

Returning to Public Space
Pop-up installations to break down isolation and social anxiety after the COVID-19 pandemic.

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Abstract

The COVID-19, a new form of coronavirus, outbreak began at the beginning of 2020 and lasted much longer than we anticipated; until today, the world is still under the impact of such a virus.

Many countries adopted a 'Lock-down' approach to prevent public transmission of the virus for public safety measures. However, "Human beings are born social." (Julian Baggini, 2014) and individuals being forced into long-term isolation can find their mental health being significantly impacted; "research shows significant negative effects." (Anxiety NZ Trust, 2020) Social Anxiety is one of the common mental health issues that can arise from such situations. "Some people will feel paralyzing anxiety about resuming their normal activities after being in a fear mode for more than a year" (McBride, 2021).

This research explores how to help people with Social Anxiety caused by the COVID-19 return to their previous lives before the pandemic comfortably and softly. Without forceful interactions between audiences. It does this by proposing pop-up community activity spaces designed according to principles of proxemics and atmosphere.

The basis of my research is anthropologist Edward T. Hall's idea of 'proxemics', a model for understanding social distance. As a speculative project, my goal is to help those impacted, post-disaster reconstruction and community-building; utilizing spatial design to contribute to restoring this sense of connection, 'mastery of their world' and well-being. I propose a temporary intervention that can be moved from place to place, activating existing public spaces in new ways. My design references include post-disaster reconstruction designs such as the Cardboard Cathedral in Christchurch and pop-up structures more generally.

The proposal consists of a portable, modular wall system that draws people closer and frames social activities. The wall is used for knotting *shengjie*, markers of social connection, and invitations to participate in space-making. It also includes chairs and tables designed to host various activities, including eating and playing. Space will evolve during its installation, making visible the idea of people gathering and uniting.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor any material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed

Date

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Section One. Introduction

Returning to Public Space

The COVID-19, a new form of coronavirus, outbreak began at the beginning of 2020 and lasted much longer than we anticipated; until today, the world is still under the impact of such a virus.

Many countries adopted a 'Lock-down' approach to prevent public transmission of the virus for public safety measures. However, "Human beings are born social." (Julian Baggini, 2014), and individuals being forced into long-term isolated can find their mental health being significantly impacted; "research shows significant negative effects." (Anxiety NZ Trust, 2020) Social Anxiety is one of the common mental health issues to arise from such a situation. "Some people will feel paralyzing anxiety about resuming their normal activities after being in a fear mode for more than a year" (McBride, 2021). After such a long period of social isolation, people will become anxious about returning to social norms, fearing they may be incompetent in social interactions. "Social anxiety is defined as the fear of being judged, criticized, or rejected by others. Those of us with social anxiety think that if we do things just right, we can avoid disappointing others and escape the dreaded possibility of being judged" (Shannon, 2020). But eventually, we need to return to our previous social lives: go to school, go to work, and communicate with people. Therefore, it is important to help people recover their human connections.

The basis of my research is Edward T. Hall's idea of "proxemics": in the space distance between different people, emotions and feelings will also be produced. Proxemics is a branch of anthropology that studies space and the rules governing the use of space. It is how people use space to communicate, a "system for the notation of proxemic behavior" (Hall, 1963, p. 1003-1026). Hall describes four zones of proximity around us, and they all have different meanings in communication. Hall's theory is described in Section 2.

Using proxemics in the design process, I want to guide people to get close to or join other people's social activities, thus restoring community. People remain free to choose; I wish to give people more choices in the space created, not force them into relation. Therefore I aim to lead people to participate in activities and communicate through functional interaction and soft controls. Maybe these settings only make one or two people willing to try once in 1000

but through the first two people's attempts, they can make other people lower their vigilance to the environment and dare to try.

This is a kind of post-disaster reconstruction project. Most such projects address basic construction needs, such as houses, accommodation, and materials. But this pandemic makes us realise that disaster needs not only material conditions but also psychological support. Therefore, this research is a design project that combines psychology, people's experience and is a matter for spatial design. The most challenging part is that everyone's experience is different, so the feelings are not all the same.

There have been many existing approaches to support post-disaster recovery; however, they mainly focus on material needs. I believe we also need to consider people's spiritual and emotional needs. Many studies and surveys have shown that people feel uneasy after the disaster because they have lost their way of life. They have lost "their sense of mastery of their world and the deep sense of well-being that goes with that" (Borrell J, 2011, p.14-22).

As a speculative project, my goal is to help those involved with post-disaster reconstruction and community-building to see how spatial design might contribute to restoring this sense of connection, "mastery of their world," and wellbeing. I propose a temporary intervention that can be moved from place to place, activating existing public spaces in new ways. My design references include post-disaster reconstruction designs such as the Cardboard Cathedral in Christchurch, as well as pop-up structures more generally. These will also be explored in section two.

I aim to create a space that draws people in. The design attracts viewers' attention through removing the creating aesthetic and visual interest. As they become attracted and move into the designed space, they approach different areas separated with translucent and transparent effects. These spaces connect people and create a scene for seeing, speaking, playing, and eating together so that people don't feel embarrassed or nervous when interacting.

As the viewers spend time in this pop-up community, they will begin to assimilate into the surrounding social environment. Thus achieving the effect of facilitating the audience's return to their previous social state.

Section Two. Proxemics and *Shengjie*: Research Contexts

This section explains how my project integrates existing knowledge, practice, and ideas. It applies the work of other designers and spatial analysts to the question of helping people return to public space in a post-pandemic world and enables me to refine my research question. The research context includes Edward T. Hall's concept of "proxemics" (1963), the Chinese practice of *shengjie* knotting, COVID-19 related design, and more generally, research into pop-up urban interventions and public and participatory installation.

2.1 Edward Hall's Theory of Proxemics

Anthropologist Edward T. Hall, through considering the relationship between spatial design and communication, proposed a "system for the notation of proxemic behavior" (Hall, 1963, p. 1003-1026). Proxemics, he wrote, is "the study of how man [sic] unconsciously structures microspace - the distance between man in the conduct of daily transactions, the organisation of space in his house and buildings, and ultimately the layout of his towns." (Hall, 1963, p.1003). The organisation of microspace creates "informal space".

Informal space refers to people's experience and behavior in space, which is very important for individuals because it includes the distance between people between people in the past. "An area with invisible boundaries surrounding a person's body into which intruders may not come." (Sommer, 1979, p.47-67). Most of these distances are unconscious. Hall describes four zones of proximity (Fig.1):

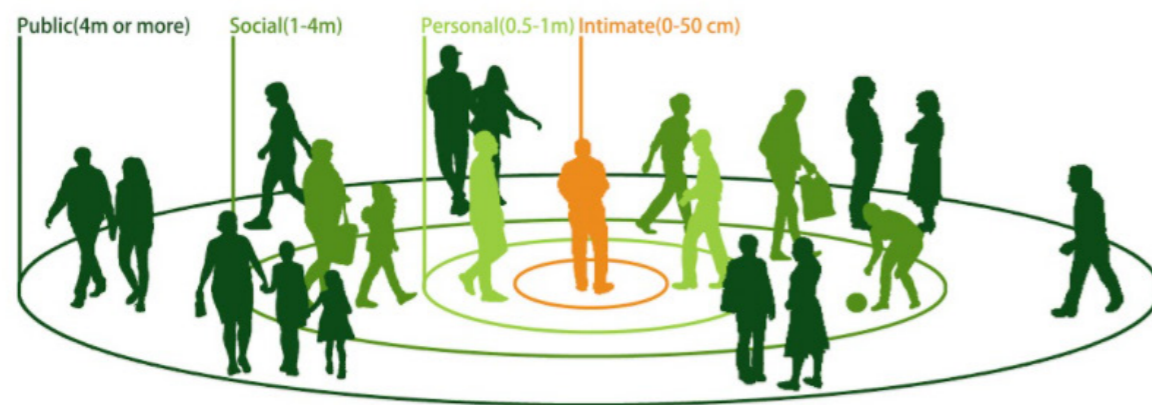


Figure 1. Four zones of proximity.

More than 4m is the public distance, people experience more personal feelings. People are far away from each other. At this time, the visual system is not visible, and there is no other feeling of communication. Therefore, we need to amplify the voice or use exaggerated nonverbal behavior to assist with communication.

1-4m is the social distance. With the increase of distance, we can see the whole body and each other's surrounding environment, but we can't see the facial details alone. In this distance, people need to make extra efforts to contact each other. This distance is often used for non-personal practical contact, such as work negotiation between colleagues. Long-distance plays the role of mutual non-interference.

0.5-1m is personal distance, which is divided into proximal 45cm-75cm and distal 75cm-1.2cm. The short distance is more used for the distance between lovers and family members, so it is a relatively private environment. Within this distance, the eyes are easy to adjust the focus, and it is impossible to see the full picture of each other at a glance so that people will focus on some features, such as eyes. In this scope, it can give detailed feedback of information between people. The voice of conversation is moderate, and verbal communication is more than tactile. It is suitable for the conversation between teachers and students, close friends, or daily acquaintances.

0-0.5cm is the ultimate distance. The intensity of sensory stimulation is extreme, and the other person's sense of existence is powerful. Because the space is too close and the vision is blurred, the temperature and heat emitted from each other's body and the sound indicate the close relationship between each other. When they are at such a distance from strangers, they will feel serious uneasiness in public places. People use avoiding conversation, smiling, and commenting to achieve balance.

During the COVID-19 pandemic, the physical distance became sensitive and emphasised. We emphasised keeping a safe distance of 2 meters to prevent virus infection. Although this distance is a social distance, it forces us to keep within this distance with most people, which makes us lose the personal and ultimate zones on people and restrict our communication. This makes us lose the psychological confidence to return to the public. In my research project, I will use proxemics as the basic concept to guide and direct the design project, bring back the social environment of different distances, let the crowd naturally integrate into the design space, feel comfortable, and arouse the resonance of regression.

2.2 Knotting culture *shengjie*

While Proxemics' concept can help people assimilate into the surrounding environment, it does not create a sense of direct connection between audiences. I want my audience to experience an emotional connection with others, export emotions, and receive feedback.

To achieve this effect, I explored the concept of '*shengjie*', a traditional Chinese knotting behaviour. In Chinese, the word "knot" (*Jie*) is used as a metaphor for many important things with centrality, such as friendship (*jielyi*), association (*jieshe*), worship (*jielai*), alliance (*jiemeng*), and unity (*tuanjie*). The knot can be understood as a kind of relationship connecting people. (Jiangang, Li, 2011, P. 245)

Knotting, also known as *shengjie* in Chinese, has evolved from a practical knot technique into a spiritual art that people convey good luck and wish each other after thousands of years of development and evolution. Cords are knotted and tied to posts or trees in public spaces as a way to mark a close friendship.

In China, knots were once used to communicate, record, and pass on information (Fig.2). This form of record once existed widely in the prehistoric stage of many famous ethnic groups worldwide; both Chinese and Peruvian Indians had this habit. Different knots contain different information, for example, "a knot represents a day's walk and is used to record the date." (Cheng. 2019). It is more like recording history and passing it on to later generations in our modern understanding, forming a connection to relate to people in different times.

Nowadays, red ropes are tied to buildings and trees in many Asian temples, which is a way to pray for happiness, health, and good luck (Lixin, Li. 2007, p.115-118). Through the act of knotting, the concept of a connection between people through shared belief is created, which I understand as a psychological distance.

I wish to incorporate the element of knotting into my design. I believe the behavior of '*shengjie*' can be utilised as a formed channel for emotional communication between audiences. When one leaves a knot on the site, he/she is also relaying an emotional message, whether it be a wish for

good fortune or to express a sentiment between friends. Such emotional connections can be utilised in achieving emotional resonance, harmony and creating a mutual consensus of social consciousness.

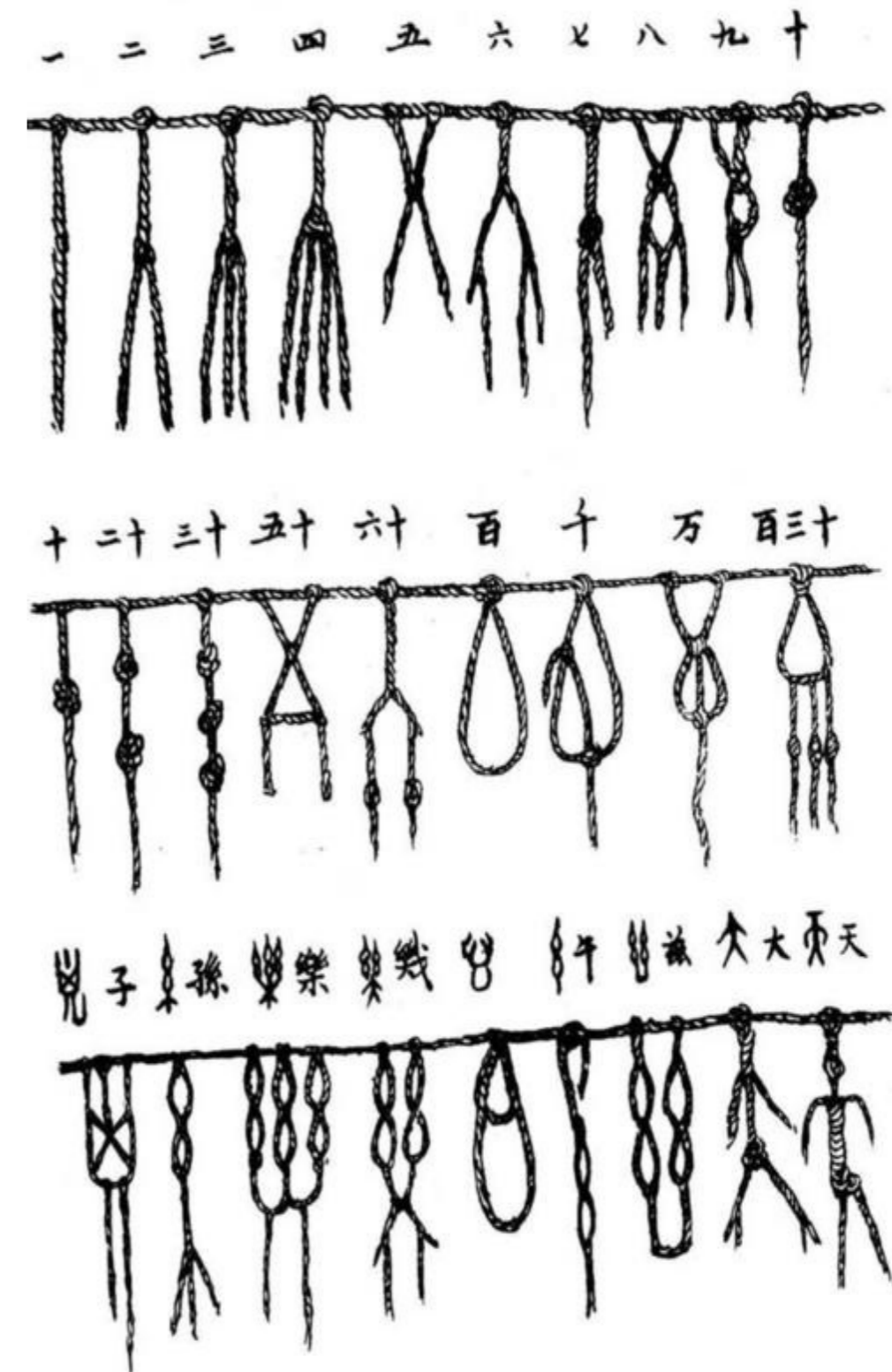


Figure 2. Fangjie, C. 2019, Knotting to record: Is it really that simple?

2.3 Hou and de Sousa's 'Ziggy'



Figure 3. Hou & de Sousa, 2019, Ziggy.

Shengjie are temporary additions to public space that give it public and personal significance. Short-term pop-up space activations can have similar social connection effects. Projects like Hou and de Sousa's 'Ziggy' (Hou & de Sousa, 2019) aim to activate the urban environment itself and relate visitors to one another.

The installation (Fig.3) was located in a public square in New York. The device comprises a series of holes and thresholds, which features many scenic spots and landmarks. At the same time, it also welcomes tourists and allows a continuous flow of local people to pass through. For those seeking a moment's respite, the design is highlighted by several "porches" that are erected as benches. These features promote social activities within the space, an element I wish to incorporate into my design.

This design includes four kinds of space distances mentioned in proxemics. The circular cavity in the wall as an 'ultimate distance', providing an environment to rest alone; the U-shaped wall design allows two to three people to sit on it at the same time, which creates a 'personal distance', for visitors to chat, share seats; the whole design creates a walkway for people to stay in a 'social distance'; and walking outside the design will get to the 'public place' in city. This walkway can let people experience every kind of proxemics unconsciously and create a short respite for people in the busy city streets.

The structure is lightweight and mobile, made in sections tied with a long rope. (Fig.4) This design allows the walls to be split into sections for easy handling, display, and take away by pickup trucks. "The thin linear elements that define Ziggy's porous composition are lightweight, visually transparent and impervious to wind. As one encounters the piece, its 27,000 feet of iridescent cord visually converges and dynamically filters the surrounding context with shifting colours, patterns and light. Ziggy is a kaleidoscopic beacon, designed for the people of New York" (Ziggy- Hou de Sousa, 2019).

