

The top-left portion of the page features a complex, abstract composition of thin, black, overlapping lines. These lines form various irregular polygons and shapes, creating a sense of depth and movement. The lines are scattered across the upper-left quadrant, with some extending towards the center of the page.

WOOD ARCHITECTURE DESIGN STUDIO ASSIGNMENT 1

Group 1 - Antti Lappalainen, Michael Ekka, Zulunankaer Tuerxun,
Ekaterina Pushkina, Patrick Bundschuh, Jie Wu

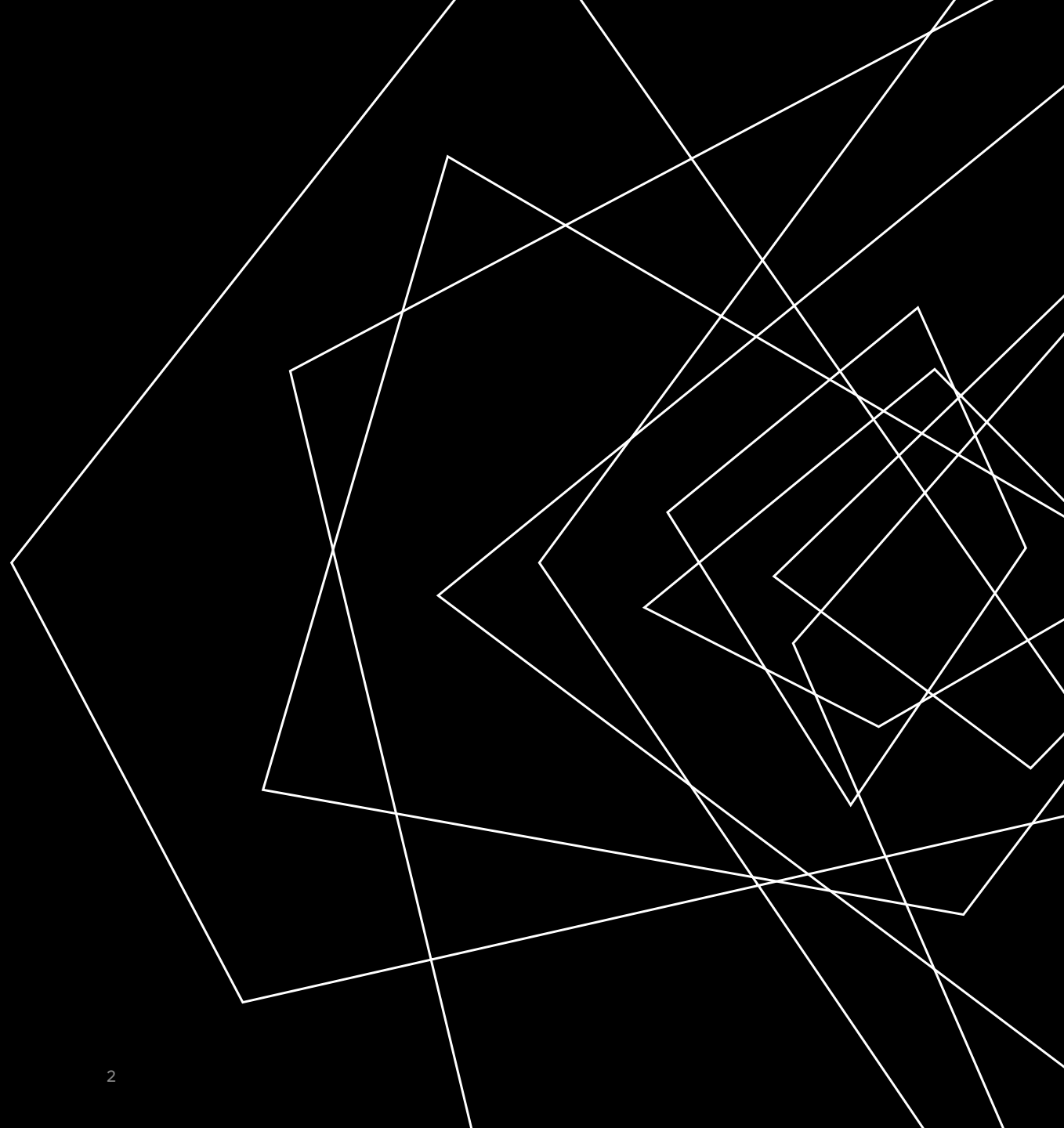
CONTENTS

Spaces – Needs & Definitions

Functions & Requirements

Case Study Analysis

Recommendations



DEFINING PLACES AND NEEDS OF THE FUNCTIONS

SLEEPING	BATHROOM	COOKING	WORKSPACE	LIVING	STORAGE
Place for extended periods of rest and rejuvenation.	Place for refreshing, washing up and getting ready.	Place for creating and developing sustenance.	Place catering to usual work-related functions, hobbies and/or creative outlet.	A place connecting various other functions. Can be used for work, recreation, rest, interaction and more.	Divided as Personal, Indoor and Outdoor, this place houses all secondary and tertiary objects to sustain and maintain the other places.

THE USER GROUPS



STUDENT

University Student
(like us)



BLIND PERSON

(visually challenged
or impaired,
optionally has a guide
dog)



OLD PAINTER

(retired painter now
living alone)

SLEEPING AREA

SPATIAL REQUIREMENTS

Bed – 120x210cm in size

Mattress and Cover

Pillow and Cover

Blanket and Cover

Nightstand – 45-60cm high, 30-45cm wide

Lamp

Curtains

Windows

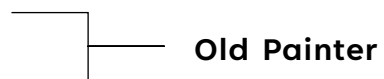
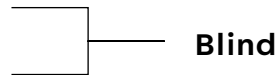
Socket (x1 at least, 10-15cm from floor)

Alarm Clock (hearing assist)

Stick Stand

Rug

Walker/Stick Area



 Shareable Items



BATHROOM

SPATIAL REQUIREMENTS

Shower and Curtain
(90x90cm min)

Toilet

Sink

Mirror (45x60cm)

Bathroom Cabinet

Wastebasket

Toiletries – Toothbrush,
Toothpaste, Shower
Gel/Soap, Shampoo,
Razor etc.

Toilet Paper

Towels

Washing Machine

Dryer

Personal Hygiene Stuff

Socket (180cm high, at
least 150cm from
water)

Lamp

Exhaust

Window

Non-slip/Tactile Mats

Hand/Guide Rails

Emergency Button

Sittable Shower

Stick/Walker Space

 Shareable Items

For the
Blind and
the Old
Person.



COOKING AREA

SPATIAL REQUIREMENTS

Stove/Cooktop

Oven/Microwave

Sink

Fridge

Freezer

Exhaust

Dishwasher

Coffee Machine

Kitchen Cabinet/s For—small and big pots, pans plates, cups and glasses, spoons, spatulas, forks, scissor, knives, cutting board.

Can/Bottle Opener

Kettle

Liquid Washer and Sponges

Kitchen Towels and Napkins

Dustbin (wet/dry)

Towels

Cabinet For — Spices, non-refrigerated food, containers.

Beverages

Lamp

Sockets (x3 at ~105cm)

Window and Natural Light

Special Storage (for Blind/Old)



Shareable Items



WORKSPACE AREA

SPATIAL REQUIREMENTS

Table (75x120cm min)

Chair (45cm high)

Computer

**Phone (Tactile for
Blind and Old Person)**

Charger

Desk Lamp

Drawers/Shelf – for
books, stationery,
paper, pencils, pens,
Braille supplies

Speakers

Plants

Curtains

Window and Natural
Lighting

Wastebasket

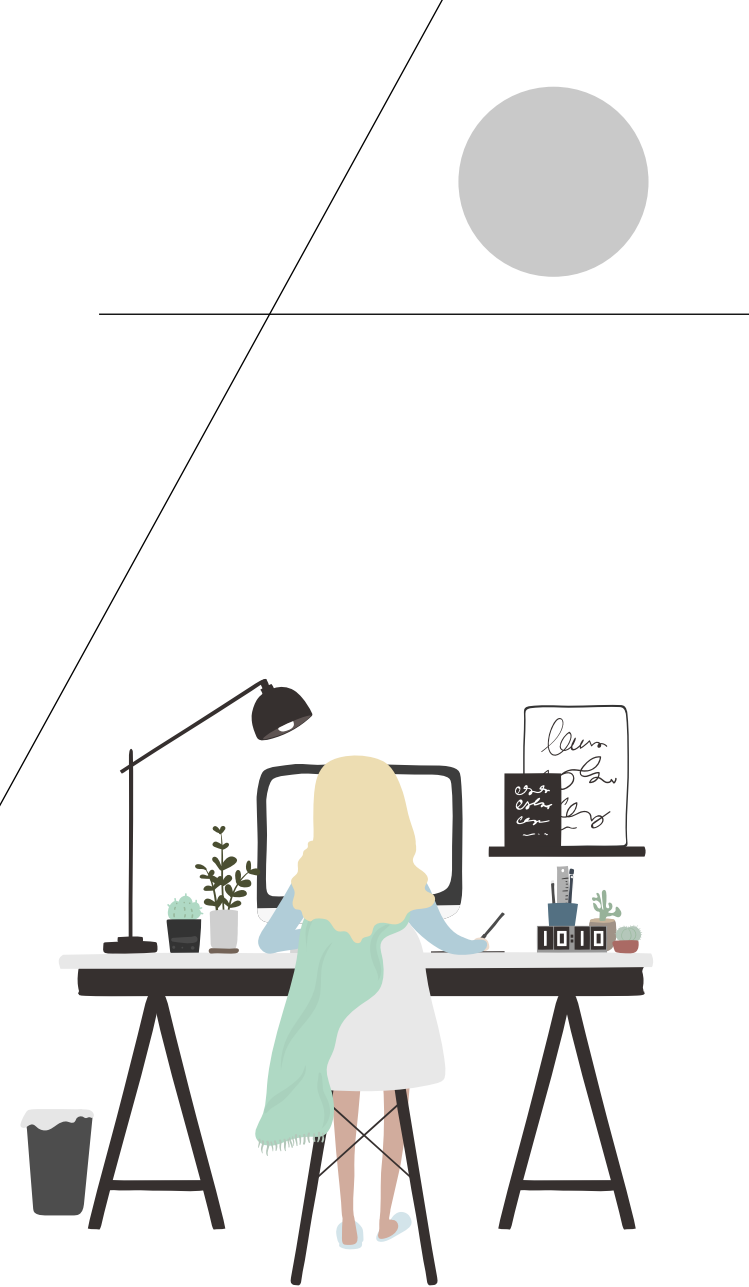
Rug

Sockets (x3)

**Painting Supply
Storage – colors,
palette, brushes,
paper, canvas (for Old
Painter)**



Shareable Items



LIVING AREA

SPATIAL REQUIREMENTS

Sofa/Armchair

Side Table (~45x45cm,
45cm high)

TV

Carpet

Speakers

Bookshelf

Plants

**Dining/Multi-purpose
Table**

Chairs (x3)

Cushions

Radio

Ornamentations

 Shareable Items

Sockets (x2)

Window and Natural
Light

Curtains

Lighting

Tactical Floor Markers

**Guide Dog Kennel and
rug basket**

Exhibit Walls

Rugs

Memorabilia



Blind



Old Painter



STORAGE AREAS

SPATIAL REQUIREMENTS

Personal Storage

Cabinet For – clothes, shoes, linen, towels.

Bag-pack

Suitcase

Medicines (**Braille Med. Box for Blind Person**)

Cosmetics

Perfumes

Guiding Stick/walker holder (for old and blind)

Dog leash (for blind)

Paintings



Shareable Items

Indoor Storage

Cabinet/Stand for – umbrella, vacuum, broom, cleaning cloths, cleaning fluids, shopping bags.

Sleeping Bag

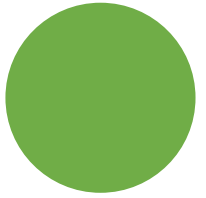
Basic tool-box

Outdoor Storage

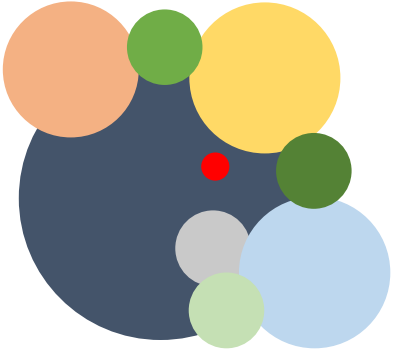
Outdoor cabinet

Cleaning Stuff

Gardening Supplies



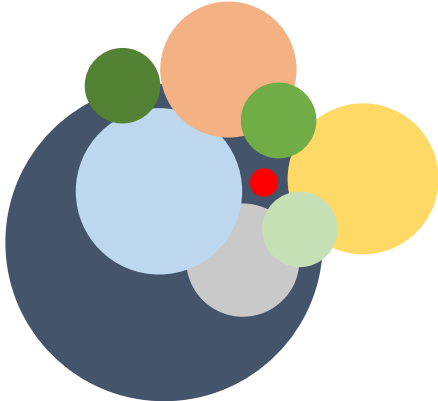
STUDENT APARTMENT ~26M²



Sleeping	4 sqm
Bathroom	4 sqm
Cooking	3.5 sqm
Workspace	2 sqm
Living	7 sqm
Personal Storage	1.7 sqm
Indoor Storage	1.5 sqm
Outdoor Storage	1.5 sqm

● Person

A BLIND PERSON'S APARTMENT ~31M²



Sleeping	5 sqm
Bathroom	6 sqm
Cooking	3.5 sqm
Workspace	2.5 sqm
Living	9 sqm
Personal Storage	1.7 sqm
Indoor Storage	1.5 sqm
Outdoor Storage	1.5 sqm

● Person

AN OLD PAINTER'S APARTMENT ~35M²



Sleeping	5 sqm
Bathroom	6 sqm
Cooking	3.5 sqm
Workspace	5 sqm
Living	9 sqm
Personal Storage	1.7 sqm
Indoor Storage	1.5 sqm
Outdoor Storage	1.5 sqm

● Person

CASE EXAMPLES & TYPOLOGY



Villa Le Lac
(Villa)



Yojigen Poketto (elli)
(Apartment)



Nakagin Capsule Tower
(Modular)



VILLA LE LAC

Architect Le Corbusier

Completed Year 1924, Switzerland

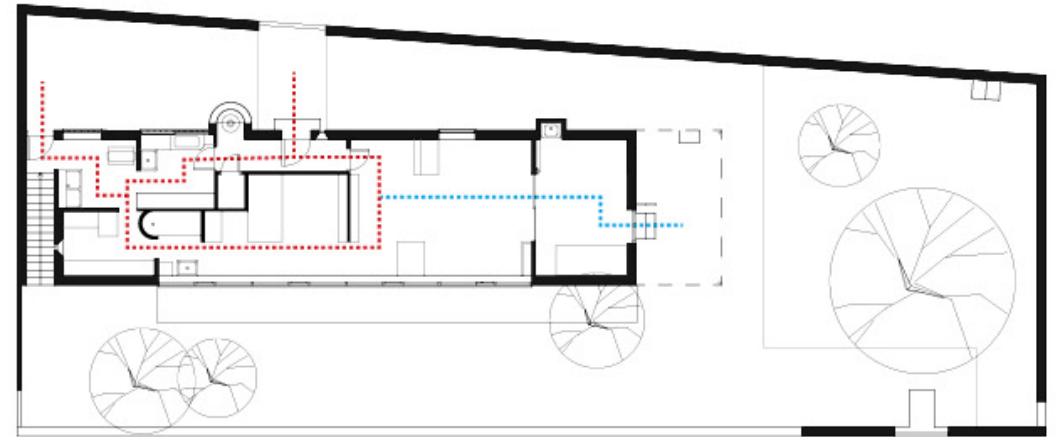
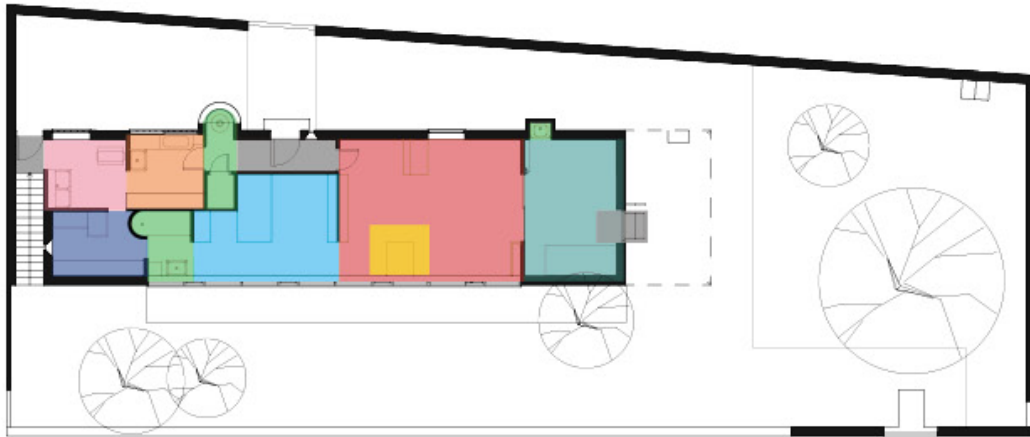
Typology – Residential Villa

Architectural Style – Modernist

The project was undertaken without reference to any site, and the site was chosen after the design was complete. Therefore, it seems born as an interchangeable product, a translation of concrete design to space.

However, the issue of location is not trivial and, hence, the great marriage between architecture and landscape.

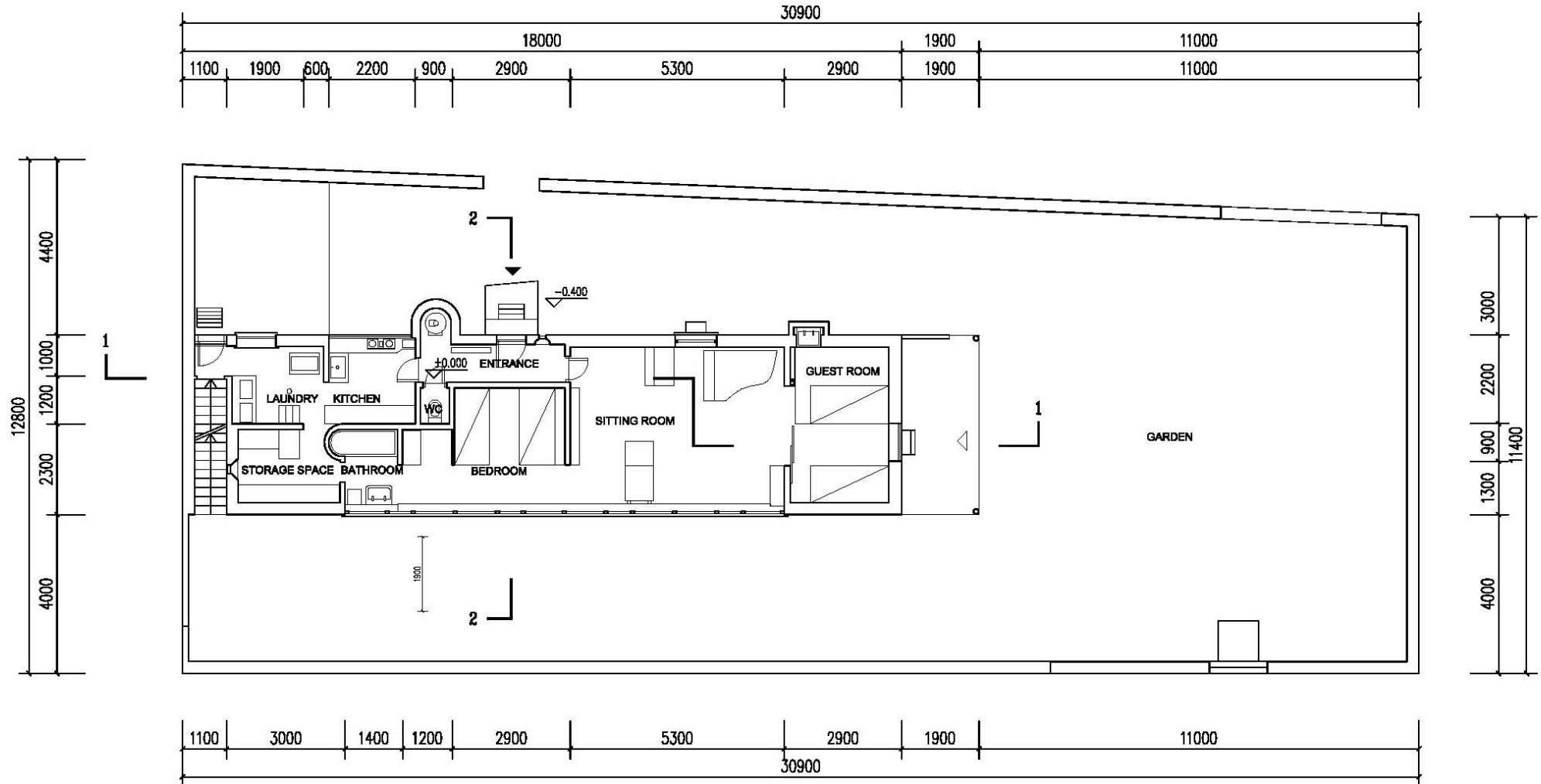
SPATIAL PLAN & CIRCULATION PATTERN



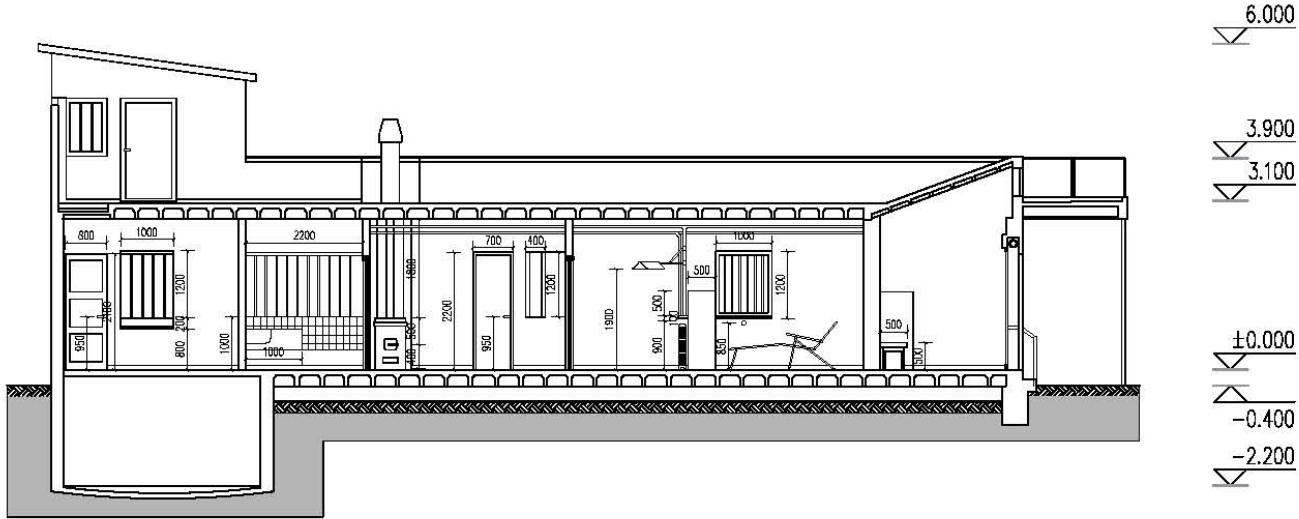
- | | | |
|-------------------|---------|----------|
| Access | Dining | Bedroom |
| Hospitality/Lobby | Kitchen | Bathroom |
| Living | Laundry | Closet |

- | |
|------------------------------|
| Sequence of main activities |
| Sequence of minor activities |

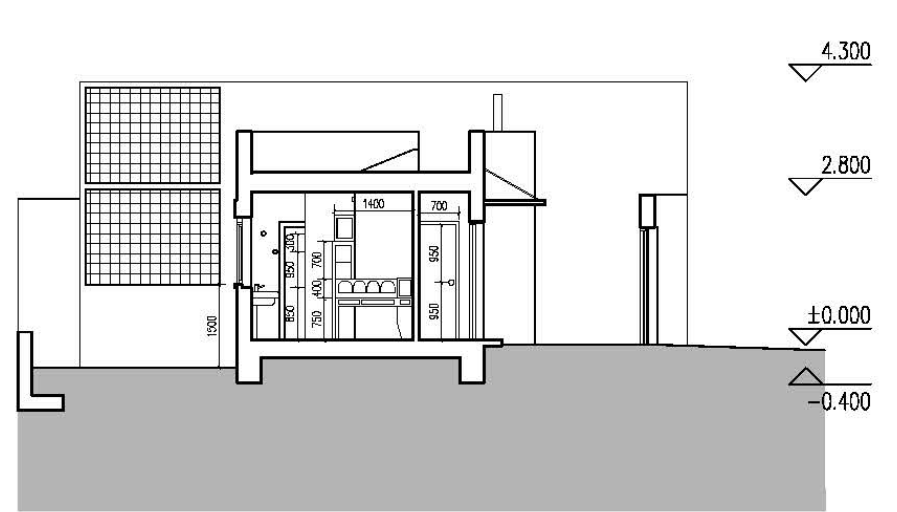
FIRST FLOOR PLAN & DIMENSIONS



BUILDING SECTIONS

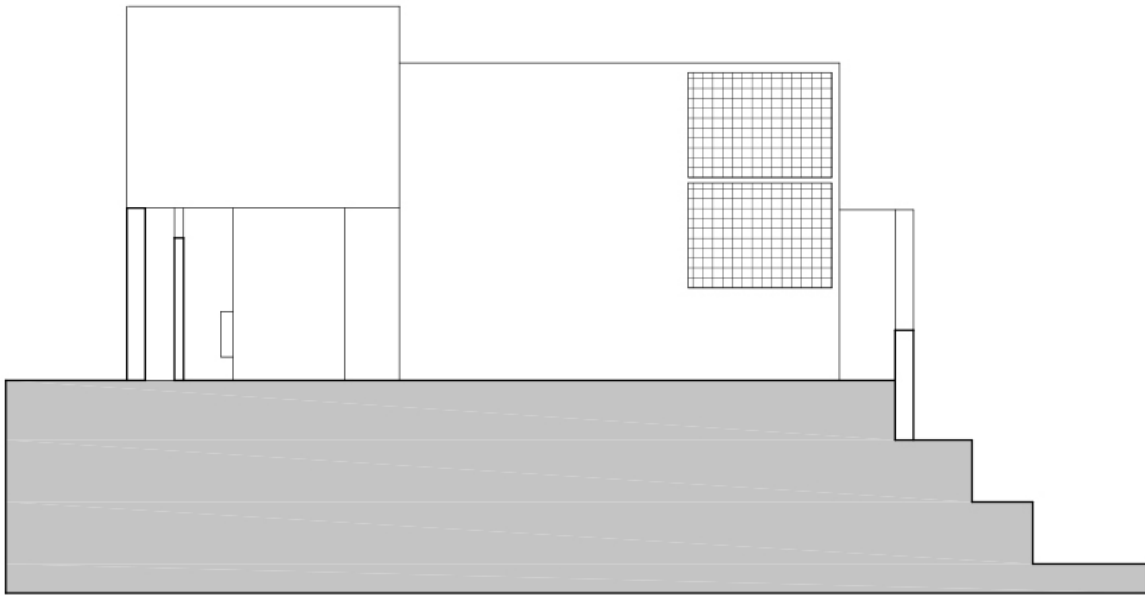


Section 1-1'

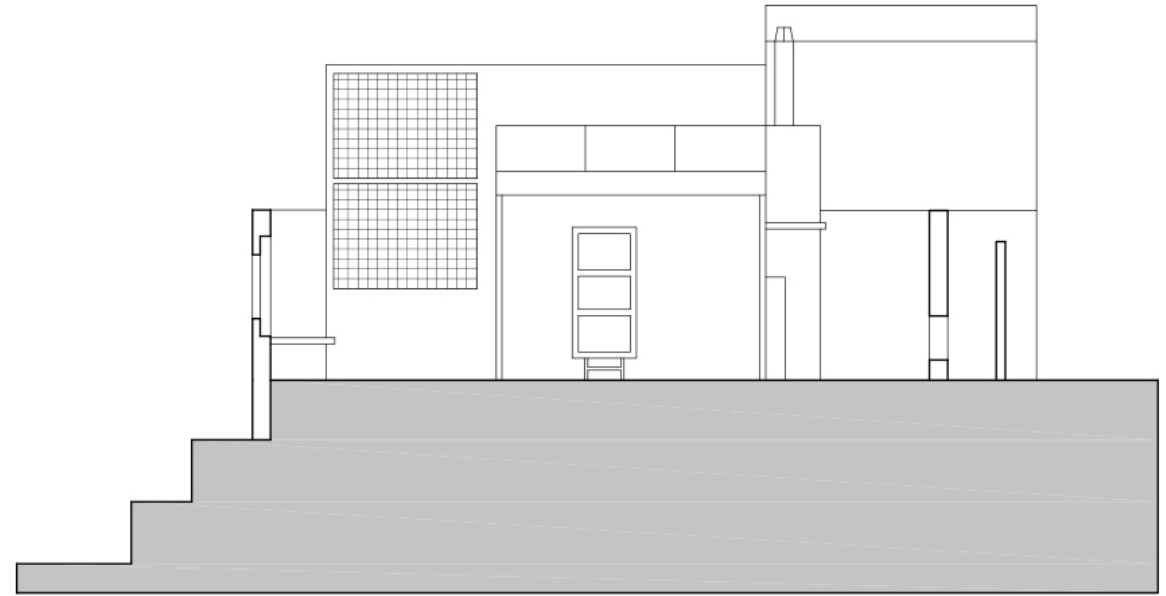


Section 2-2'

BUILDING ELEVATIONS

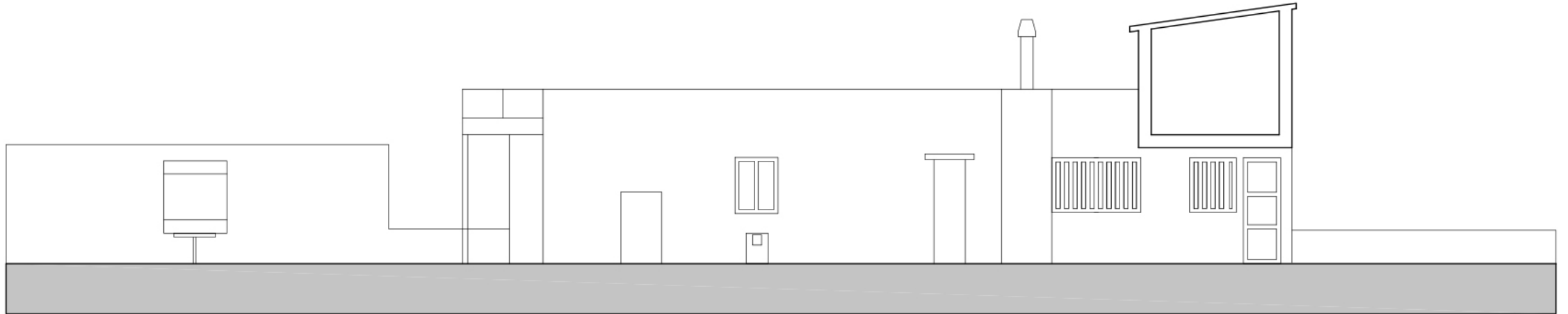


West Elevation

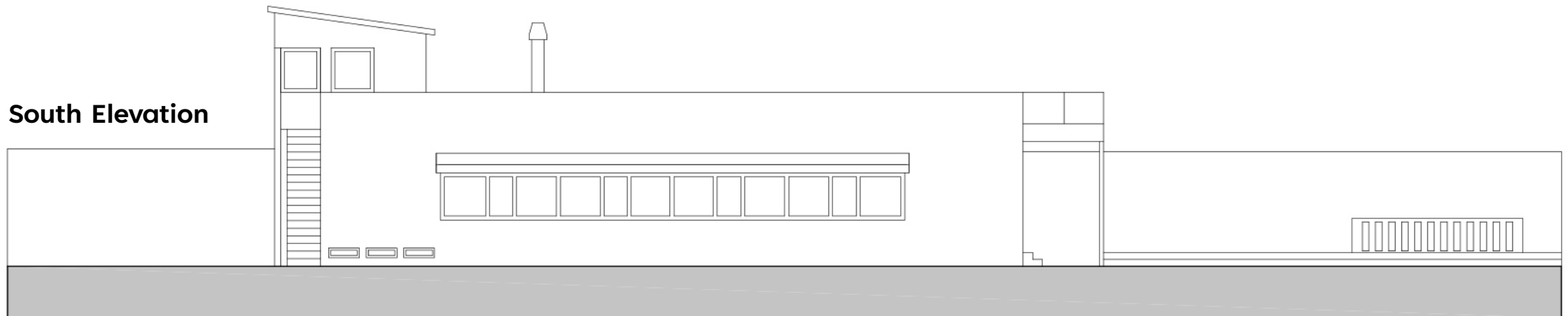


East Elevation

BUILDING ELEVATIONS

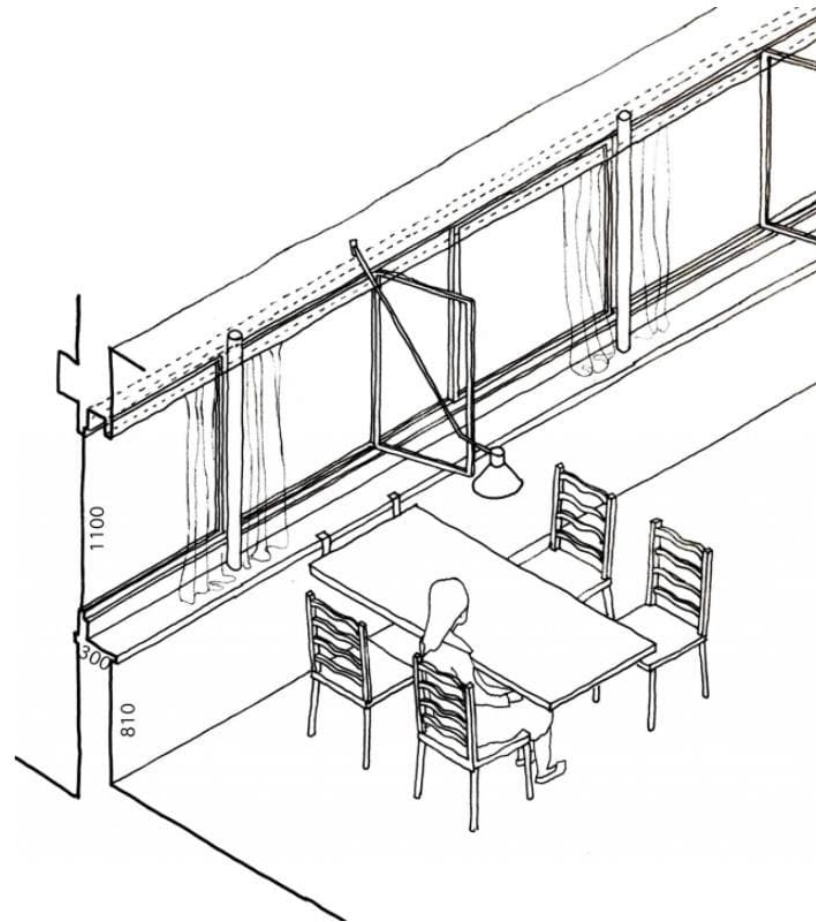


North Elevation



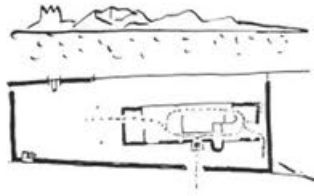
South Elevation

SPATIAL MEASUREMENTS



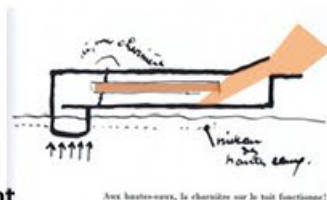
Villa Le Lac

CONCEPT & MATERIAL PALETTE



Spatial Idea

A narrow house with a single bay. The minimal house offering a maximum of comfort and space.



