

OMAH PRINGGOBAJAN

Steel House in Srawung Cluster as a Healthy,
Fast, and Affordable Shophouse Solution during
the Pandemic Covid-19

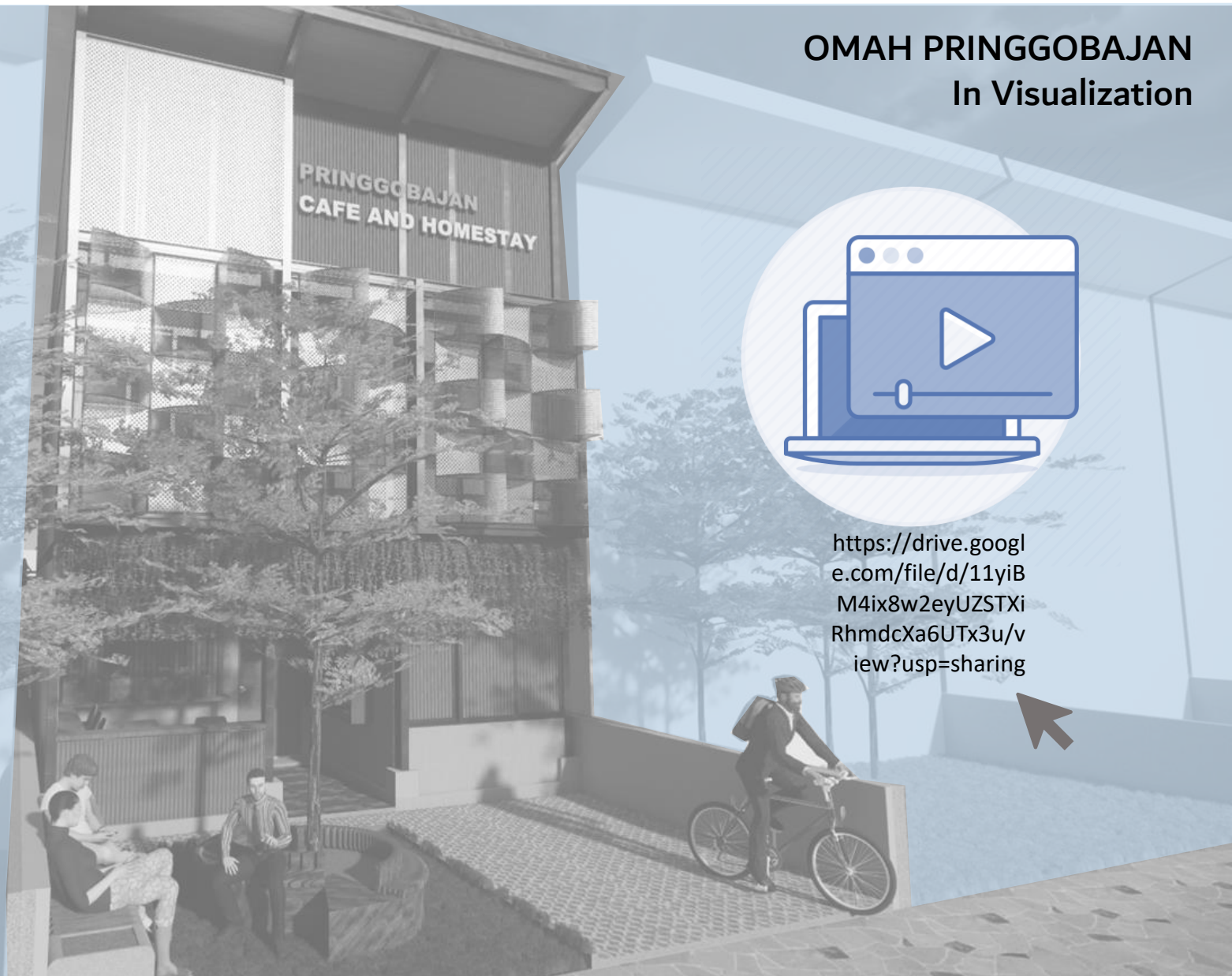


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Steel House in Srawung Cluster

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OMAH PRINGGOBAJAN
In Visualization



<https://drive.google.com/file/d/11yiBM4ix8w2eyUZSTXiRhmdcXa6UTx3u/view?usp=sharing>



2019
2020
2021
202?

OMAH PRINGGOBAJAN

The COVID-19 pandemic has somehow passed, it has been almost two years since the new habit has been implemented. The worst scheme is that we live side by side with covid-19. Conventional housing must be changed in order to support the health of its occupants. Some of the solutions offered can be in the form of housing that is quickly built so as to minimize prolonged physical contact of workers, building materials that are not a habitat for COVID-19 droplets, a sterilization room at the front, to optimum ventilation and natural lighting in the dwelling. The design of Omah Pringgobajan as a form of effort to jointly find housing solutions during the pandemic and post-pandemic.



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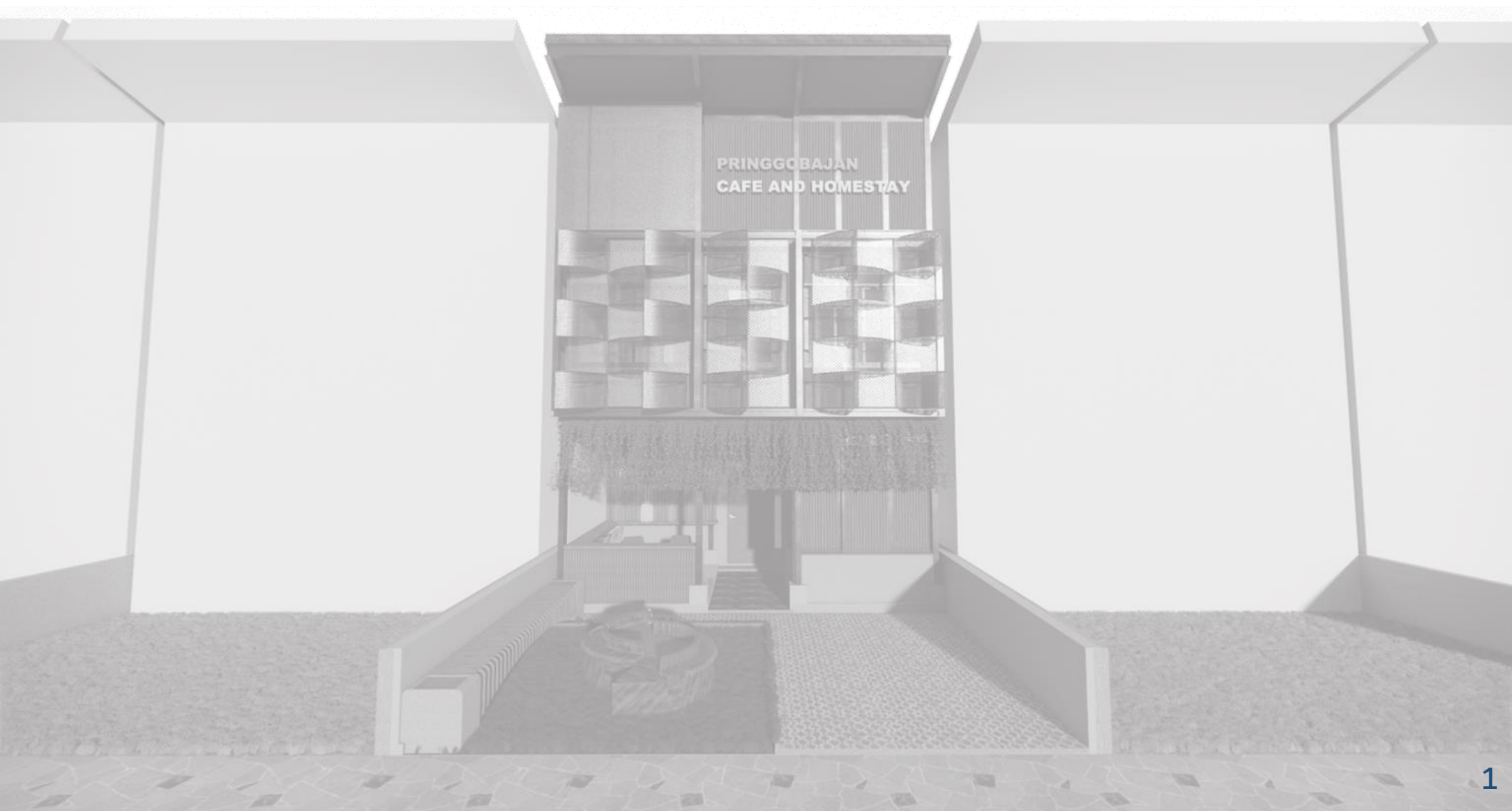
Building Engineering Concept

GALLERY OF DESIGN

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PROJECT BRIEF



CLIENT DESCRIPTION



The client is an ex-office employee who wants to start a food business using organic food raw materials supplied from agriculture on the slopes of Merapi (an Active Volcano near the site, but still in safe zone). Targeting a location near the campus with the target market is students. However, during this pandemic, some students study online from their home. In addition, strict health protocols must be carried out by culinary entrepreneurs during this pandemic.