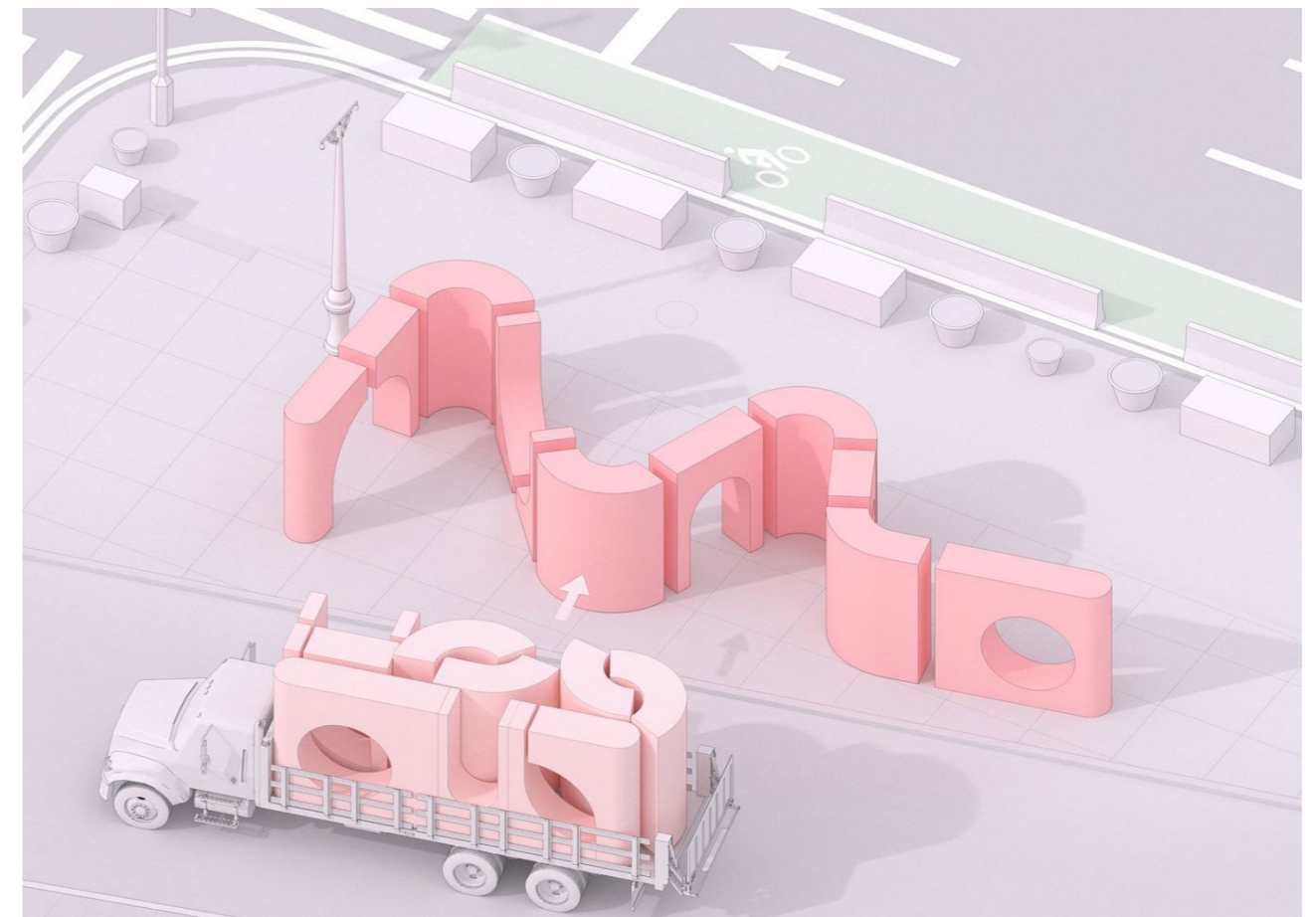


Figure 4. Hou & de Sousa, 2019, Ziggy.

2.4 Caret Studio's 'Stodistante'

While 'Ziggy' modulates the distance between people through walls and windows, Caret Studio's temporary surface treatment for an Italian plaza does so by treating the ground underfoot.(fig.5)

A plaza in Vicchio, near Florence, Italy, is painted with a grid of 1.8 meters,(fig.6) which is the minimum safe distance between people to limit the virus's spread according to Italian epidemic prevention measures. The grid gently prompts people to maintain safe physical distances while maintaining social contact. "The regular grid has been developed into a pattern," the site explains "composed by a gradient of squares of differing dimensions, creating new perspectives and interactions within the existing context" (Caretstudio, 2020). Paths for walking among the grids are highlighted. This makes visitors stand in the grid; visitors will be controlled in the designed space distance. But at the same time, these points are not fixed in size; they gradually become more extensive in the center of the plaza, the blank part on the ground is slowly become less, and the distance between the white points become closer and closer (Fig.7) People still keep a safe 'social distance.' The grid is a "temporary infrastructure" (Caretstudio, 2020) that enables such outdoor activities as temporary cinemas, gyms, or church services.



Figure 5. Francesco Noferini, 2020, Courtesy of Caret Studio.



Figure 6. Francesco Noferini, 2020, Courtesy of Caret Studio.

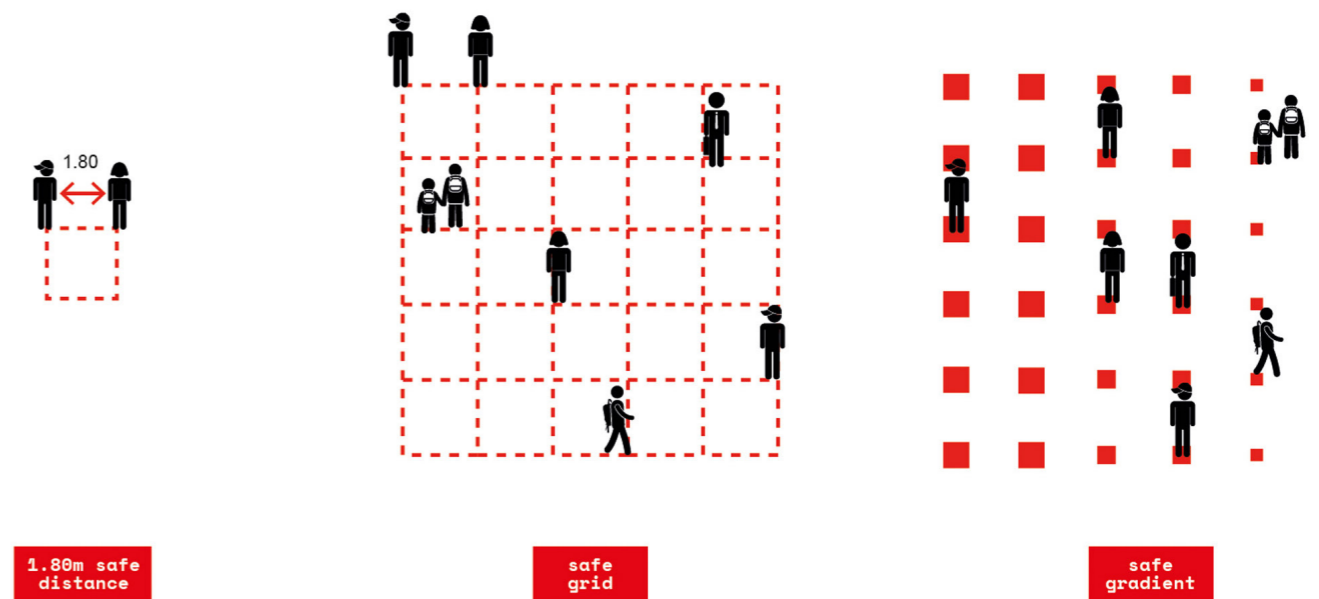


Figure 7. Caret Studio, 2020, Stodistante.

2.5 Jeppe Hein & Art2030's 'Breathe with Me'

Another temporary pop-up intervention, 'Breathe with me', by Jeppe Hein and Art2030 aims to connect people through a universal and straightforward action: breathing. In various forms, 'Breathe with Me' has now visited Switzerland, Ebeltoft, Latvia, and China. (Jeppe Hein & Art2030, 2019).

This design is participatory. It invites visitors to the exhibition to draw their breath on the walkway wall (Fig.8). This approach encourages people to focus on the body and mind to enter the inner dialogue. By drawing their breath on a wall,(Fig.9) they get connected with the design project and experience their breath, body, and mind. The 'breath' in the painting will be preserved and displayed to more visitors, which is a part of the moment that other people experience together with the environment. The concept of connecting people through a shared action recalls the practice of *shengjie*. By leaving marks, people have more discrimination and memory of the design. In the process of action, people naturally communicate with people around, narrowing their physical and psychological distance.

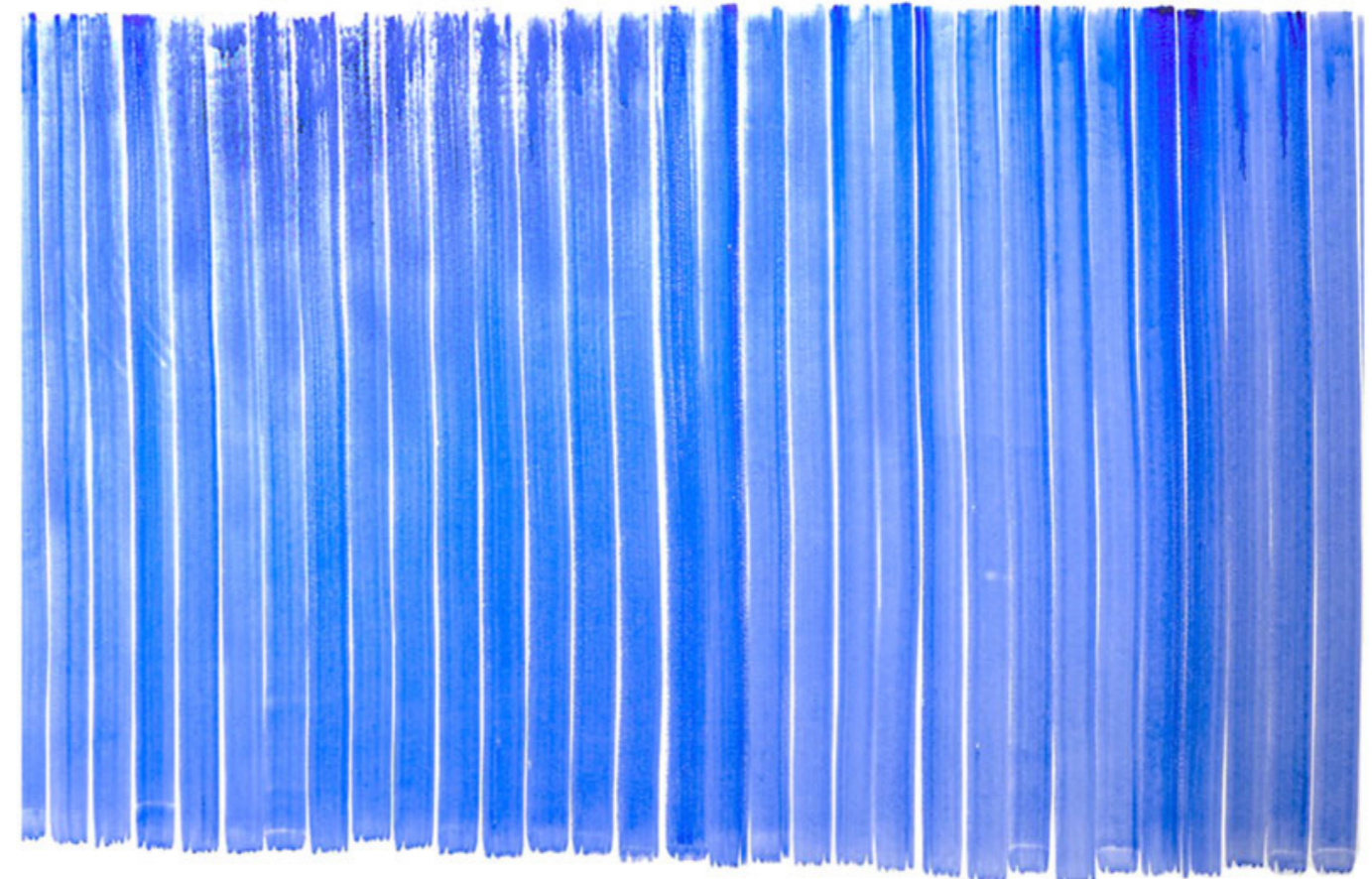


Figure 8. Jeppe Hein, 2019, Breathing Watercolour.

Figure 9. Jeppe Hein, 2019, Breathe with me.



2.6 Yosop Ryoo, Yohan Ryoo, and Atelier Jones's "I spy with my little eye"

Each of these pop-ups uses light inexpensive materials, flexible and mobile elements, and produces public engagement that allows people to interact from a range of distances. The same elements come together in a recent urban activation by Auckland spatial designers Yosop Ryoo, Yohan Ryoo, and Raimana Jones (Fig.10).

"I spy with my little eye" is a viewing device that allows people to stop and observe small moments around them (Fig.11, Fig.12). These casual details are amplified and interpreted in the design to feel the unusual in our life and make the simple day of people passing by interesting. In the invention, people interact with each other by using telescopes and take the initiative to experience the design space. Through this interaction, people feel the meaning of the design and communicate with other passers-by to share the same device. The design lets people interact without contact. By keeping interaction simple people don't feel timid.



Figure 10. Yosop Ryoo, Yohan Ryoo & Atelier Jones, 2020, I spy with my little eye.



top: Figure 11. Yosop Ryoo, Yohan Ryoo & Atelier Jones, 2020, I spy with my little eye. site plan.

bottom: Figure 12. Yosop Ryoo, Yohan Ryoo & Atelier Jones, 2020, I spy with my little eye. detail view.

2.7 Shigeru Ban's Cardboard Cathedral

Shigeru Ban designed a temporary replacement for the Christchurch Cathedral. After an earthquake severely damaged the city's cathedral and made it unusable, this simple A-frame construction, made of cardboard tubes, is intended to last for fifty years. It has become a successful landmark, community space, and cornerstone for the reconstruction of Christchurch (fig.13).



Figure 13. Zhouchenhao, Fu, 2020, Cardboard Cathedral. Christchurch, New Zealand.

Ban's post-disaster reconstruction work began with housing and infrastructure; for example, 'Paper Log House' (Shigeru, 1995) (fig.14). These projects focused mainly on victims' physical needs after a disaster. But social spaces focused on belief and public meetings are equally important. They allow people to gather together again, relieve the fear of tragedy, and help people return to normal life. This underlies my approach to designing for post-pandemic social reconstruction.



Figure 14. Takanobu Sakuma, 1995, Paper Log House, Kobe, Japan.

In the Cardboard Cathedral, people can sit close, in the proxemic zone of personal distance. This distance makes people close to each other; simultaneously, it plays an inspiring role, let the masses feel that they are not alone, compatriots and family members will accompany them through the difficulties. People can share experiences, praying, singing, listening, or reflecting together. Although the design guides and arouses a feeling of the masses through the placement of seats, individuals can also sit separately in the design; Ban creates choice.

As Ban says, "The strength of the building has nothing to do with the strength of the material." (Mróz, 2019). In my understanding, a design's strong emotion does not have to be related to the stable strength of the material. Even if the cardboard cathedral is mainly created from lightweight and temporary materials, it can evoke powerful and lasting emotions. It is not necessary to make a solid room to convey a sense of security. What I aim to show is that we do not need more intensive architectural space. However, we can return to the public through activity in space, such as doing the same things or resting, watching, staying, creating a sense of connection through these mundane events; let daily seemingly ordinary behavior, for example, watching and sitting, becomes meaningful and play the role of reflection of the crowd. Thus, reflecting and breaking the estrangement caused by COVID-19.

Summary

After studying the above design examples, I was inspired to create a pop-up site design that would help the audience form connections to assimilate to society comfortably without forceful measures.

I wish to incorporate the Theory of Proxemics, elements of *shengjie* to create psychological and emotional connections between the audiences. Furthermore, design principles such as portability, functionality and the interactivity will also be taken heed of.

Section Three. Creative Research Methods

3.1 My Creative Process

My creative process and central design method is an iterative cycle of analysis and synthesis. It resembles the design process (1978) proposed by Jane Darke (Fig.15; Dubberly, 2004, p.44). Through briefing, analysis, synthesis, and final evaluation, the whole design process will be formed. This cycle is not a one-way cycle. Darke's model contains backward and forwards arrows, which means that it is essential to constantly review and reflect on the meaning and concept and repeat actions based on previous experiences in the progress of the project. Evaluation does not only happen at the end. Whenever I make models and drawings, I analyze and self-evaluate the purpose and significance of the design, whether the design can achieve my purpose through thinking and observation, synthesize the feasible direction in many concepts to further refine.

For example, one of my central challenges has been that the two concepts of 'guiding people to return' and 'creating a medium for connection' are contradictory and challenging to synthesize. In a designer's opinion, 'Guiding' means passive, and 'creating connection' needs people to try actively. In my design, integrating the two concepts and making them work as a whole is a challenge to my research design; therefore, I had to repeatedly cycle between these two ideas and find ways to soften them so they could be integrated into a cohesive space.

As a spatial designer, my approach focuses on people's atmospheric experience and interaction; I focused on creating a shared atmosphere by inviting people to participate in a simple common action. Spatial designers work from the inside out; we create space and arouse physical feelings and emotional experiences. The space I designed is based on the wall, which outlines the route of people's walking, from the individual, through the space experience, to the crowd. Nevertheless, through the door set in the wall, making the space open, people can choose. I aim to arouse people's sense of commonality through the act so that people can experience the space and reflect on the changes made by the COVID-19 situation on each of us. Planning the act of knotting in an instant can unite people again. The purpose of getting people involved is to weaken the concept of keeping distance through this behavior. As a medium, tying can keep people's returning emotions in the space. When there are more knots in the space, we can feel people's support and connection to the community space presented by the atmosphere in the space.

Setting the Project Scope

This speculative project concept aims to demonstrate an approach to reactivating public space after the pandemic. By presenting a feasible concept, I hope to show that people's estrangement caused by COVID-19 can be overcome and a sense of connection restored. Public projects like this often involve detailed user studies or fieldwork. While interviews and public co-design activities would be valuable strategies, they are not always possible. I have used several strategies to envision human experience: scenario-building, digital modeling, proxemic theory, and prototyping.

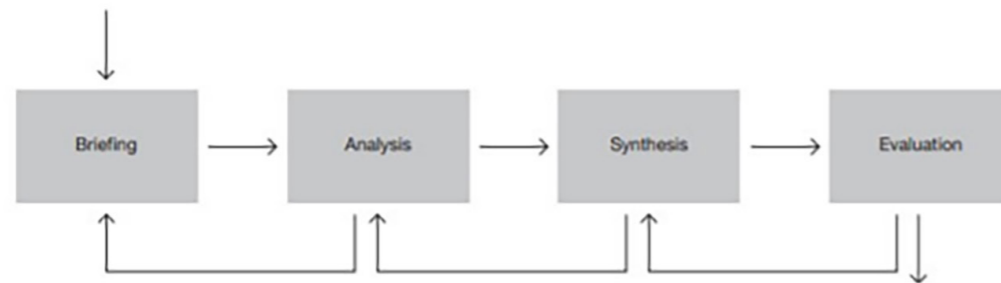


Figure 15. Jane Darke, design process, How do you design? P.44.