Natural light

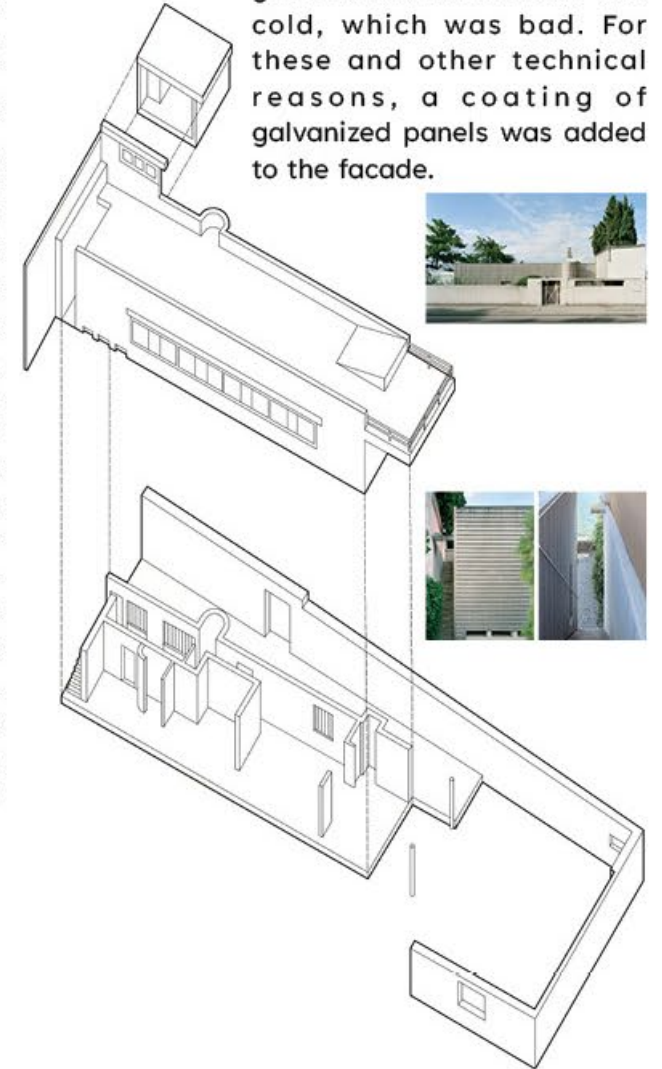
The 11 meter long ribbon window and the east scuttle provide a bright indoor view.



Material

Inside the house is brown linoleum floor in all rooms. The wall under the window band is reddish brown. The east wall of the living room as well as the fixed furniture element shine in a bright cerulean blue, which makes the room appear larger and conveys the sensation of a water landscape or sky. In the south-west part, the bedroom is held in a light sienna, which should give the residents a feeling of warmth and comfort.

Hollow concrete blocks that were used for the walls are good conductors of heat and cold, which was bad. For these and other technical reasons, a coating of galvanized panels was added to the facade.





YOJIGEN POKETTO

Architects elli

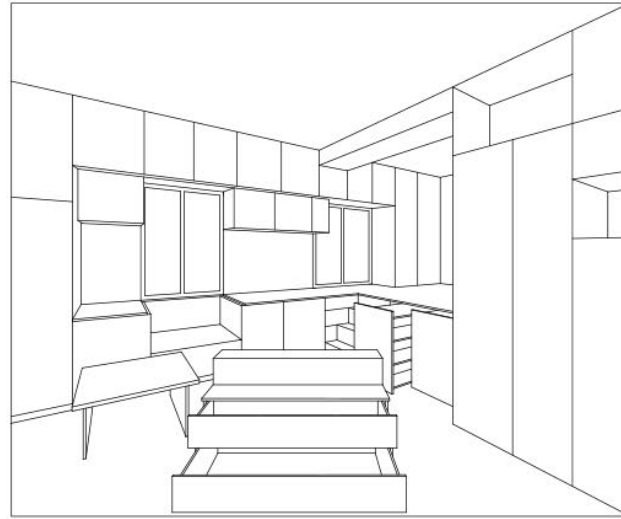
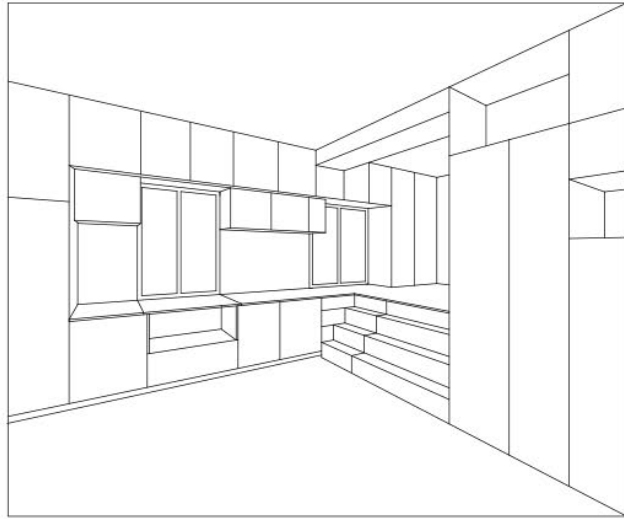
Completed Year 2017, Spain

Typology – Flexible Residential Space

Architectural Style – Minimal/Modular

The proposal gains the corner of the building, floods it with natural lighting and views to the street, both the deep horizon and the street-level perspective, from the overhead areas. Openings in the furniture extend the indoor cross views from the upper area. The various elevations sport different finishes that produce specific atmospheres. Light colors are used on the walls of the main area to provide as much light as possible.

CONCEPTUAL IDEA & MATERIALS



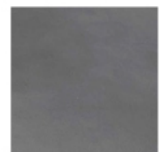
The name "Yojigen Poketto", which means **"four-dimensional pocket"**, describes the spatial idea very well. The architects have managed to create a free space by combining all the necessary functions and a lot of storage space in one L-shaped piece of furniture. This allows the main room to open up towards the two balconies. To create some privacy, a second level was built at the height of the kitchen surface, on which the bed and the entrance to the bathroom are located. This area can be separated from the rest of the apartment by a curtain.



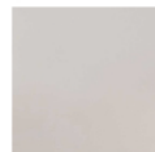
33m²



99m³



floor
grey linoleum



walls and ceiling
white plaster

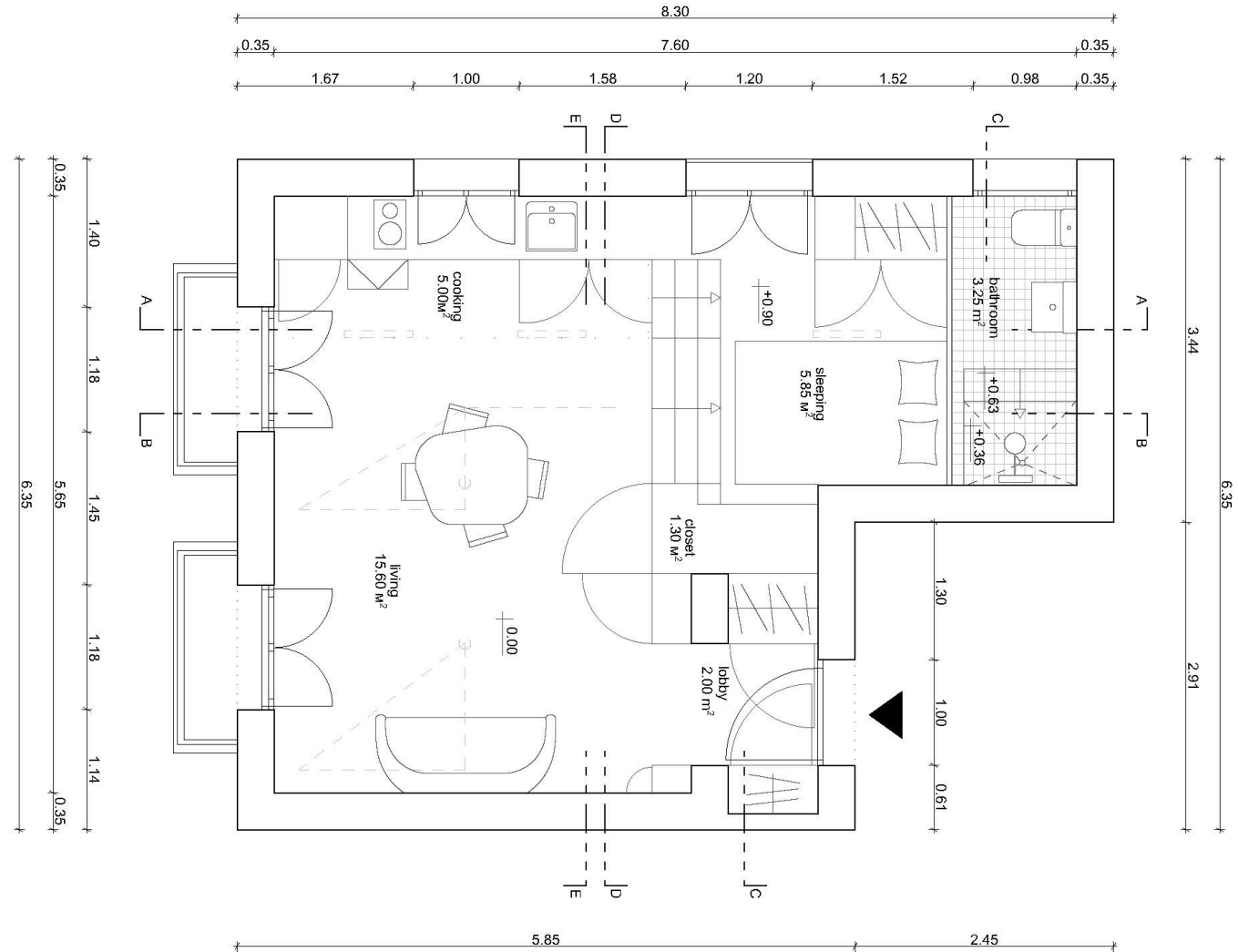


fixtures
wood

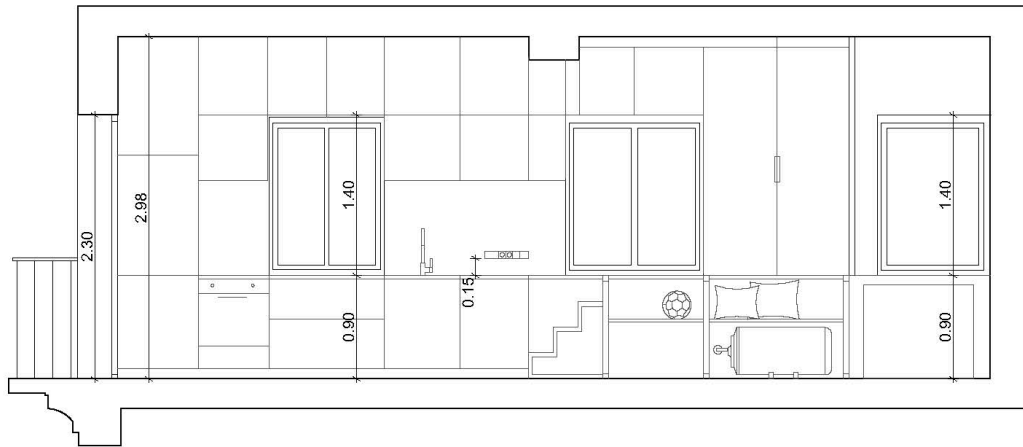


fixtures
coated wood

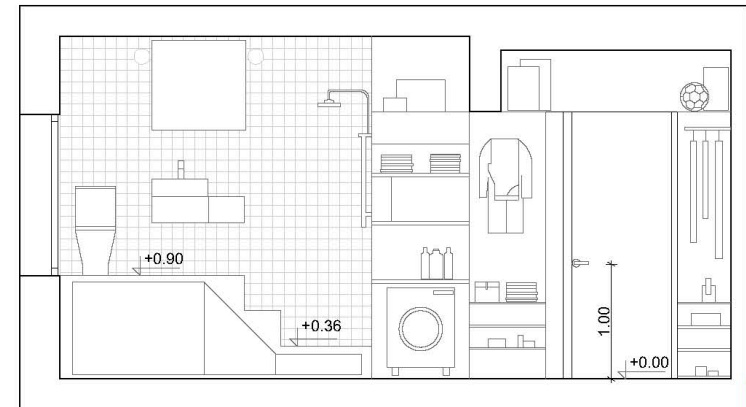
FLOOR PLAN & DIMENSIONS



SECTION DIAGRAMS

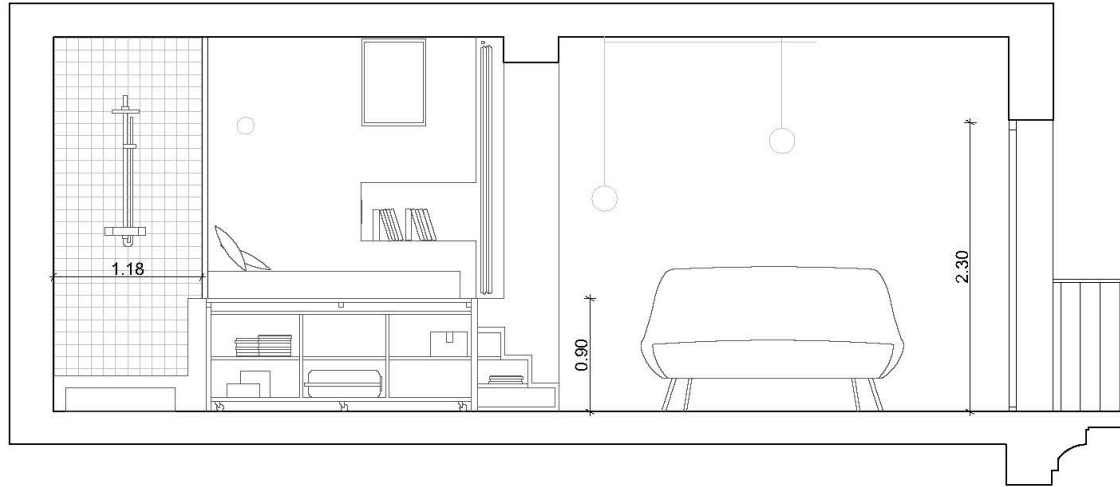


Section A-A'

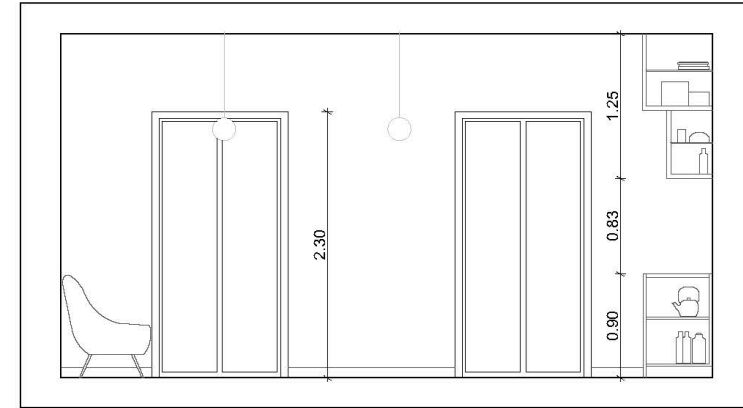


Section C-C'

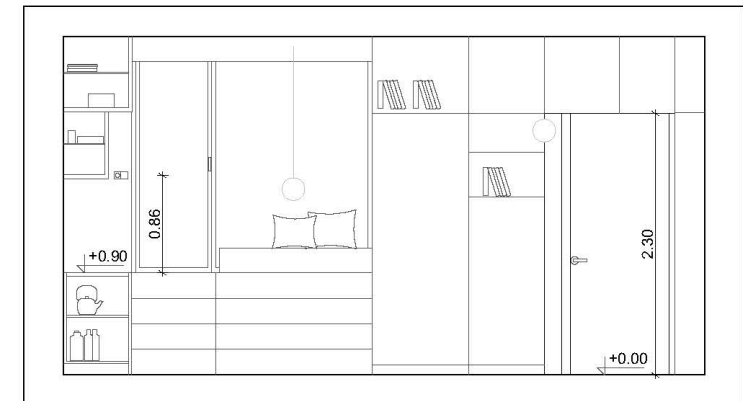
SECTION DIAGRAMS



Section B-B'

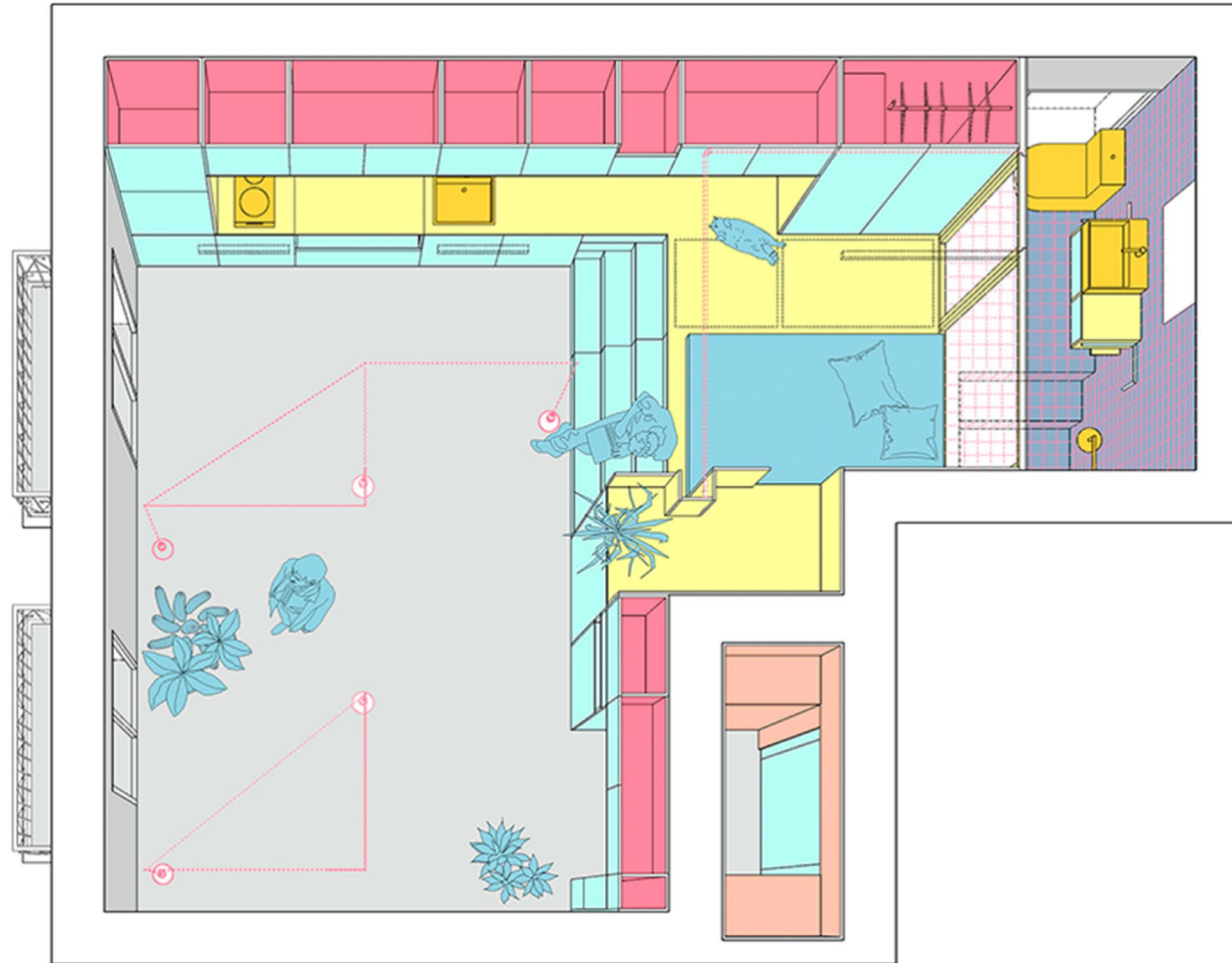


Section E-E'



Section D-D'

FLEXIBILITY OF USE





NAKAGIN CAPSULE TOWER

Architect Kisho Kurokawa

Completed Year 1972

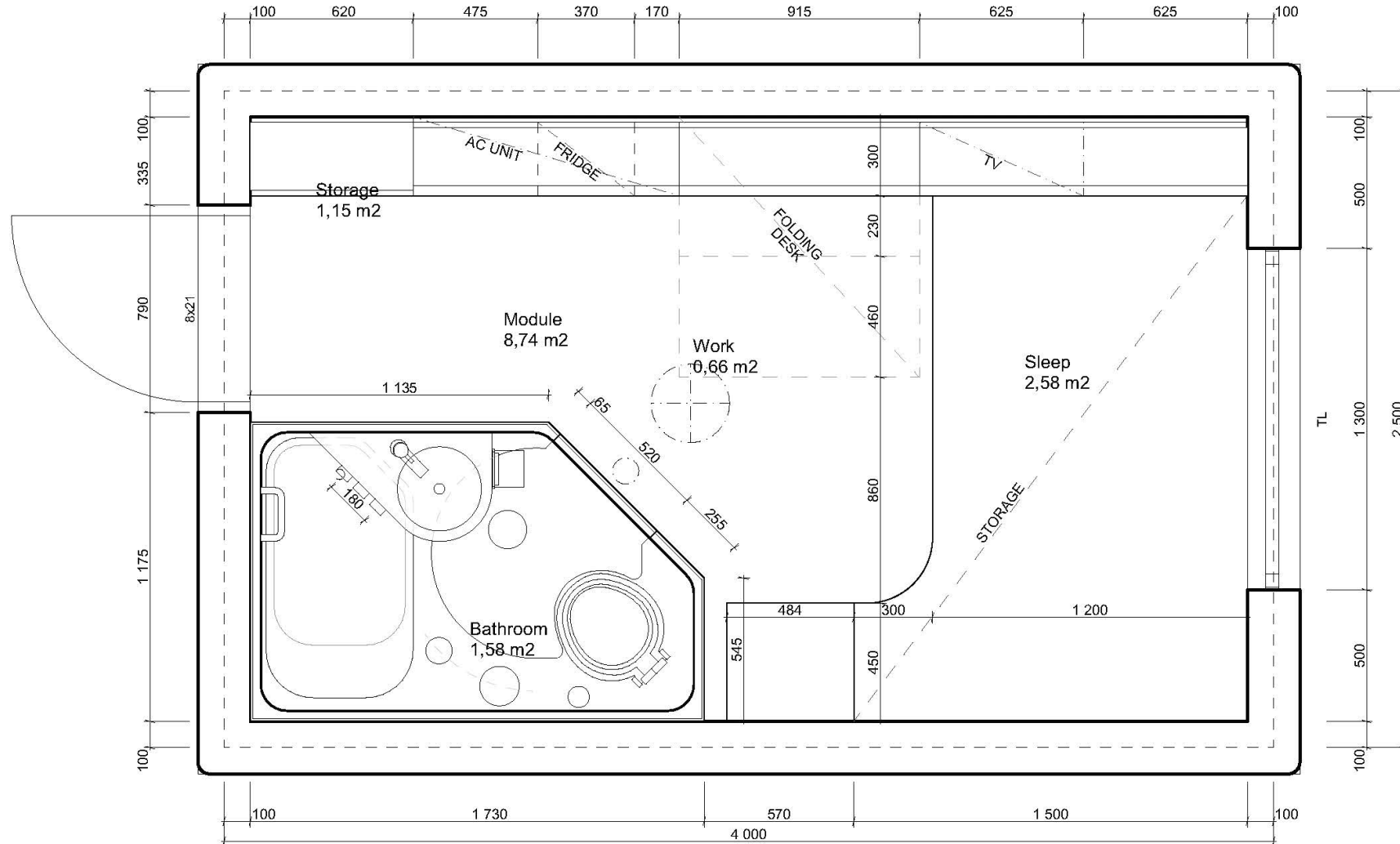
Typology – Modular Residential, Office

Architectural Style – Metabolism

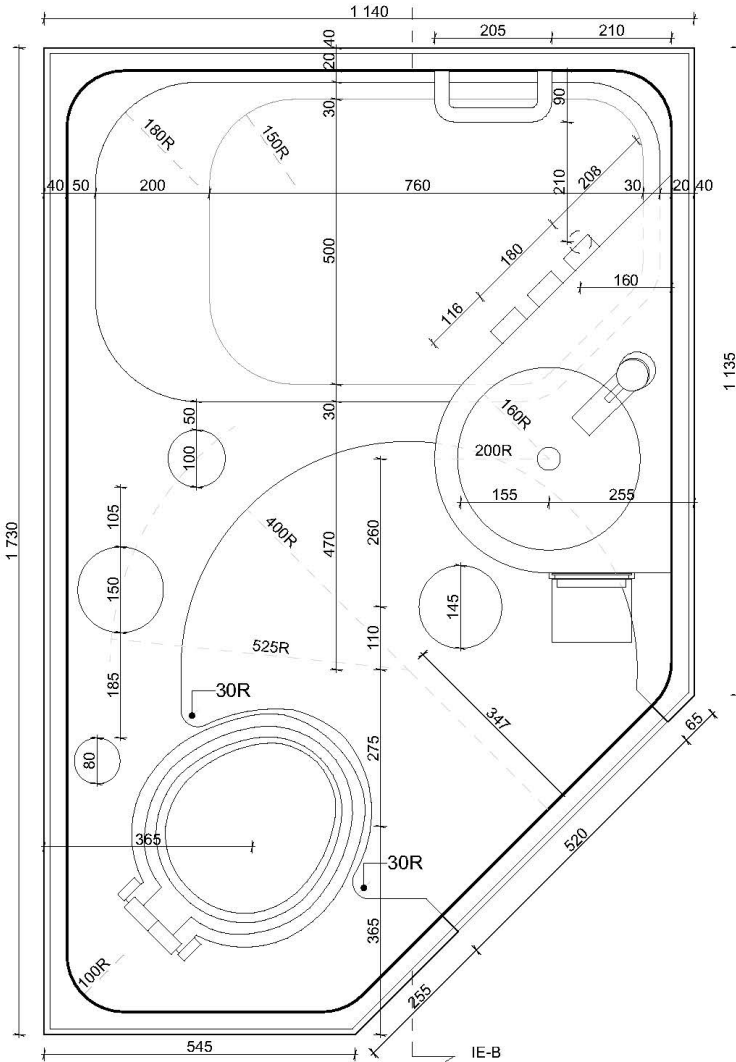
‘Individuals should be protected by capsules in which they can reject information they do not need and in which they are sheltered from information they do not want, thereby allowing an individual to recover his subjectivity and independence.’