As an alternative to other businesses, clients expect boarding houses for students or homestays that can be rented out without disturbing the client's privacy. If the campus is empty, boarding rooms can be rented out as a homestay or function as a pavilion when friends or relatives stay overnight.

The client is a young couple. They plan to have two children. However, for the time being they want to focus on running their business first.

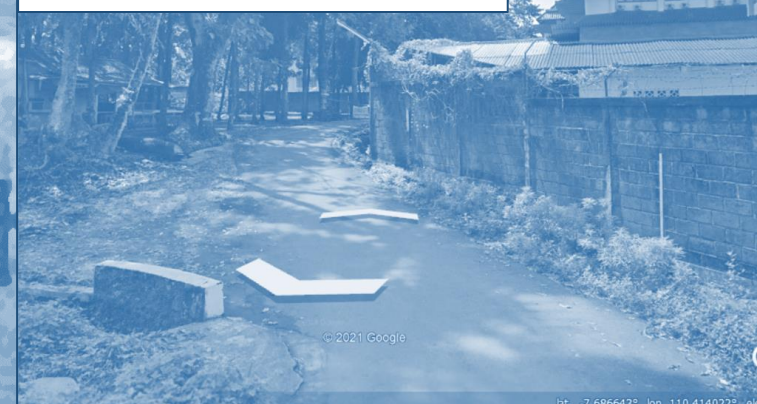
The client originally lived in the city



During the pandemic, clients are laid off



Looking for cheap house and potential for business



USER DESCRIPTION

Users are the personal family of the client whose privacy interests must be accommodated. In addition, the presence of rented rooms also makes people from outside the family live in here (temporary). Customer of cafe (indo: *warung*) are also temporary users. As a steel house that near from campuss, this house can be used as a steel study place by students. Farmers who are business relations can also evacuate to this house when Merapi erupts (sister village concept).



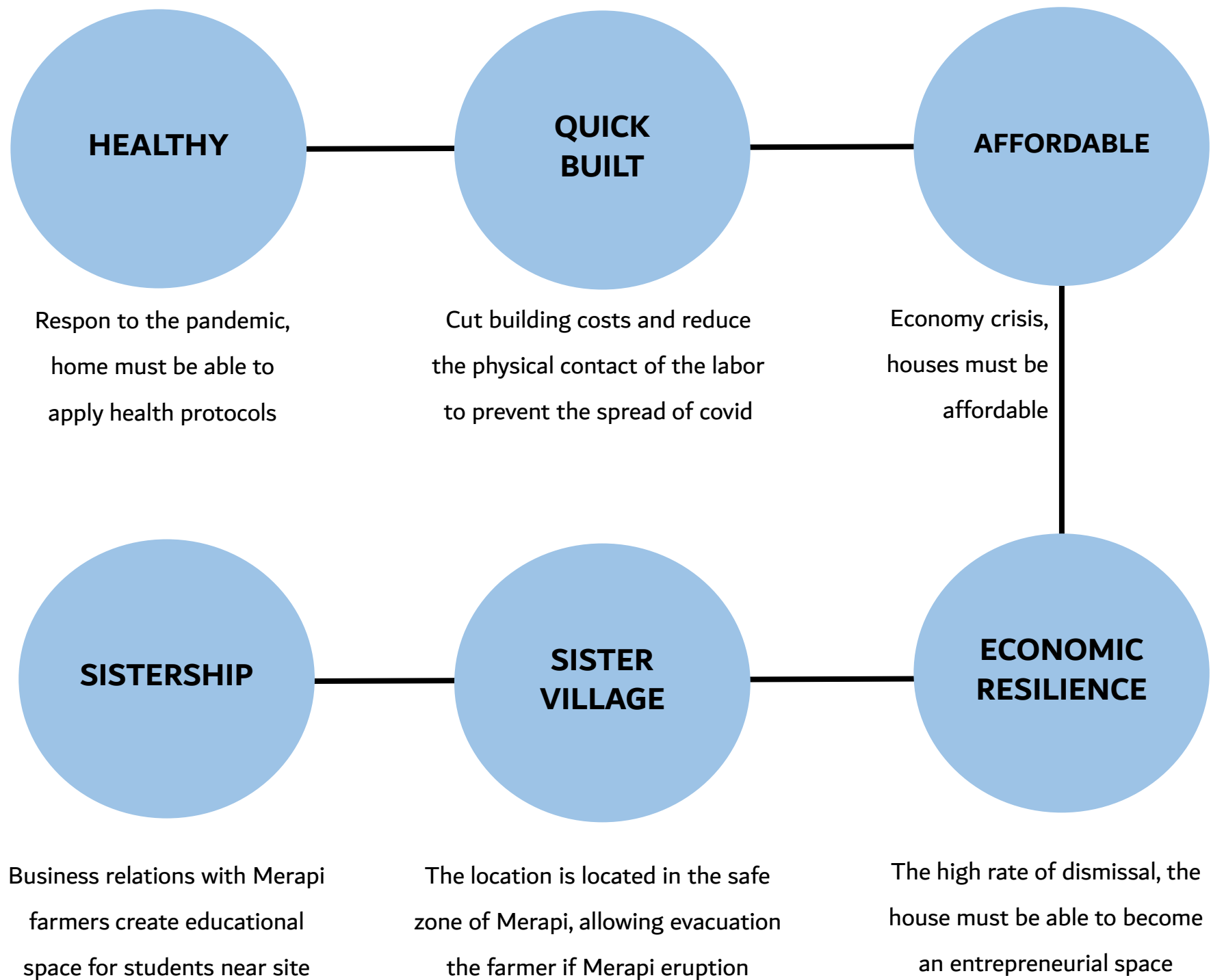
COMMON USER



INSIDENTAL USER: REFUGEES FROM MERAPI

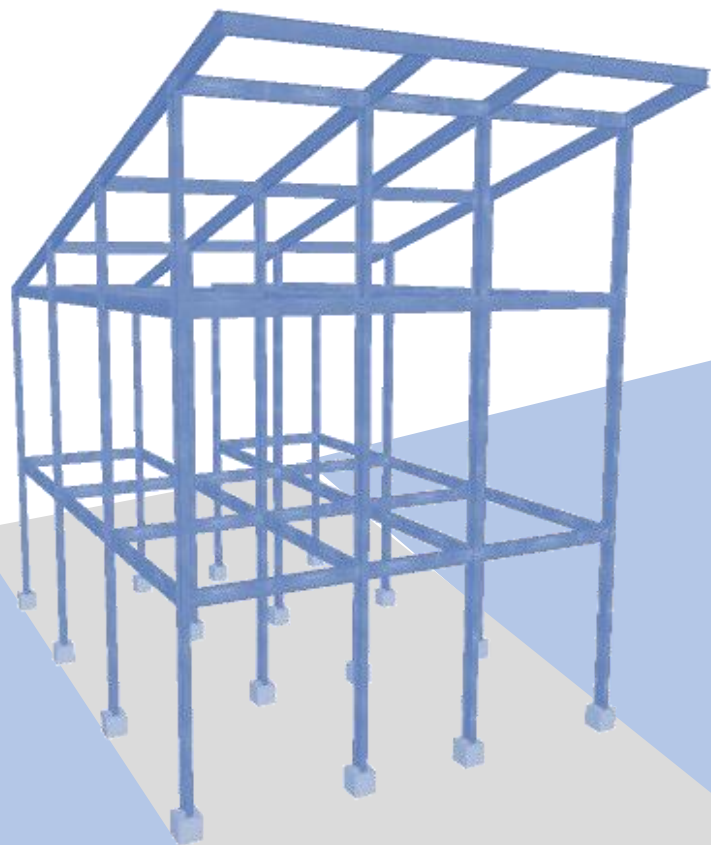


DESIGN GOALS



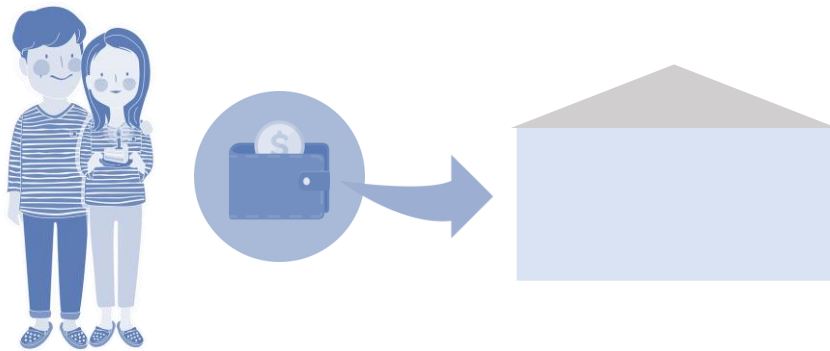
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CONCEPT AND DESIGN RESPONSES