3.2 Scenario Building

Scenario Building as a method refers to how I can imagine the context in the environment construction and empathize with various users who may enter the space by imagining how they feel in the design and improving the environment's needs and attributes. This can better help me imagine the surrounding atmosphere and experience it. This way allows me to provide an opportunity to visualize one's experience in the environment and improve the quality of design interaction.

In my design, I designed persona users to help me imagine the needs in the space:



Karen (Fig.16)
age: 67

She lives on her own, and her children work abroad. They only get together during the Christmas holidays every year. But she does not feel lonely; she likes and adapts to the environment and life in Auckland. She is a very kind and gentle person with a smile on her face, often give snacks to neighbour's children. Karen likes to plant all kinds of plants, flowers, and vegetables at home. Even if Karen does not watch TV, she will turn on the TV at home. In the past, Karen used to go around by bus. Sometimes she went to the city for a walk. Sometimes she went to the beach for a cup of coffee and watched the scenery of people coming and going. Because of the COVID-19 pandemic, she stayed at home for a long time. During this period, she did not go out. Her children sent all the needs and food to her home through online shopping. She was looking forward to returning to her daily life. But the warnings in the community made her feel uncertain about the public environment.

Figure 16. AI generated head portrait, 2021, generated photos.

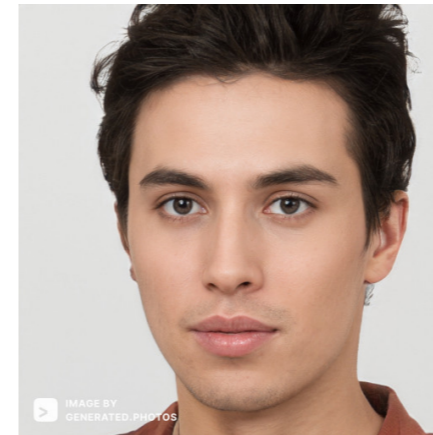
Figure 17. AI generated head portrait, 2021, generated photos.



Amanda (Fig.17)
age: 7

She is studying in primary school, and her daily life is carefree. She prefers to play games or watch TV with her friends. Her favorite thing is to play with her best friend, Lucas, even if they are not from the same school. She did not understand what the COVID-19 did and what lockdown was, but she felt happy because she did not have to go to school. Besides being asked by her mother to do homework every day, she begged to spend more time watching TV and playing- games.

However, she has not seen her best friend for a long time because of the lockdown, so she keeps asking her mother when she can go out and play with her friend Lucas.



David (Fig.18)
age: 27

He has lived in New Zealand for many years. Now he's living in the countryside with his parents. He likes freshness and new experiences. He often goes to places and restaurants he has never been to before. He likes to experience different environments, different people, and different cultures. He likes to socialize and meet all kinds of people, even people of different ages, fields, and levels. He thinks it is exciting to know them and communicate with them. The COVID-19 lockdown caused the school and shop to close. He stayed at home for more than one month and completely disrupted his work, rest, and habits.

Figure 18. AI generated head portrait, 2021, generated photos.

During the lockdown, his schedule became very unstable, and he felt depressed and decadent. He hopes that there will be an appropriate community environment for people to interact with after the lockdown.



Floria (Fig.19)
age: 32

At present, she is an excellent piano teacher. She has a stable lifestyle. After finishing university, she continued to study Honours in Music Performance. After graduation, she found a job as a piano teacher. Her work is hectic, but she can still find time to go out with friends, so she is pleased with such a life. Initially, she planned to apply to an Australian university in 2021. However, due to the COVID-19 situation, a series of stagnation made her schedule unable to carry out as usual; even the restaurants and shops were closed; she could not have a place to chat with her friends. She is eager for everything to subside quickly. Still, the 'safe distance' makes her uncertain about the distance between people because she is in close contact with children as a teacher, making her anxious.

Figure 19. AI generated head portrait, 2021, generated photos.

After setting up these personas, I focused on outlining the events and sequences to help me form my design and decide how my audiences would interact with the space. I aim to create a space that would serve to be purposeful towards a broad group of audiences; different functionalities and design elements will be carefully considered and incorporated into the space.

In Karen's situation, she is an elderly lady who may find walking and exploring the space for an extended period of time to be physically exhausting. Thus, functionalities such as chairs could be utilised in this situation. By placing the chairs in specific locations, the chairs would not only serve as a resting place for Karen but would also guide her focus into a specific part of the space, leading her to observe the space more in-depth.

In Amanda's example, she may not be interested in designing the space and would rather spend the time playing with her friends. Thus entertainment functions such as board games can be utilised. Not only would board games provide Amanda and her friends with activities to do, but it would also relieve the children's parents to spend more time exploring the space.

For audiences like David, who is eager to explore new environments, design concepts such as the layout of the entry, exit and walls can create a visual pathway that could guide David to explore and interact with the space actively.

Lastly, for audiences, likewise to David and Floria, functionalities such as a food truck and a dining space would provide a space for them to meet, socialize and connect. Furthermore, it will encourage the audiences to stay within the space for a longer period of time.

By providing the audiences of all personas with activities, not only will the audiences find the design to be purposeful; people of different gender, culture and age groups would all be situated within the space, therefore achieving the effect of creating social connections between audiences.

3.3 Digital Modelling

A digital model is a simulated scenario. Renderings provide us with a realistic vision of being within the designed space, showcasing the surrounding light and atmosphere. As Pruitt and Adlin put it: "Clearly defined, memorable representations of users that remain conspicuous in the minds of those who design and build products." (Pruitt and Adlin, 2006 p.5).

By rendering a digital model of the design within the surrounding environment, we are able to gain a more realistic and detailed understanding of how the design would interact with the border environment.

Information such as surrounding facilities, light directions can be analyzed and used to determine the placement of the design. For example, a nearby building could block the natural light; this would create a more repressive atmosphere that would negatively influence the audience's will to interact with each other. In this situation, the design placement should be moved towards a location with more sunlight, creating a warm and inviting atmosphere (Fig.20).

As I wish to create a portable design that could be displayed in different spaces, it is crucial to create a digital model of the design within the designated space prior to each assembly to set the ideal atmosphere.

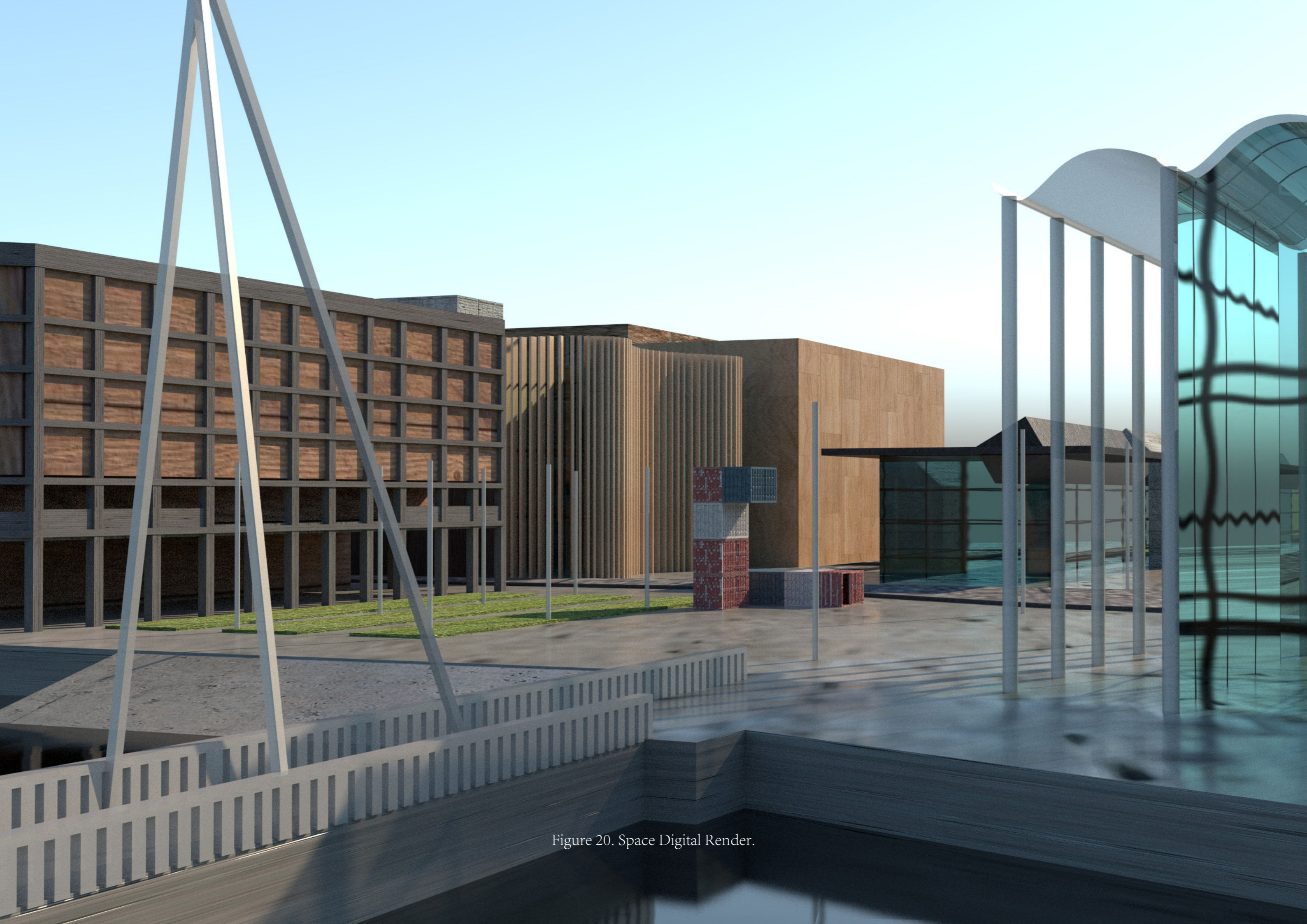


Figure 20. Space Digital Render.

3.4 Incorporating studied design concepts

While scenario building and digital modeling can provide me with inspirations regarding physical construction of the space in relation to the audience's visual experience; to further explore how I could create an emotional impact on the audiences with spacial design, I constantly revisited learned concept from previously studied research contexts and interweaved these concepts into the development of my design.

For instance, Hall's theory of Proxemics proposes that human behaviours and emotions may unconsciously be affected in relation to physical distance change between one another (Fig.21). I wish to incorporate this concept into my designed space; I aim to softly lead the audiences to reduce the distance between one another, unconsciously promoting emotional connections between the audiences. The alteration of walls and pathways can slowly lead the audience closer towards each other and softly transition from one distance to another (Fig.22).

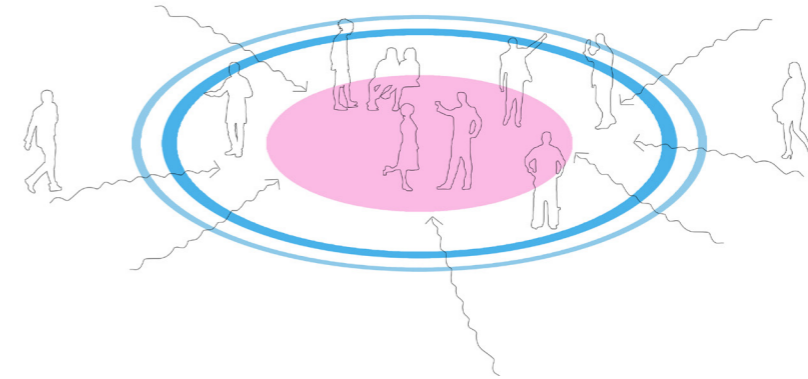


Figure 21. Design Space Proxemic zone.

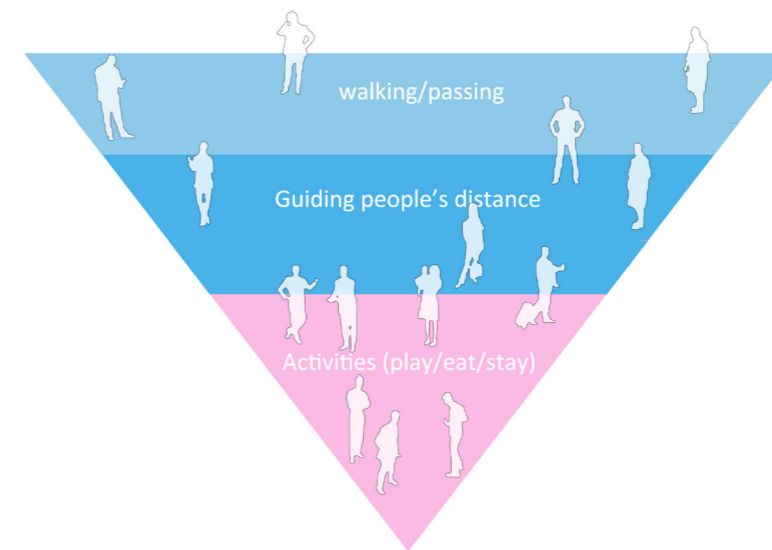


Figure 22. Space transition distances.

3.5 Prototype

Some aspects of experience can't be anticipated through renders or relying on theoretical models. For this reason, I have worked with physical prototypes to test the material and haptic qualities of my proposed furniture elements. Design researcher Lucy Suchman writes: "prototypes perform as working artifacts; artifacts whose significance is not given in advance, but discovered through the unfolding activity of co-operative design-in-use" (Suchman, L, Trigg, R, & Blomberg, J, 2002, P.172). The significance of prototyping lies in unexpected accidents, which is different from making models. The process of prototyping is even more unexpected but exciting. Using prototyping as a development method can help me confirm the feasibility of design structure and also reflect on the meaning and connection between prototype and concept in the external process of developing design projects. For example my first idea of the prototype was to make a bench using polycarbonate, but through prototyping I discovered it wouldn't be ideal. Even though the bench was physically strong enough it just felt unstable. Prototyping helps me excavate issues like so and make targeted improvements.

As I intend to create a portable design that could be situated in different locations, I will also need to consider the feasibility of performing assembly and disassembly of the space and how the design would withstand the weather; such insights can also be gained from feedbacks with prototyping.

Summary

By utilizing the referenced research and development methods, I was able to gain insights into how the audience may interact with the designed space. This helped me set down directions I need to work on and details I need to incorporate into the design. For instance, I was integrating the concepts of "guiding" and "connecting" the audiences and incorporating functions into space to accommodate different audiences better. By utilizing research and development methods, I set a scope of what to work on for the further steps of this design.

Section Four. Description of Practice Work

In this section, images from some of the key stages of my design process are displayed to demonstrate how my research contexts and methods worked in practice.

4.1 Site Experience and Analysis

After observing the site and conducting simple surveys, the following information was deduced. Commercial properties surround the site; this provides the site with an adequate flow of people. While the flow of people mostly consisted of people traveling for work, it can also be observed that elderly parents utilise this space in a manner similar to a park; they would use the space to take a walk, and take their children out to play. The available space

is 40x18m; the site is an open space that serves the purpose of a walkway. One side of the space could be utilised to situate the assembly whilst the other side will be left as an open space for people to pass through. This retains the functionality of the space; furthermore, people who pass the space on his/her way will be attracted to the assembly. Site experience and analysis allows me to gain insights into the expected audience groups, how they interact with space as it is, and how my design may situate within the space. From site experience and analysis, I was able to decide functionalities to include within the space such as a sitting place for the audience to rest in and entertainment for younger audiences. From visiting the site, I was also able to observe potential issues such as immovable street lights, thus I will need to evade such items in my design of the space (Fig.23, Fig.24, Fig.25).



Figure 23. Photo of site- Karanga Plaza.



Figure 24. Photo of site- Karanga Plaza.



Figure 25. Photo of site- Karanga Plaza.

4.2 Direction, far and near

Digital modeling is the most effective and intuitive design method to understand how my design would situate within the space. I use the software Rhino to build the scene of the site to help me develop design details. My first consideration was how to guide people through the entrance and to provide further directions to reduce people's estrangement from the sense of distance.

In the following designs (Fig.26, Fig.27, Fig.28), I emphasised using the walls as a "guidance" to provide the audience with spatial directions; I experimented with using the layout of walls to guide the audiences into a surrounded space within 4 meters social distance (Hall,1963) to one another. In doing so, I wish to promote a connection between the audiences. However, the audience may feel anxious within a semi-closed up/surrounded environment; therefore, the transition from open space to close space will need to occur in a smooth, unnoticeable manner to avoid such phenomenon.

