A SAFE SPACE FOR EVERYONE

Adaptive Reuse: Rewriting the purpouse of the Belfast Telegraph Building

AD3

A SAFE SPACE FOR EVERYONE

My proposal for the Students' Union roots from the imminent need of students of finding **a safe space dedicated to their mental health**. I have redesigned The Belfast Telegraph Building by creating spaces that can accommodate all sorts of activities ranging from boxing to pottery making, due to its **opened plan layout**. Moreover, I have juxtaposed that openness with the **'Pods of Retreat'** located in the front of the building. These do offer a more private space that, due to the material choice, allow the user to feel enclosed without being completely detached from the main area. The design wants to **disrupt the existing scheme** of the space by increasing the ceiling height in key areas as well as introducing circular geometries to the plan.

I have rewritten the building's schedule of use without falling into facadism. I aimed to **identify key characteristics** of the memorabilia of the building such as the rich aesthetic of brick, the exuberant use of columns, or the light quality that the lightwell would have previously provided; **and revitalize these to accommodate to the new users.**

My design proposal focuses on **tackling mental health through making**, which in addition to the possibility to return physically to the Studio, encouraged me to **approach this design in a more analog manner**. I used model making as a means of design development and have merged it with digital editing to bring my ideas to life.

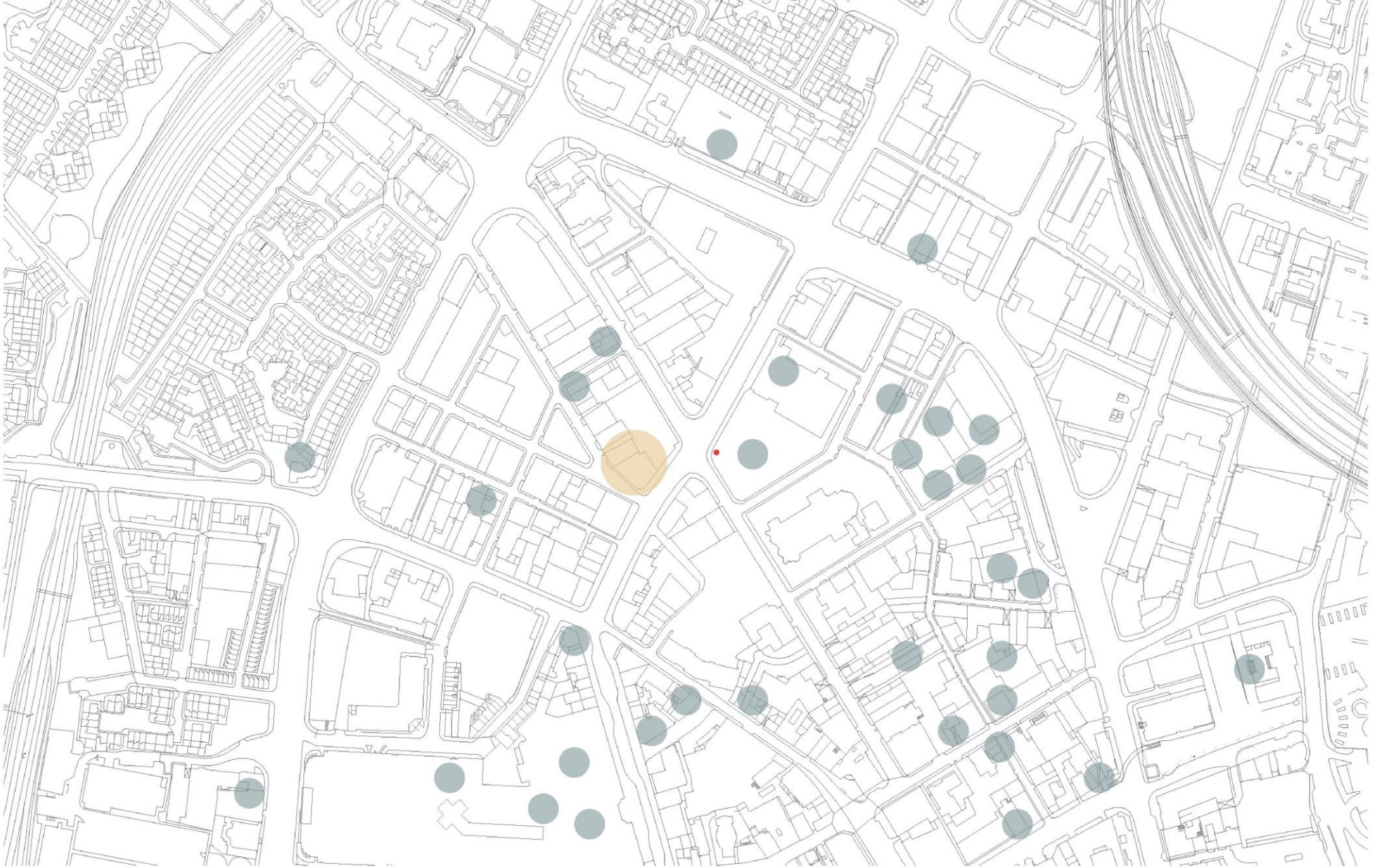
Individual Work

FINAL WORK


Alice & Brownsville
Doesn't take
Much Money for
Groceries at
BARREDAS

FINAL WORK

Collectively Produced
by the *Nolli Map Group*



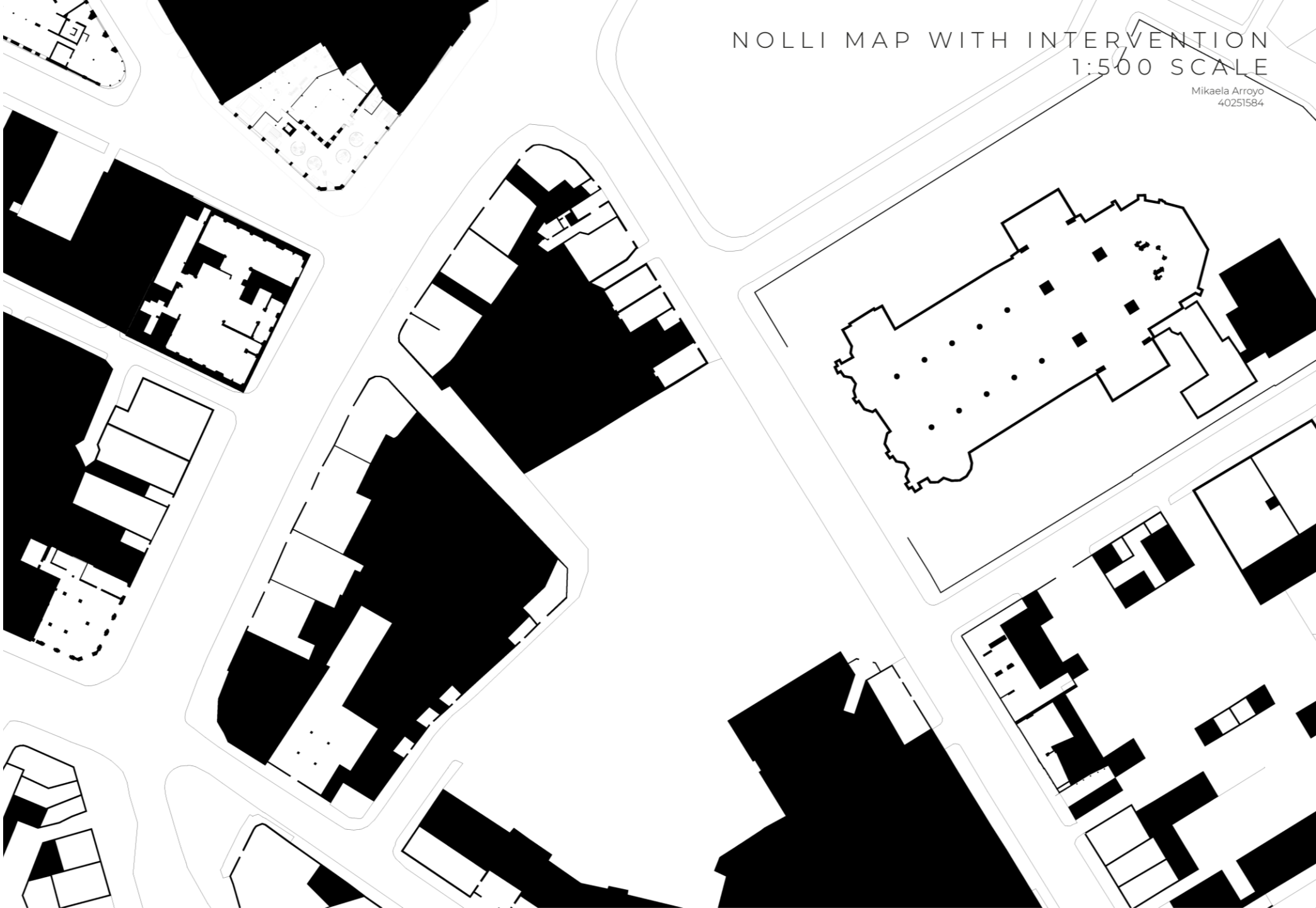
Belfast Telegraph Building

Locations of Interest to Students

Belfast
1:2000
Research to decide the focus area of the 1:500 Nolli Map

FINAL WORK

PRODUCED AFTER FINAL REVIEW



NOLLI MAP WITH INTERVENTION
1:500 SCALE

Mikaela Arroyo
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FINAL WORK

IMPROVED AFTER FINAL REVIEW

GROUND FLOOR PLAN IN CONTEXT
1:200 SCALE

Mikaela Arroyo
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Mikaela Arroyo
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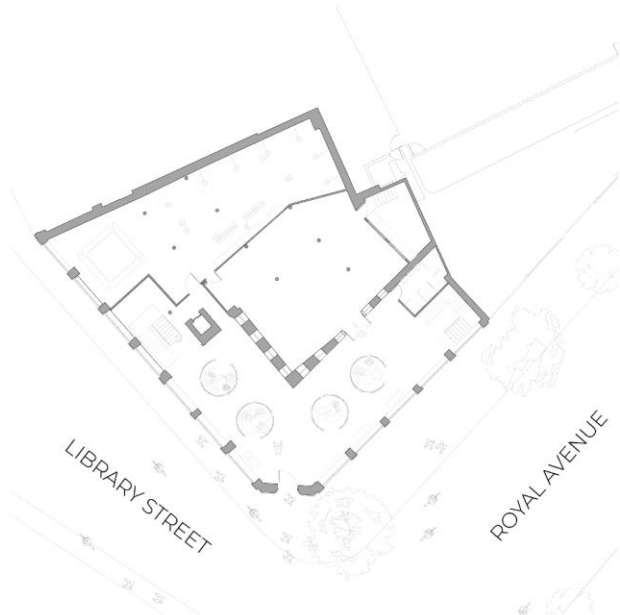
FINAL WORK

GROUND FLOOR

- PODS OF RETREAT
Semi-enclosed spaces that provide a more private area. These elements extend vertically up to the third floor and can be suitable for small groups of people as well as for private study or reading. The aim of this spaces is to provide a sense of privacy while still feeling part of the space.

- PERFORMANCE SPACE / DANCE STUDIO
An opened plan area that can acomodate both scenarios. This are is naturally lit thanks to a lightwell in the centre and the openings in the perimeter of the space allow for a an interaction with the exterior social area.

- BOXING
An ideal way to free stress is physical activity. This area will allow for people to freely enter at any time or to have scheduled classes.



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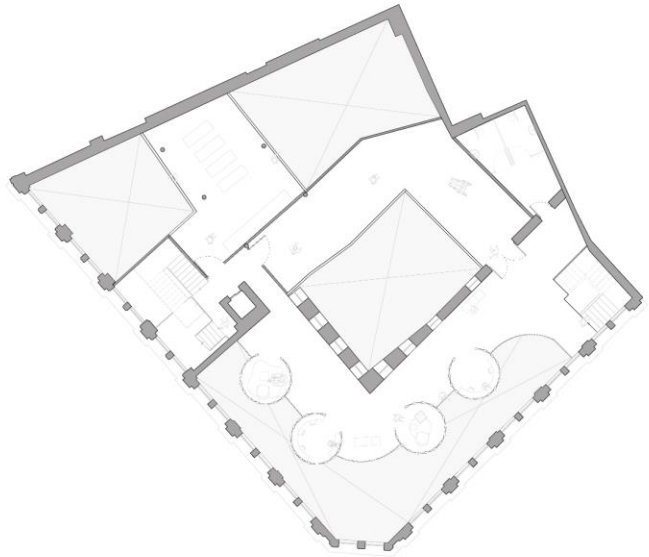

IMPROVED AFTER
FINAL REVIEW

FIRST FLOOR PLAN
1:200 SCALE

Mikaela Arroyo
40251584

Mikaela Arroyo
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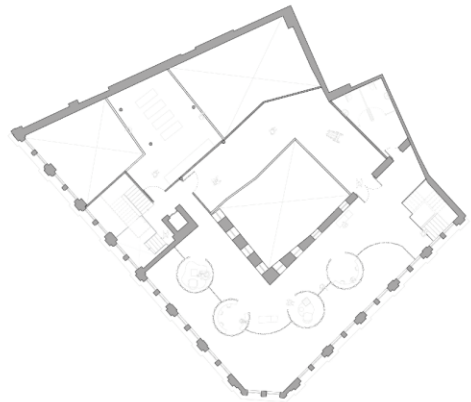
FINAL WORK

F I R S T F L O O R

- PODS OF RETREAT
Semi-enclosed spaces that provide a more private area. These elements extend vertically up to the third floor and can be suitable for small groups of people as well as for private study or reading. The aim of this spaces is to provide a sense of privacy while still feeling part of the space.

- GALLERY OF THE PERFORMANCE AREA
Provides the possibility to observe the performance in a more casual format. You can circle around the area and enhances the idea of having a performance area that is connected to the rest of the building.

- GALLERY OF THE BOXING AREA
An area dedicated to stretching, warm up or more individual exercises. This area also serves as viewing platform of the boxing ring on the ground floor.



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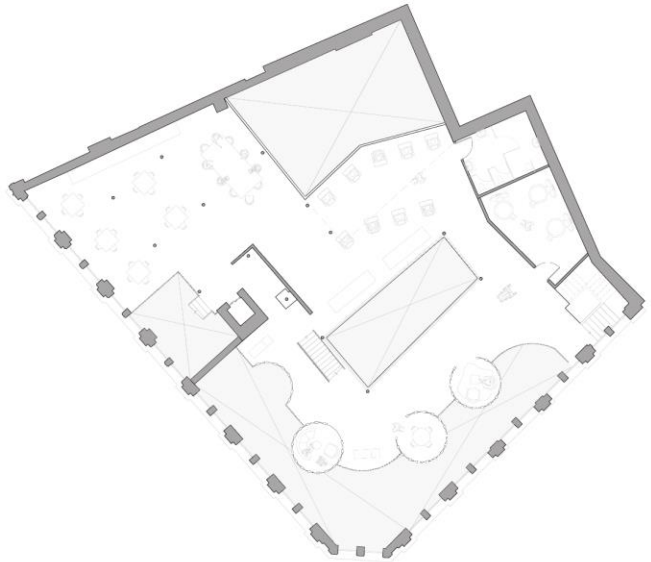

IMPROVED AFTER
FINAL REVIEW

SECOND FLOOR PLAN
1:200 SCALE

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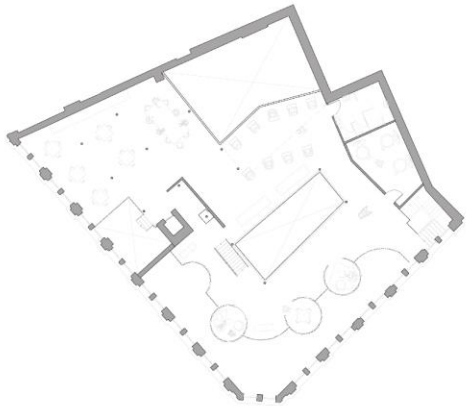
40251584

FINAL WORK

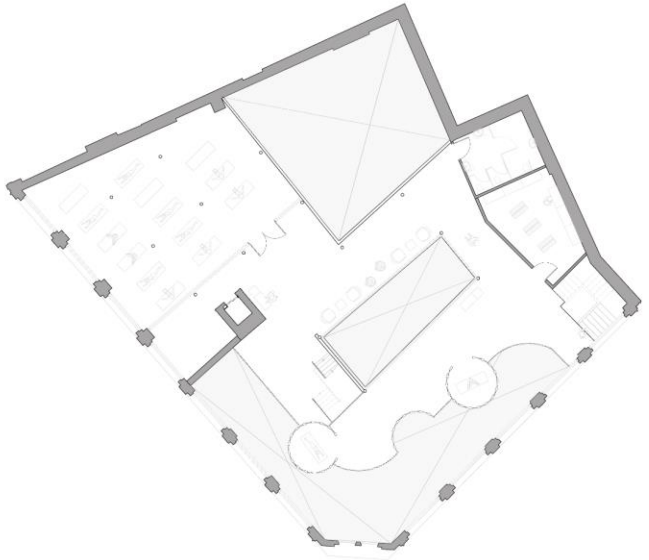
SECOND FLOOR

-POTTERY ROOM
The direct conection between hands and clay can be very calming, additionally, seeing finished pieces can create a great sense of achievement.

- WORKSHOP ROOM
In this part of the building, workshops related to making with your hands will be dictatied. The workshops will vary between jewerly making, origami, arts and craftes, etc.



FINAL WORK



THIRD FLOOR PLAN
1:200 SCALE

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FINAL REVIEW

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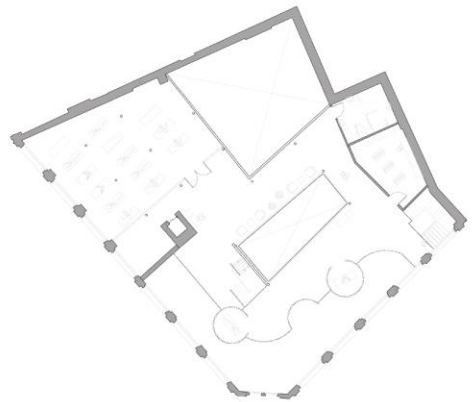
Mikaela Arroyo
40251584

FINAL WORK

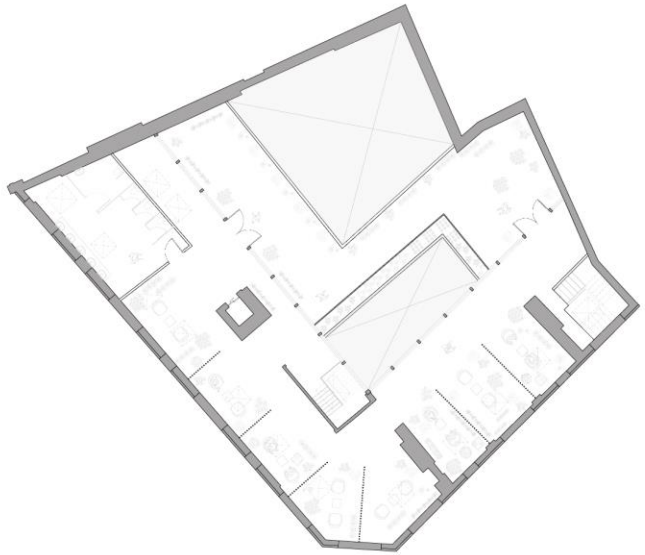
THIRD FLOOR

- YOGA AREA: GROUP SESSIONS
The opened-plan space is utilized for group yoga sessions. The eastern windows as well as the proximity to the back lightwell creates an adequate atmosphere for this activity.

- YOGA ROOMS: INDIVIDUAL SESSIONS
The retreat pods in this level are suited for individual yoga or meditation in a more private format.



FINAL WORK



IMPROVED AFTER
FINAL REVIEW

FOURTH FLOOR PLAN
1:200 SCALE

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Mikaela Arroyo
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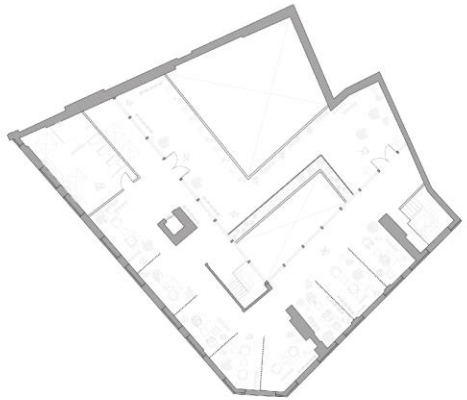
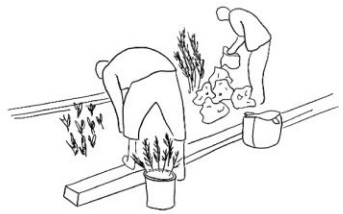
FINAL WORK

F O U R T H F L O O R

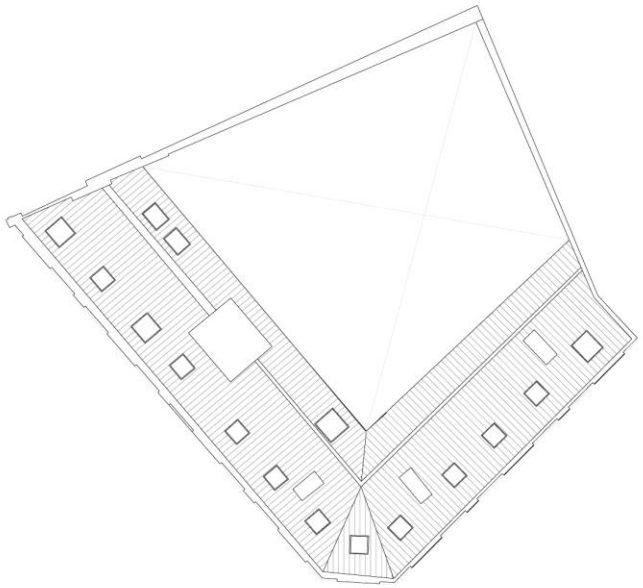
- COUNCELING AREA
An opened plan room that offers enclosure thanks to indors plants in tall pods and timber fins. Tis area is dedicated to informal counceling and private conversation.

- GARDEN AREA
A green roof does not only improve insulation in the building, but having direct acces to it can improve mental health. Additionally, a small planting patch has been incorporated. Group gardening or Ecotheraphy is very benefitial for reducung stress and anxiety levels





FINAL WORK



IMPROVED AFTER
FINAL REVIEW

ROOF PLAN
1:200 SCALE

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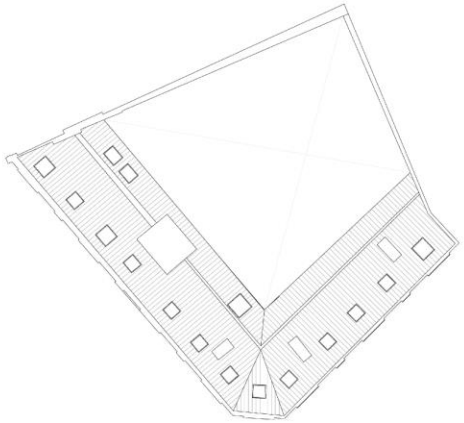
FINAL WORK

ROOF PLAN

-REUSE OF THE EXISTING ROOF
The existing roof is planned to be partially kept for this design proposal as well as all the original positioning of the skylights.



