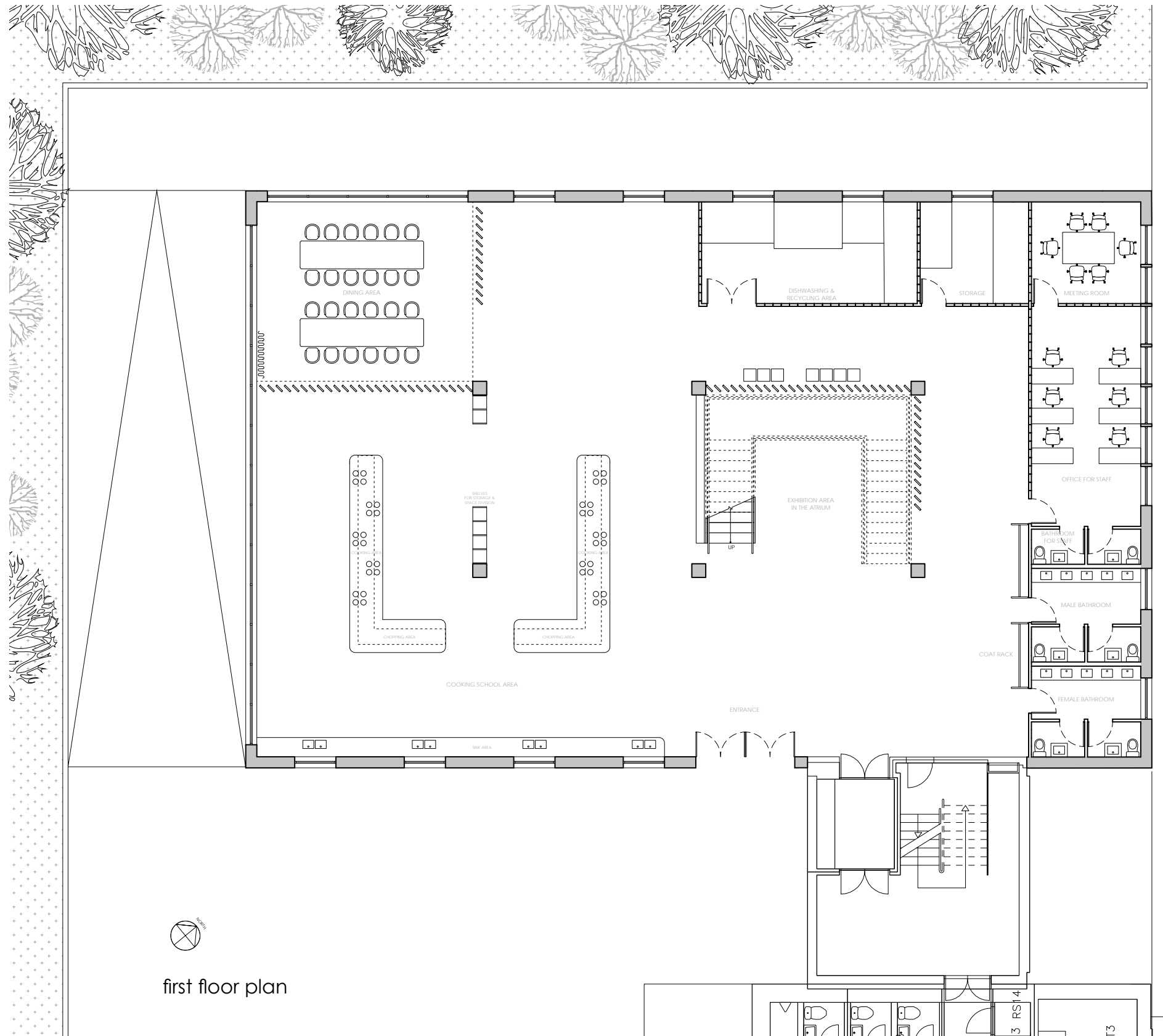
In order to create connection between the two floors, an atrium penetrates through the building to introduce skylight and the staircase is located underneath.

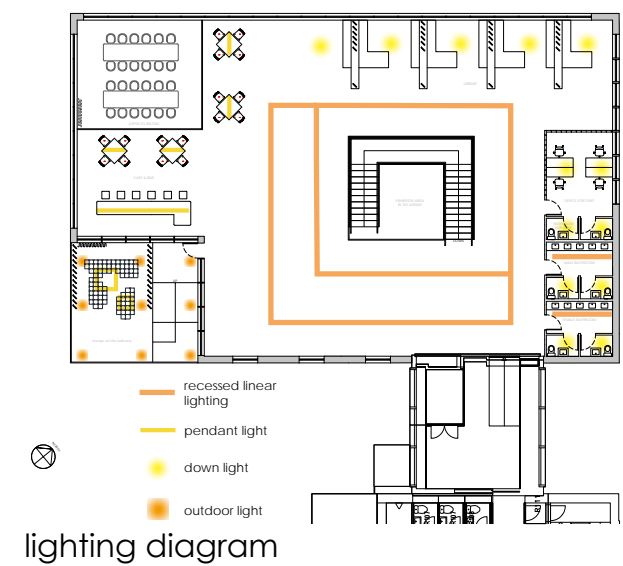
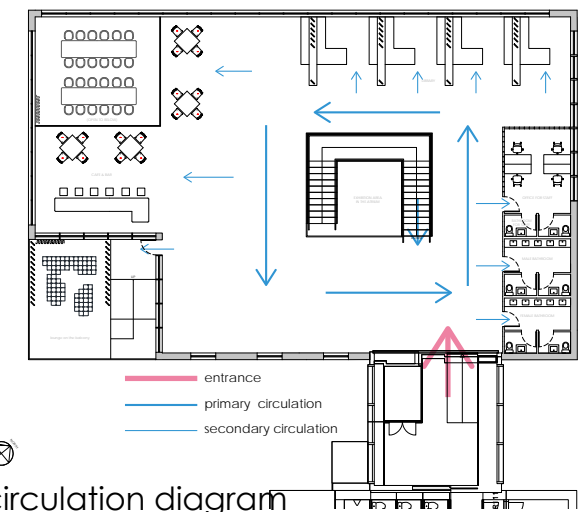
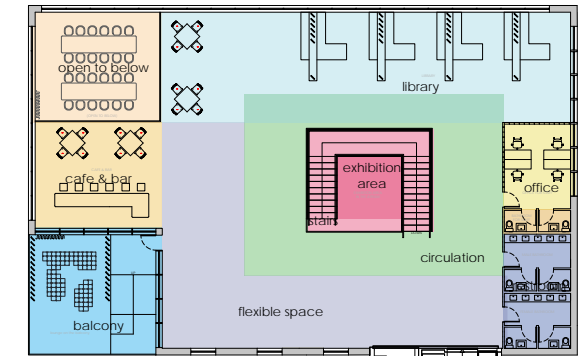
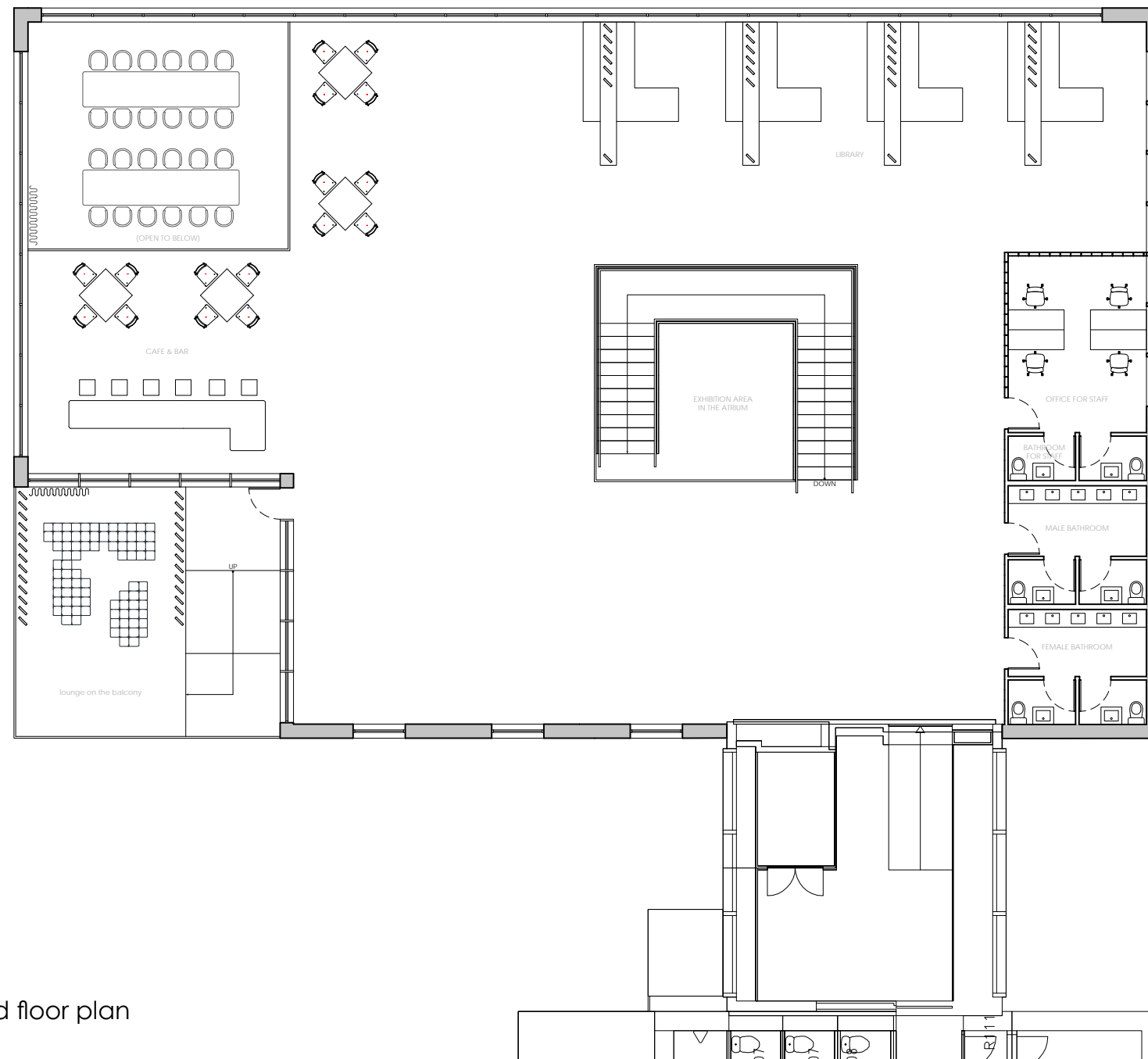
The windows for library and offices become wider to provide natural light and beautiful view from the park.

The south corner of the site is designed to be a balcony where people can get closer to the tree tops and enjoy the green views.

The dining area in the southeastern corner of the building is double height so that children could enjoy the view from the park when they have meals.

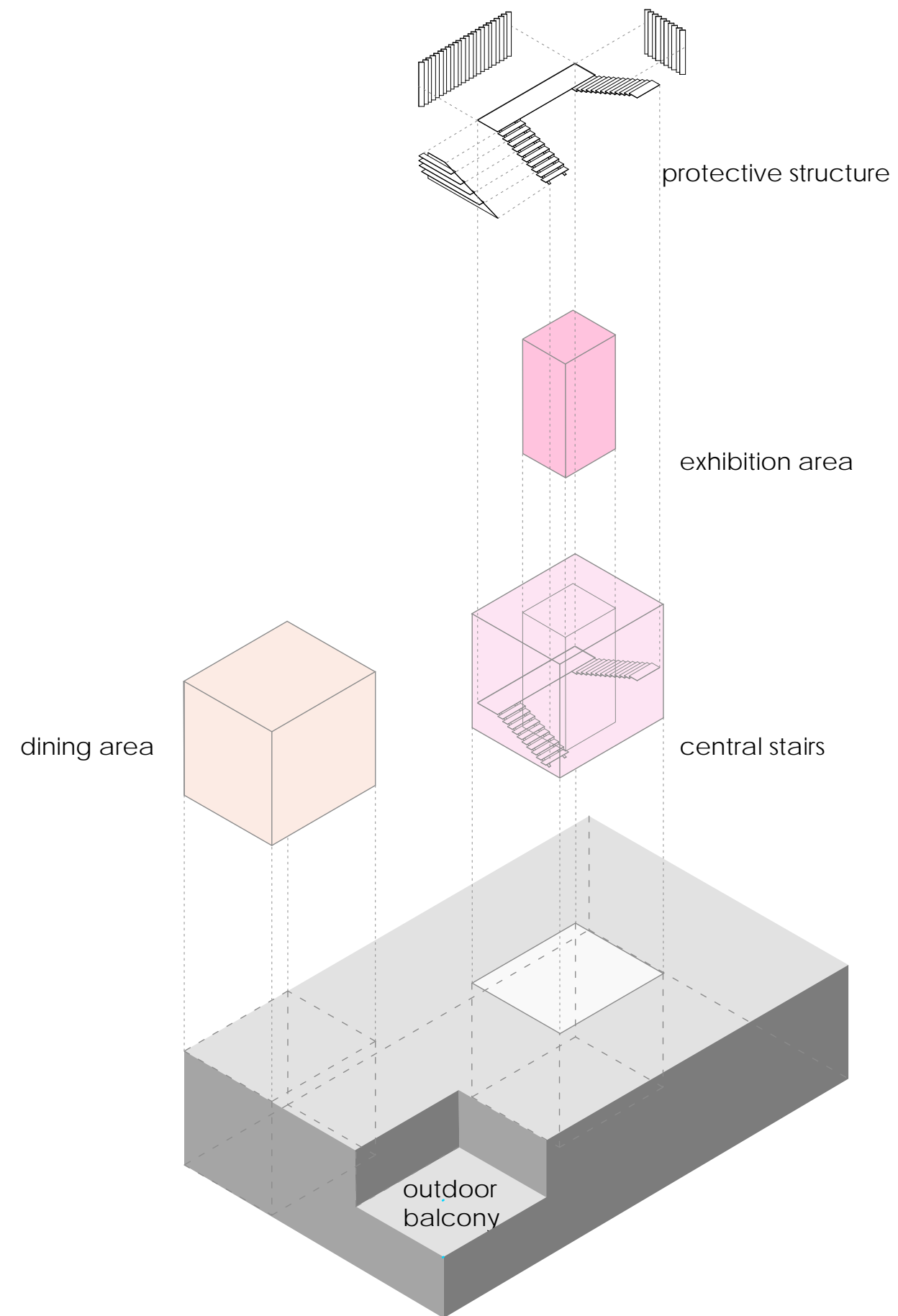








section A



The six columns on the first floor are the reference of the planning of the programs. The staircase is located between the columns that creates a space underneath the atrium and provides skylight.

Considering the safety reasons, protections are designed underneath the stairs. Underneath the stairs next to the cooking school area, shelf is integrated with the stairs. The other side is designed to be a seating area where people can relax and read.



seattig area underneath the stairs



protection underneath the stairs



Mood board

Oak is a local material in north Europe so it is used widely in the space, including the flooring, the furniture, and the walls.

I wanted to create a color palette that is not very colorful in order for people to enjoy the view from the park and not be distracted from the interior.

The interior material is a connection to the outside so I tried to mainly use natural material instead of artificial, except for outdoor.