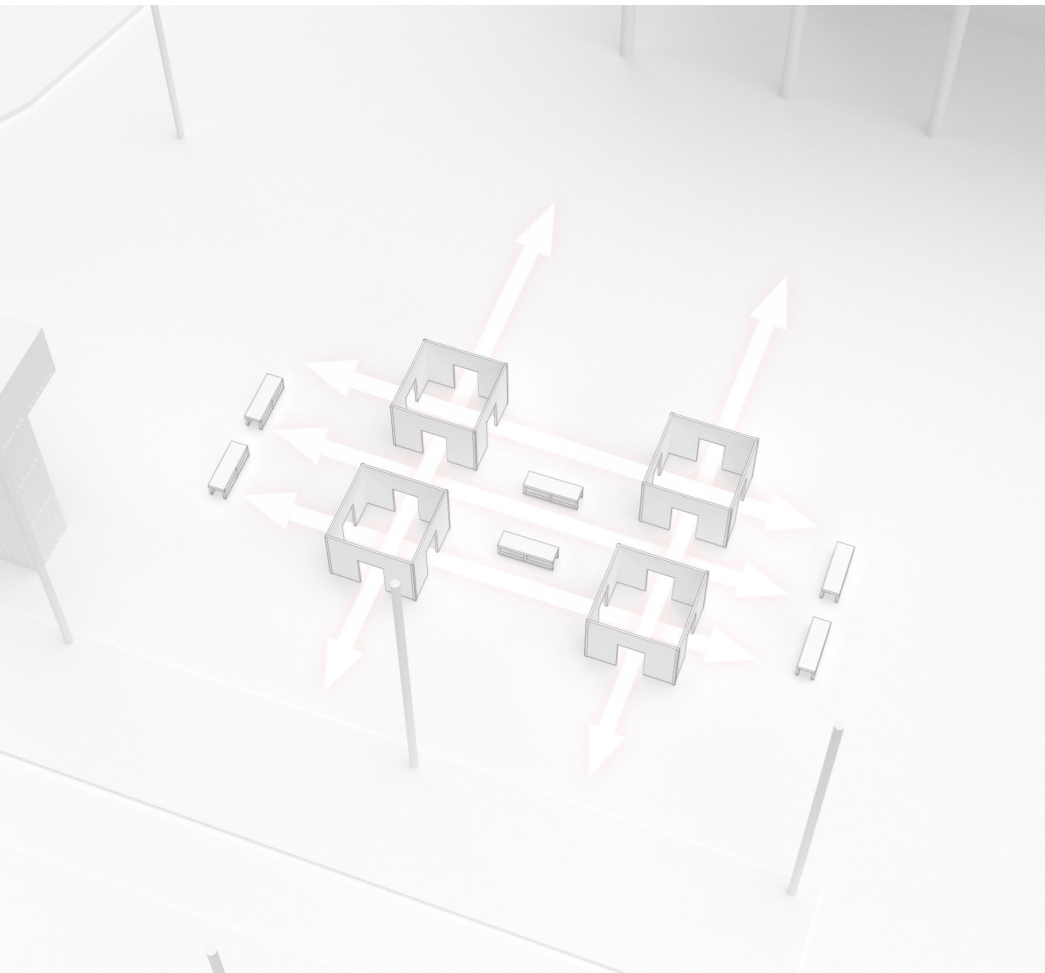


Figure 26. Spatial direction version 1.

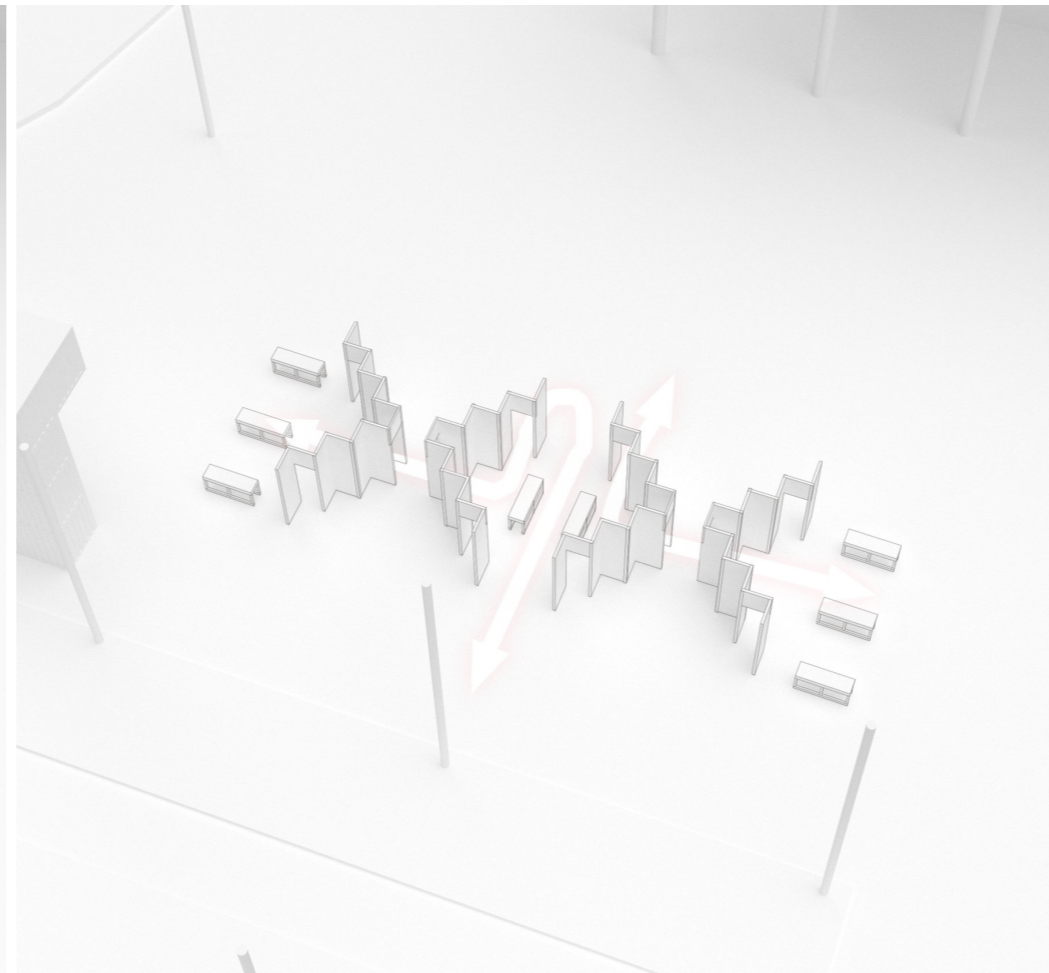


Figure 27. Spatial direction version 2.

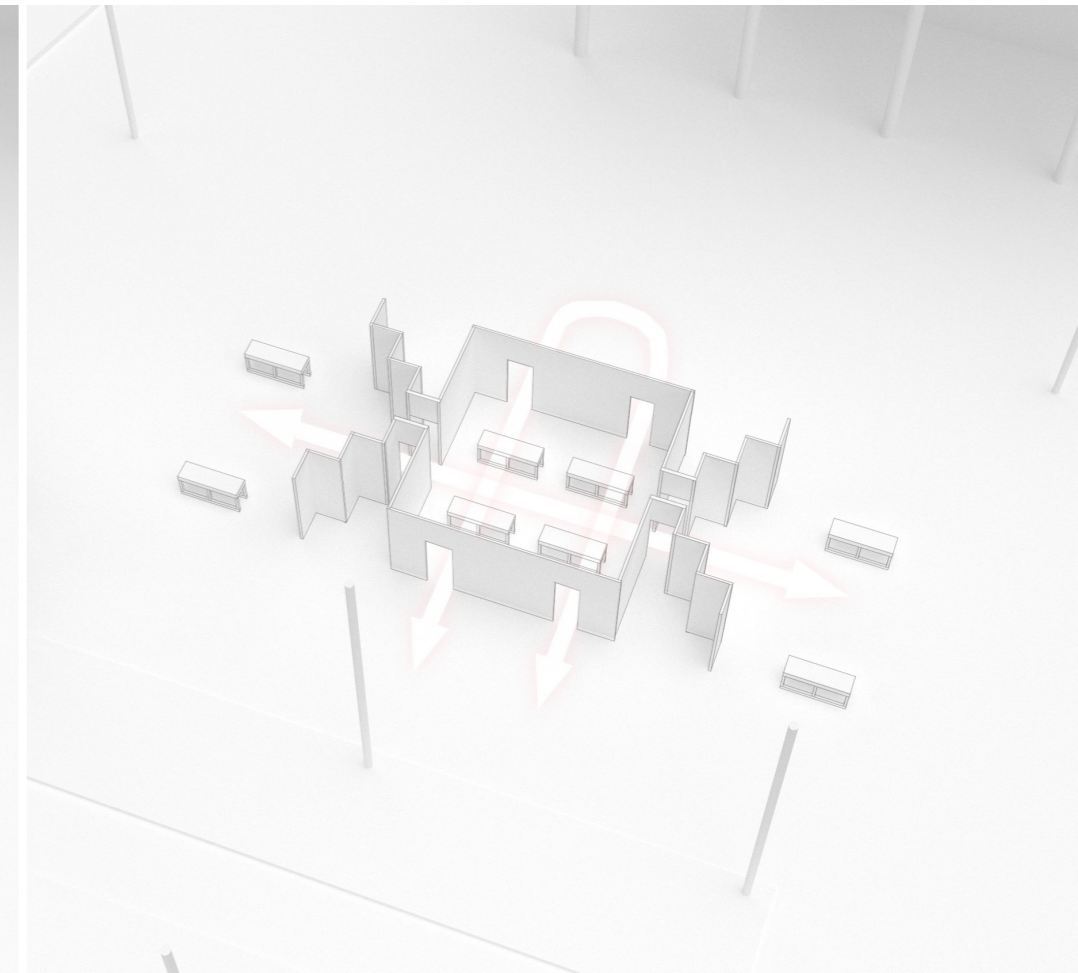


Figure 28. Spatial direction version 3.

I will be using the element of "*Shengjie*" to promote emotional connection and trigger the sense of assimilating into society. To highlight the significance of this concept within the space, the "walls" will be constructed as an open wood frame; this reduces the sense of being confined within a space and, more importantly, highlights the function for knots to be left on these frames (Fig.29).

Using my method personas, I decided the functionalities I wish to incorporate into space (Fig.30, Fig.31). These functionalities provide the space with the ability to attract a wide range of different audiences; this reflects how the society we live in is constructed of a wide range of people from elderly to children. In doing so, I wish for the space to create a stimulating effect on society as a whole; by spending time in this space, the audience could feel him/her interacting with society.

After refining the designs, I arrived at (Fig.32). The audience's spatial path begins with the billboard introduction; they are "guided" by the wood frame walls to enter a "social distance" with one another. Functionalities on-site encourage the audiences to stay within the space for a period of time, spending more time with the other audiences on site. The design is easily portable. Thus the layout can be changed to accommodate different situations. For instance, the chairs and tables in the dining area can be joined to accommodate a close group of audiences.

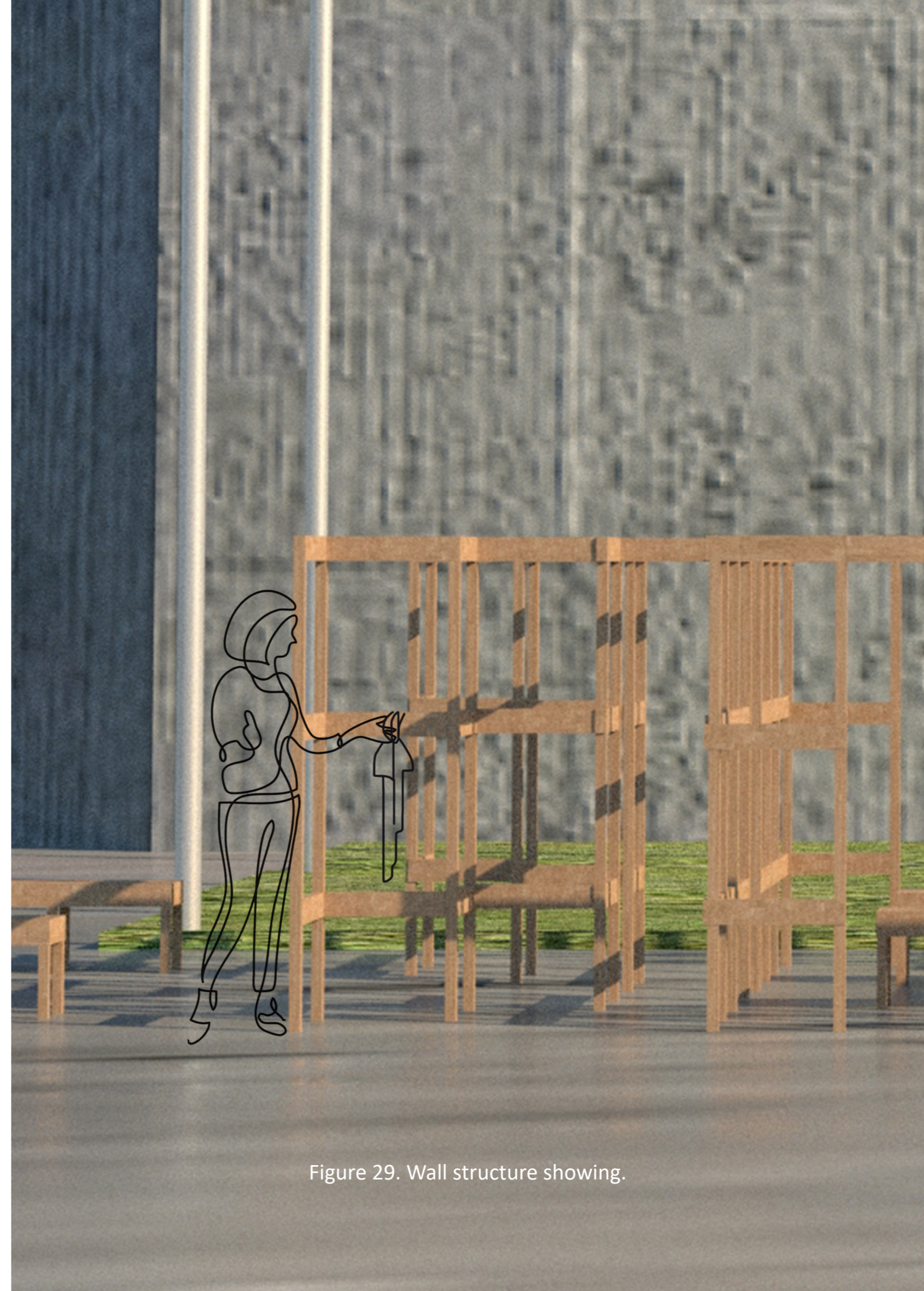


Figure 29. Wall structure showing.

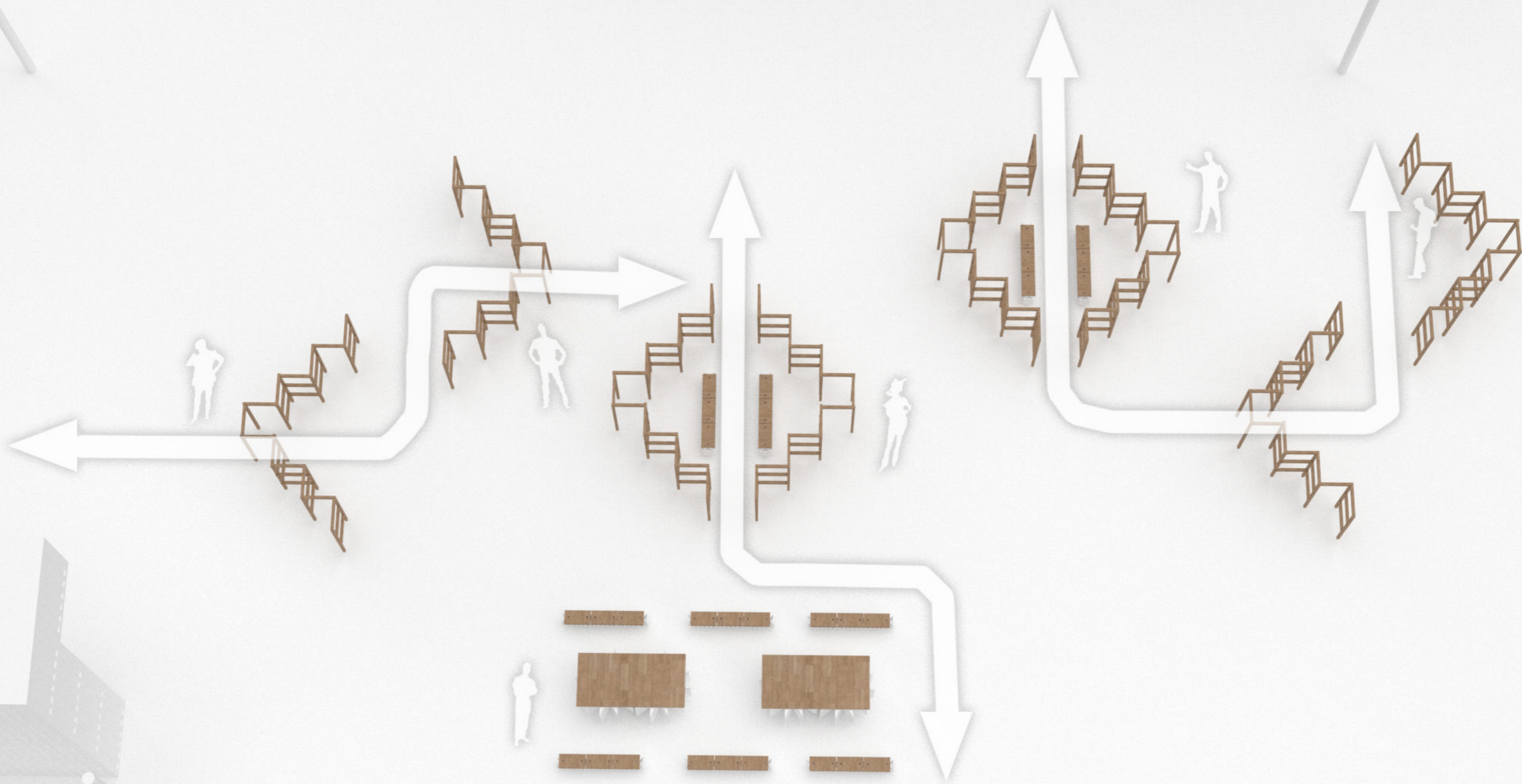


Figure 30. Spatial direction developing 1.

