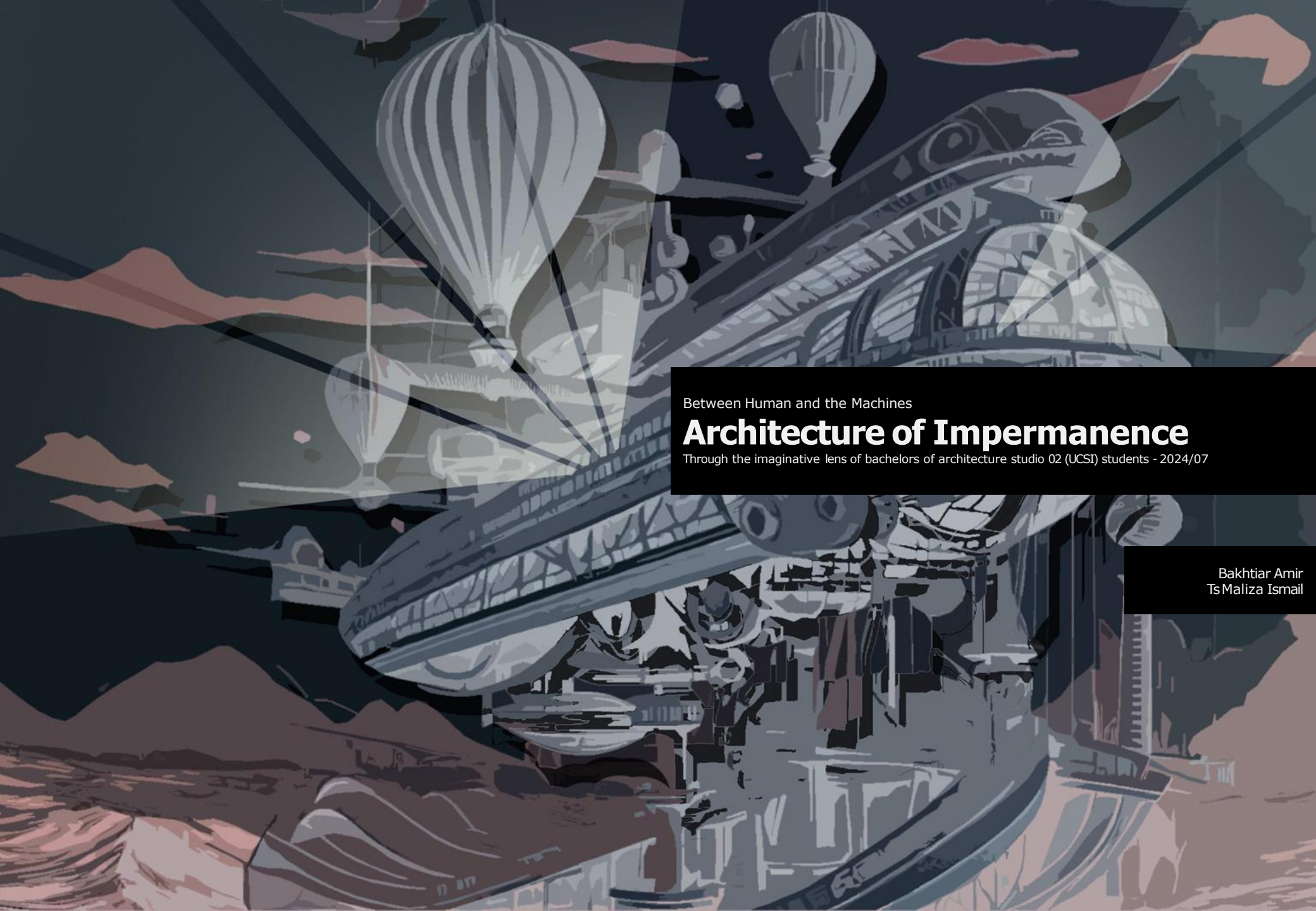

Between Human and the Machines

Architecture of Impermanence

Through the imaginative lens of bachelors of architecture studio 02 (UCSI) students - 2024/07