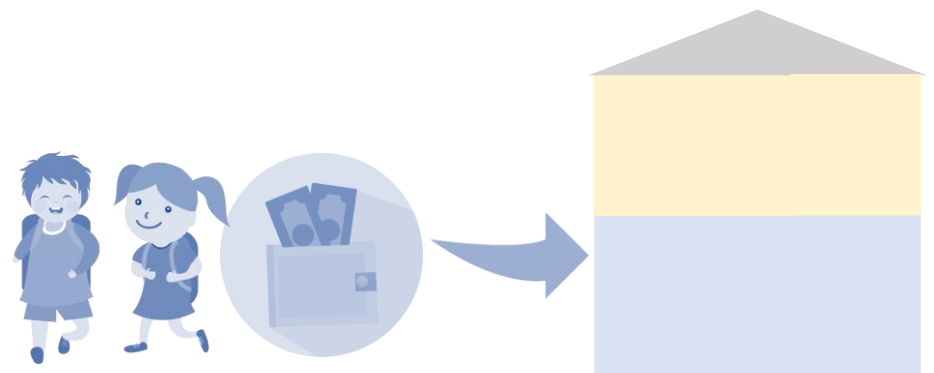


GROWING HOUSE

Growing house are designed in stages without any wasted building material. Applied due to limited budget of client. The concept of a growing house is also applied along with the increase the number of family members (extended family).



A young couple does not have enough money to build their dream home. The core house is built first which is sufficient to accommodate the needs of the couple.



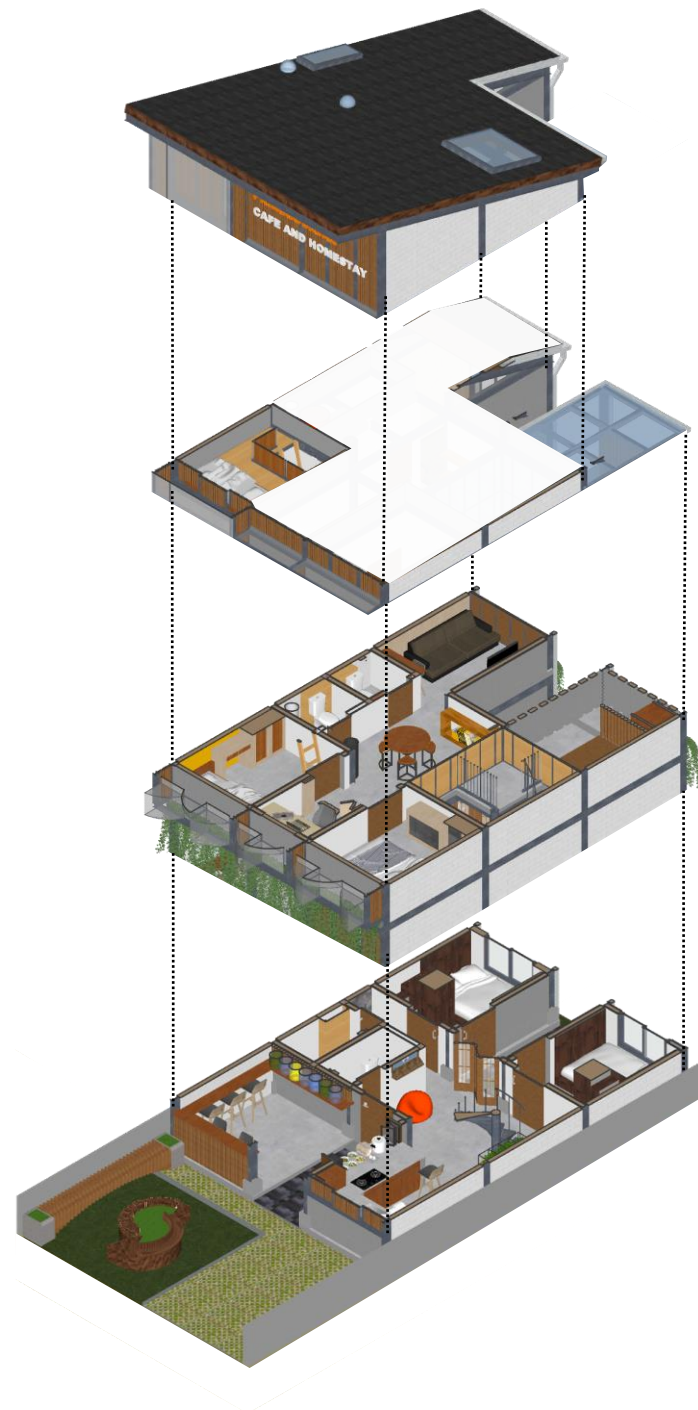
Over time the number of family members also increased so that a more complex space was needed. The house can be expanded (both vertically and horizontally) without wasting the material of the previous house.

Growing House

ARCHITECTURAL CONCEPT

Nowadays, land prices are getting more expensive. The client expects the house to have a space requirement that supports privacy for his family and also functions as a place of their family business. The house is designed to divide the zoning space into two floors. The first floor is a public zone that can be rented out while the second floor is a private zone for client's family.

However, limited funds made the final model of this house unable to be built in the near future. The concept of a growing house is a solution in building a house in stages according to the client's financial condition which is expected to improve along with the development of their business.



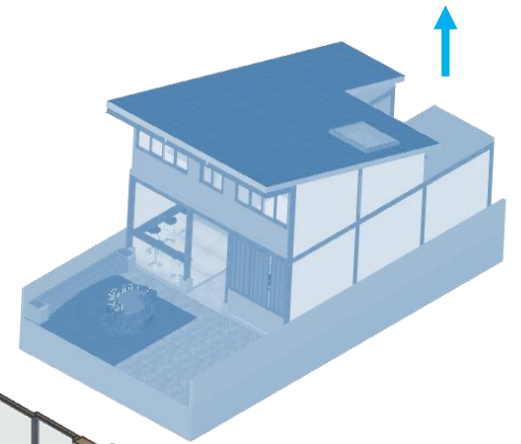
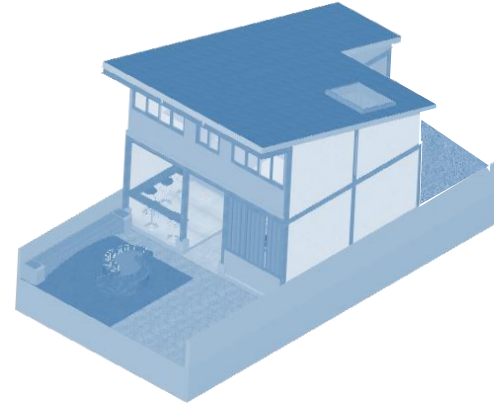
Roof
Skylight
Solartube
Roof Gutter