Kisho Kurokawa (Metabolist Philosophy)

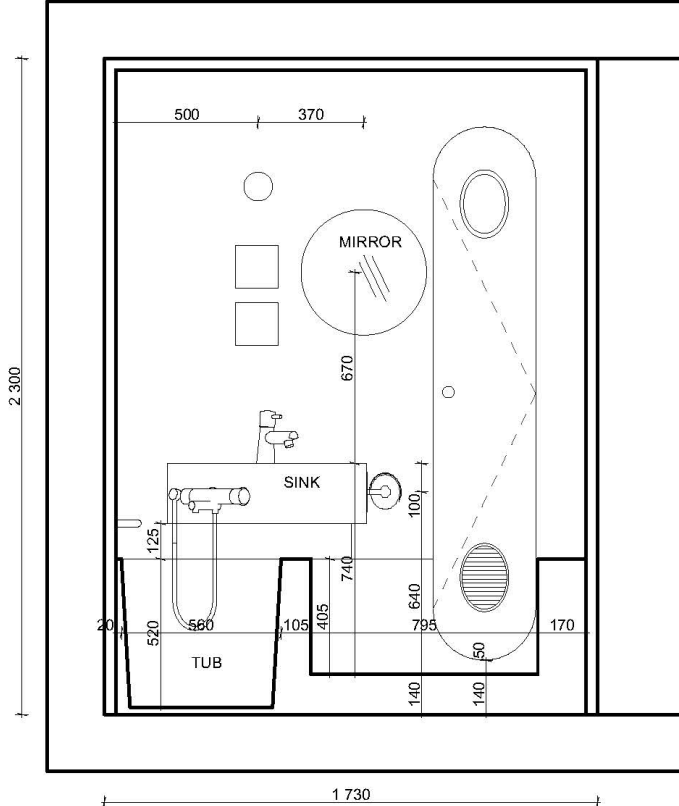
FLOOR PLAN & DIMENSIONS



BATHROOM PLAN & DIMENSIONS

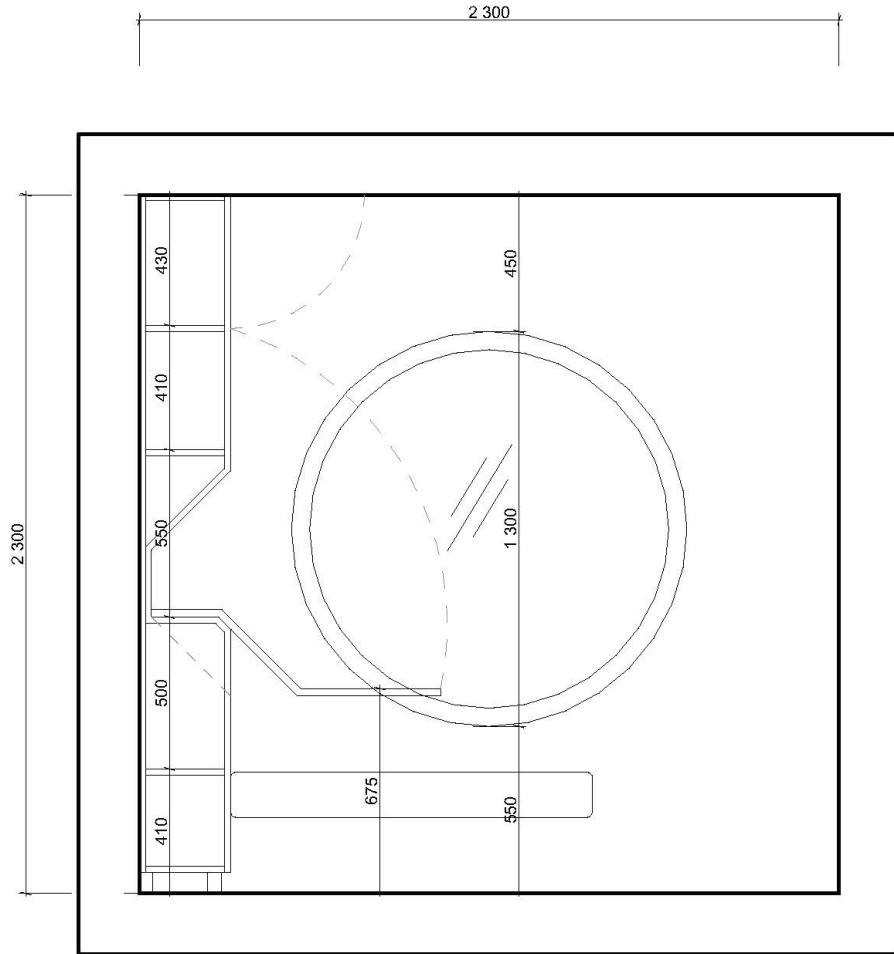


FLOOR PLAN, BATHROOM, 1:20

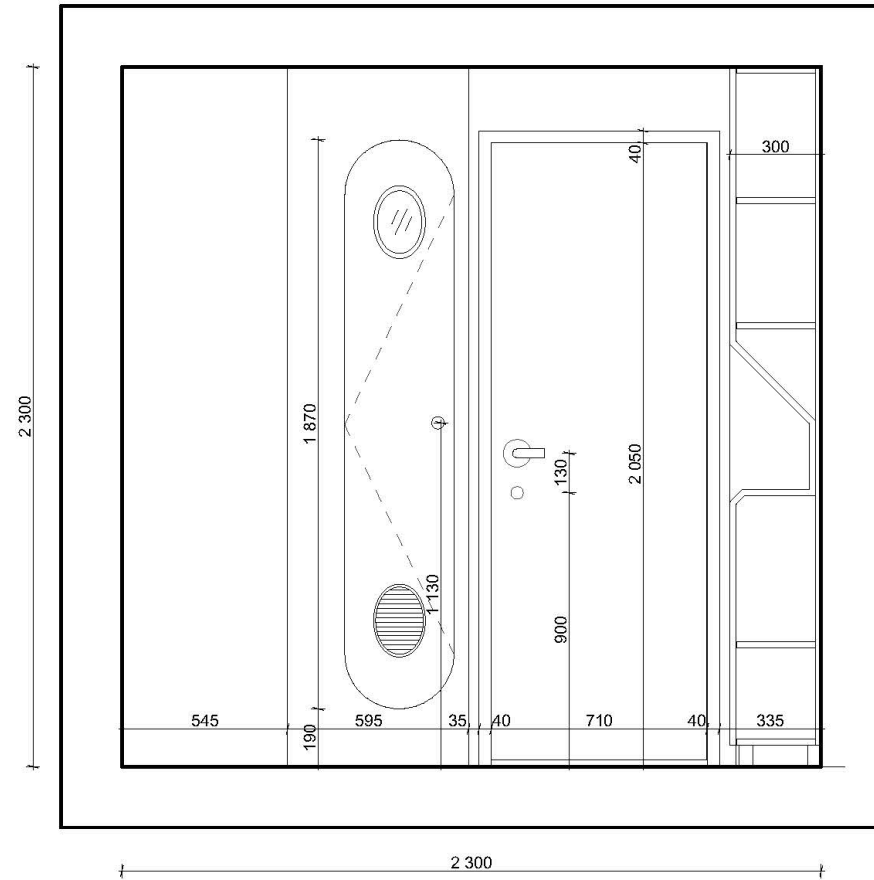


INTERIOR ELEVATION, IE-B, 1:20

INTERIOR ELEVATIONS

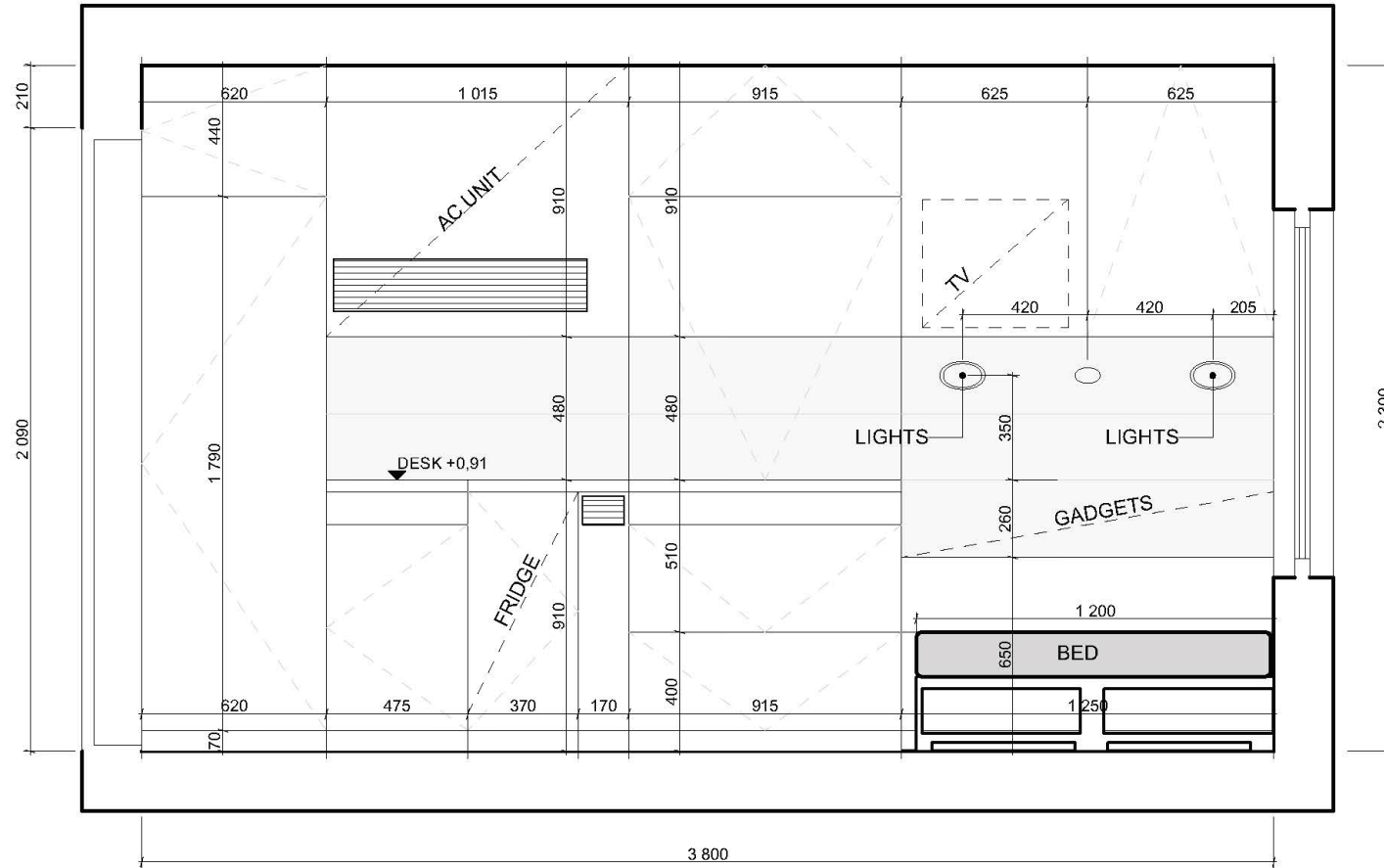


Elevation 1



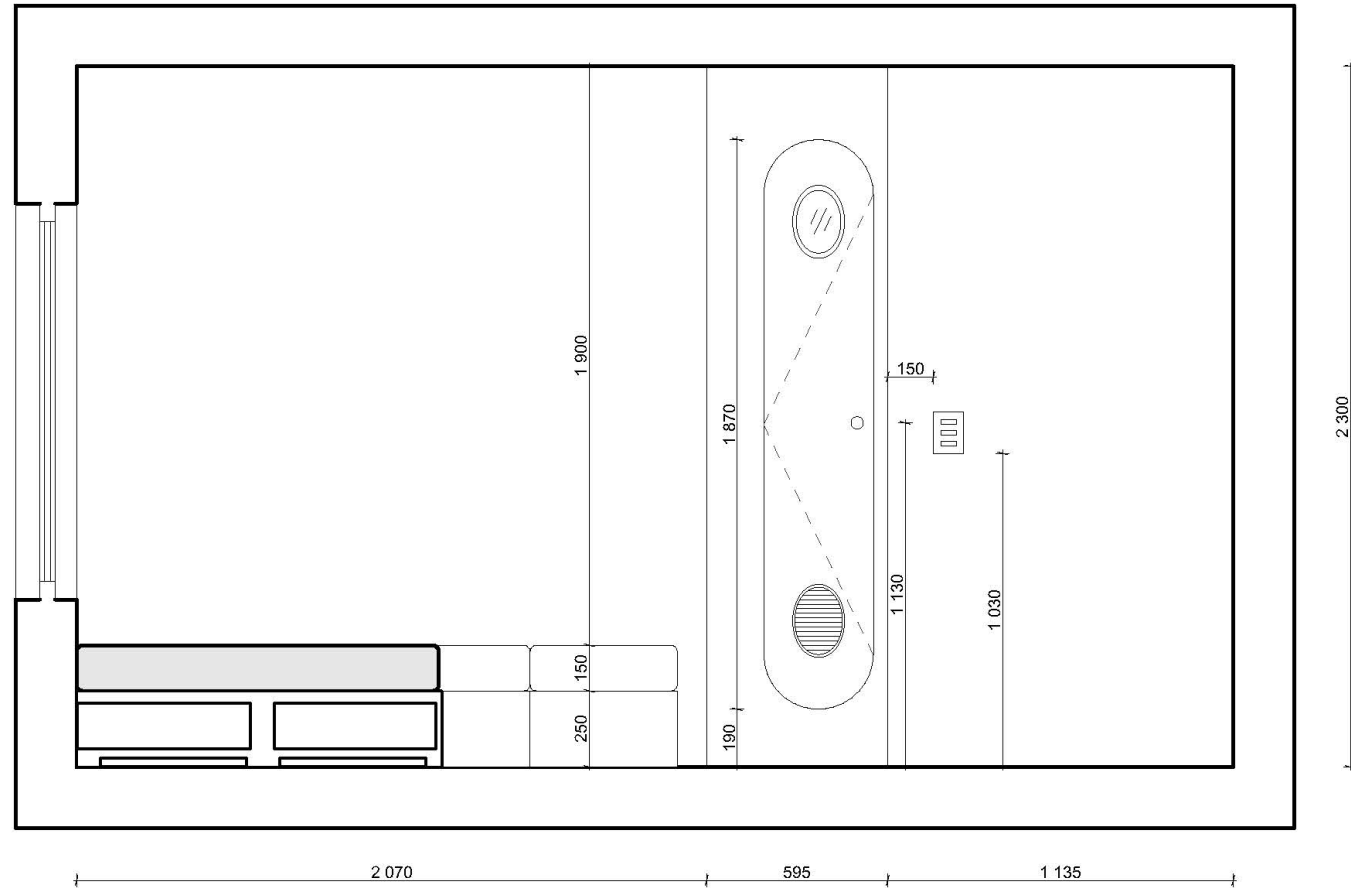
Elevation 3

INTERIOR ELEVATION



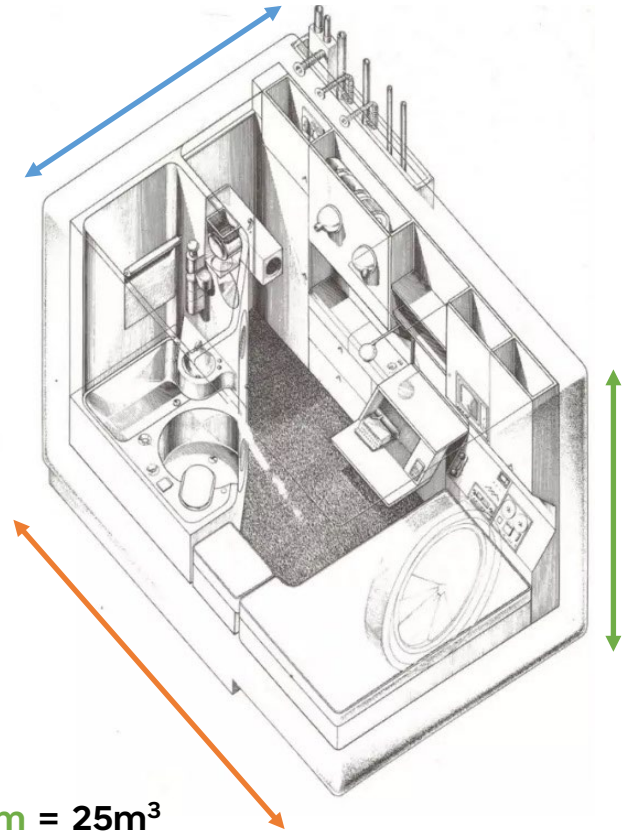
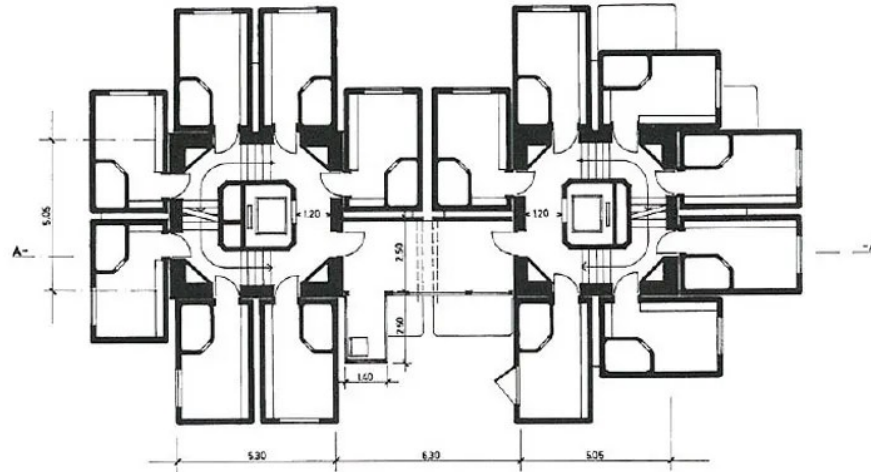
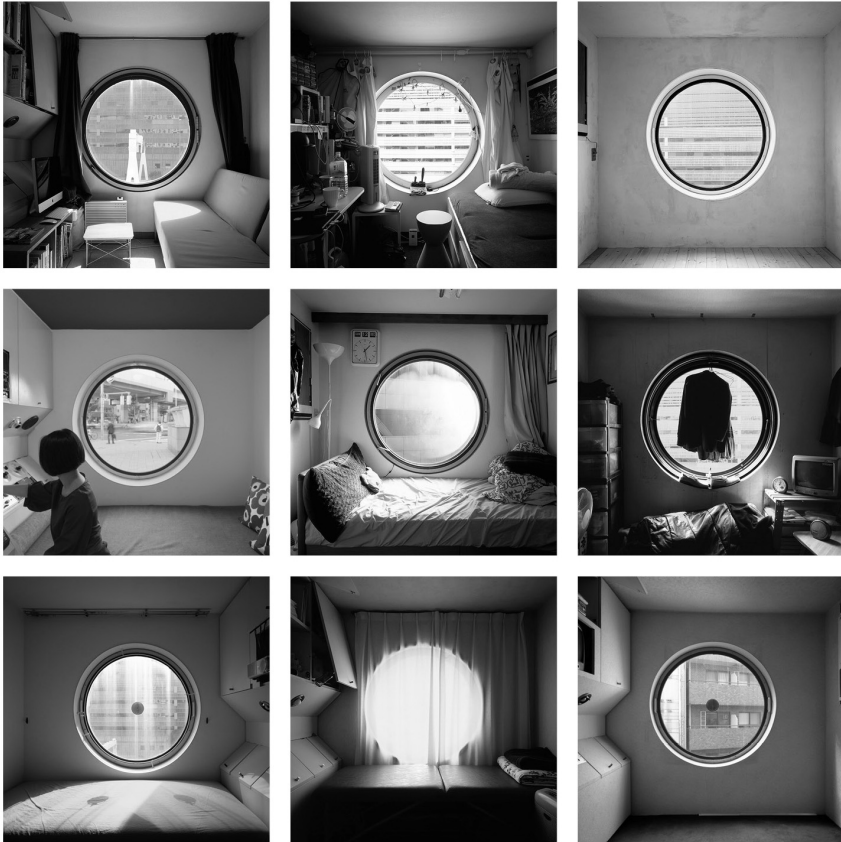
Elevation 2

INTERIOR ELEVATION



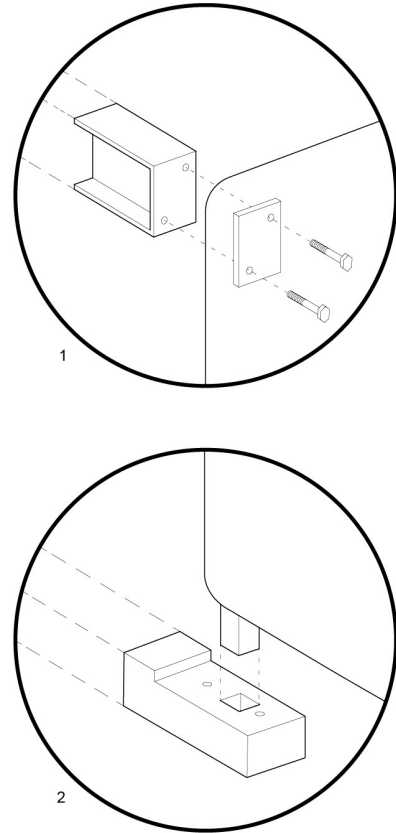
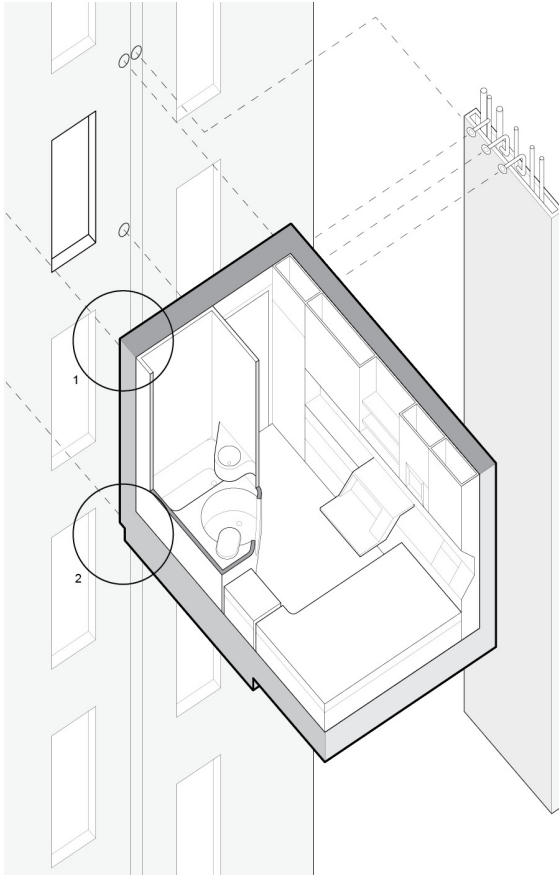
Elevation 4

USAGE SCENARIOS, MODULARITY & AXONOMETRIC



$$4\text{m} \times 2.5\text{m} \times 2.5\text{m} = 25\text{m}^3$$

JOINERY & MATERIALS



Lightweight steel frames clad in galvanized steel panels.

Rust-preventative primer with Kenitex glossy spray coat finish.

Interior Finishes - Steel panels. Ceiling: Cloth, Floor: Carpet.

SUMMARY



Incorporate natural light and ventilation as much as possible. Lighter color makes the room look more spacious.



Flexible and transformable spaces. Built-in cabinets provide a lot of storage space in a small area



Have a link (physically or otherwise accessible) to the outside (for all 5 senses).



Multiple levels in a single spatial volume can help achieve multiple functions in a space.



Tactility is key for remember spaces naturally and better.

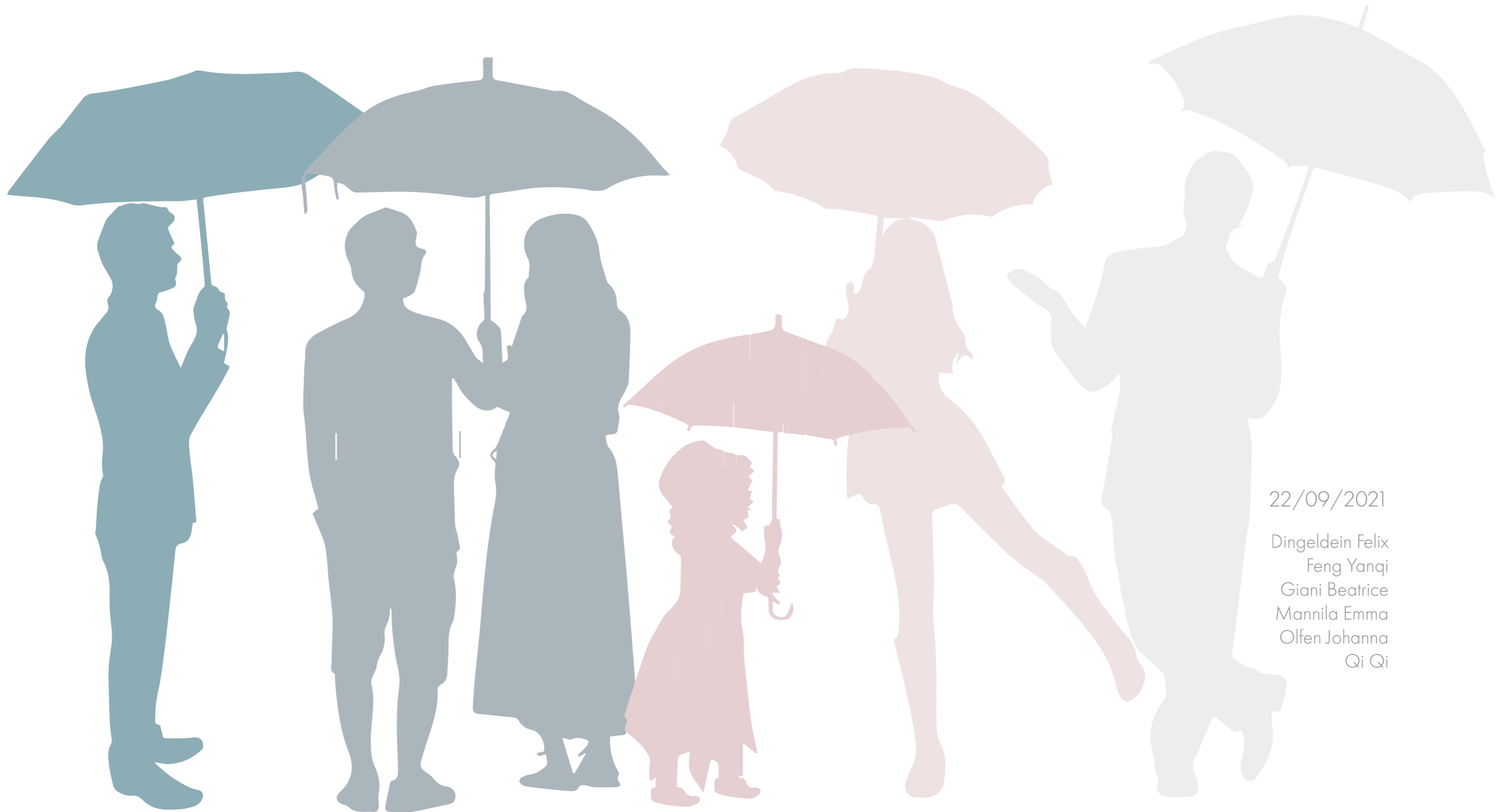


Multifunctional furniture fulfills several tasks, but takes up little space



THANK YOU

Back to basics



22/09/2021

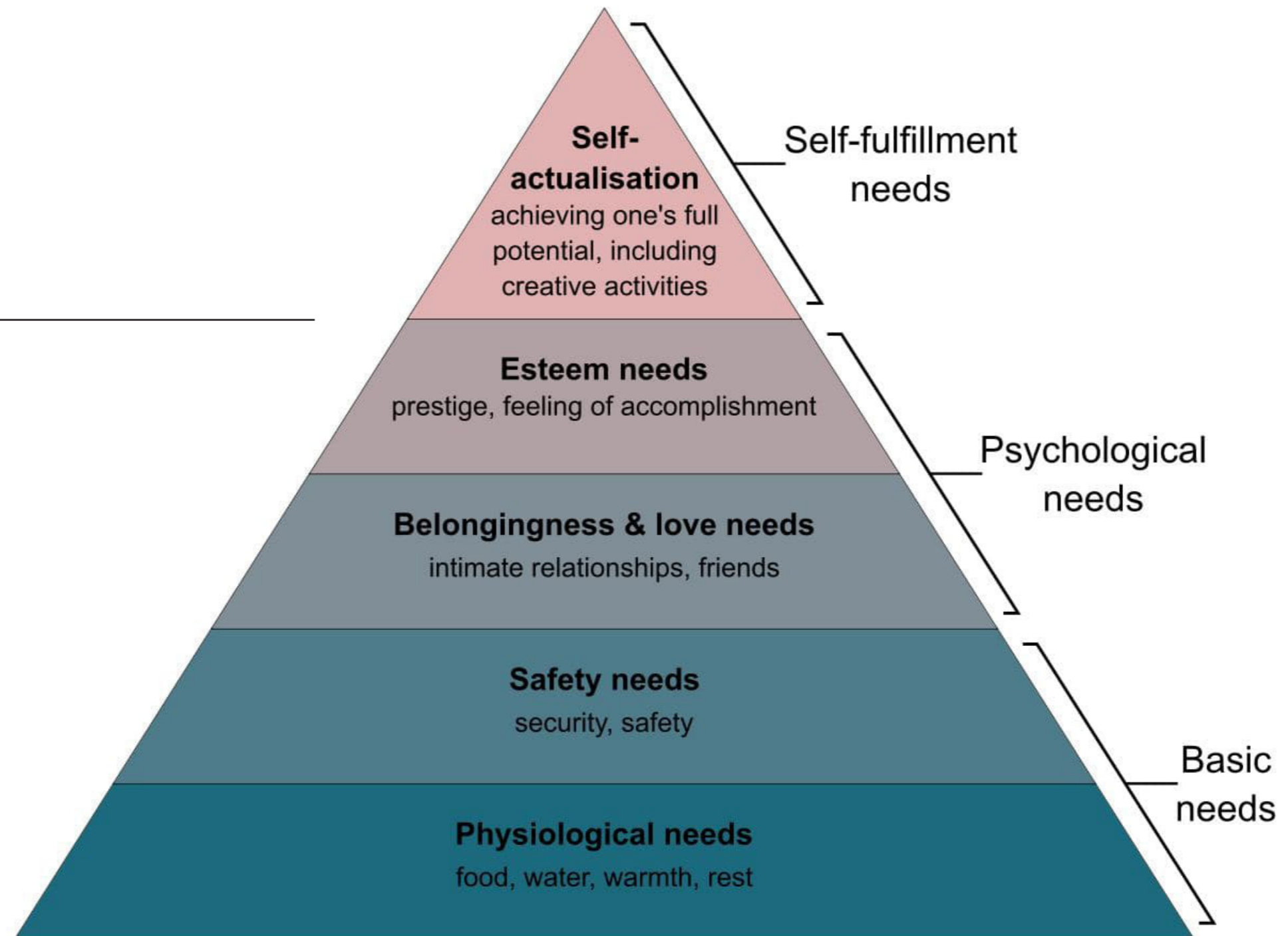
Dingeldein Felix
Feng Yanqi
Giani Beatrice
Mannila Emma
Olfen Johanna
Qi Qi

What's necessary?

Maslow's hierarchy of needs

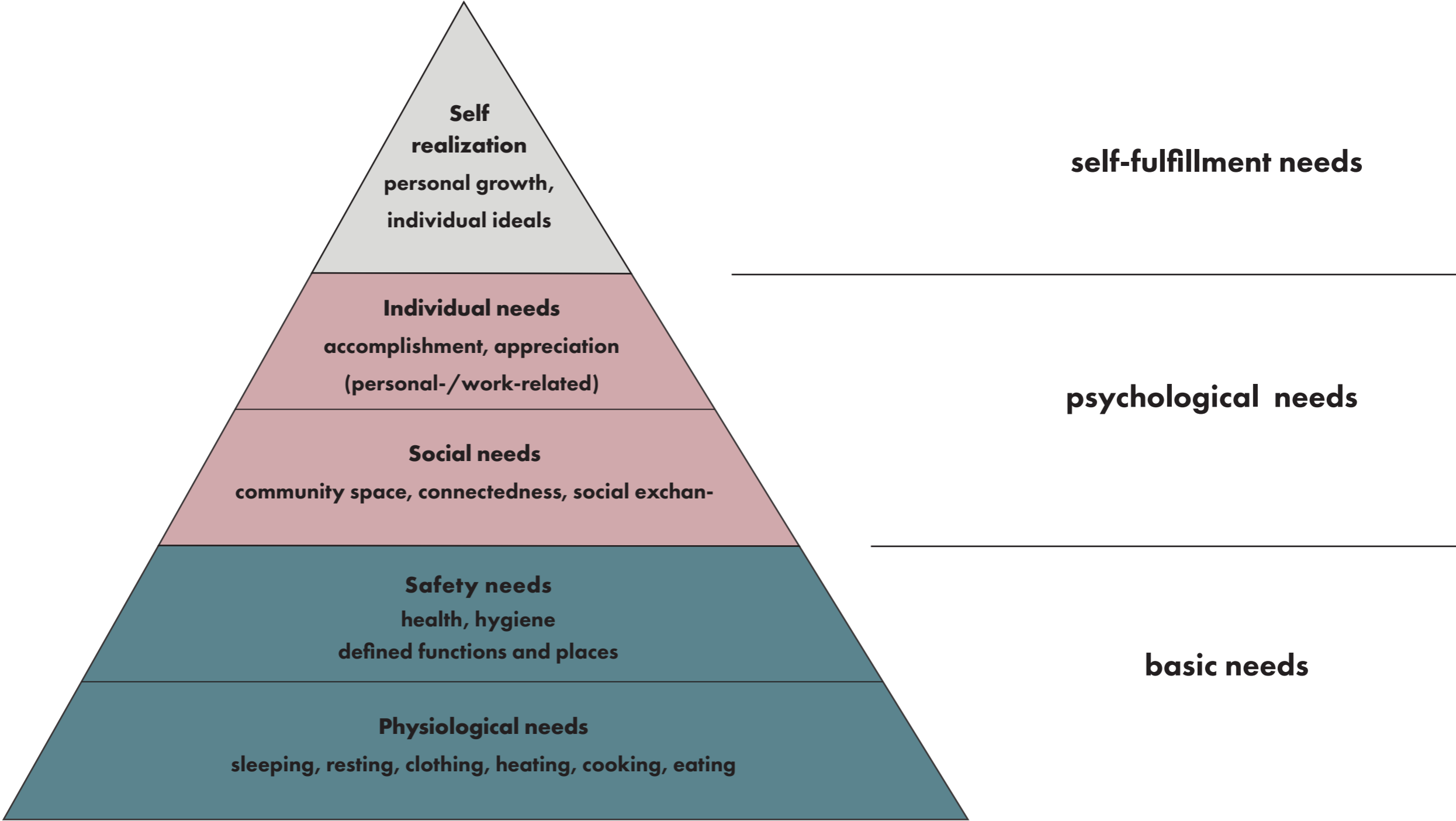
motivation increases
as needs are met

motivation decreases
as needs are met



Necessary functions


Redesign of Maslow's theory







01 Basic needs

roof / windows / floor / door / light / water / heat / (electricity)






Sleeping/Resting

bed frame
mattress
duvet
storage 

Hygiene

shower 
toilet + toilet paper 
sink 
clothing 

Cooking/Eating

cooking flames 
fridge and freezer 
sink 
supporting surfaces 
rubbish bin 

Group 1: disabled



different dimensions, machines for rehabilitation , handles , wheel chair

Group 2: child (7 yo)





different dimensions, rounded corners, bathtub , microwave 

02 Psychological needs


Interaction

additional sleeping place 
mobile phone
laptop 

Atmosphere

plants 
natural light 
fresh air 
acoustic 

Interests

work 
hobbies 

Group 1: disabled






different dimensions, handles, seat for another person 

Group 2: child (7 yo)







toys , lower room high for feeling safe, colors

03 Self-fulfilment needs












Sleeping/Resting

linen
pillow
night lamp 
socket 
books 
table 
chair 




Hygiene

towels + hook
toothbrush, toothpaste, floss
lotion, soap, shampoo
hair brush
hairdryer 
broom 
laundry detergent 
cleaning products 
socket 
mirror 

Cooking/Eating

forks, knives, spoons 
spatula 
glasses 
cloth, dish soap 
dishes 
pots+pans 
coffee maker 
sockets 
table 
chair 
oven 