Oak

flooring



Polyester

dining area carpet



Paint

wallpaper in the
restroom



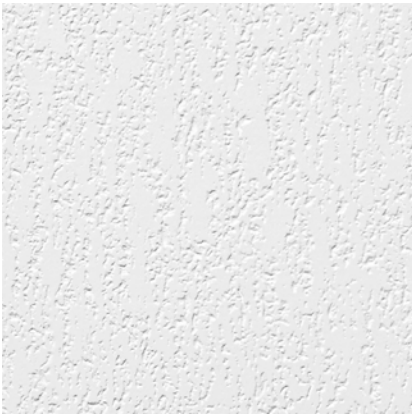
Oak

furniture and walls



Polyester

outdoor furniture
fabrics



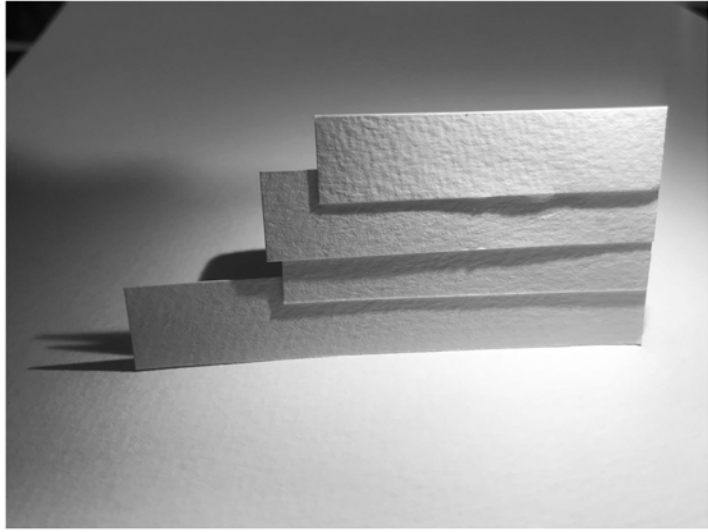
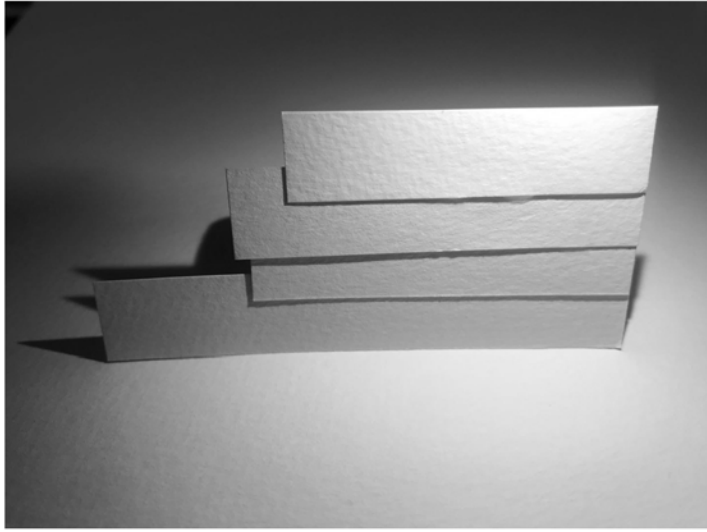
Acoustic ceiling

Ceiling material

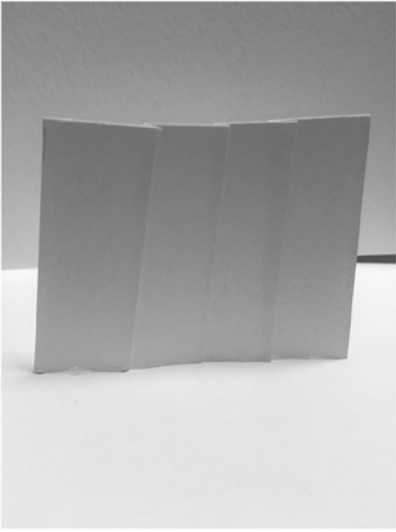
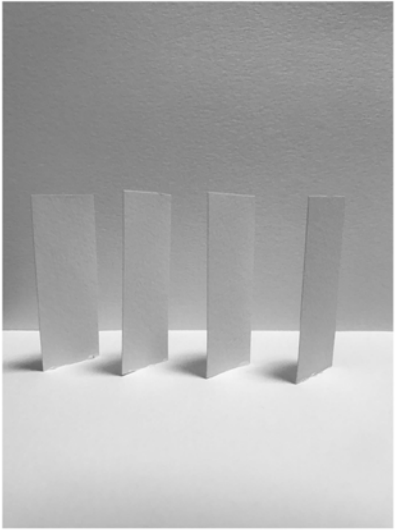


Marble

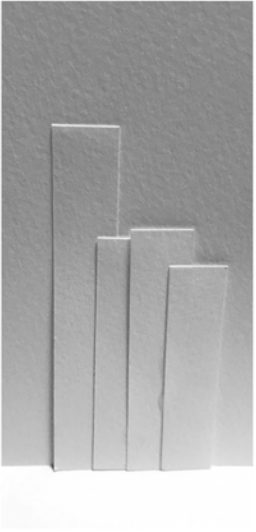
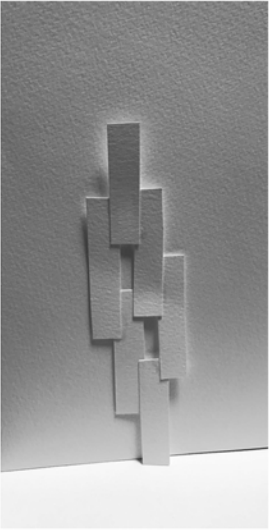
cafe dining table top
and kitchen area



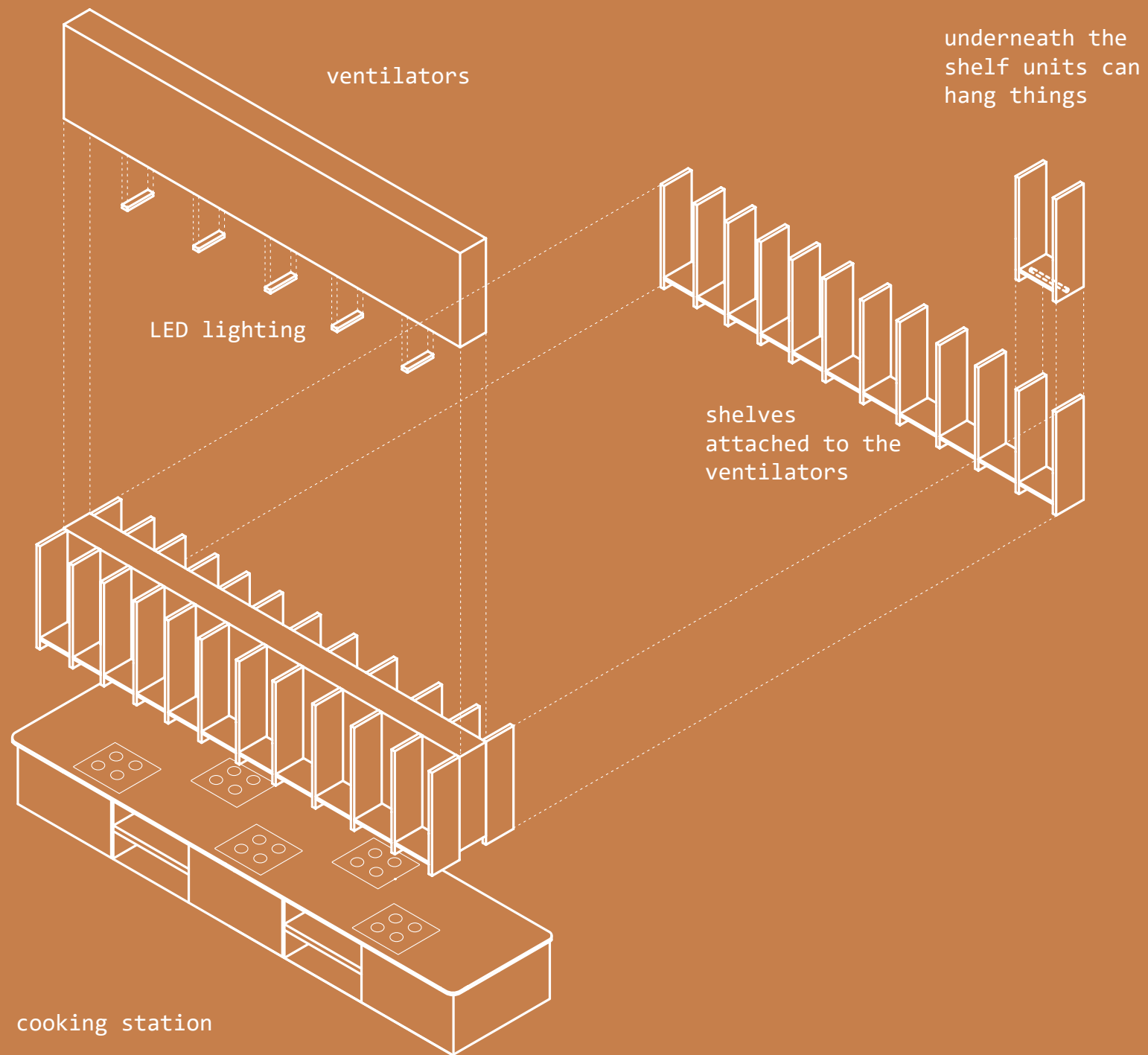
Wood panels with textures that are lighted from different angles



bookshelf panels that are rotatable to be a closed panel



panels with openings or solid



cooking school area

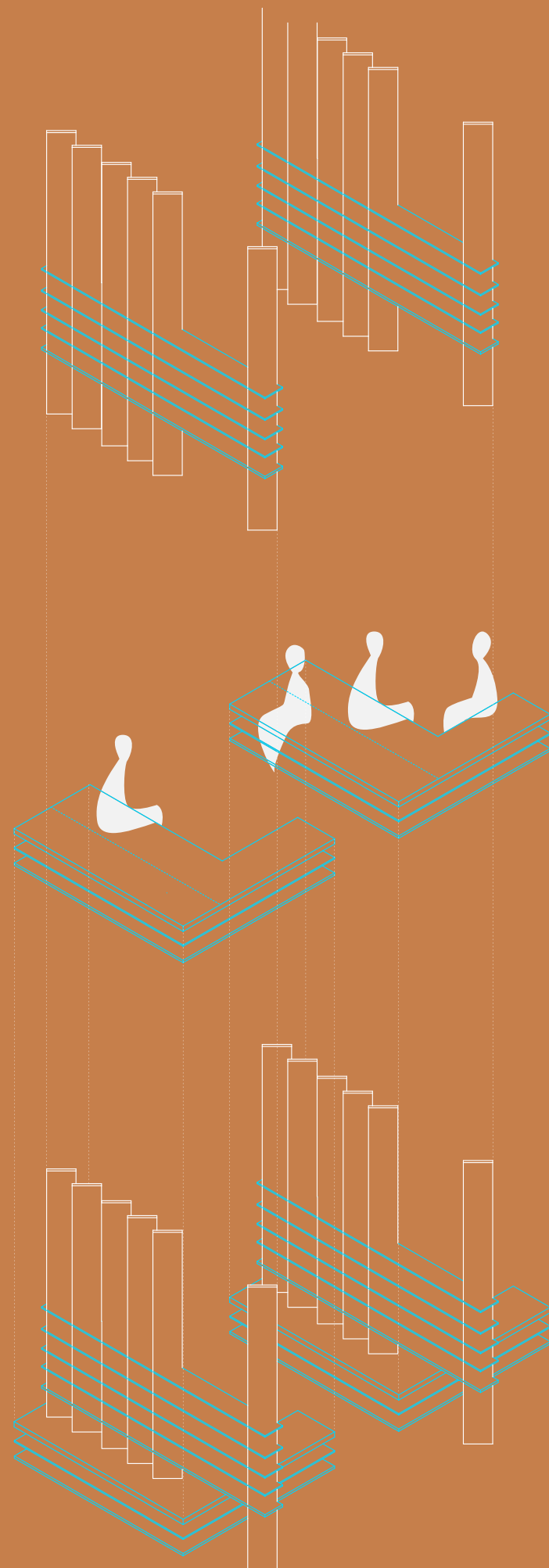
The cooking area has two groups of cooking stations. The shelf units between the two cooking stations divide the cooking area into two so two groups of children and teenagers can have class at the same time.

The shelf above the cooking station is integrated with the ventilators and lighting.

oak panels work
as shelves and
divides the space

bookshelves and
seating area

custom designed
bookshelf



library

The windows provide a clear view to the outside. The bookshelves divide the space and visitors can see through the bookshelves to see the beautiful view outside.

The bookshelves are designed to create space for groups of people to read together or they can read on their own. The structure works as shelves for books and seating for people, which also divides the space into different areas.



dining area on the first floor

On the first floor, the dining area is located next to the cooking area. The space is double height so children can enjoy the beautiful view when they have the meals and share the food they made together.



cafe and bar on the second floor

On the second floor, cafe and bar is located above the dining area on the first floor. People can enjoy the view to the park and have a visual connection to the first floor.



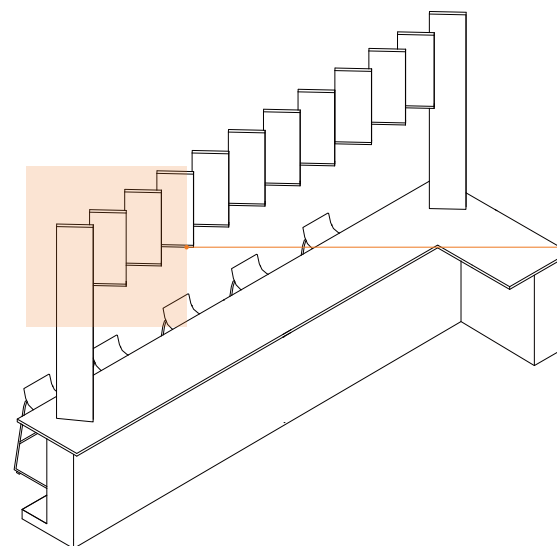
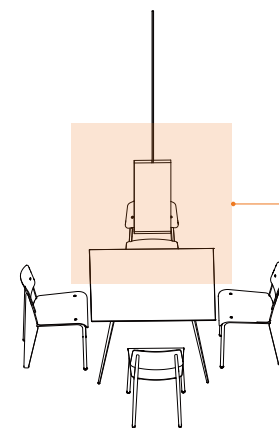
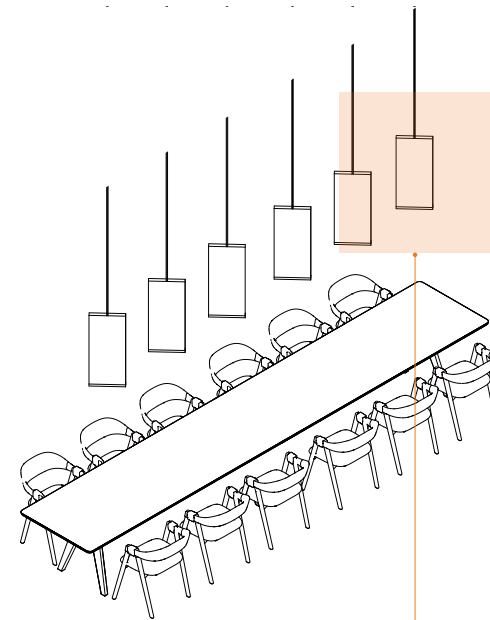
dining area



cafe



bar



metal to
connect the
lighting to
the ceiling

oak panel

LED lighting
imbedded
at the bottom
of the oak
panel

pendant light



balcony during the day

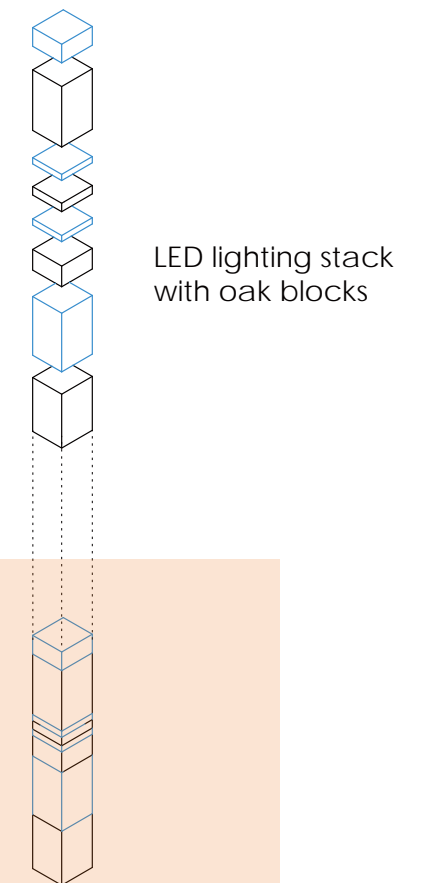
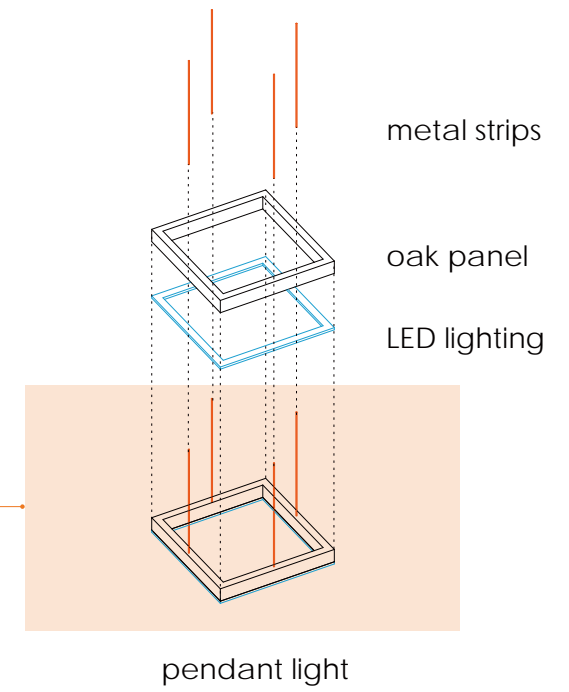
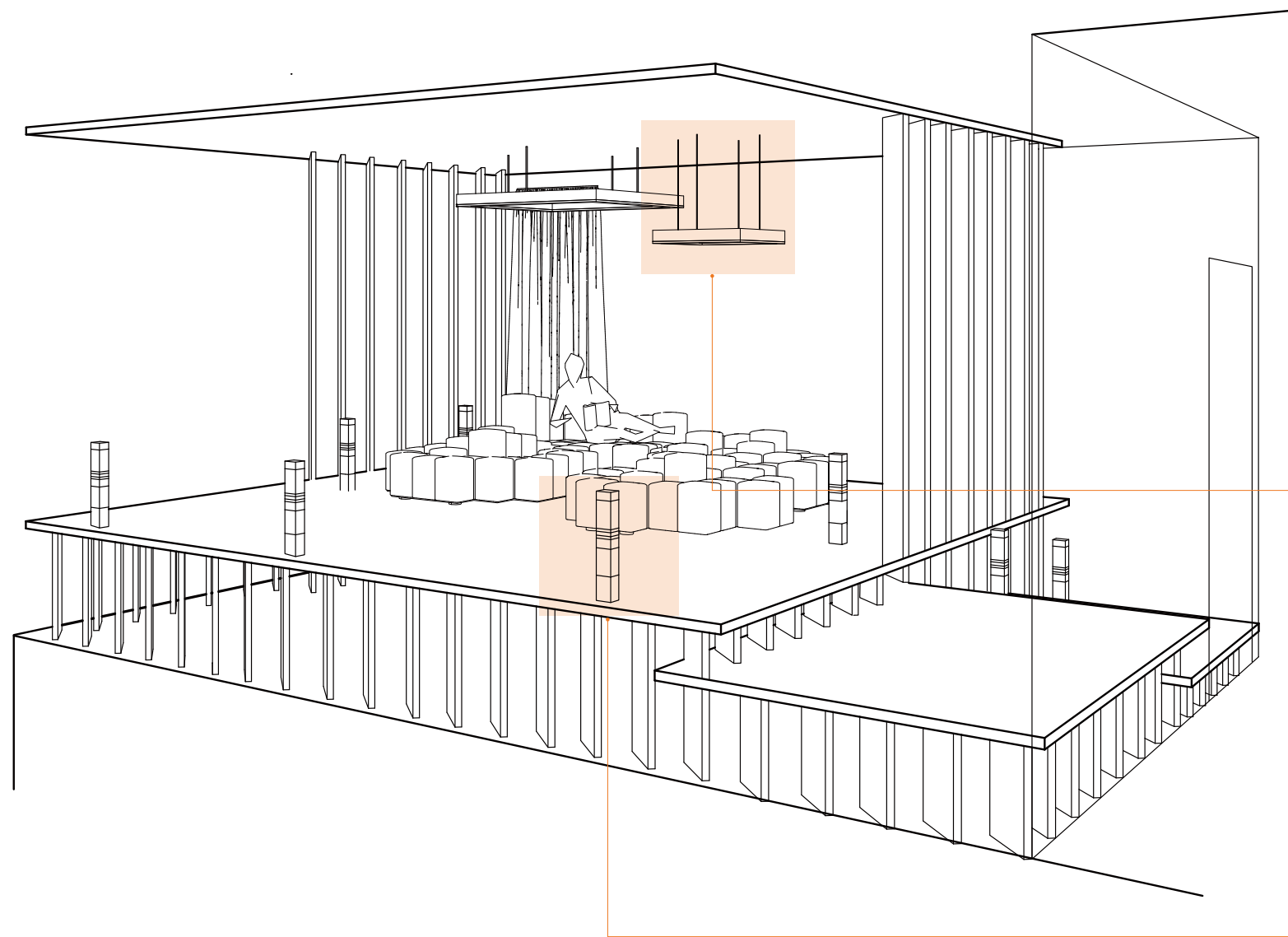
The balcony is created for children to have closer connection to the green park and enjoy the view. Children can play around the modular sofa, which is movable. Lectures for children and teenagers can also be held here.