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PREFACE

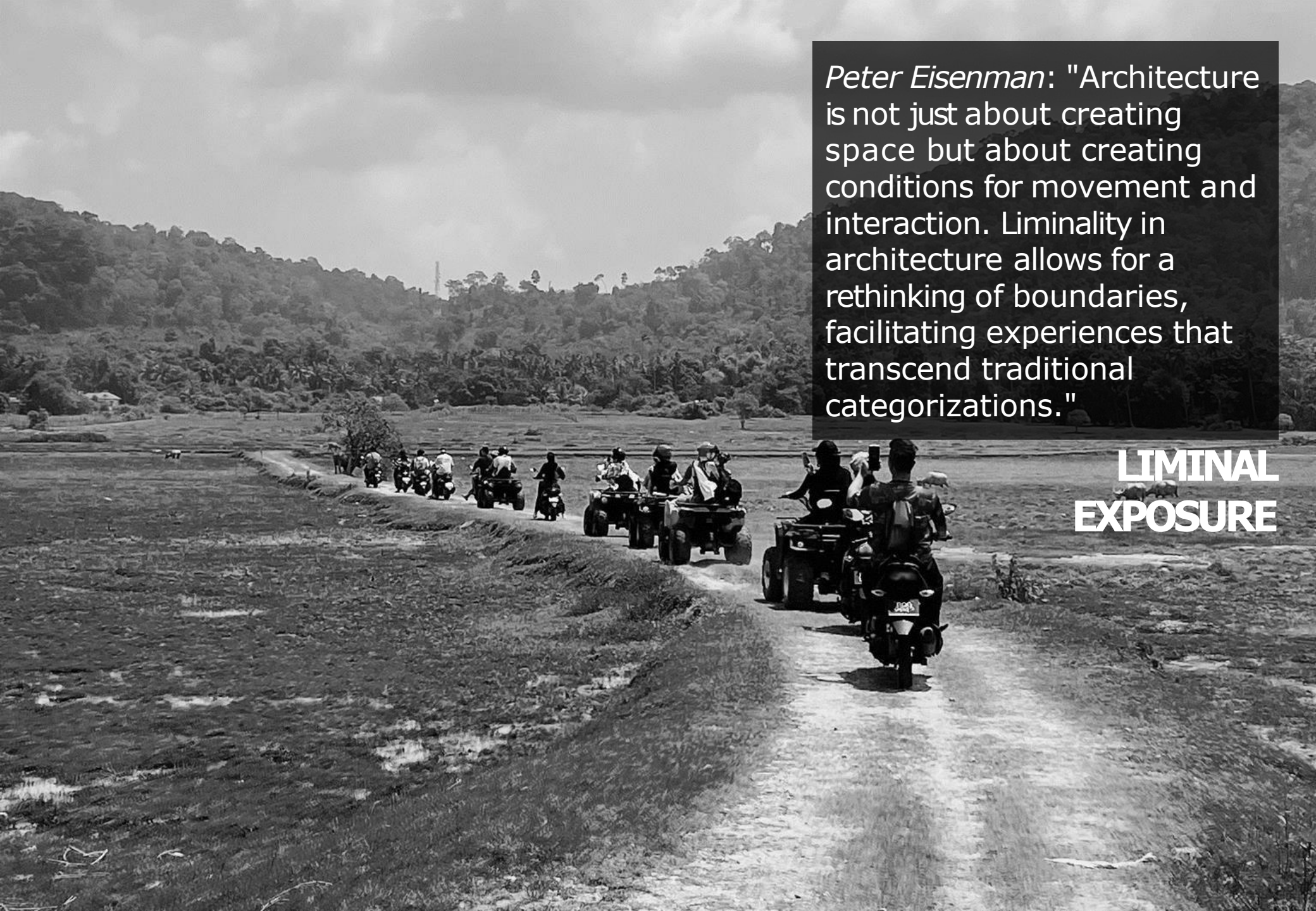
By Bakhtiar Amir

The progression of architecture towards embracing nomadism, impermanence, and mobility reflects a profound shift in how we conceive and interact with the built environment. Traditional architecture has long been associated with permanence and stability, characterized by monumental structures meant to withstand the test of time. However, the modern and contemporary periods have seen a paradigmatic shift driven by technological advancements, changing societal needs, and evolving philosophical perspectives.

This ongoing evolution towards nomadism, impermanence, and mobility in architecture not only challenges traditional notions of stability and permanence but also offers innovative solutions to the pressing issues of our time. By embracing these concepts, architecture can better serve the ever-changing needs of society, fostering environments that are not only functional and sustainable but also resilient and adaptable.

Liberating architectural thinking in this context refers to reimagining how we design and interact with habitable spaces by drawing inspiration from the principles of machine components. This approach shifts the focus from static, traditional structures to dynamic environments that embrace mobility, impermanence, adaptability, and movement. Integrating mobility into architecture opens up exciting possibilities for how spaces function. Structures can be designed to glide along tracks or even float, adapting to environmental factors such as wind and sunlight. This adaptability fosters a deeper connection between the built environment and its surroundings, encouraging a harmonious relationship with nature. For example, buildings that can elevate or reposition themselves in response to solar paths or prevailing winds enhance energy efficiency while providing unique experiences for occupants.

Embracing impermanence as a design principle allows for a more fluid understanding of architecture. Temporary or transient structures can become platforms for events, installations, or community gatherings, reinforcing the idea that architecture need not be permanent to have significance. This perspective encourages creative exploration and experimentation, leading to designs that resonate with the ever-changing nature of human activities and societal needs. Rethinking architectural conventions through the lens of machine principles invites a more holistic and responsive approach to design. It challenges the notions of permanence and rigidity, responding to environments that are as fluid and dynamic as the lives of their inhabitants. This paradigm shift not only transforms how we interact with space but also aligns architecture more closely with contemporary realities, where flexibility, adaptability, and mobility are essential in our ever-evolving world.