Lantai Mezzanine
2nd children's bedroom

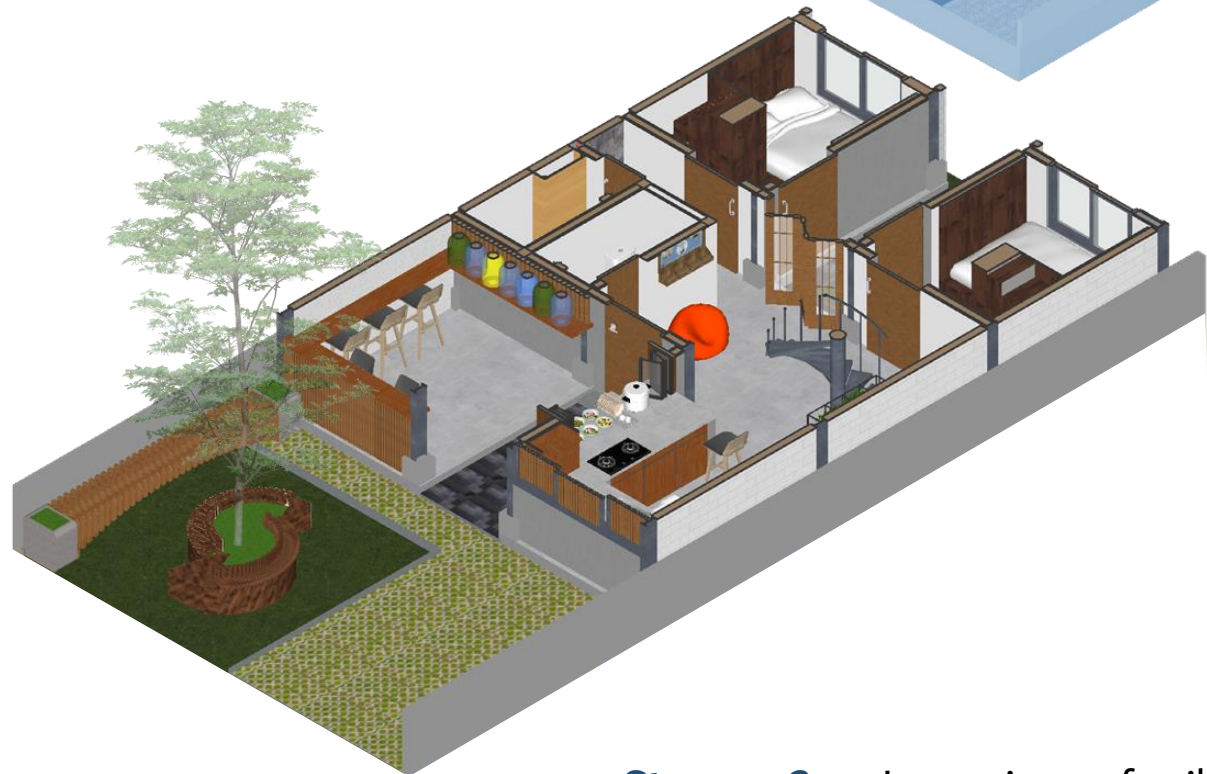
2nd Floor:
Living room
Shared praying room
Laundry room
Master bedroom
1st children's bedroom
Two bathroom
Workspace

1st Floor:
Cafe
Shared Kitchen
Two rent rooms
Two bathroom

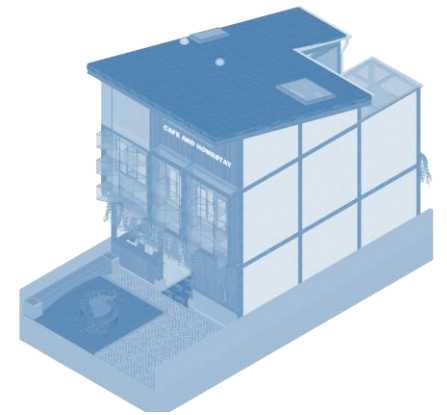
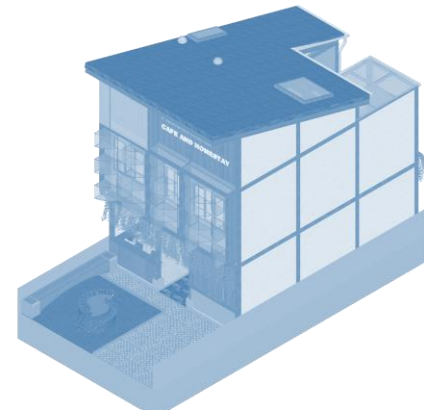
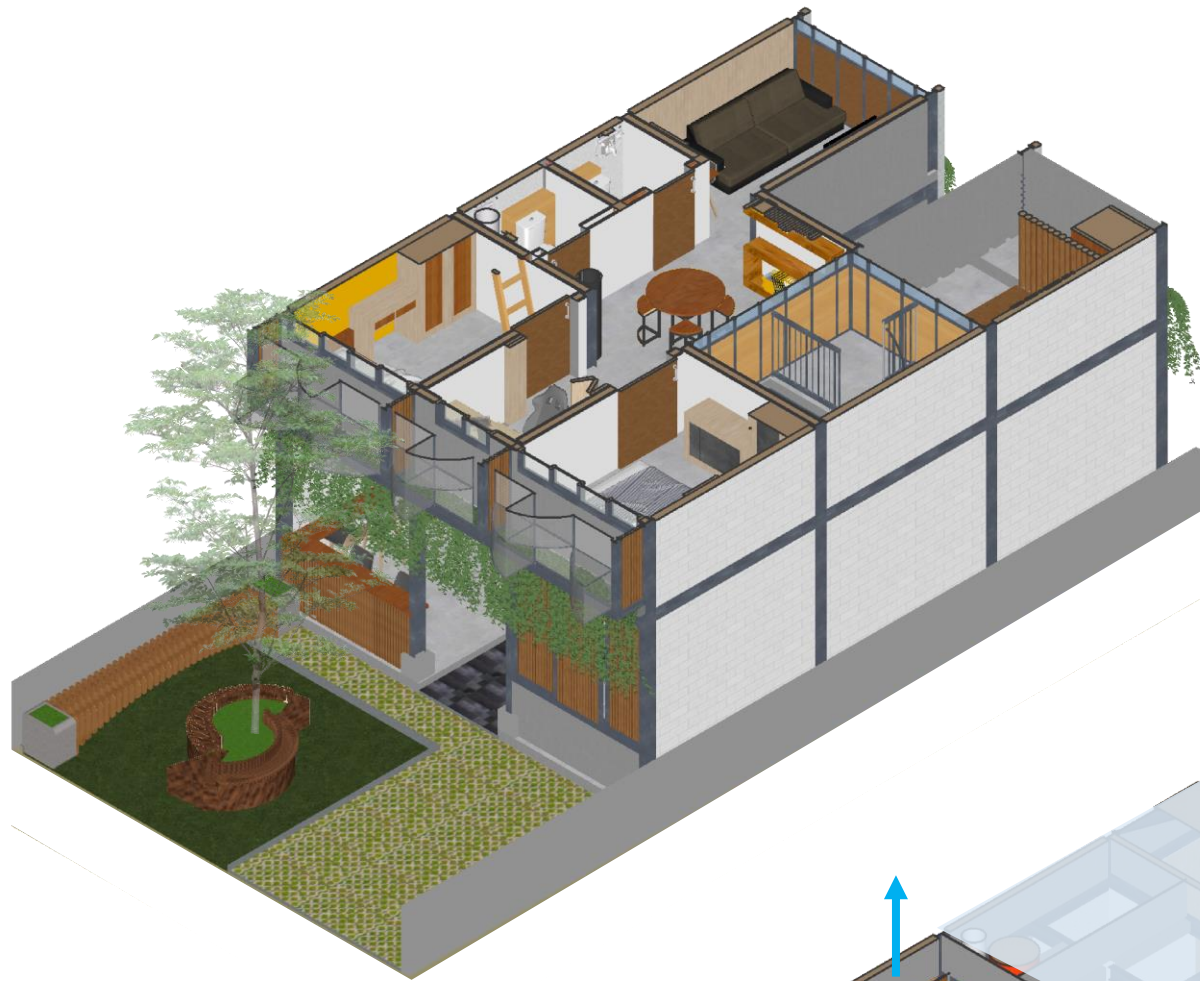
Growing House Stage