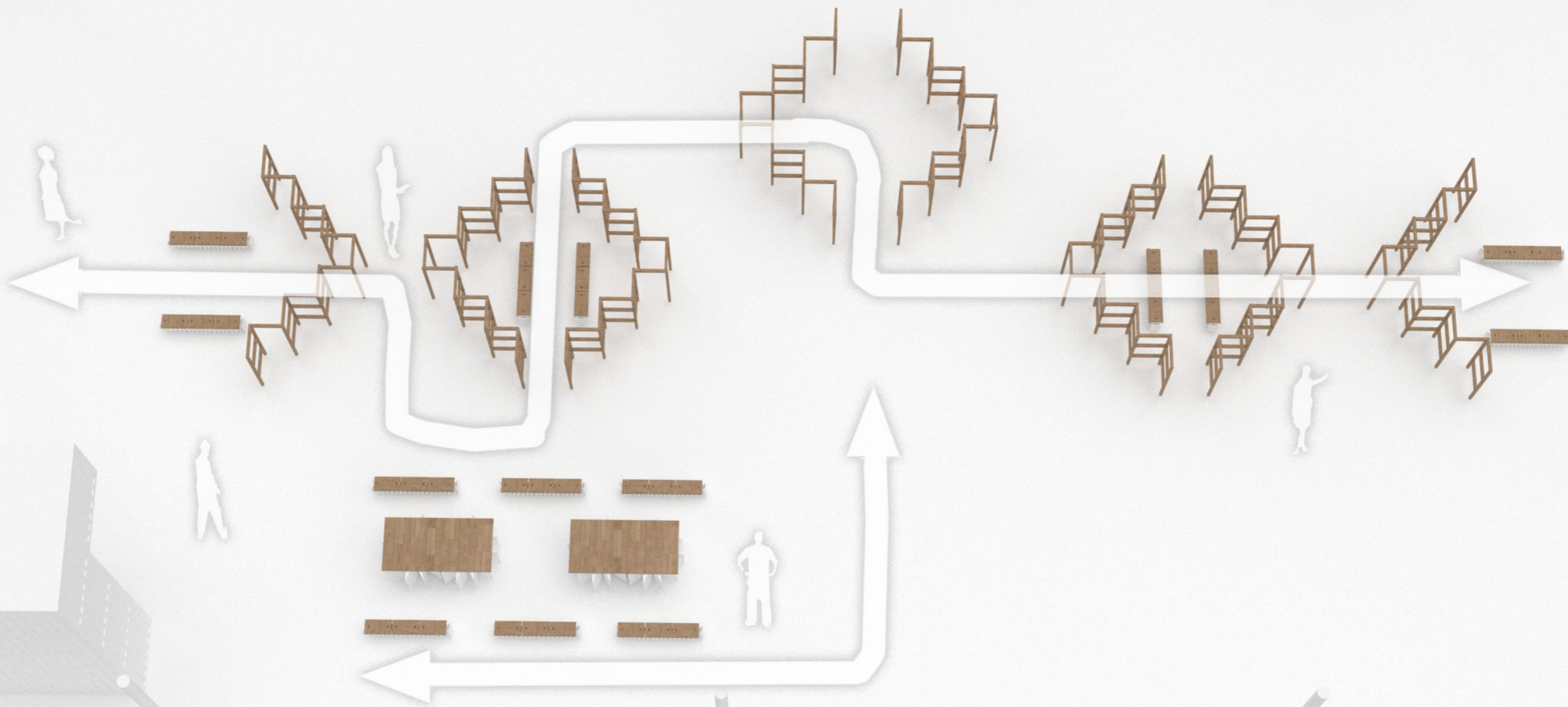


Figure 31. Spatial direction developing 2.

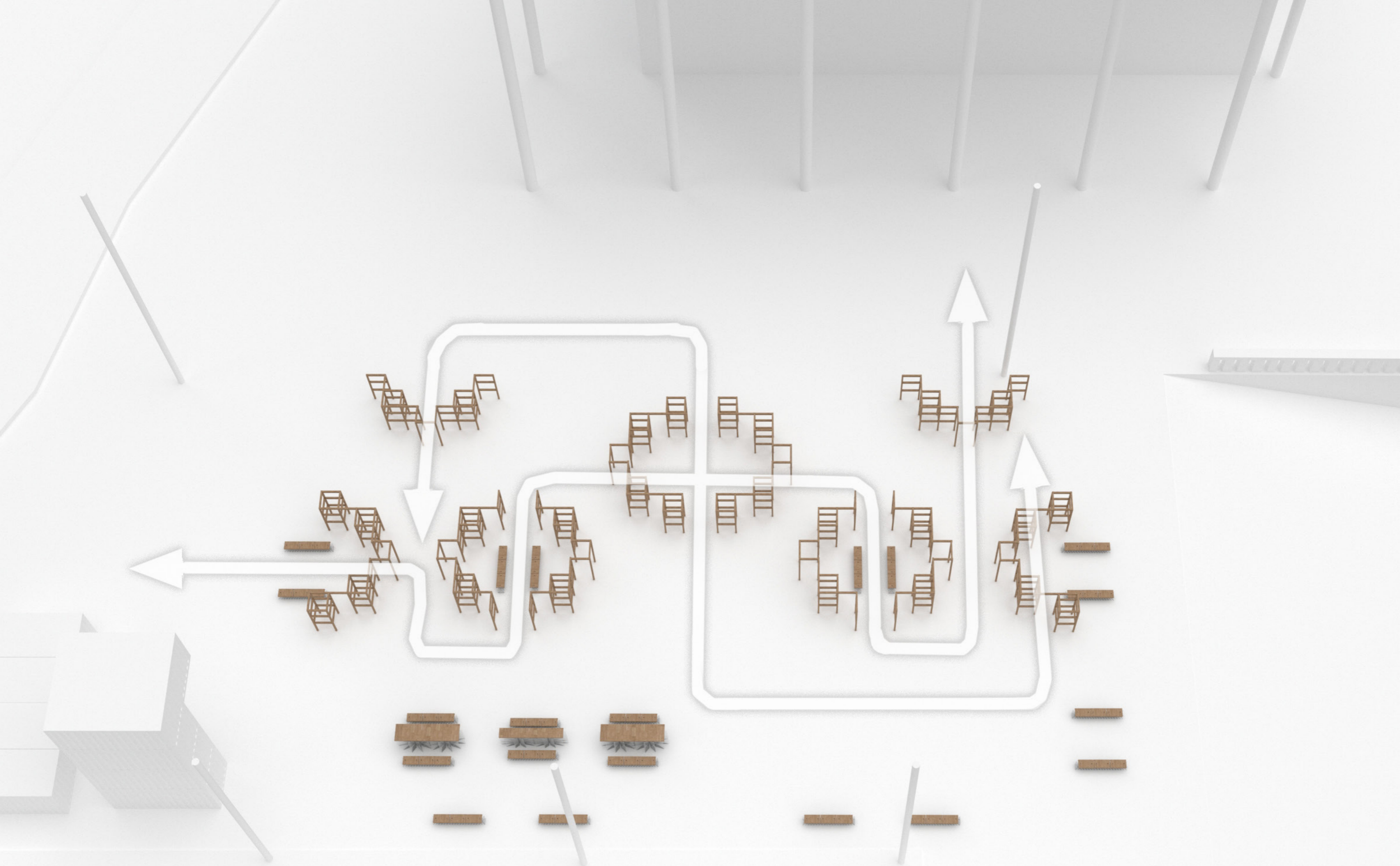


Figure 32. Spatial direction final version.

4.3 Joinery

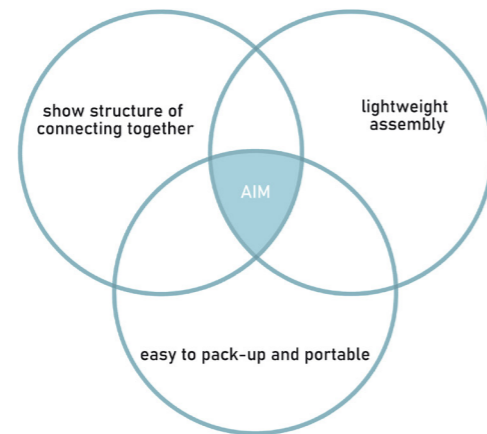


Figure 33. Joinery structure aim.

In this section, I will showcase the development process of designing the furniture within the space. As the table and chairs will be constructed using the same structure and design principles, I will only be using the chairs as an example to showcase the design and its feasibility. I began with setting an aim for the design (Fig.33).

The design aims to be easily portable, lightweight, and easy to assemble. Furthermore it needs to reflect the purpose of the designed space. I want to utilise the furniture structure to express elements of connection and express the message that robust bonds can be formed through connections between seemingly weak structures. To do so, I incorporated the concept of shengjie into the design.

With these concepts in mind, I began designing a draft of the structure (Fig.34). I analyzed and labelled potential issues, key elements; for instance, how they will be joined. The construction of a cardboard model can help me understand the structural integrity and feasibility of my design (Fig.35-42). After the development of the design, I began constructing a prototype of the design.

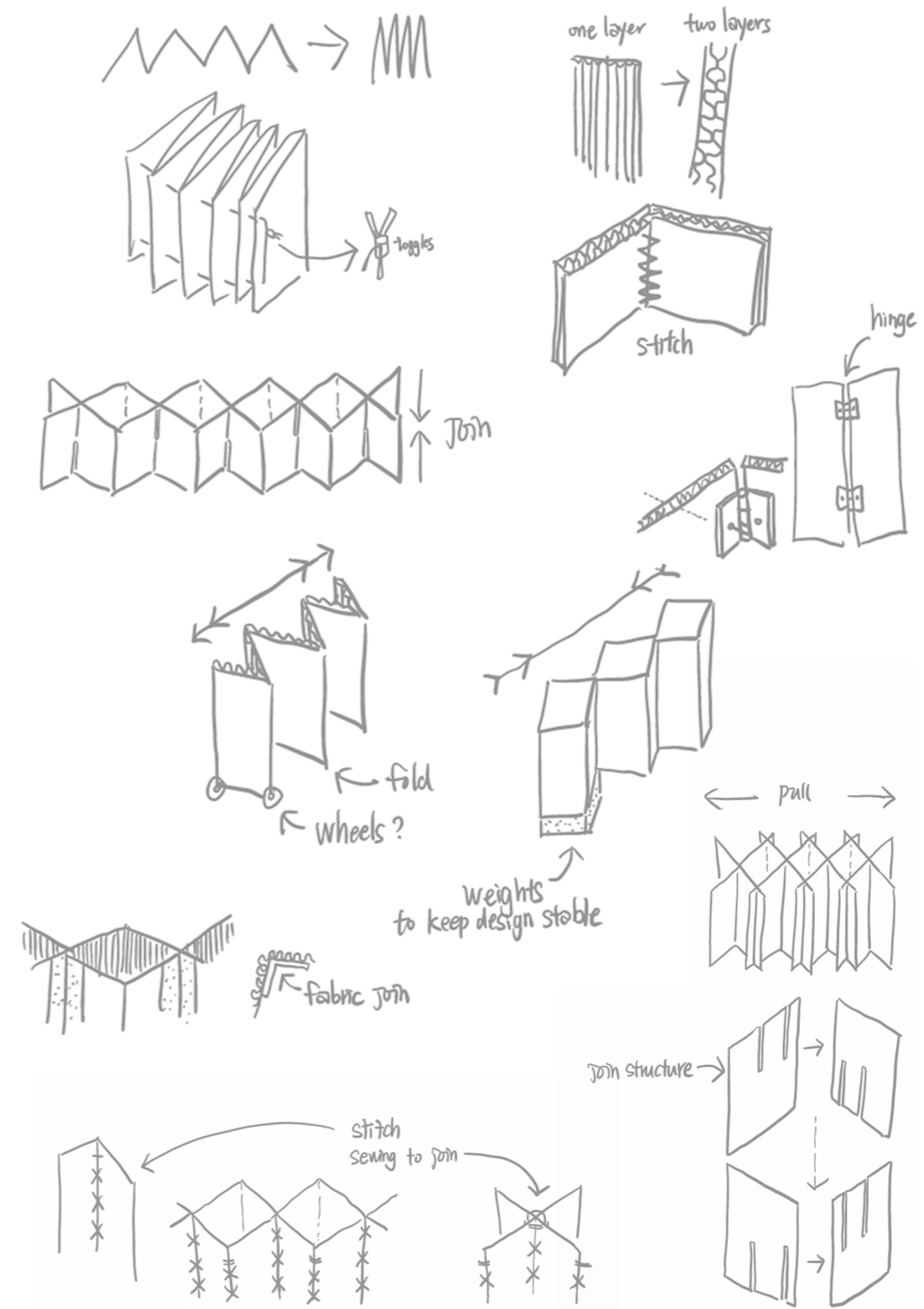


Figure 34. Draft Drawing.

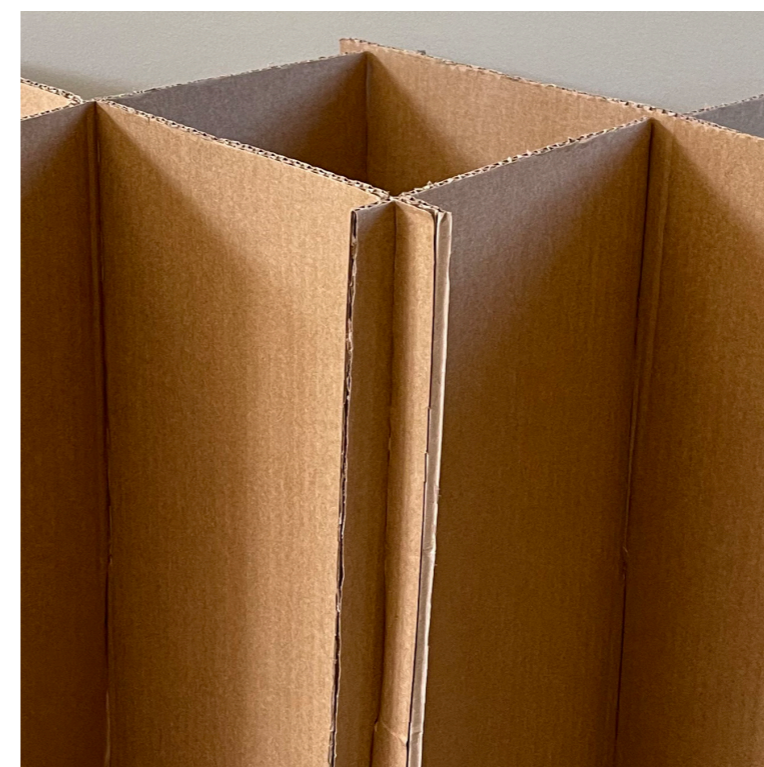
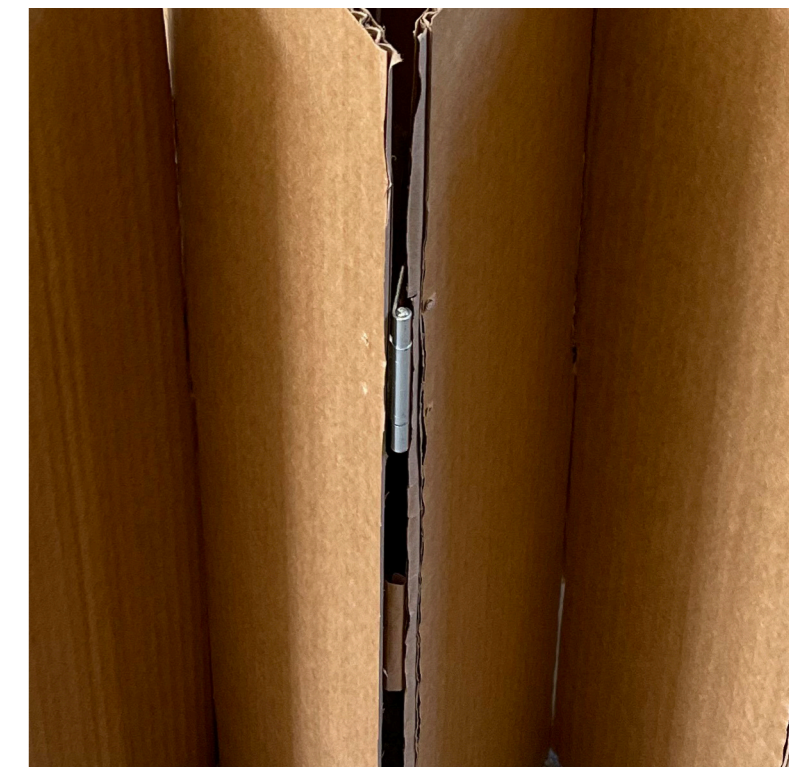


Figure 35-36. Cardboard material prototype making, Connection version 1.

Figure 37-38. Cardboard material prototype making, Connection version 2.

Figure 39-40. Cardboard material prototype making, Connection version 3.

Figure 41-42. Cardboard material prototype making, Connection version 4.



Figure 43-45. Cardboard material prototype making detail.

To create the visual effect of "weakness," I intend to use transparent polycarbonate sheets as the primary material for the base of the chair; the thin, see-through material gives off light, weak visual effect. This achieves the aim of portraying the message that the "robust structures can be formed from connections of seemingly weak individuals." (Fig.46). Furthermore, the clear material also exposes the structure's joints, creating a visual emphasis on the concept of "connection."

The following prototype is constructed with sawed polycarbonate sheets and laser-cut wood sheets (Fig.47-52).

The structure appeared to be feasible and robust enough to support heavy weights (Fig.53-55). However, the polycarbonate sheet base of the chair has some movement, making the chair feel unstable when sitting on it. Such effects could stimulate emotions such as anxiety; therefore, I needed to make further developments.

After reconsideration of the design, I decided to abandon the intention to use polycarbonate sheets. While the material may provide a desired visual effect, it also stimulates a negative psychological effect. Using a stronger material would result in a more stable structure; however, the message of portraying uniting individuals to combat the difficulties that arose from COVID-19 can not be portrayed as the material no longer appeared "weak." Therefore I made developments to the design structure. The amount of supporting material used in the base is reduced, and empty space is left underneath the chair, resembling the concept of "weak" (Fig.56-58).