FINAL WORK

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SOUTH ELEVATION
1:200 SCALE

FINAL WORK

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EAST ELEVATION
1:200 SCALE

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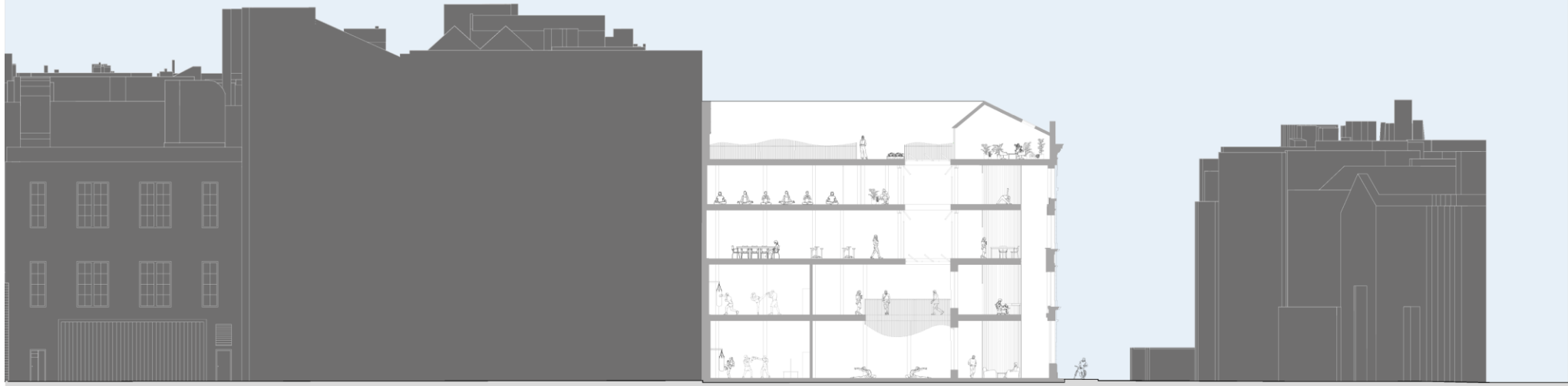
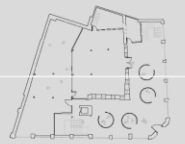


SOUTH SECTION
1:200 SCALE



FINAL WORK

COMFORT STRATEGY

- The combination of rooflights –that bring two times more daylight into the building – and vertical windows, maximise the penetration of natural light and extends the amount of time that the users want to spend inside the building.
- Opened plan rooms have been designed for group activities, and it juxtaposes with the enclosure that the 'pods of retreat' offer. Timber has been introduced in the 'pods of retreat' to create the enclosure. The use of tactile materials like timber or exposed brick enhances the connection of the user with the spaces.
- Visual monotony has been avoided by creating double and quadruple height as well as the introduction of the 'pods of retreat'
- The comfort strategy has been approached through the guidelines stated in the design guide Happy by Design by Ben Channon.

LIGHTING STRATEGY

-Quadruple height spaces have been created alongside the interior of the façade as a mean of maximising light penetration through the existing windows.
-Reinstation of the original lightwell that pierces through the building to ultimately lead to a naturally lit performance area. The internal glazing permits the natural light to reach penetrate deeper into the building.
-Additional lightwell in the norther corner of the building, improves the illumination of this area as well as providing dynamism between floors.

THERMAL STRATEGY

The thermal insulation of the floor and walls have been reinforced with recycled denim insulation.
- Implementation of underfloor heating will avoid cold spots as well as reducing the energy consumption by 15-40%.
- Both lightwells count with openable windows, this will allow for a more efficient ventilation and manual regulation of the temperature.

IMPROVED AFTER FINAL REVIEW

SECTION PERSPECTIVE
Comfort, Lighting and Thermal Strategies

Mikaela Arroyo
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FINAL WORK

RECYCLED DENIM THERMAL INSULATION

Choice of material for thermal insulation; advantages and disadvantages

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The current fashion industry uses high quantities of non-renewable resources, including petroleum and water, extracted to produce clothes that are often used only for a short period of time, after which the materials are largely lost to landfill or incineration; making the fashion industry responsible of around 10% of all greenhouse gas emissions in the world and 20% of global waste water. According to the BBC; More than two tonnes of clothing are bought each minute in the UK, more than any other country in Europe. Globally, around 56 million tonnes of clothing are bought each year, and this is expected to rise to 93 million tonnes by 2030 and 160 million tonnes by 2050. The recycling process of clothing to create new garments is very complicated because creating a piece of clothing means using different types of treads, zippers, tags and dyes; less of 1% of new garments are made from recycled fabric.
Alternatives have been investigated, and recycled denim can be used in construction as thermal insulation. This high-performance insulation material is made from scraps and clippings from the manufacture of denim clothing as well as old denim pieces of clothing that have been outworn or discarded already. Buttons, zippers and other metallic pieces are removed before the denim pieces are cut into smaller pieces to then be shredded into cotton candy- like fibre blocks. Unlike other type of clothing, denim is usually done of 100% cotton, meaning it can be broken down and repurposed very easily.

Advantages

Sustainability
- 100 percent recyclable at the end of the insulation's usable life
- requires much less energy than the manufacturing of fiberglass insulation
- waste free manufacturing process

Performance and Installation
-Excellent thermal performance
-Denim insulation's acoustic ratings are about 30 percent higher than those for traditional insulation
-Contains no volatile organic compounds or formaldehyde, which call pollute air indoors.
-does not irritate the skin or the respiratory tract as other insulation materials do

Disadvantages

-On its own, the material is not fire, pest, mildew and mould resistant, notwithstanding, treatment can be added to the manufacturing process to make it resistant to these
-Can be difficult to cut into the proper width, therefore manufacturers have added perforated seems to facilitate this
-It can cost twice as much as fiberglass for similar insulation effectiveness

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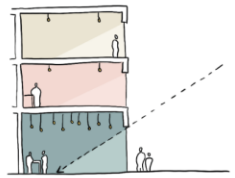
FINAL WORK

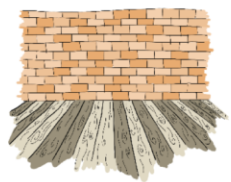
IMPLEMENTED ELEMENTS

From the design guide 'Happy by Design' by Ben Channon

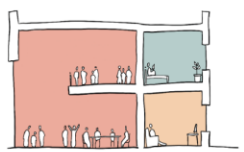


MAXIMISATION OF NATURAL LIGHT:
By combining vertical windows, two light-wells and rooflight as well as carefuly selecting the positioning of different rooms in the building.

SPACES OF PRIVACY WITHIN A SOCIAL SPACE:
The creation of the 'Pods of Retreats' allow for a sense of privacy. The materials choice creates a semi transparent screen that avoid a complete detachment of the space.



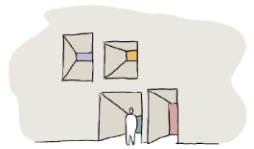
BRICK AND TIMBER - TACTILE MATERIAL:
incorporationg higly tactile materials that highlight natural imperfections, reinforces the idea of 'A Safe Space' hance it connects the user to the space.



JUXTAPOSITION OF SPACES:
Despite the general opened-plan layout of the building, the creation of 'Pods of Retreat' offer spaces suitable for small gatherings or even individual use.

ROOF TERRACE:
Habilitating an opened air area in the building that is adjecent to the counceling space, genereates a genereal atmoshpere of tranquility and relaxation.

ECOTHERAPHY:
The Roof terrace counts with a planting area where ecotheraphy can take place.



DYNAMISM AND MOVEMENT :
The curvilinearity of the 'Pods of Retreat' do also generate an impactful first impresion when entering the building.

BREAKING THE MONOTONY :
By Incorporation double and quadruple height spaces, the rythm of the space change. Additionally, the circular elements break the rectlinear layout of the existing

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FINAL WORK

IMPLEMENTED ELEMENTS

From the design guide 'Happy by Design' by Ben Channon

ACTIVITY VS INACTIVITY:
Eventough the building is focused on mental health approached through active making, places of inactivity are introduced in every floor.

VARIED CEALING HEIGHTS:
The different celing height speak of a playful general layout. The quadruple height area, allows for the light to enter the building through all the facade's openings.

OPENED PLAN LAYOUT:
Most of the spaces are expressed through opened layout plan, allowing for flexibilty of internal arrangements and deeper light penetration.

All this listed elements can be crossed referenced in the ' Notes on HAPPY BY DESIGN' document by utlizing the icons to identify every applied element of the guide in the final design proposal

FINAL WORK

Notes on ‘HAPPY BY DESIGN’ by Ben Channon

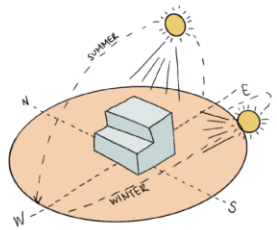
‘[...] we now spend more than 80% of our time in buildings, and this can affect our mood both positively and negatively. The quality of the places where we live, work and study therefore impacts our happiness significantly.”
-Ben Channon

1.- LIGHT

‘Natural daylight is one of the most fundamental human needs. Its significant impact on human happiness and on our mental wellbeing.Small changes in the amount of daylight we do receive can impact our mood, productivity and even our circadian rhythm.’

Oreintation

To maximise solar gains, windows should be orientated within 15° of true south. Regularly northern light is not recommended, but spaces such as libraries or galleries are the exception, where direct sunlight can often damage books or displays.

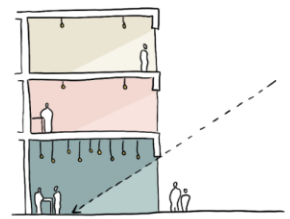


Shadows

Aim for an angle of greater than 25° as a rule of thumb for good daylighting. Neighbouring buildings, trees and even other elements of the building must be considered when doing this study.

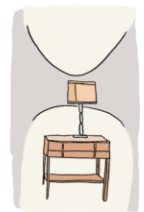
Windows

Windows on upper storeys get more daylight, as a result of the increased amount of visible sky. Additionally, deep plans should be avoided to have an adequate light penetration. The general rule of thumb suggest that the depth of a room should not be greater that 2-2.5 times the height of the window.
Another alternative is the use of rooflight, which can bring two times more daylight into the space than vertical windows, but don’t offer views to the exterior. The combination of both elements can become the perfect balance to improve mental health



Artificial Light

Indirect light has been shown to improve productivity and alertness; therefore, it should not be overlooked in the design process. While soft white light can communicate calmness and relaxation, brighter colours can convey energy but can also make people experience emotions more intensely, which can impact negatively in our mental health.



‘Pockets of Calm’

Quiet alone time is shown to help our brains reboot and unwind, allowing us to think more clearly. Artificial light can be a fantastic way to create a sense of privacy or escapism. While it often tempting to light all areas brightly and evenly, being selective can be far more effective.

FINAL WORK

Notes on ‘HAPPY BY DESIGN’ by Ben Channon

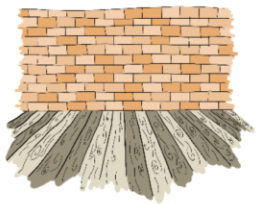
‘[...] we now spend more than 80% of our time in buildings, and this can affect our mood both positively and negatively. The quality of the places where we live, work and study therefore impacts our happiness significantly.”
-Ben Channon

2.- COMFORT

‘[...]Happiness will come through active engagement with our own physical sensations. If we are uncomfortable, we are far less likely to want to engage with our bodies and we therefore tend to switch off from the physical world, which can be detrimental to our mental well-being.’

Use of Tactile Materials

Touch is the most closely linked sence to our emotions. Therefore the use of real materials like timber flooring or exposed brick finishing can enhance the feeling of closeness between the user and the space.



Temperature and Ventilation

One of the factors that impact the levels of comfort the most is the temperature. Thermal insulation should be prioritized. Notwithstanding, the implementation of openable windows is fundamental for adequate air quality. This has also proved to enhance a connection with the exterior and boost energy levels.

Noise

Intrusive noise can make people feel aggravated and unsafe, leading to the increased possibility of panic attacks and anxiety. A proper handling of airborne sound transmission is key. Additionally, noise sourcing from roads can disrupt sleep and negatively impact concentration and productivity.

FINAL WORK

Notes on ‘HAPPY BY DESIGN’ by Ben Channon

‘[...] we now spend more than 80% of our time in buildings, and this can affect our mood both positively and negatively. The quality of the places where we live, work and study therefore impacts our happiness significantly.”
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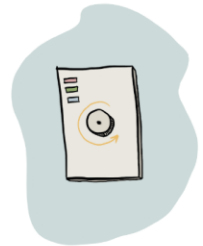
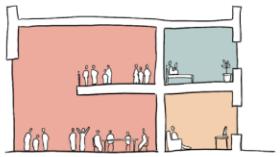
Adaptability of Spaces

This is the building’s capacity to be reappropiated for alternative uses. Small elements such as a light dimmer insted of a regular ‘on and off’ switch can help the user to adapt the space to their specifics needs and desires. This enhances the sence of control, resulting in happier and more empowered users. The lack of visual elements of control can lead to the occupier to resent the place.



Privacy

Despite the inmediate impulse of designing every space as a social space, experts estimate that 1/3 - 1/2 of people are introverts, meaning that areas that are not over stimulsting or social shoud be available as well. Privacy supports a sence of autonomy and individuality and the lack of it can result extreamly upsetting for the user.



3.- CONTROL

‘The perception of control is closely linked to our happiness. Psychological studies have shown that if we believe we have more control we feel more content, even if our actual levels of control are unchanged. When designing any building it is therefore paramount to ensure that its users feel like they have control over their immediate environment.’

FINAL WORK

Notes on ‘HAPPY BY DESIGN’ by Ben Channon

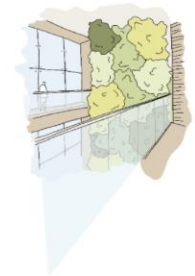
‘[...] we now spend more than 80% of our time in buildings, and this can affect our mood both positively and negatively. The quality of the places where we live, work and study therefore impacts our happiness significantly.”
-Ben Channon

4.- NATURE

‘Spending time in nature has been shown unequivocally to improve our happiness and mental wellbeing. It has been proven to reduce stress, improve our memories, and make us kinder and more creative. However, with more than 50% of the world’s population now living in cities and this figure set to rise, many of us are losing this vital connection with the outside world. This places a responsibility on designers to incorporate natural elements into buildings and the wider urban environment.’

Bringing Nature In

Biophilic design has been shown to reduce stress and increase the sense of being ‘home’. Plants offer a number of benefits to mood and happiness, as well as providing the emotional rewards associated with caring for and nurturing a living thing. They also clean the air we breathe, simultaneously improving our physical and psychological wellbeing.



Views of Nature

Simply looking at nature has been shown to improve our mood. Coupled with the benefits to our eyes resting from the damaging light from screens, the value of good views even extends to preventing or relieving headaches.

Roof Gardens

The roofscape makes up between 15-35% of the total land area of cities. A roof garden can provide cleaner air and less noise pollution than at street level. Moreover, humans also gain a feeling of taking refuge as we look down at the world from above, which is linked to a sense of safety and protection and can make us feel calmer.
Green roofs can improve the insulation of buildings and increase biodiversity in the area.

Ecotherapy

This group gardening technique has proved to battle depression and improve self-steem as well as helping people to feel included and empowered.

FINAL WORK

Notes on ‘HAPPY BY DESIGN’ by Ben Channon

‘[...] we now spend more than 80% of our time in buildings, and this can affect our mood both positively and negatively. The quality of the places where we live, work and study therefore impacts our happiness significantly.”
-Ben Channon

5.- AESTHETICS

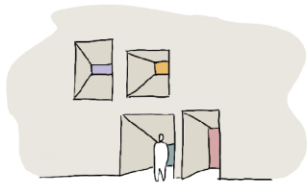
Sight is undeniably one of our most important senses. Research into happiness has shown that visually attractive things and places make us unequivocally happier. Everyone has a different sense of aesthetics and what is pleasant to the eye or not, however, there are some rules that can be followed that will result in a visually more pleasant design and make us happier.

Colour

It has been recently discovered that colour can have a greater effect on our disposition. Colour can be used to create a mood or an atmosphere at very little cost, and can even encourage socialising, evoke calmness or improve our focus. For example, yellow is a colour often associated with happiness and sunlight. Green and blue are generally considered more calming, and are better suited for quiet spaces.

Moments of Joy

We generally let negative events affect our brains more than positive ones, so we must embrace and encourage moments of joy whenever possible The design of many buildings nowadays is often heavily focused around regulations, cost-efficiency and buildability. While these are all key considerations, it is important not to forget that using these buildings must be a pleasurable experience.

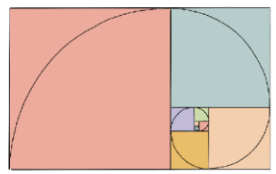


Avoid Visual Monotony

The lack of visual variety can lead to boredom, unhappiness and is linked to higher mortality rates. Interesting accents should be a fundamental part of the design, but it is very important that the layout of the building is highly legible in all of this scales. The primary entrance should be indentifiable as well.

Human Proportions

While it’s difficult to say with certainty that particular proportions make us happier, some are definitely more pleasing to the eye; for example the golden ratio – where the length of an object is roughly one and a half times its width. Additionally, we find simple shapes such as squares or perfect circles pleasing.



FINAL WORK

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-Ben Channon

6.- ACTIVITY

We are all aware of the huge physical benefits of being active, but exercise also creates significant changes within our brains and can have an enormous impact on our mental wellbeing. Exercise releases hormones known as endorphins which activate the body’s opiate receptors, improving our mood and reducing pain. Many authors have argued that the benefits of being active go even further than this, including giving us a clearer sense of identity and independence.

Encouraging Activity

Designers have a reasonable degree of control over how people use their buildings, even if a building’s inhabitants are not directly aware of it. They should therefore try to encourage or persuade people to be active. For example, a succesful and creative staircase design can make user take the stairs instead of the lift.

Spaces for Excercise

Shared public outdoor gym facilities have increased dramatically in popularity in recent years. These are great as they cost local councils very little to maintain and are free to members of the public, many of whom might not otherwise be able to gain access to expensive equipment. However, as set out above, they should be located where they are easy for people to access and use. Showers and changing facilities should also be conciderd to facilitate the regular use of the outdoors gyms.

Places of Inactivity

A phrontistery is the name for a place for quiet thinking or reflection Rest is incredibly important for both body and mind. This doesn’t necessarily mean sleeping, however. ‘Quiet restfulness’, which means sitting or lying awake but with our eyes closed, is also very beneficial. These spaces should be designed to provide a true escape from the stresses of life. This means making them well acoustically insulated and dimly lit if possible. Furniture should be soft and inviting.

FINAL WORK

Notes on ‘HAPPY BY DESIGN’ by Ben Channon

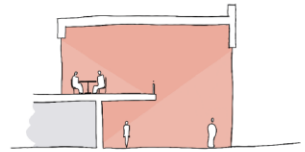
‘[...] we now spend more than 80% of our time in buildings, and this can affect our mood both positively and negatively. The quality of the places where we live, work and study therefore impacts our happiness significantly.”
-Ben Channon

7.- PSYCHOLOGY

Every day, our moods are affected by things we may not even perceive. These can be things we have little control over, such as the weather or the way a person speaks to us. However, there are many aspects of daily life that impact our psychology which have been designed by other people, and these can affect us either positively or negatively.

High cealings

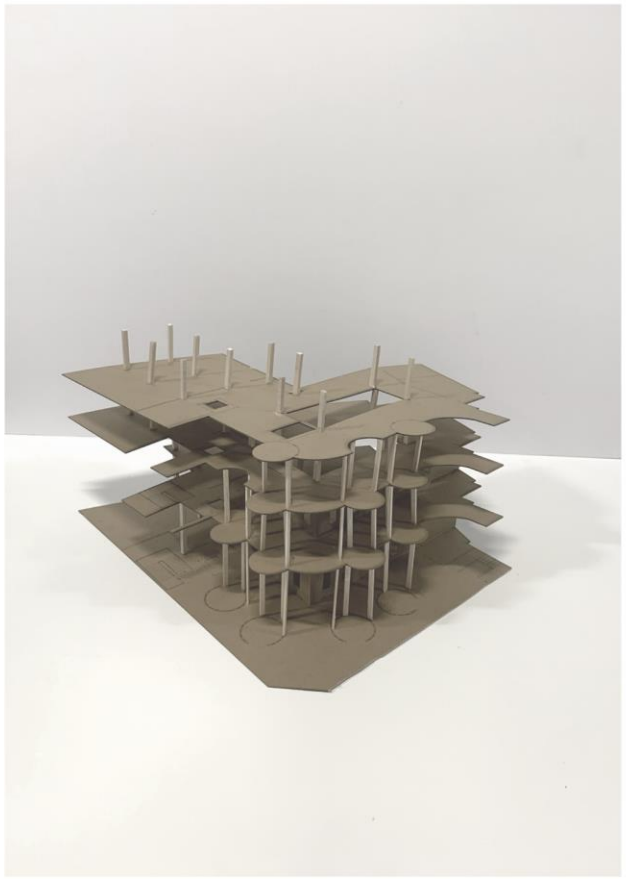
High ceilings are often sacrificed in buildings due to physical or financial constraints. However, they have been shown to create a sense of freedom and improve happiness. It is often worth sacrificing some upper floor area if there is the possibility to make the living space below more pleasant.

