

THE BODY ARCHIVE

Cristina Andreea Popa

Introduction

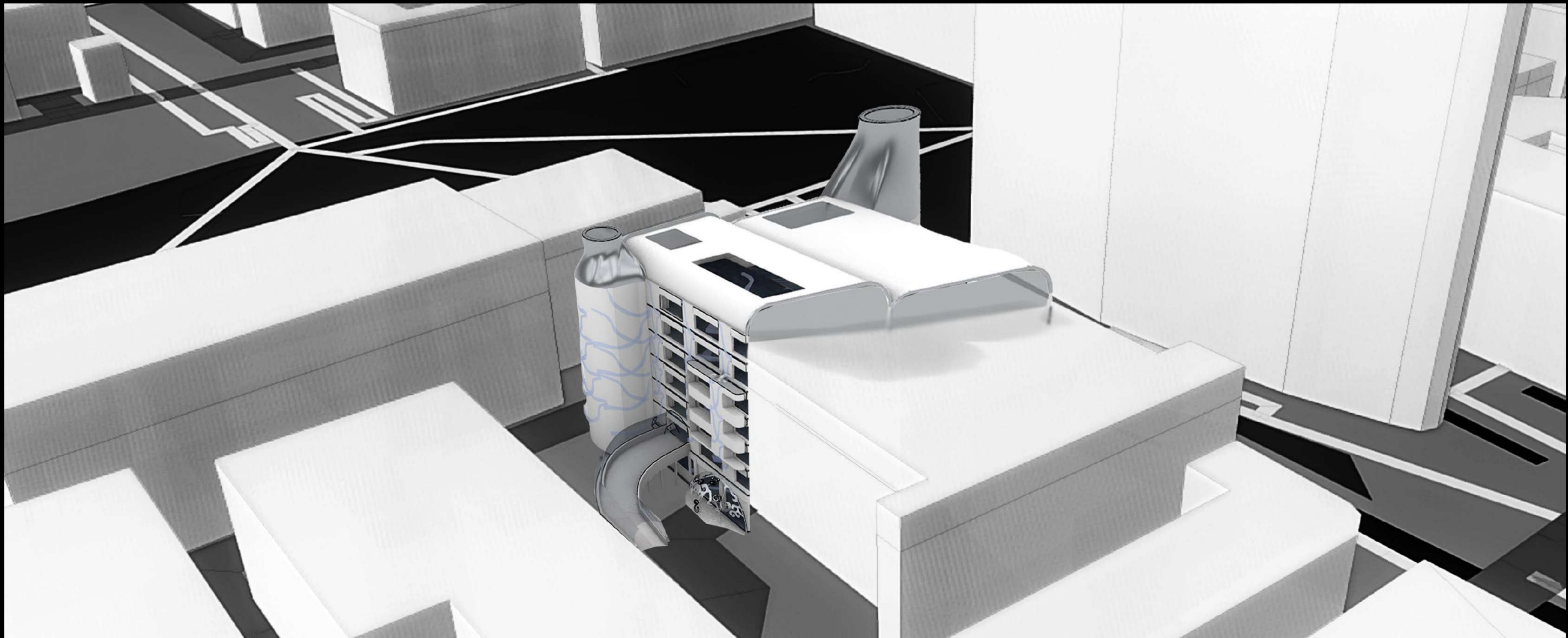
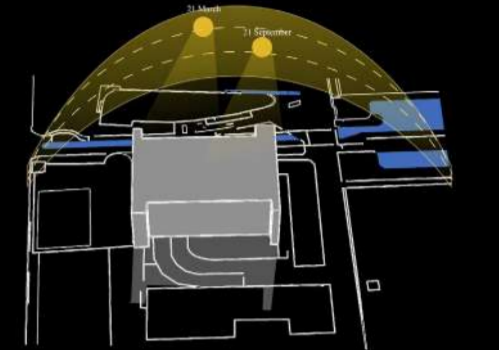
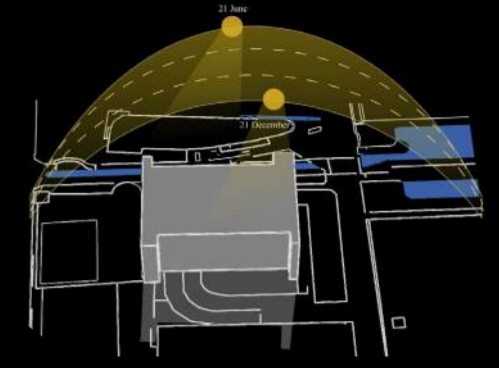
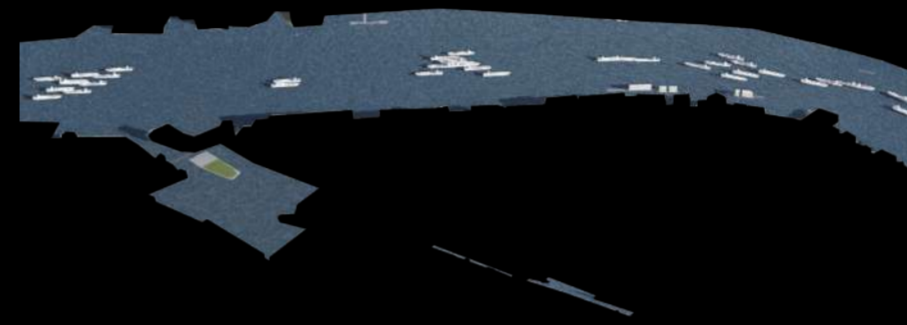
The body archive is a project that takes place in 2076, focusing on new forms of communal living in flooded London. Located in Tobacco Dock Car Park, Wapping, the proposal re imagines an almshouse as a form of future social housing that supports collective well-being for the older community where ecological adaptation is part of everyday life. Developed through indigenous materials experimentation, exploring how materials, sustainable principles, and adaptive reuse contribute to ways of living in a changing world. Situated alongside a canal, increases the chances of flooding as the site becomes a challenge for future ways of living.