The ceiling is partially removed but above the seating area, the ceiling is kept in order to prevent raining and too much sunlight.



balcony during the night

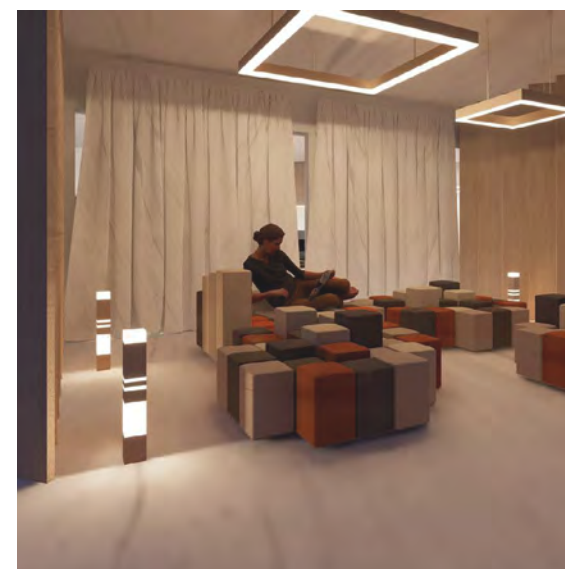
During the night, it can be enjoyable to read here. Curtains can provide privacy if needed.



The lighting of the balcony is designed based on the geometry of the space.



balcony during the day



balcony during the night

FIRE + CHARCOAL CAFE

Group Project
Farnsworth House Renovation
Spring 2019 Color Material Design Course
Located in Aspen, Colorado

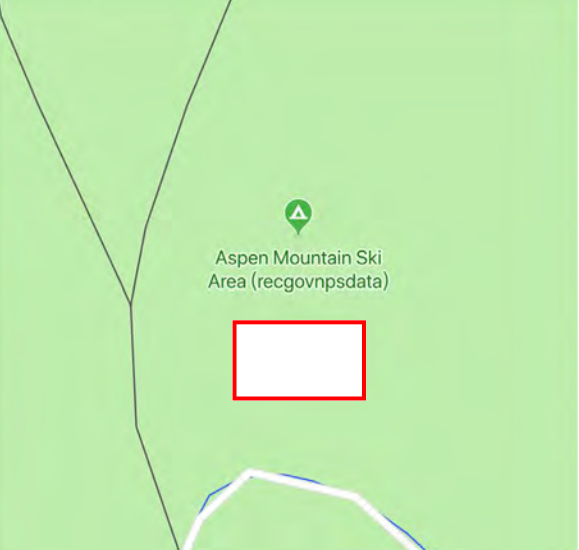
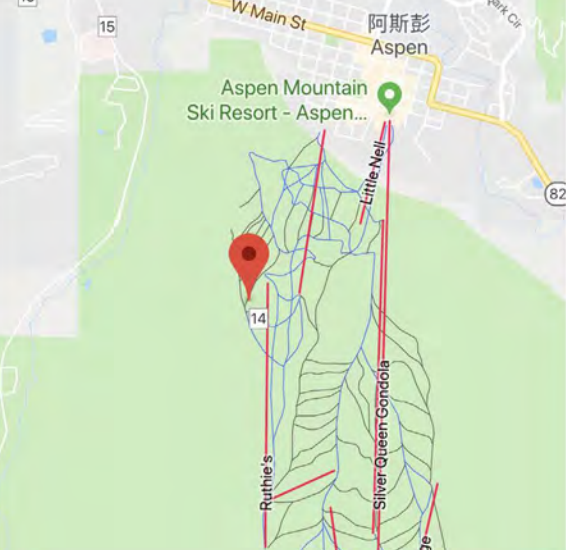
03



The house is renovated with a new program, cafe. The cafe provides space for visitors to have a rest in the warm and cozy cafe. During the night, visitors are welcome to have party and enjoy looking at the stars in the sky.



geographic location



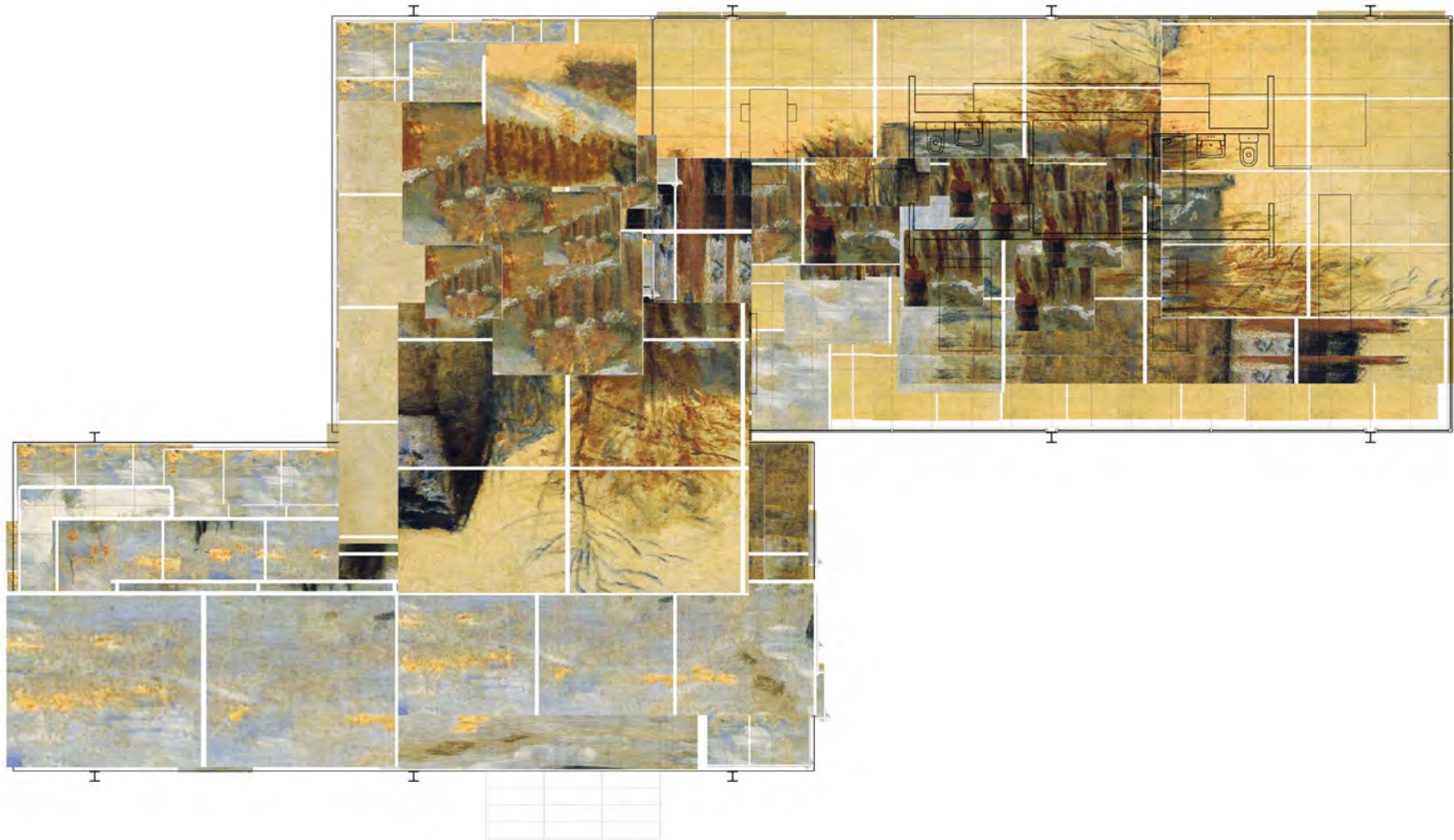
Location of cafe



Snow Effect on the Street in Argenteuil, Claude Monet, 1872



artwork color analysis

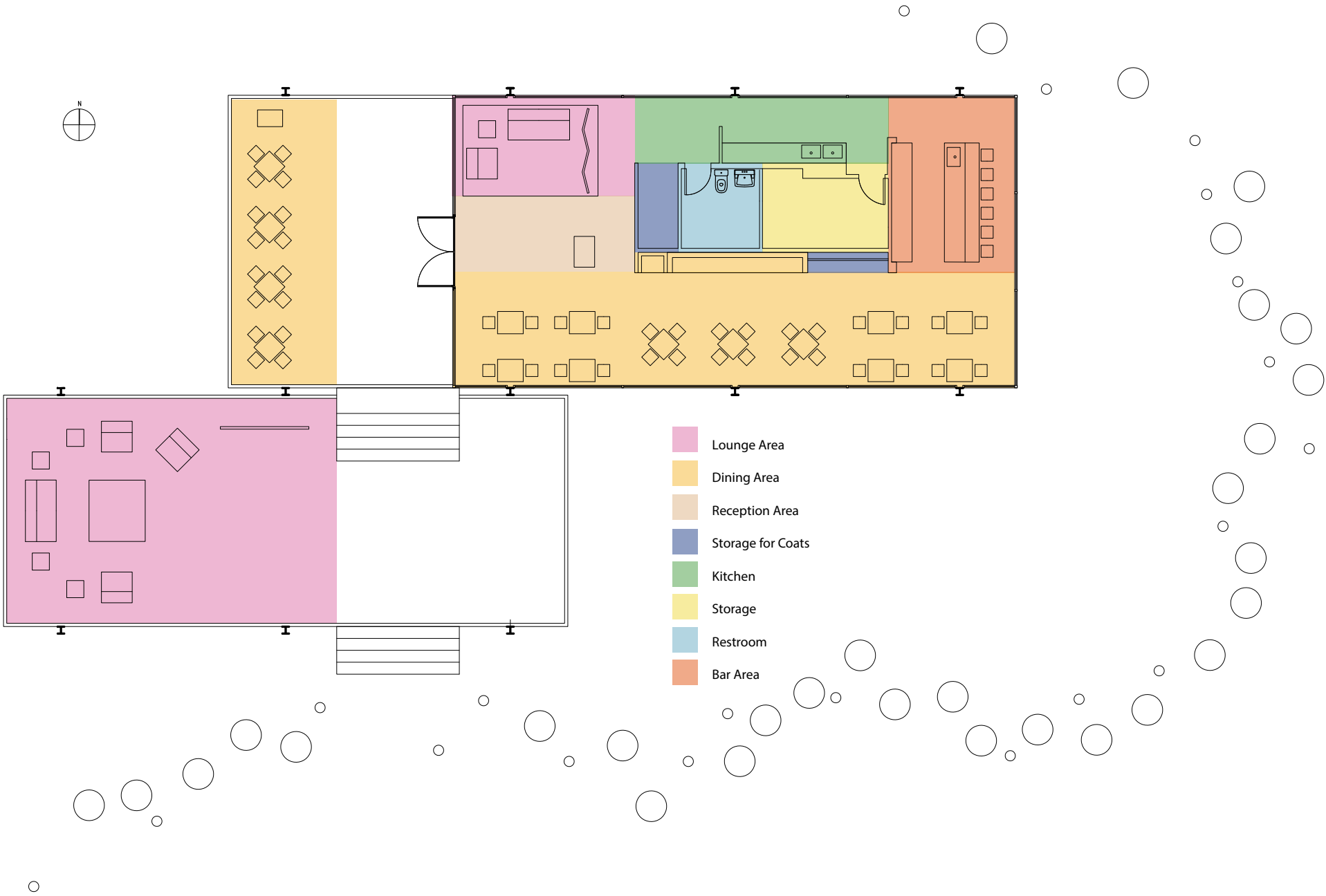


light and color concept diagram

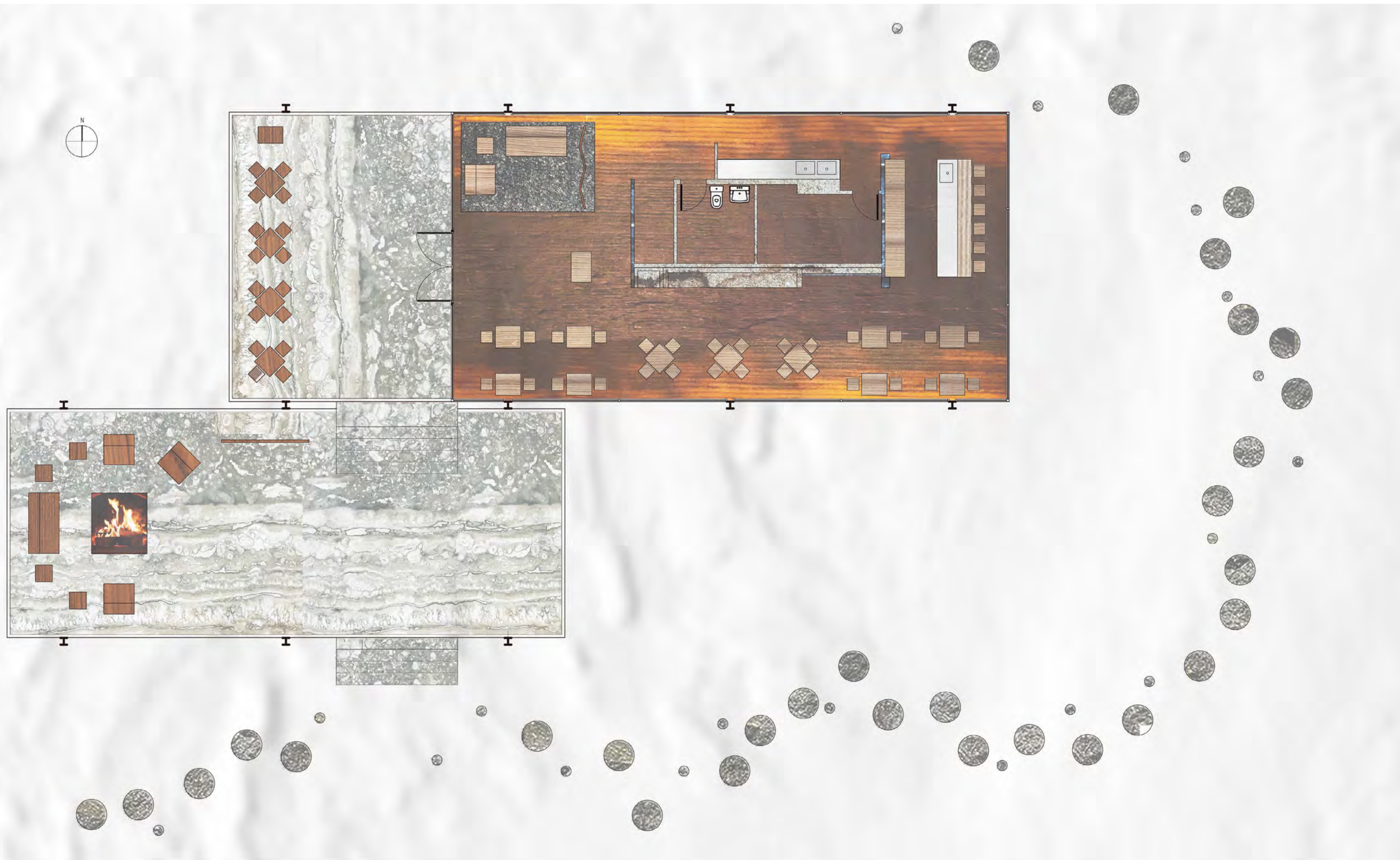


concept image

The cafe is designed to provide a warm and comfortable environment for visitors to have a rest after they are out for skiing in the cold winter. While in the summer, visitors can have party outside in the mountain with great view to the nature.