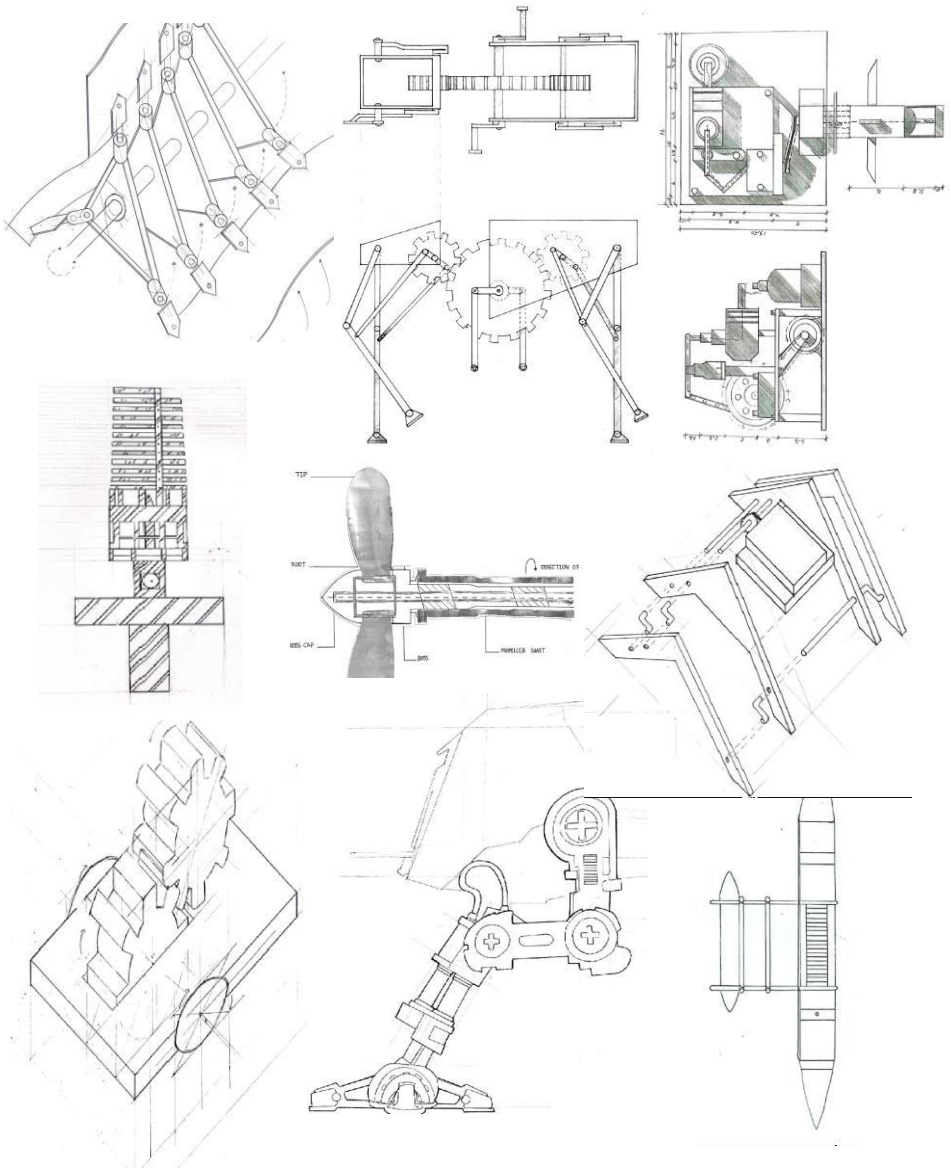


Peter Eisenman: "Architecture is not just about creating space but about creating conditions for movement and interaction. Liminality in architecture allows for a rethinking of boundaries, facilitating experiences that transcend traditional categorizations."

LIMINAL EXPOSURE

CONTENTS

CONDITIONAL LIMINALITY: MECHANISMS OF MOVEMENT ACROSS WATER, LAND AND SKY - PRECEDENT REFERENCE



Conditional liminality in architecture serves as a critical framework for examining the mechanisms that facilitate movement through transitional spaces of varying conditions shaped by water, land, and sky. This concept underscores the fluid interplay between these elemental contexts, revealing how architectural interventions can respond dynamically to varying environmental conditions and enhance the experiential quality of movement within these landscapes.

Precedent studies act as reference points between the built works, giving a clear understanding of what has been studied, tested, built and how the knowledge can be utilized, transferred and improvised in order to create new and better design solutions. We must first objectively dissect and critically analyze existing buildings / cases / systems designed and tested in practice, in order to understand the anatomy and convey the conceptual ideas behind these works. In the first task, students were assigned into one of 3 groups, focusing on the subject matter of mobility, impermanence and nomadism. The 3 different physical conditions that becomes the basis of selection of mechanisms for liminal traversal includes land, water and sky. The task was to search, dissect and analyze one of the fundamentals of mobility based on the conditions assigned, which will then be compiled as a mobility device database.