Inspired by cybersigilism, a specific tattoo style, and the body as a living archive, the design includes tattooing as a way to experience how memory, identity and personal stories can be shared in an architectural shared space. The main purpose of the design is to create a space where learning, making and maintenance can happen across connected spaces as well as creating a supportive community regardless of age range.

Strategies for Resilience, Reuse and Community

The proposal presents how innovation is used in the adaptive reuse of an existing building, adapting a car park that holds collective memory for the community into a socially rich environment. As part of the process, specific parts of the building are demolished in order to allow the new purpose of the space and the flooding intervention to take place. This approach helps preserving the structural parts of the building while improving natural light access and airflow.

The waste material created from demolition is reused by layering the concrete to create stairs, creating an architectural element. Due to the flooding and the location next to the canal, the area becomes very humid, decreasing the air quality. As a result, the walls will have a clay structure due to their moisture control properties. Alongside the water system that flows through the building, shared spaces and accessible circulation routes, these strategies create a resilient and interconnected form of living for ageing bodies in a caring community.



Material Strategy

The process of choosing the right materials for the design started by researching the original materials of the existing building as well as the external conditions. The original materials of the car park are steel and concrete for the structure, as well as brick walls. As part of the initial ideas, I experimented with clay thinking that the concrete walls would be damaged over time due to the flooding. Then, I started looking at how can I solve the flooding issue to preserve the building. After researching indigenous practice methods I recreated a gabion that would attract the humidity from the air and decided to use it in the filtering room where the pools system is located in the design. The gabion is made out of layers of rocks and soil between a metal mesh, imitating the dry stone wall structure.

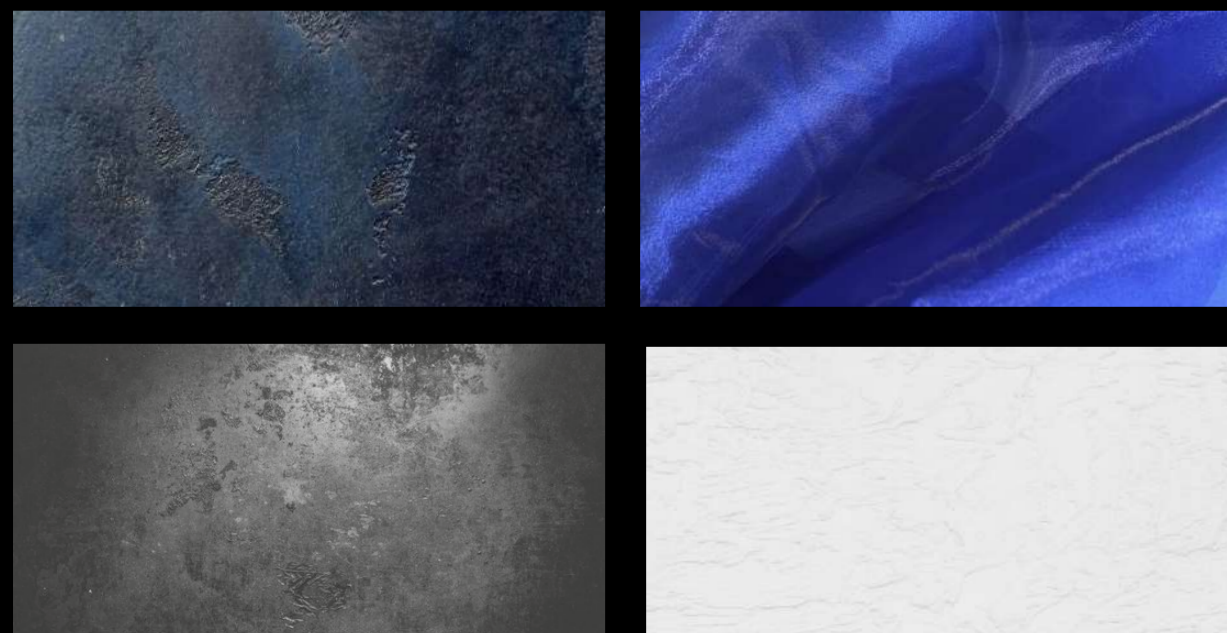
Looking into the indigenous practice methods, I decided to use clay for the walls due to its qualities, absorbing the air moisture and because it is easy to shape it led me to the decision of creating built-in furniture. As a sustainable approach, instead of changing the floors of the car park that are made out of concrete, I decided to stain them, creating a durable, unique look that is wear resistant as well as preserving the significance and value of the building.