program diagram

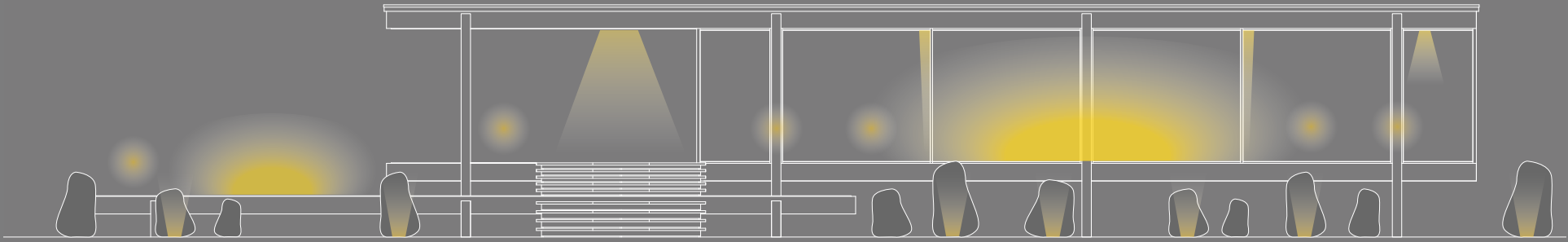
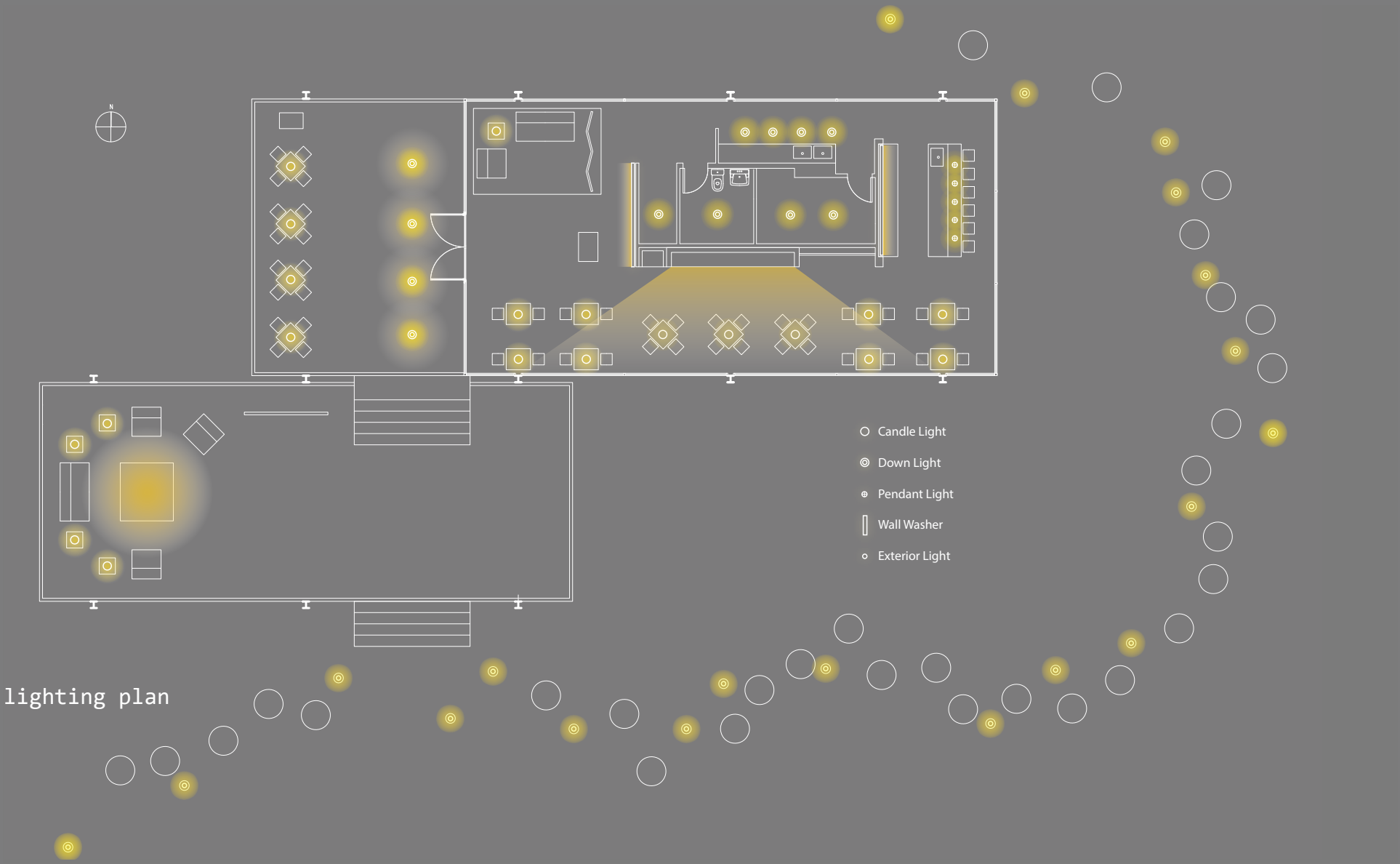


rendered plan



rendered elevation (day)

Lighting strategy



lighting elevation



rendered elevation (night)

Material selection



- 1 Antique Heart Pine, Interior Furniture
- 2 Flat Cut Teak, Exterior Furniture
- 3 Siwer Travertine, Exterior Floor
- 4 Chiseled Finish, Stone, Interior Wall
- 5 Pietra Dorata, Stone, Interior Wall
- 6 Heart Pine, Interior Floor
- 7 Wool Carpet, Interior Floor

- 8 leather, Brown, Furniture Cushion
- 9 Fabric,Vinyl 83%, Polyester 17%, Furniture Cushion
- 10 Pattern: Zenith, Color: Honey, Curtain
- 11 Heath Ceramics, Restroom Wall
- 12 Handmade Ceramic Tile, Restroom Wall
- 13 L'antic Colonial, Restroom Wall

Furniture selection with material and finish



dining area



lounge area



bar area



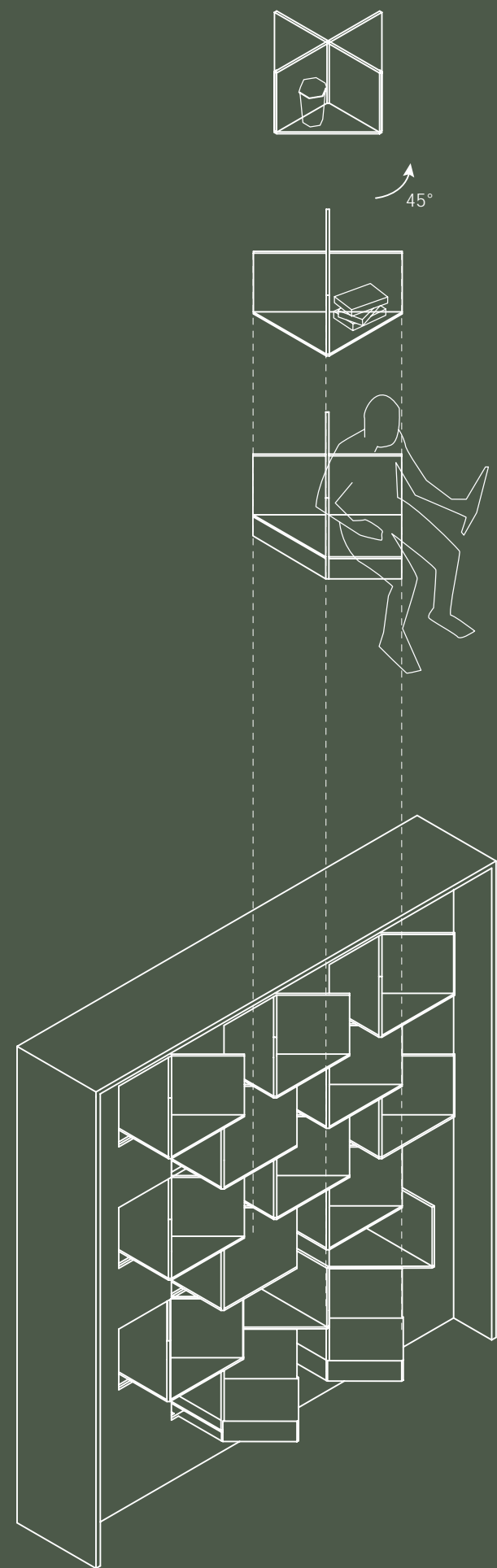
04

RIVER LAND

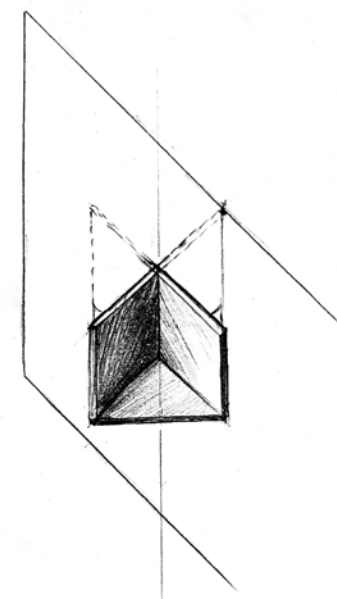
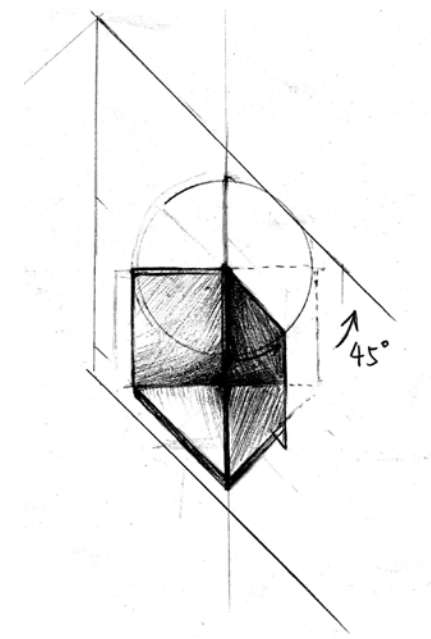
Individual Project
Library Renovation
Fall 2019 Design Studio
25 Fourth Ave. at, Pacific St, Brooklyn, NY



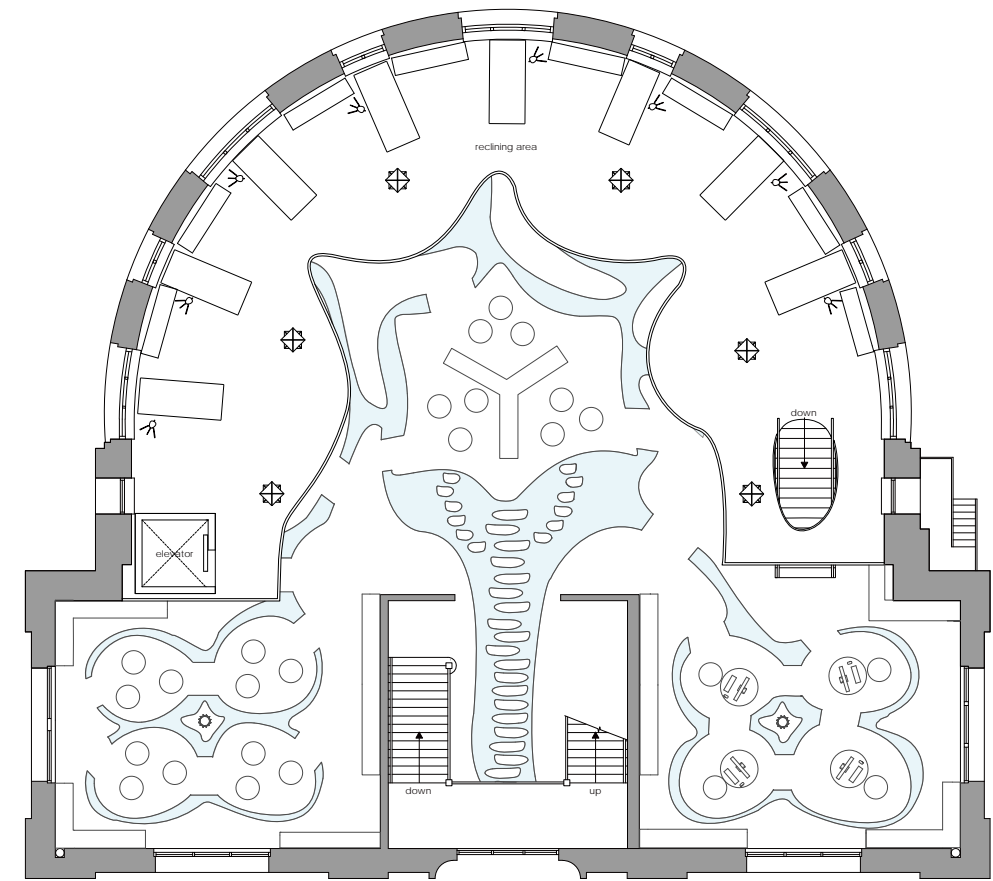
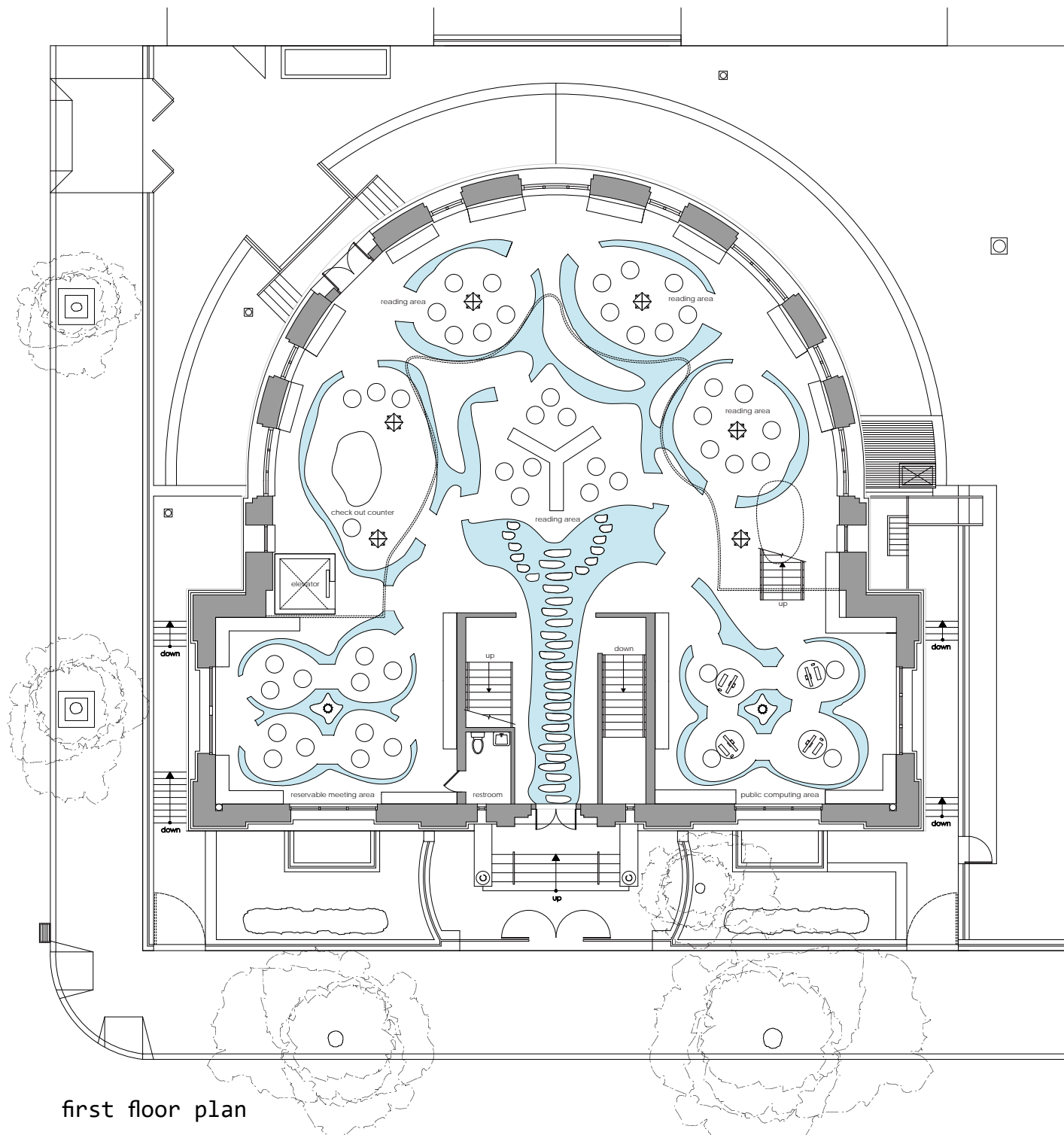
Local community is in need of a space for reading books and studying. The renovated library also works as a cooling center, with water going through the space.