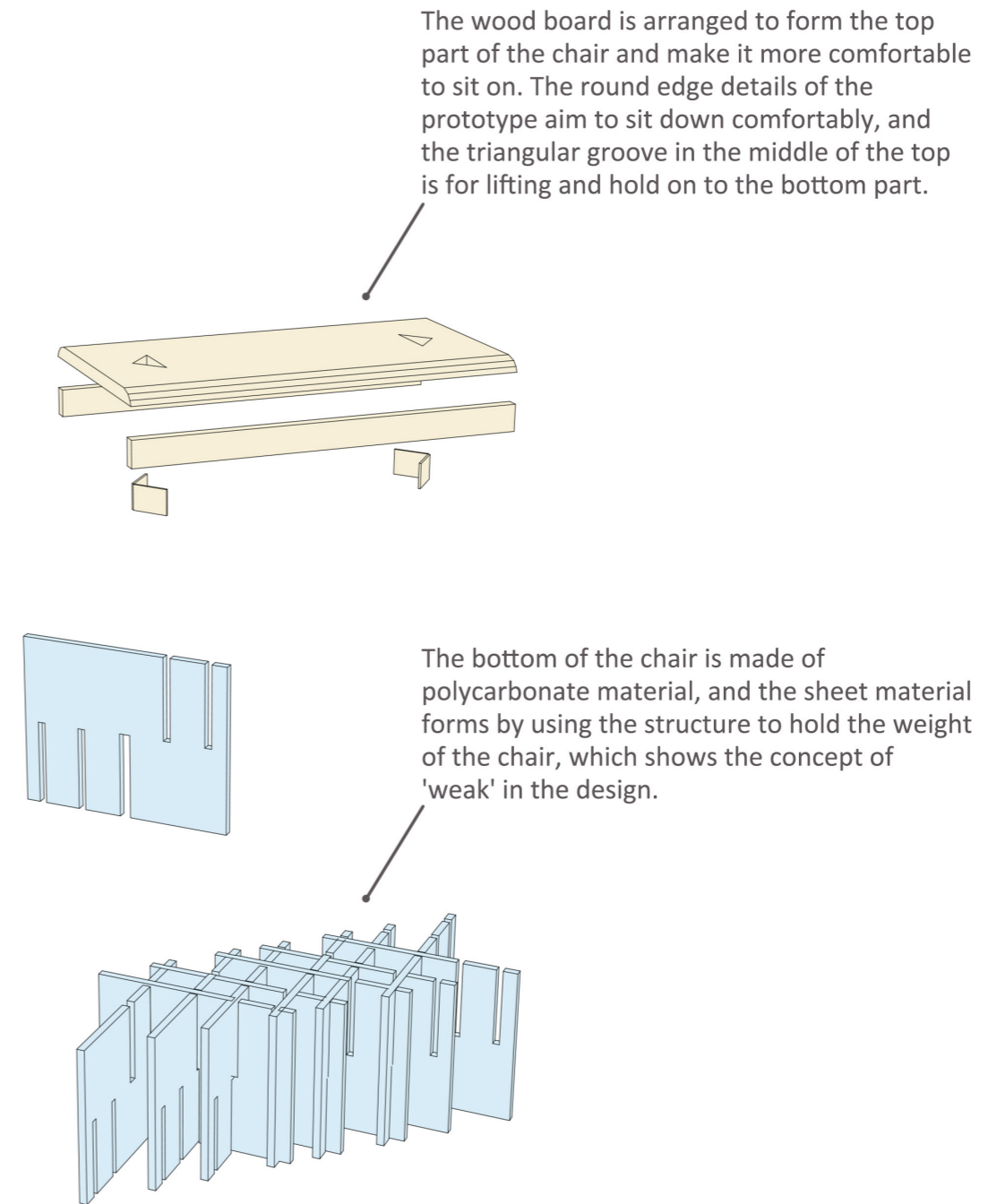


Figure 46. Prototype production drawing.

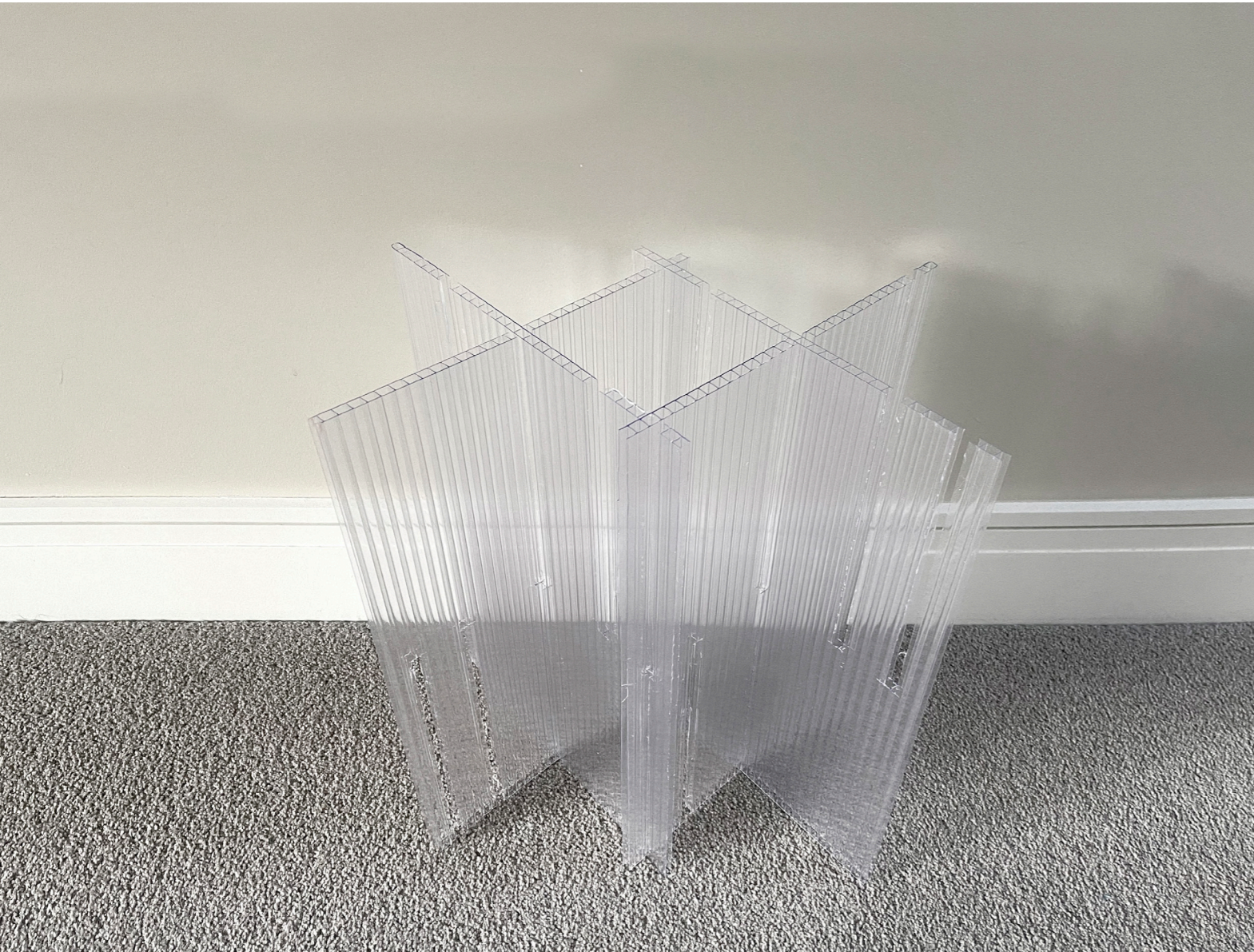


Figure 47. Polycarbonate body.



Figure 48. Polycarbonate prototype with sample top.



Figure 49. Hand-saw assisted wood cutting.



Figure 50. Cutting edge to improve sitting comfort.



Figure 51. Round edge sample.



Figure 52. Laser cutting hand-holding part.



Figure 53. Polycarbonate and wood material prototype.

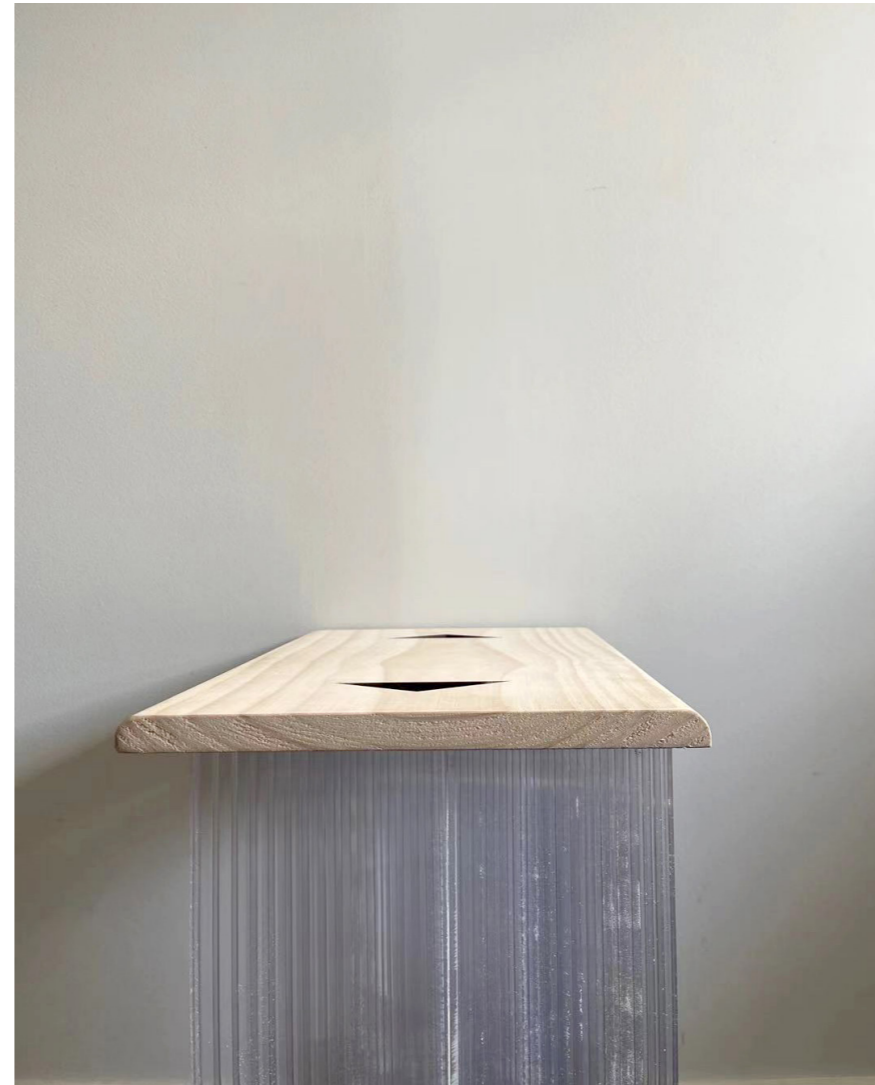


Figure 54. Polycarbonate and wood material prototype- side view.



Figure 55. Polycarbonate and wood material prototype- detail view.

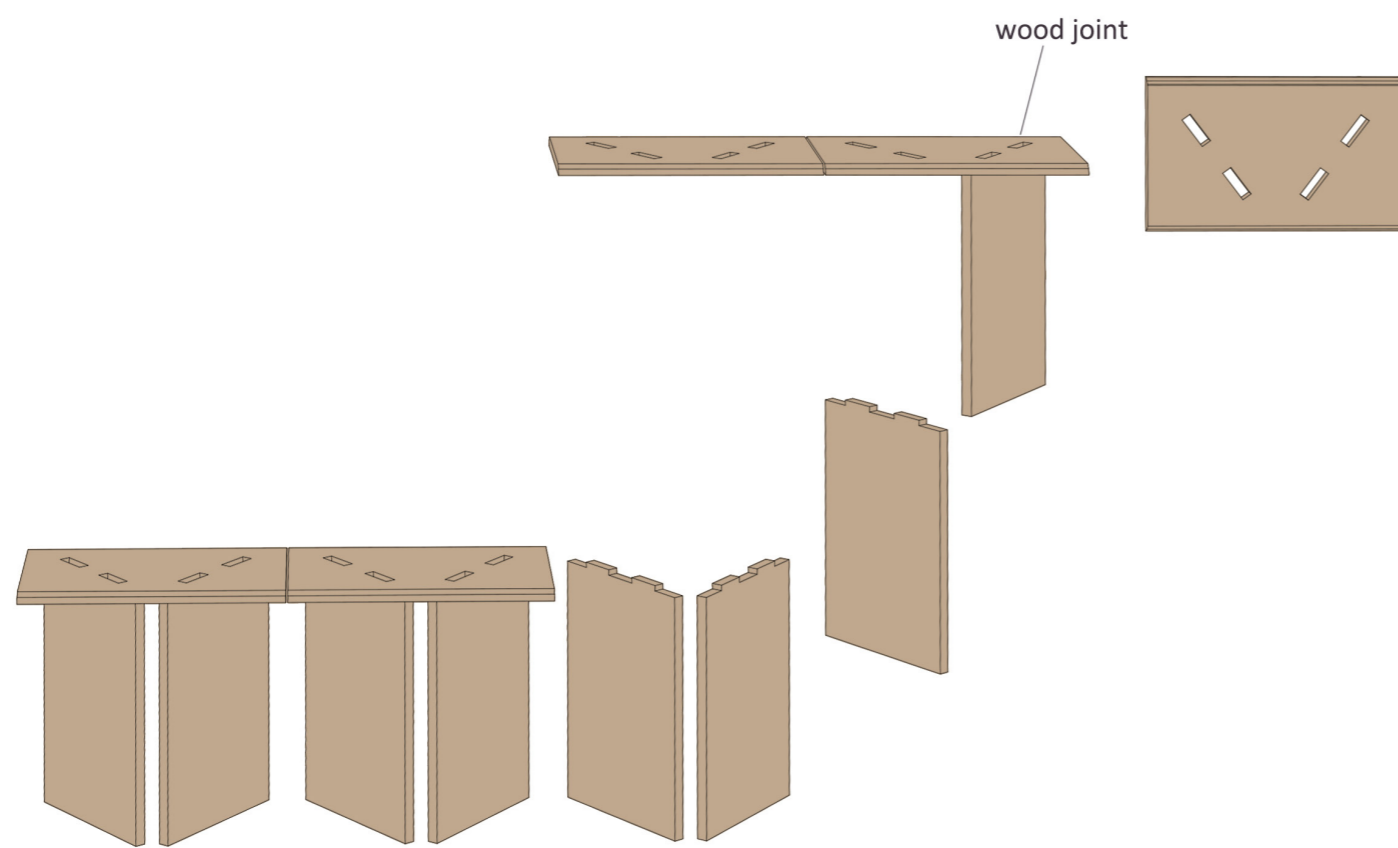


Figure 56. Wood-joint structure version.



Figure 57. Wood joint prototype.



Figure 58. Wood-joint render view.

4.4 Knot '*Shengjie*'

I will utilise the element of "*shengjie*" as a method for the audience to interact with space; the audience will choose to leave a knot in the space (Fig.59). In doing so, depositing an emotional message within the space; thus, the space itself becomes a medium for an emotional connection between audiences.



Figure 59. Fabric choices.

To create a prototype of the design, I invite a few friends to test the process of knotting. I first created a structural prototype for a section of the wood frame wall I intend to use in the space. This is a small-scale prototype of the wall I intend to use (Fig.60). The frames are connected using wooden joints without additional support; this is to further emphasise the element of “connection” in the space. Furthermore, such a structure reduces the work required for assembly and disassembly of the space.



Figure 60. The structure experiment of wood-joint connection.

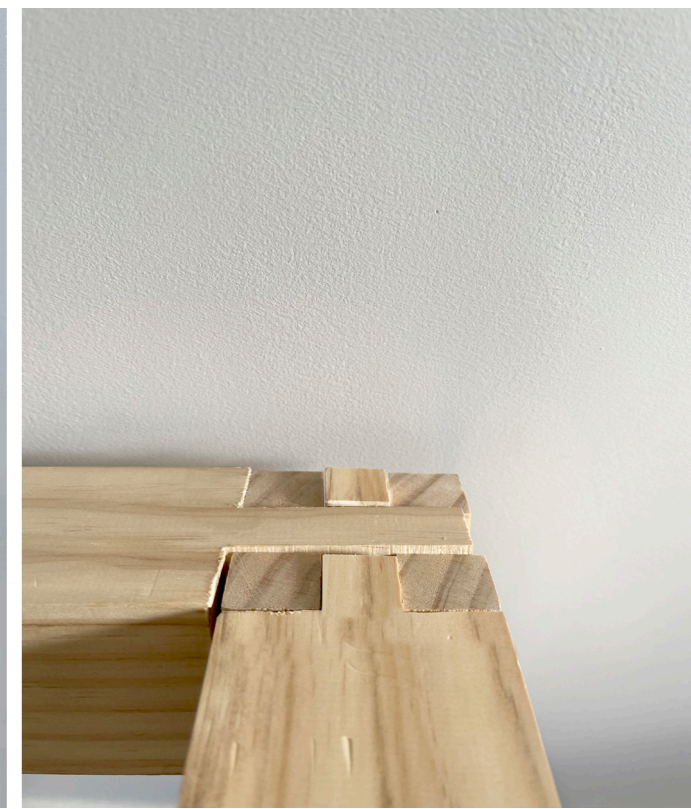


Figure 61-63. Wood-joint details.

In observing the knot tying process (Fig.64), I realized that the knotting of “*shengjie*” has more potential than I first imagined. Rather than picking a piece of fabric and knotting it onto the assembled structure, people would knot the fabrics in different ways; some even knotted two pieces of fabric together. This creates a higher contrast between colours and patterns (Fig.67), adorning details towards the space (Fig.65-70); more importantly, each knot would resemble the person who tied it.

With this realisation, I decided not to teach the audience about the one “correct” way to tie the knot; instead, I wish for the audience to tie the knot to their interest and expressing themselves in the process. After the experiment, I created a digital rendering of the knots. Digital modeling can help me gain insights into what atmosphere could be created by such a design and what visual impacts could be induced (Fig.75).



Figure 64. *Shengjie* prototype.



Figure 65. *Shengjie* details 01.



Figure 67. *Shengjie* details 03.



Figure 69. *Shengjie* details 05.



Figure 66. *Shengjie* details 02.



Figure 68. *Shengjie* details 04.



Figure 70. *Shengjie* details 06.



Figure 71-74. Shadow and overlap details.



Figure 75. *Shengjie* environment render.