After deciding to add movement in the design, based on the tattoo machine movement, a linear sliding mechanism is added to the top parts of some walls using a semi transparent fabric to create a flowy movement. Another material used is steel, which serves as structural material for the healing pods structure due to its high compressive strength and durability.

Initial material tests



Samples for design



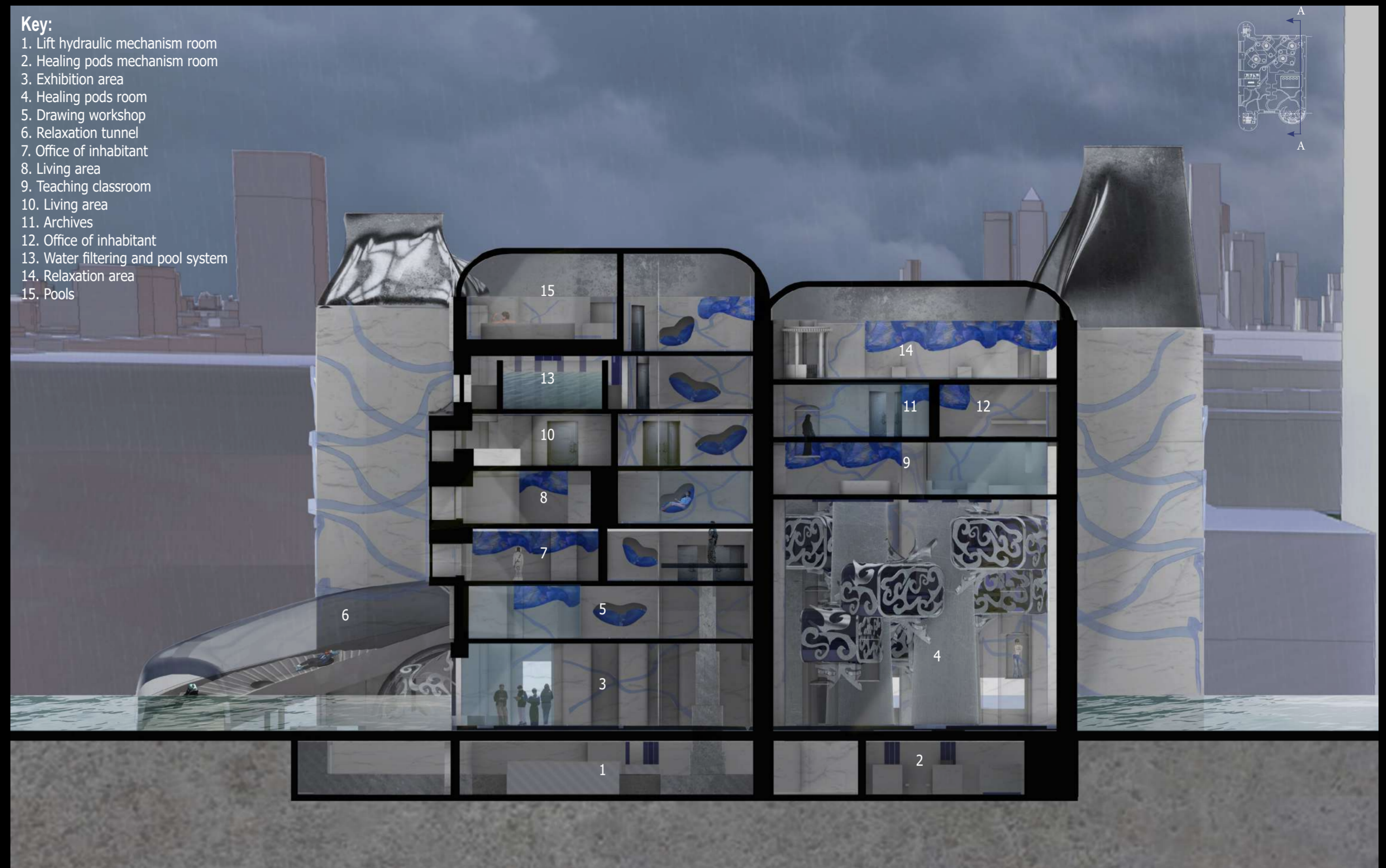
KEY:

- 1. Stained concrete
- 2. Blue organza fabric

- 3. Steel
- 4. Clay

Key:

- 1. Lift hydraulic mechanism room
- 2. Healing pods mechanism room
- 3. Exhibition area
- 4. Healing pods room
- 5. Drawing workshop
- 6. Relaxation tunnel
- 7. Office of inhabitant
- 8. Living area
- 9. Teaching classroom
- 10. Living area
- 11. Archives
- 12. Office of inhabitant
- 13. Water filtering and pool system
- 14. Relaxation area
- 15. Pools



Clay model of walls with built-in furniture

Press/scan here for movement:

<https://indd.adobe.com/view/eccb2cd-44e9-455a-8972-fd68beba8f61>

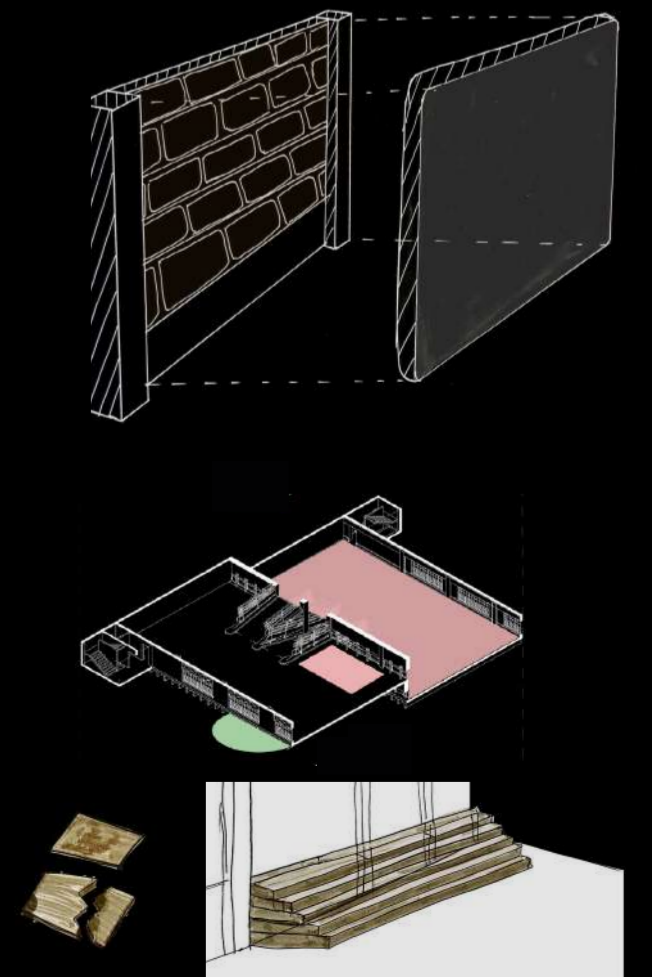


Design strategy

Since the walls of the existing building are made out of concrete and brick, there will be a layer of clay that covers them to attract the humidity from the air caused the flooded area and also to create seatings and built-in furniture in the walls.

Adaptive reuse

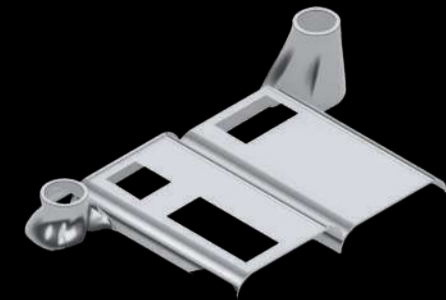
Due to major interventions in the building, removing multiple floors, results a significant amount of waste material. To solve the problem created, the wasted concrete will be stacked to create stairs between the half-floors instead of the ramps.