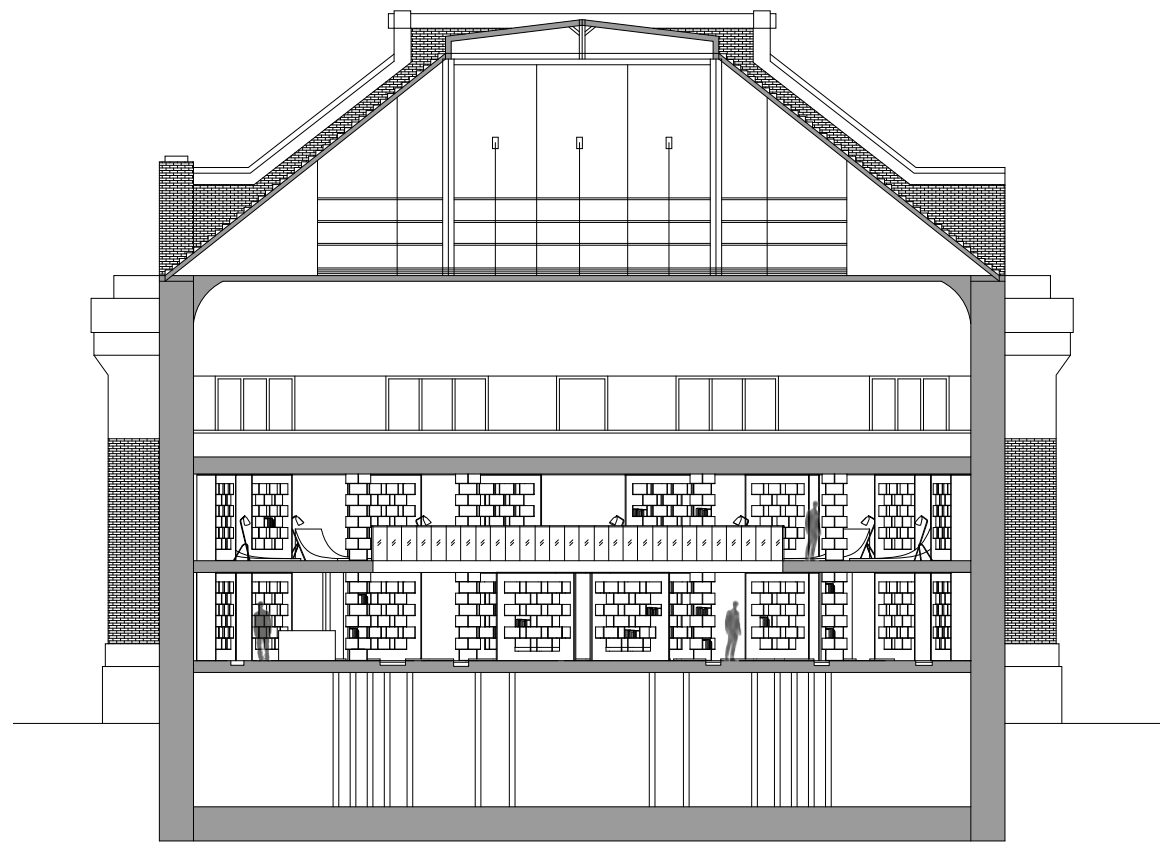


design for the bookshelf

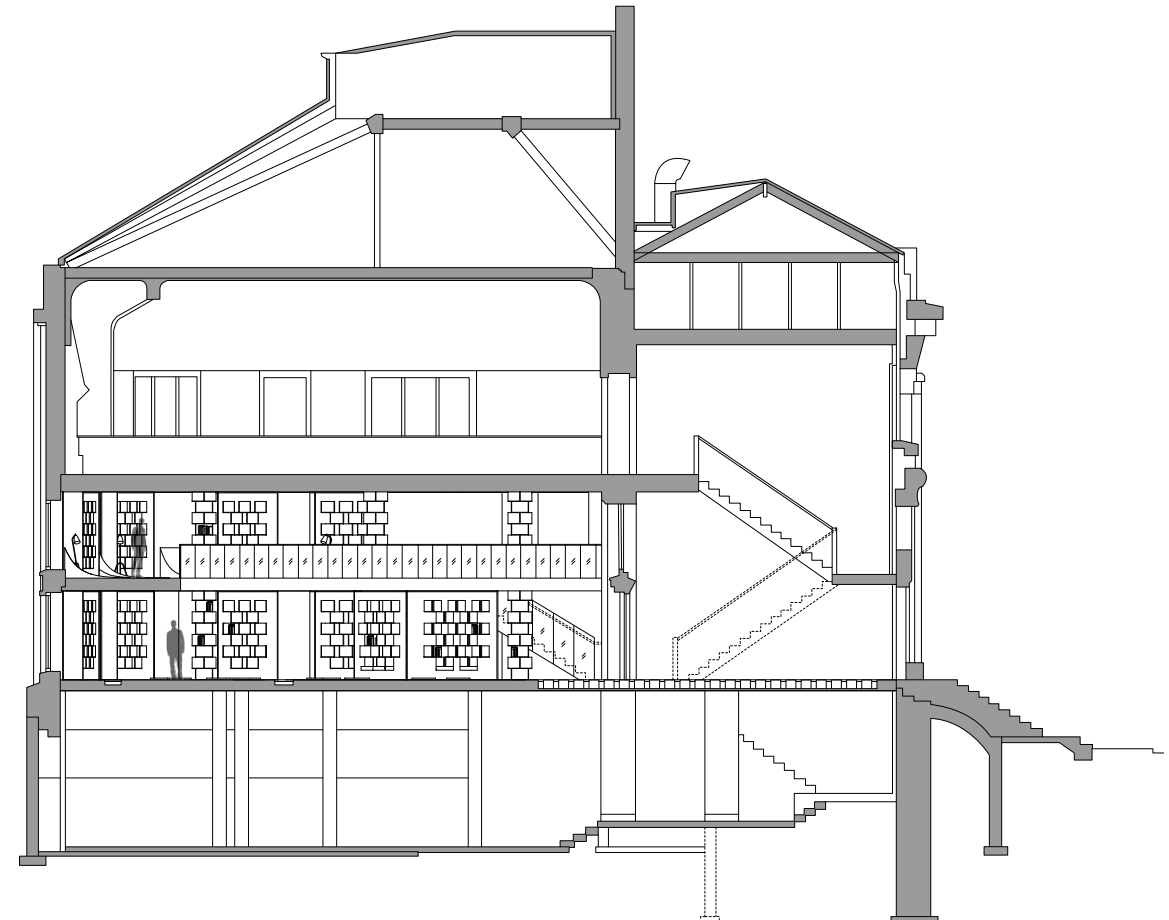


sketches for the idea of rotation





section A



section B



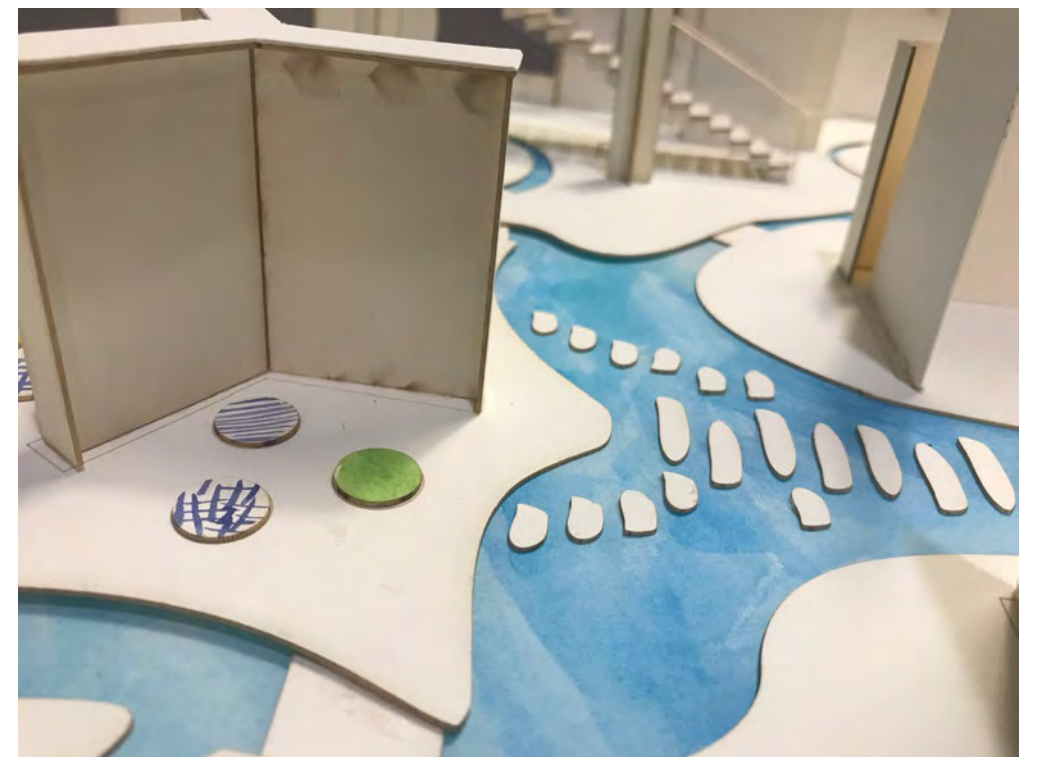
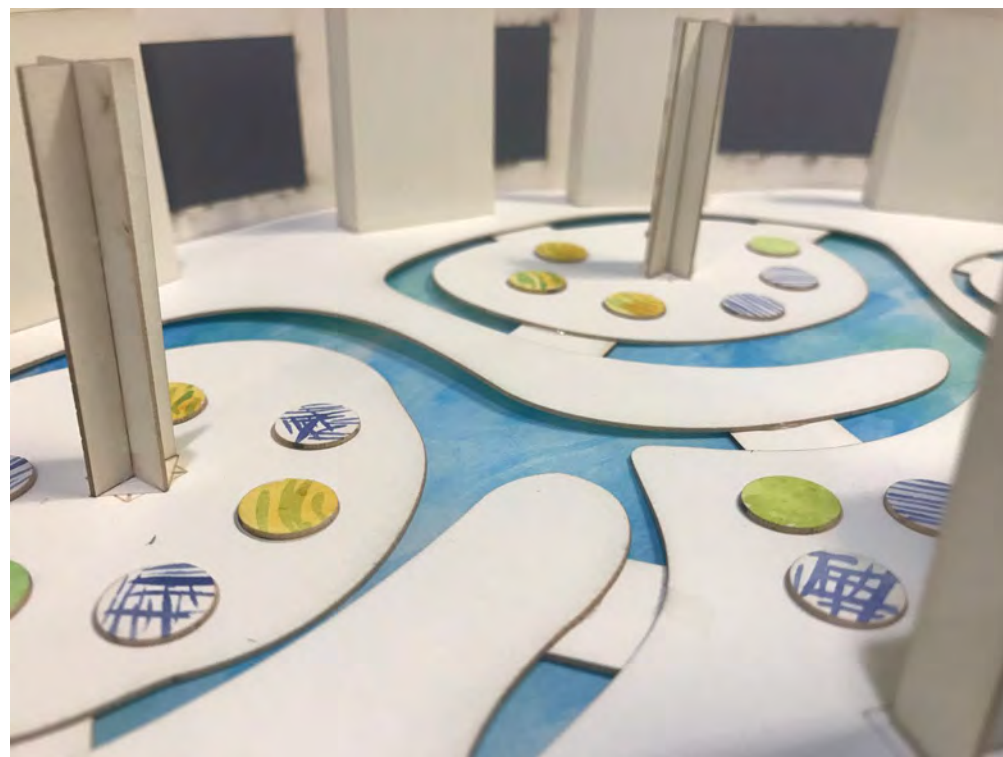
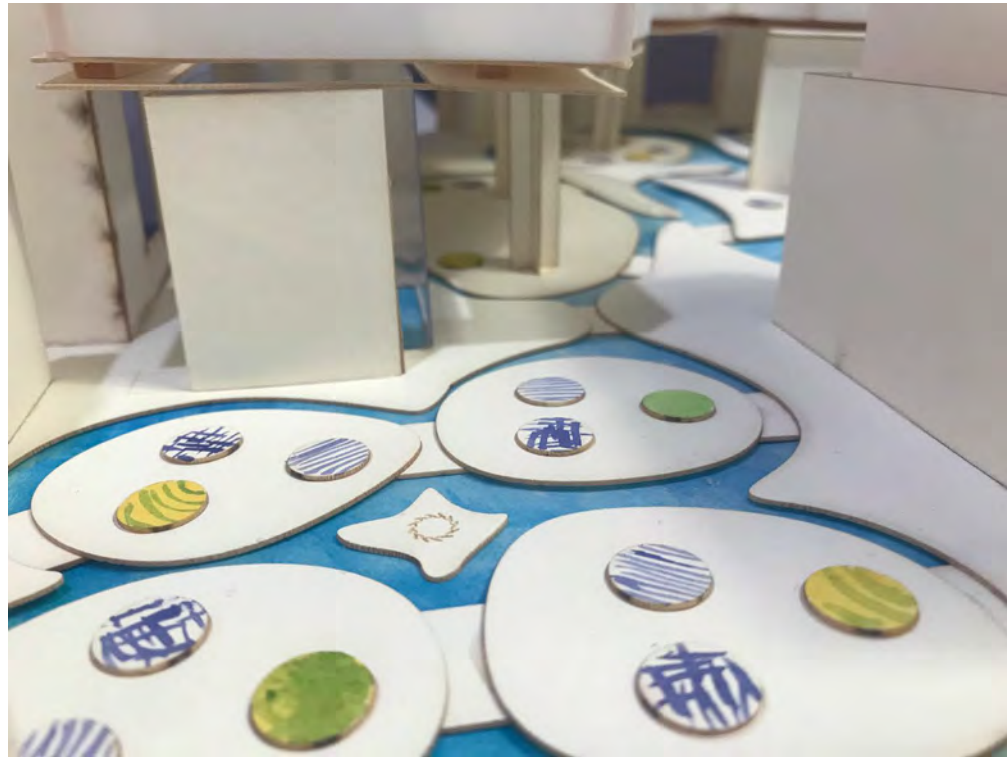
views to the bookshelves on the first floor



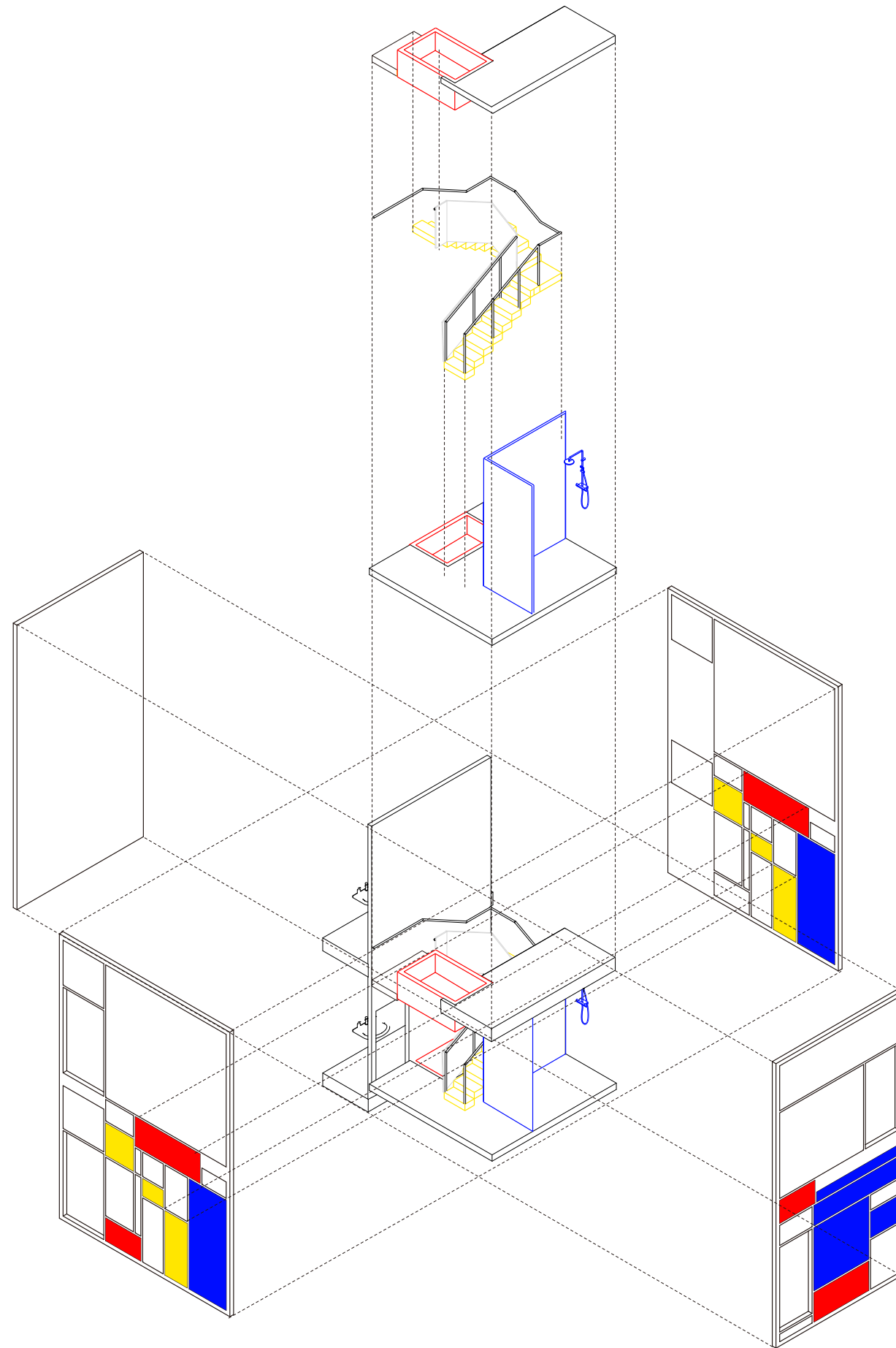


views to the bookshelves in the middle of the library





model study for seating area

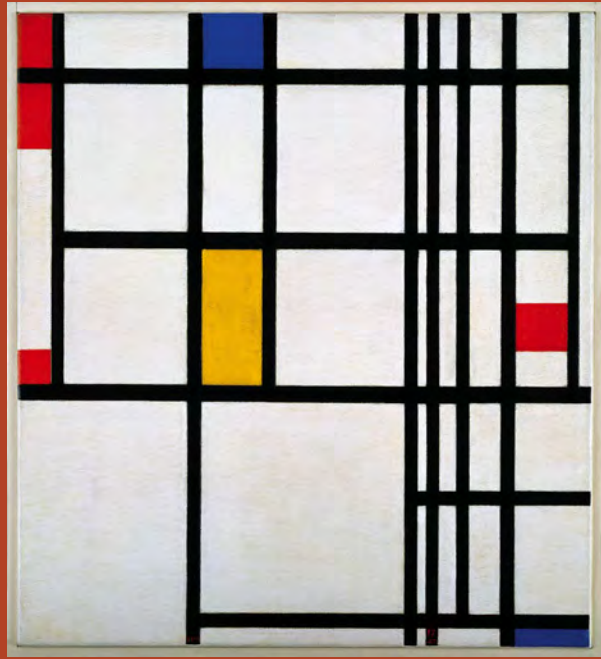


RED BLUE YELLOW

Individual Project
Brooklyn Dwelling Renovation
Fall 2019 Design Studio
1065 Fulton St. Brooklyn, NY 11238



The project is designed to meet the needs of a multi-generation family, who are from local community and also from Northeast of China. People from Northeast of China have a tradition of taking a communal bath with friends and family. Thus, there is a communal bathroom in the house for the family to share. The project is inspired by Mondrian's painting, which contains elements of three color, red, blue, and yellow. These three colors are codes of different programs.