Atmosphere

free spaces 
fireplace 
colors 

Interaction

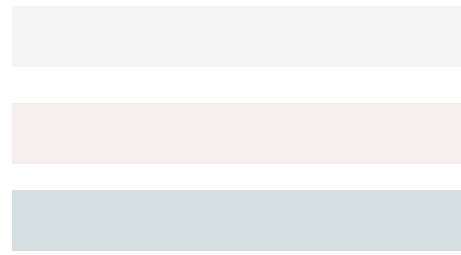
'chill area' 
sofa 

Group 1: disabled

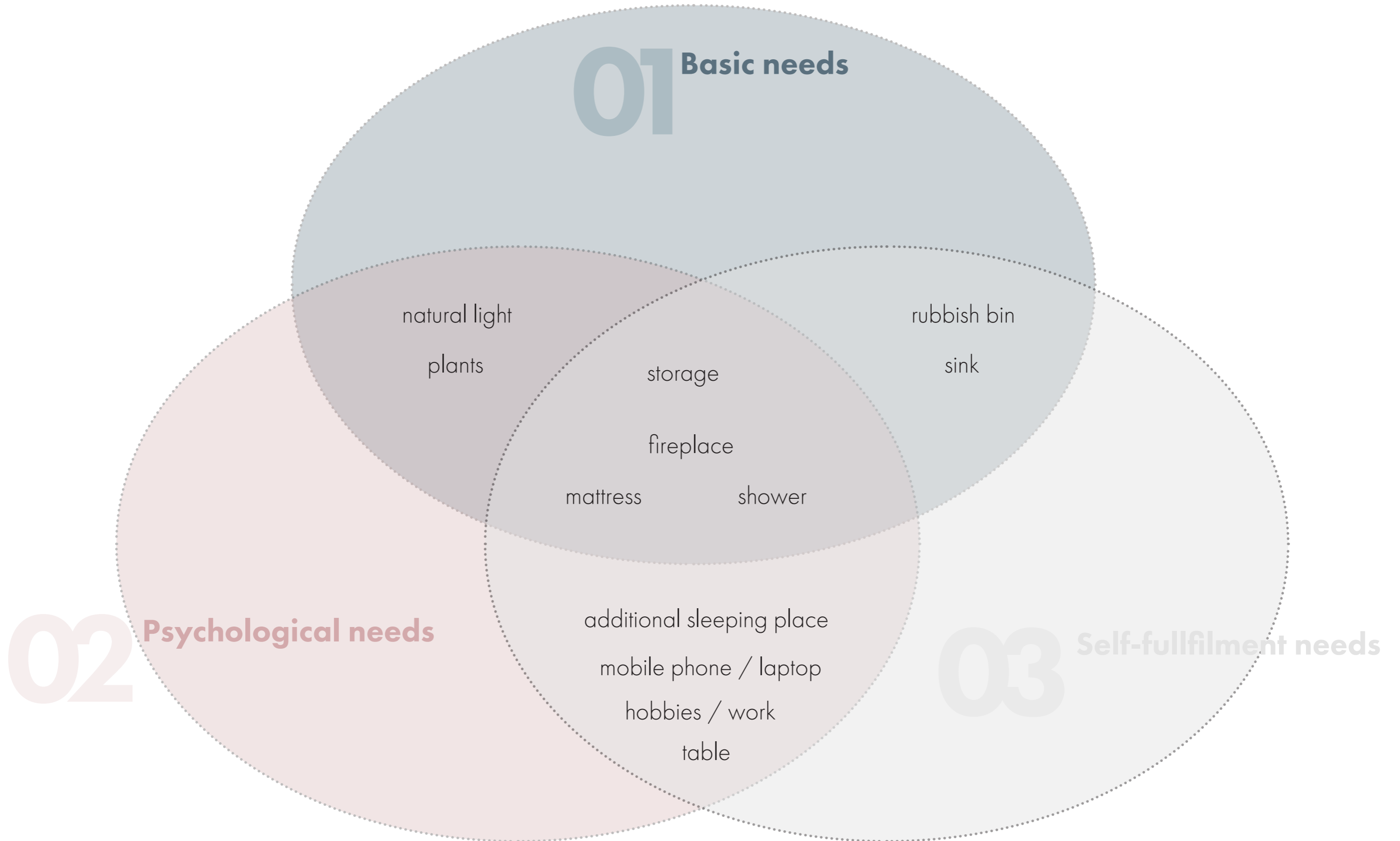
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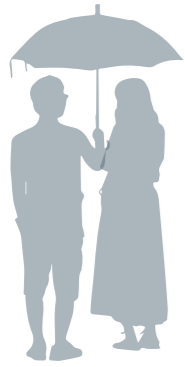
Group 2: child (7 yo)

spaces for moving , toys , learning equipment 

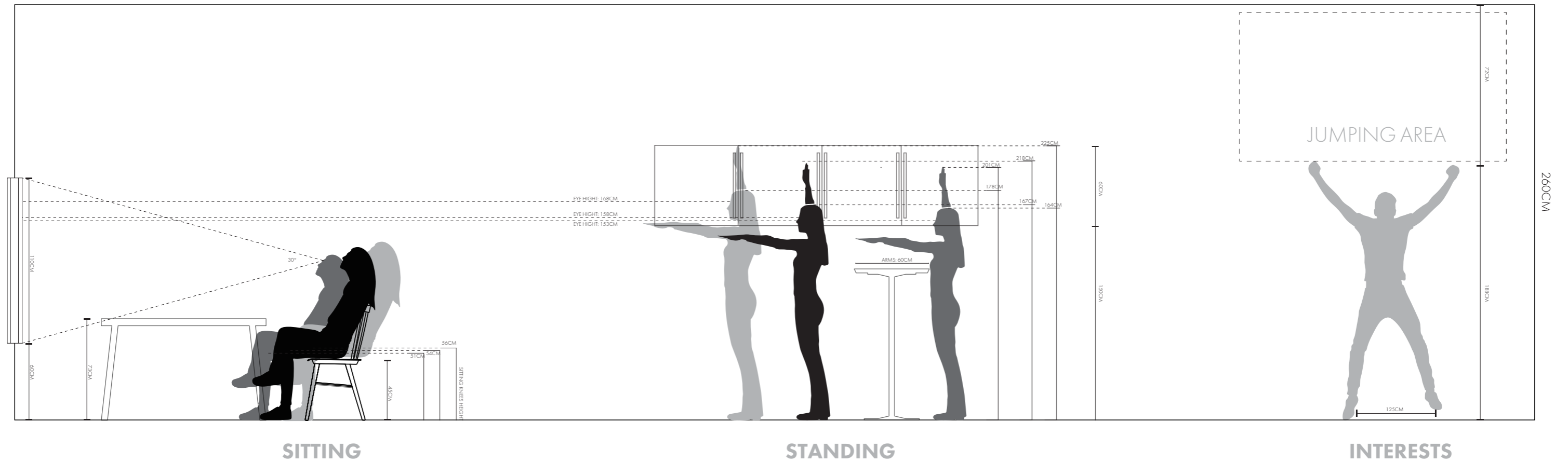


Interaction of needs



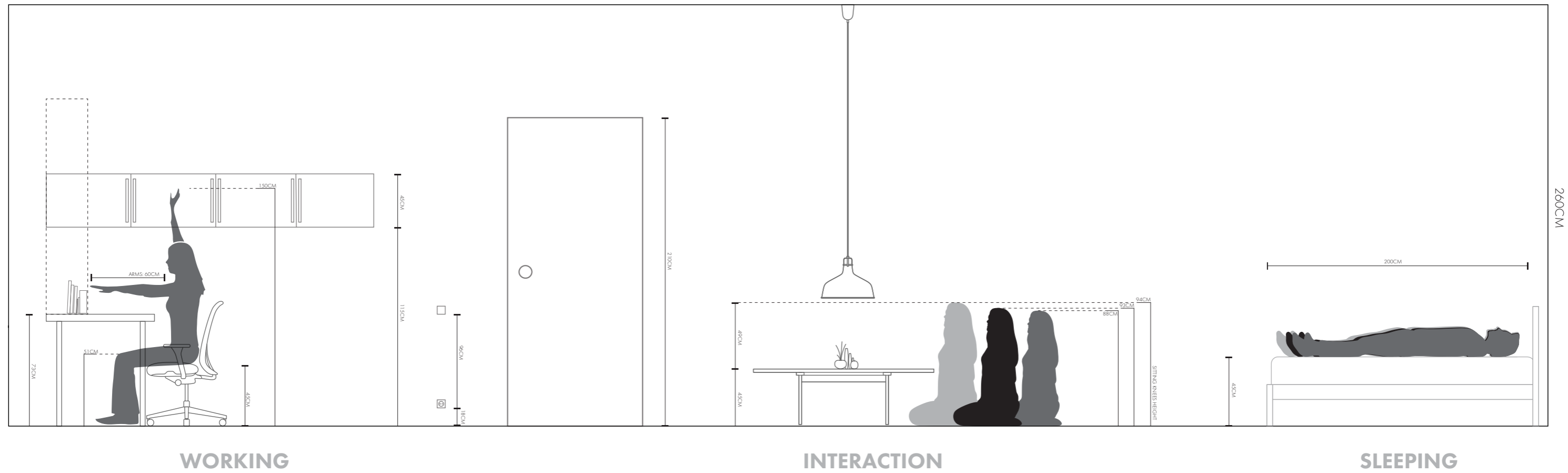


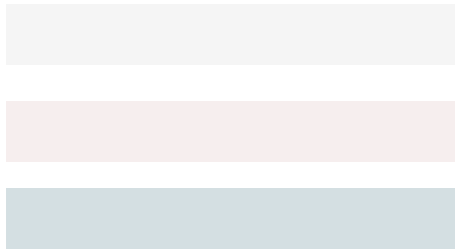
Our dimensions





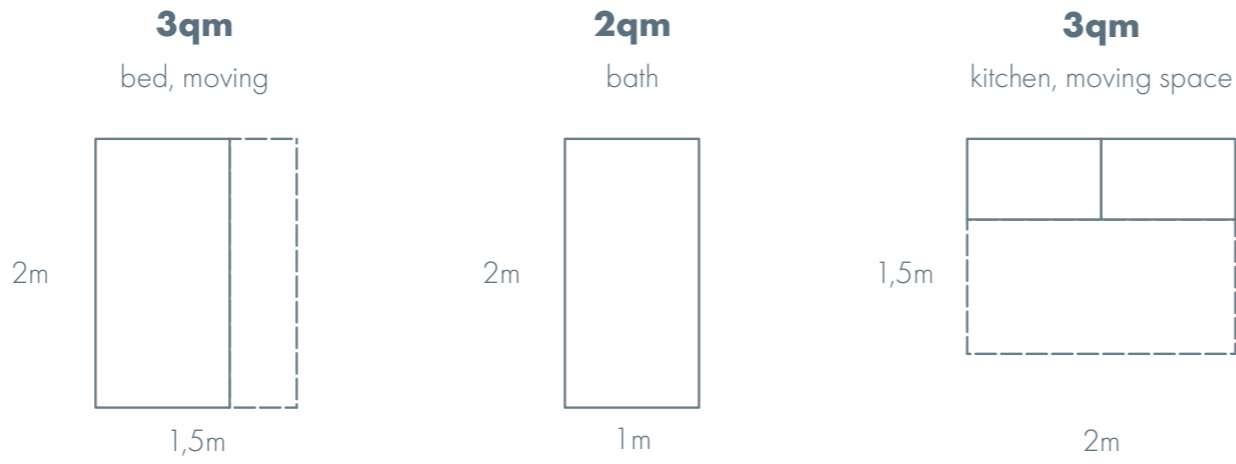
Our dimensions





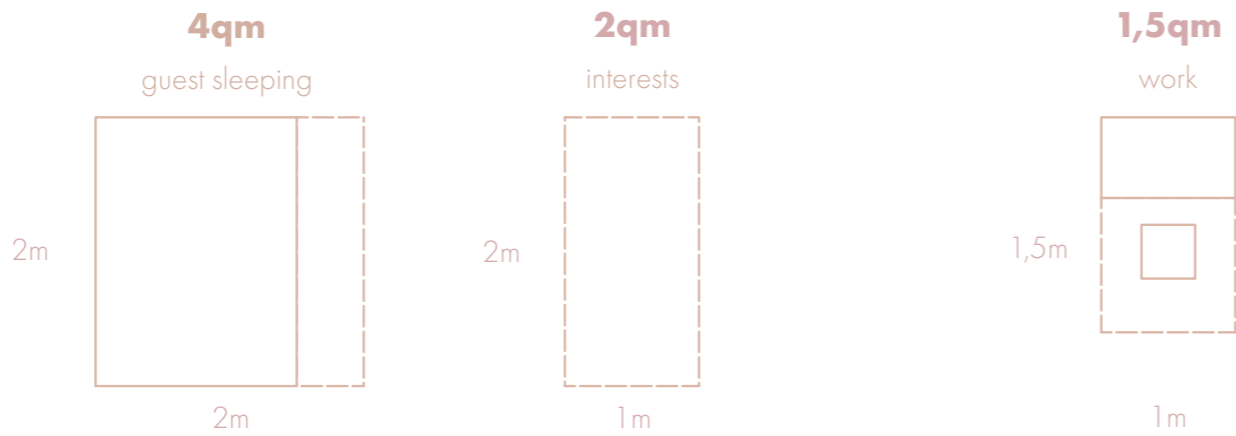
Minimal dimensions

01



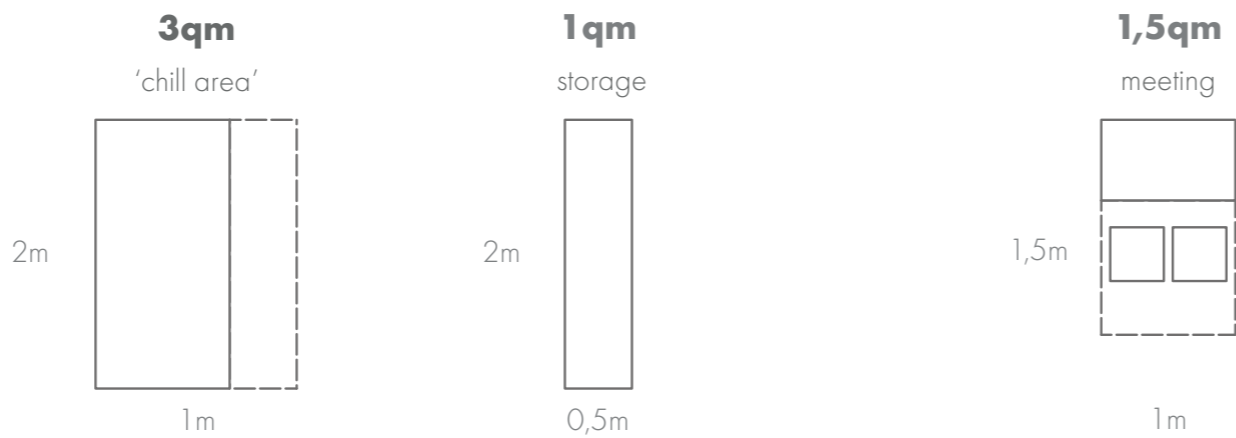
= 7qm Basic needs

02



= 7,5qm Psychological needs

03



= 5,5qm Self-Fulfillment needs

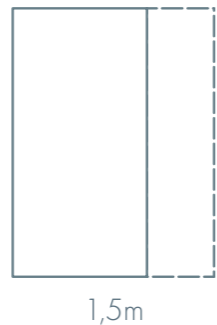


= 20qm (all functions seperated)

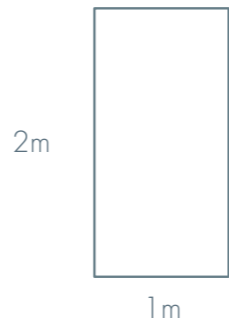
Minimal dimensions

01

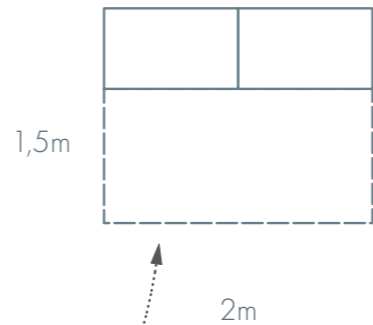
3qm
bed, moving



2qm
bath



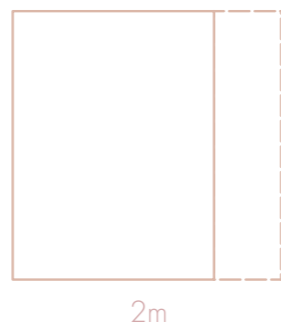
3qm
kitchen, moving space



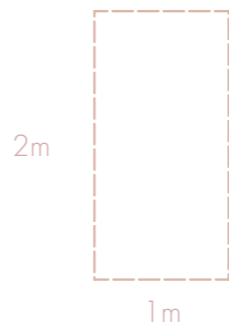
= 7qm Basic needs

02

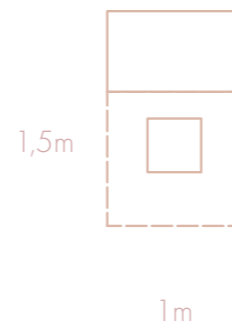
4qm
guest sleeping



2qm
interests



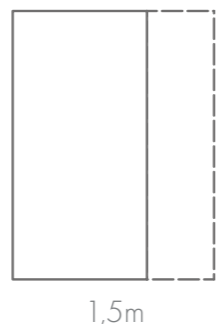
1,5qm
work



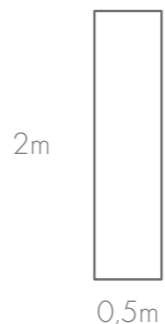
= ~~7,5qm~~
1,0qm Psychological needs
(additional sleeping)

03

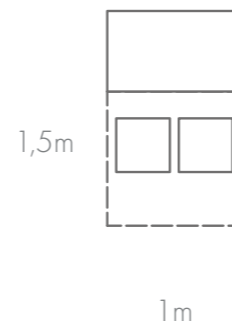
3qm
'chill area'



1qm
storage



1,5qm
meeting



= ~~5,5qm~~
1,0qm Self-Fulfillment needs
(additional storage)

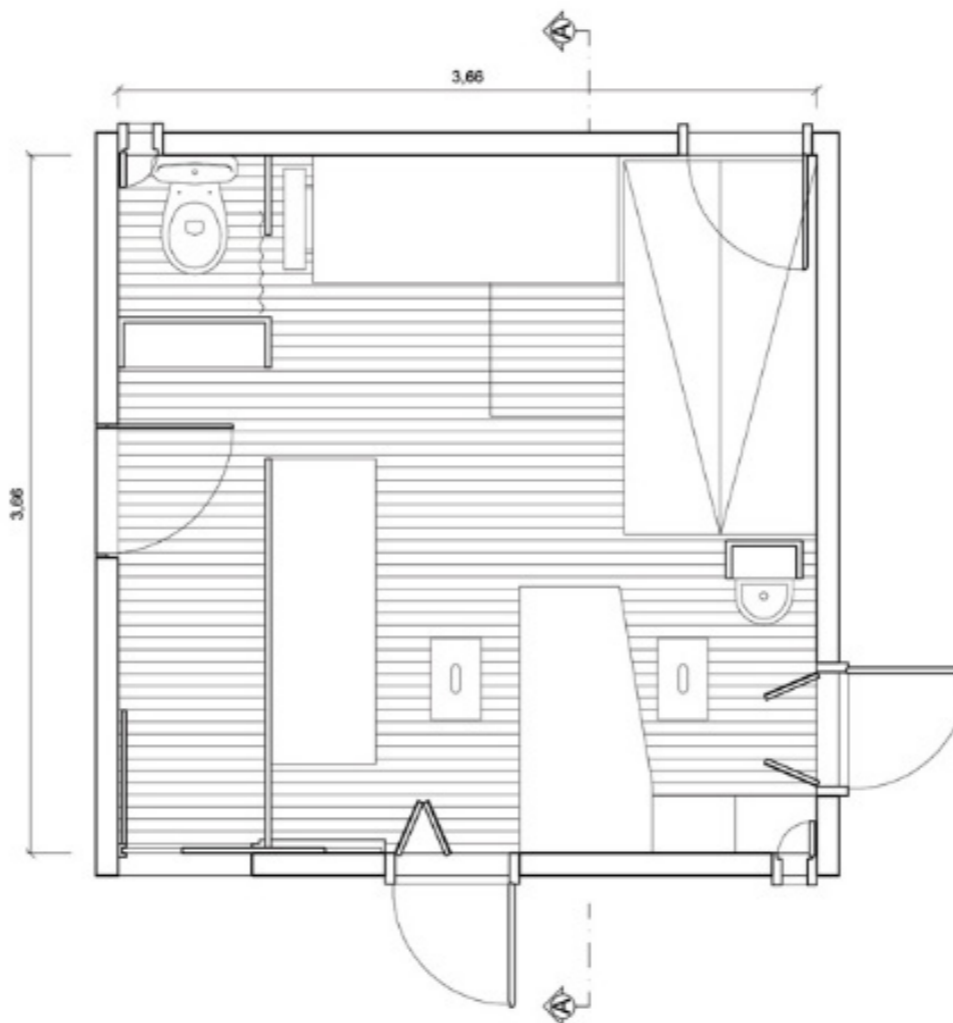
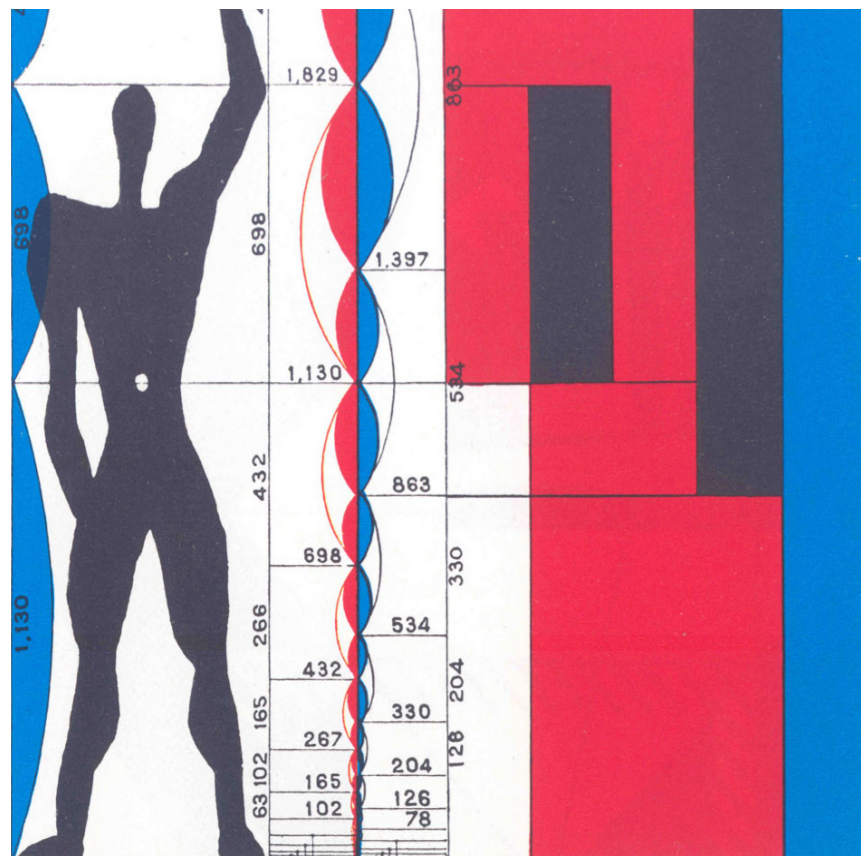
.....
= 9qm (multi-used functions)

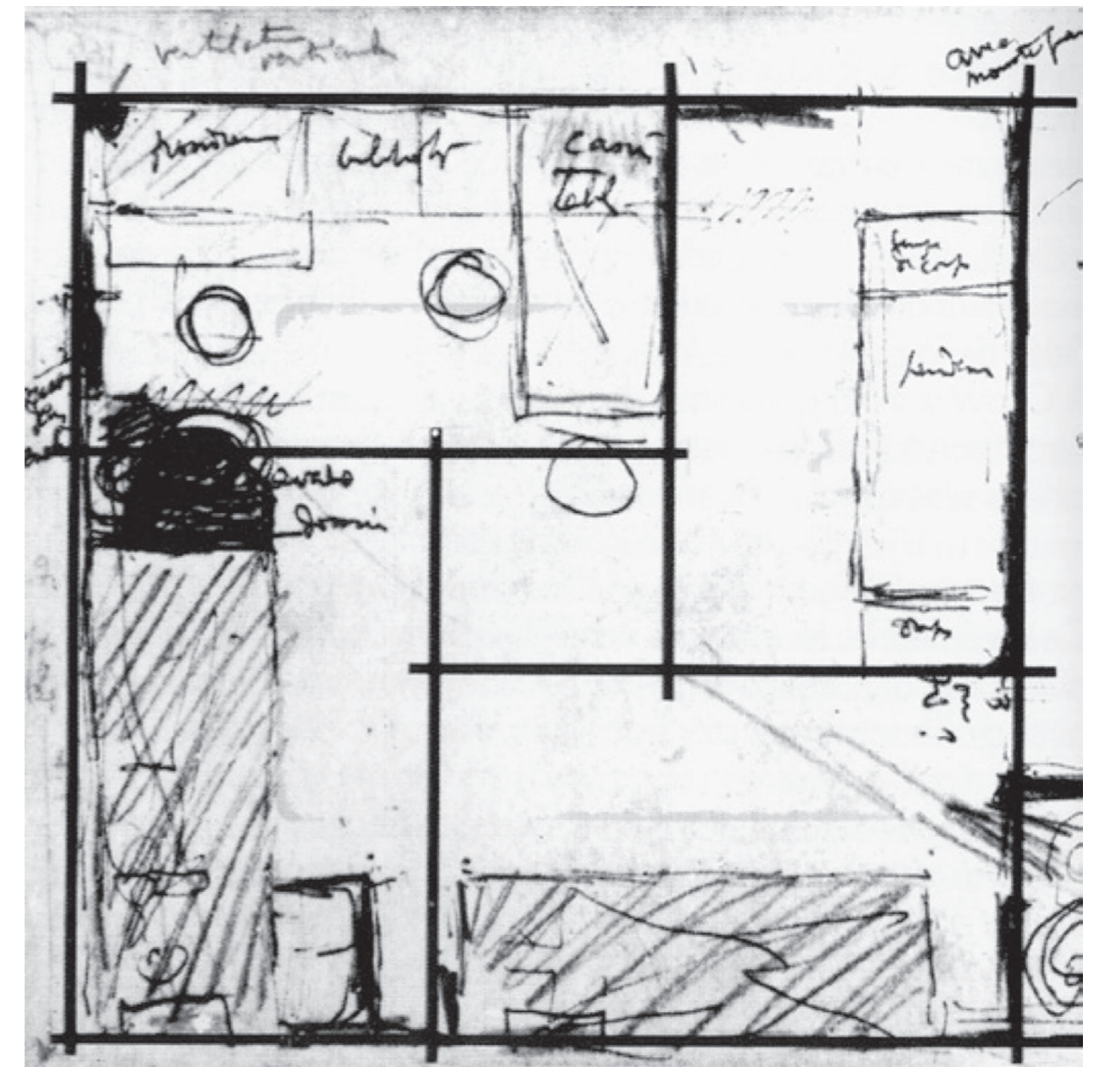
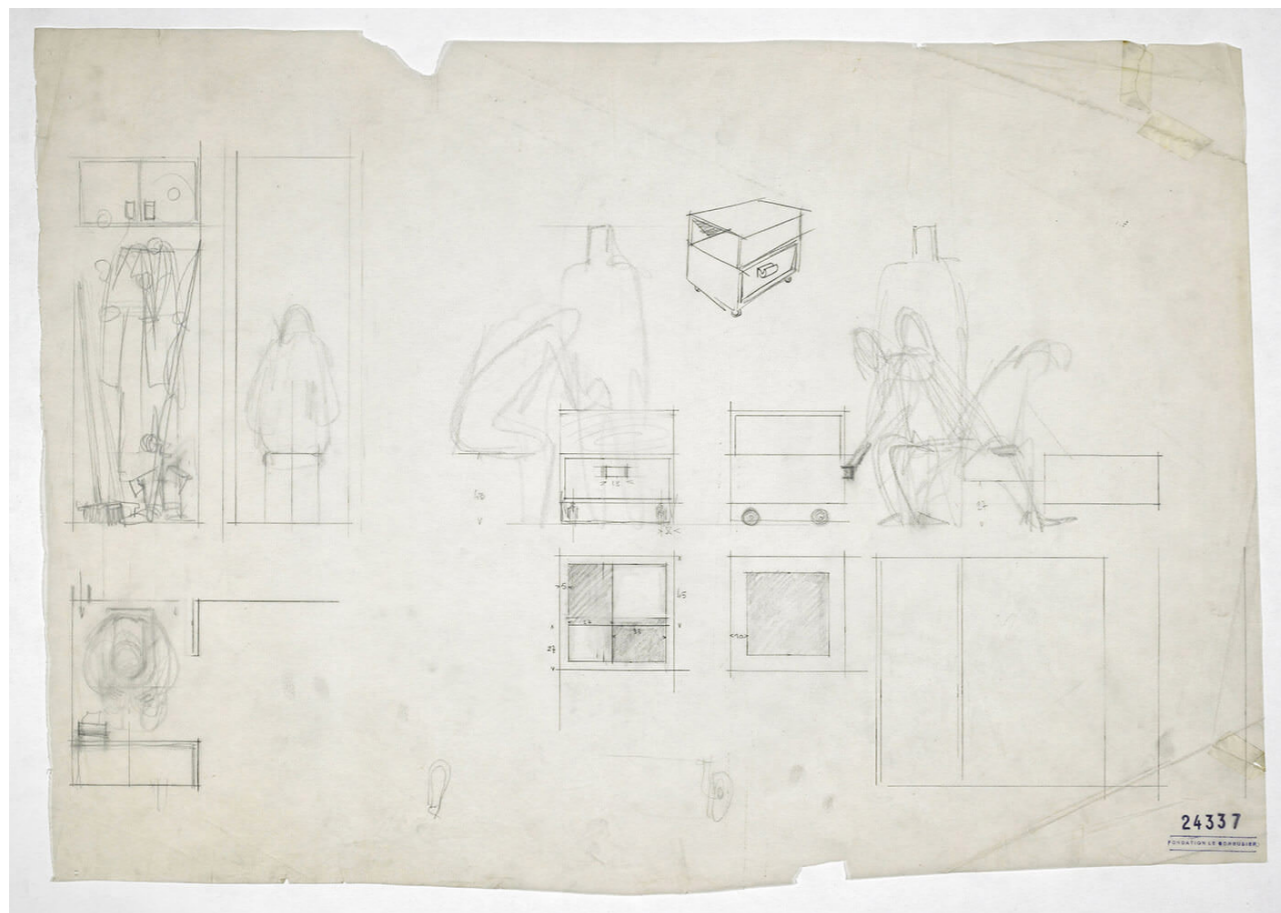
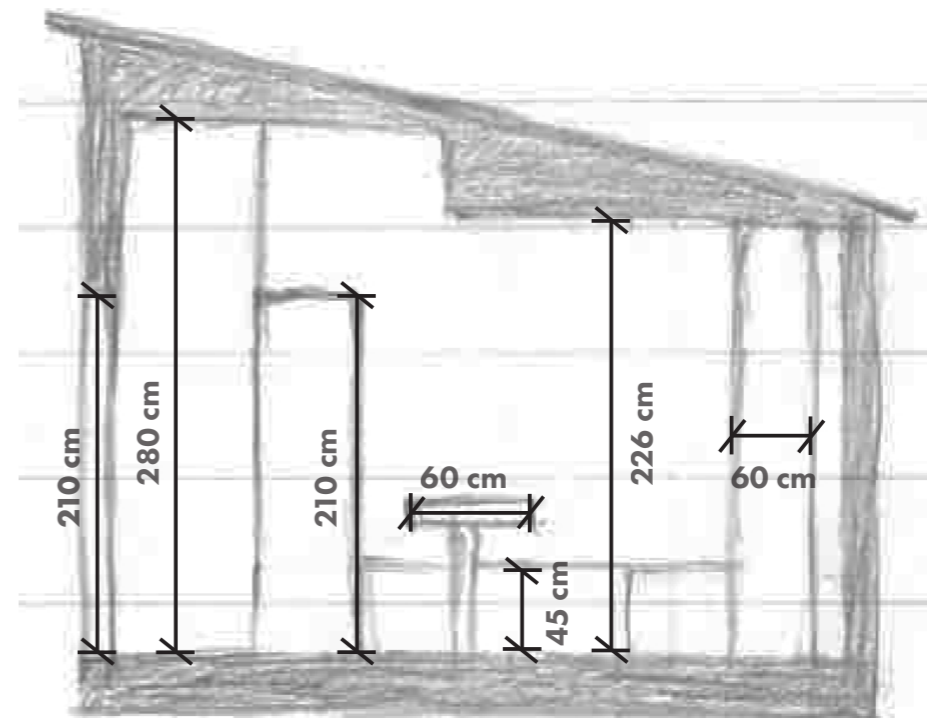
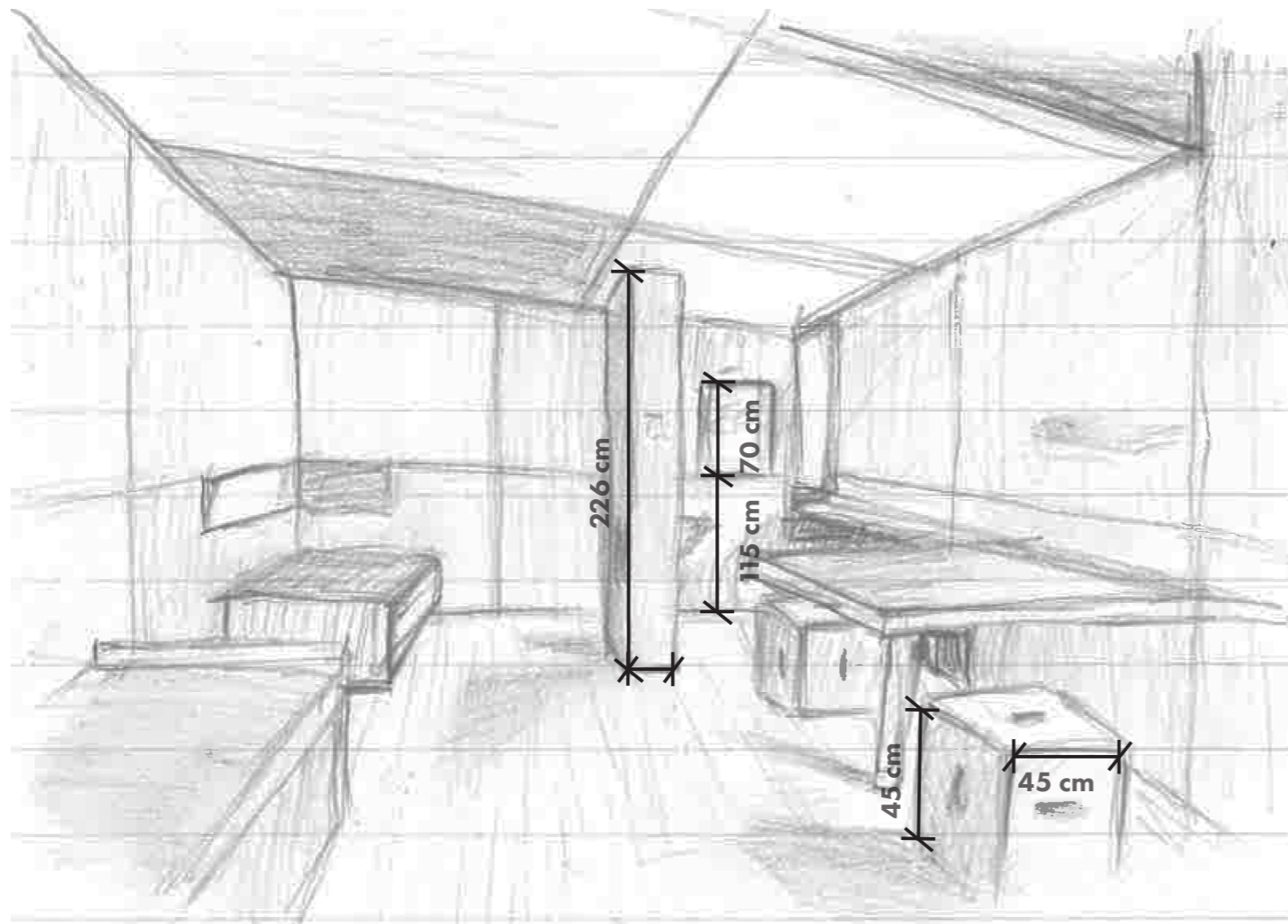
01 Cabanon