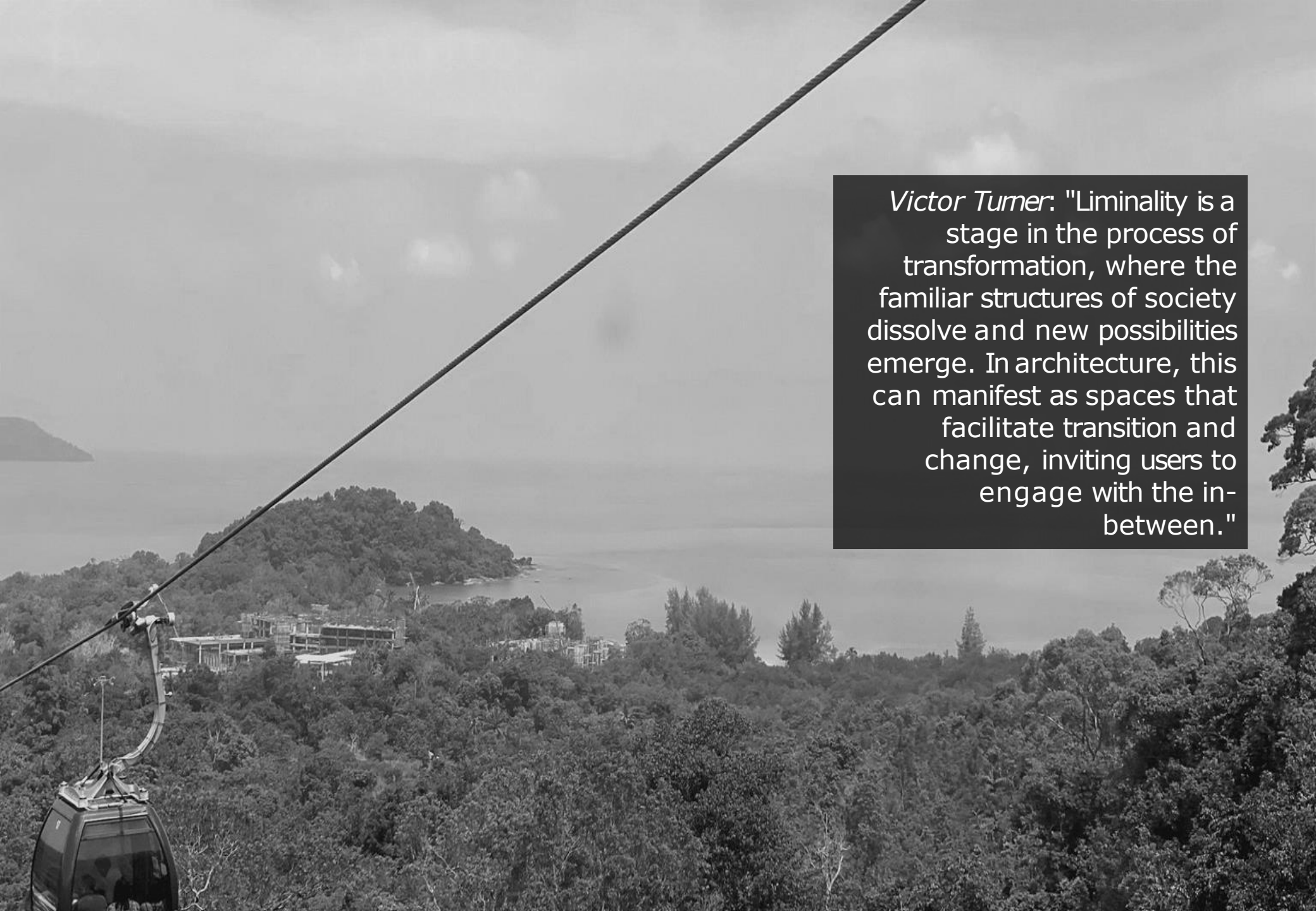
CONDITIONAL LIMINALITY: MECHANISMS OF MOVEMENT ACROSS WATER, LAND AND SKY

Navigating Water - Water introduces distinct challenges and opportunities for architectural design, necessitating innovative mechanisms for movement that often draw inspiration from marine-based vehicles. Architectural solutions such as pontoons, floating walkways, and hydraulic bridges must accommodate the dynamism of tidal variations, currents, and atmospheric conditions. Mimicking the design principles of marine architecture including boats and submarines can inform these architectural forms, allowing structures to interact harmoniously with their aquatic environments. For instance, the integration of hull-like shapes in floating pavilions can enhance stability and buoyancy, echoing the functional aesthetics of marine vessels. Projects like the Floating Pavilion in Rotterdam exemplify adaptive design that not only accommodates fluctuating water levels but also promotes fluid transitions between aquatic and terrestrial realms. These architectural devices enable users to traverse maritime environments, fostering a visceral connection with the water while emphasizing its role as an ever-changing backdrop to urban life.

Traversing Land - Land serves as a foundational element that provides stability while presenting unique challenges for movement. Architectural mechanisms inspired by land vehicles—such as suspension bridges, conveyor systems, and articulated pathways—can facilitate seamless navigation across varied terrains. Moreover, innovative designs can incorporate mechanical or robotic legs as structural columns, allowing buildings to adjust their orientation or height dynamically, or even traversing urban conditions. This approach can echo the movement of living organisms, offering adaptability in response to environmental conditions. Incorporating the mechanics of gear systems can enable rotational movement, facilitating dynamic facades that respond to factors like sunlight and wind. The integration of automated pathways or robotic systems can also transform how users navigate spaces, creating responsive environments that adapt to pedestrian flow and needs.

Ascending into the Sky - The sky introduces a vertical dimension that prompts exploration of mechanisms that facilitate upward and outward movement. Architectural designs can draw inspiration from aerial vehicles, integrating elements such as helium balloons, propellers for thrust, and flaps for navigation. For example, structures could incorporate balloon-like canopies that lift or lower according to wind conditions, creating dynamic, responsive spaces that mimic the buoyancy of hot air balloons. The use of kinetic propellers could serve as both aesthetic and functional elements, providing thrust to movable structures or generating energy through wind capture. Designs could also feature flaps that act like those on aircraft wings, allowing buildings to adjust their profiles in response to environmental forces, optimizing airflow and enhancing comfort.