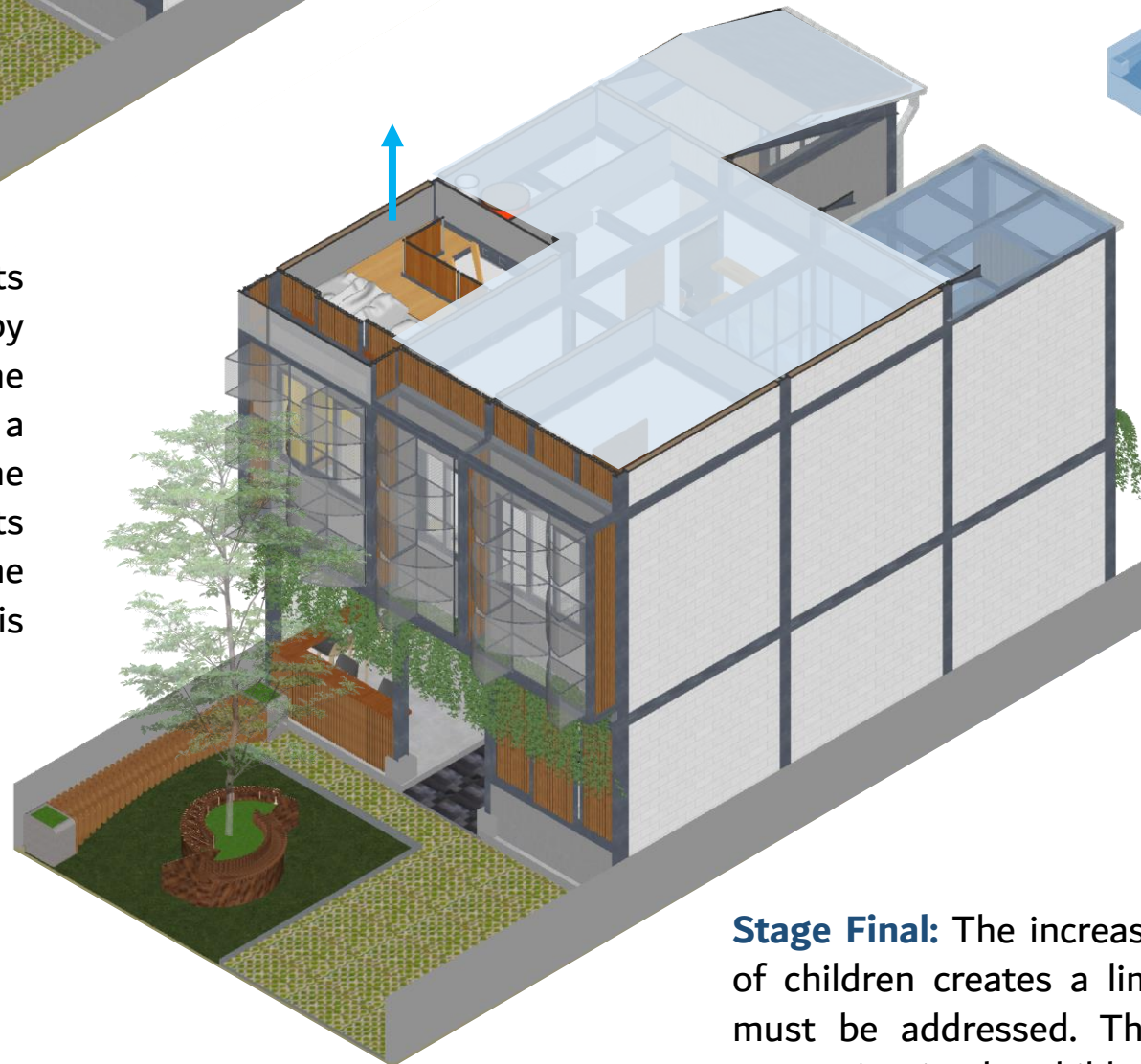
Stage 1: The basic and business space needs for clients have been built with a building space of 34.2 m²



Stage 2: Increasing family members, especially children, requires additional space. Room 2 is built with an area of 7 m². so the total area becomes 41.2 m².



Stage 3: Residents increase business by building homestay. The first floor is completely a business space. The privacy needs of residents are accommodated on the 2nd floor. The total area is 77.05 m².

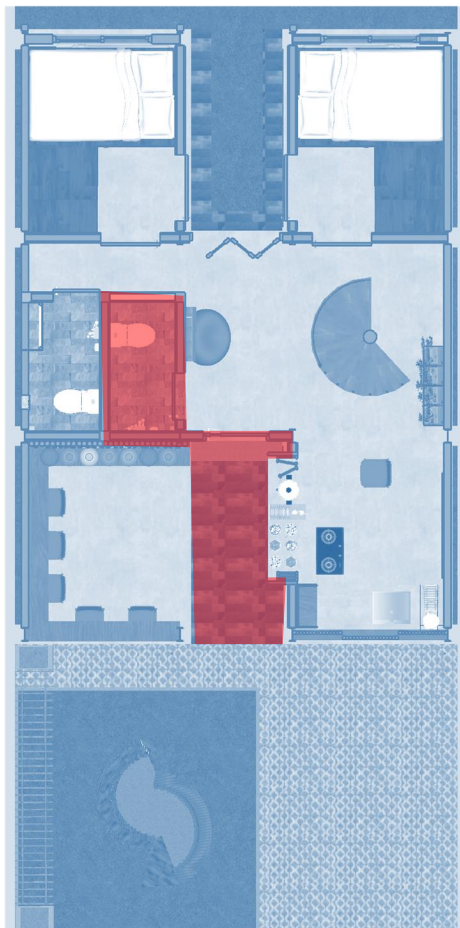


Stage Final: The increase in the number of children creates a limited space that must be addressed. The addition of a mezzanine in the children's room makes it can be used for two people in one room. The total area is 82.85 m².

PANDEMIC RESPOND

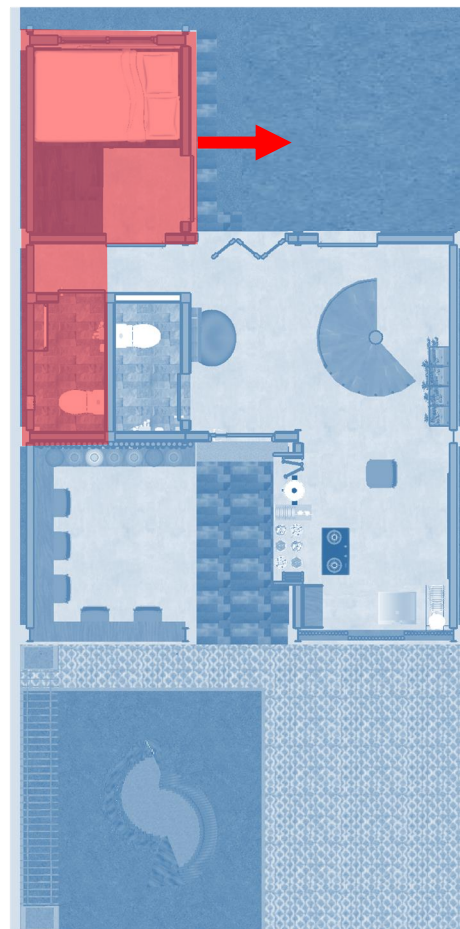
ARCHITECTURAL CONCEPT

FOYERS: TOILET AS A STERILIZATION ROOM



This pandemic makes toilet as an important room after residents travel from outside. Placed at the main entrance so that residents can be sterile (wash hand or take a bath) before reaching the deepest part of the room.

SELF-ISOLATION ROOM



Stage 1

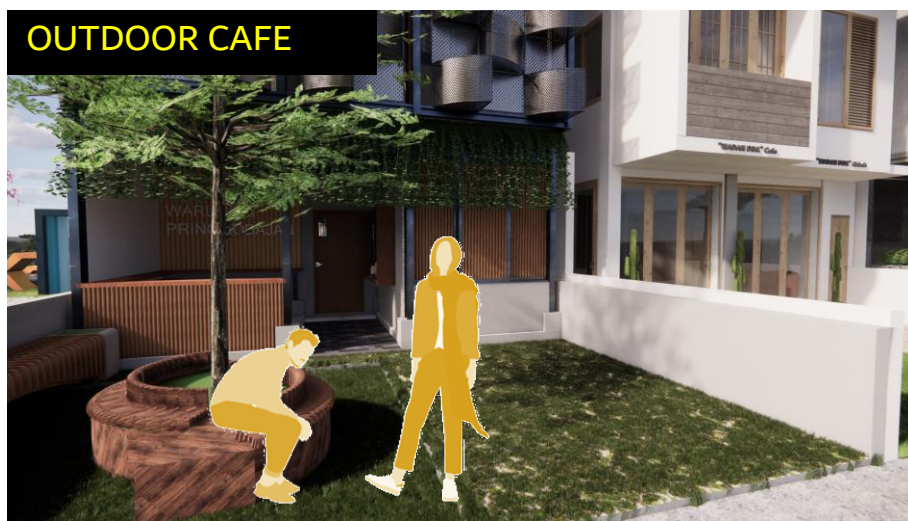
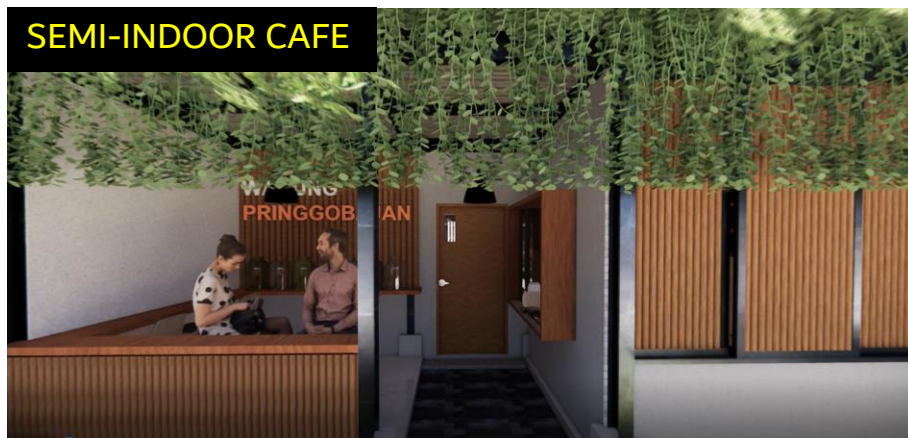
When the house is still in the home growth stage, if someone is exposed COVID-19 and required to self-isolation, the main bedroom becomes their private space because they have access to the backyard for activities and their own bathroom which is separated from healthy residents.