Le Corbusier
1951, Frankreich

Dimension : 3,66 x 3,66 x 2,26/2,80 m
Living Area: ca. 13,4 m²

<https://lecorbusier-worldheritage.org/de/cabanon-von-le-corbusier/>



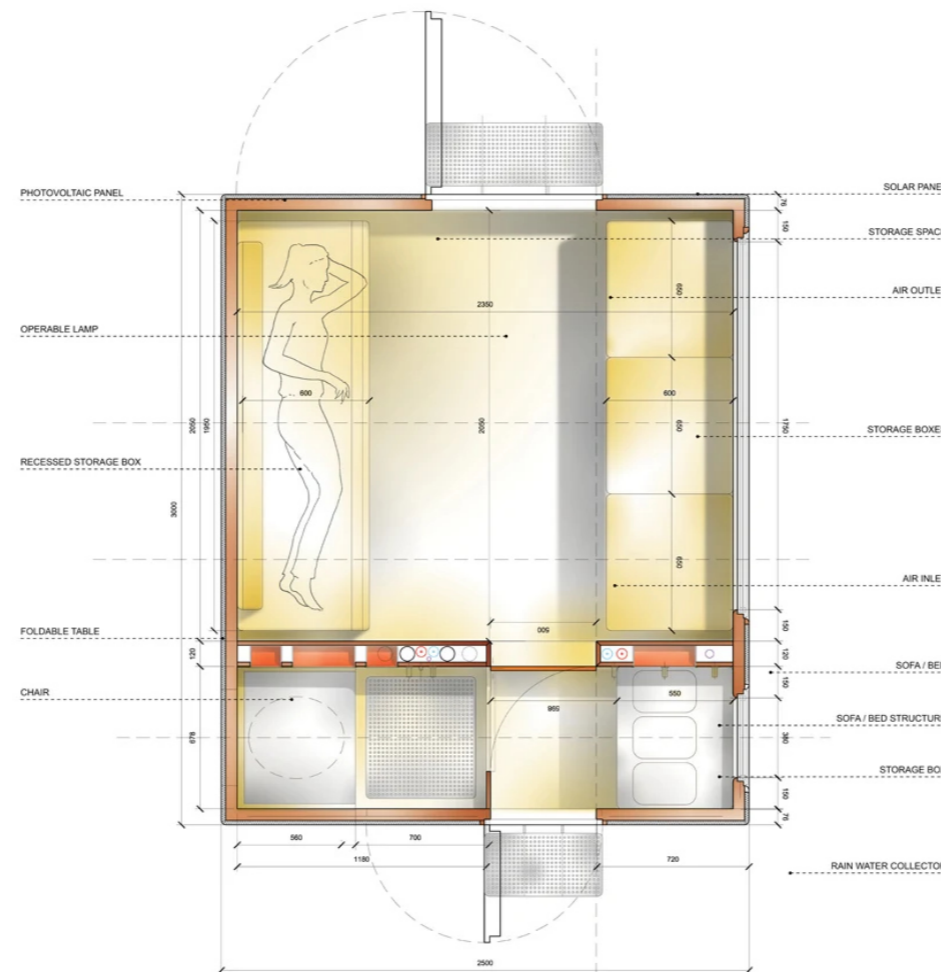


02 Diogene

Renzo Piano
2013, Vitra

Dimension: 2,5x 3,6 x ca. 3 m
Living Area: 6 m²

<https://www.vitra.com/en-us/about-vitra/campus/architecture/architecture-diogene>

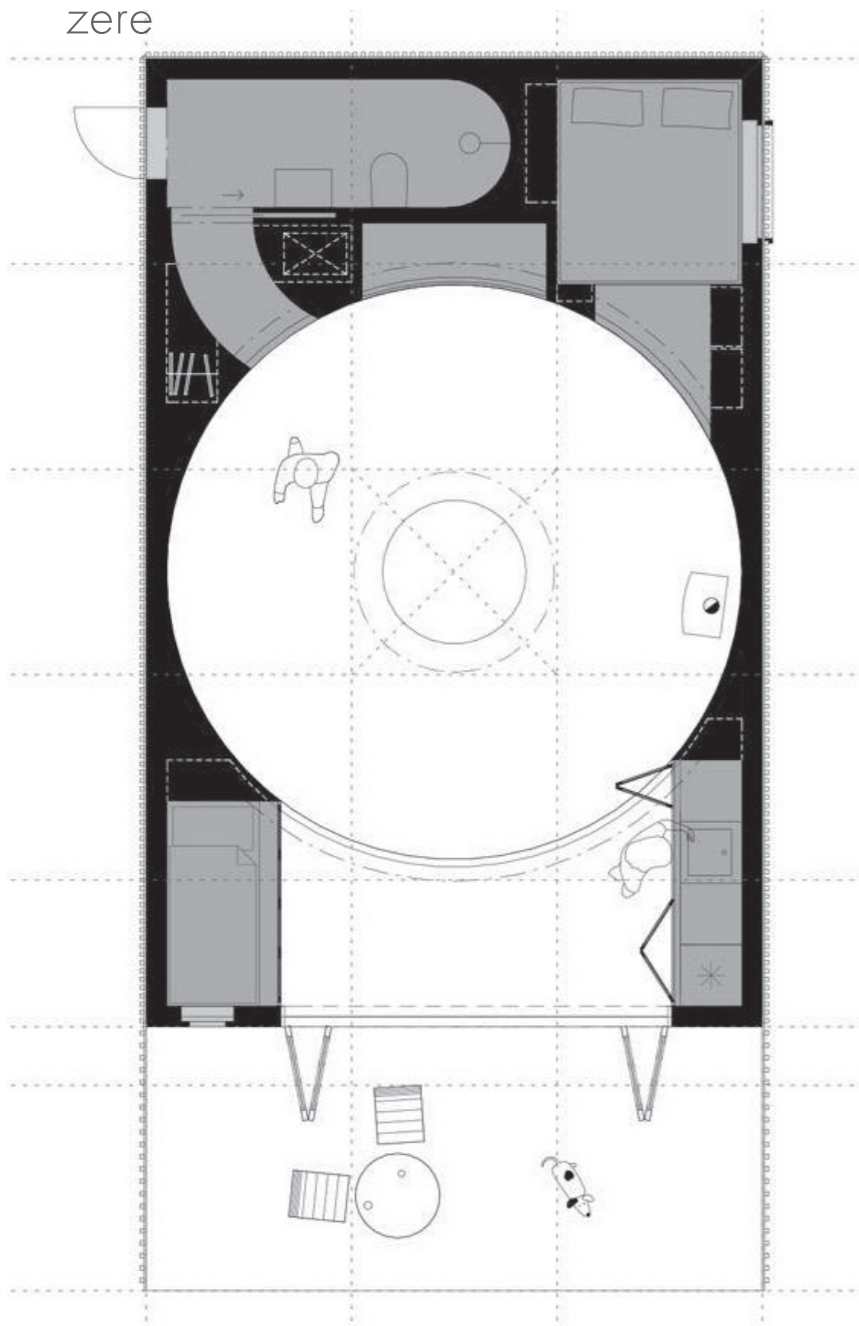


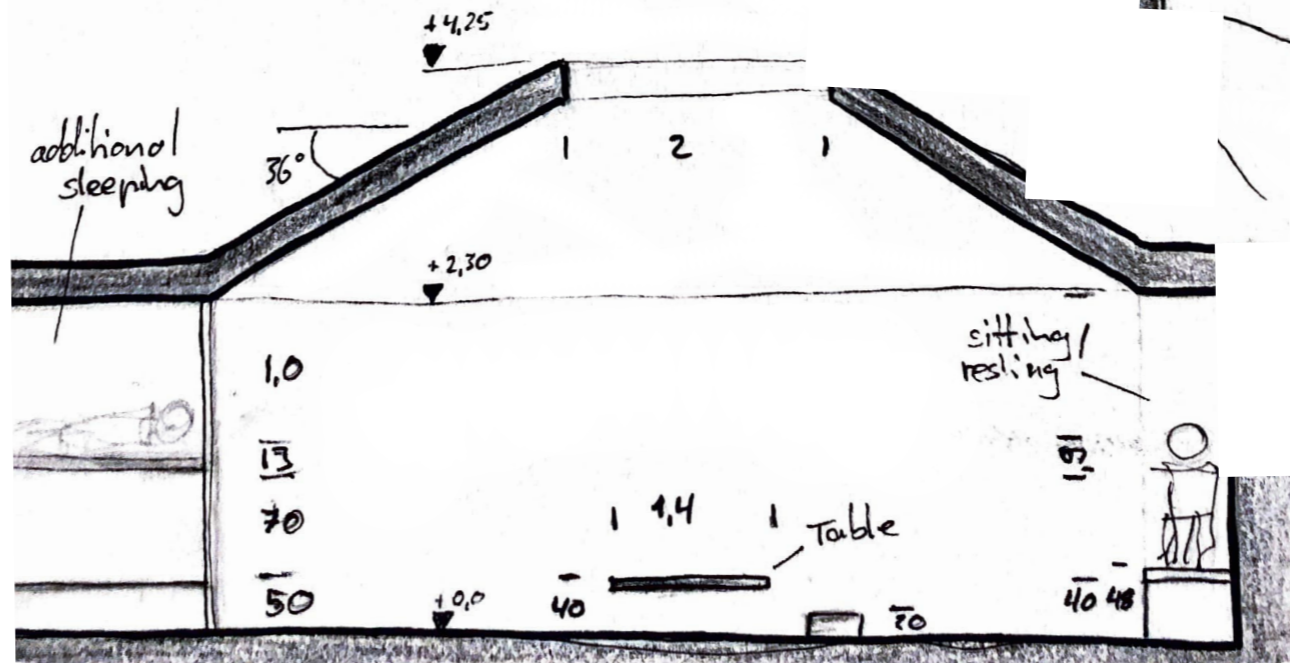
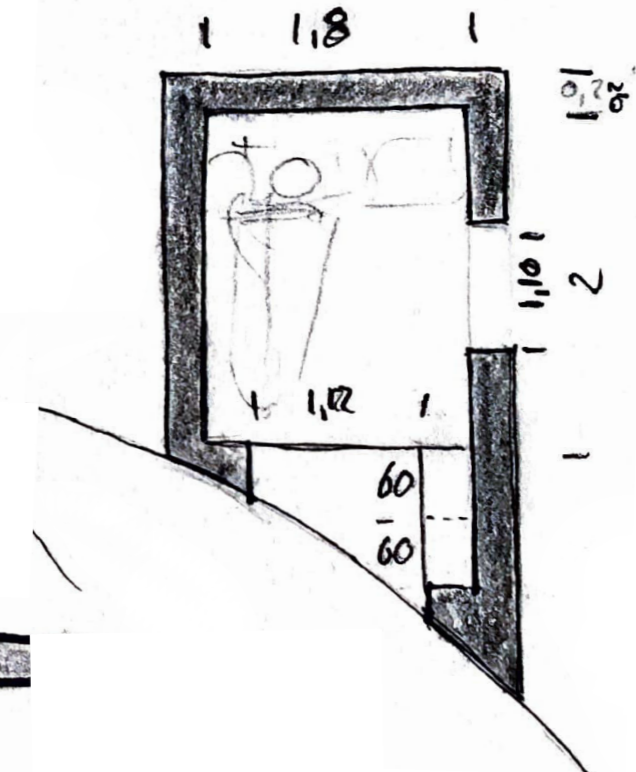
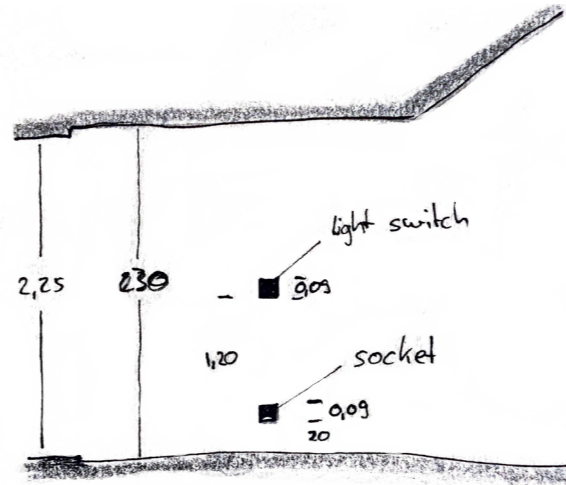
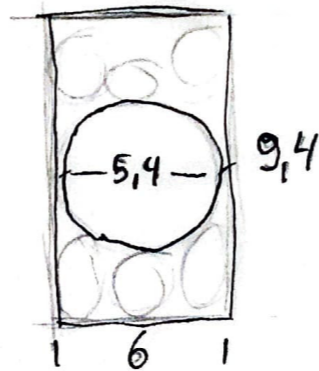
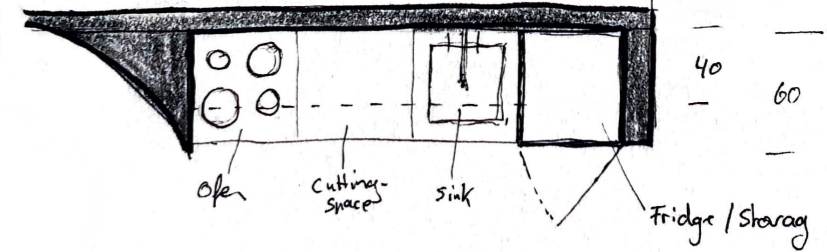
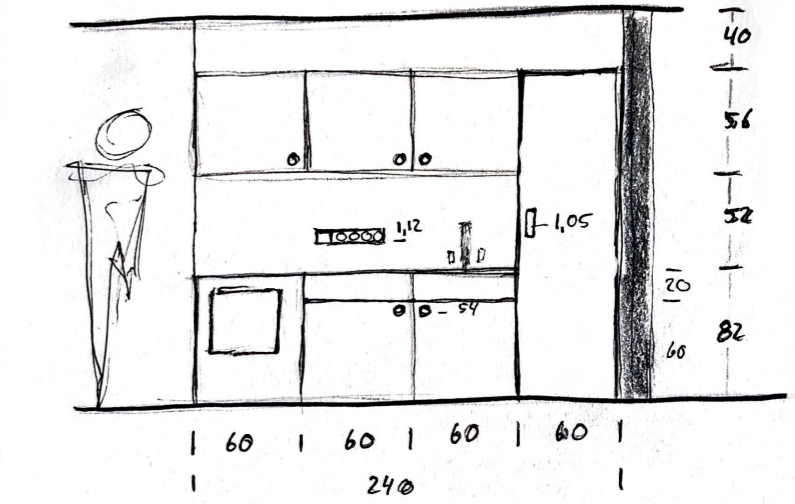
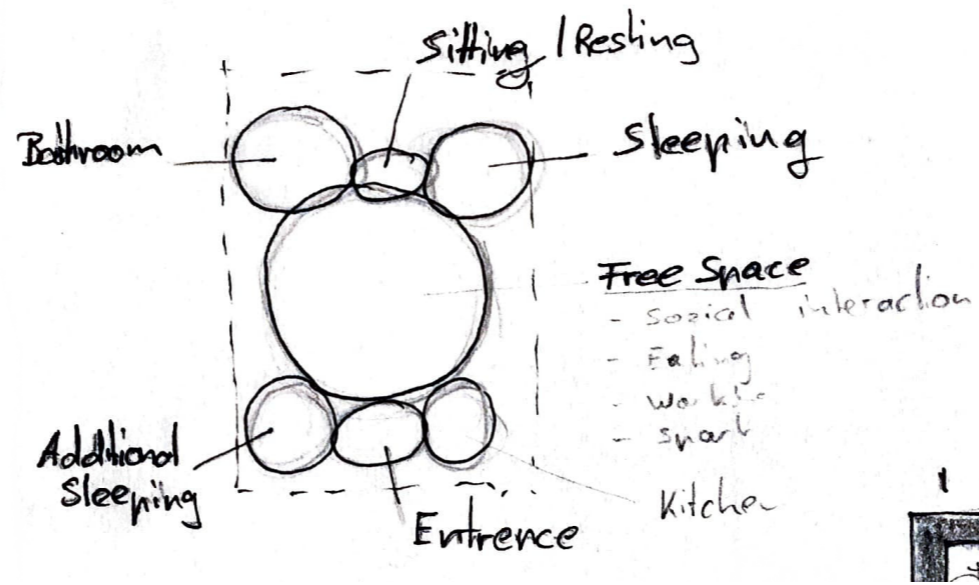
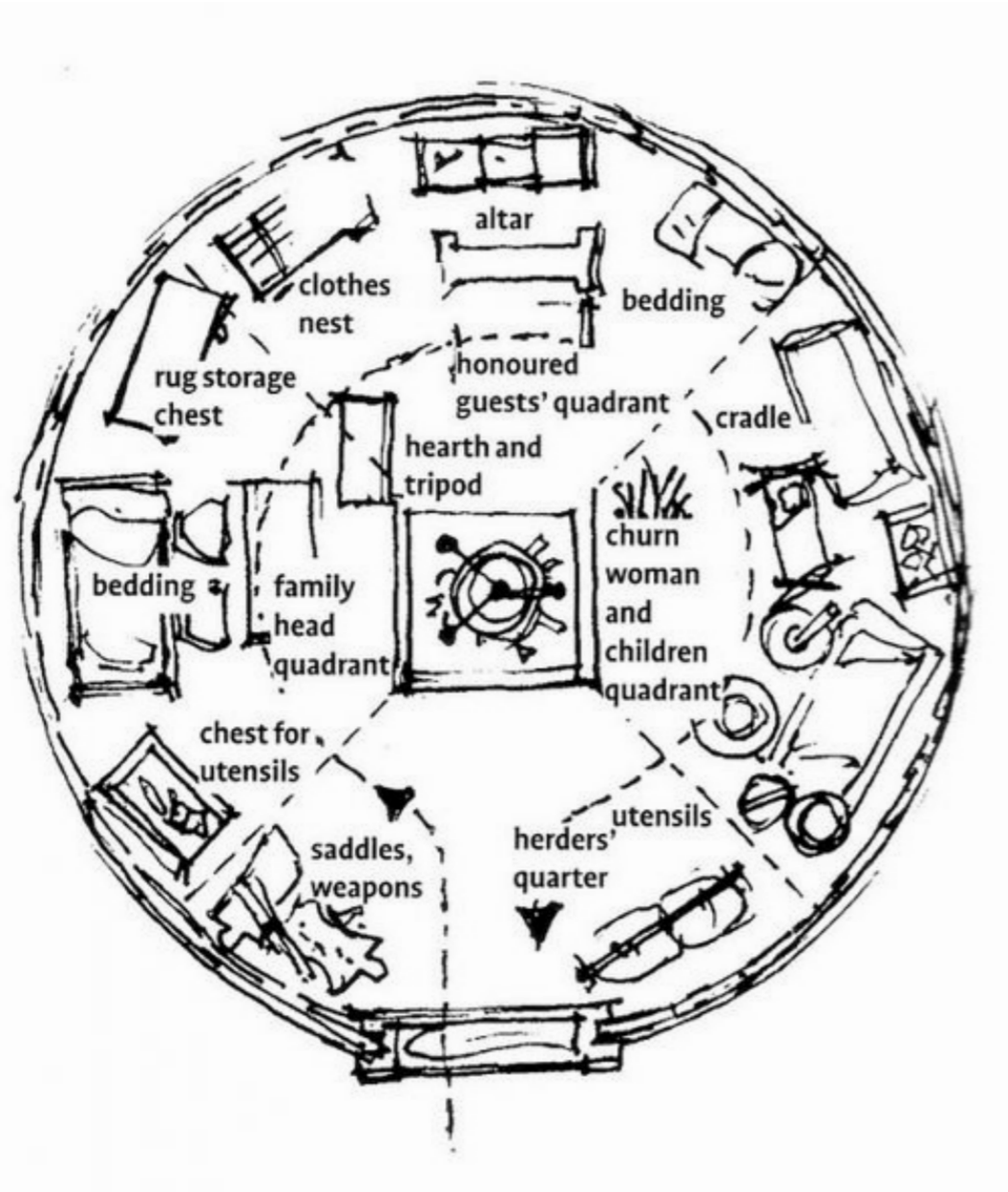
03 Anuazu

JRKVC
2017 / 18, Vojka nad Dunajom

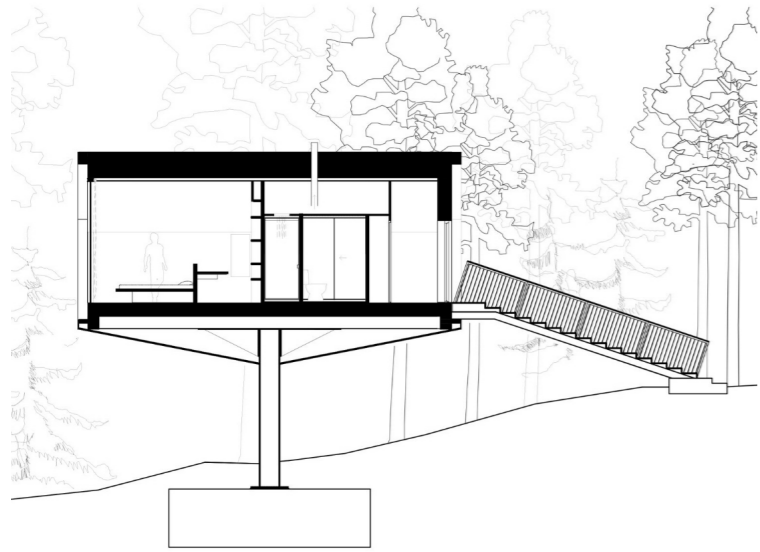
Dimension: ca. 6 x 9 m
Living Area: 47 m²

<https://www.jrkvc.sk/AnuAzu-Dom-pri-ja-zere>





Designing Aspects



impact on earth



overlay of construction and function



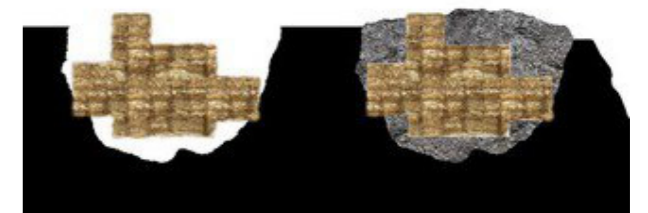
light



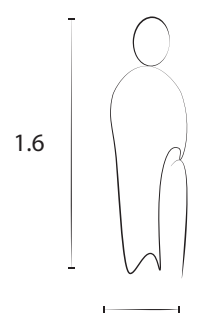
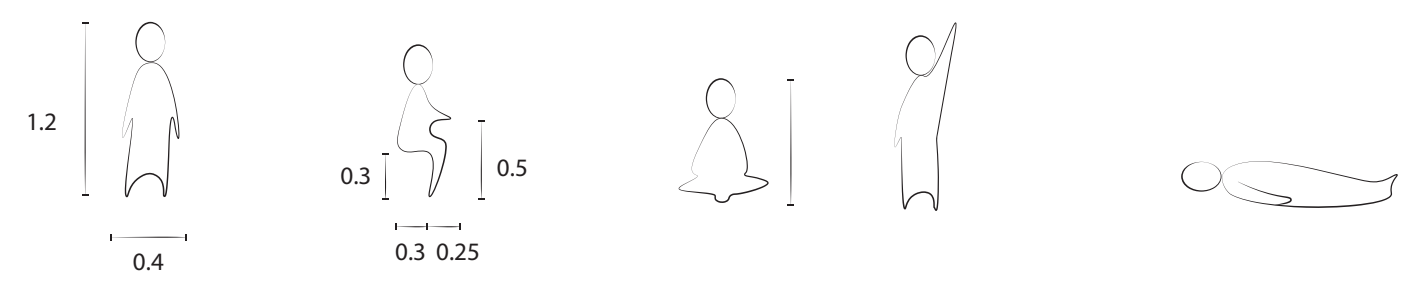
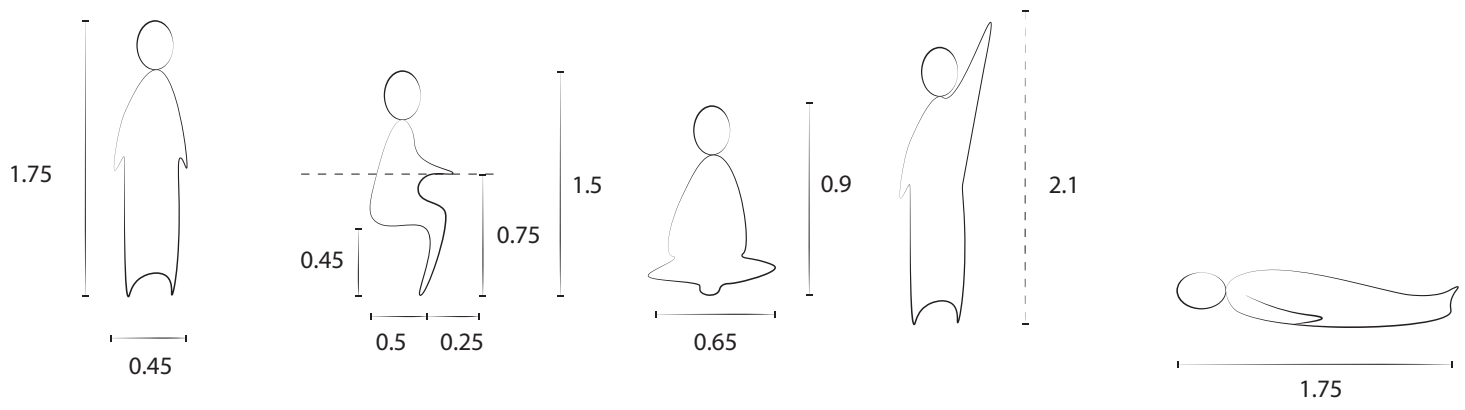
overlay by defining different heights



compact building service



ecological impact



The basic personal space

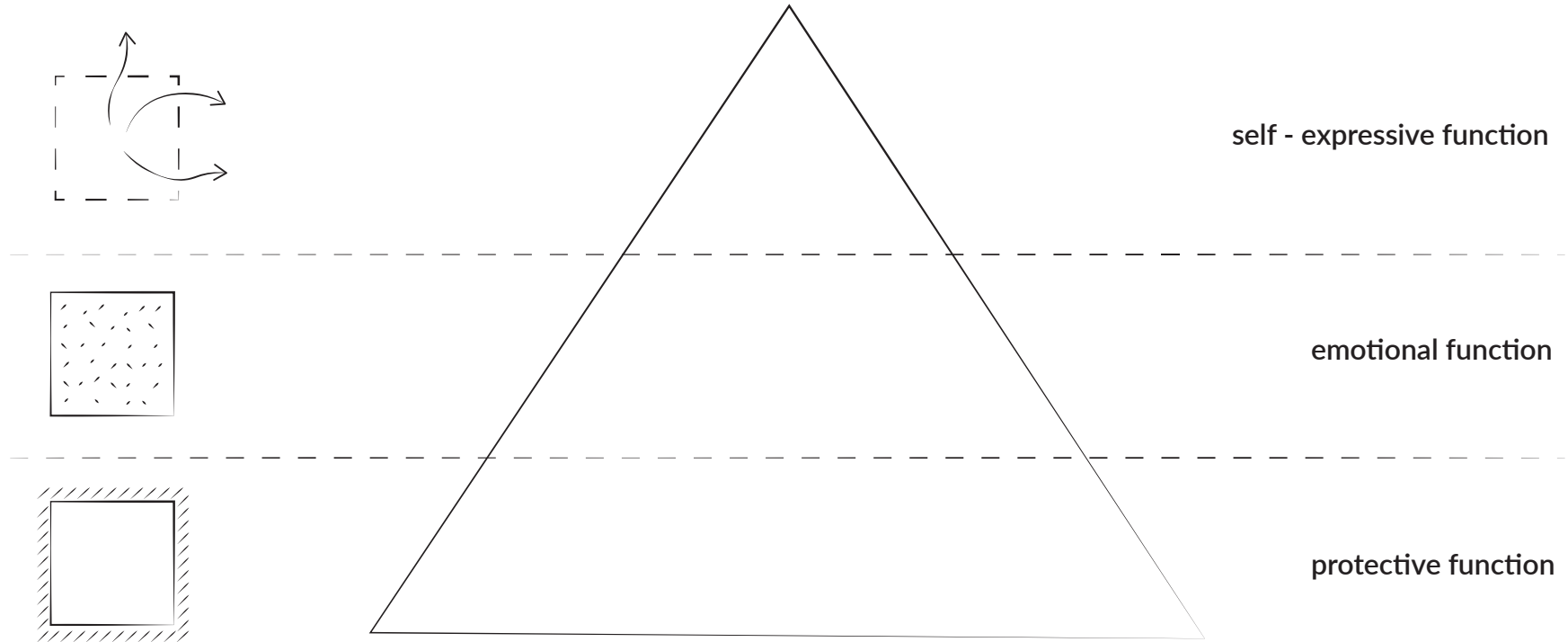
Team: Xinghe, Sophie, Peiyao, Moa, Yidian, Eszter
Wood Architecture Studio
22.09.2021

content

- 1 | functions
- 2 | things
- 3 | cases

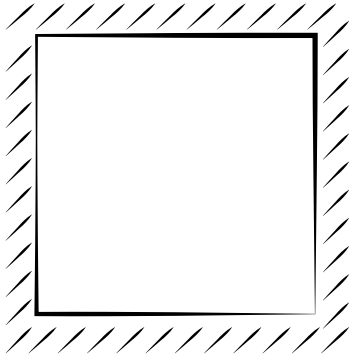
1 | functions

What's to needed ?