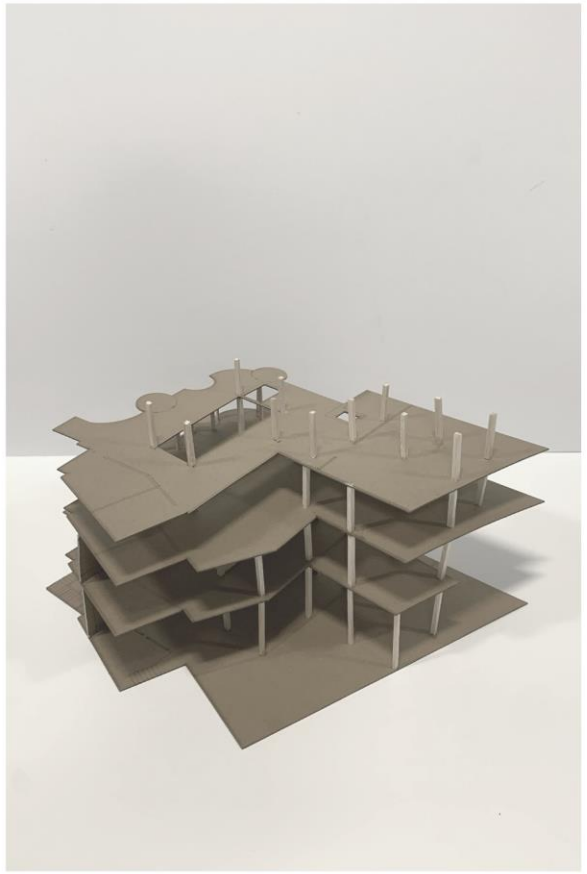


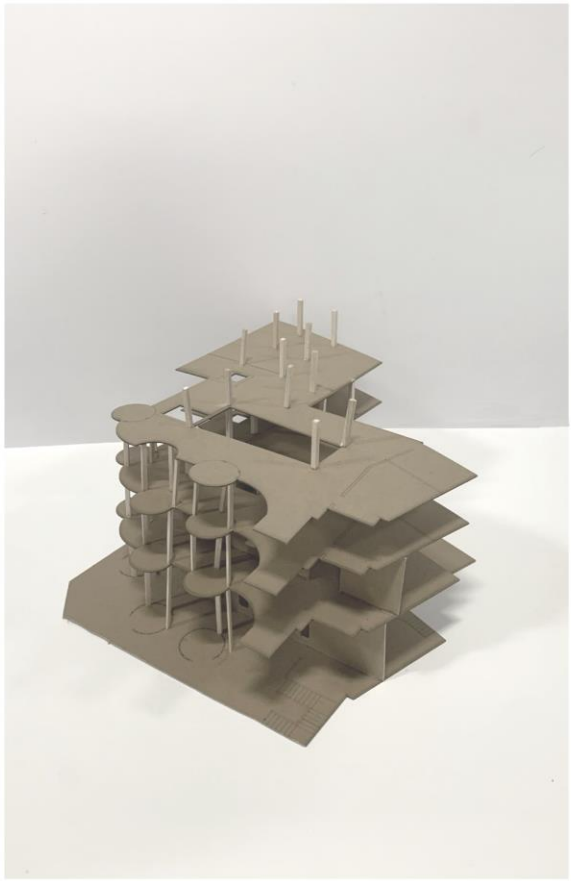
Opened Plan

open-plan buildings offer many elements that can benefit happiness. Psychologically they can create a greater sense of space, which can make us feel happier and more relaxed. Additionaly an opened plan layout encourages a more social behaviour and prevents isolation

FINAL WORK







STRUCTURAL LAYOUT
1.100 MODEL

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FINAL WORK

CORRELATION OF ELEMENTS
1.100 MODEL

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DEMOUNTABILITY
1.100 MODEL

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FINAL WORK

USE OF SPACES
BASED ON 1.100 MODEL

PRODUCED AFTER
FINAL REVIEW

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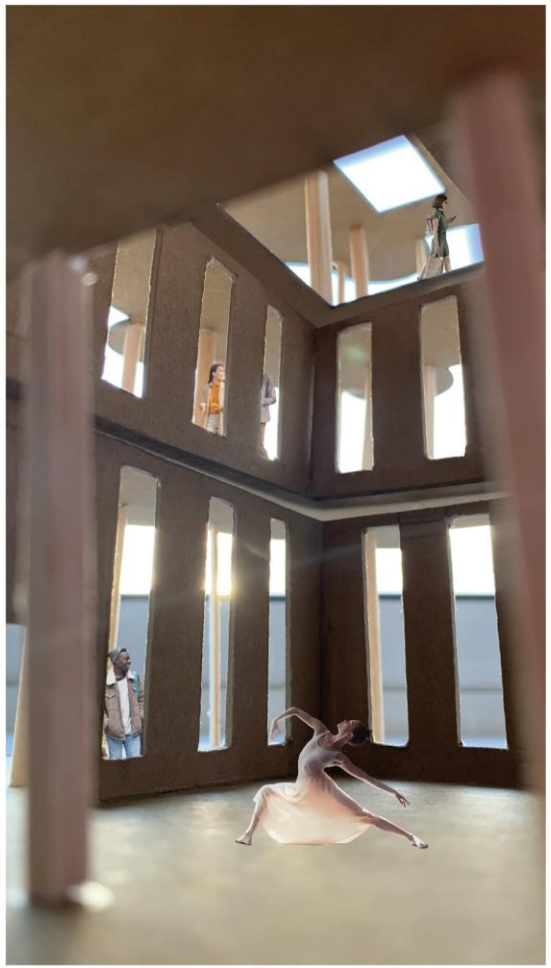
FINAL WORK



USE OF SPACES
BASED ON 1.100 MODEL

PRODUCED AFTER
FINAL REVIEW

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FINAL WORK

PODS OF RETREAT
1.33 MODEL

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FINAL WORK

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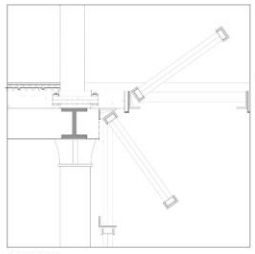
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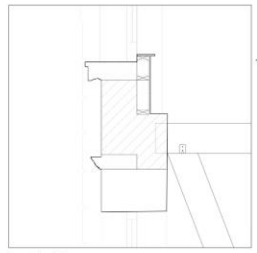
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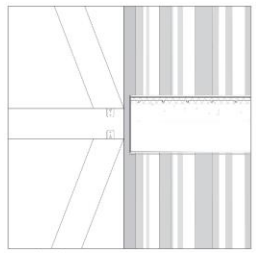
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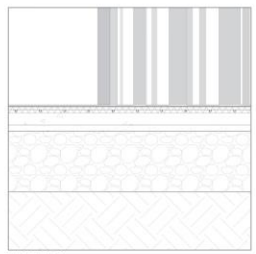
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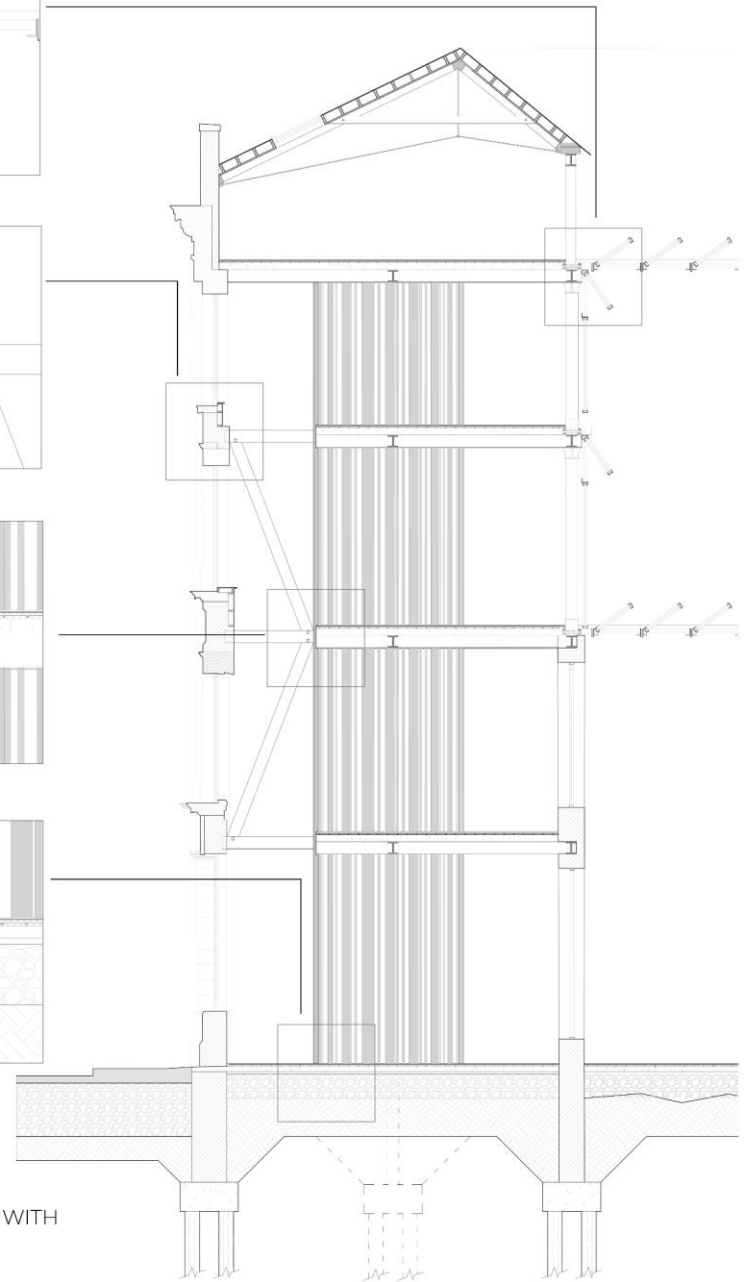
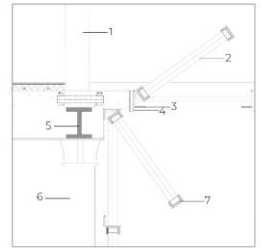
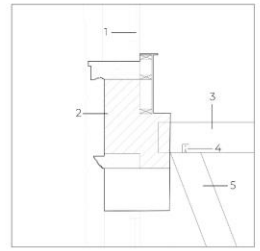


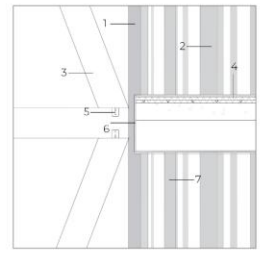
1.50 DETAILED SECTION WITH
1.20 KEY JUNCTIONS



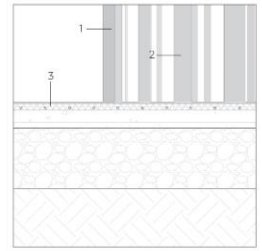
1.- **NEW** Timber beam to support the roof
2.- **NEW** 900mm openable window in glazed roof
3.- **NEW** 150x90mm L shaped clipper
4.- **NEW** Aluminium window gutter
5.- **EXISTING** H-Shaped beam
6.- **EXISTING** Steel column
7.- **NEW** Aluminium window frame



1.- **EXISTING** Window
2.- **EXISTING** External sandstone and brick wall
3.- **NEW** 250mm timber beams
4.- **NEW** 55mm angle barcket
5.- **NEW** 250mm diagonal timber beams



1.- **NEW** Non-structural timber fins
2.- **NEW** Structural timber fins
3.- **NEW** 250mm diagonal timber beams
4.- **NEW** Floor buildup:
- 10mm Bamboo floor finishing
- 5mm Aluminium conductiong sheet
- 50mm Thermal and acoustic repurpoused denim insulation
- 25mm Underfloor heating(pies and Joists)
- 100mm concrete slab
- **EXISTING** 250mm Steel beam
- 10mm Plaster roof finishing
5.- **NEW** 55mm angle barcket
6.- **NEW** 10mm timber finishing
7.- **NEW** Structural timber fins



1.- **NEW** Non-structural timber fins
2.- **NEW**Structural timber fins
3.- Floor Buildup:
- 10mm Bamboo floor finishing
- 5mm Aluminium conductiong sheet
- 50mm Thermal and acoustic repurpoused denim insulation
- 25mm Underfloor heating(pies and Joists)
- 100mm concrete slab
- **EXISTING** 50mm Sand
- **EXISTING** 500mm Hardcore
- **EXISTING** 788mm Earth

Mikaela Arroyo
40251584

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FINAL WORK

NEW NON-STRUCTURAL TIMBER FINS

- Provide enclosure to the 'Pods of Retreat'

NEW STRUCTURAL TIMBER FINS

- Provide enclosure to the 'Pods of Retreat'
- Structurally support the weight of floorplates of the 'Pods'

EXISTING FLOORPLATE

- Alteration in the geometry by removing surface area
- White plaster roof finishing

NEW TIMBER BEAMS

- Structural Addition
- Imbeded in the brick wall and attached to the vertical timber fins

EXISTING LOAD BEARING WALL

- Internal brick cladding
- Addition of openings that grant access to the performance area

EXISTING FACADE WALL

- Internal brick cladding
- Detached from the Floorplates

EXISTING FLOORPLATE

- Alteration in the geometry by removing surface area
- Bamboo floor finishing

MATERIAL ASSEMBLY
Examining the Integration fo the new intervention in the existing building

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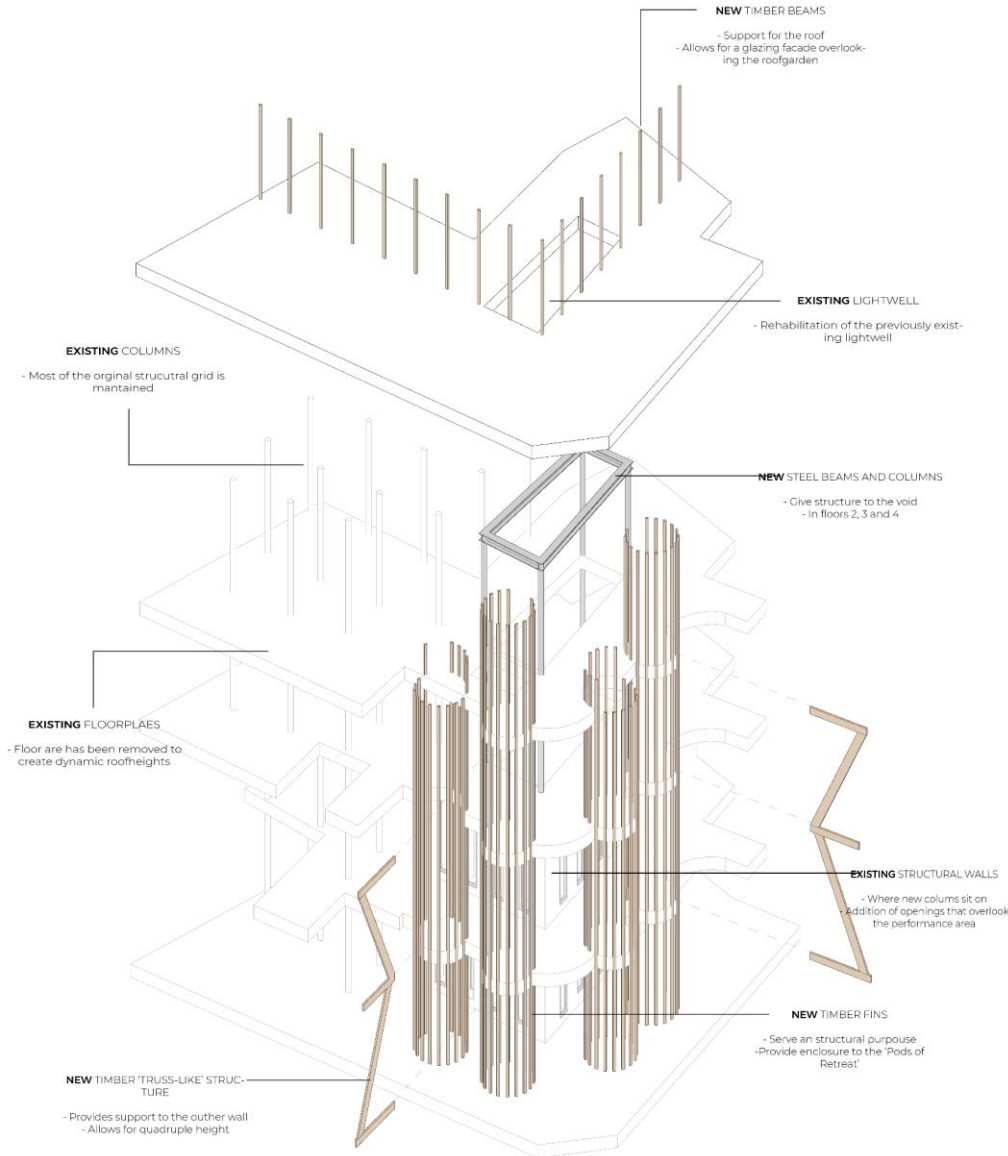
FINAL WORK



STRUCTURAL DIAGRAM

FINAL WORK

Oral histories and collective memories of previous users of the building were collected and summarized into a podcast.

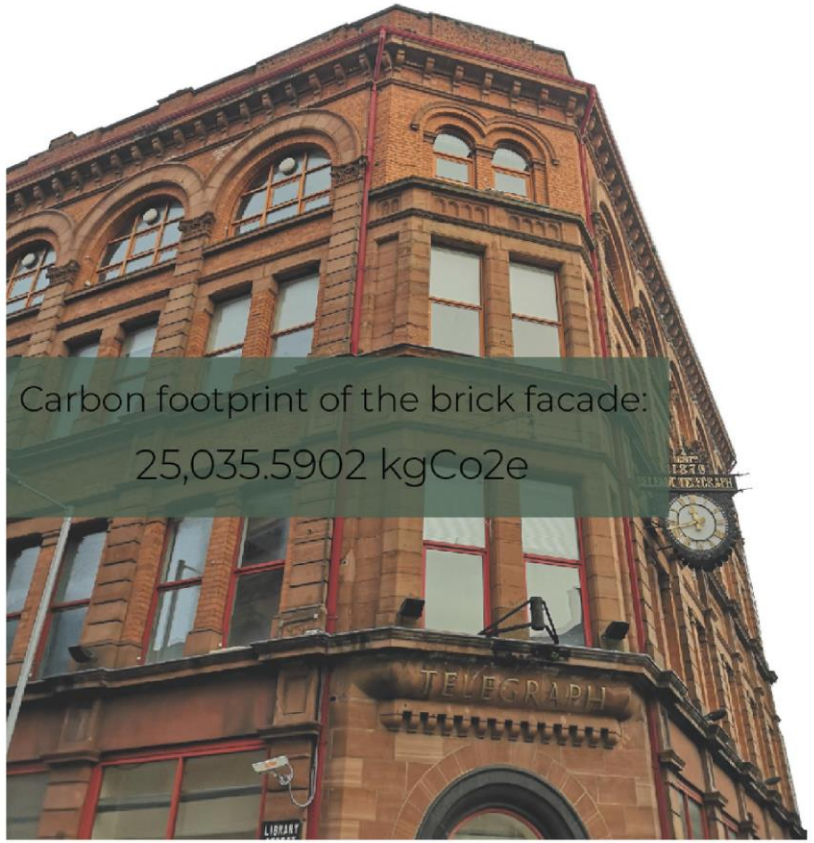
It's accessible through the following QR

ENVELOPE STUDY

FINAL WORK

THE BRICK FACADE
Carbon Footprint

9 producst and activities with a similar carbon footprint as the bricks in the facade of the building



PRODUCTS

The production of...	generates...	How many it takes to reach a similar footprint as the one of the brick facade's...
1kg of hard cheese	12 kg of Co2	aprox: 2 086 kg
1 large cheese Burger	2.5 kg of Co2	aprox: 10 014 units
Polyester T-shirt	5.5 kg of Co2	aprox: 4 352 units

ACTIVITIES

Activity:	generates...	How much it takes to reach a similar footprint as the of the brick facade's...
1 hour of mobile phone use a day	1250 kgCo2 per year	aprox: 20 people using their phones for 1 hour a day during a year
1 use of a tumble dryer per weak	100 kgCo2 per use	aprox: 250 uses
use of treadmil 30 min a day, 3 times a week	70 kgCo2 per year	358 thredmil users a year
typical year of incoming E-mails per person	135 kgCo2 per year	aprox: 185 E-mail users per year
return flight Belfast-Amsterdam (1 passanger economic class)	220 kgCo2 per flight	aprox: 113 passengers
Use of avergae petrol car Belfast-Dublin (166 km)	50 kgCo2 per car	aprox: 500 trips

Mikaela Arroyo 70% Holly Boal 30%

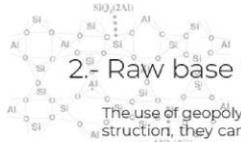
FINAL WORK

BRICK RECYCLING OPTIONS
9 alternative uses for brick after the Telegraph Building is demolished

Bricks are made of all natural materials and have a life span of 200 years. In case of a demolition, there are many ways they can be repurposed and prolongue their utility life.

1.- Production of new Bricks

Every repurposed brick that is used instead of a new brick, saves the environment 0,5kgCo2. The Danish company Gamble Muisten Aps has perfectioned a cleaning method for bricks, allowing 30 million bricks to be recycled per year in Denmark only. The energy saved in comparison of creating new bricks is of 98% and is equivalent to the energy needed to heat 3000 one-family houses annually. By recycling building not only the embodied energy is preserved, but the 'embodied history' is passed on to new buildings.



2.- Raw base for Geopolymers

The use of geopolymers is relatively new in construction, they can be added to concrete, soils stabilizers and serve as lieu of conventional binders of cement and lime. They mechanical performance achieved by adding geopolymers is considerable and is a great alternative for reducing Co2 emissions and energy consumption.

3.- Replacement of river sand in cement and lime mortar

The excessive usage of river sand in construction has led to a consideration of different materials to replace it, crushed brick has excellent qualities to replace sand. When 30% of the sand aggregate used for the production of mortar is replaced by crushed brick, a steady increase in compressive strength and split tensile strength is observed.

4.- Ornamental Gravel

Old brick can be crushed and become ornamental gravel for gardening. Additionally, it has an excellent frost resistance, therefore its ideal for areas with extreme weather conditions

5.- Gardening

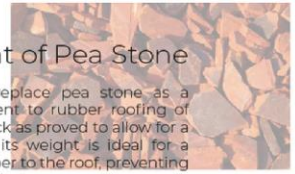
Recycled brick can be an ideal and inexpensive tool for landscape design of gardens given its excellent weather performance and durability. Bricks can be used as retaining walls, bed edging, pathways and even Bug hotels.

6.- Outdoors's furniture and fire pits

Brick is very friendly to the user and there is no need of an expert to build simple outdoors furniture out of brick. Moreover, this furniture will be tailor made for the users needs and will be very durable and inexpensive.

7.- Tennis court surfaces

Outdoor tennis courts are usually made up of red clay. Finely crushed bricks can completely replace clay and is an excellent alternative for damaged bricks that can't be repurposed for construction.



8.- Replacement of Pea Stone

Crushed brick can replace pea stone as a weight adding element to rubber roofing of flat roofs. Crushed brick as proved to allow for a better drainage and its weight is ideal for a better grip of the rubber to the roof, preventing damages in periods of extreme weather conditions.

9.- Arts and Crafts

Brick can be excellent for repurposing in a creative smaller scale, from planters to candle holders, bricks are very easy to handle elements.

DESIGN DEVELOPEMENT

WEEK 4

Brief to be referred back to along the project.

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MAKING A SAFE SPACE FOR ALL

The Telegraph Students Union aims to be a safe space for everyone, where all the design elements that are introduced to the existing fabric of the building are purposeful and comply with a sustainability agenda as well as prioritize the mental wellbeing of its occupants. I have decided to approach mental health through making with your hands, since the incorporation of these activities in your daily routine has proved to relax your mind and make you happier.

Dynamic and permeable spaces that can be adaptable and controllable by the user depending on the activity that will be carried out is essential for a proper functioning of the building's scheme. The activities that are carried out are cyclic and vary from pottery making and painting sessions to yoga and debate club meetings.

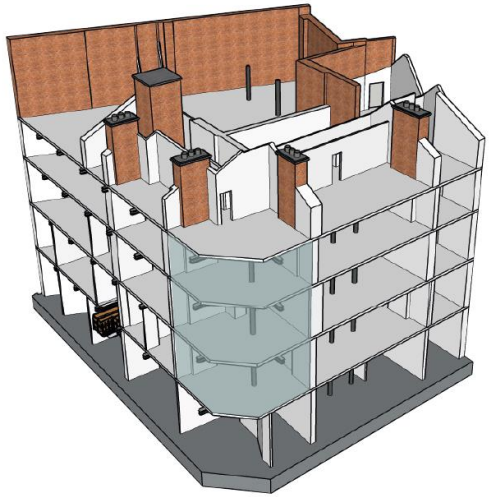
'Happy by Design' is Ben Channon's guide for designing spaces with the wellbeing of its occupants in mind. All applicable elements of this guide will be part of the final design.

It is urgent to tackle the climate emergency in early stages of design, therefore the use of recycled materials and efficient environmental performance strategies will be key for the development of the project.

The Telegraph building has a cultural significance and part of the rehabilitation of those spaces will be to use the stories that have been told by previous occupiers of the building as a source of inspiration. I aspire to rescue the enjoyable moments highlighted in the previously conducted interviews and recreate these in a current context.

WEEK 4

Initial survey of spaces.

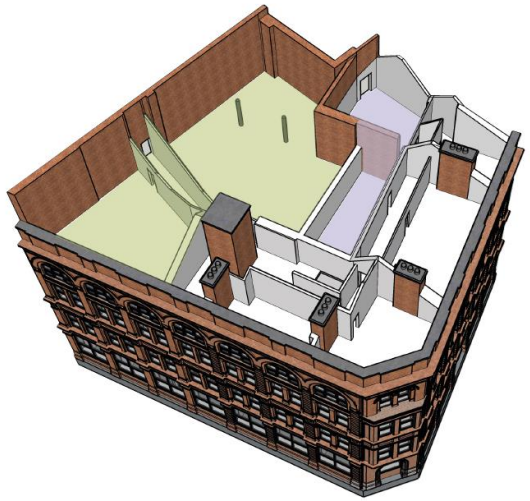


COUNCELING ROOMS
Daylight comes from 3 different facades, creating a pleasent calm atmosphere

ROOF GARDEN
Incorporates greenery in the building,as well as improving th thermal insulation.

COURTYARD
Pierce through the building to improve light penetration and ventilation

PERFORMANCE SPACE
Double height space that can accomodate various types of performances



GROUND FLOOR

FIRST FLOOR

Mikaela Arroyo
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WEEK 4

Precedent study.

Helsinki Central Library Oodi

by ALA Architects

Oodi has a peaceful open-plan reading room on the upper floor that has been nicknamed “book heaven”, but books only fill one third of the space within the library. By reducing on-site storage and consulting library-users on how they access culture, the designers and librarians of Oodi have been able to introduce facilities including a café, restaurant, public balcony, movie theatre, audio-visual recording studios and a makerspace. This is representative of broader experimentation within Finnish libraries to offer new services in addition to loaning books.