Stage 4

When the construction of the growing house is complete, the living room can be an isolation room with a recliner sofa that can be used as a bed. The large glass windows allowed optimum daylighting (morning sunlight) to enter the space to aid recovery.

ENTREPRENEUR SPACE: CAFE



The open layout of the cafe makes optimum natural ventilation and daylighting. The open space concept also minimizes the deposition of virus droplets in rooms with high interaction between visitors.

ARCHITECTURAL CONCEPT

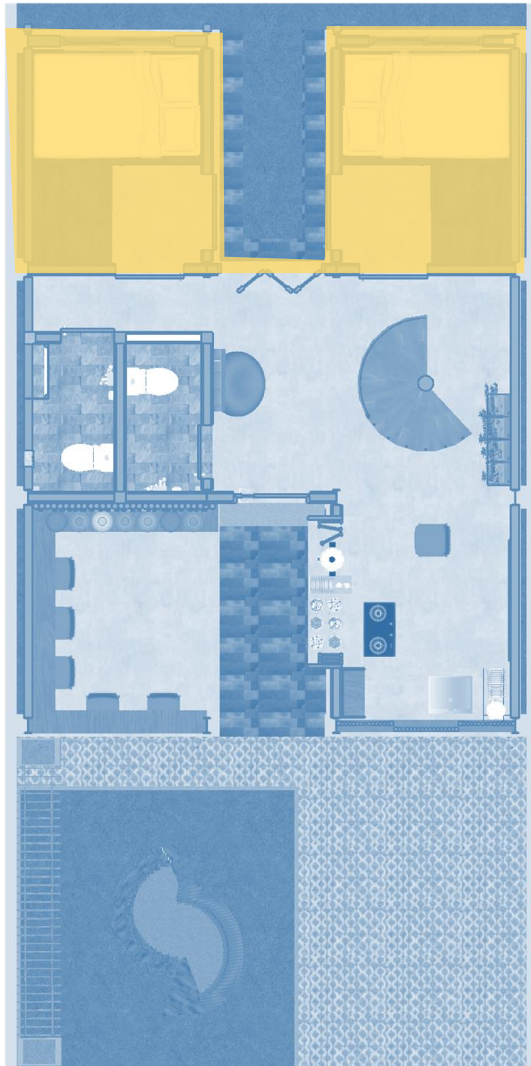


Students that far away from their home target a place with a homey atmosphere. Warung (or cafe) applies the concept of a shared kitchen between residents and visitors so that they will feel a homely feel in the shop.

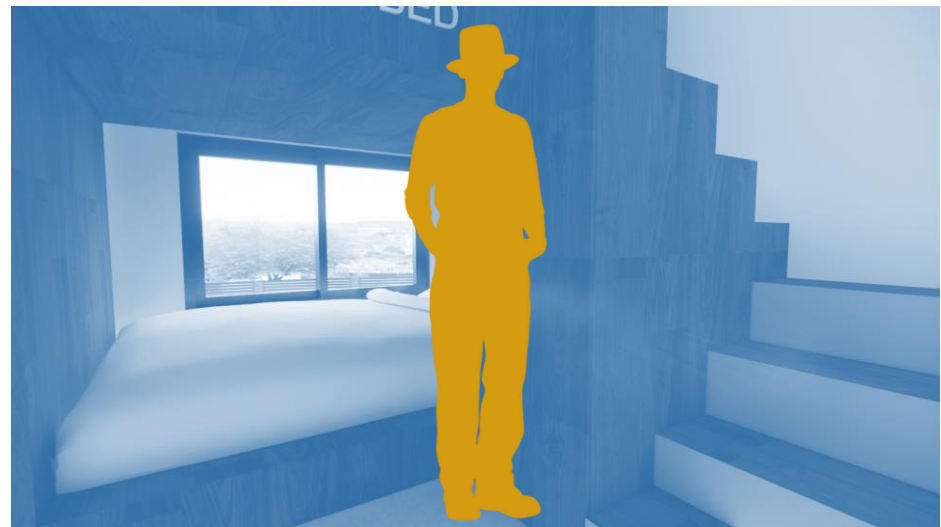
In a disaster situation when this house accommodates refugees, the shared kitchen can function as an emergency kitchen that handles food needs.

ENTREPRENEUR SPACE: RENT ROOM

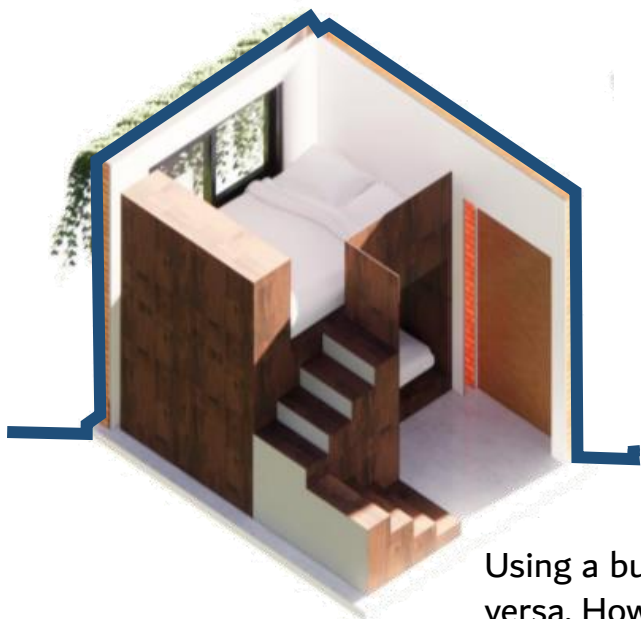
ARCHITECTURAL CONCEPT



Students need a rented room as a temporary residence to complete their studies. However, during this pandemic, where students generally study from home, rooms can be rented out as homestay.