Integrating movement mechanisms that bridge water, land, and sky fosters a holistic understanding of conditional liminality. Designers can orchestrate seamless transitions between these elemental contexts, cultivating a cohesive spatial narrative. By investigating how to navigate and engage with the dynamic relationships among water, land, and sky, architects can create environments that elevate mobility and foster a profound connection to the natural world. This approach enriches the user experience while encouraging innovative architectural solutions that respond to the complexities of contemporary living, ultimately transforming our interactions with the multifaceted contexts in which we exist.



Victor Turner: "Liminality is a stage in the process of transformation, where the familiar structures of society dissolve and new possibilities emerge. In architecture, this can manifest as spaces that facilitate transition and change, inviting users to engage with the in-between."

CONDITIONAL LIMINALITY: APPARATUS OF LIMINALITY

TRAVERSING THE LIMINAL SPACES

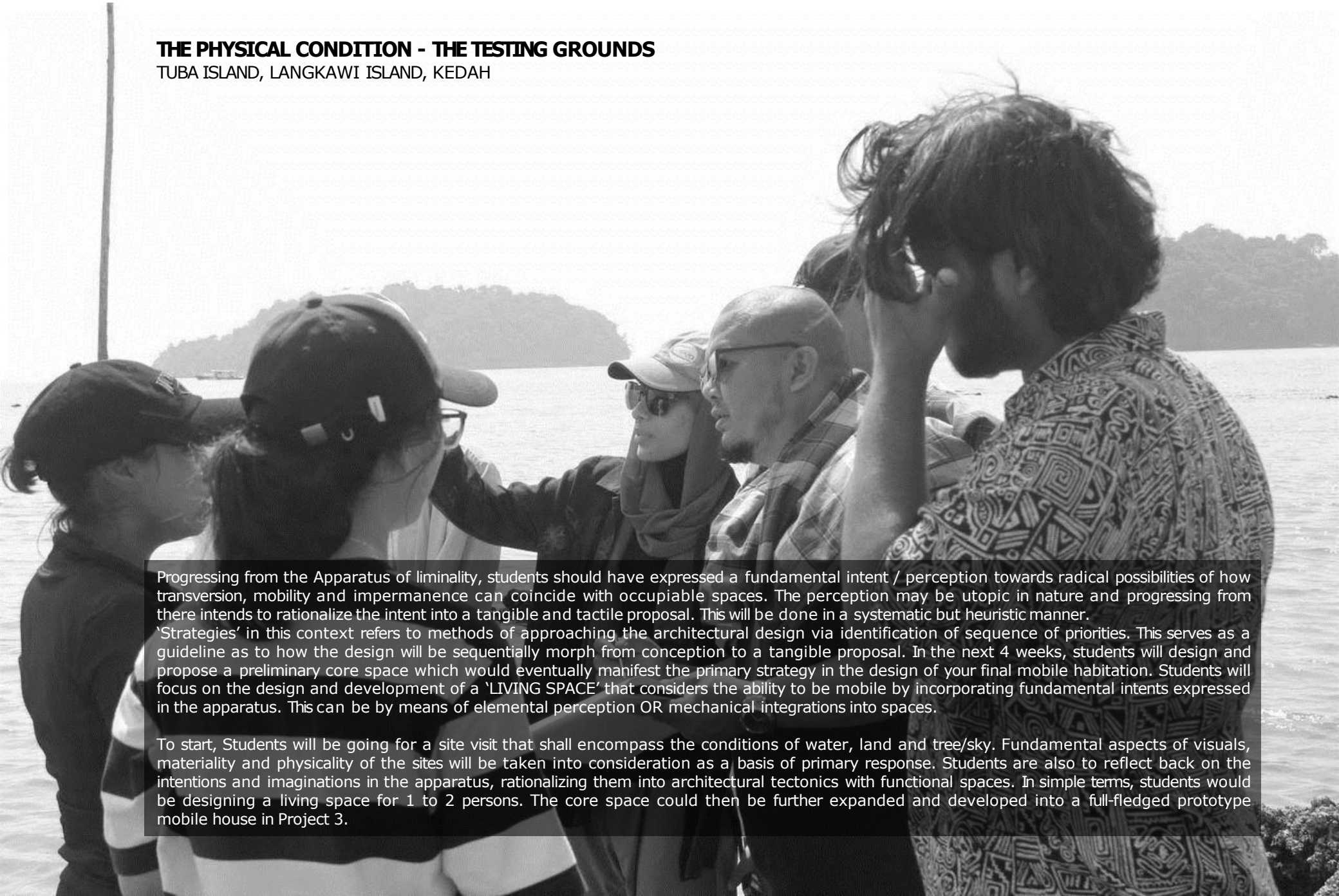
Apparatus: the technical equipment/ gear/ paraphernalia or machinery needed for a particular activity or purpose. The complex structure of a particular organization or system.

The liminality (Limen) is defined as the transitional threshold between two fixed states in cultural rites of passage or between two dissimilar spaces in architecture.