The library functions in three distinct levels: an active ground floor that extends the town square into an interior space; “book heaven” on the upper level; and an enclosed in-between volume containing rooms to accommodate additional services and facilities within the library. This spatial concept has been realised by building the library as an inhabited bridge, with two massive steel arches that span over 100 meters to create a fully enclosed, column-free public entrance space, clusters of rooms grouped around the structure, and the open-plan reading room carried above.

The ground floor of Oodi extends the Kansalaistori square into an interior public space. The purpose of the ground floor is to make each of the facilities of the library apparent and accessible and provide a non-commercial interior space open to all, every day of the week.

The middle floor, known as the “Attic”, consists of flexible rooms arranged around the intimate nooks and corners that inhabit the spaces between the trusses of the bridge structure. The multi-function rooms are designed to accommodate both noisy and quiet activities and it is on this floor that Oodi will offer facilities such as its makerspace and recording studios.

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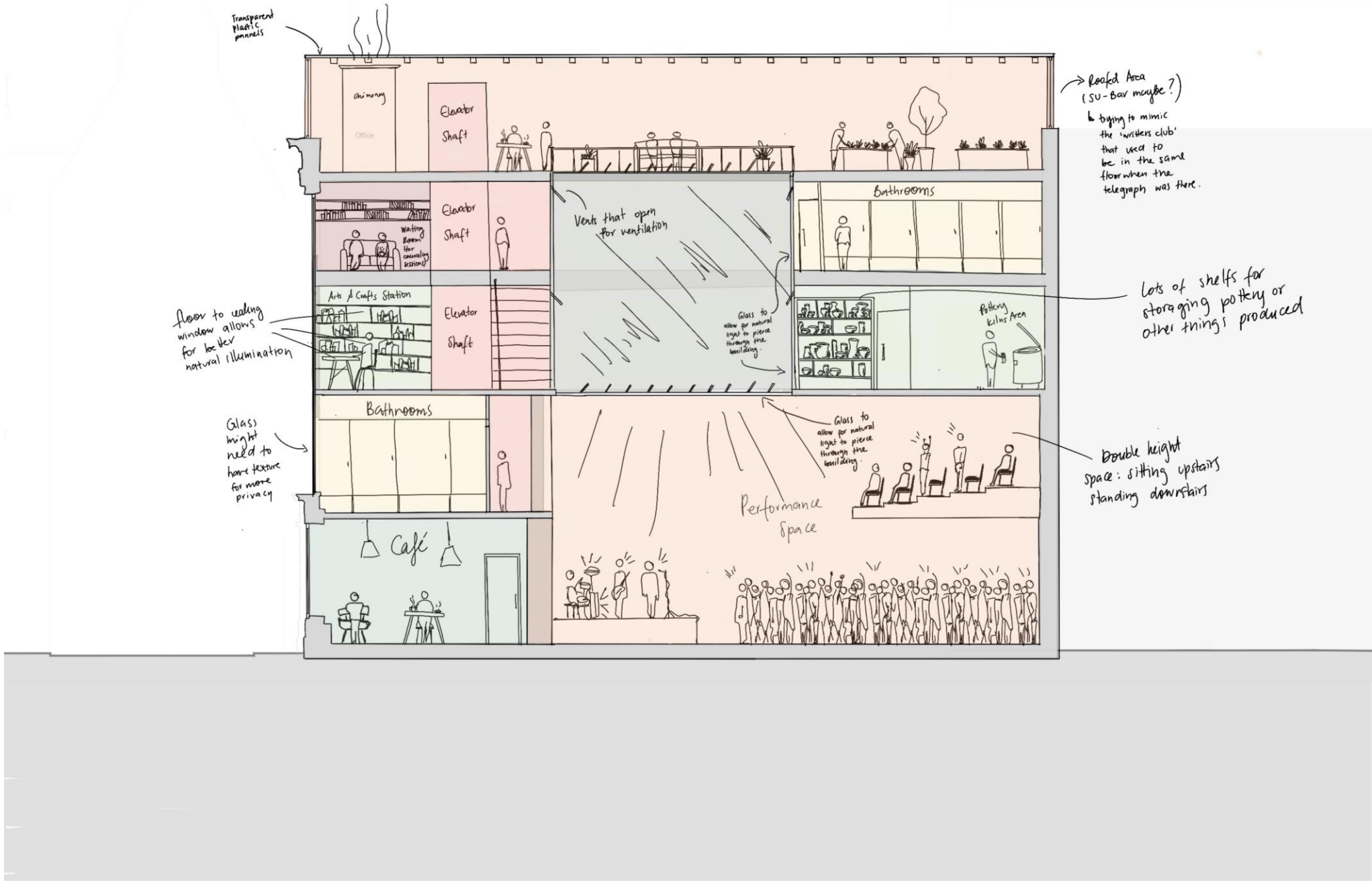
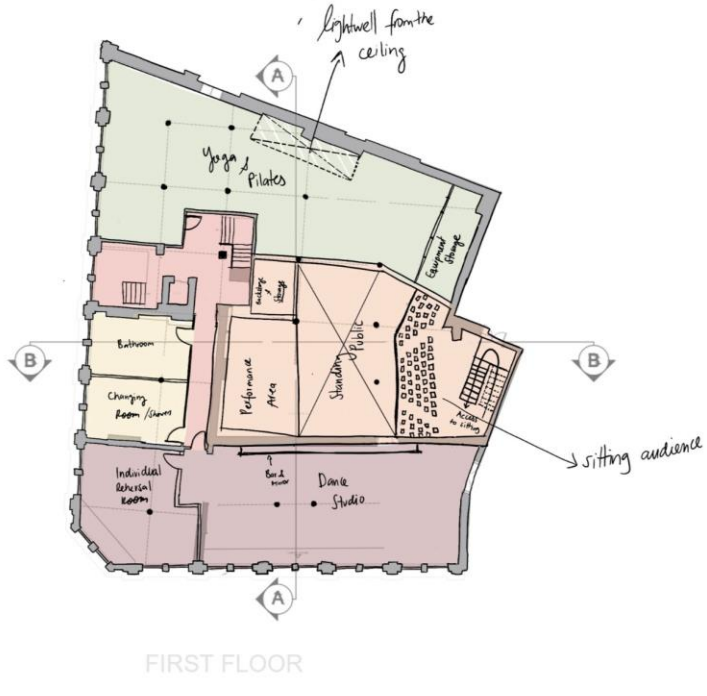
WEEK 5

Developed sketch section that explores the function of each space.



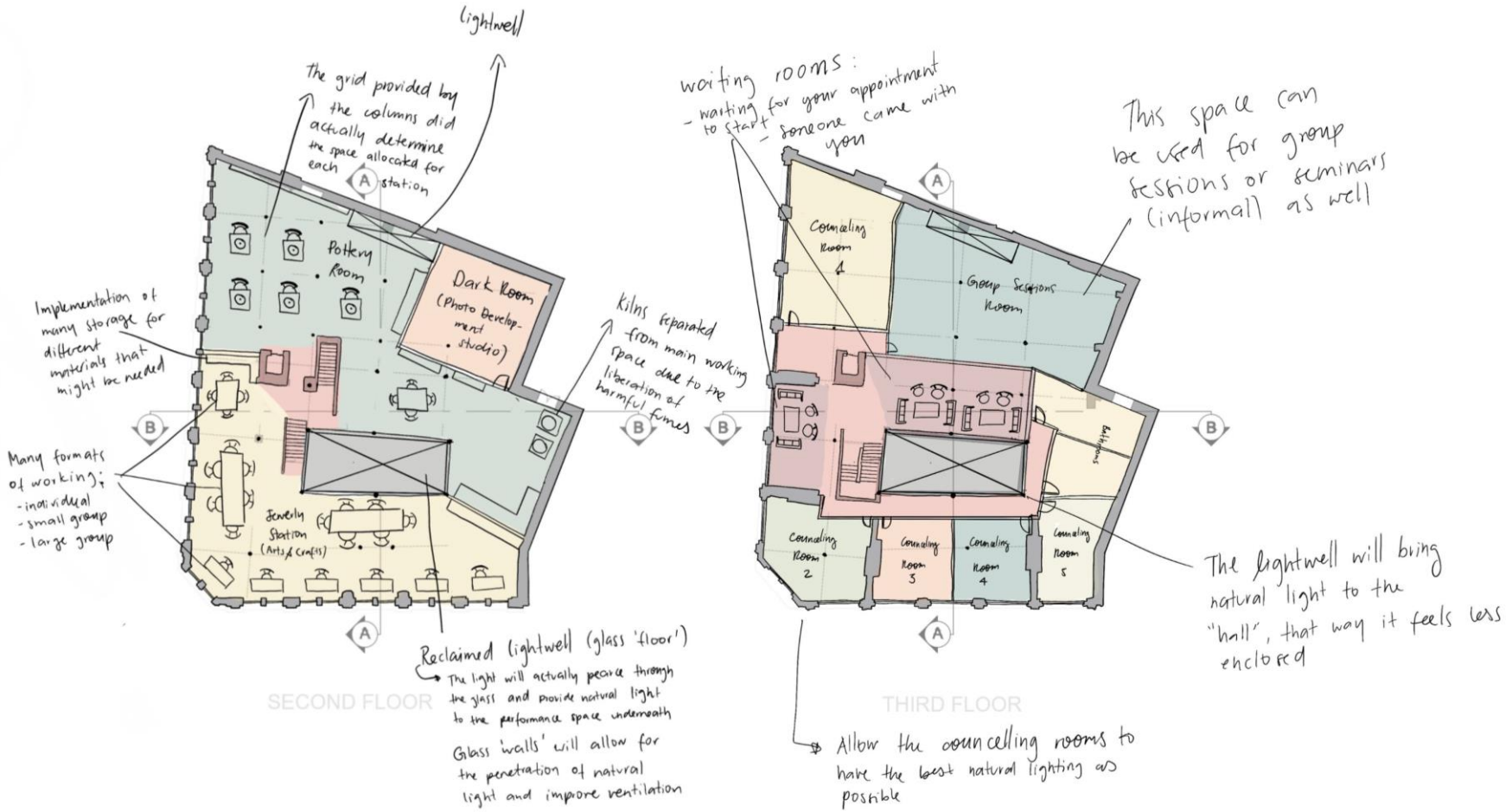
WEEK 5

Sketch that explores the spatial distribution of the Ground and First Floor in plan.



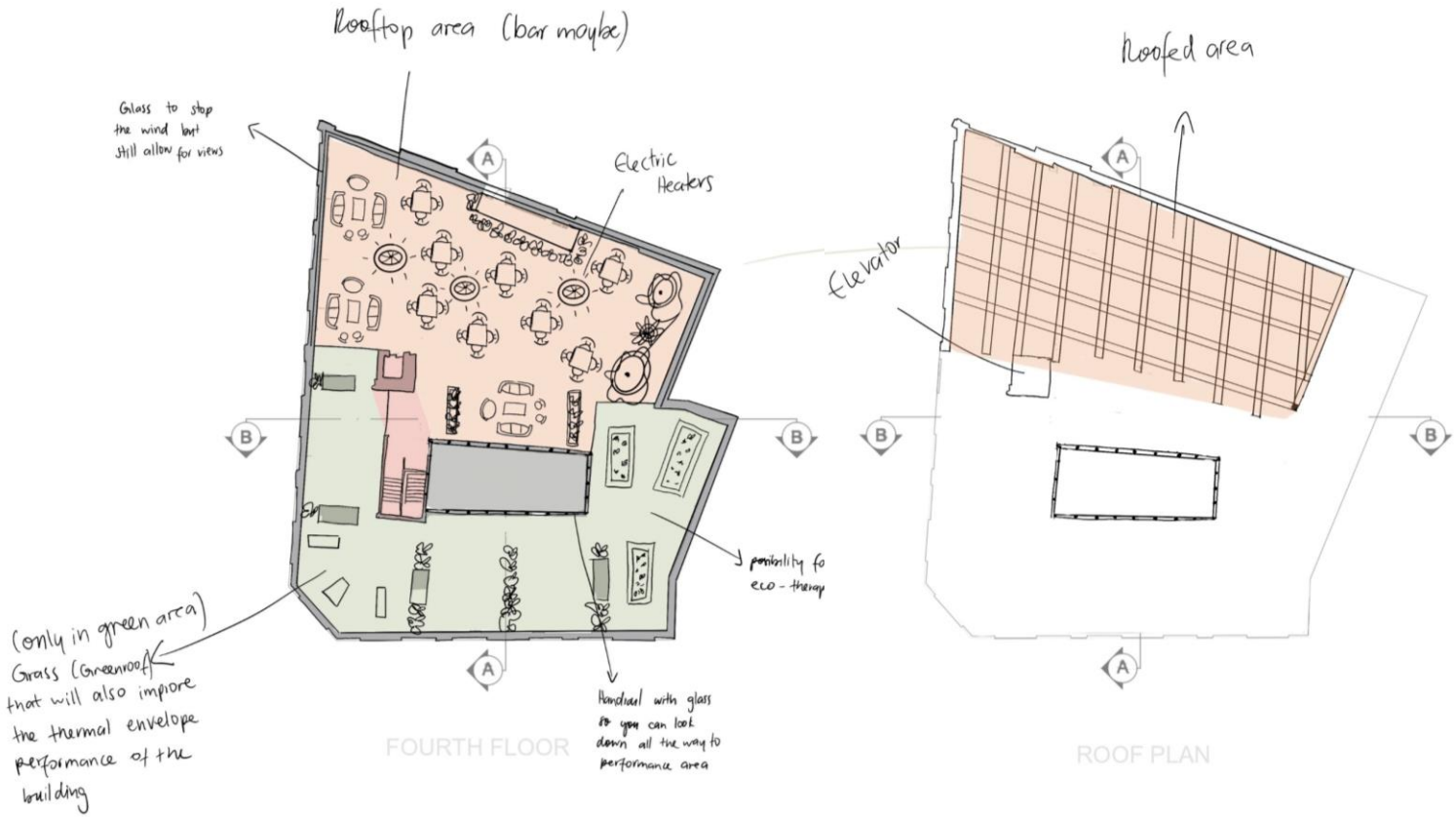
WEEK 5

Sketch that explores the spatial distribution of the Second and Third Floor in plan.



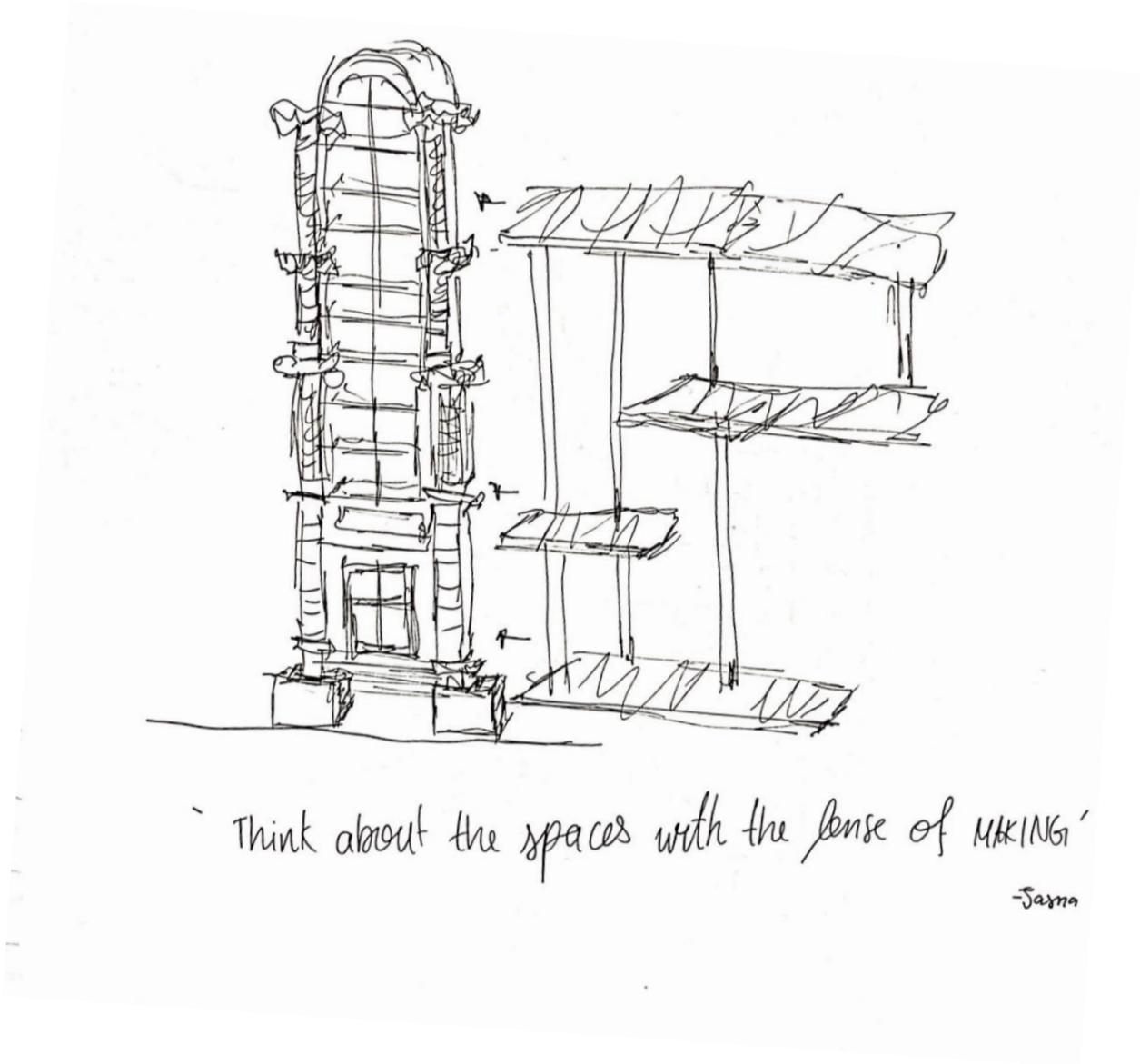
WEEK 5

Sketch that explores the spatial distribution of the Fourth Floor and Roof in plan.



WEEK 5

Sketch of the relationship between the proposed façade alteration and floor distribution.
Based on the tutorial's feedback.



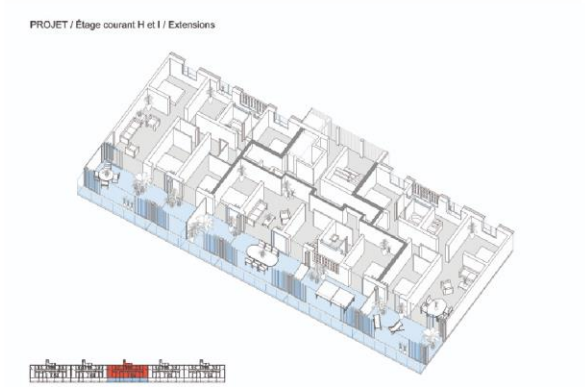
Mikaela Arroyo
40251584

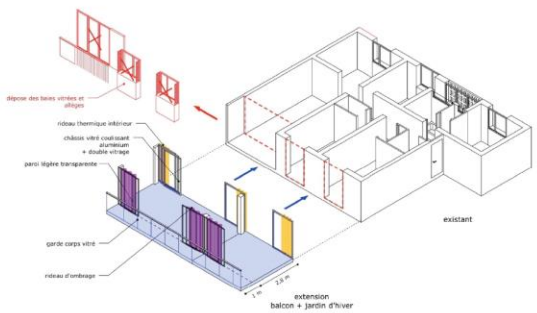
WEEK 6

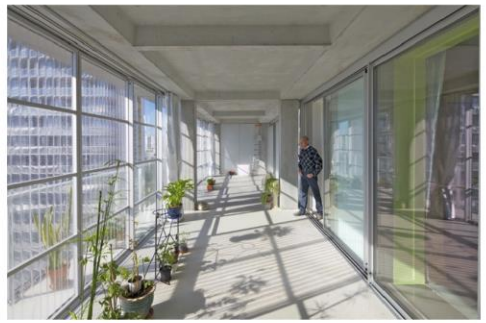
Precedent study.

RENOVATION PROGRAM OF THE 'CITÉ DU GRAND PARC'
by Lacaton & Vassal

The project consists in the transformation of 3 modernist social housing's buildings, fully occupied. It is part of the renovation program of the 'Cité du Grand Parc' in Bordeaux. Built from the early '60s, this modernist district counts more than 4000 dwellings. The 3 buildings G, H and I, 10 to 15 floors high, gather 530 dwellings and needed a renovation after the question of their demolition has been ruled out. By their location and their layout, these buildings give a capacity of transforming into dwellings with qualities and comfort.
The renovation of the space includes the addition of winter gardens and balconies in the extension of the existing give the opportunity, for each apartment, to enjoy more space, more natural light, more mobility of approached from a wider sense of community.
G, H and I buildings (the ones that have been renovated)offer the opportunity to reach these qualities immediately, in a generous, economic and sustainable way.
The general economy of the project is based on the choice of transforming the existing building without doing important interventions on the existing: the structure, the stairs or the floors and of proceeding by additions and extensions.