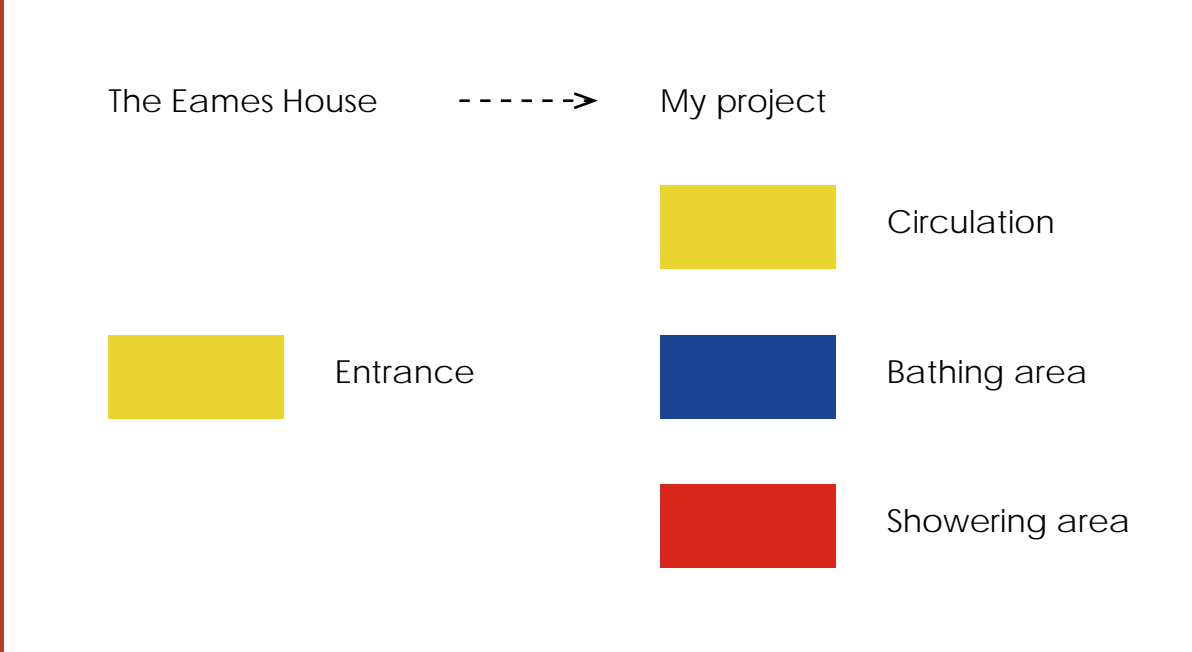


Piet Mondrian. Composition No. 10 (1939–1942), oil on canvas.

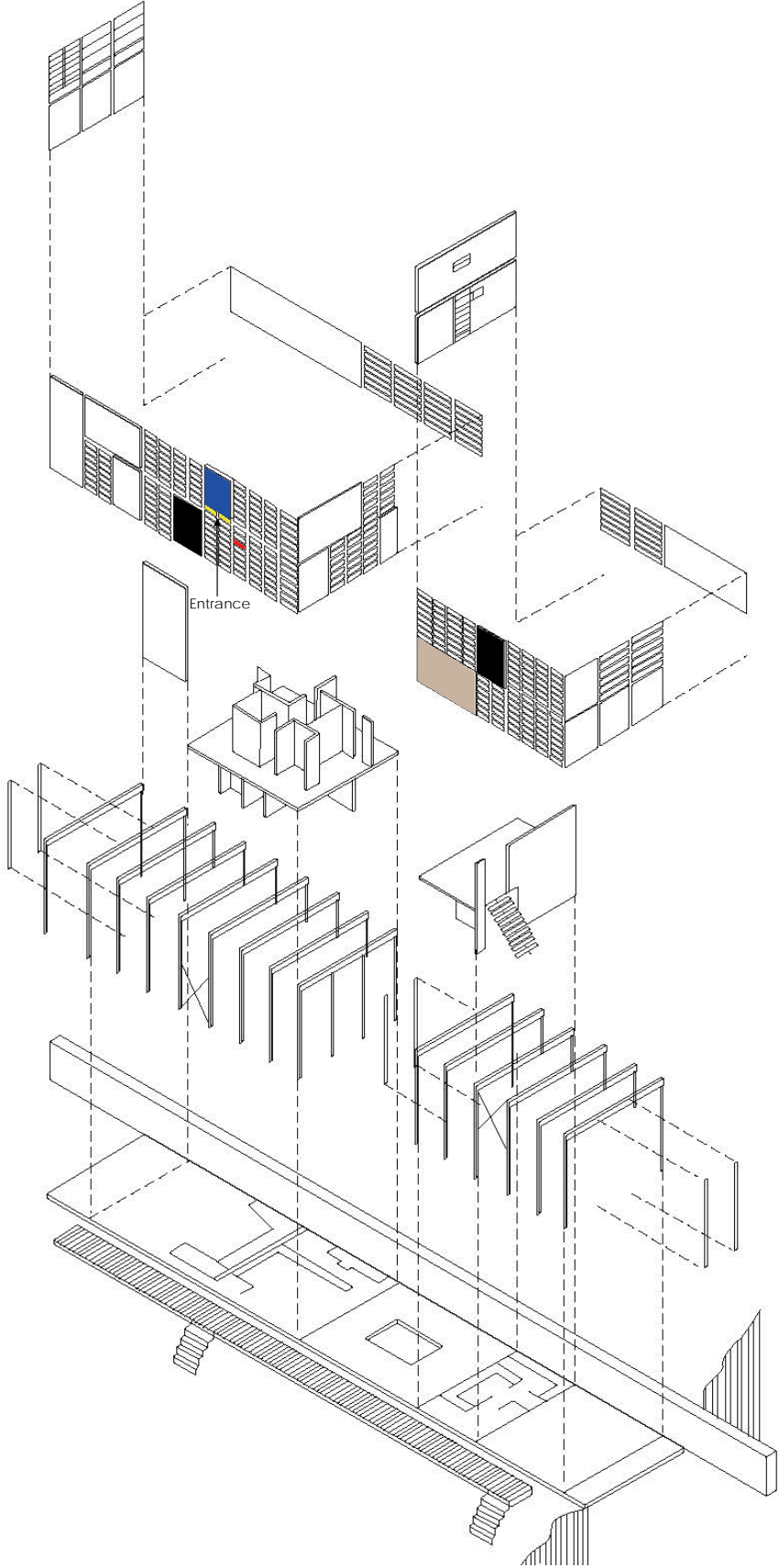


Charles and Ray Eames. The Eames House. 1949.

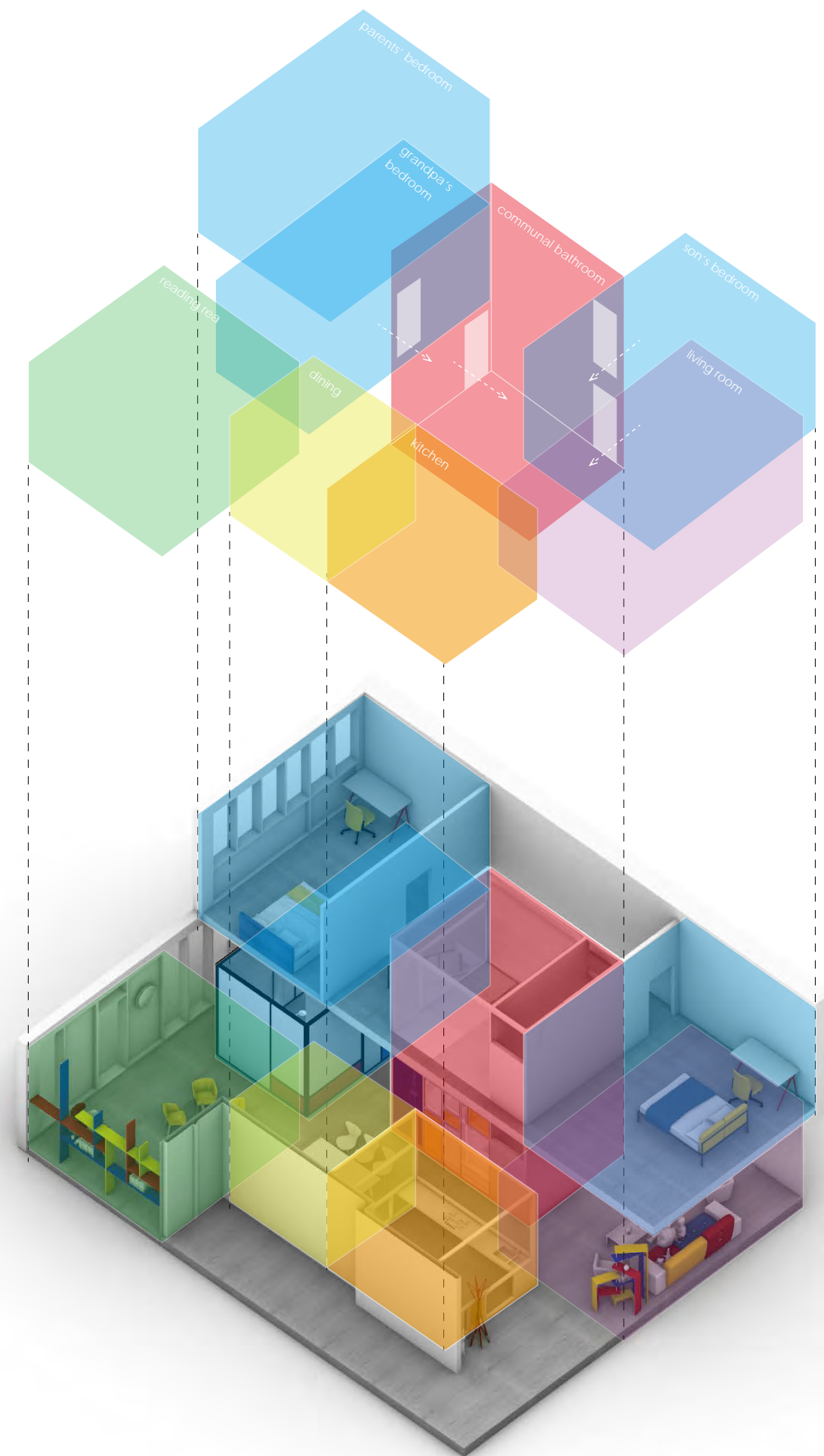
The Eames House used Mondrian's painting as a reference to design the exterior facade of the house. They used black painted stainless steel and color filled glass as the material. The colored glass was used to show the code of the house. For example, they used yellow as the entrance of the house. Similarly, I wanted to use the colors to show the functions within the space.



color codes idea






Exploded Axon of The Eames House, drawing from [Eames Foundation. org](http://EamesFoundation.org)

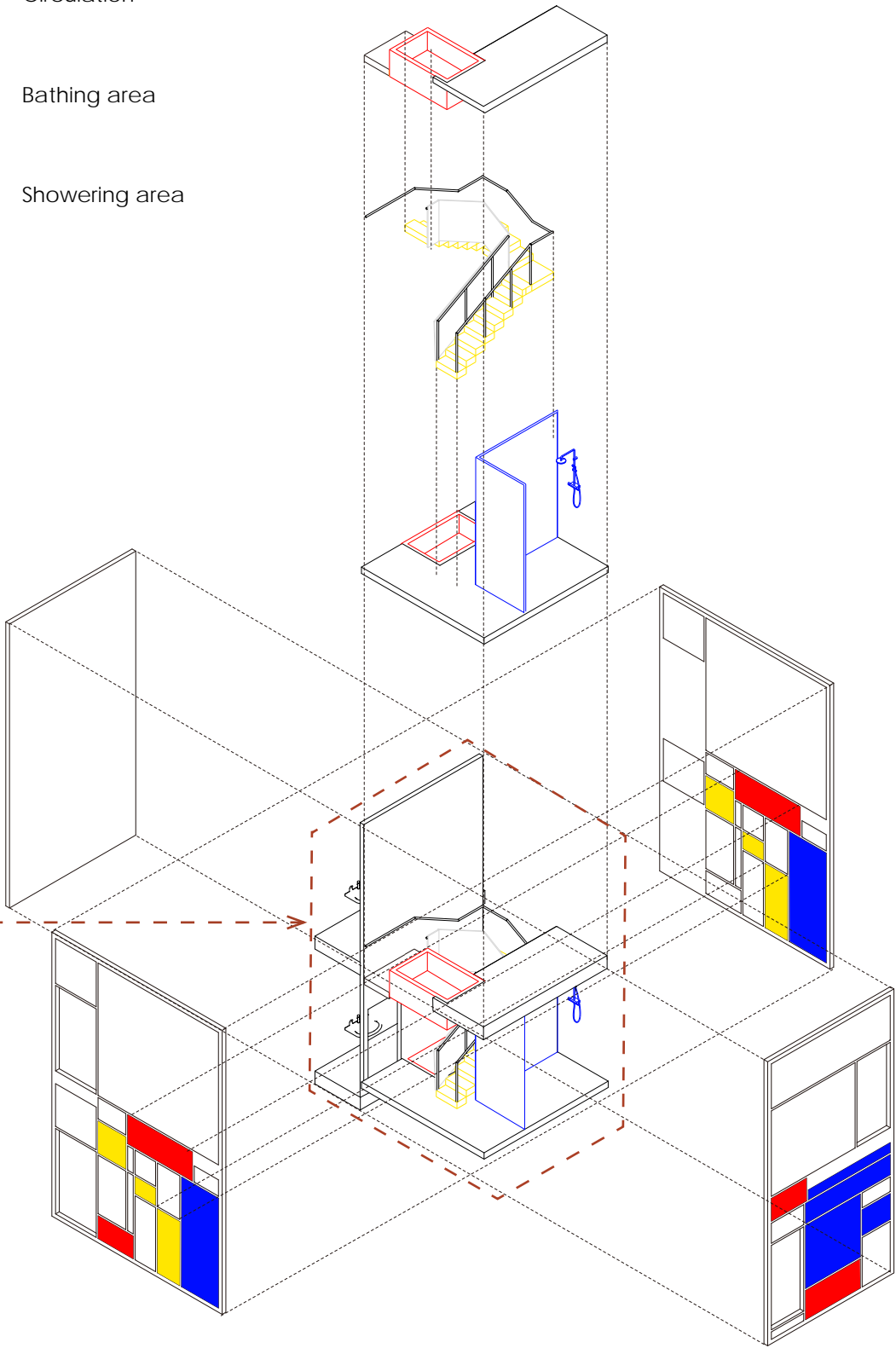


The idea is to design a communal bathroom that can be share by family members. It helps with building connection between families by sharing the same bathroom and using the showering and bathing area at the same time. Although they cannot see each other while using the bathroom, they can talk with each other.

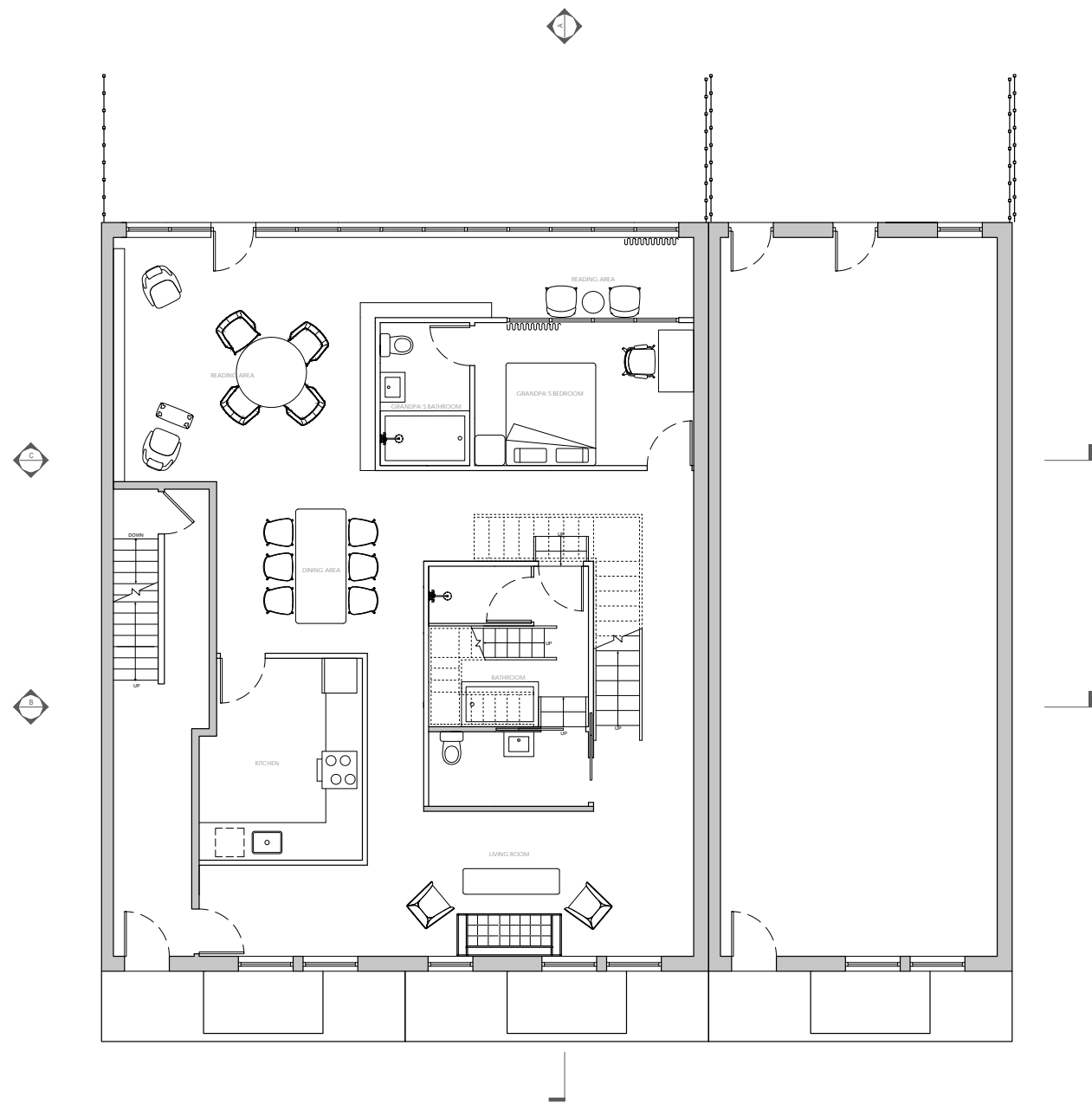
The bathroom is placed in the center of the dwelling and also works as a connection for the two floors. Families can easily access the bathroom from any space.