1 | functions

The space must have...



the frame

a protective function

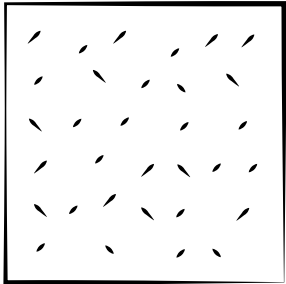
weather / temprature / enemies

protection of health & well-being

physical needs

1 | functions

The space should have...



the inside

a emotional function

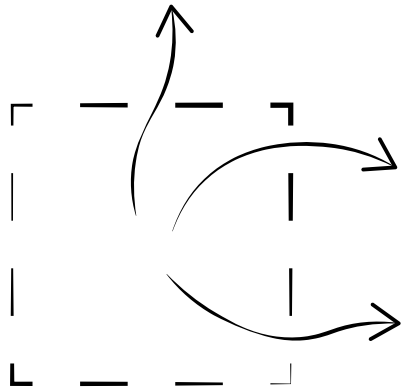
comfort / community & privacy / religion & rituals

psychological attachment / mental health

the economic function of sharing

1 | functions

The space could provide...



a self-expressive function

degree of freedom / self organization / creativity

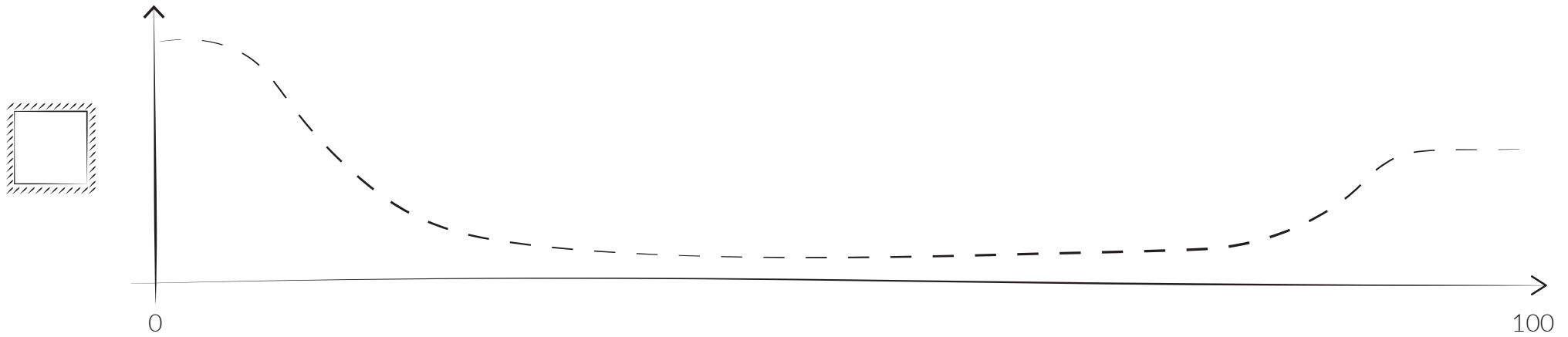
individualism / self - reflection / status defining

the unplanned part

the effect

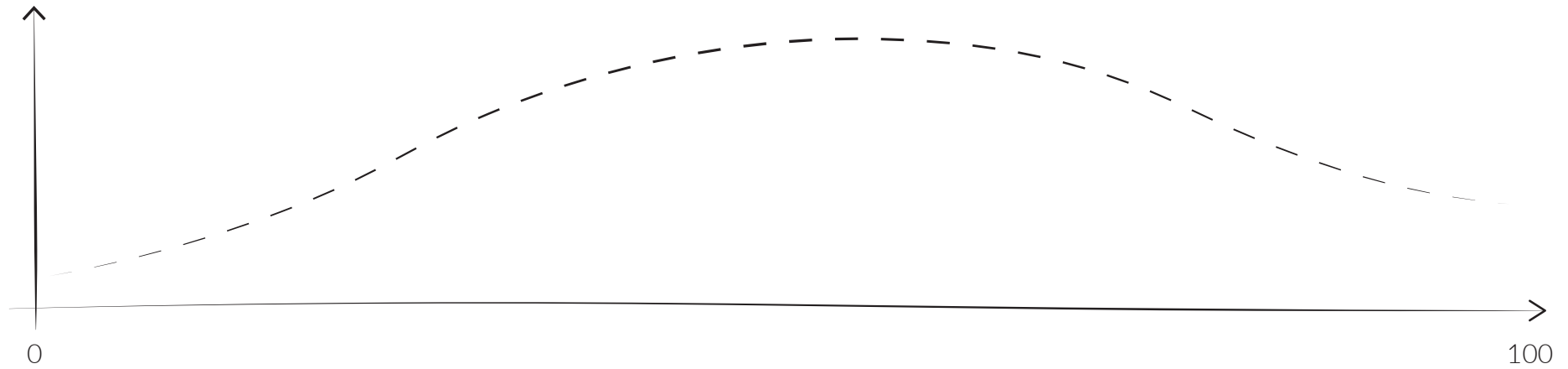
1 | functions

protective function



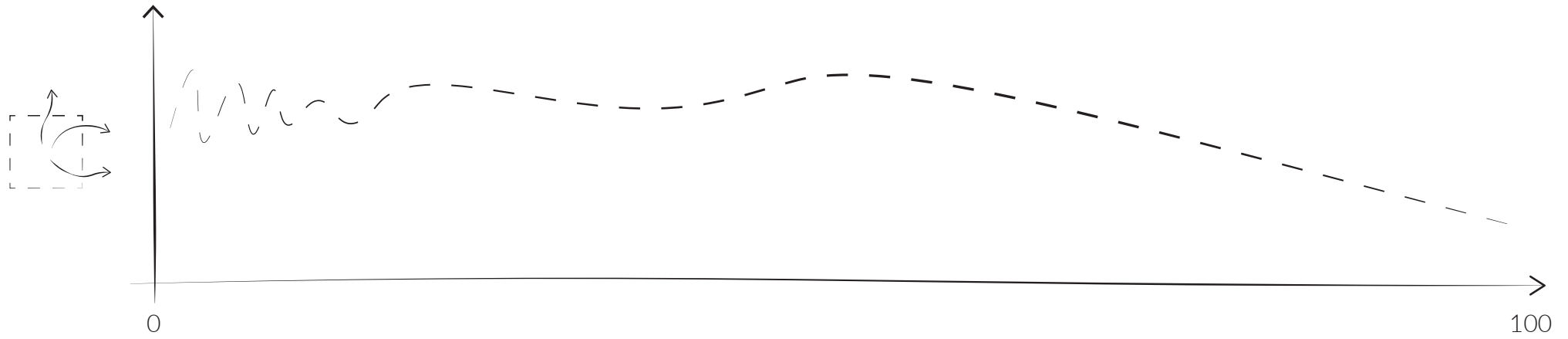
1 | functions

emotional function



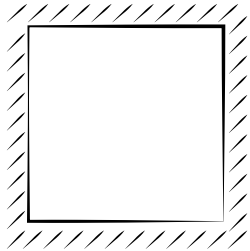
1 | functions

self expressive function



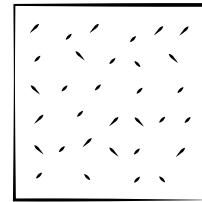
2 | things

what is needed?



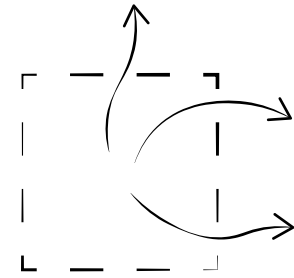
a space must have...

roof / walls / access / water / light / bed



a space should have...

electricity / shower / kitchen / table / chair /
hygiene / storage / toilette / threshold

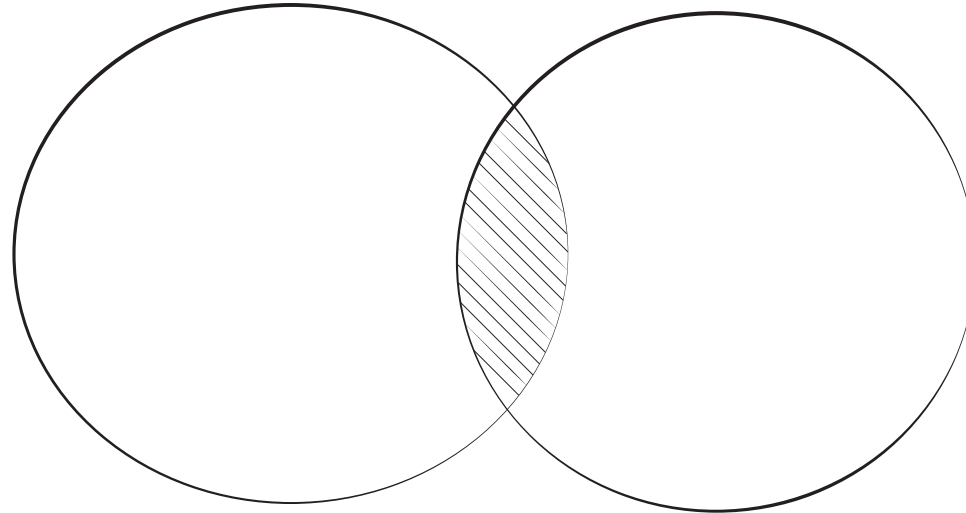


a space could have...

material / personal belongings / colors /
acoustic / location / contribution / temperature

1 | functions

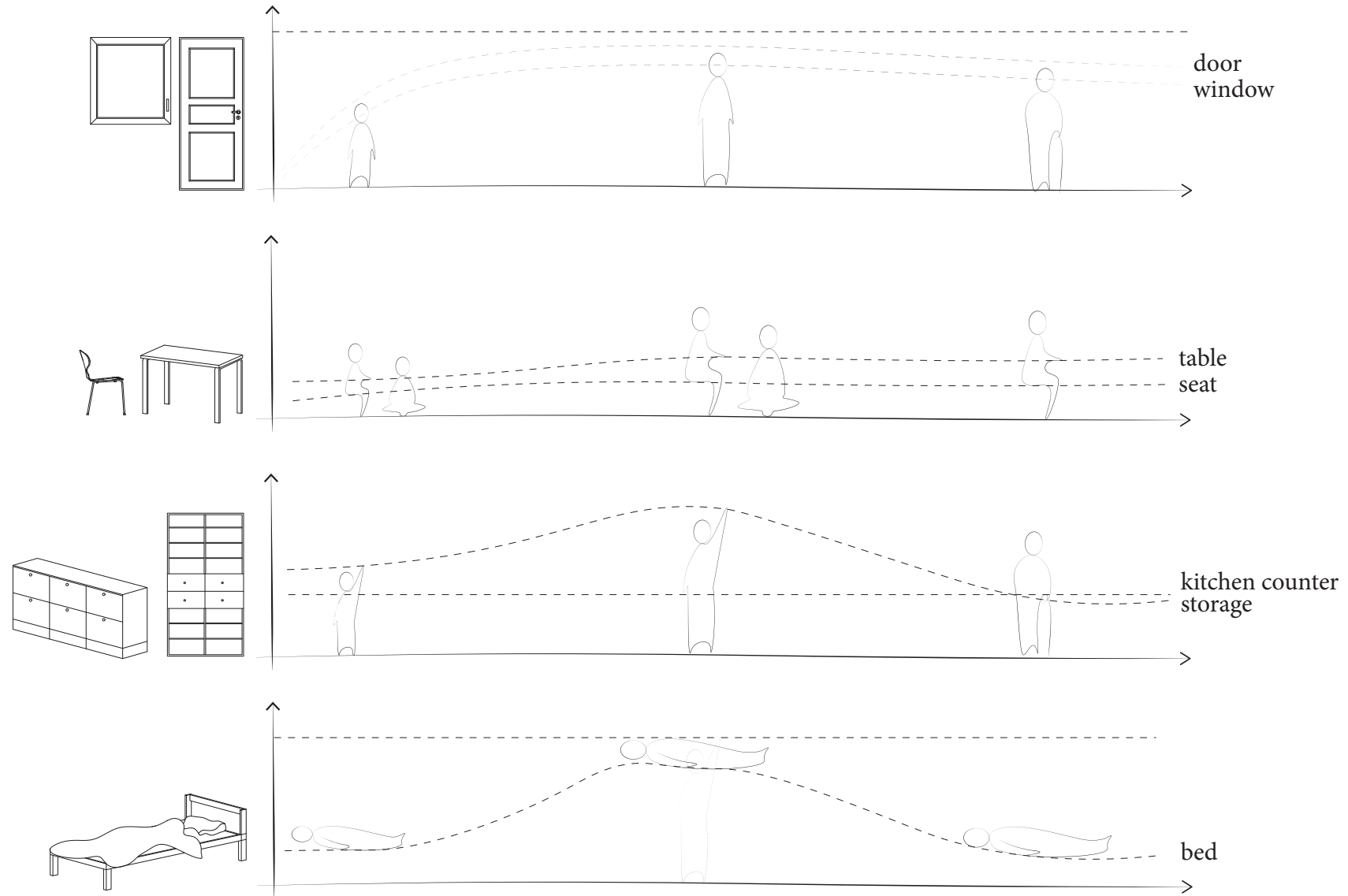
What's to share ?



roof / walls / access / water / light / **bed** / electricity /
shower / kitchen / **table** **chair** / hygiene / **storage** /
toilette / threshold / material / personal belongings /
colors / acoustic / location / contribution / temperature

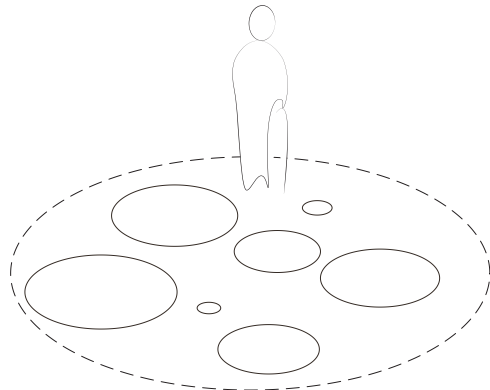
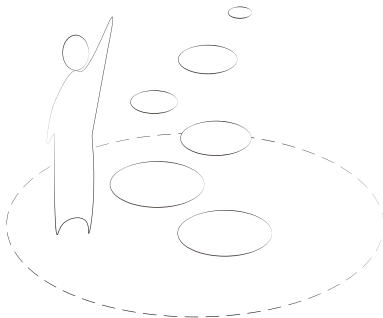
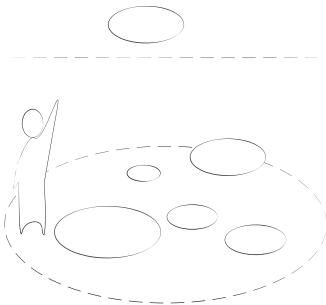
2 | things

reach



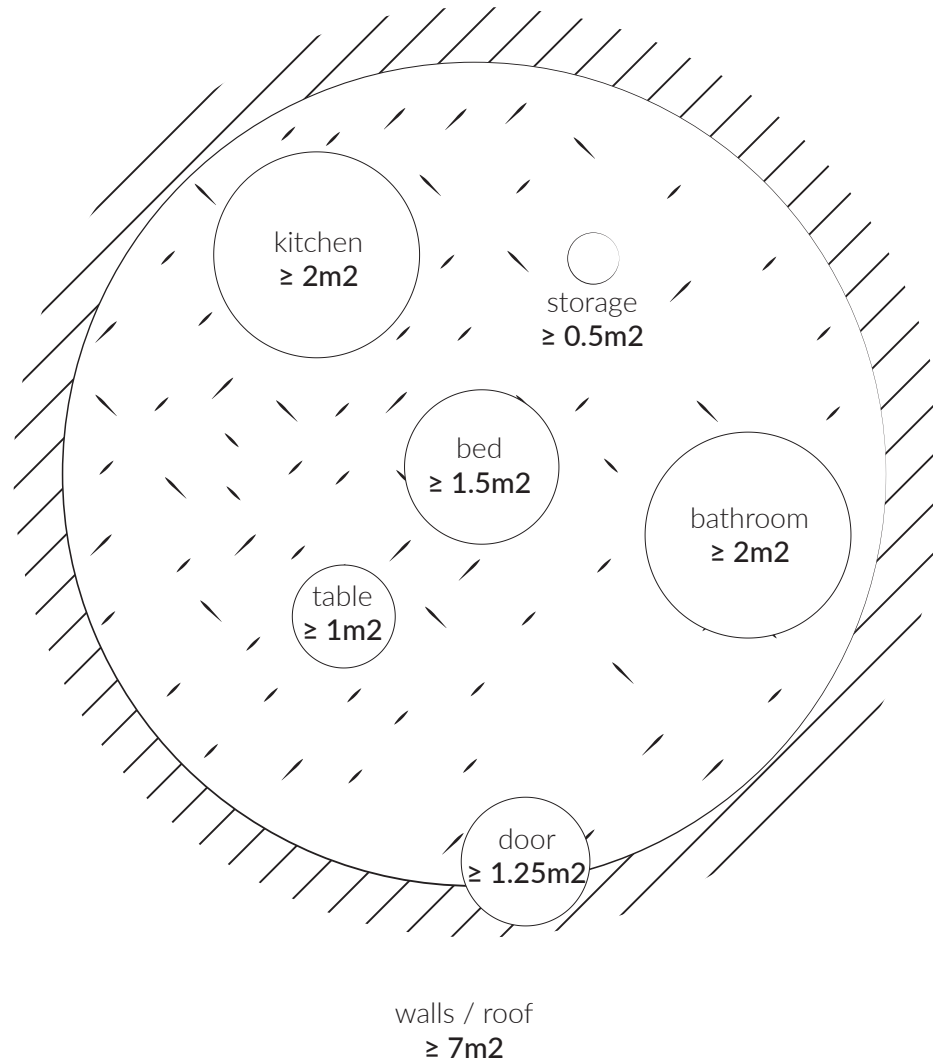
2 | things

reach



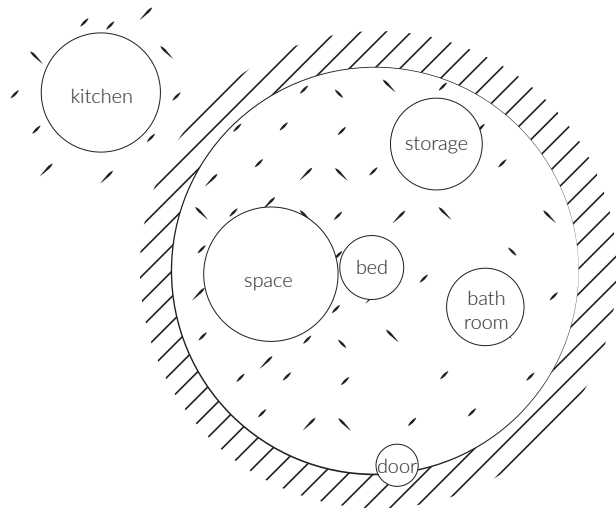
2 | things

dimensions

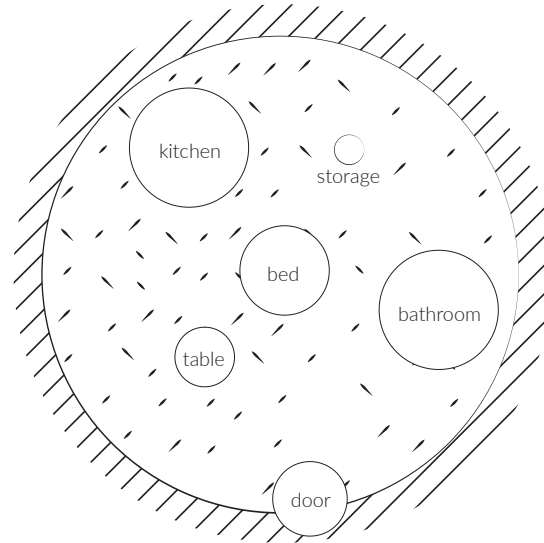


2 | things

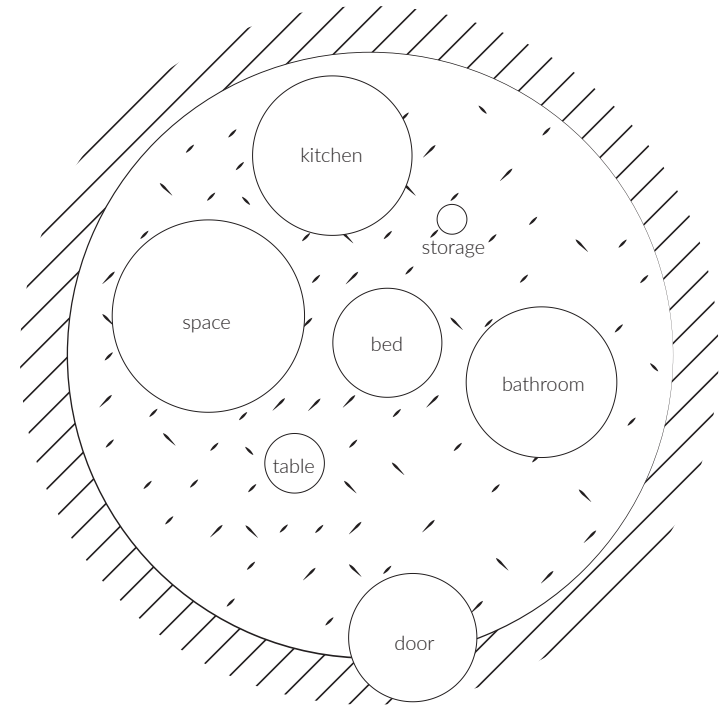
dimensions



walls / roof
<math>< 7\text{m}^2</math>



walls / roof
$\ge 7\text{m}^2$



walls / roof
> 7m^2

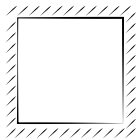
3 | cases

Types



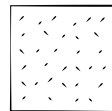
Bivouac Zoran Šimić Cabin

Protective Function



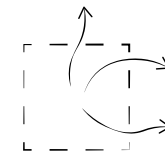
Smart Students Unit

Emotional Function



A Tiny Apartment

Self - Expressive Function



3 | cases

Bivouac



Bivouac Zoran Šimić cabin

Location: Pridvorci, Bosnia and Herzegovina

Area: 14square meters/ 3 m height

Architect: Filter Architecture

Function: Bicouac house

Target group: hikers

Main features: minimalism

Capacity:9 people

Material:

steel cladding

planed spruce interior

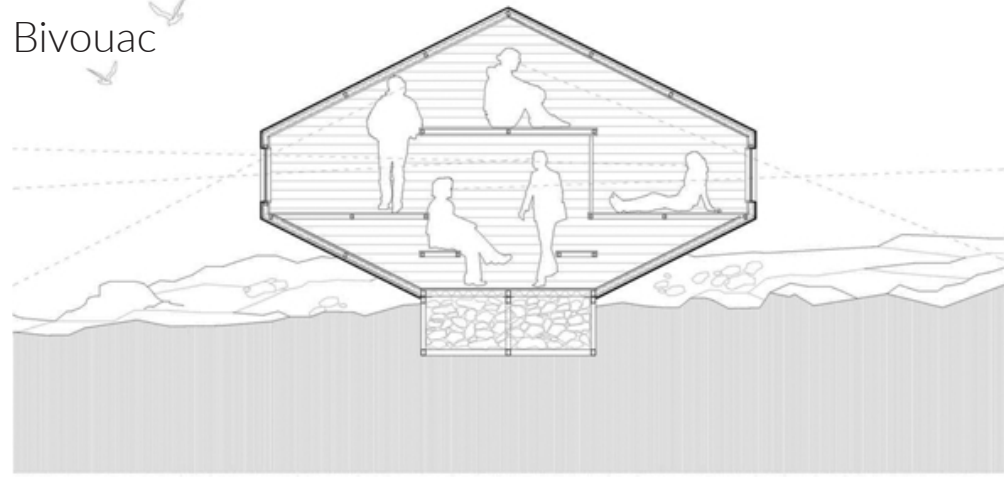
3 | cases

Bivouac

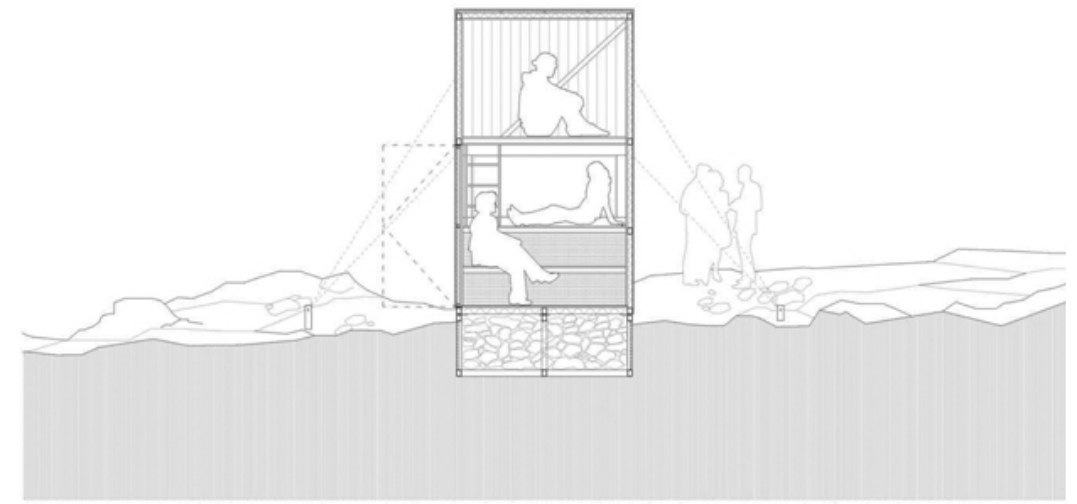


3 | cases

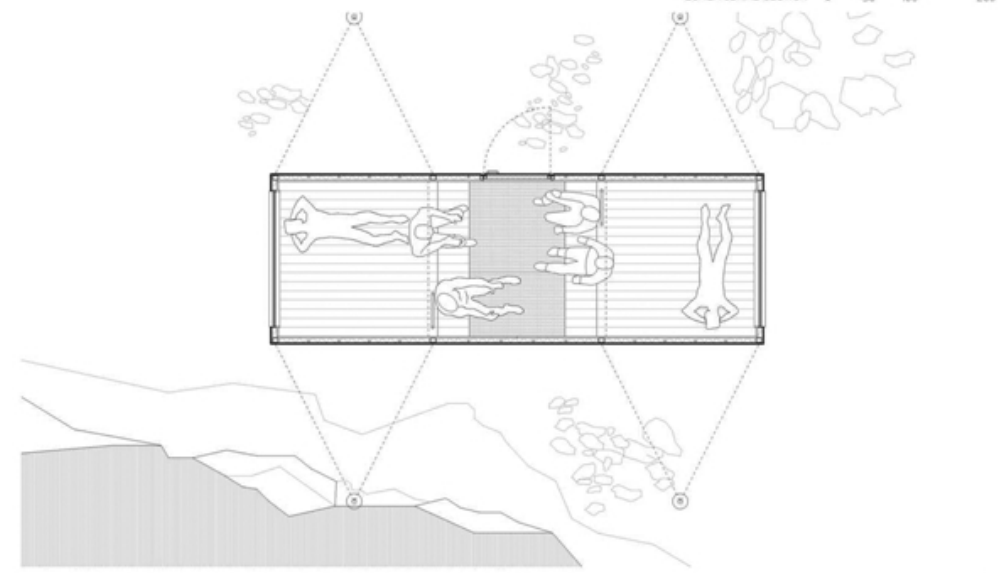
Bivouac



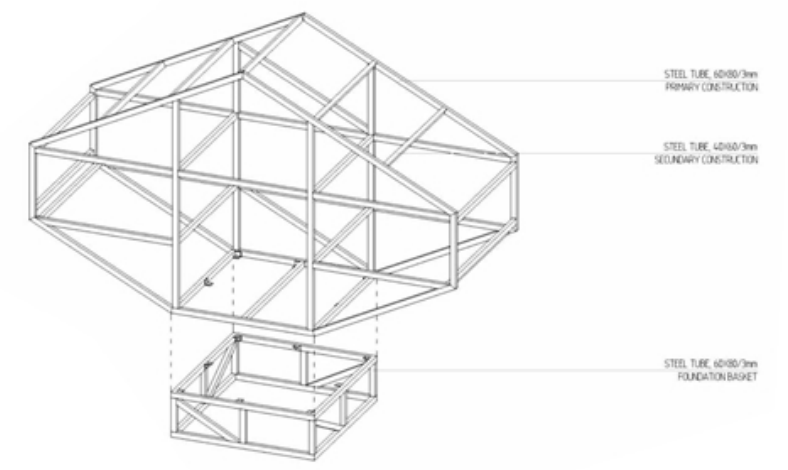
LONGITUDINAL SECTION 0 50 100 200



CROSS SECTION 0 50 100 200



GROUND FLOOR 0 50 100 200



STEEL TUBE 60x80x3mm
PRIMARY CONSTRUCTION

STEEL TUBE 40x60x3mm
SECONDARY CONSTRUCTION

STEEL TUBE 60x80x3mm
FOUNDATION BASKET

3 | cases

Student unit



Smart student unit

Location: Småland, Sweden

Area: 10square meters/ 4 m height

Architect: Linda Camara and Pontus Åqvist, Tengbom

Function: student accomodation

Target group: students

Main features: compact design

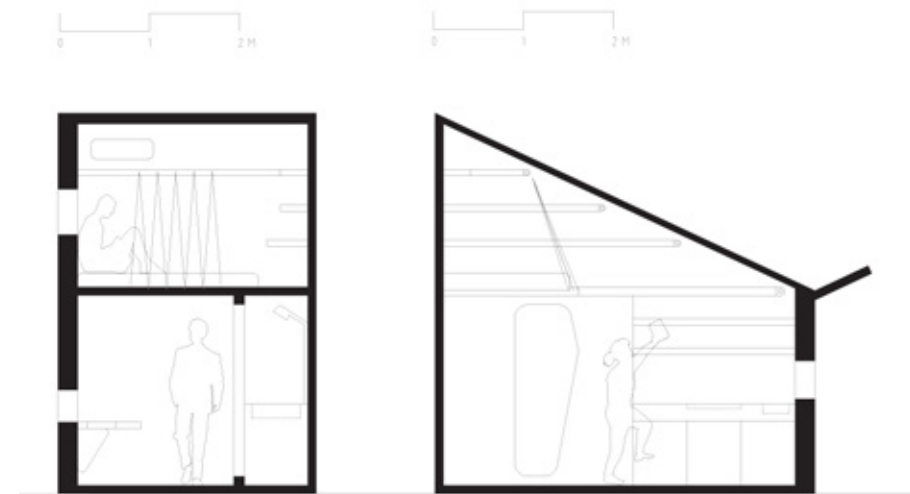
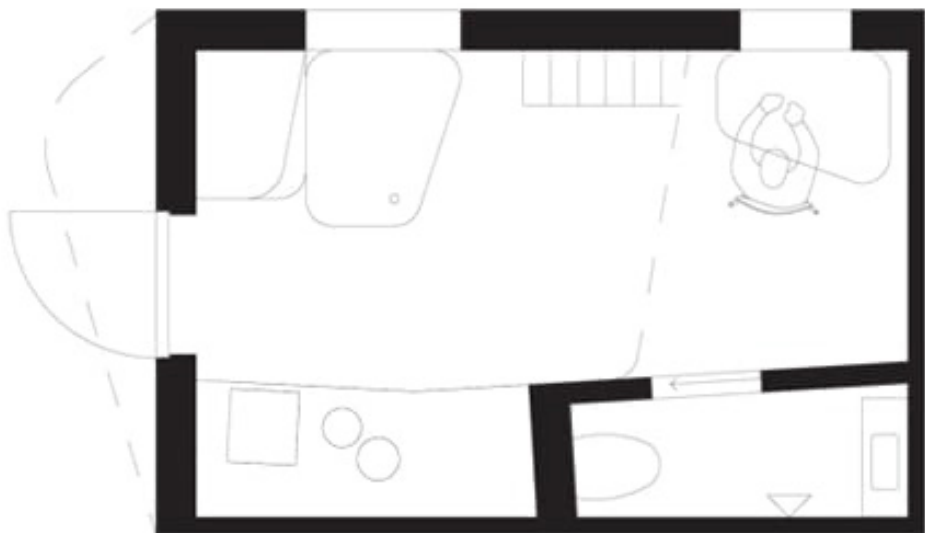
Capacity: 2 people