Traversing the Liminal Spaces - This stage of the project allows students to provoke the conventions of habitation through imaginative visual manuscripts. Liminal spaces are often given less priority as focus and articulations has always been put towards the destination as opposed to the journey. In today's day and age, we often subject ourselves to be within liminal spaces that it becomes a subconscious surrounding with minimal appreciation of the spaces themselves. In this task, instead of designing the liminal spaces, students are to propose an occupiable apparatus used to travel through the liminal spaces itself, understanding how the dynamic and everchanging conditions influences an apparatus's statics, like travelling to the studio from your home, going out to the library, or just maneuvering through the intended journey. As the stage of the assignment suggests, this will be purely theoretical but substantiated with the knowledge acquired from the fundamentals of the database of mechanics. Technicalities and physical limitations associated with the design will be perceived as 'plastic' as opposed to manifesting a clear design and purpose intent that will be the motivation behind the projects to come. This stage of the schematic process holds a primary role as a heuristic device in determining the direction of the entire architectural scheme.

THE PHYSICAL CONDITION - THE TESTING GROUNDS

TUBA ISLAND, LANGKAWI ISLAND, KEDAH



Progressing from the Apparatus of liminality, students should have expressed a fundamental intent / perception towards radical possibilities of how transversion, mobility and impermanence can coincide with occupiable spaces. The perception may be utopic in nature and progressing from there intends to rationalize the intent into a tangible and tactile proposal. This will be done in a systematic but heuristic manner.
'Strategies' in this context refers to methods of approaching the architectural design via identification of sequence of priorities. This serves as a guideline as to how the design will be sequentially morph from conception to a tangible proposal. In the next 4 weeks, students will design and propose a preliminary core space which would eventually manifest the primary strategy in the design of your final mobile habitation. Students will focus on the design and development of a 'LIVING SPACE' that considers the ability to be mobile by incorporating fundamental intents expressed in the apparatus. This can be by means of elemental perception OR mechanical integrations into spaces.

To start, Students will be going for a site visit that shall encompass the conditions of water, land and tree/sky. Fundamental aspects of visuals, materiality and physicality of the sites will be taken into consideration as a basis of primary response. Students are also to reflect back on the intentions and imaginations in the apparatus, rationalizing them into architectural tectonics with functional spaces. In simple terms, students would be designing a living space for 1 to 2 persons. The core space could then be further expanded and developed into a full-fledged prototype mobile house in Project 3.

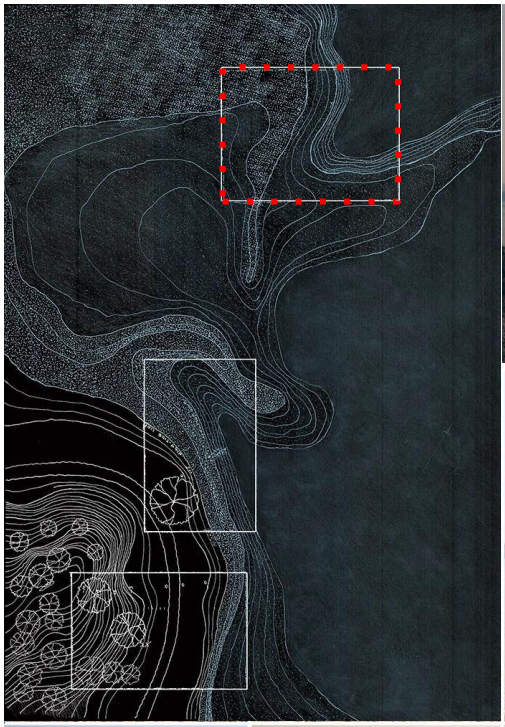
THE PHYSICAL CONDITION - THE TESTING GROUNDS

TUBA ISLAND, LANGKAWI ISLAND, KEDAH

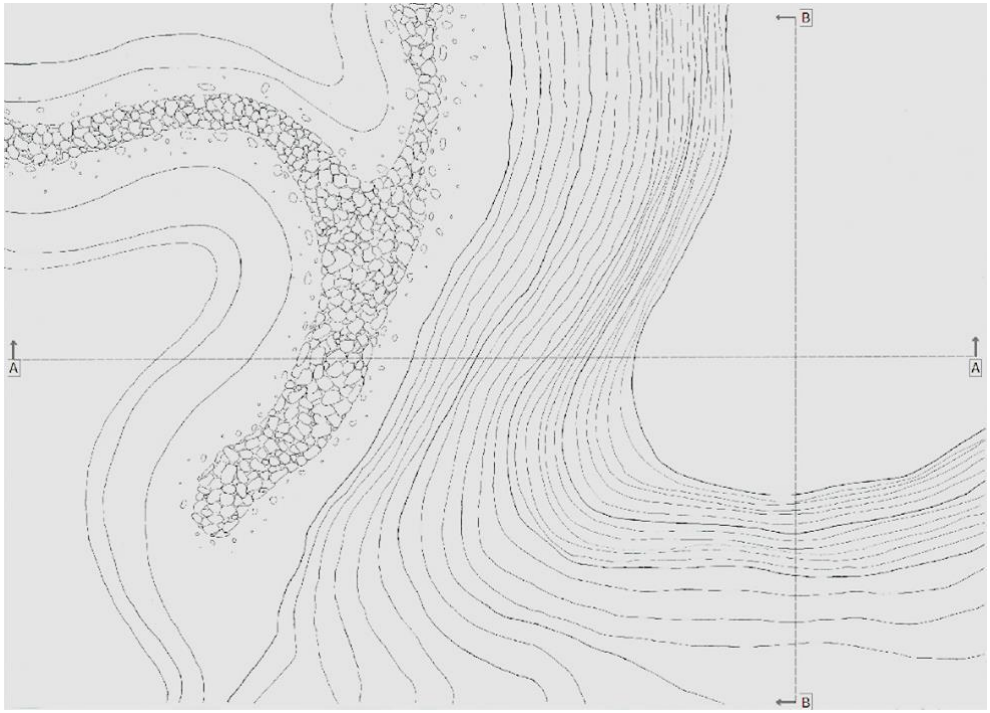
The core space strategies that the students will be designing will be sited at Tuba Island, Langkawi Kedah, which is a 5km and 20-minute boat-ride from Kuah Town. Tuba Island is one of the four populated islands of Langkawi's 99-island Archipelago. Its geographical condition that consists of hilly land profiles, fishermans village and the open sea makes it a perfect testing ground for the experimental mobile architecture that is based upon the selected themes.