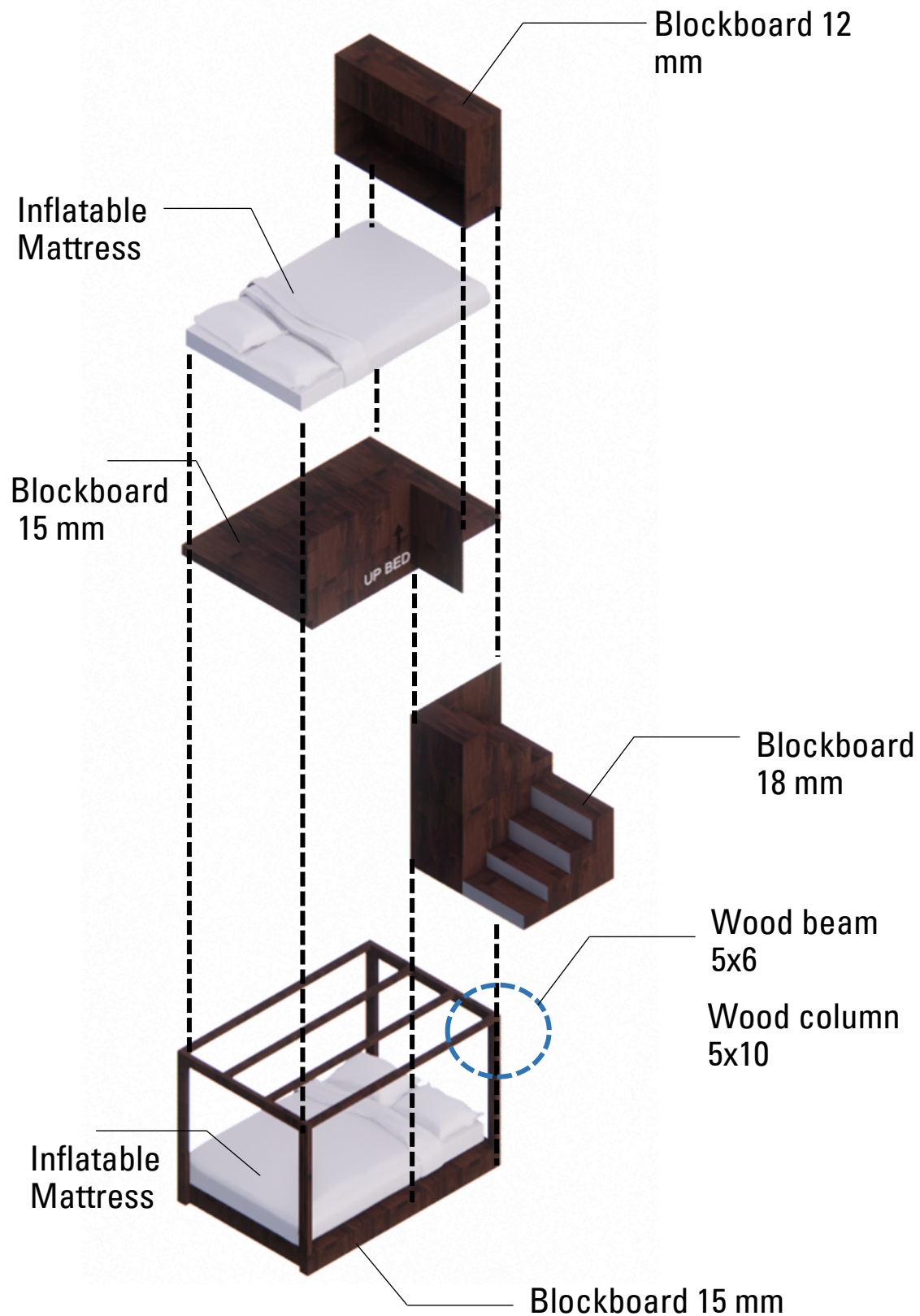


Located in the safe zone of Merapi eruption, the rented room function can be changed to a refugee pavilion (sister village). Affected farmers can temporarily evacuate to this pavilion which can accommodate 6 people per room.



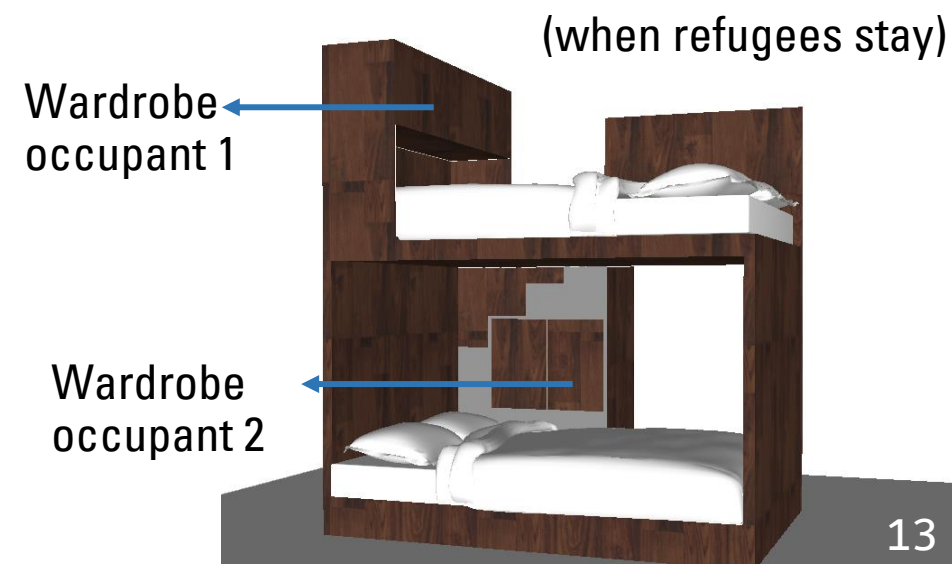
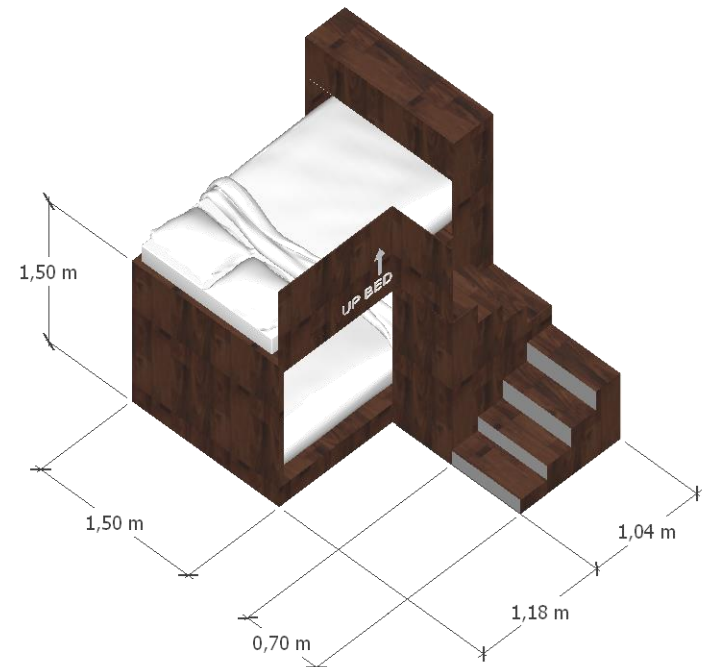
Using a bunkbed, users can use level 1 as a workspace or vice versa. However, when an evacuation occurs, the room capacity can be maximized.

SPECIAL INTERIOR DESIGN BUNKBED FOR RENT ROOM



ARCHITECTURAL CONCEPT

The bed divides the two areas where the top is covered by a wooden partition. The wooden stairs as access to the top are also divided into two areas, the upper area can be used to sit for the occupants of the upper mattress and the lower one as well. The wardrobe is also as an element of privacy for each occupant.



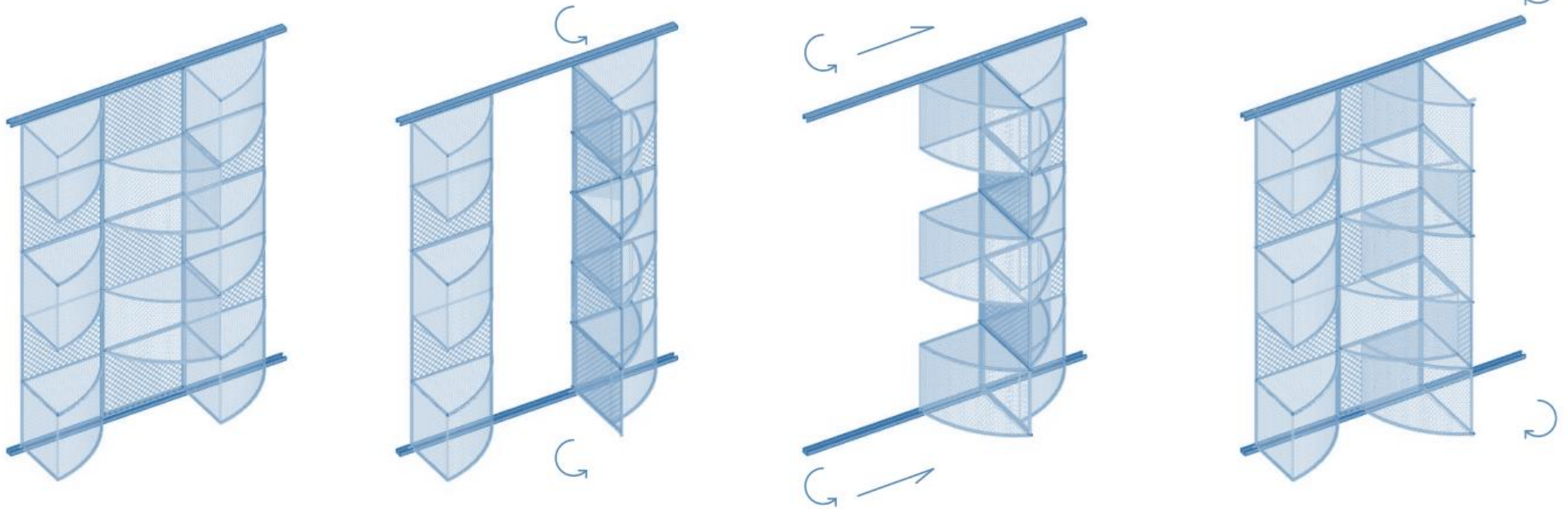
BUILDING ENVIRONMENT ENGINEERING: WEST COVER SUNSCREEN

BUILDING ENGINEERING CONCEPT

The main facade of the building faces west so that the inner space will get the hot afternoon sun. To minimize this, we use sunscreen.

Sunscreen using strimin (wire netting) also allows natural ventilation to enter. In addition, the flexible design allows it to be shifted to maximize the view.

The main facade of the building faces west so that the inner space will get the hot afternoon sun. To minimize this, we use sunscreen.



secondary skin uses strimin aluminum so that the sun's heat can be minimized and air circulation remains smooth

secondary skin can be rotated to the right so that the opening in the middle is maximum

The secondary skin can also be shifted (besides being rotated) so that the left side can maximize the opening too

the presence of a pivot to rotate and a rail to shift allows a combination of secondary skin movement. The right side can also maximize the opening.