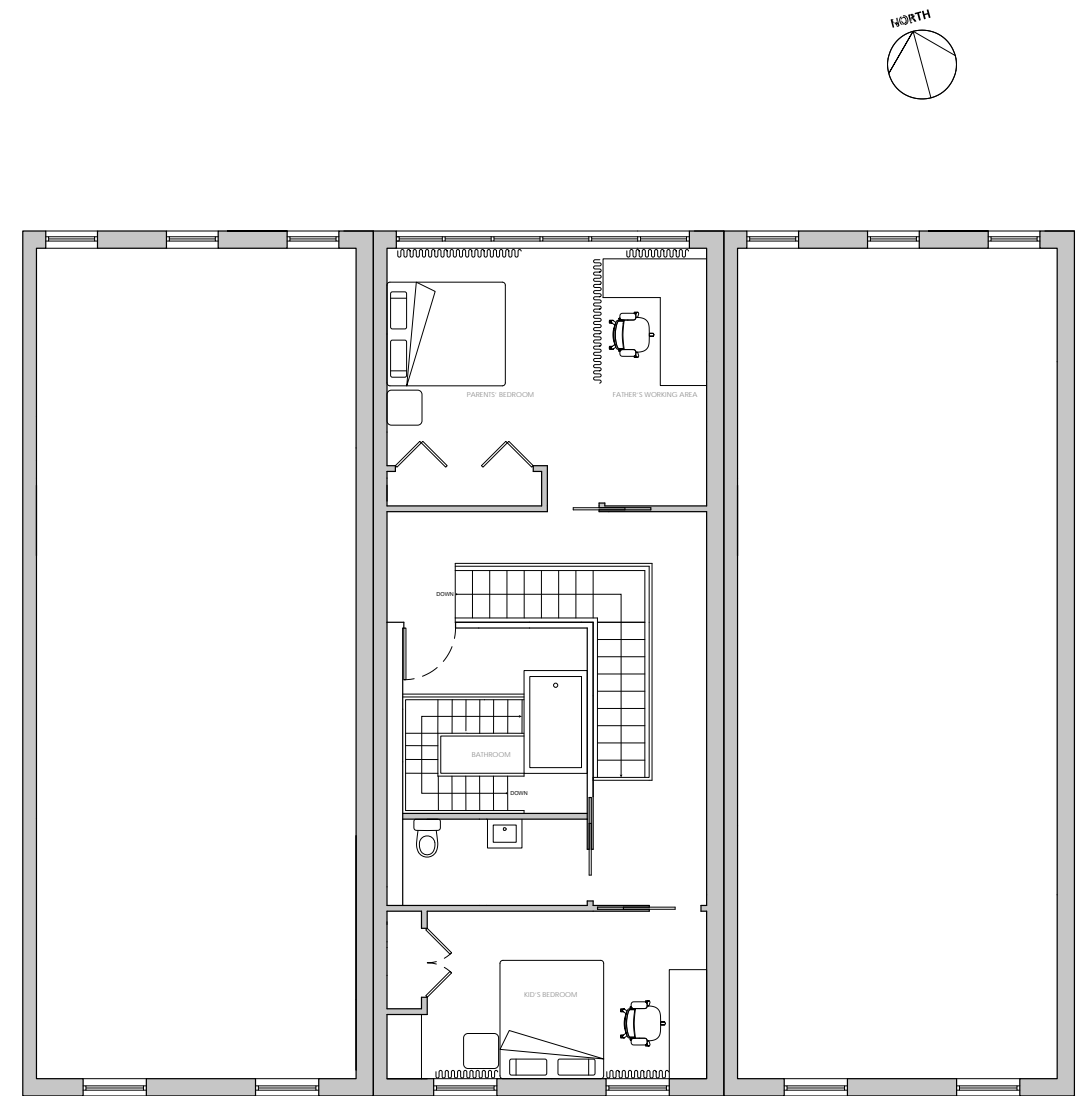
-  Circulation
-  Bathing area
-  Showering area



exploded axon of the communal bathroom



first floor plan



second floor plan



section A



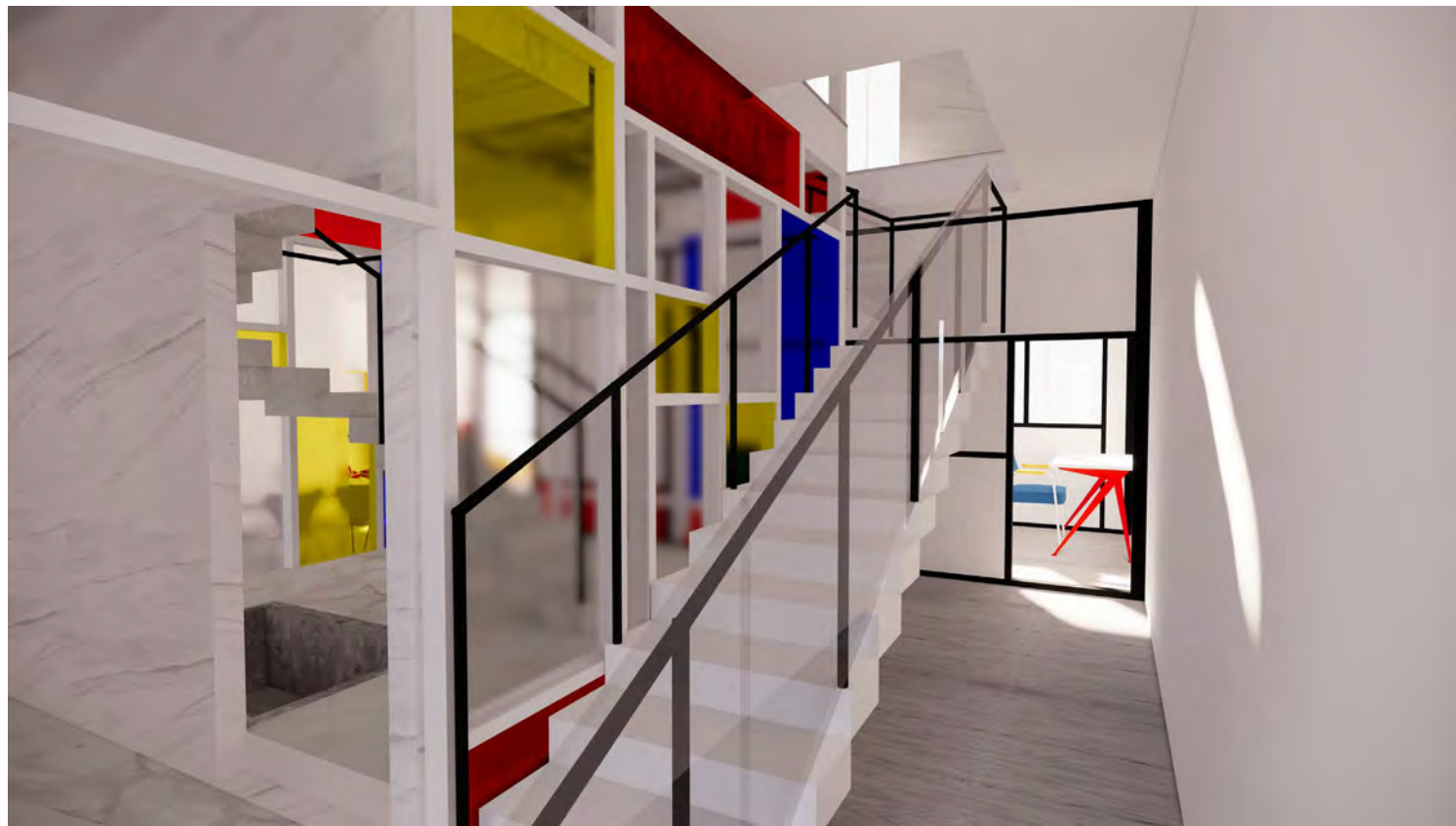
section B



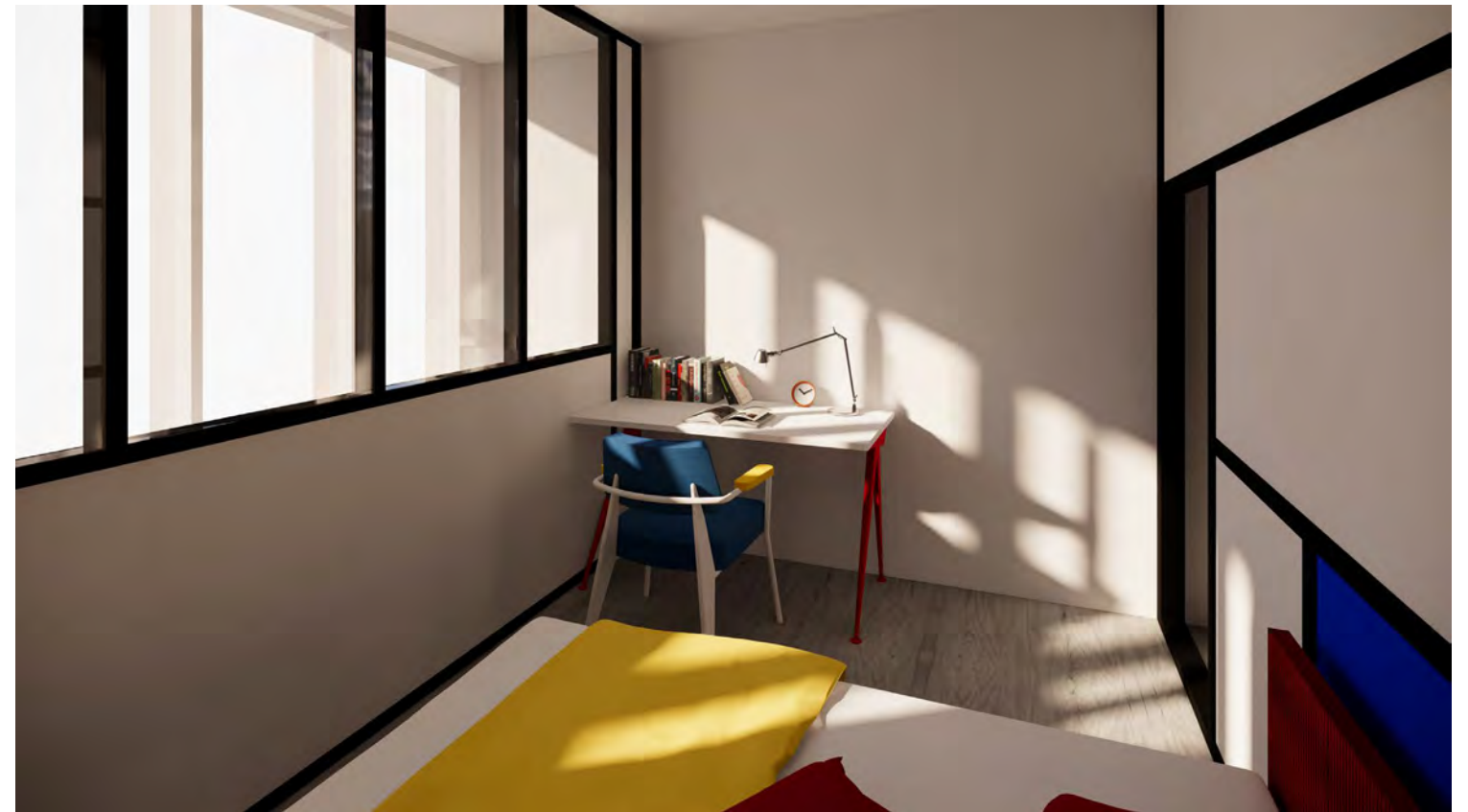
reading area



dining area



facade of the communal bathroom



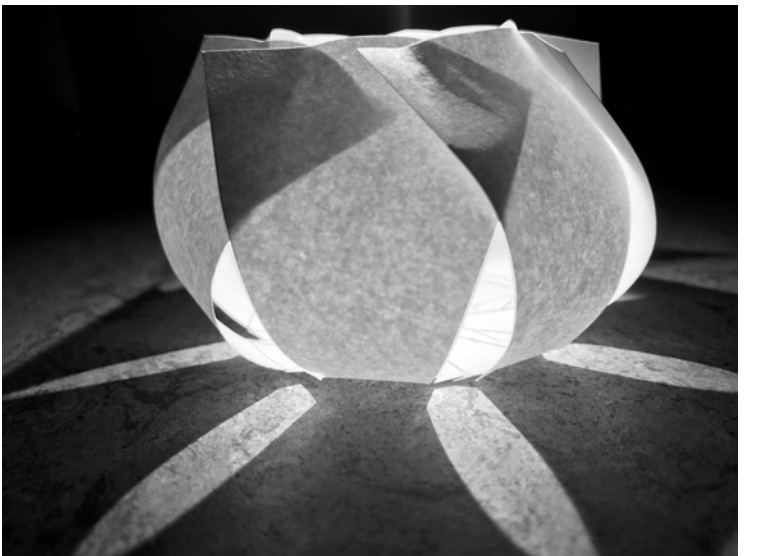
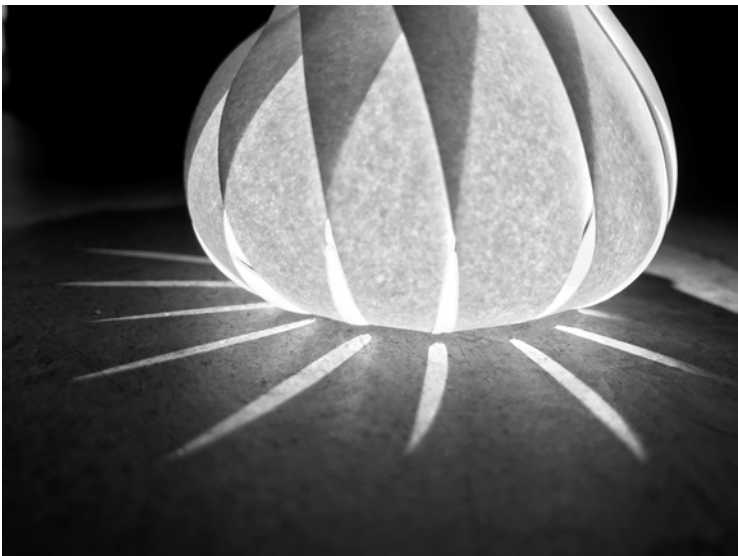
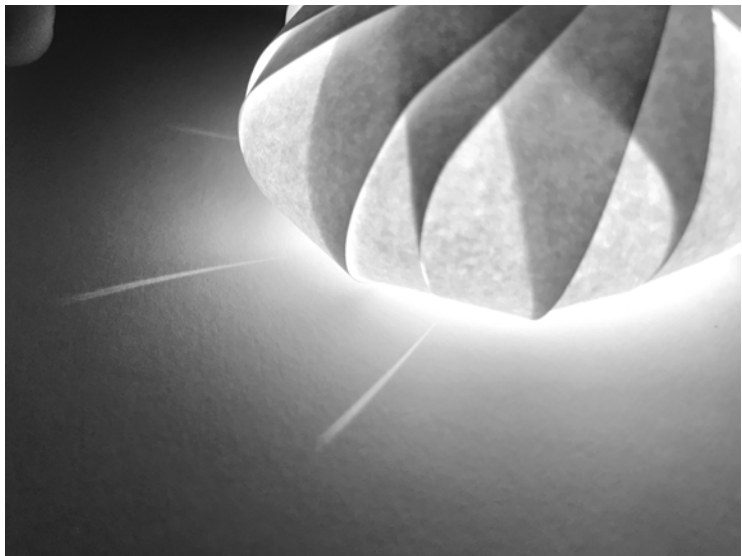
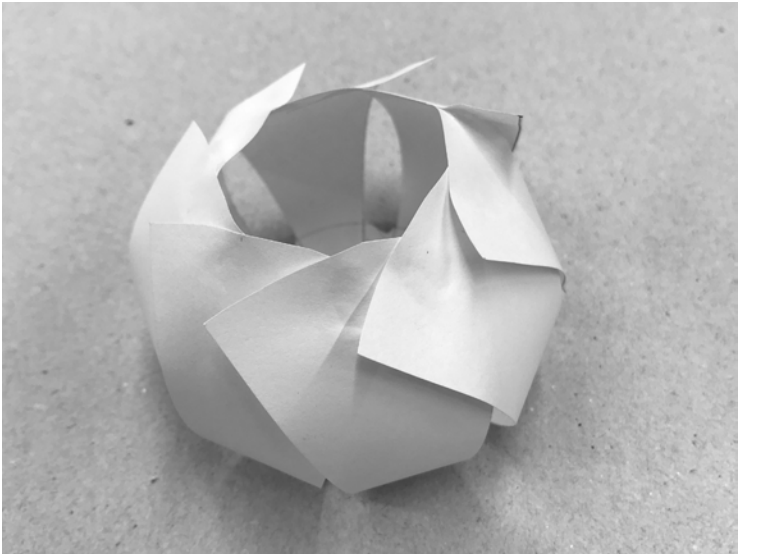
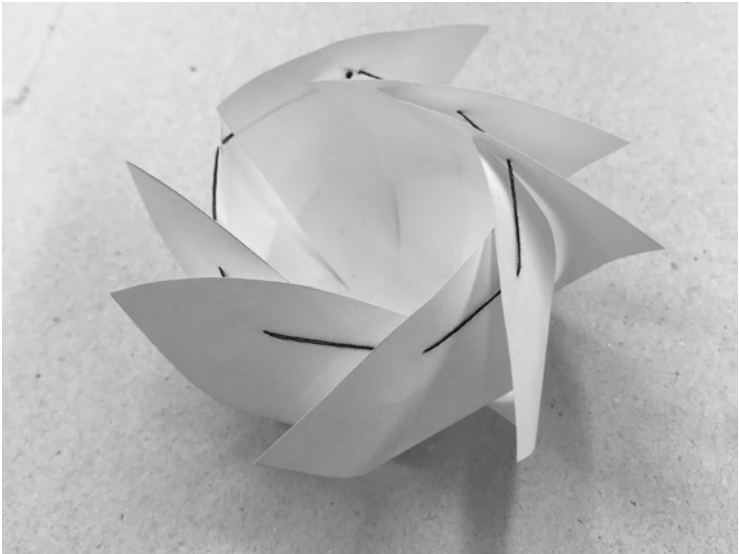
bedroom