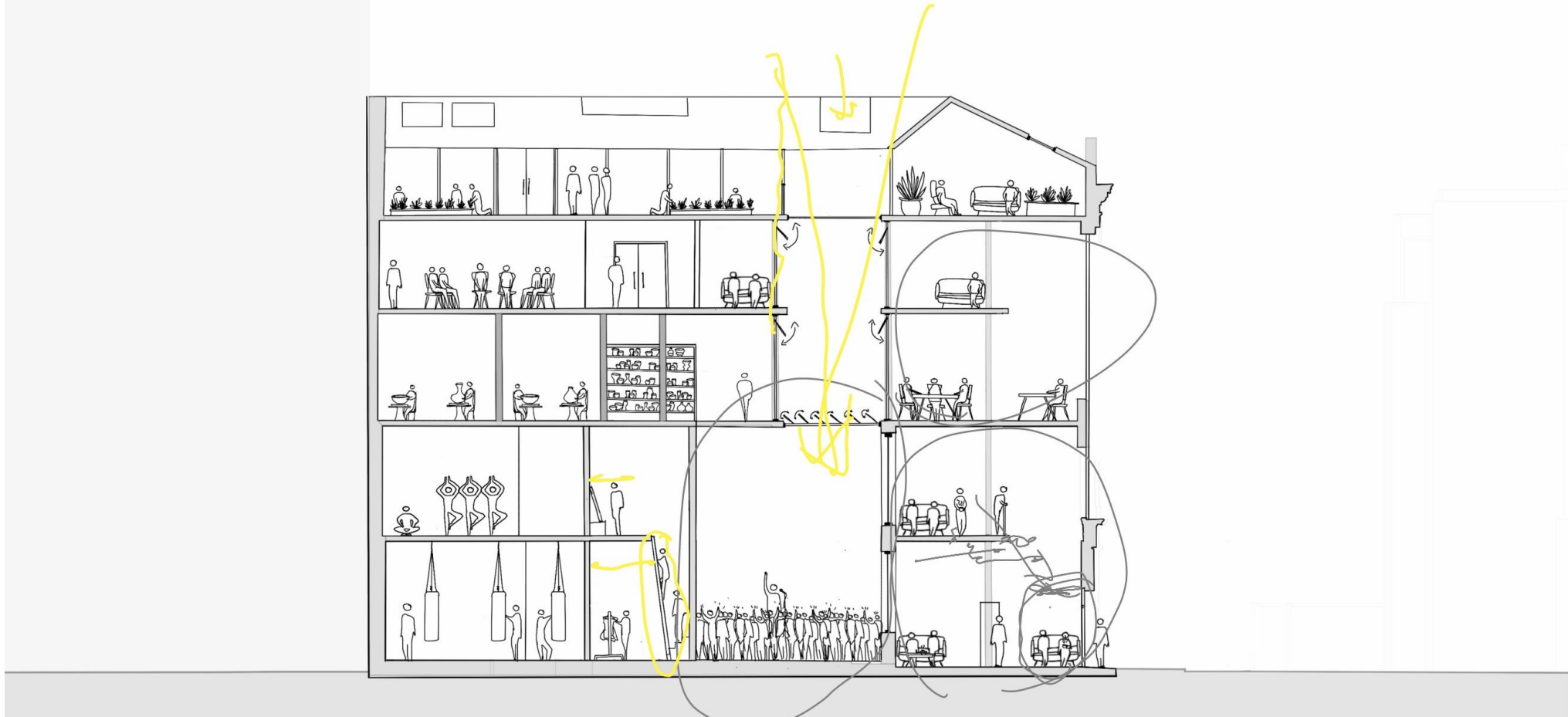




Source: "Transformation of 530 dwellings / Lacaton & Vassal + Frédéric Druot + Christophe Hutin architecture" 18 Apr 2019. ArchDaily. Accessed 25 Oct 2021. <https://www.archdaily.com/915431/transformation-of-530-dwellings-lacaton-and-vassal-plus-frederic-druot-plus-christophe-hutin-architecture> ISSN 0719-8884

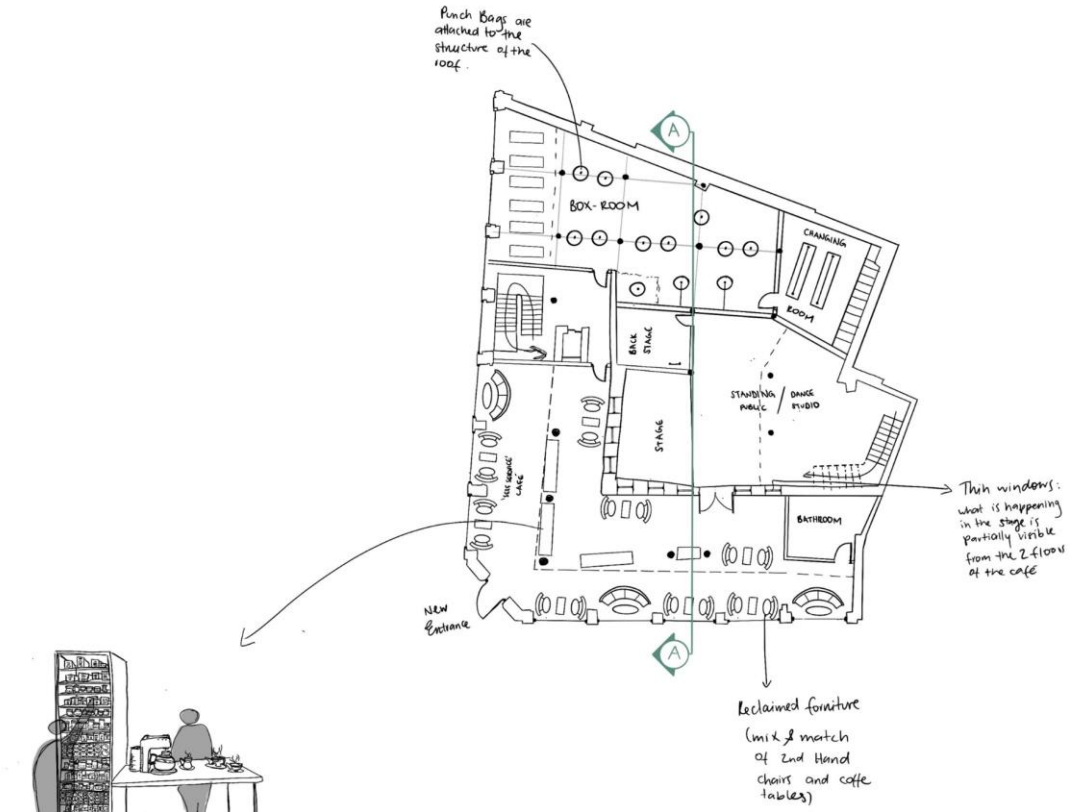
WEEK 6

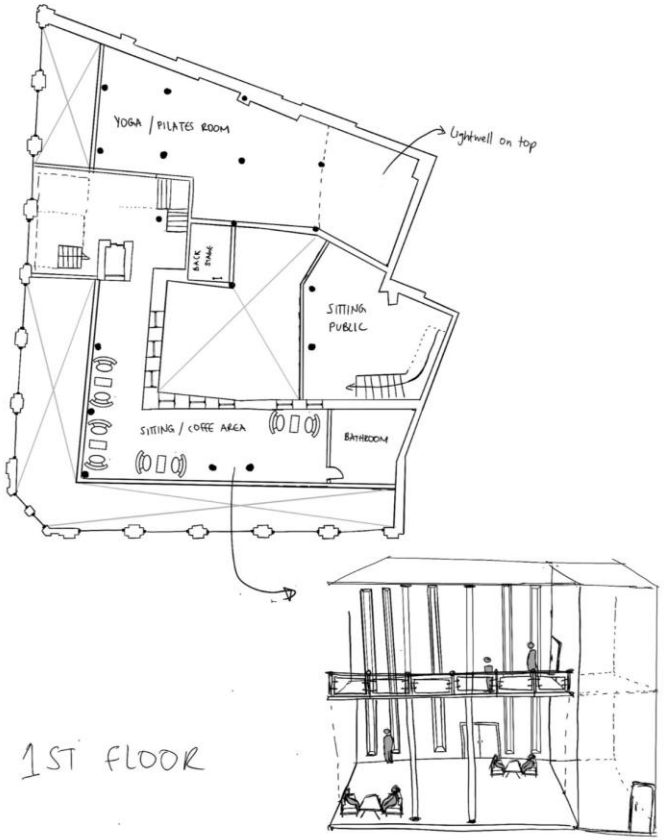
Developed sketch section with annotation made by the tutors, which shaped my design development.



WEEK 6

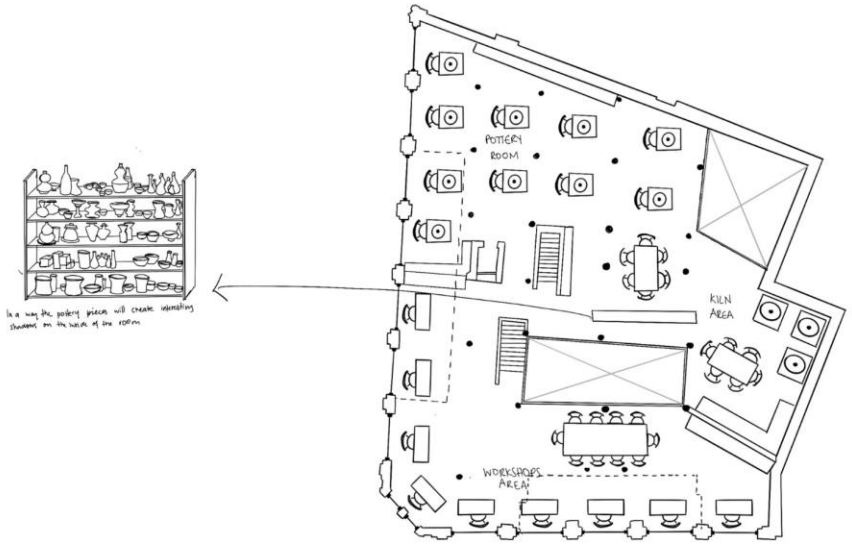
Developed sketch that explores the spatial distribution of the Ground and First Floor in plan.



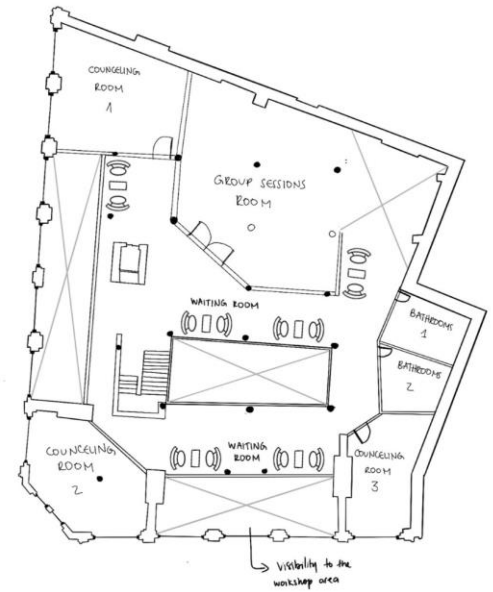


WEEK 6

Developed sketch that explores the spatial distribution of the Second and Third Floor in plan.



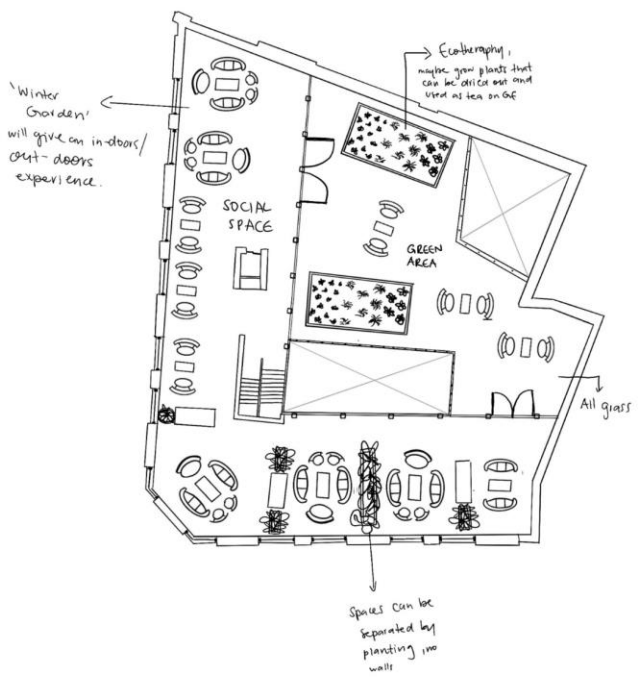
2ND FLOOR



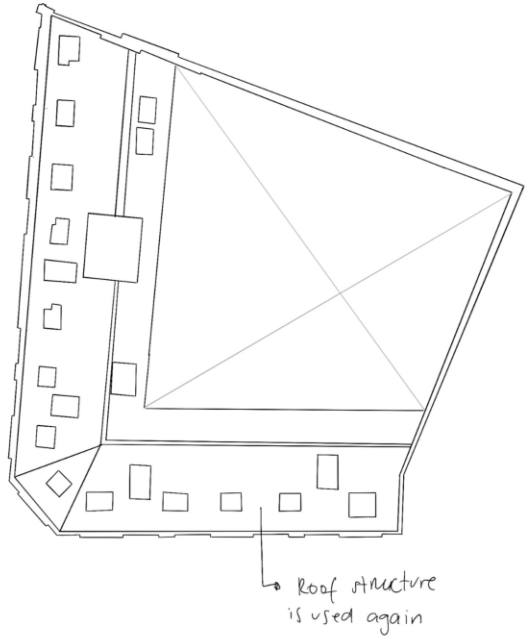
3RD FLOOR

WEEK 6

Developed sketch that explores the spatial distribution of the Fourth Floor and Roof in plan.



4TH FLOOR



ROOF

WEEK 6

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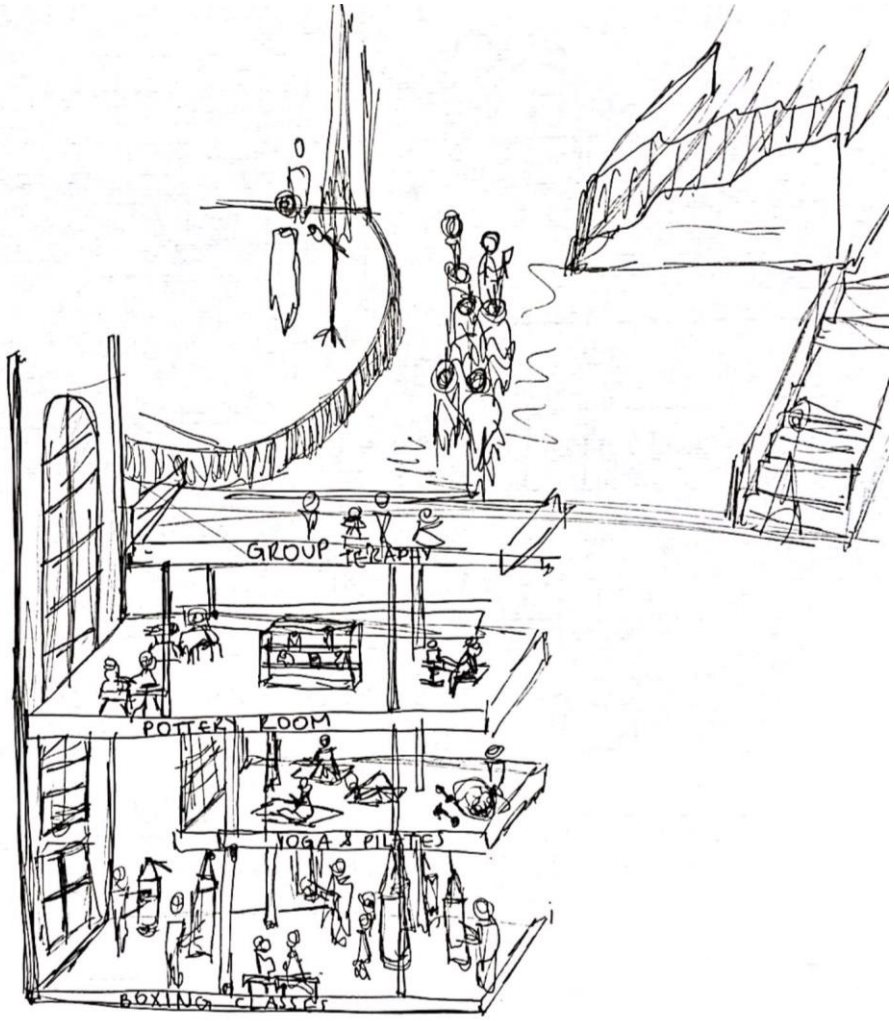
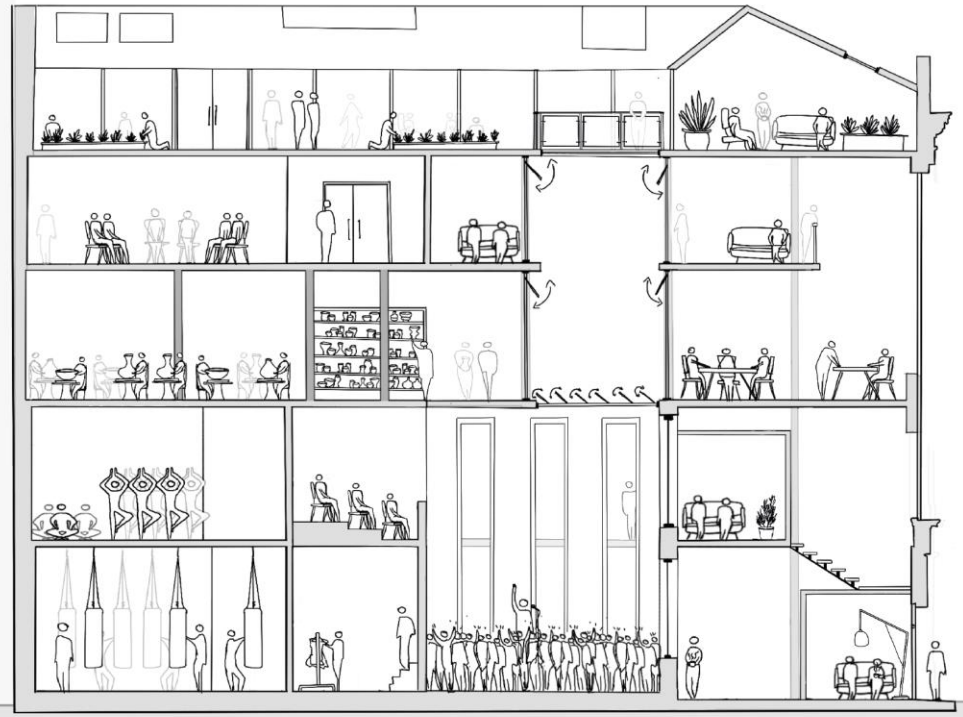


Mikaela Arroyo
40251584

INTERIM REVIEW

WEEK 7

Developed Section.



SECTION
1.100

Mikaela Arroyo
40251584

INTERIM REVIEW

WEEK 7

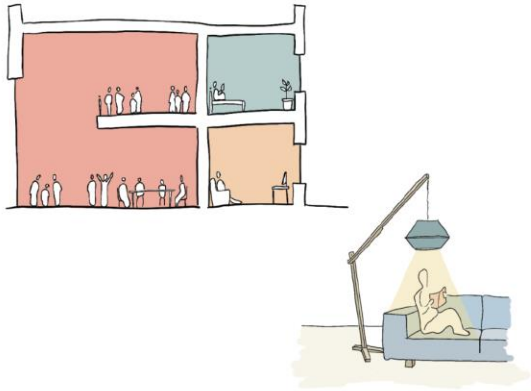
Representation of the 'Happy by Design' guidelines that were implemented in the design so far. (To be cross-referenced with the guide with the help of the illustrations).

I M P L E M E N T E D E L E M E N T S

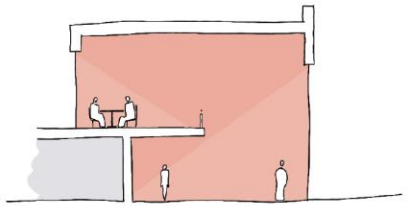
From the design guide 'Happy by Design' by Ben Channon

BREAKING THE MONOTONY OF THE FACADE

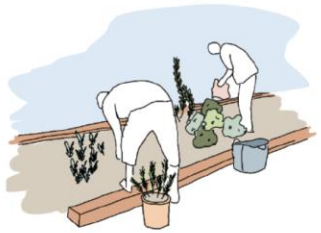
SMALL AND LARGE GATHERING SPACES



PLACES OF INACTIVITY



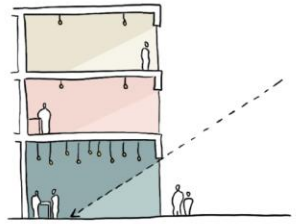
DOUBLE HEIGHT SPACES



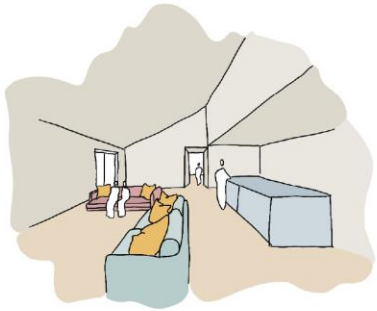
ECOTHERAPY

ROOFGARDEN AND GATHERING AREA IN THE ROOF

MAXIMISATION OF NATURAL LIGHT

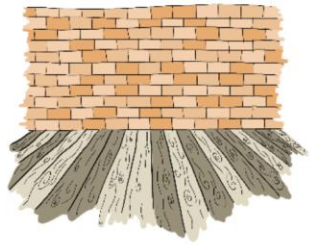


UNINTERRUPTED FREE SPACE



PLACES OF ACTIVITY

TACTILE MATERIALS



INTERIM REVIEW

WEEK 7

Developed graphic summary of the design guide 'Happy by Design'.

Notes on 'HAPPY BY DESIGN' by Ben Channon

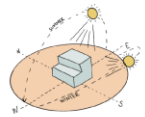
'[...] we now spend more than 80% of our time in buildings, and this can affect our mood both positively and negatively. The quality of the places where we live, work and study therefore impacts our happiness significantly."
-Ben Channon

1.- LIGHT

'Natural daylight is one of the most fundamental human needs. Its significant impact on human happiness and on our mental wellbeing.Small changes in the amount of daylight we do receive can impact our mood, productivity and even our circadian rhythm.'

Oreintation

To maximise solar gains, windows should be orientated within 15° of true south. Regularly northern light is not recommended, but spaces such as libraries or galleries are the exception, where direct sunlight can often damage books or displays.

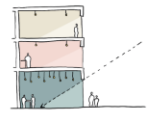


Shadows

Aim for an angle of greater than 25° as a rule of thumb for good daylighting. Neighbouring buildings, trees and even other elements of the building must be considered when doing this study.

Windows

Windows on upper storeys get more daylight, as a result of the increased amount of visible sky. Additionally, deep plans should be avoided to have an adequate light penetration. The general rule of thumb suggest that the depth of a room should not be greater that 2-2.5 times the height of the window.
Another alternative is the use of rooflight, which can bring two times more daylight into the space than vertical windows, but don't offer views to the exterior. The combination of both elements can become the perfect balance to improve mental health



Artificial Light

Indirect light has been shown to improve productivity and alertness; therefore, it should not be overlooked in the design process. While soft white light can communicate calmness and relaxation, brighter colours can convey energy but can also make people experience emotions more intensely, which can impact negatively in our mental health.

'Pockets of Calm'

Quiet alone time is shown to help our brains reboot and unwind, allowing us to think more clearly. Artificial light can be a fantastic way to create a sense of privacy or escapism. While it often tempting to light all areas brightly and evenly, being selective can be far more effective.

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2.- COMFORT

'[...]Happiness will come through active engagement with our own physical sensations. If we are uncomfortable, we are far less likely to want to engage with our bodies and we therefore tend to switch off from the physical world, which can be detrimental to our mental wellbeing.'

Use of Tactile Materials

Touch is the most closely linked sence to our emotions. Therefore the use of real materials like timber flooring or exposed brick finishing can enhance the feeling of closeness between the user and the space.

Temperature and Ventilation

One of the factors that impact the levels of comfort the most is the temperature. Thermal insulation should be prioritized. Notwithstanding, the implementation of openable windows is fundamental for adequate air quality. This has also proved to enhance a connection with the exterior and boost energy levels.

Noise

Intrusive noise can make people feel aggravated and unsafe, leading to the increased possibility of panic attacks and anxiety. A proper handling of airborne sound transmission is key. Additionally, noise sourcing from roads can disrupt sleep and negatively impact concentration and productivity.

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3.- CONTROL

'The perception of control is closely linked to our happiness. Psychological studies have shown that if we believe we have more control we feel more content, even if our actual levels of control are unchanged. When designing any building it is therefore paramount to ensure that its users feel like they have control over their immediate environment.'

Adaptability of Spaces

This is the building's capacity to be reappropiated for alternative uses. Small elements such as a light dimmer insted of a regular 'on and off' switch can help the user to adapt the space to their specifics needs and desires. This enhances the sence of control, resulting in happier and more empowered users. The lack of visual elements of control can lead to the occupier to resent the place.

Privacy

Despite the inmediate impulse of designing every space as a social space, experts estimate that 1/3 - 1/2 of people are introverts, meaning that areas that are not over stimulsting or social shoud be available as well. Privacy supports a sence of autonomy and individuality and the lack of it can result extreamly upsetting for the user.

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4.- NATURE

'Spending time in nature has been shown unequivocally to improve our happiness and mental wellbeing. It has been proven to reduce stress, improve our memories, and make us kinder and more creative. However, with more than 50% of the world's population now living in cities and this figure set to rise, many of us are losing this vital connection with the outside world. This places a responsibility on designers to incorporate natural elements into buildings and the wider urban environment.'

Bringing Nature In

Biophilic design has been shown to reduce stress and increase the sense of being 'home'. Plants offer a number of benefits to mood and happiness, as well as providing the emotional rewards associated with caring for and nurturing a living thing. They also clean the air we breathe, simultaneously improving our physical and psychological wellbeing.

Views of Nature

Simply looking at nature has been shown to improve our mood. Coupled with the benefits to our eyes resting from the damaging light from screens, the value of good views even extends to preventing or relieving headaches.

Roof Gardens

The roofscape makes up between 15-35% of the total land area of cities. A roof garden can provide cleaner air and less noise pollution than at street level. Moreover, humans also gain a feeling of taking refuge as we look down at the world from above, which is linked to a sense of safety and protection and can make us feel calmer.
Green roofs can improve the insulation of buildings and increase biodiversity in the area.