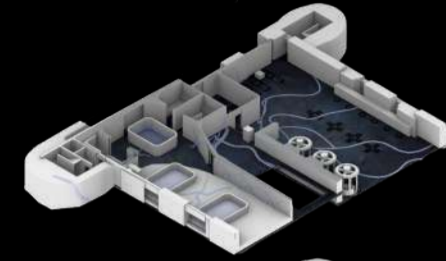
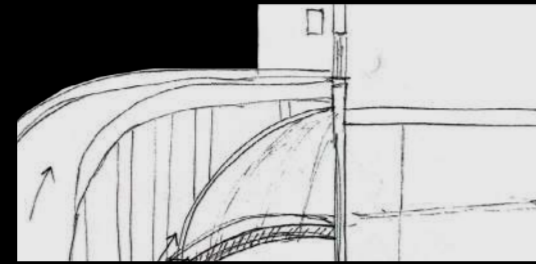
Design process

As I decided to fix the flooding problem, the ground floor will be tanked to stop the water from coming in, but to create a space with natural light I decided to add a dome as part of the tanking at the front of the building. The dome will have a concrete base, a steel frame and transparent acrylic to allow the natural light in the building.

One challenge I encountered after decided to tank the ground floor was noticing that the ramp could not be used due to the flooding, so as solution I thought of using the ramp as part of the design creating a tunnel with seating where inhabitants can enjoy natural light.



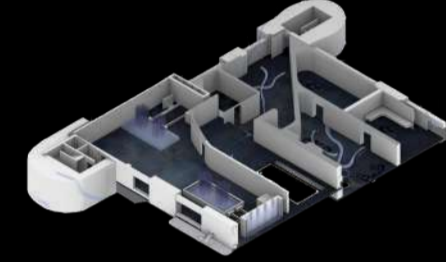
Roof



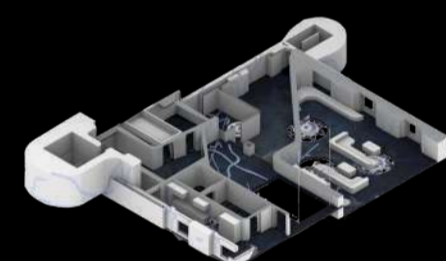
Sixth floor



Tanking dome structure



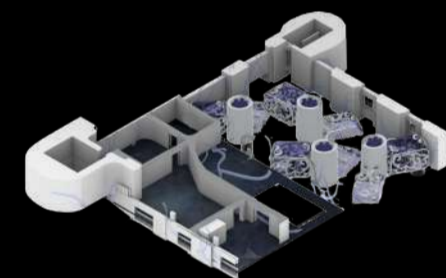
Fifth floor



Fourth floor



Relaxation tunnel



Third floor

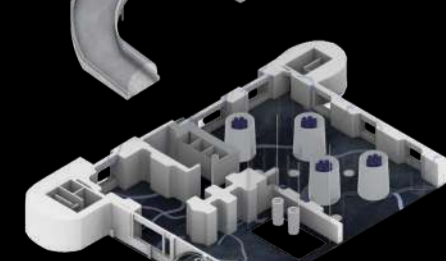


Second floor

As part of the main intervention in the building is the hydraulic lift that goes through the whole building, offering easy access to the inhabitants. Before deciding to find a solution to the flooding issue I was thinking to use a gabion in the ground floor to stop the humidity from spreading in the whole building. The first idea was to create a moving floor that would be activated when the building is flooded. Therefore, realising this could be an issue that would not be suitable for the older inhabitants. The issue was resolved by adding a lift instead, using less space for practicality.