THE PHYSICAL CONDITION - THE TESTING GROUNDS

TUBA ISLAND, LANGKAWI ISLAND, KEDAH

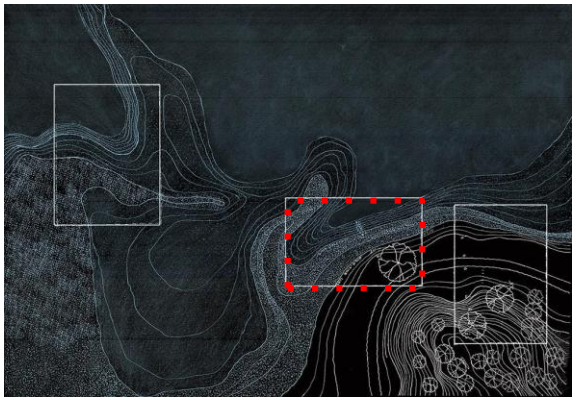


Condition profile - water

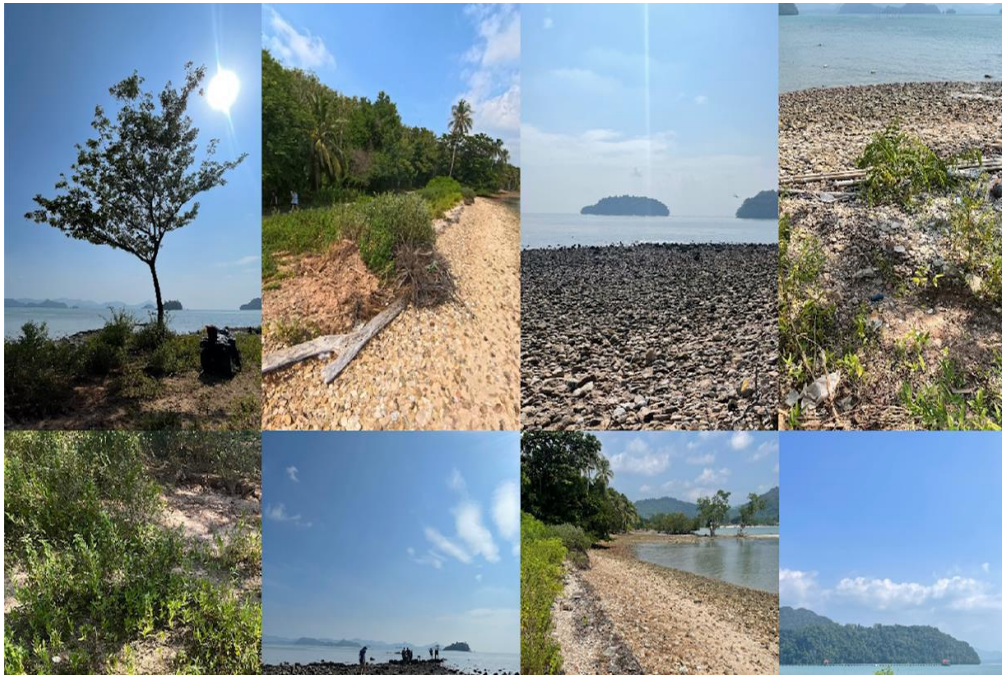


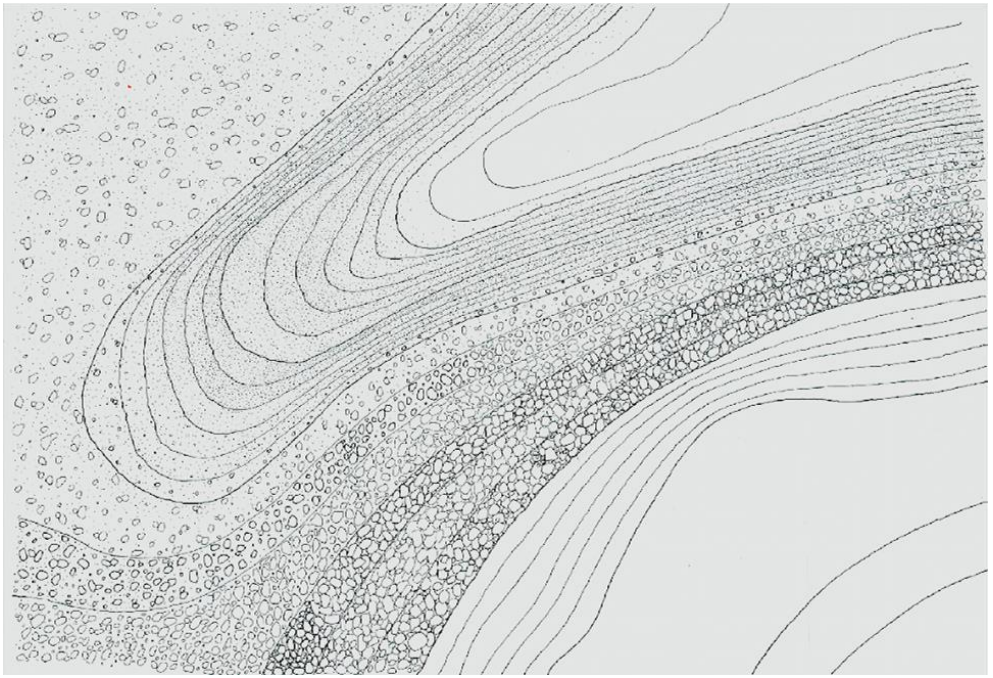