Ecotherapy

This group gardening technique has proved to battle depression and improve self-steem as well as helping people to feel included and empowered.

INTERIM REVIEW

WEEK 7

Developed graphic summary of the design guide 'Happy by Design'.

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5.- AESTHETICS

Sight is undeniably one of our most important senses. Research into happiness has shown that visually attractive things and places make us unequivocally happier. Everyone has a different sense of aesthetics and what is pleasant to the eye or not, however, there are some rules that can be followed that will result in a visually more pleasant design and make us happier.

Colour

It has been recently discovered that colour can have a greater effect on our disposition. Colour can be used to create a mood or an atmosphere at very little cost, and can even encourage socialising, evoke calmness or improve our focus. For example, yellow is a colour often associated with happiness and sunlight. Green and blue are generally considered more calming, and are better suited for quiet spaces.

Moments of Joy

We generally let negative events affect our brains more than positive ones, so we must embrace and encourage moments of joy whenever possible The design of many buildings nowadays is often heavily focused around regulations, cost-efficiency and buildability. While these are all key considerations, it is important not to forget that using these buildings must be a pleasurable experience.

Avoid Visual Monotony

The lack of visual variety can lead to boredom, unhappiness and is linked to higher mortality rates. Interesting accents should be a fundamental part of the design, but it is very important that the layout of the building is highly legible in all of this scales. The primary entrance should be indentifiable as well.

Human Proportions

While it's difficult to say with certainty that particular proportions make us happier, some are definitely more pleasing to the eye; for example the golden ratio – where the length of an object is roughly one and a half times its width. Additionally, we find simple shapes such as squares or perfect circles pleasing.

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6.- ACTIVITY

We are all aware of the huge physical benefits of being active, but exercise also creates significant changes within our brains and can have an enormous impact on our mental wellbeing. Exercise releases hormones known as endorphins which activate the body's opiate receptors, improving our mood and reducing pain. Many authors have argued that the benefits of being active go even further than this, including giving us a clearer sense of identity and independence.

Encouraging Activity

Designers have a reasonable degree of control over how people use their buildings, even if a building's inhabitants are not directly aware of it. They should therefore try to encourage or persuade people to be active. For example, a succesful and creative staircase design can make user take the stairs instead of the lift.

Spaces for Excercise

Shared public outdoor gym facilities have increased dramatically in popularity in recent years. These are great as they cost local councils very little to maintain and are free to members of the public, many of whom might not otherwise be able to gain access to expensive equipment. However, as set out above, they should be located where they are easy for people to access and use. Showers and changing facilities should also be concidered to facilitate the regular use of the outdoors gyms.

Places of Inactivity

A phrontistery is the name for a place for quiet thinking or reflection Rest is incredibly important for both body and mind. This doesn't necessarily mean sleeping, however. 'Quiet restfulness', which means sitting or lying awake but with our eyes closed, is also very beneficial. These spaces should be designed to provide a true escape from the stresses of life. This means making them well acoustically insulated and dimly lit if possible. Furniture should be soft and inviting.

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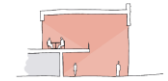
7.- PSYCHOLOGY

Every day, our moods are affected by things we may not even perceive. These can be things we have little control over, such as the weather or the way a person speaks to us. However, there are many aspects of daily life that impact our psychology which have been designed by other people, and these can affect us either positively or negatively.

High cealings

High ceilings are often sacrificed in buildings due to physical or financial constraints. However, they have been shown to create a sense of freedom and improve happiness. It is often worth sacrificing some upper floor area if there is the possibility to make the living space below more pleasant.



Opened Plan

open-plan buildings offer many elements that can benefit happiness. Psychologically they can create a greater sense of space, which can make us feel happier and more relaxed. Additonaly an opened plan layout encourages a more social behaviour and prevents isolation

INTERIM REVIEW

WEEK 7

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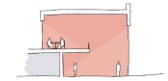

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Mikaela Arroyo
40251584

INTERIM REVIEW

WEEK 7

Roof Model at 1.33 scale that explores the possible use of the area.

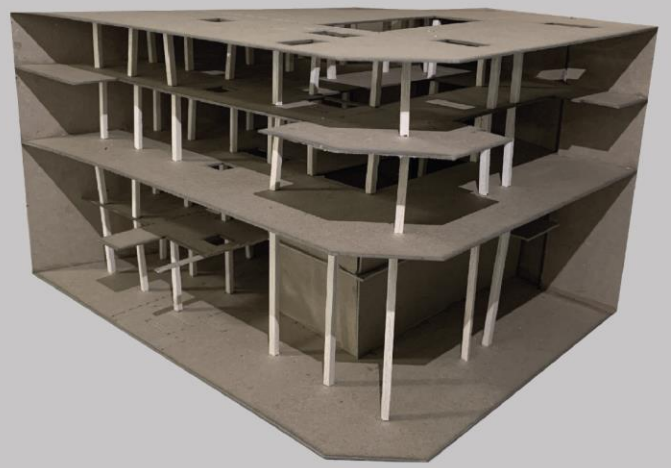
M O D E L 1:33
R O O F

Mikaela Arroyo
40251584

INTERIM REVIEW

WEEK 7

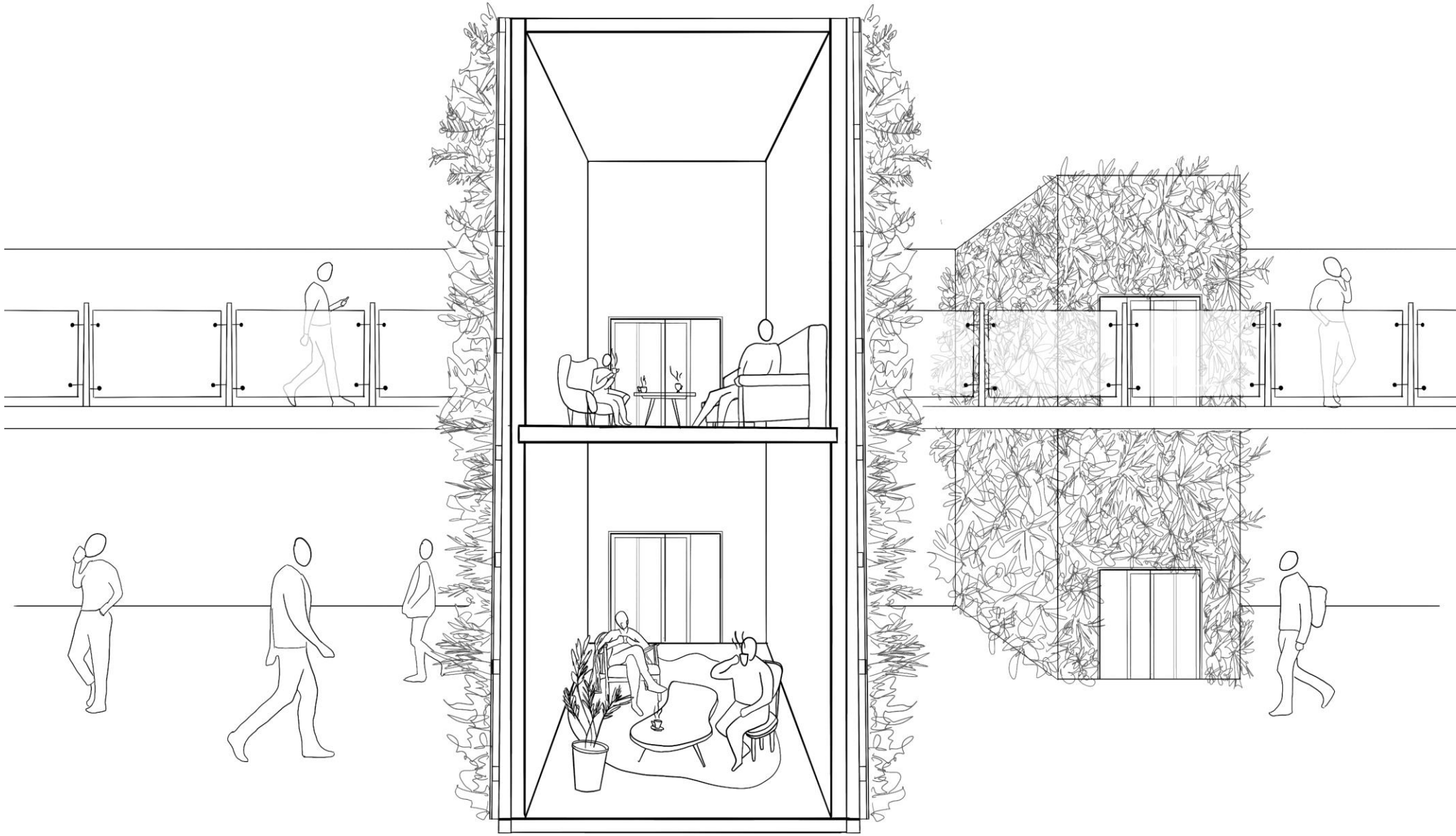
1.100 Model that explores the dynamic between floors and the spatial quality provided by the existing columns.



M O D E L 1:100
F L O O R L A Y O U T

WEEK 8

Depiction of a possible implementation of Living Walls to the Ground and First Floor social area.



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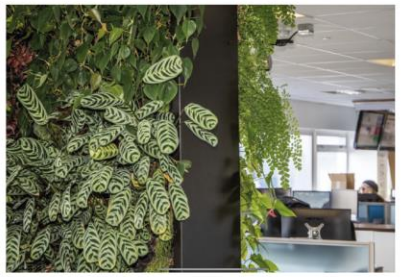
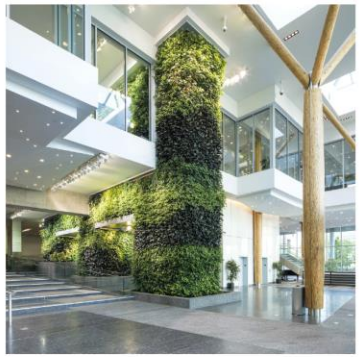
WEEK 8

Research on the functioning of Living Walls.





LIVING WALL SYSTEM
WITH NATURAL SOIL BASE

NATURAL SOIL

-The use of Natural soil allows for a healthier more natural plant growth opposed to hydroponic systems. Additionally, it allows for a wider range of plant species and arrangements. Natural Soils are a long-term stable environment that retains water efficiently as well as keeping the water usage to a minimum

IMPACT IN MENTAL HEALTH

- Biophilia is closely linked to mental wellbeing. Scents, patterns, textures, and the proximity to nature can create more welcoming environments. Studies have shown that views of greenery cause positive changes in systolic blood pressure, restore cognitive abilities and decrease mental fatigue.
- A living wall can improve air quality. 1m2 of plant cover generates the oxygen required by a person throughout a year.
- Acoustically, a green wall can be very beneficial. A80mm thick green wall reduces noise levels by 15Db. The plants will deflect, absorb and refract noise.

FUNCTIONING

-The system counts with hidden irrigation pipes that due the square meterage of the walls where the system is going to be installed, there is no additional tank required
-The correct amount of lighting that is adequate for each plan can be artificially produced if necessary
-Drainage is located at the bottom of the wall where a plastic gutter (107mmx51mm) is installed to cover the drainage system
- The living wall module can be produced with 100% recycled material

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WEEK 8

Research on the functioning of Living Walls.

1.- Backing Board

2.-Waterproof Membrane

3.-Fixing Rail (48x12mm)

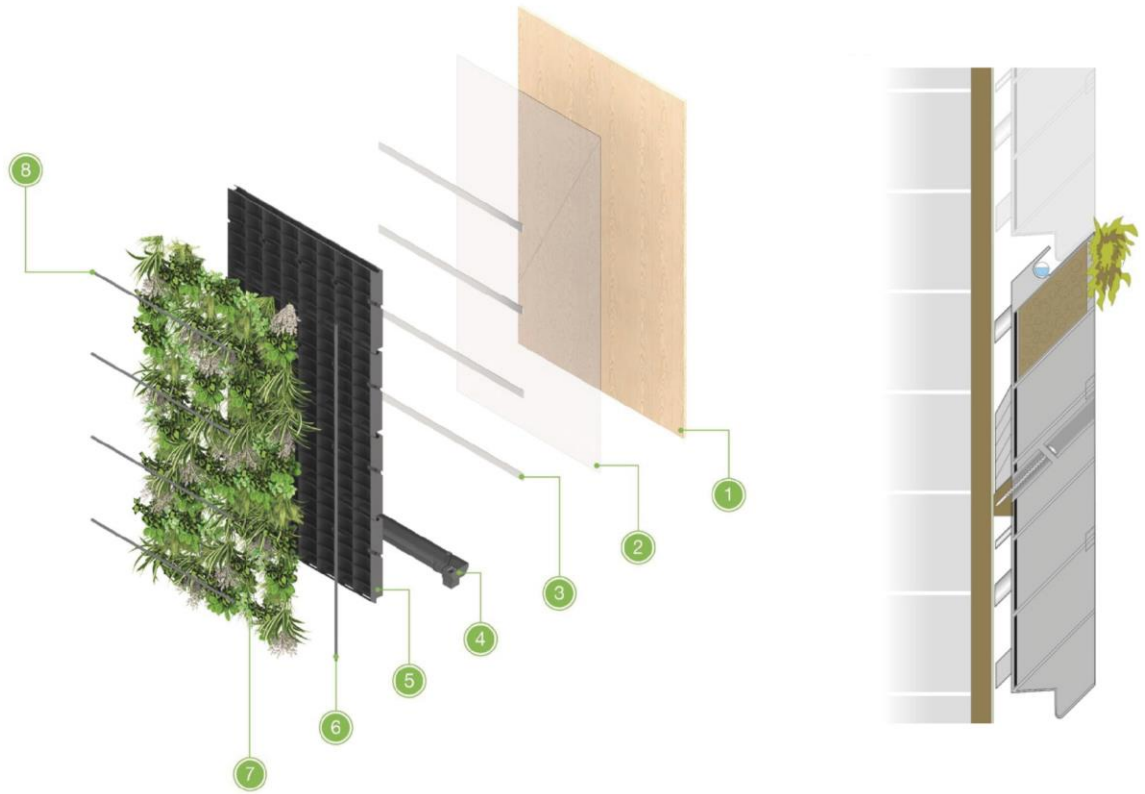
4.-Hidden drainage system

5.-Living Wall Modules (500x250x100mm)

6.-Vertical irrigation pipe (16mm)

7.-Planting

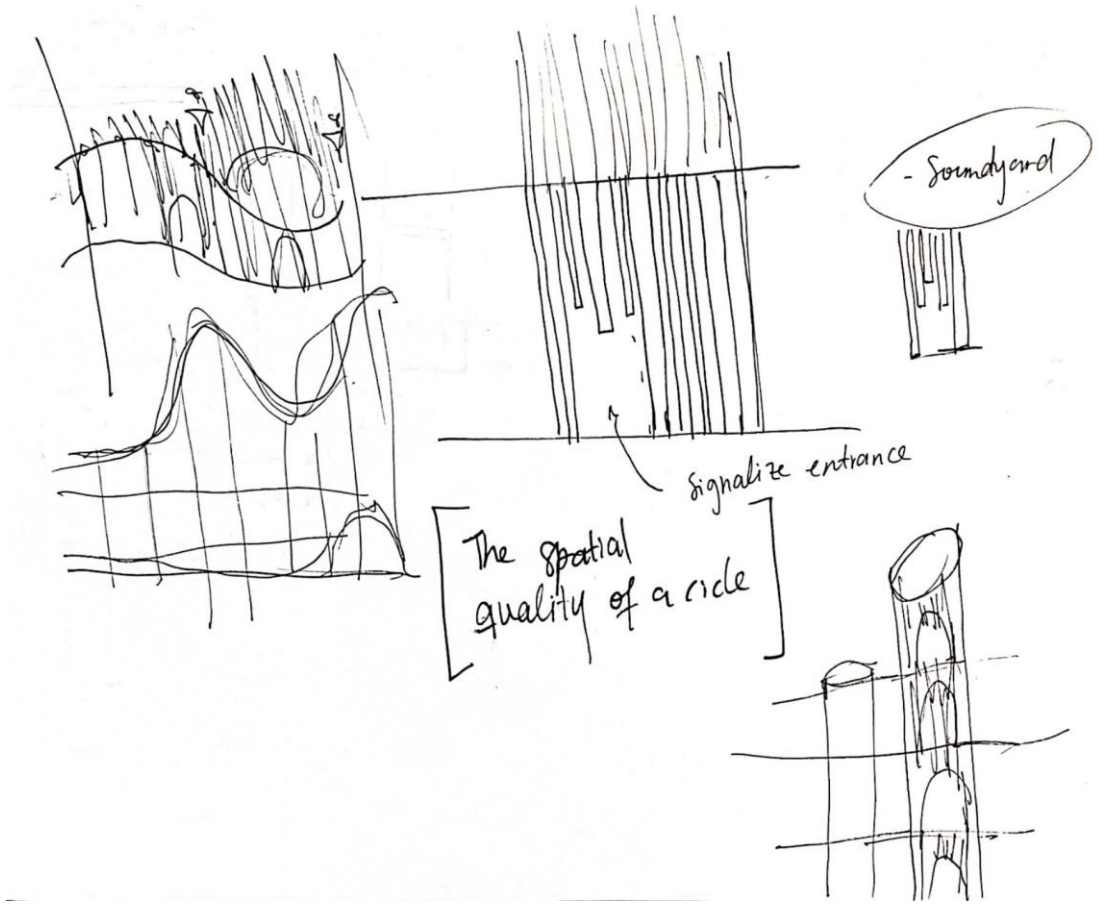
8.-Inline emitter pressure regulated irrigation pipe (16mm)



LIVING WALL SYSTEM
WITH NATURAL SOIL BASE

WEEK 9

Initial exploration of the incorporation of circular ‘pods’ instead of the previously considered layout.



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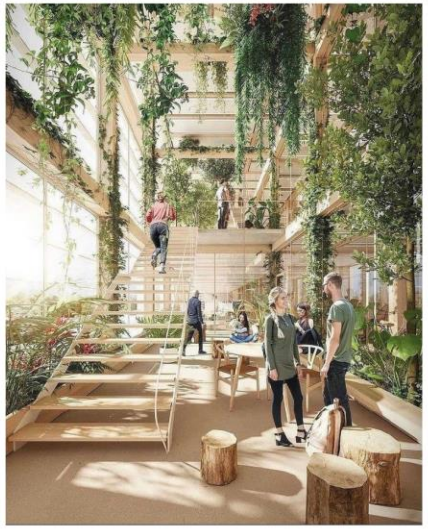
WEEK 9

Research of structures and installations that convey a similar atmosphere that I aspire to convey in my design proposal.



HCZStudio 2050
Competition Entry for the new Umweltbank office
Nürnberg

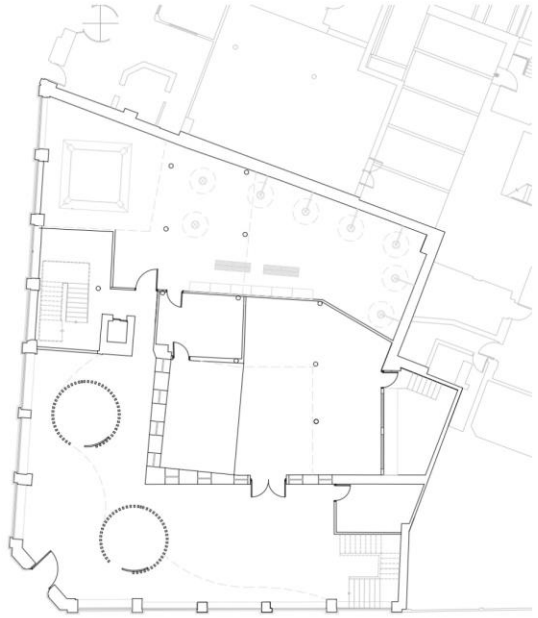
Unspoken Bespoke
Design for an upcoming restaurant
in York

Matthew Kernan, Hannah Wilson, and Eunan Deeney
The Soundyard
Belfast

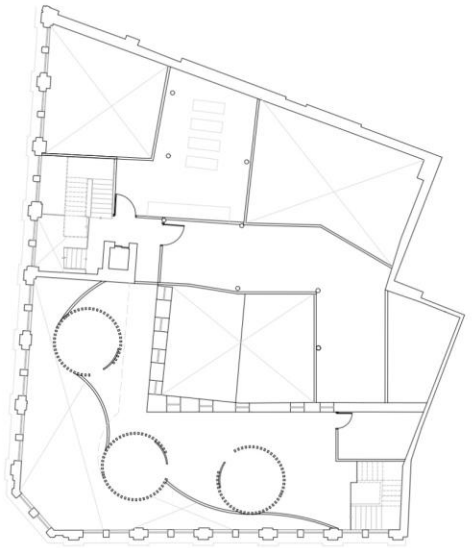
PRECEDENT IMAGES FOR THE 'PODS'

WEEK 9

Incorporation of the circular ‘pods’.



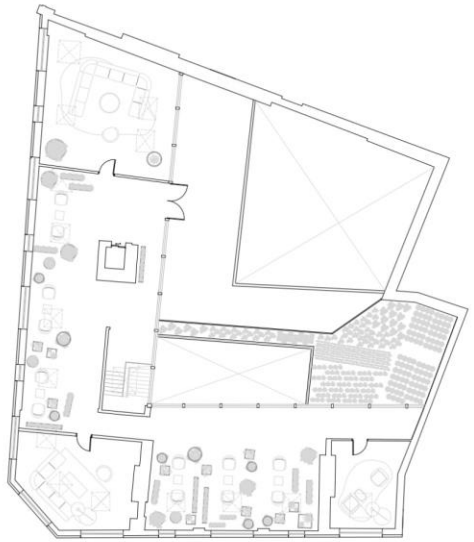
GROUND FLOOR



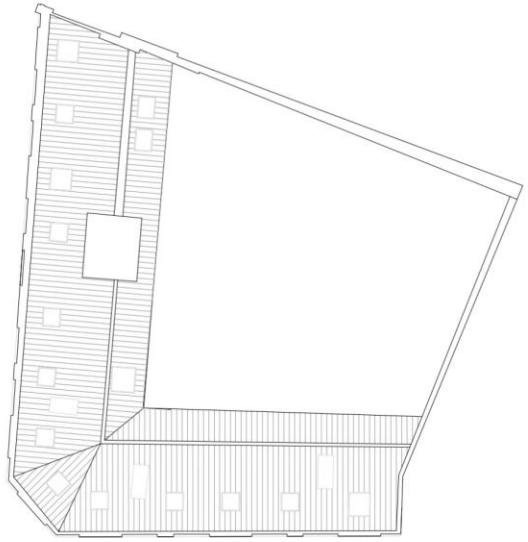
FIRST FLOOR

WEEK 9

Incorporation of changes.