First floor



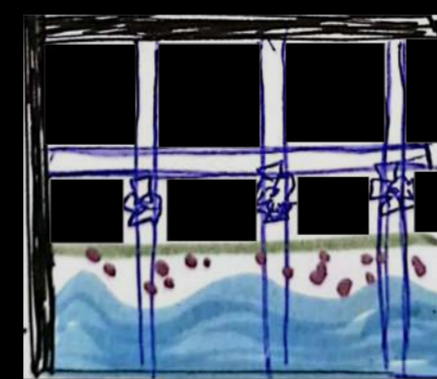
Ground floor



Basement



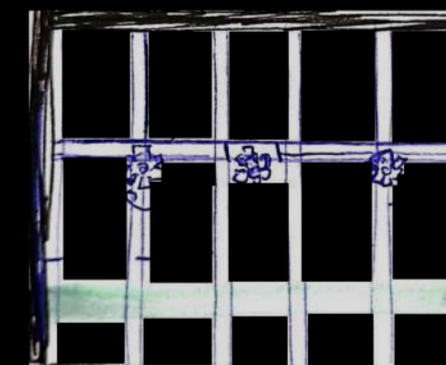
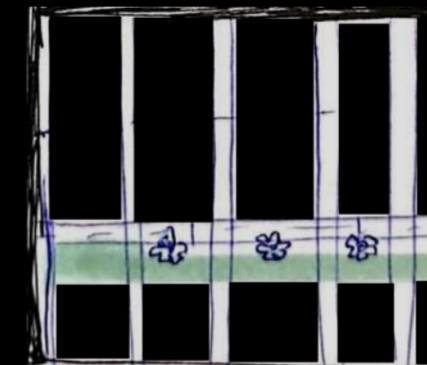
LIFT VIEW



Humidity



Moving floor



Test model of mechanism



Movement of lift

Experimentation and research

As part of the design process, I experimented with ink thinking of what is used to make a tattoo, experiment that made me think of the necessary spaces for the whole process.

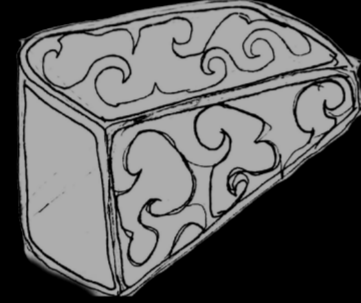
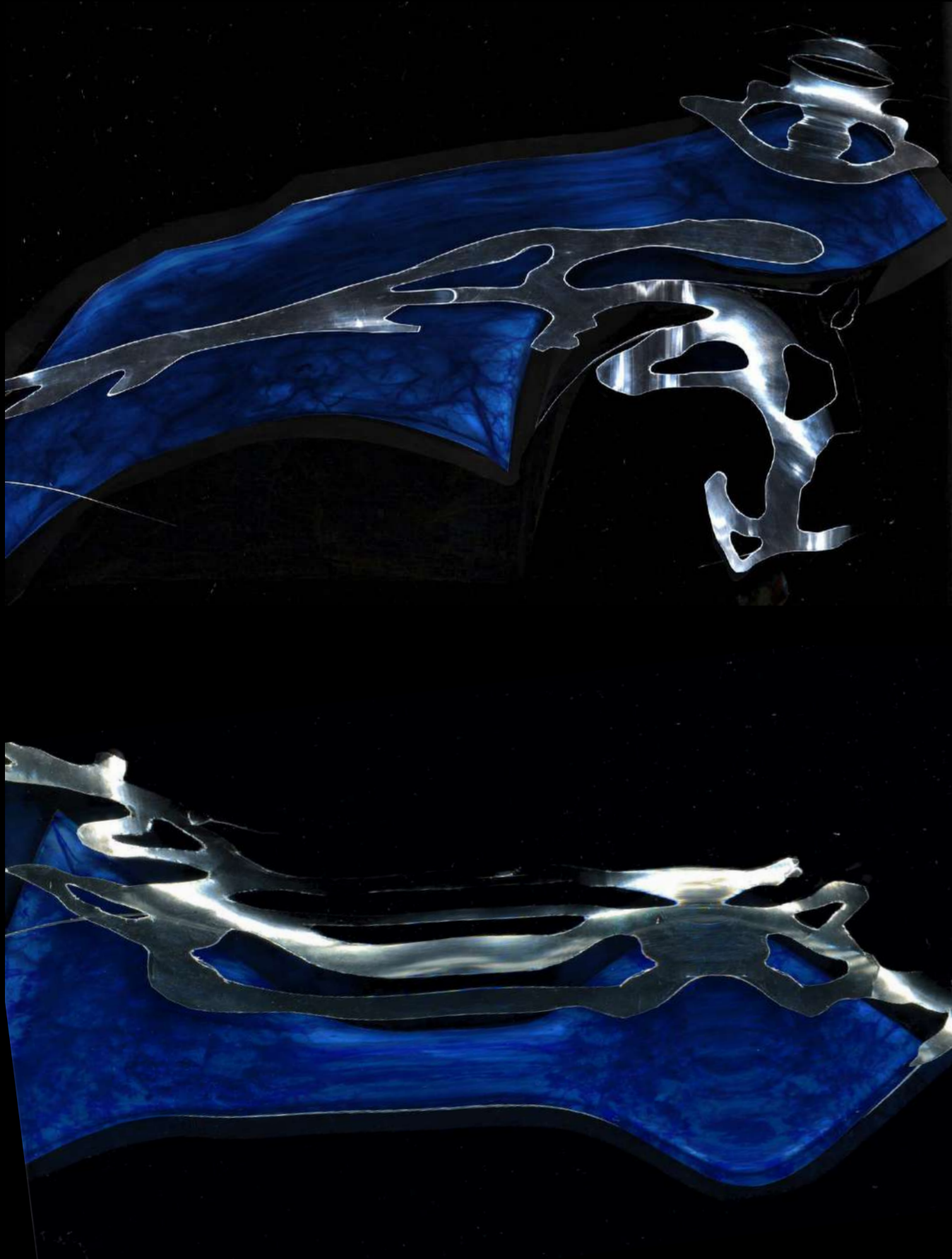
Looking more into the tattooing process, I decided to create a space for the guests to heal their tattoos as well. The healing pods mechanism is found in the basement where air pressure is controlling the flow of the healing solution that goes in the beds structure from the pods. Inside the "tree" there are tubes going to each capsule, connecting them at the top, in the floor of fourth floor, where the gears will be moving when the mechanism works. To assure privacy and easy access each pod has each own cylindrical tube lift.