Material:

cross-laminated wood

3 | cases

Student unit



3 | cases
Student unit



3 | cases

Student unit



A Tiny Apartment Transforms into 24 Rooms

Location: Hong Kong

Area: 32square meters/ 2.6m height

Architect: Gary Chang

Function: home

Target group: people living in the metropolis

Main features: movable objects

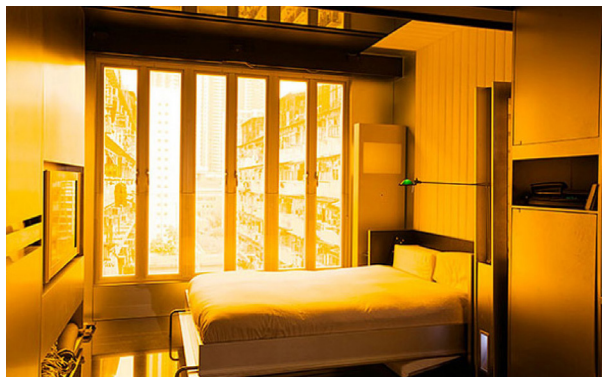
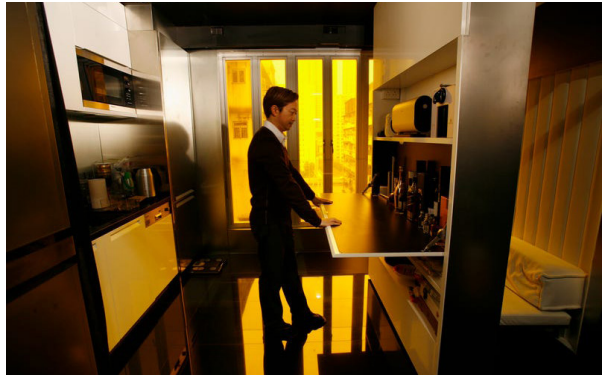
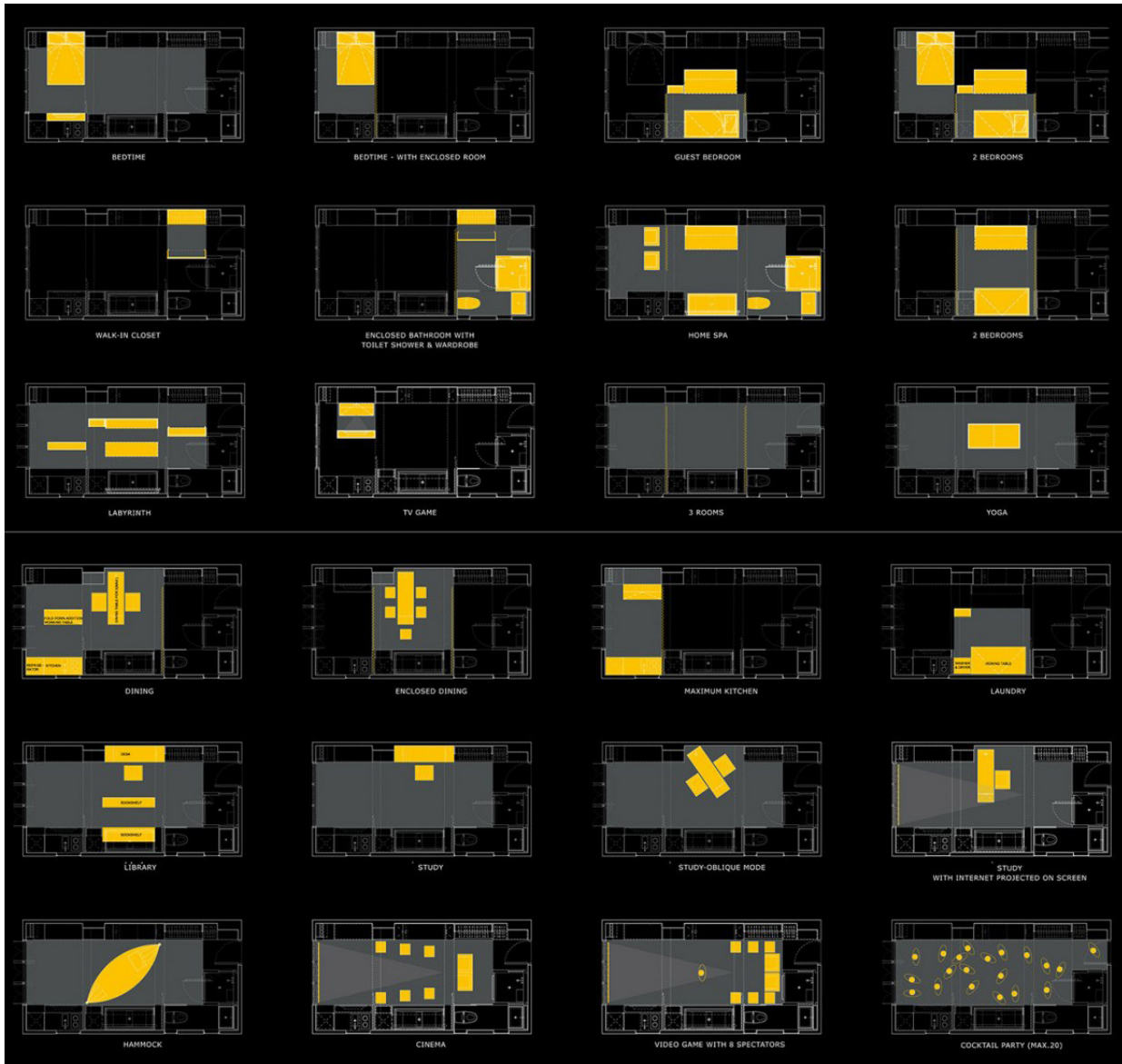
Capacity:1~20 people

Material:

Stainless steel (brushed/mirror)

Whitehard plastic sheet

Glass



Movable
Flexible



Self
Expressive

3 | cases

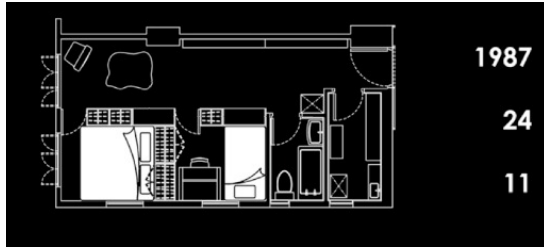
Student unit



1976

14

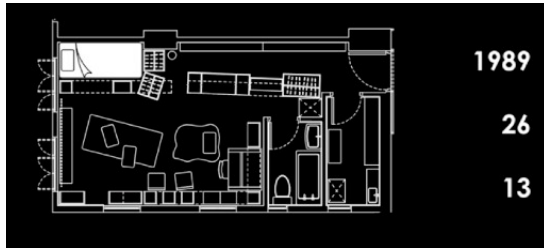
1



1987

24

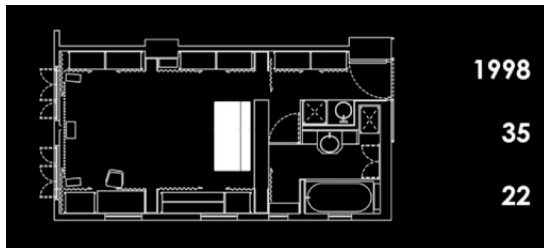
11



1989

26

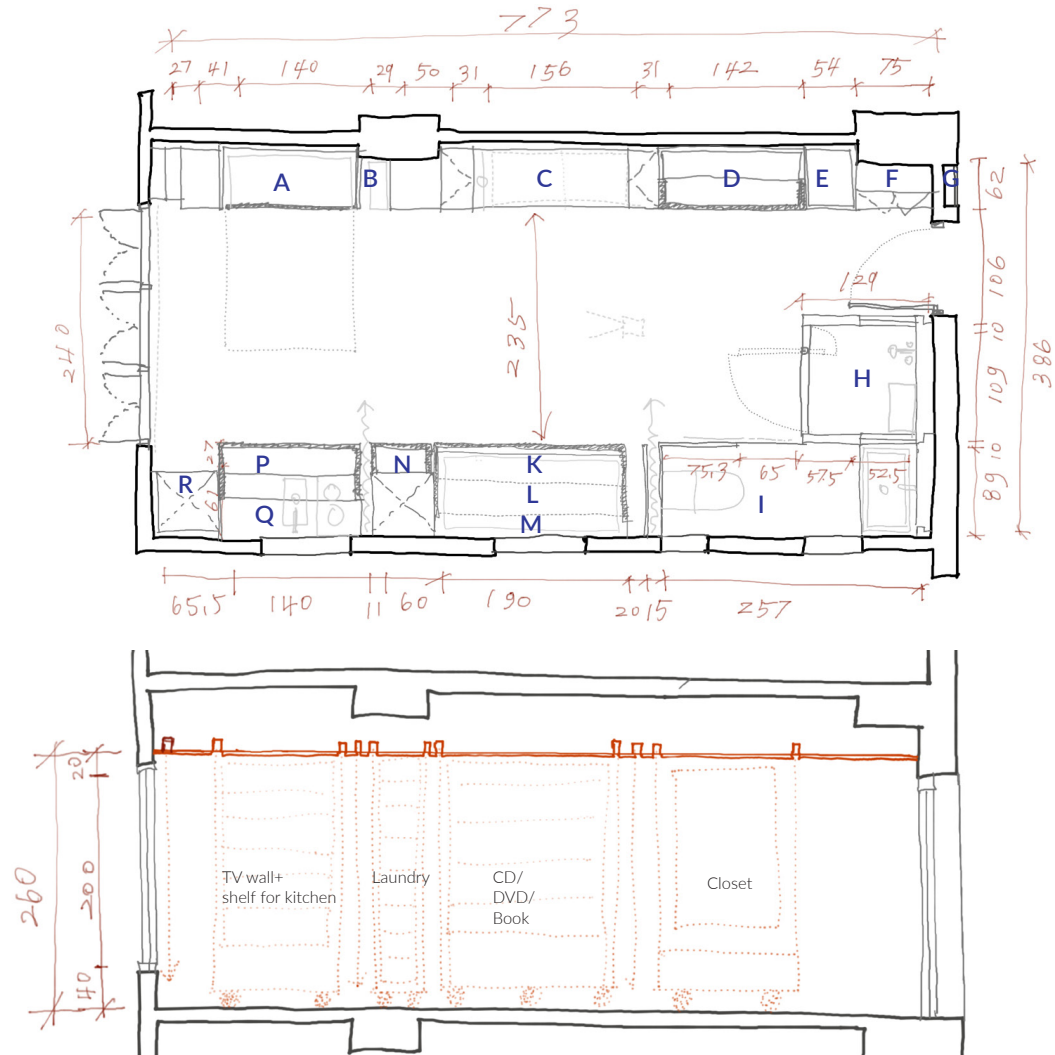
13



1998

35

22



2006

43

30

Dimension in detail:

Window only one _ 240w*200h cm

Entrance door_240w*240h cm

Bed_140*200cm

Kitchen_140*61cm

Bathroom_89*257cm

Washroom_129*109cm

Table_150*62cm

Plugs are in the movable shelves

TV wall+ shelf for kitchen_140w*260h cm

Laundry shelf_60w*260h cm

CD/DVD/Book shelf_190w*260h cm

Closet_142w*260hcm

references

research:

<http://ecoursesonline.iasri.res.in/mod/page/view.php?id=121484>

Bivouac Zoran Simic cabin:

<https://www.archdaily.com/938542/bivouac-zoran-simic-cabin-filter-architecture>

<https://www.hasslacher.com/bivouac-zoran-simic>

Smart student unit:

<https://www.ifitshipitshere.com/tengboms-green-micro-house-becomes-bo-kompakt-student-housing/>

<https://visuall.net/2013/09/09/compact-living-smart-student-unit-by-teng-bom-architects/>

A Tiny Apartment Transforms into 24 Rooms

<https://www.designboom.com/architecture/gary-chang-on-urbanism-and-his-metamorphic-apartment/>

<https://artdepartmental.com/blog/inspiration-a-tiny-apartment-transforms-into-24-rooms/>

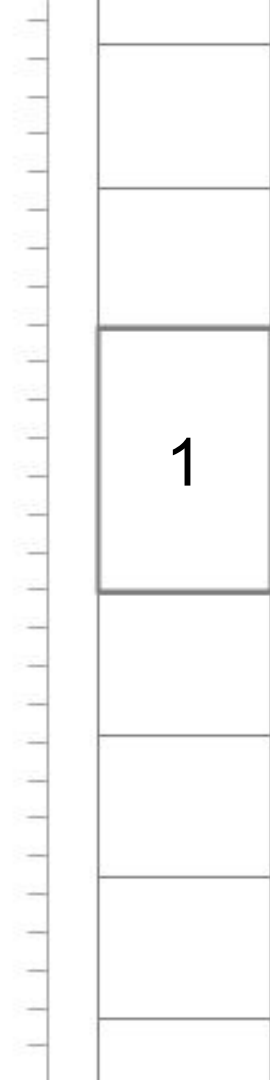
<https://www.metalocus.es/en/news/a-tiny-apartment-transforms-24-rooms>

Thank you for your attention!



Yet 'The Room of One's Own' also describes the struggle against this logic of individuation. It shows how in certain situations dwellers have used and abused the private room as a space of rest, solitude and concentration in direct relationship with a common dwelling space, often overcoming the idea of private property as in the case of boarding houses, residential hotels and communal houses.

- The Room of One's Own, DOGMA



**Necessary functions needed for
a space to live in**

01

NEED
OF
SPACE

- What are our basic needs for living?
- What are the essentials for surviving?
- Do we need comfort? What defines it?
- How private is the space?
- How long are the resident living there?
- How adaptive is our space to different individuals?
- Are the residents part of our western society?
- Is the space a defined space?
- Do all the function need to be under one roof?
- Are the different functions connected or separated?
- Do we have to think about different cultural approaches/standards?
- Must all the basic needs be protected from the weather?
- Safe from what?



Basic needs for living:

FOOD AND WATER

SLEEP

HYGIENE

SAFETY

Defined place:

PART OF THE SOCIETY

IN FINLAND

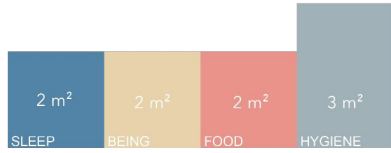
CLOSE TO NATURE

01

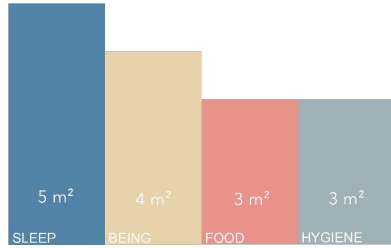
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E
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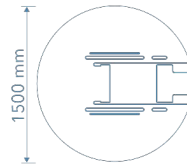
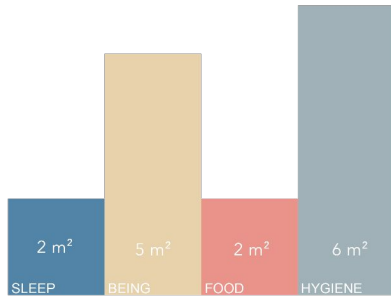
S
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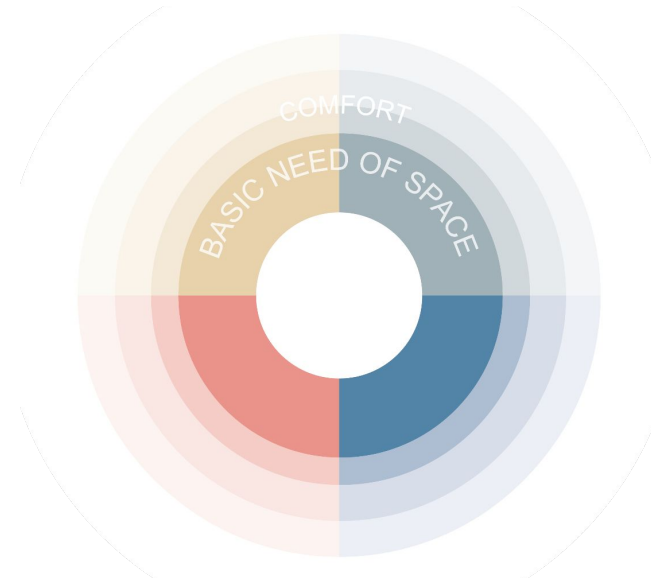
AN INDIVIDUAL



CHILD + ADULT

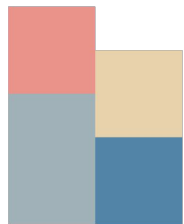


PERSON WITH SPECIAL NEEDS (WHEELCHAIR)



01

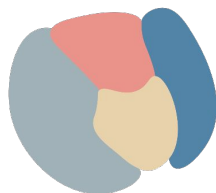
NEED
OF
SPACE



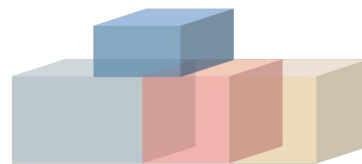
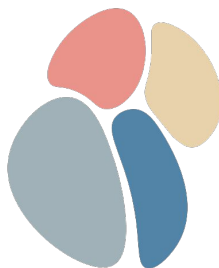
SEPARATED



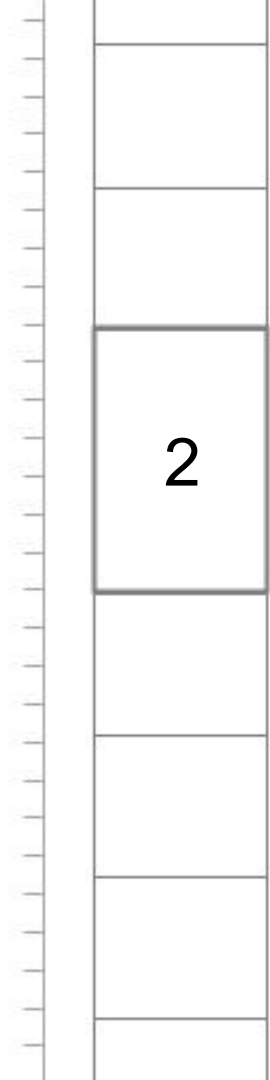
OVERLAPPING



NOT SQUARE



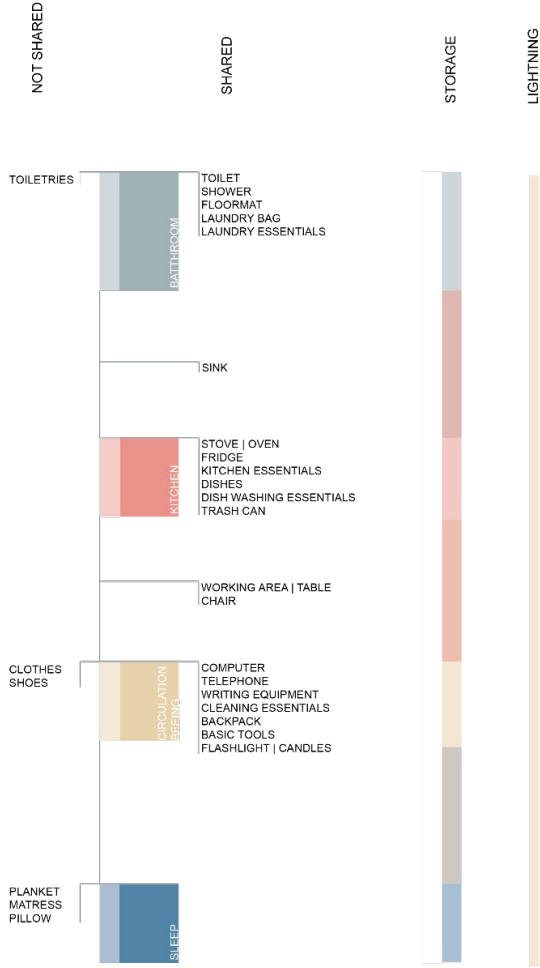
VOLUME



Needs for living

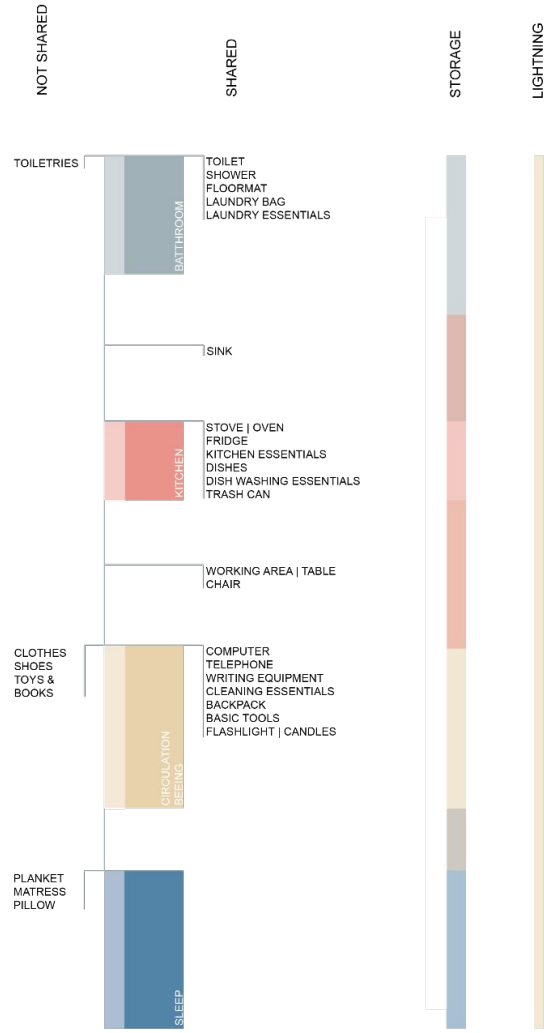
02

NEEDS FOR LIVING



02

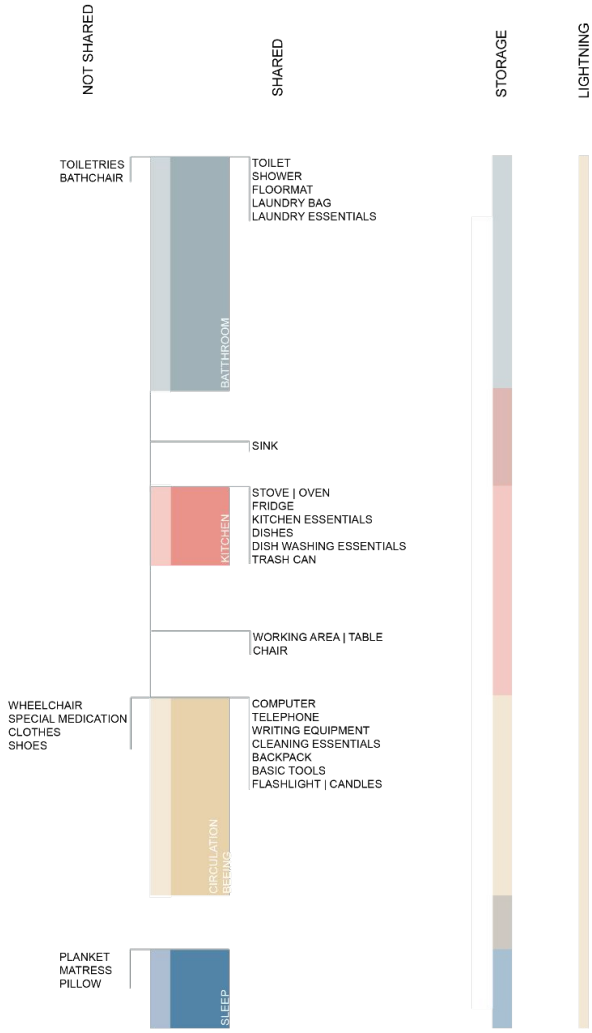
NEEDS FOR LIVING

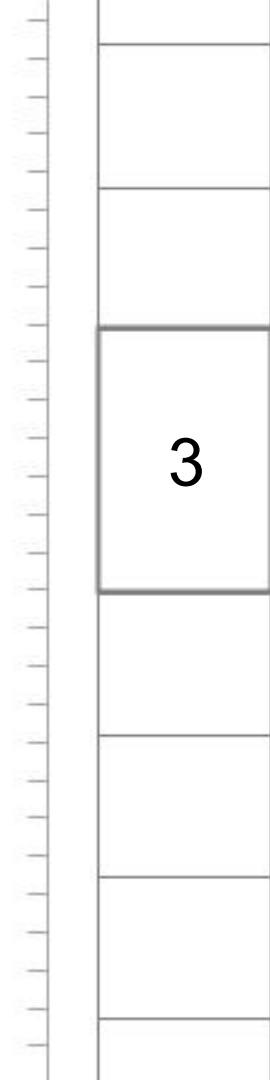


02

NEEDS FOR LIVING

PERSON WITH SPECIAL NEEDS (WHEELCHAIR)





STUDY CASE 1

CHARRED CABIN

Designed by DRAA Architects

03

Spatial Idea

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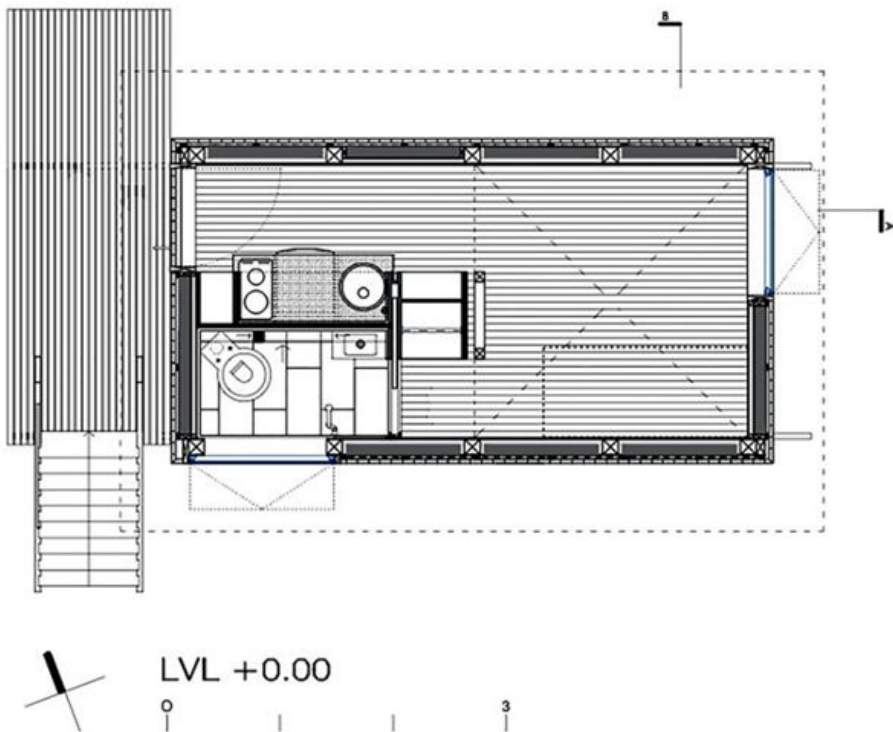
This is the work of DRAA. The total area is only 12.5 square meters, but it contains all the functions and furniture that our group considers necessary, and the area used for Eating, Being and Sleeping can be further reduced. This building allows us to see the possibility of meeting the needs of life within 9 square meters.



03

For Eating: 3.8m²
For Hygiene: 2.4m²

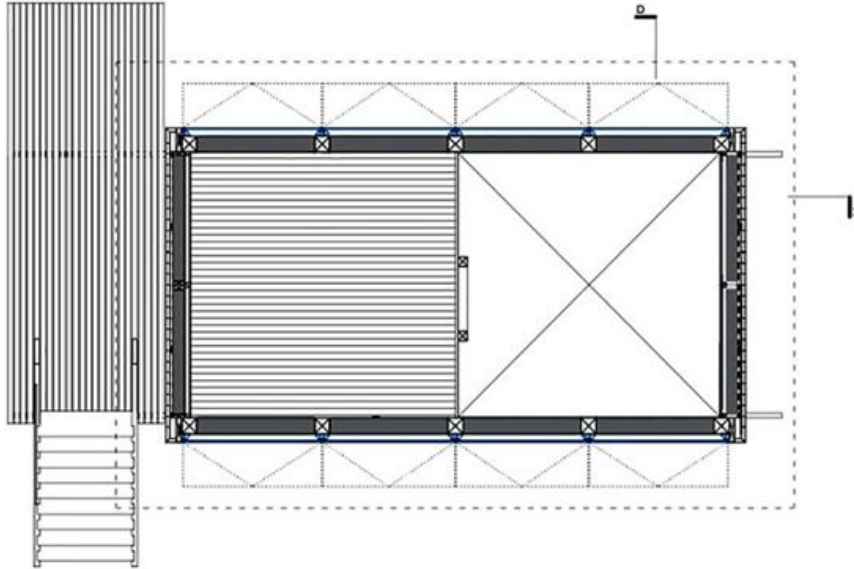
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For Sleeping: 6.2m²

03

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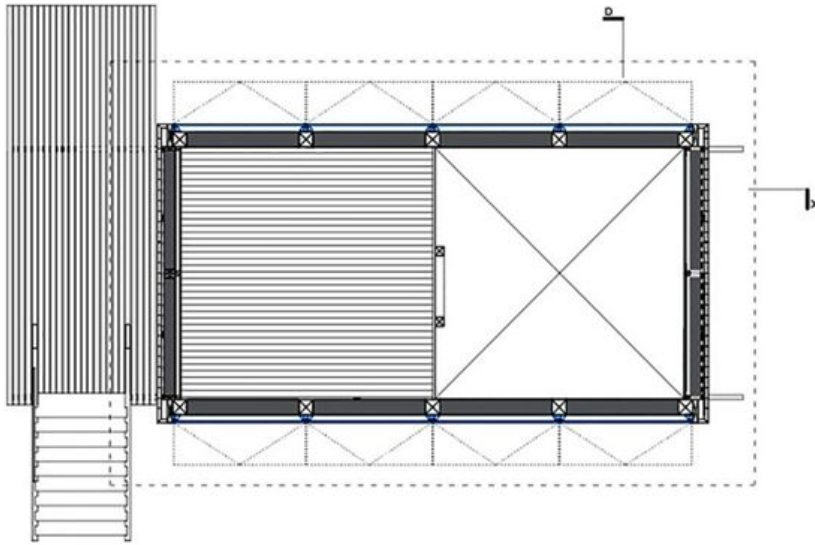
LVL+2.44



For Being: 6.2m²

03

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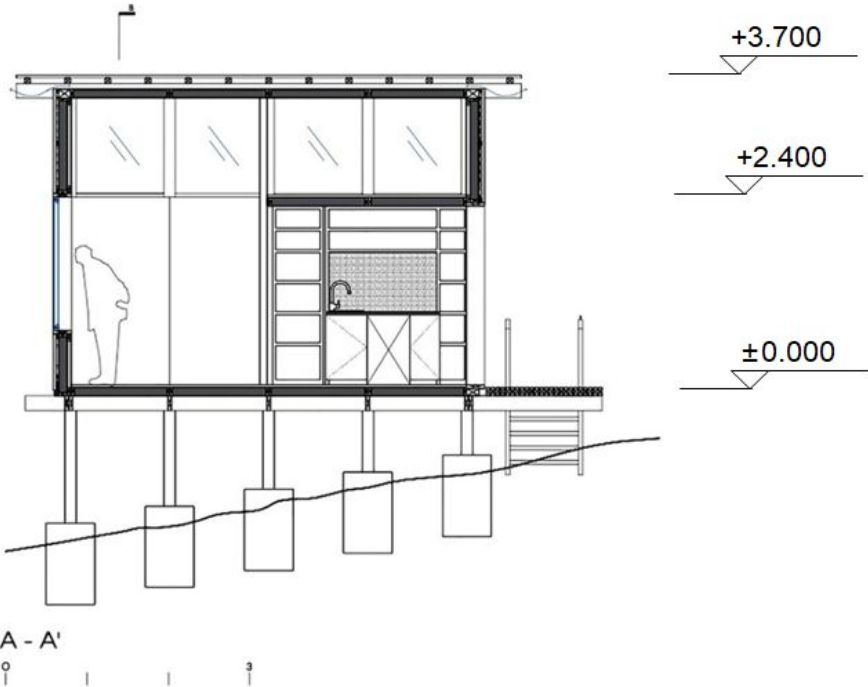
LVL+2.44



Height: 3.5m Volume: 44m³

03

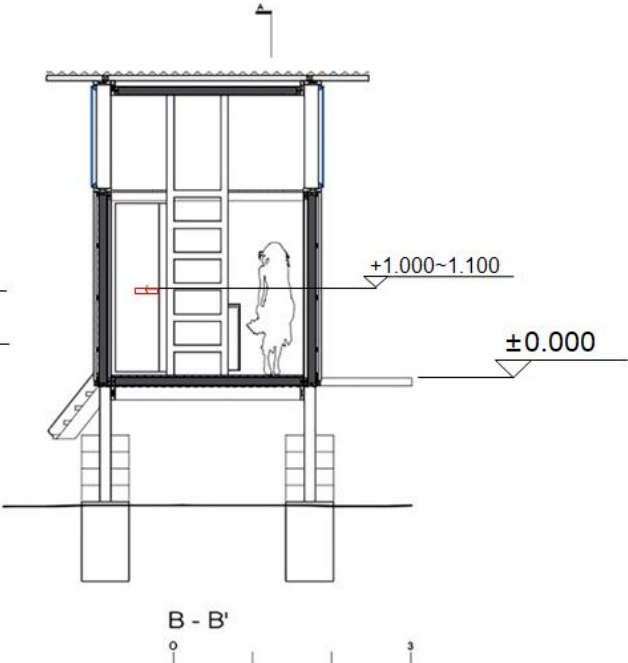
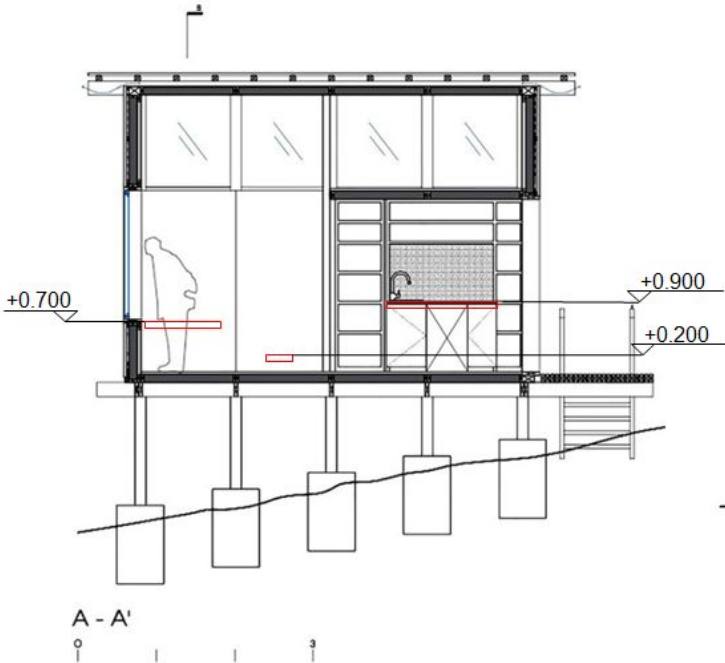
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Openings, Sockets, Switches, Desktop

03

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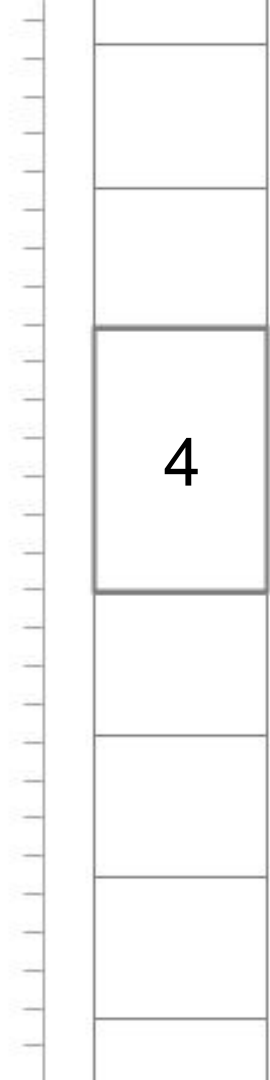


Materials: Wood, Steel, Glass

03

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STUDY CASE 2

LIVING UNIT

Designed by OFIS Architects

04 Spatial Idea

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The research for the Cabin was initiated by OFIS Architects to develop a self-contained wooden shell, flexible and adaptable on different locations, climate conditions and terrains. The total area is 10 square meters (the basic unit).