FOURTH FLOOR



ROOF PLAN

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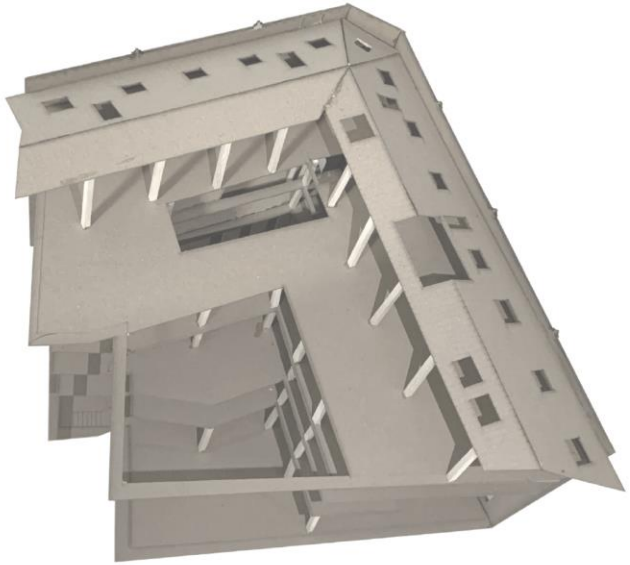
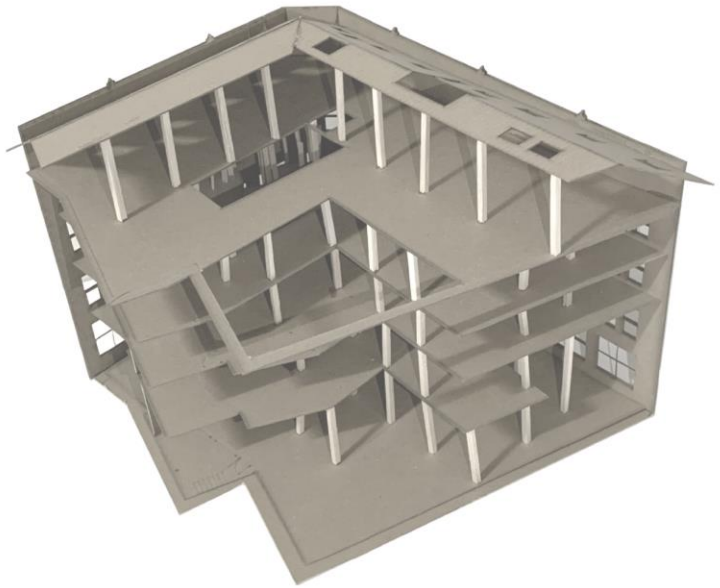
WEEK 9

Demountable model that explores the relationship between floors and with the façade.





M O D E L 1:100
F L O O R L A Y O U T

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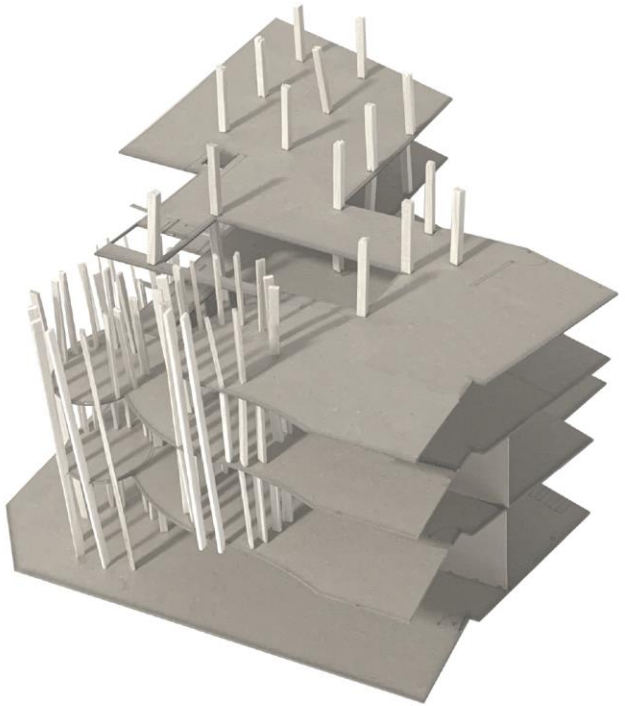
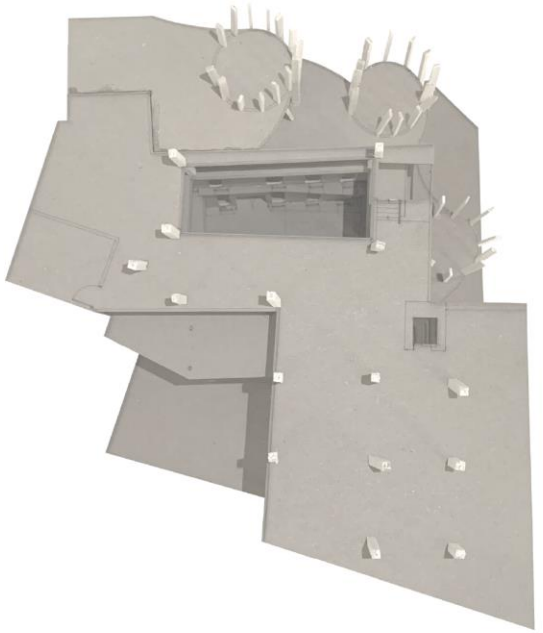
WEEK 9

Explorative model that showcases the placement and spatial quality of the ‘pods’.





M O D E L 1:100
F L O O R L A Y O U T

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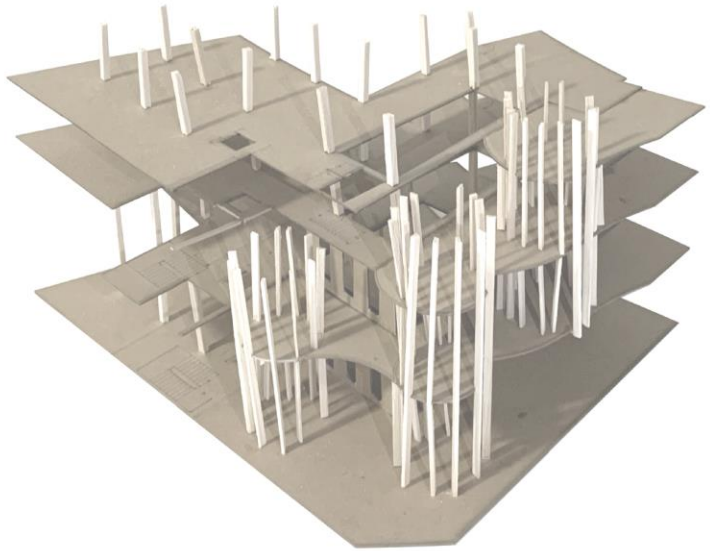
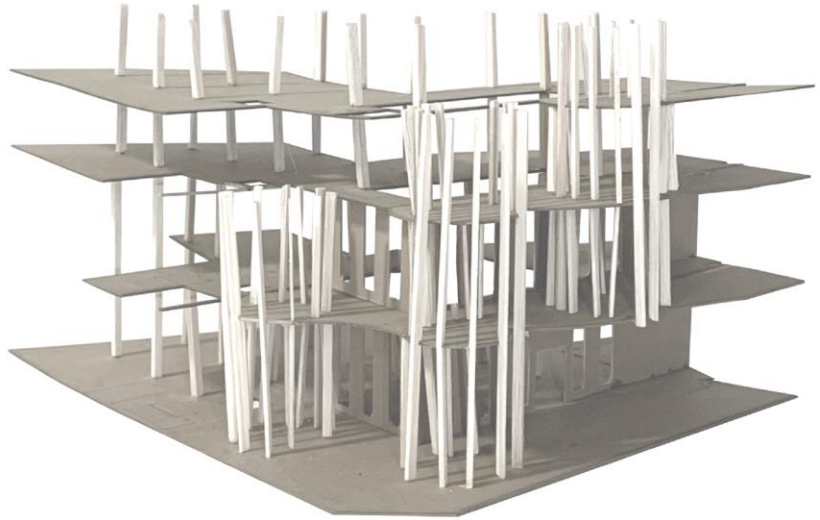
WEEK 9

Explorative model that showcases the placement and spatial quality of the ‘pods’.





M O D E L 1:100
F L O O R L A Y O U T

FINAL REVIEW

WEEK 11

Collage that summarises all main design intentions.

For the Final Review, all relevant previous work was presented, to avoid repetition that has not been included in the Process Book.

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FINAL REVIEW

WEEK 11

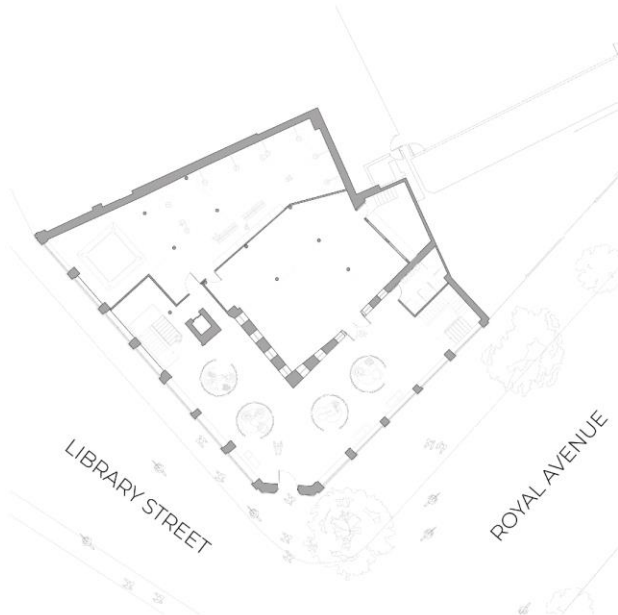
Developed Schedule of Use by floor.

GROUND FLOOR

- PODS OF RETREAT
Semi-enclosed spaces that provide a more private area. These elements extend vertically up to the third floor and can be suitable for small groups of people as well as for private study or reading. The aim of this spaces is to provide a sense of privacy while still feeling part of the space.

- PERFORMANCE SPACE / DANCE STUDIO
An opened plan area that can acomodate both scenarios. This are is naturally lit thanks to a lightwell in the centre and the openings in the perimeter of the space allow for a an interaction with the exterior social area.

- BOXING
An ideal way to free stress is physical activity. This area will allow for people to freely enter at any time or to have scheduled classes.



FINAL REVIEW

WEEK 11

Developed plans.

GROUND FLOOR PLAN IN CONTEXT
1:200 SCALE

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FINAL REVIEW

WEEK 11

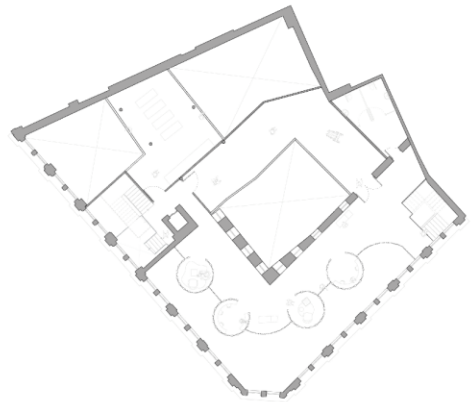
Developed Schedule of Use by floor.

F I R S T F L O O R

- PODS OF RETREAT
Semi-enclosed spaces that provide a more private area. These elements extend vertically up to the third floor and can be suitable for small groups of people as well as for private study or reading. The aim of this spaces is to provide a sense of privacy while still feeling part of the space.

- GALLERY OF THE PERFORMANCE AREA
Provides the possibility to observe the performance in a more casual format. You can circle around the area and enhances the idea of having a performance area that is connected to the rest of the building.

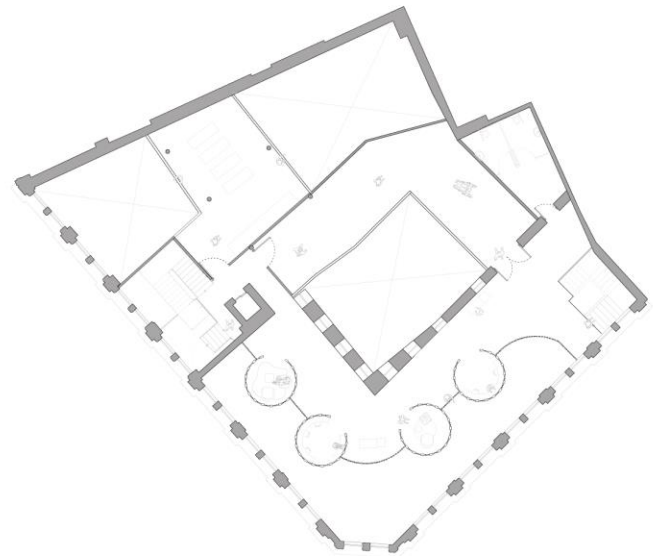
- GALLERY OF THE BOXING AREA
An area dedicated to stretching, warm up or more individual exercises. This area also serves as viewing platform of the boxing ring on the ground floor.



FINAL REVIEW

WEEK 11

Developed plans.



FIRST FLOOR PLAN
1:200 SCALE

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FINAL REVIEW

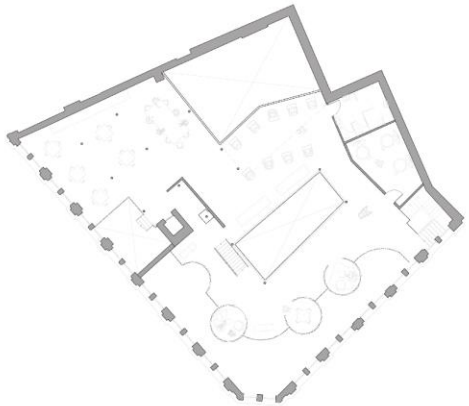
WEEK 11

Developed Schedule of Use by floor.

SECOND FLOOR

-POTTERY ROOM
The direct conection between hands and clay can be very calming, additionally, seeing finished pieces can create a great sense of achievement.

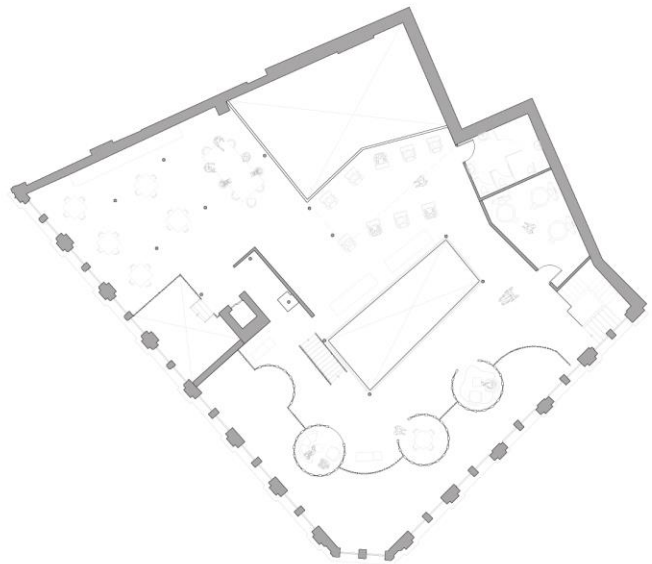
- WORKSHOP ROOM
In this part of the building, workshops related to making with your hands will be dictatied. The workshops will vary between jewerly making, origami, arts and craftes, etc.



FINAL REVIEW

WEEK 11

Developed plans.



SECOND FLOOR PLAN
1:200 SCALE

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FINAL REVIEW

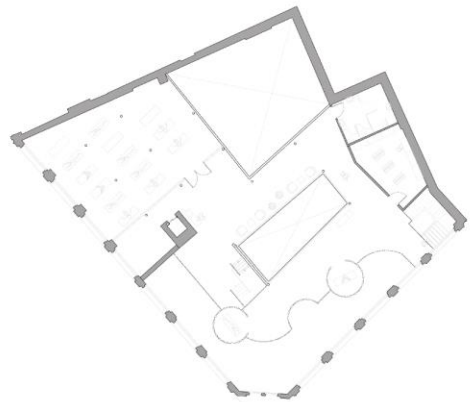
WEEK 11

Developed Schedule of Use by floor.

THIRD FLOOR

- YOGA AREA: GROUP SESSIONS
The opened-plan space is utilized for group yoga sessions. The eastern windows as well as the proximity to the back lightwell creates an adequate atmosphere for this activity.

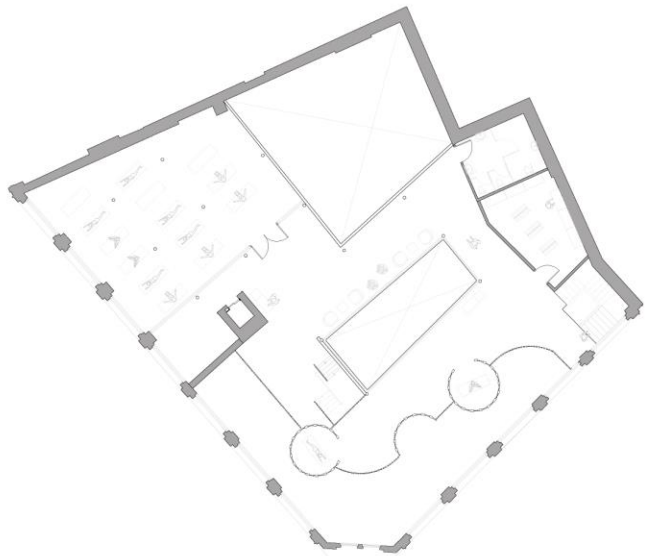
- YOGA ROOMS: INDIVIDUAL SESSIONS
The retreat pods in this level are suited for individual yoga or meditation in a more private format.



FINAL REVIEW

WEEK 11

Developed plans.



THIRD FLOOR PLAN
1:200 SCALE

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FINAL REVIEW

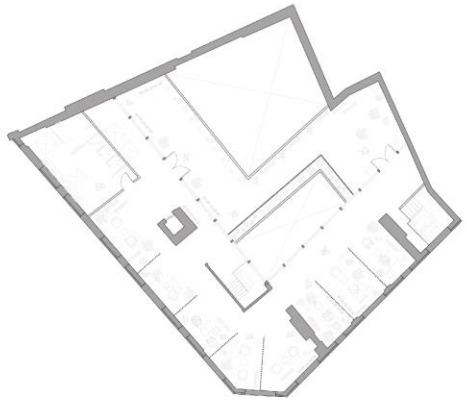
WEEK 11

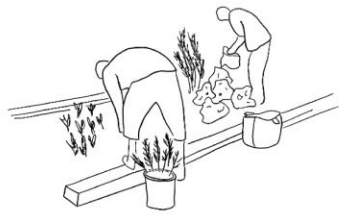
Developed Schedule of Use by floor.

FOURTH FLOOR

- COUNCELING AREA
An opened plan room that offers enclosure thanks to indors plants in tall pods and timber fins. Tis area is dedicated to informal counceling and private conversation.

- GARDEN AREA
A green roof does not only improve insulation in the building, but having direct acces to it can improve mental health. Additionally, a small planting patch has been incorporated. Group gardening or Ecotheraphy is very benefitial for reducung stress and anxiety levels

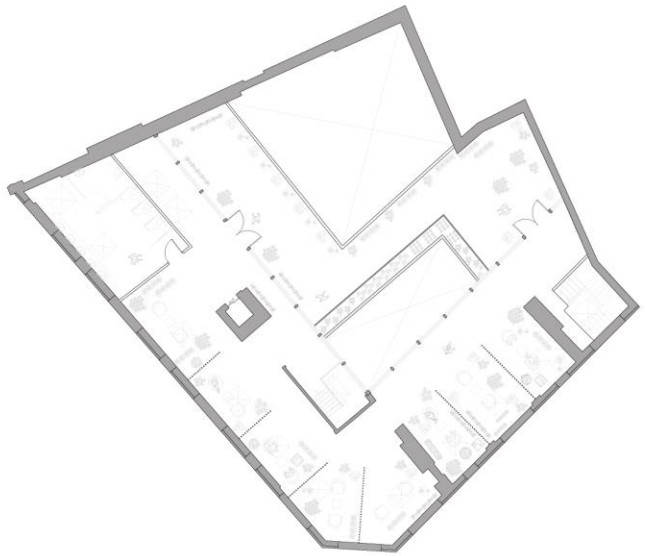




FINAL REVIEW

WEEK 11

Developed plans.



FOURTH FLOOR PLAN
1:200 SCALE

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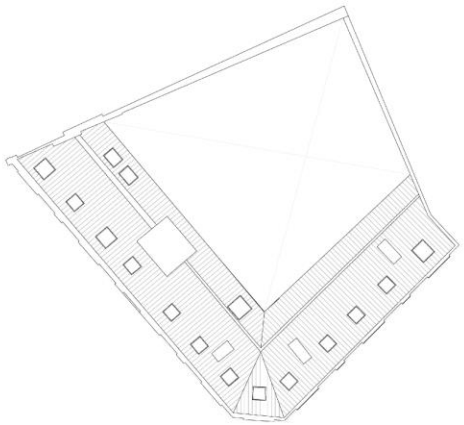
FINAL REVIEW

WEEK 11

Developed Schedule of Use by floor.

ROOF PLAN

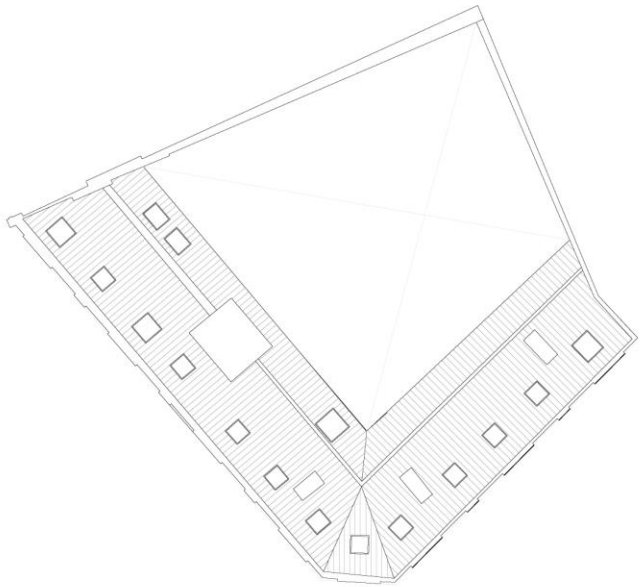
-REUSE OF THE EXISTING ROOF
The existing roof is planned to be partially kept for this design proposal as well as all the original positioning of the skylights.



FINAL REVIEW

WEEK 11

Developed plans.



ROOF PLAN
1:200 SCALE

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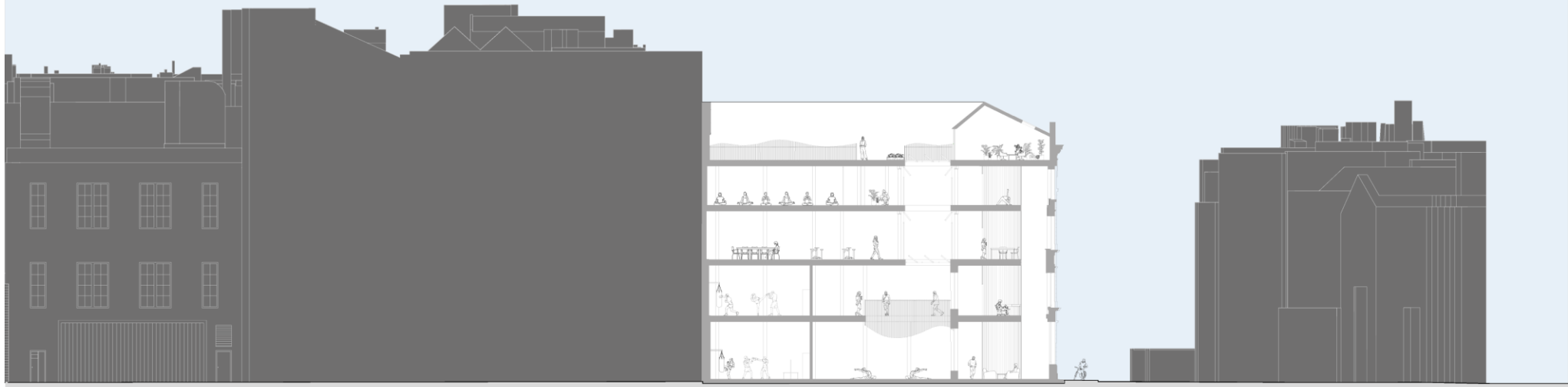
FINAL REVIEW

WEEK 11

Developed section.



SOUTH SECTION
1:200 SCALE

FINAL REVIEW

WEEK 11

Developed elevation.

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EAST ELEVATION
1:200 SCALE

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FINAL REVIEW

WEEK 11

Developed elevation.

SOUTH ELEVATION
1:200 SCALE

FINAL REVIEW

WEEK 11

Section perspective that provides a different view of the building.