Section Five. Exhibited Design Outcome

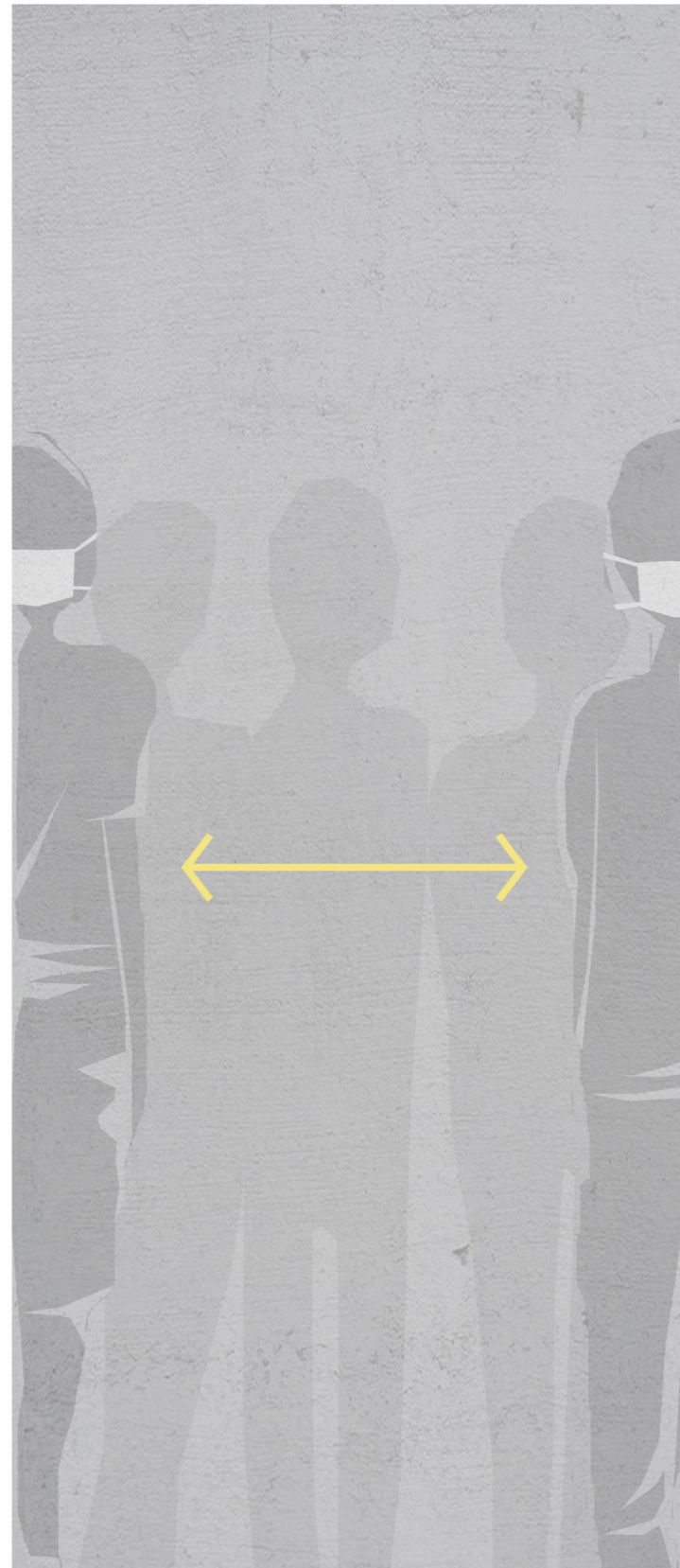
Returning to Public Space

Pop-up installations to break down isolation and social anxiety after the COVID-19 pandemic.



COVID-19

The lockdowns of the 2021-2022 COVID-19 pandemic forced people into isolation. Many countries advocated physical distancing for health and safety. Long-term lockdowns and solitude left people feeling trapped, anxious, and uncertain.



SOCIAL ANXIETY

As isolation continued, some people began to experience social anxiety. But eventually we need to return to social life, go to school and work, and communicate with others face-to-face. How can we help socially-anxious people recover their human connections?



ZONE

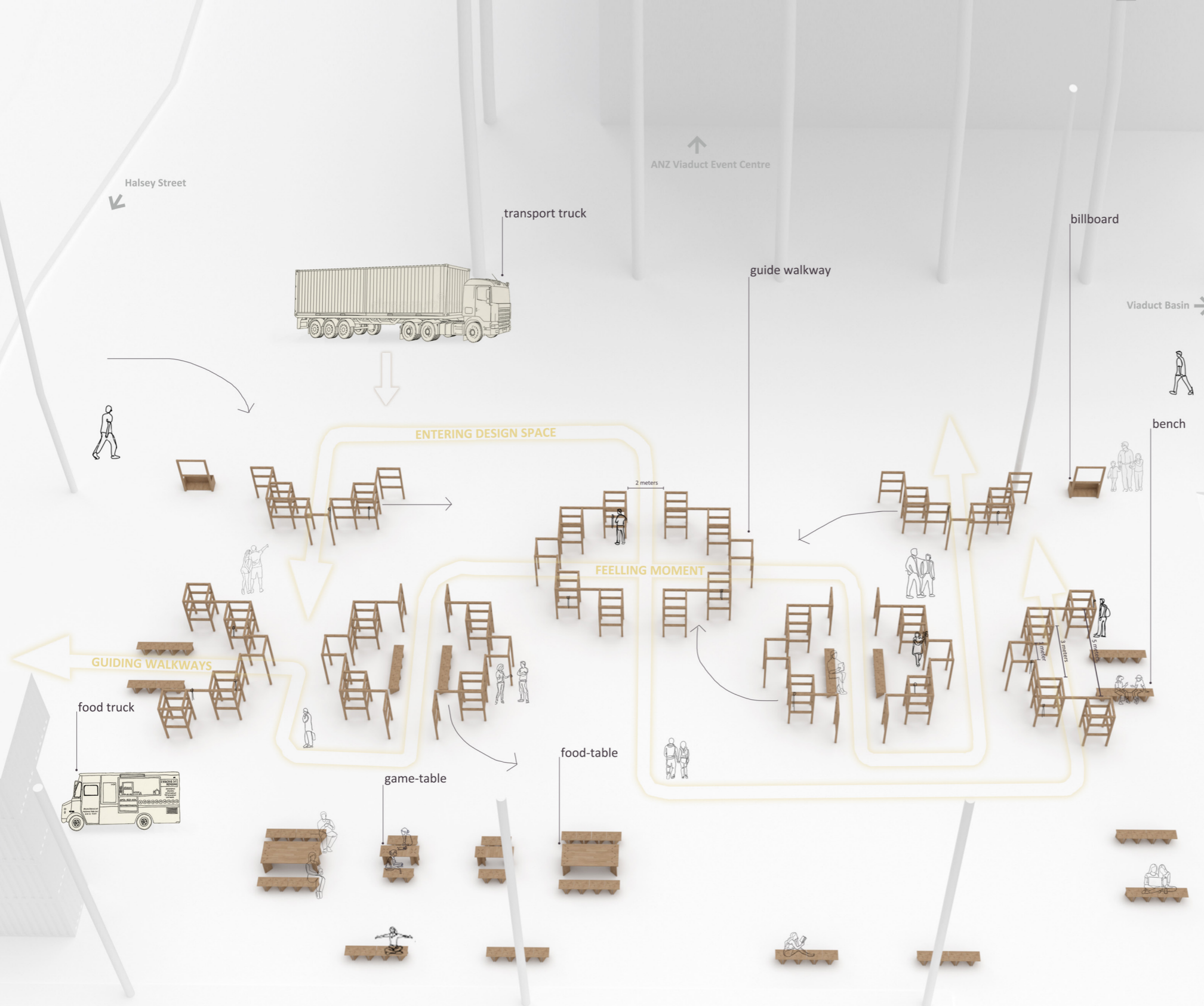
Anthropologist Edward T. Hall proposed the idea of 'proxemics'. Spatial distance produces emotion and feelings. Proxemics studies the way we interact and experience the distance between us. In his "system for the notation of proxemic behaviour", Hall described four zones of proximity: public, social, personal, and ultimate.



SHENG JIE

The Chinese traditional practice of sheng jie symbolises human connection. Intricate knots are tied by two people to remember their relationship and anchor it to a particular place and time.

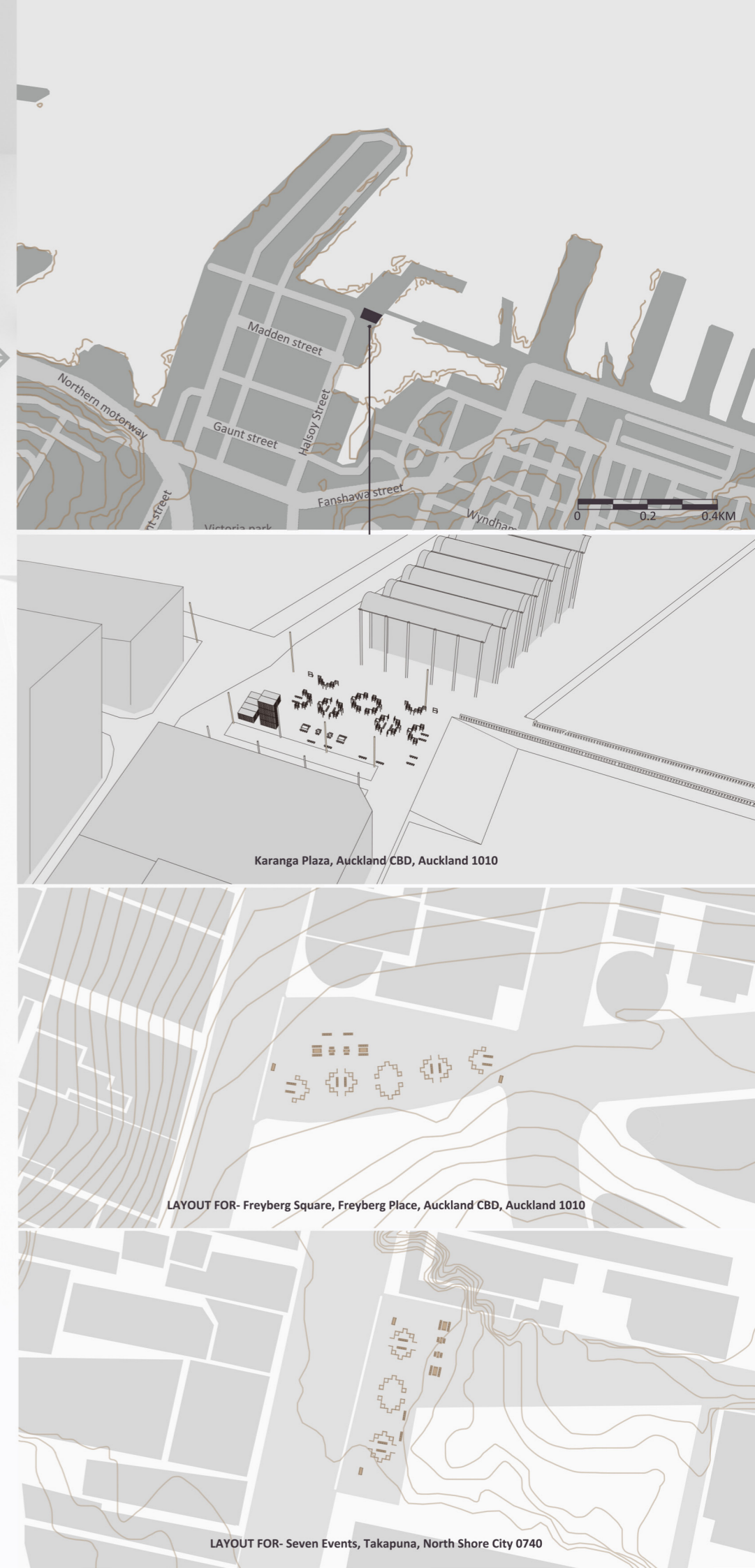
Figure 76. Introduction.

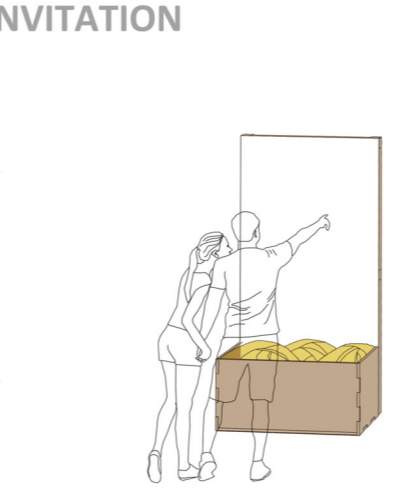
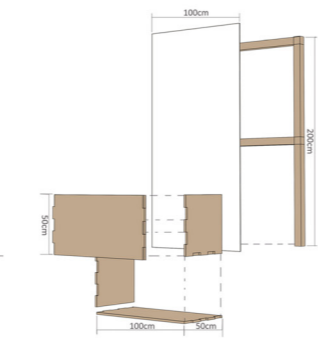
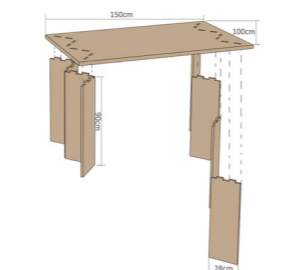
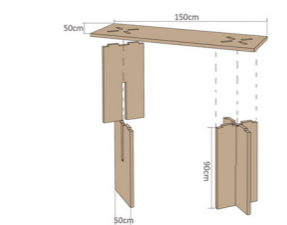
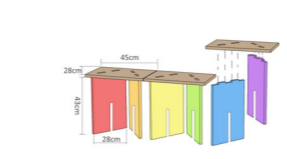
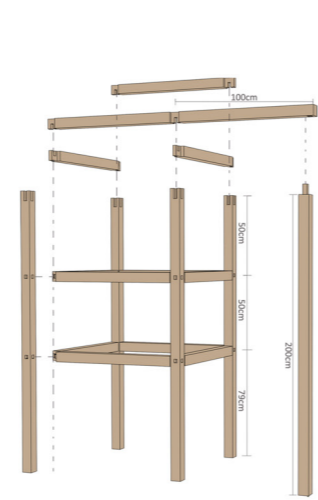
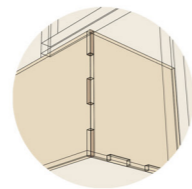
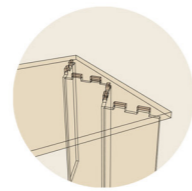
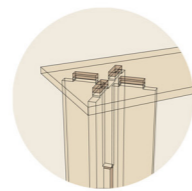
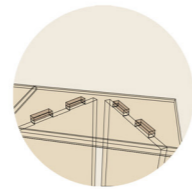
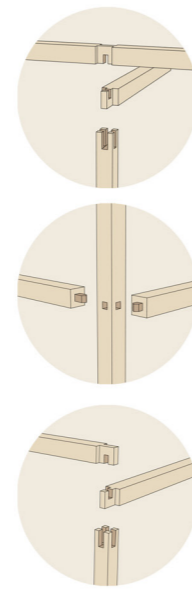
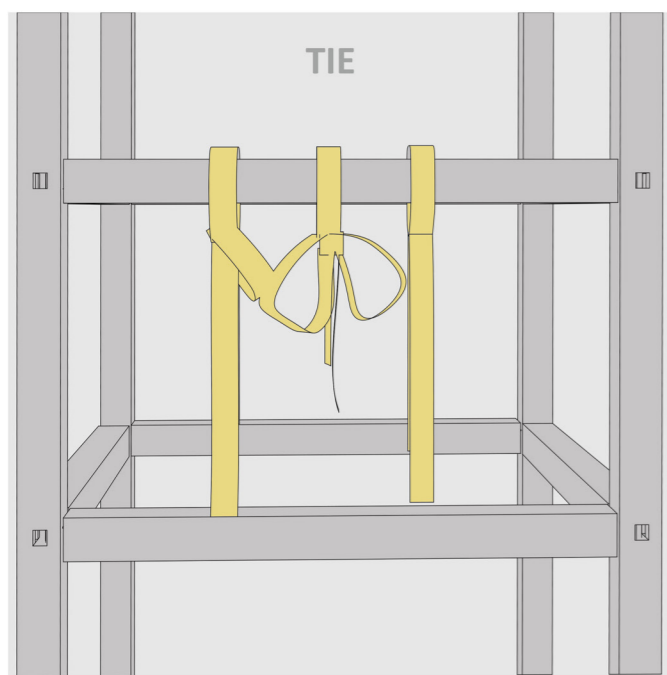
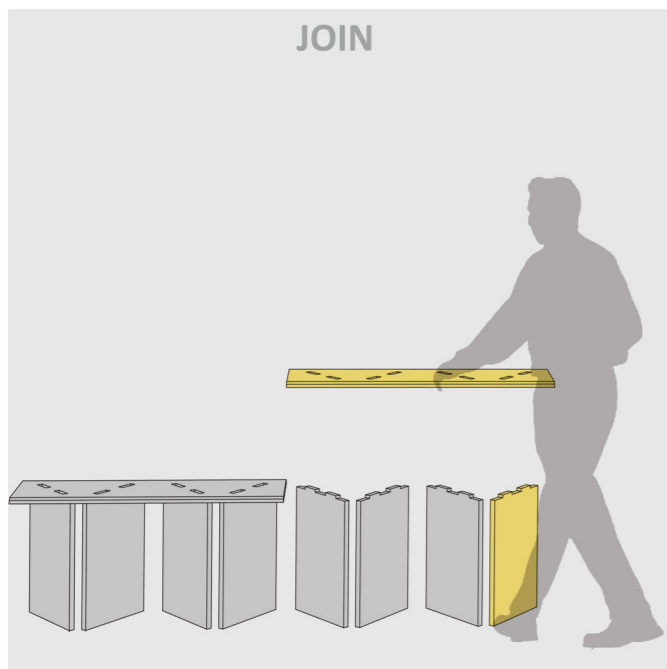
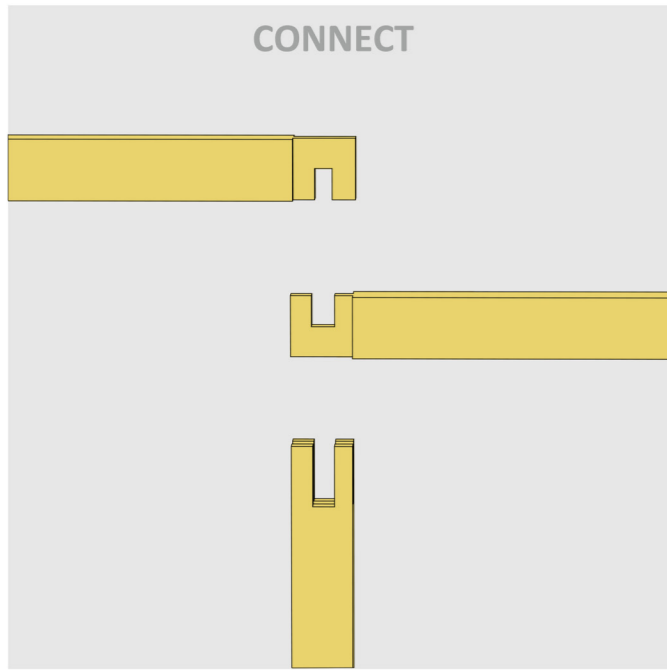


LAYOUT IN KARANGA PLAZA

A portable design allows for more possibilities; the installation can be situated in different spaces. The specific layout of the space may differ to accommodate different environments. The design is situated in; however, the main thesis and concept remain the same. (Certain parts of the installation, for example, chairs and tables can be moved around freely. However, the layout of the walls should remain unchanged despite the environment to maintain the current design thesis.)