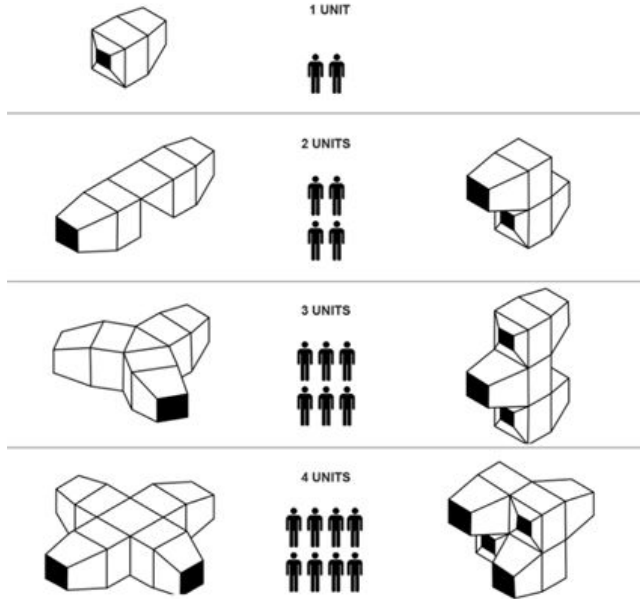
04

Concept

If needed 2 or more cabins can be combined together creating a larger habitation that could inhabit 4-6 people. They can be combined vertically or horizontally.

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BASE UNIT 1



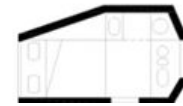
seats / *sedute*
 table / *tavola*
 double bed / *letto doppio*
 wardrobe / *guardaroba*

BASE UNIT 2

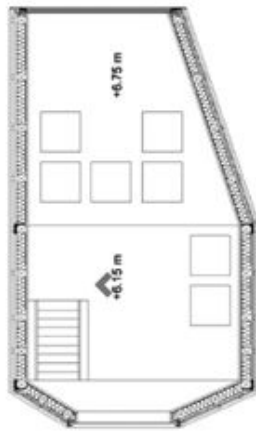


seats / *sedute*
 table / *tavola*
 double bed / *letto doppio*
 wardrobe / *guardaroba*
 kitchen / *cucina*

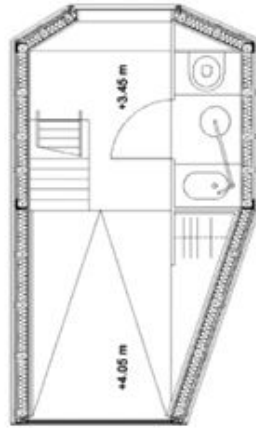
BASE UNIT 3



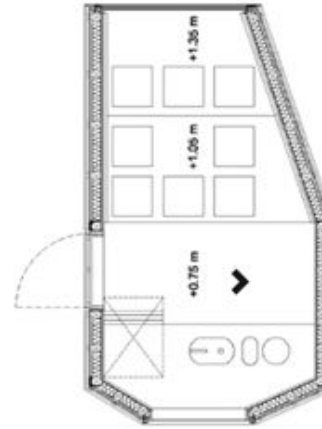
seats / *sedute*
 table / *tavola*
 double bed / *letto doppio*
 wardrobe / *guardaroba*
 kitchen / *cucina*
 bathroom / *bagno*



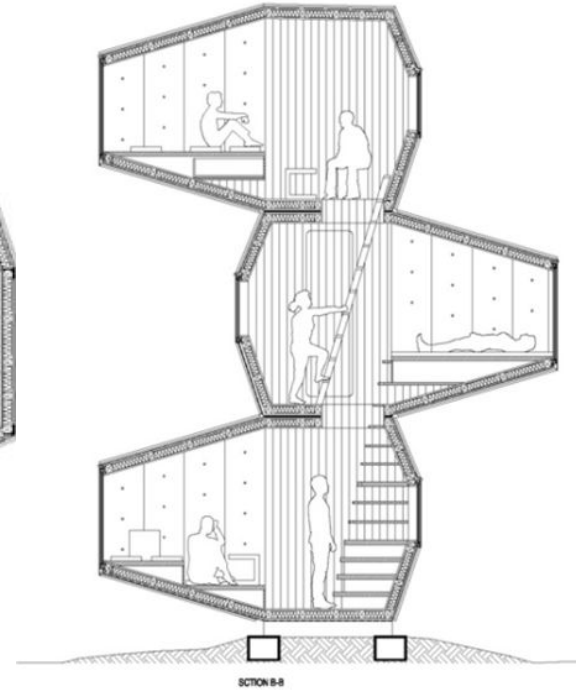
LEVEL 0



LEVEL 1



LEVEL 2



The interior treatment is changeable and flexible. Unit furnishings can be used in various site contexts.

04 Spatial Idea

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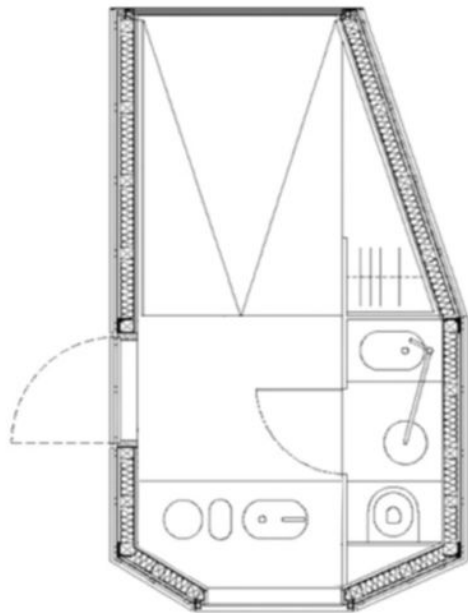
Its small size allows easy and different transport possibilities. The basic unit (4.50m X 2.50m X 2.70m) for 2 people with double bed, wardrobe, table with chairs and possibility to install bathroom, and kitchenette.



04

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Eating: 1.5 m²
Hygiene: 1.6 m²
Sleeping: 4.3 m²
Being: 2.4 m²
Storing: 0.9 m²

Total: 10 m²

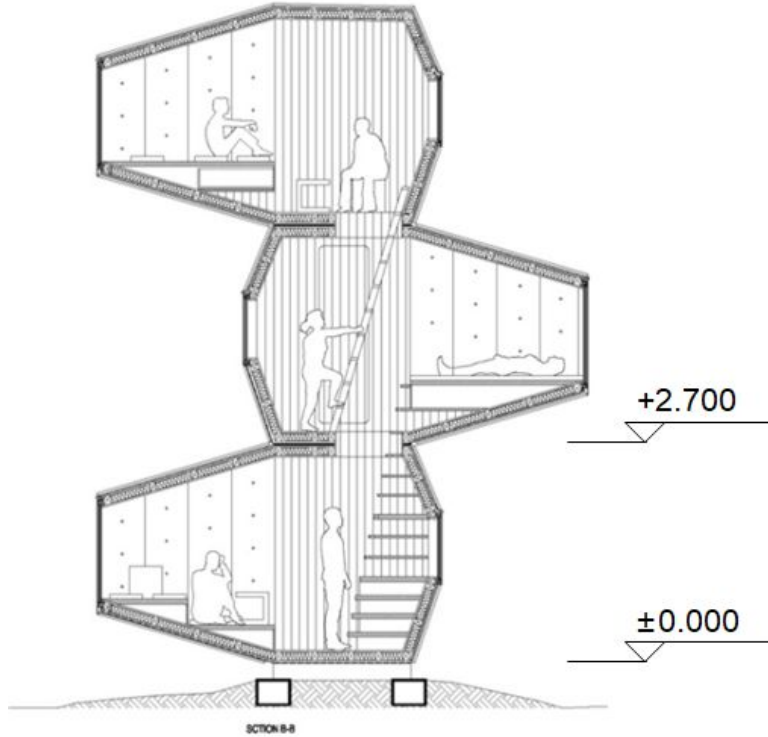


04

Unit: Height: 2.7m Volume: 29m³

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04 Façade Materials

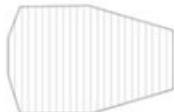
L
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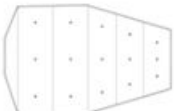


h = 2.7 m

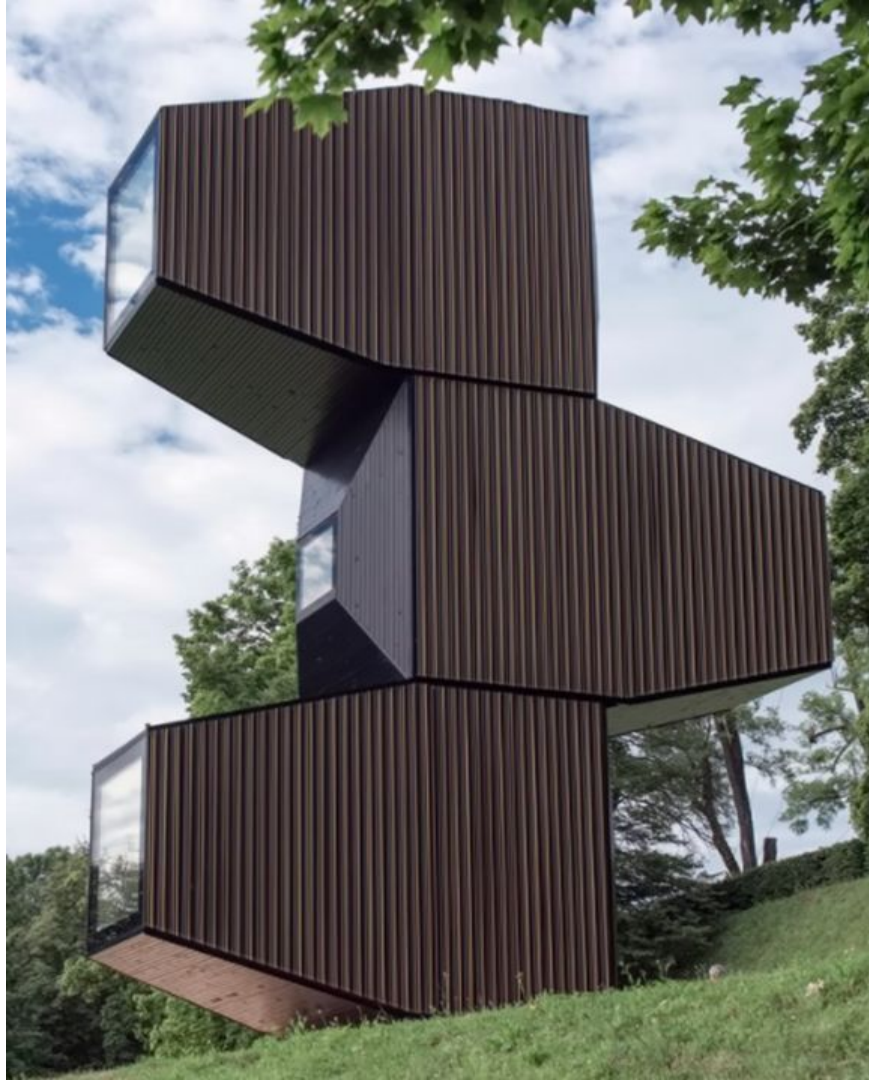
WOOD



CONCRETE TILES



ALUMINIUM



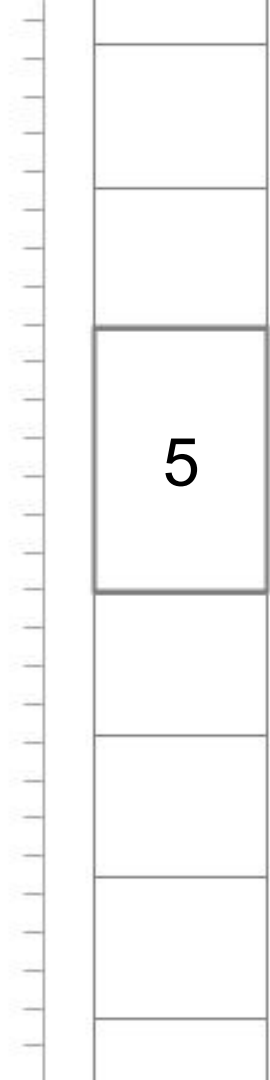
04 Structure

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The structure is made by timber frames which are reinforced by plywood boards on both sides. The cabin can be fixed on the ground either by steel anchors or removable concrete cubes.





STUDY CASE 3

STUDENT UNIT

Design by TENG BOM

05

Spatial Idea

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The area is reduced to 10 square meters through legal consent. This truly compact-living flat still offers a comfortable sleeping-loft, kitchen, bathroom and a small garden with a patio.



05

Organic shape

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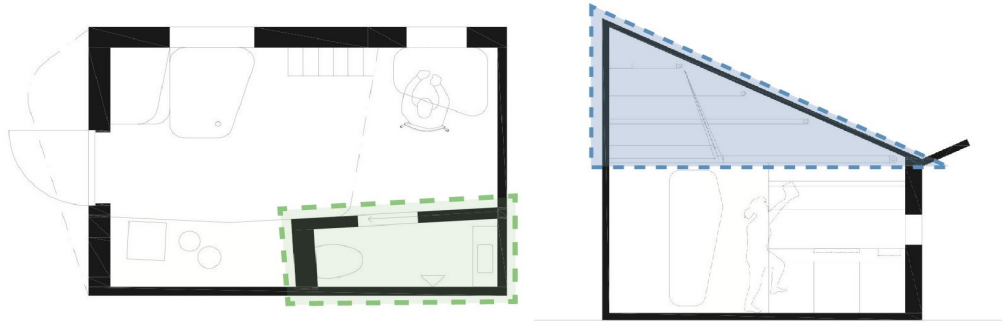
Since the team's main concern was not wasting space, but also demonstrating the unique qualities of the material, they stated that it "easier to make round corners than sharp 90-degrees" and created the organic shaped module

05

For Sleeping 2m²
For Hygiene : 2m²

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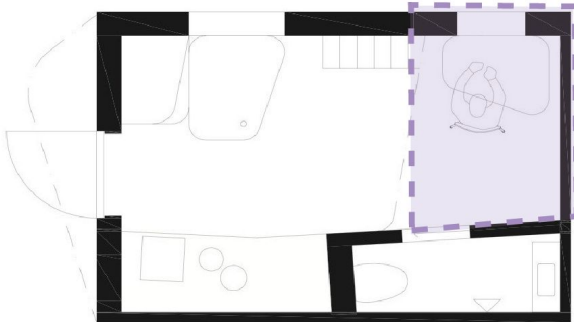
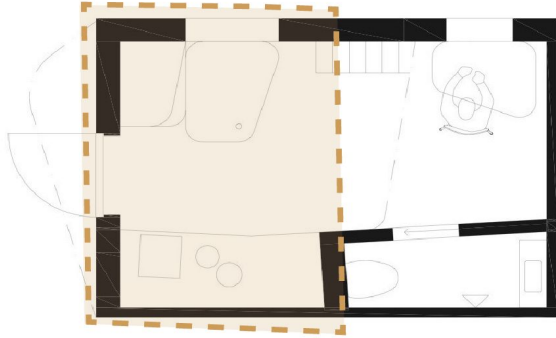
The loft for sleeping is accessed via small wooden steps fixed to the wall. And under the loft area there is a hammock.



05

For Food 5m²
For Working : 2m²

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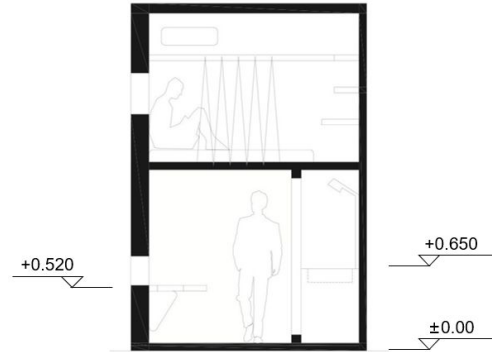
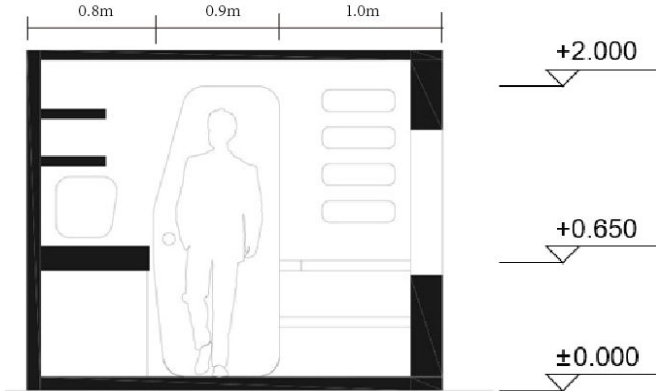
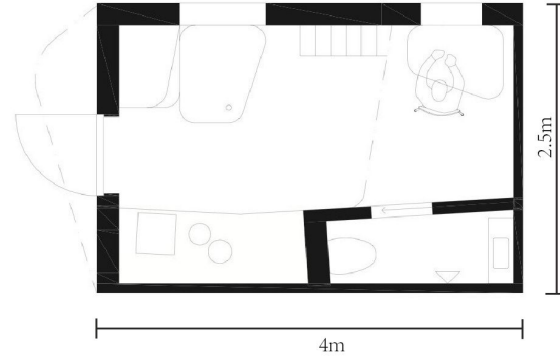
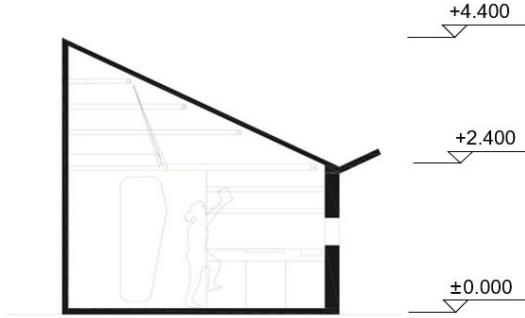


05

Dimension

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05

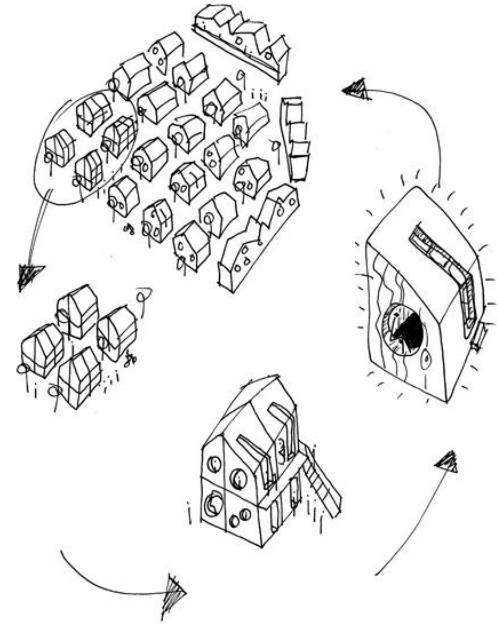
Materials and Sustainability

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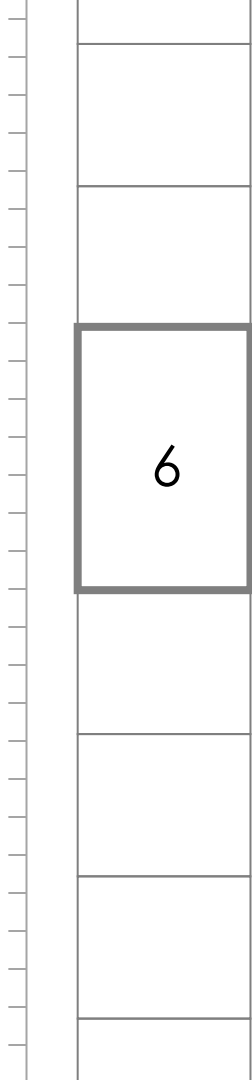
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CLT has some advantages:
Design flexibility
Prefabrication
Thermal insulation
A relatively light building material



Cause the assembling technical it used which can be done on site to reduce construction time



STUDY CASE 4

DD-16

Designed by BIO-architects

06

DD
-
1
6

Spatial Idea

DD16 is a prototype of a modular compact house that consists of 2 modules that are made at the factory.

There are no steps in the room due to height difference. And the total area is 20m², which could supply enough space for invalid people on wheelchair.

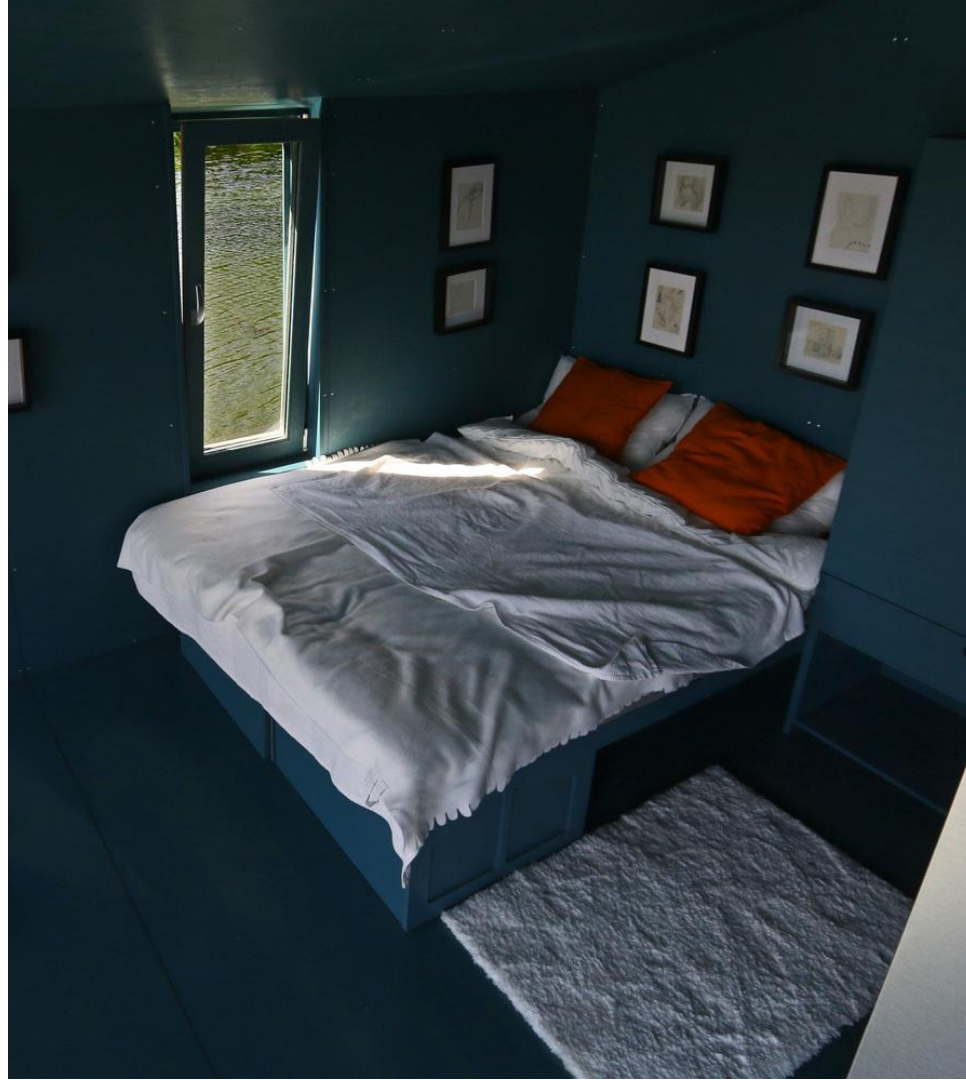


06

DD
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6



For Sleeping: 5m²



06

D
D
-
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6



**For Eating and
Cooking: 6.5m²**



06

DD
-
1
6



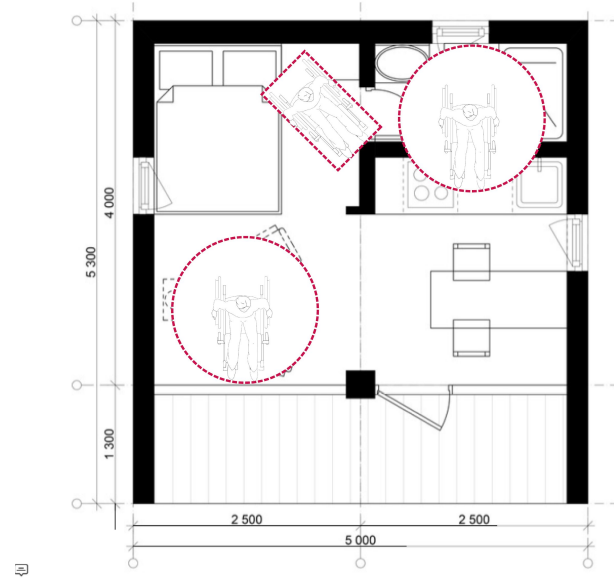
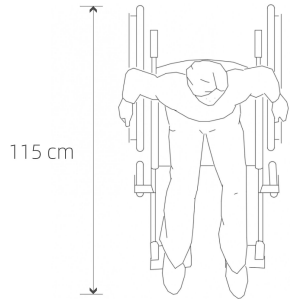
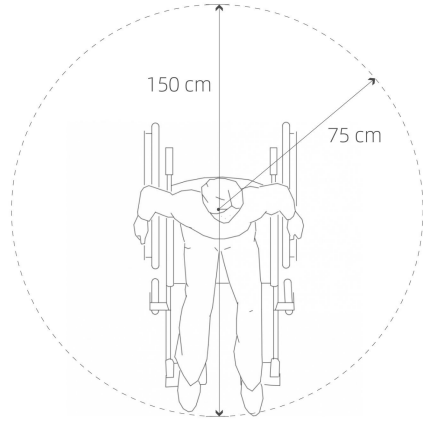
For Hygiene: 3.5m²



For Being: 5m²

06

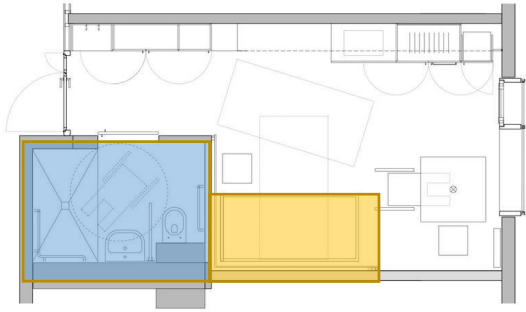
DD
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6



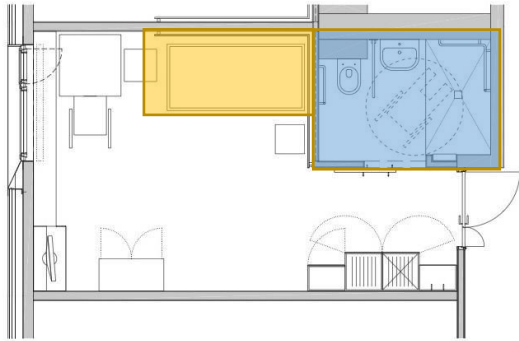
- 1 Being space is enough for wheelchair to pivot
- 2 Hygiene space is too small for wheelchair to change the direction.
- 3 There is also some waste of space.

06

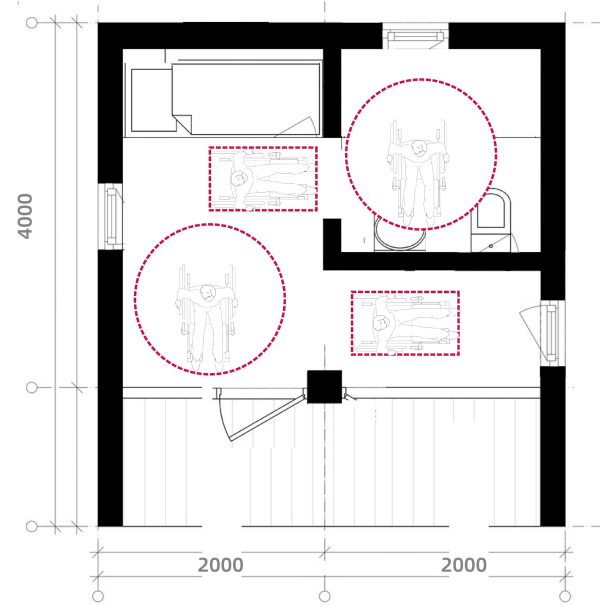
D
D
-
1
6



Nursing Home designed by Gärtner+Neururer.



Gaspoltshofen designed by Gärtner+Neururer.



1 According to the plan of Nursing Home and Gaspoltshofen, learning general layout of the unit.

2 Keeping the logic of original building, adjust the space of hygiene and reduce the width of the building to make the space more compact.

06

D
D
-
1
6



For Hygiene: 5m²



For Sleeping: 1.8m²

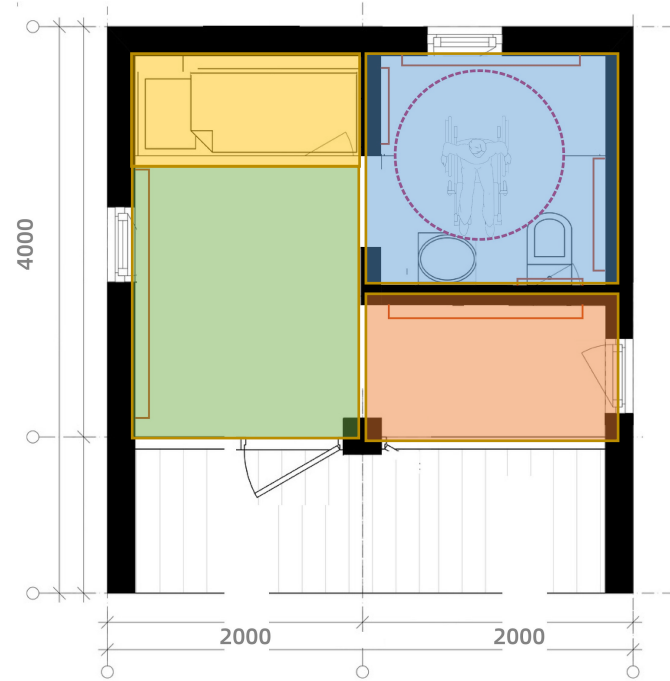


For Being: 6.2m²



For Eating: 3m²

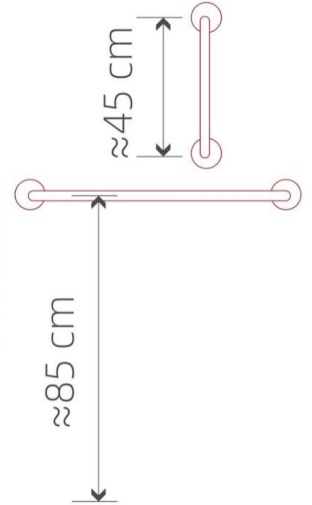
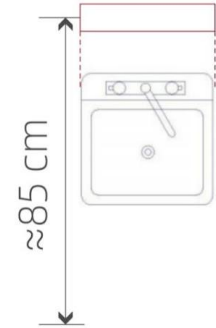
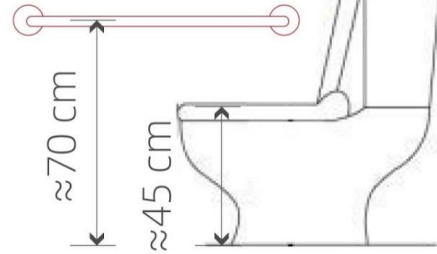
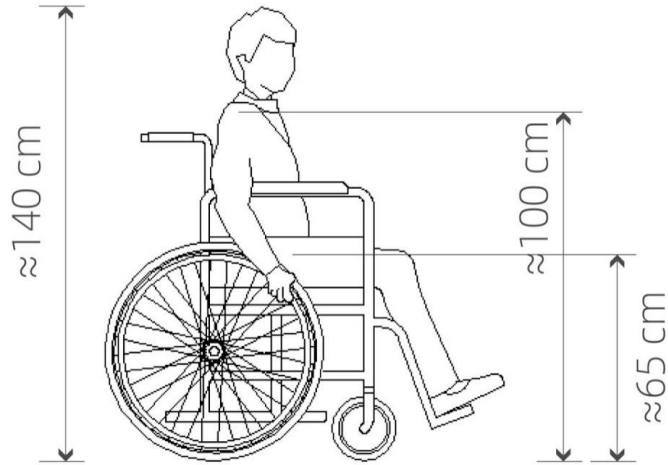
Total Area: 16m²



06

Necessary dimensions for invalid person

D
D
-
1
6



06

Materials

D
D
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The frame is made of laminated wood with milled ports. Polyurethane foam is used as an insulation, the rigidity of which helped to decrease the weight of inner finishing materials.