One challenge that I encountered during the process was choosing the pods shape, as initially I was looking at a more triangular shape, later realising it would not be practical due to the limited space at one end of the capsule so I decided to use a rectangular shape to optimise the use of the space.

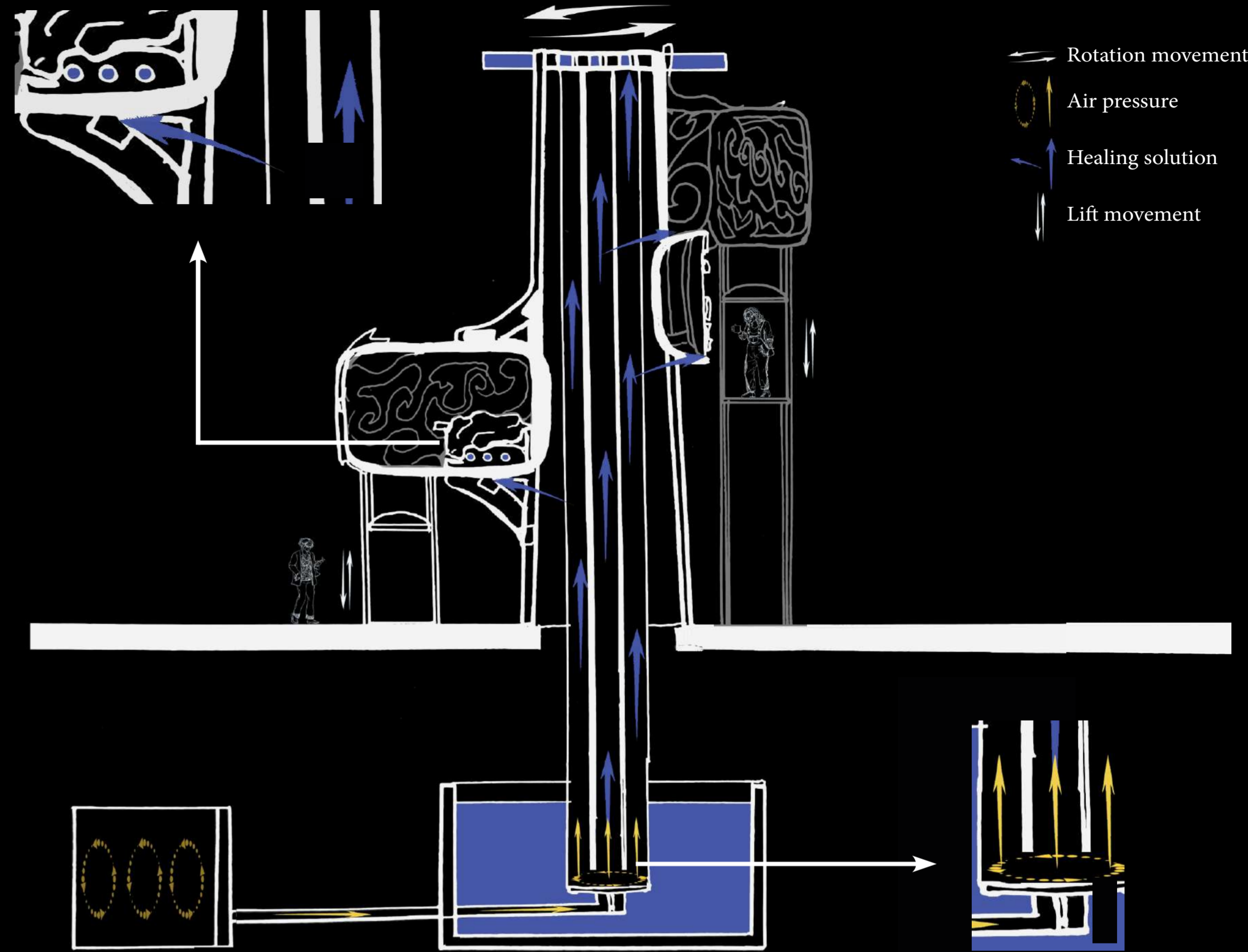
Experimenting with ink and initial ideas