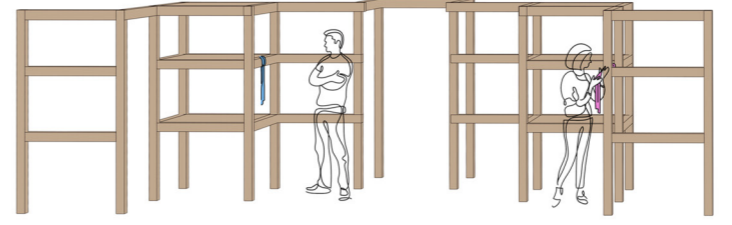
Figure 77. Site Showing.





FORM

Guiding wall
The purpose of the square walls is to outline different zones through these walls and create further social distances for people to return to the public softly. The division also is used for people to hang a knot symbolizing unity, which is a way to connect with people.



SURFACE

Color bench
Benches are set in all design spaces, providing people with places to chat and rest. The colorful chair feet echo with the knots of different colors in the space and highlight the chair's structure, emphasizing the connection between each small individual, forming a whole, playing a cohesive Role in the design space.

Small scale table
Small tables are narrower because they are designed to provide space for people to play board games, such as playing cards and chess. These activities make people more focused on creating connections and communication, and it is relatively easier to shorten people's sense of distance.

Large scale table
The table's width is more extended, so the table can provide more space, giving people the opportunity to read and eat when they stay in the design space. At this time, we don't want to be too close to others when eating, so the big table can create social opportunities and make people feel more comfortable.

Billboard box
The box will be placed at the entrance and exit of the design project, providing various ribbons for people to participate in tying knots. At the same time, the billboard will explain the purpose and function of the design project to provide an opportunity for those who are not ready to socialise.

PORTABLE

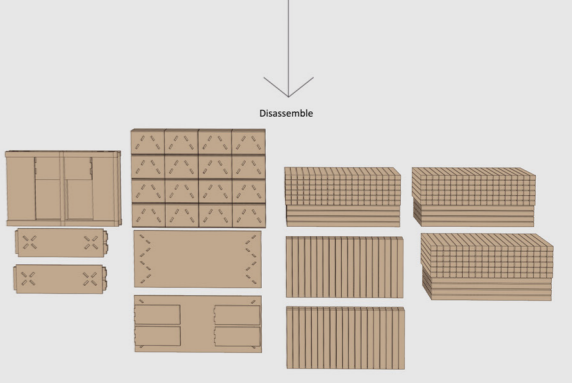
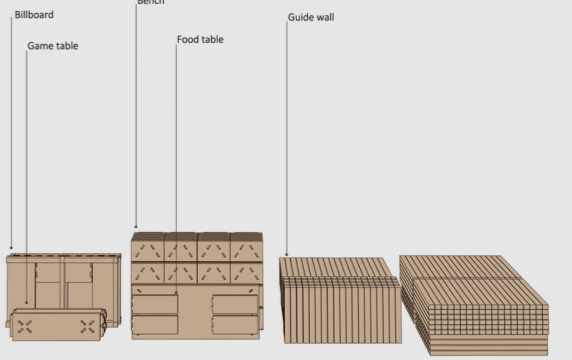
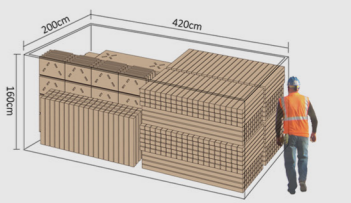
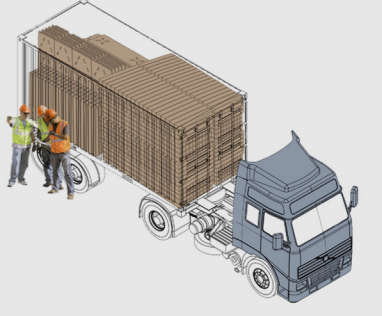
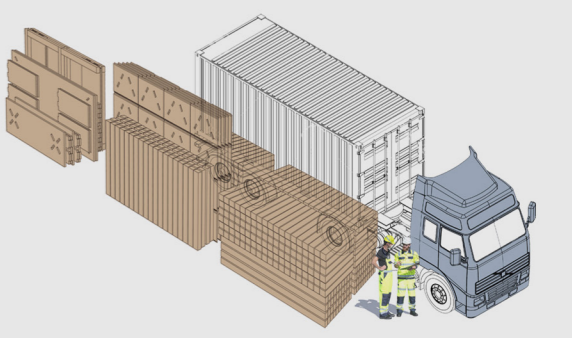


Figure 78. Details Showing.

Planned Research Outcome

At the time of writing this exegesis, the thesis project is in the final stages but incomplete. After exhibition and examination, detailed documentation will be added to this section. The main elements of the design are:

Lightweight portable chairs and tables:

To be suitable for portable tables and chairs, I always use the chair to be built as the design concept. In the final stage of the research project, I am improving the chair's structure that can be easily disassembled and transported. It only

takes a few simple steps to install it successfully. My aim is for the whole design space to maintain the same style, including the functional furnitures that provide multiple purposes. I developed the chair legs to be different colours, creating a sense of connection between knots and chairs and making the atmosphere of the space more active.

In addition, I will cut off a part of the air raid in the middle of the chair foot so that the weight of the lower part of the chair is different from that of the upper part. The purpose of this is to emphasise that when the 'weak' structures are connected, they can create more strength (Fig.83).



Figure 79. Talking view render.

Also, I designed two different sizes for portable tables to create more activities in different space distances for people. A wider table is planned for eating and rest. In this scenario, people need a particular space to enjoy their food and larger tables can facilitate sharing this experience with others; The narrower table plan is designed to provide a game playing space, making people closer to each other. The designed table will give the people opportunities to play games such as chess and to create communication with strangers, and the space staff can also accompany the viewer to play and chat (Fig.84, Fig.85).



Figure 80. Food view render.



Figure 81. Playing view render.

An open 'wall' structure :

The open wall structure also retains the concept of the wood structure connection. In this design, I try my best to keep the expansibility of the space, avoid the depression of the wall space, and form open zones—the zones created by each wall separate the design space with different space distances. My purpose is to allow people to return from isolation and adapt to the return in this transformed space (Fig.86).



Figure 82. Walking view render.

Shengjie knots :

On the wall, people are welcome to tie the knots(*shengjie*) of their own choice. In this space, people can connect the knots in any way, which means they have integrated into space and become a part of it. With more visitors, they can see the changes in the space. More and more knots also mean that we are gradually united. Therefore, this atmosphere can arouse people's will to return to the public (Fig.87).

When an audience finds him/herself surrounded by such knots, I wish to create an emotional impact on the audience upon realisation that each knot represents an emotional message conveyed by a previous audience. Such impact could trigger and stimulate human beings' innate emotional exchangeability, facilitating the audience to experience a sense of forming emotional connections with others. Furthermore, when one leaves a knot on site, he/she is performing a common act with the other audiences on site, thus passively stimulating a sense of inclusiveness, acceptance and social participation.

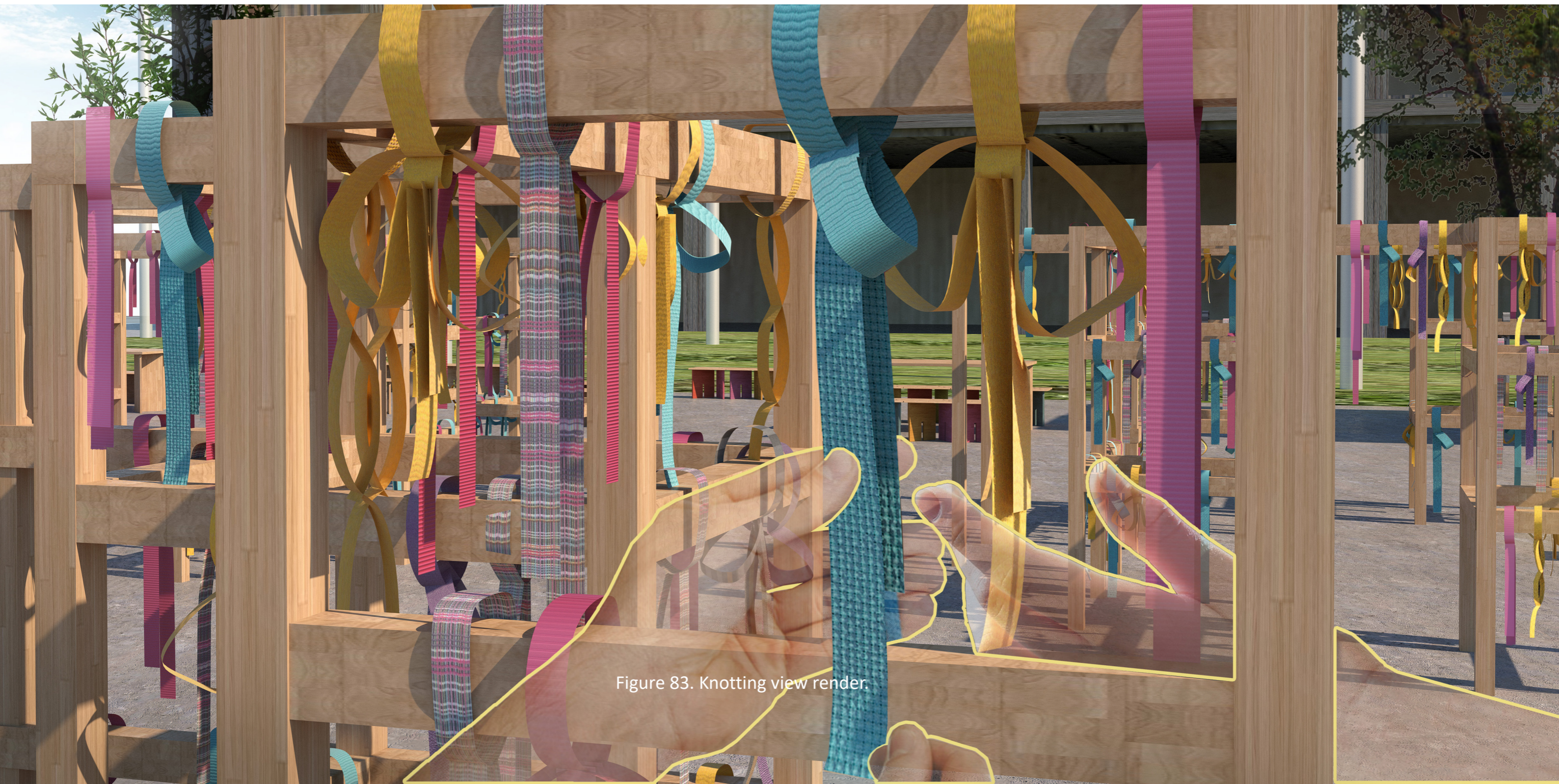


Figure 83. Knotting view render.

Summary

In this study, I imagine ways to alleviate the social anxiety introduced by isolation during COVID-19; help people return to public space; relieve psychological pressure and constraints through experience in designed space. The very essence of this design project is to create a space that guides the visitors into connecting with each other, stimulate people's incentive of connecting with each other, create possibilities for action, and ultimately leading the visitors to re-assimilate into society comfortably; I aim to achieve such purpose through emotional, psychological influences rather than firmly interfering or managing behaviors of the visitors actively.

The design project utilises the theory of Proxemics and element of *Shengjie* to stimulate psychological and emotional connection between the audiences.

The audiences will be gradually "guided" by the layout of the walls towards smaller, semi-confined spaces, thus decreasing the physical distance between each other. As the theory of Proxemics states, the distance we maintain between one another directly influences our actions. By unconsciously reducing the distance between visitors, connections between each visitor are promoted; this helps the visitors break away from the "social distancing" habit which they would've adapted during COVID-19 lockdown periods. It is crucial to note that whilst the audience is guided towards each other; they are never "forced" to interact or to approach others, the small spaces are only semi-confined with multiple routes of exiting, thus if a visitor does feel overly anxious approaching others, he/she always has the freedom to leave the small spaces.

The element of *Shengjie* is used in this design to induce a medium of emotional connection between the visitors. The walls in the space are merely wooden frames; such open wall design reduces tension within the confined areas and provides the visitors with a location to tie a *Shengjie* knot, a knot with a resemblance for goodwill, prosperity, or to mark the significance of a relationship. Each knot left on site is an emotional message deposited by a previous visitor; as the audience leaves his/her knot along with the *Shengjie*'s on-site, I wish to stimulate a sense of inclusiveness and commonality with the act, as if the audience is "tieing" him/her along with the others. The construction of the space is never "finished." Instead, each visitor contributes

towards completing the space.

Apart from being a design for the audience to explore, space will also be occupied with functionalities such as food vendors and board games. This allows the space to attract different visitors and provide activities to prolong the visits. In doing so, the space will serve to be more purposeful; the audiences will have the chance to meet others and conduct activities provided on-site together; simultaneously, doing so also allows the space to contain all kinds of visitors from elderly to children, resembling the larger society we live in, when one spends time in the space, I wish to stimulate his/her with a sense of interacting with society.

In creating this project, I wish to raise people's concern about the impacts the COVID-19 lockdown has had on our community, pay more attention to the connection between people, and ultimately providing a medium for social reconnection with a focus on people who have developed social reconnection difficulties during COVID-19 lockdown periods.



Figure 84. Space experience time journey 01.



Figure 85. Space experience time journey 02.



Figure 86. Space experience time journey 03.



Figure 87. Space experience time journey 04.



Figure 88. Space experience time journey 05.

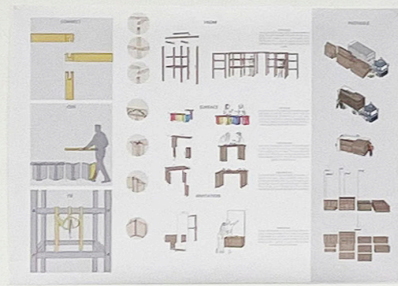


Figure 89. Exhibited Design Outcome 01.

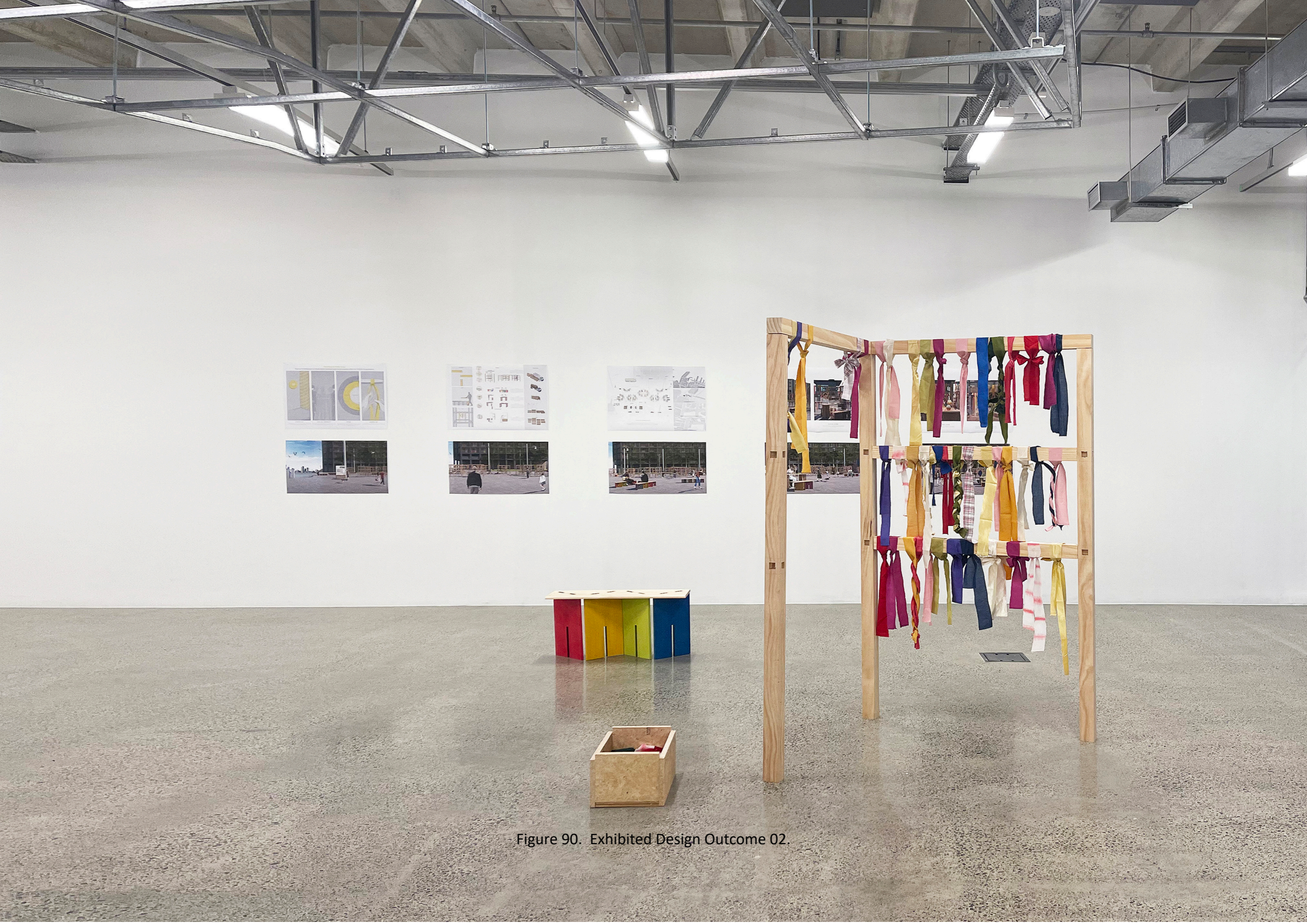


Figure 90. Exhibited Design Outcome 02.



Figure 91. Exhibited Design Outcome 03.



Figure 92. Exhibited Design Outcome 04.

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