BUILDING ENVIRONMENT ENGINEERING: WEST BUILDING ENVELOPE

BUILDING ENGINEERING CONCEPT

Cheap local materials can be used as a natural-industrial facade builder. Bamboo is arranged into sliding windows in the shared kitchen and children's mezzanine rooms. The bamboo slits allow it to get natural ventilation while privacy is maintained.



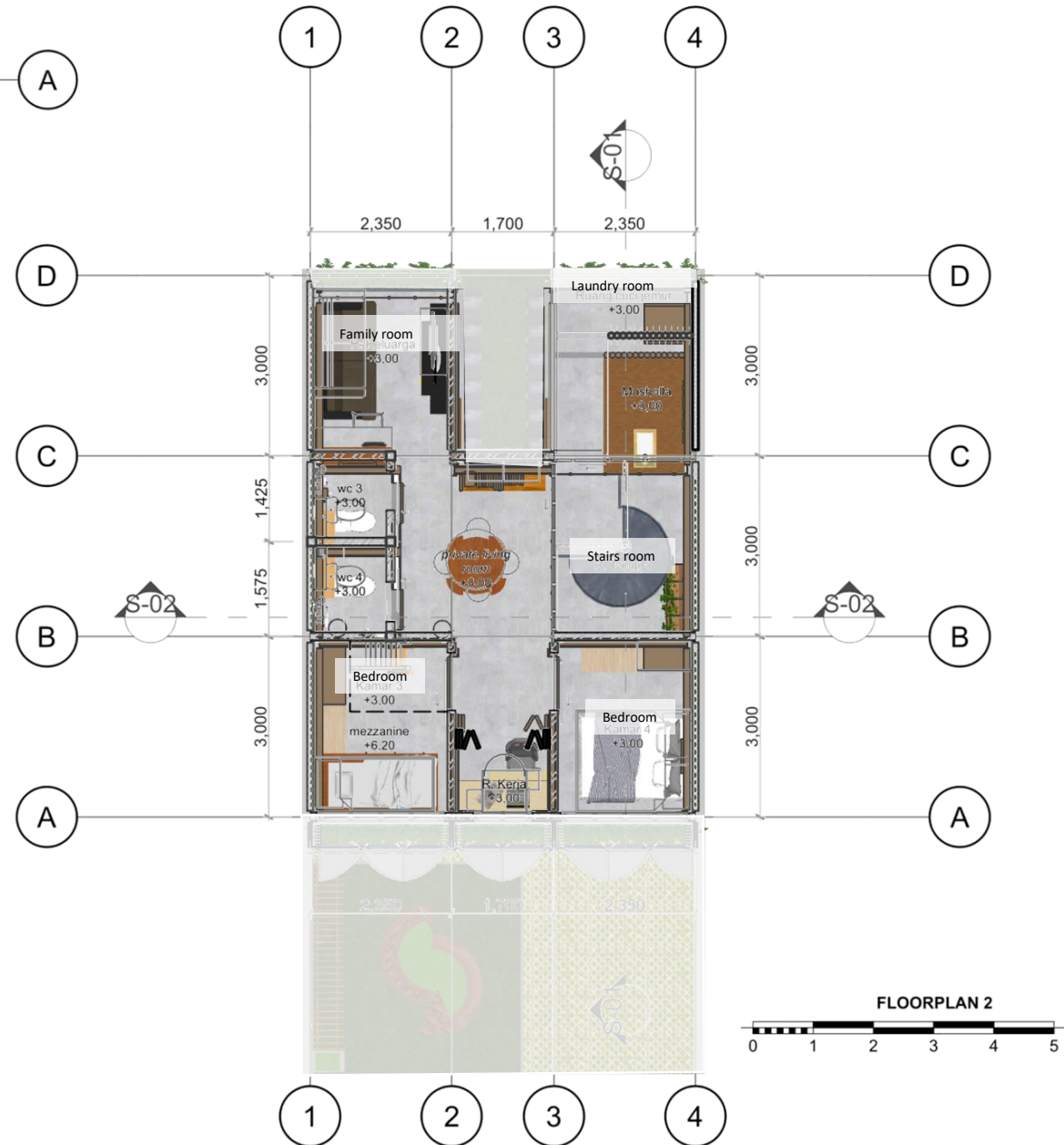
Bamboo uses WA-250 finishing made from Sodium Hypochlorite NACIO where the substance is included in the list of disinfectant ingredients for Covid-19 virus droplets (Indonesian Institute Of Sciences (LIPI Data))

GALLERY OF DESIGN

III



FLOORPLAN





1ST Floor: Living room



1ST Floor: Toilet



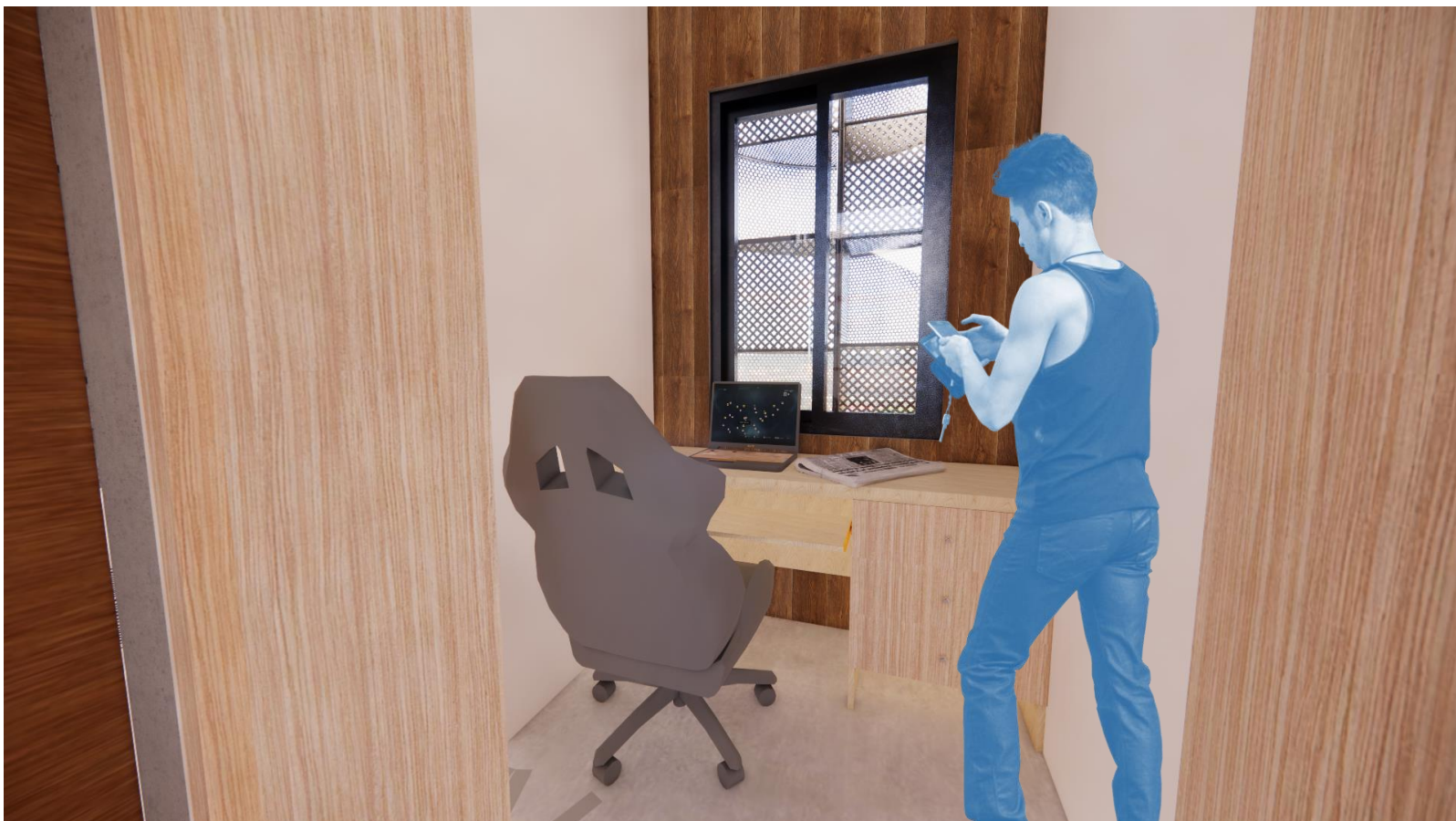
2nd Floor: Living Room (Private living room)



2nd Floor: family room



2nd Floor Master Bedroom



2nd Floor Workspace



2nd Floor: Children's bedroom



Mezzanine room: Children's bedroom



2nd Floor: Shared Prayer Room