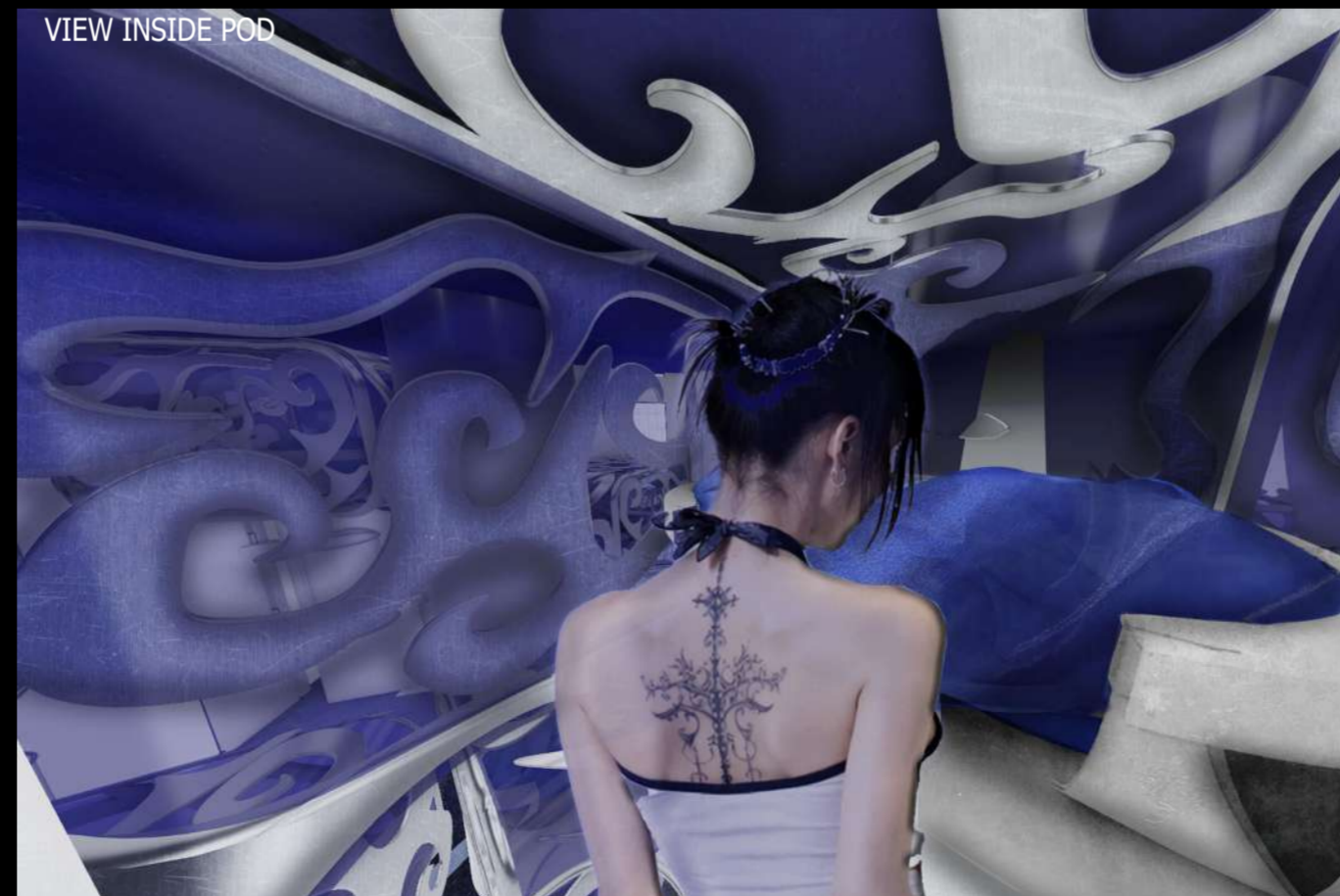
Scanning experimentation



Perspective



VIEW INSIDE POD



HEALING PODS ROOM