COMFORT STRATEGY

The combination of rooflights –that bring two times more daylight into the building than – and vertical windows, maximise the penetration of natural light and extends the amount of time that the users want to spend inside the building.
Opened plan rooms have been designed for group activities, and it juxtaposes with the enclosure that the 'pods of retreat' offer. Timber has been introduced in the 'pods of retreat' to create the enclosure. The use of tactile materials like timber or exposed brick enhances the connection of the user with the spaces.
Visual monotony has been avoided by creating double and quadruple height as well as the introduction of the 'pods of retreat'
The comfort strategy has been approached through the guidelines stated in the design guide Happy by Design by Ben Channon.

LIGHTING STRATEGY

-Quadruple height spaces have been created alongside the interior of the façade as a mean of maximising light penetration through the existing windows.
-Reinstation of the original lightwell that pierces through the building to ultimately lead to a naturally lit performance area. The internal glazing permits the natural light to reach penetrate deeper into the building.
-Additional lightwell in the norther corner of the building, improves the illumination of this area as well as providing dynamism between floors

THERMAL STRATEGY

The thermal insulation of the floor and walls have been reinforced with recycled denim insulation. In addition, the implementation of underfloor heating will avoid cold spots as well as reducing the energy consumption by 15-40%. The central void will allow for a more efficient ventilation and manual regulation of the

SECTION PERSPECTIVE
WITH COMFORT, LIGHTING AND THERMAL STRATEGIES

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FINAL REVIEW

WEEK 11

Insulation proposal.

RECYCLED DENIM THERMAL INSULATION

Choice of material for thermal insulation; advantages and disadvantages

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40251584

The current fashion industry uses high quantities of non-renewable resources, including petroleum and water, extracted to produce clothes that are often used only for a short period of time, after which the materials are largely lost to landfill or incineration; making the fashion industry responsible of around 10% of all greenhouse gas emissions in the world and 20% of global waste water. According to the BBC; More than two tonnes of clothing are bought each minute in the UK, more than any other country in Europe. Globally, around 56 million tonnes of clothing are bought each year, and this is expected to rise to 93 million tonnes by 2030 and 160 million tonnes by 2050. The recycling process of clothing to create new garments is very complicated because creating a piece of clothing means using different types of treads, zippers, tags and dyes; less of 1% of new garments are made from recycled fabric.
Alternatives have been investigated, and recycled denim can be used in construction as thermal insulation. This high-performance insulation material is made from scraps and clippings from the manufacture of denim clothing as well as old denim pieces of clothing that have been outworn or discarded already. Buttons, zippers and other metallic pieces are removed before the denim pieces are cut into smaller pieces to then be shredded into cotton candy- like fibre blocks. Unlike other type of clothing, denim is usually done of 100% cotton, meaning it can be broken down and repurposed very easily.

Advantages

Sustainability
- 100 percent recyclable at the end of the insulation's usable life
- requires much less energy than the manufacturing of fiberglass insulation
- waste free manufacturing process

Performance and Installation
-Excellent thermal performance
-Denim insulation's acoustic ratings are about 30 percent higher than those for traditional insulation
-Contains no volatile organic compounds or formaldehyde, which call pollute air indoors.
-does not irritate the skin or the respiratory tract as other insulation materials do

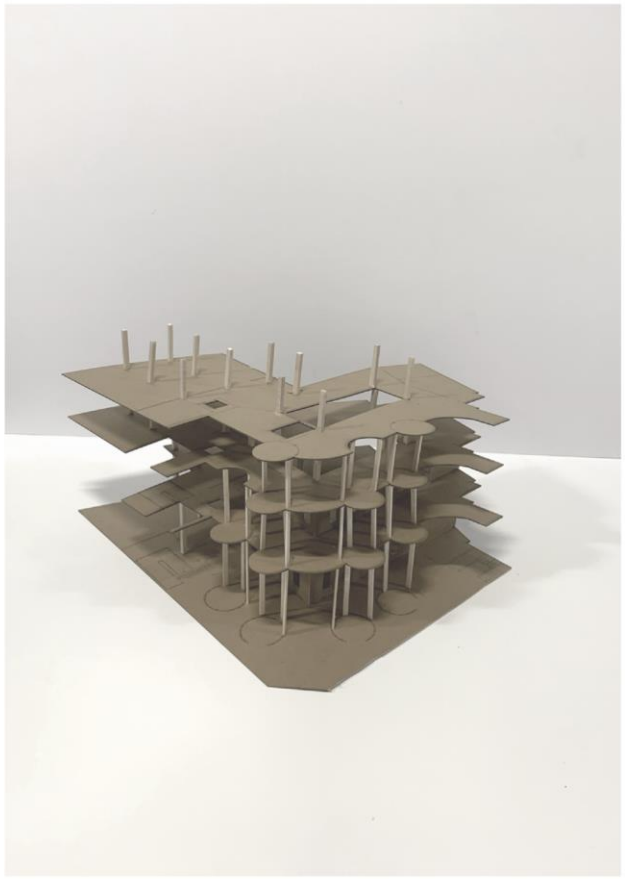
Disadvantages

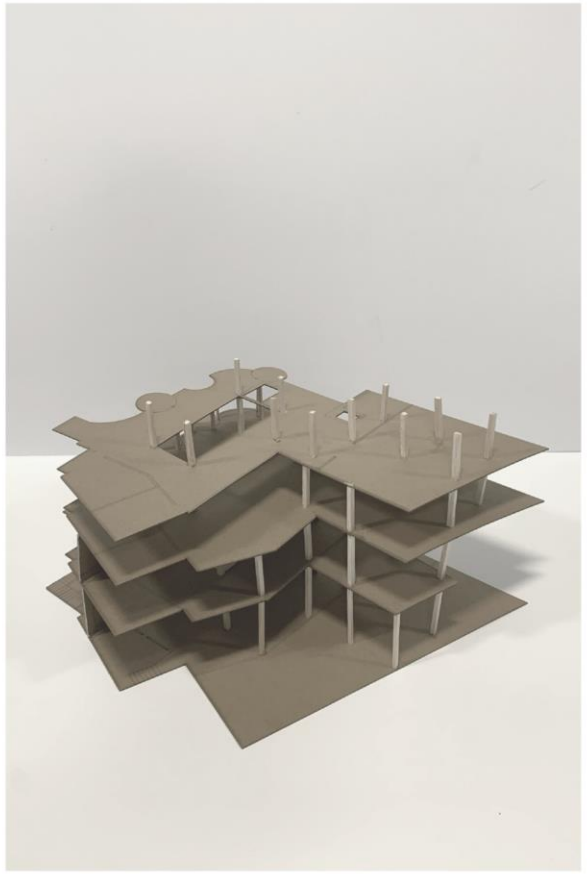
-On its own, the material is not fire, pest, mildew and mould resistant, notwithstanding, treatment can be added to the manufacturing process to make it resistant to these
-Can be difficult to cut into the proper width, therefore manufacturers have added perforated seems to facilitate this
-It can cost twice as much as fiberglass for similar insulation effectiveness

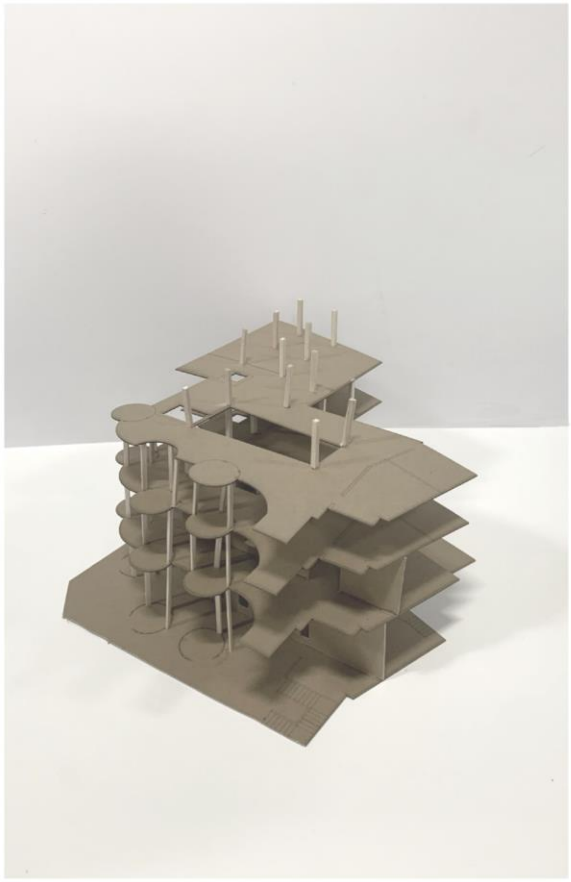
FINAL REVIEW

WEEK 11

1.100 Model that expresses the general layout of the building.







STRUCTURAL LAYOUT
1.100 MODEL

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FINAL REVIEW

WEEK 11

Expression of the demountability asset of the model. This allowed for a better understanding of the relationship between the structure and the façade.

DEMOUNTABILITY
1.100 MODEL

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FINAL REVIEW

WEEK 11

Aerial shoots of the Model and sectional view.

CORRELATION OF ELEMENTS
1.100 MODEL

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FINAL REVIEW

WEEK 11

Expression of the spatial quality and interaction with the existing façade of the ‘pods of retreat’.

PODS OF RETREAT
1.33 MODEL

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MODEL PHOTOGRAPHY BOOK

The following section showcases the best photographs of the 6 models that were used as a design tool along the semester.

WEEK 5

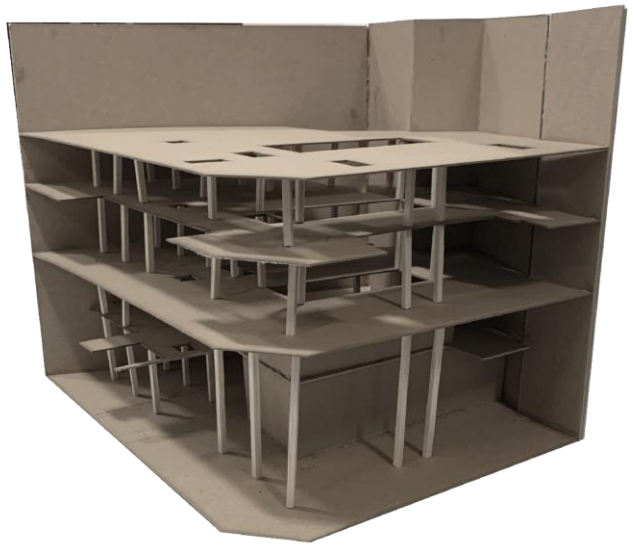
1.33 Key Element Model

WEEK 7

1.33 Roof Model

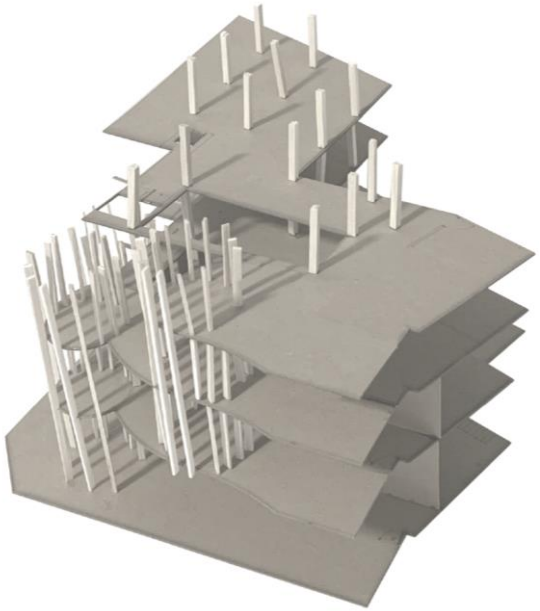
WEEK 7

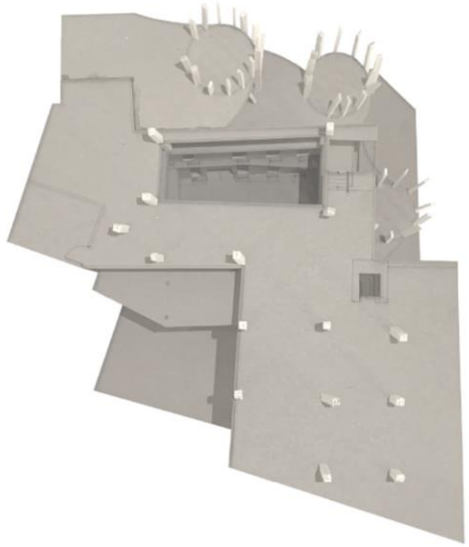
1.100 Floor Layout Model

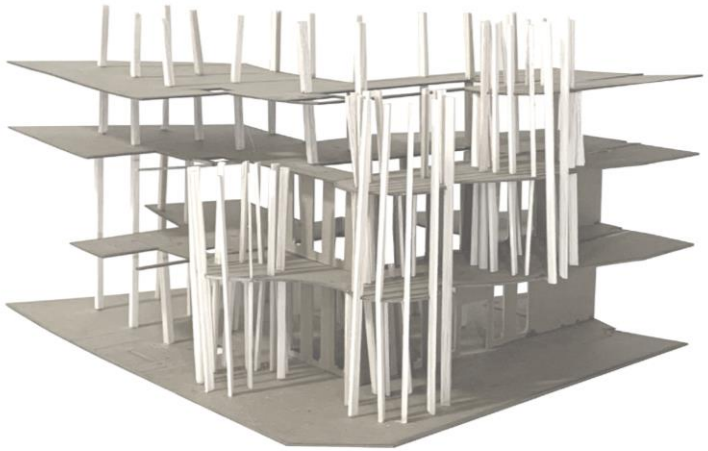


WEEK 9

1.100 Floor Layout Model

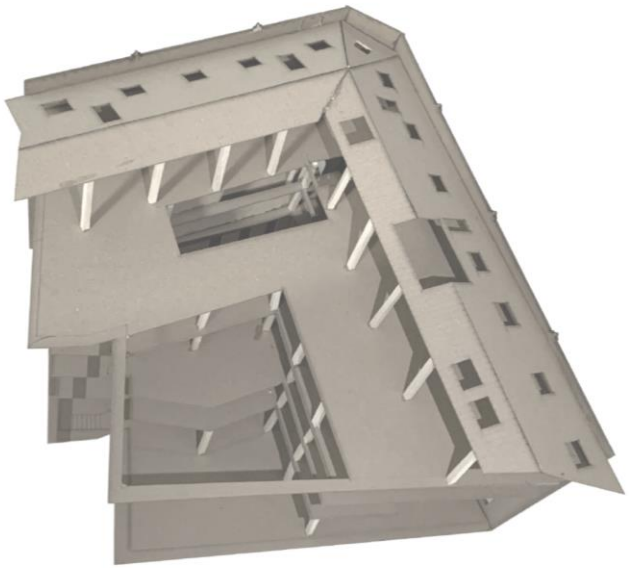


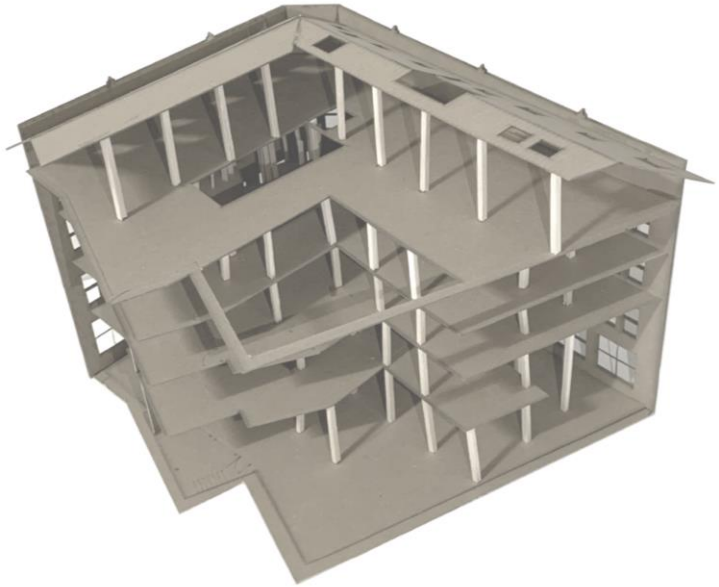




WEEK 9

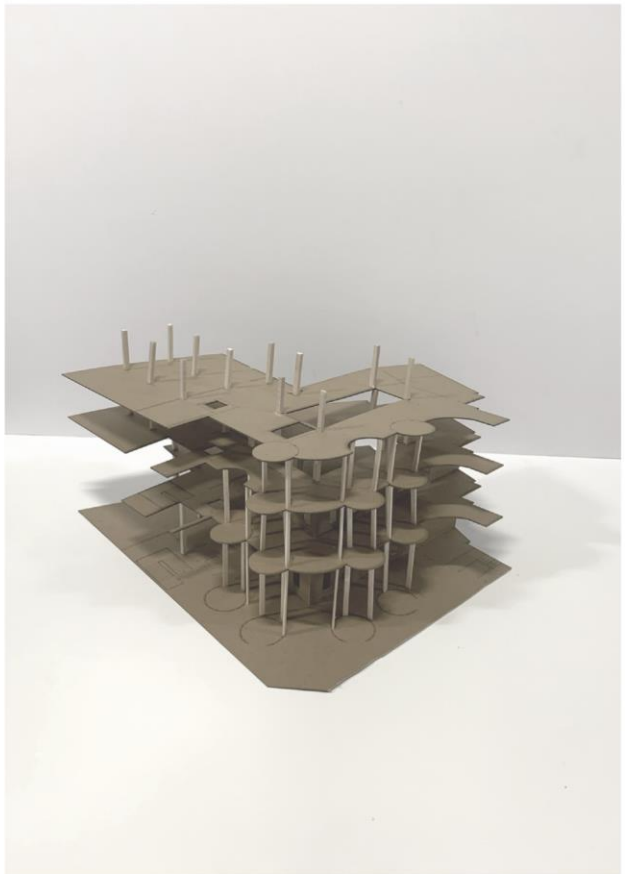
1.100 Floor Layout Model

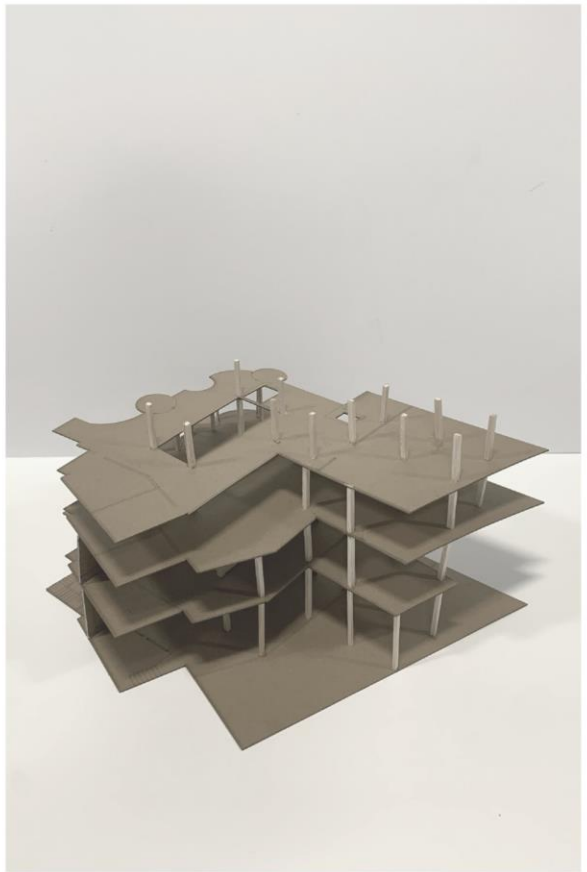


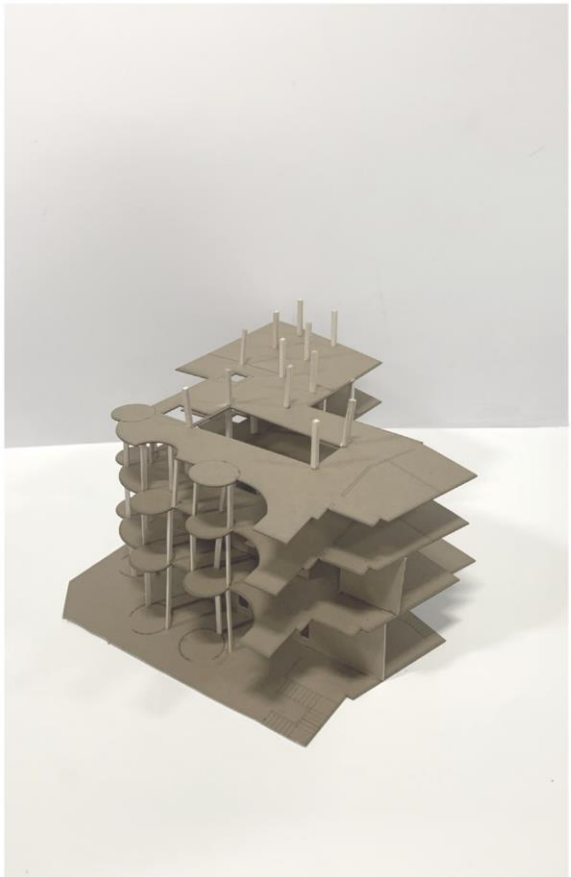


WEEK 11

1.100 Floor Layout Model







WEEK 11

1.100 Floor Layout Model

WEEK 11

1.100 Floor Layout Model

WEEK 11

1.100 Model
Photographs from human viewpoint.

PRODUCED AFTER
FINAL REVIEW

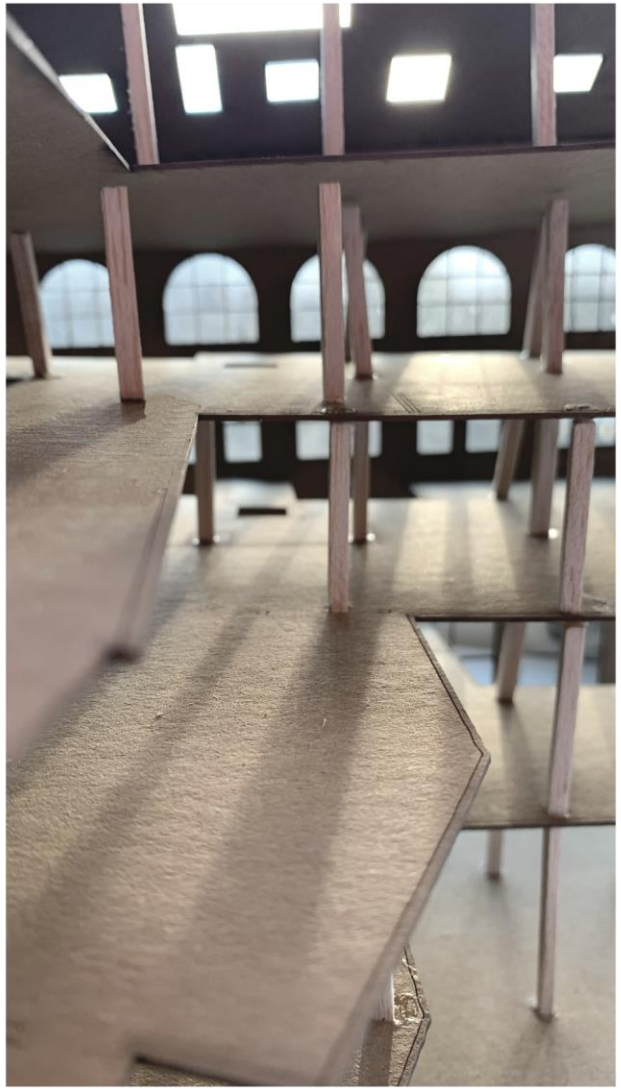
WEEK 11

1.100 Model
Photographs from human viewpoint.

PRODUCED AFTER
FINAL REVIEW

WEEK 11

1.100 Model
Photographs from human viewpoint.



PRODUCED AFTER
FINAL REVIEW

WEEK 11

1.33 Model ‘Pods of Retreat’

WEEK 11

1.33 Model ‘Pods of Retreat’