FLORAL ONIONS

Individual Project
Exhibition Design
Spring 2020 Design Studio
Copenhagen, Denmark



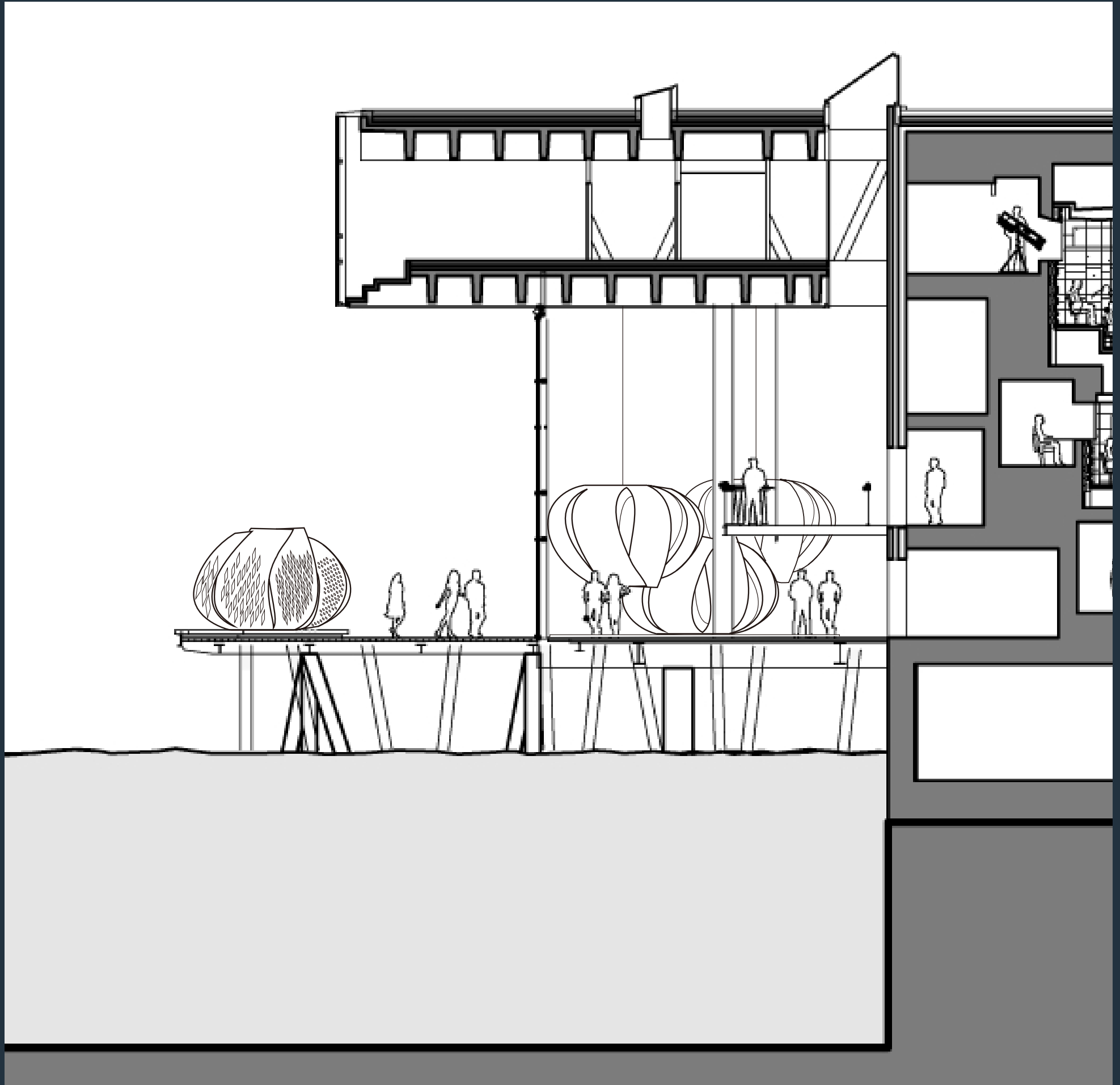
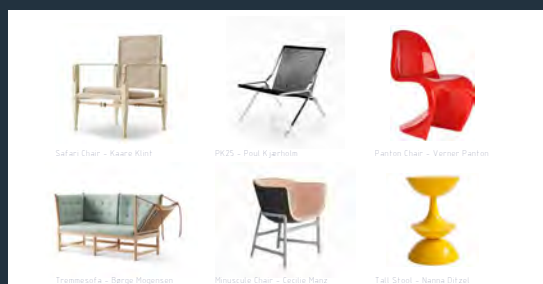
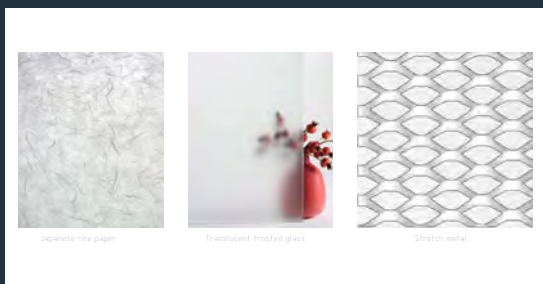
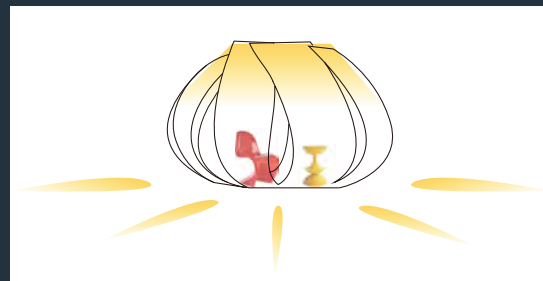
Six pieces of furniture are selected to be exhibited. The light and shadow created by the structure attracts attention to the furniture inside. Two onions are hanging on the ceiling to hold the furniture in order to create an interesting perspective.





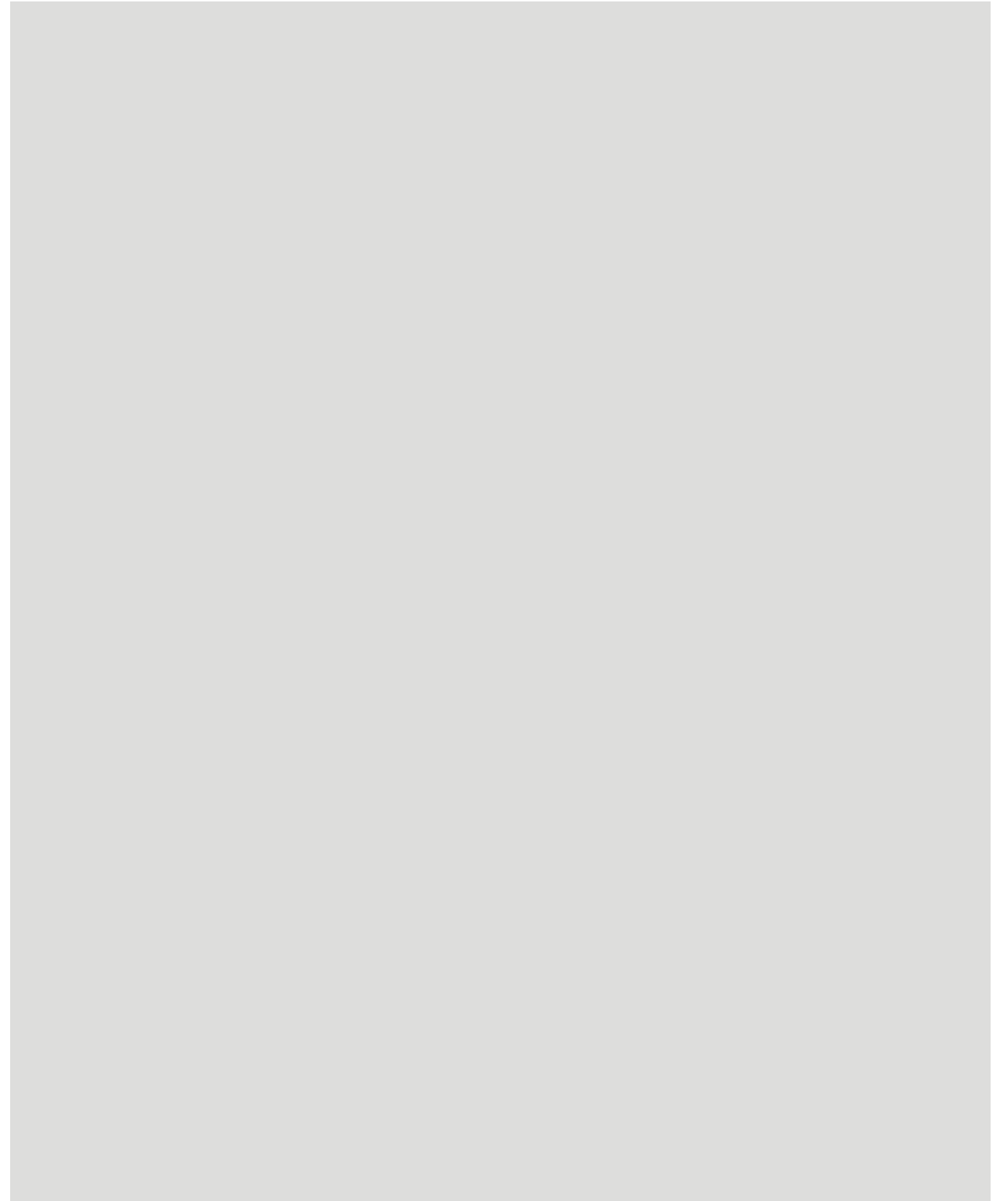
The circular structure controls the light of the exhibition. The light and shadow created by the structure attracts attention to the furniture inside, where furnitures are located. Two onions are hanging on the ceiling to hold the furniture in order to create an interesting perspective.

The structure is operated by solar energy. When there is less sunlight, the structure becomes more closed, as many flowers close at night. Outside is an onion made of stretch metal, which has more closed surface on one side and more open surface on the other side in order to encourage circulation to move around.





ARTWORKS





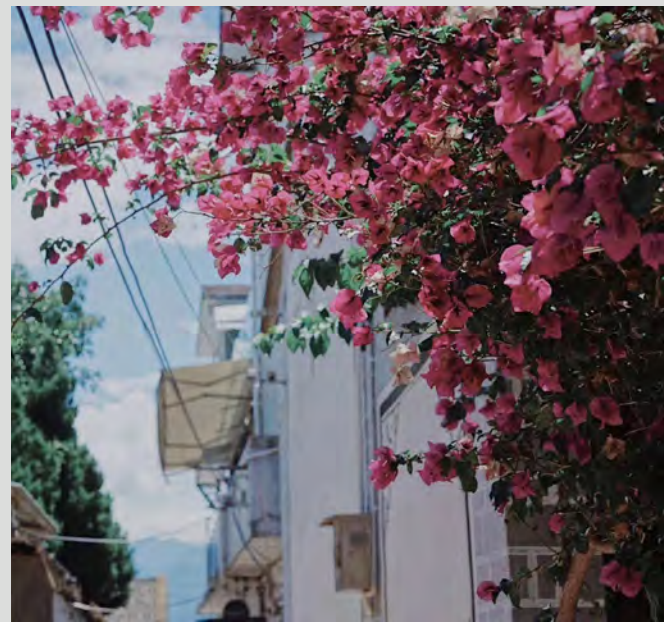
photograph, Brooklyn Botanic Garden, New York, US, SPRING.2018

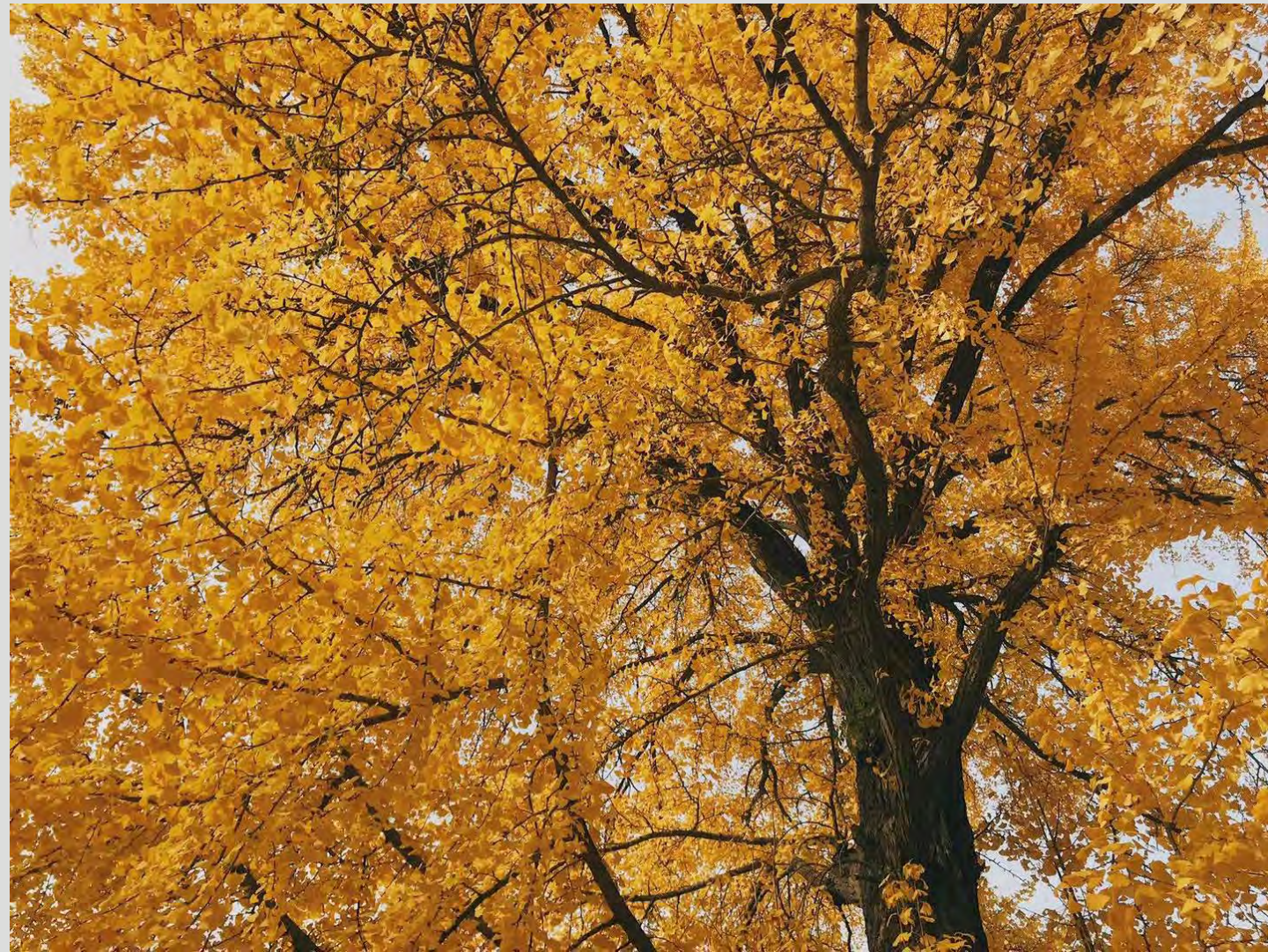


photograph, Dali, Yunnan Province, China, WINTER.2017



Photograph, Dali, Yunnan Province, China, SUMMER.2020





photograph, Xiang Mountain, Beijing, FALL.2020



Photograph, Lishui City, Zhejiang Province, China, SPRING.2021





watercolor, The Summer Palaca, Beijing, APR.19.2020