THE PHYSICAL CONDITION - THE TESTING GROUNDS

TUBA ISLAND, LANGKAWI ISLAND, KEDAH



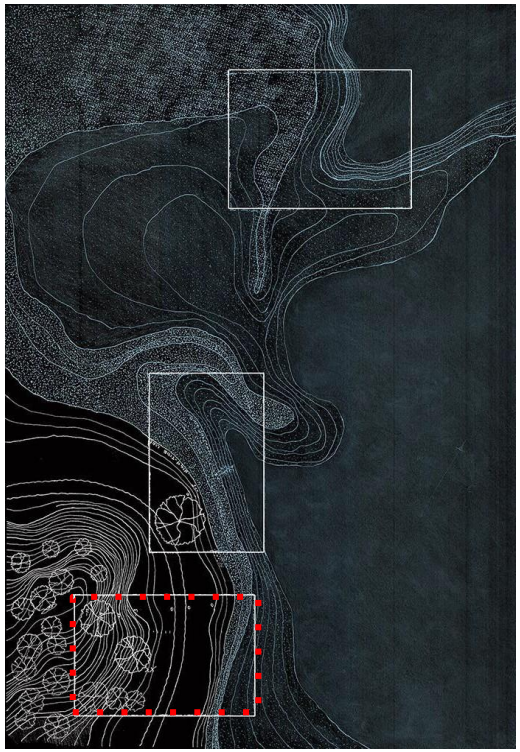
Condition profile - land



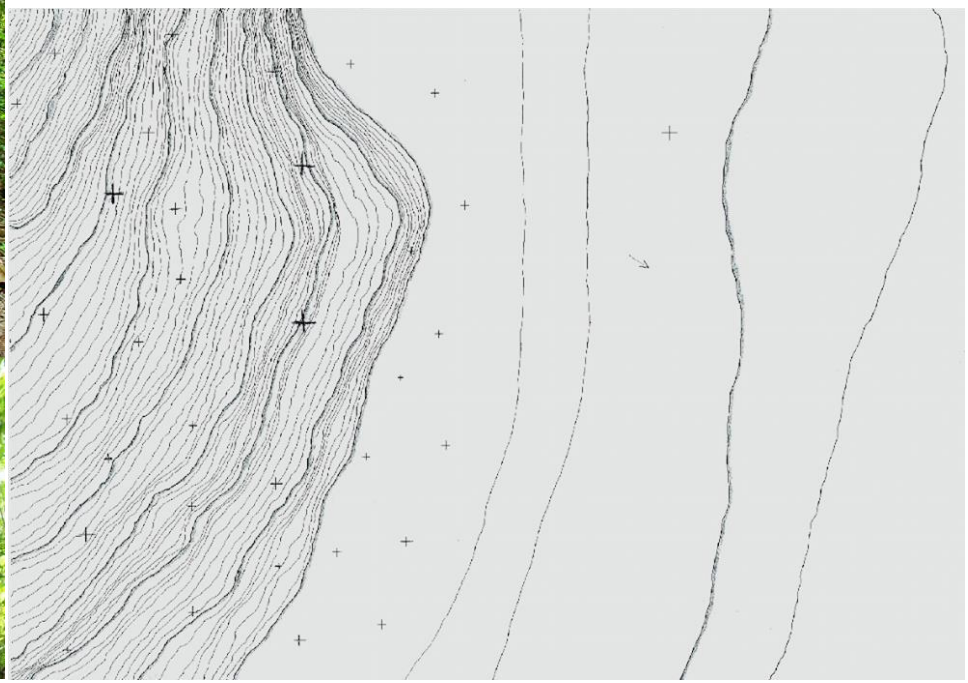


THE PHYSICAL CONDITION - THE TESTING GROUNDS

TUBA ISLAND, LANGKAWI ISLAND, KEDAH

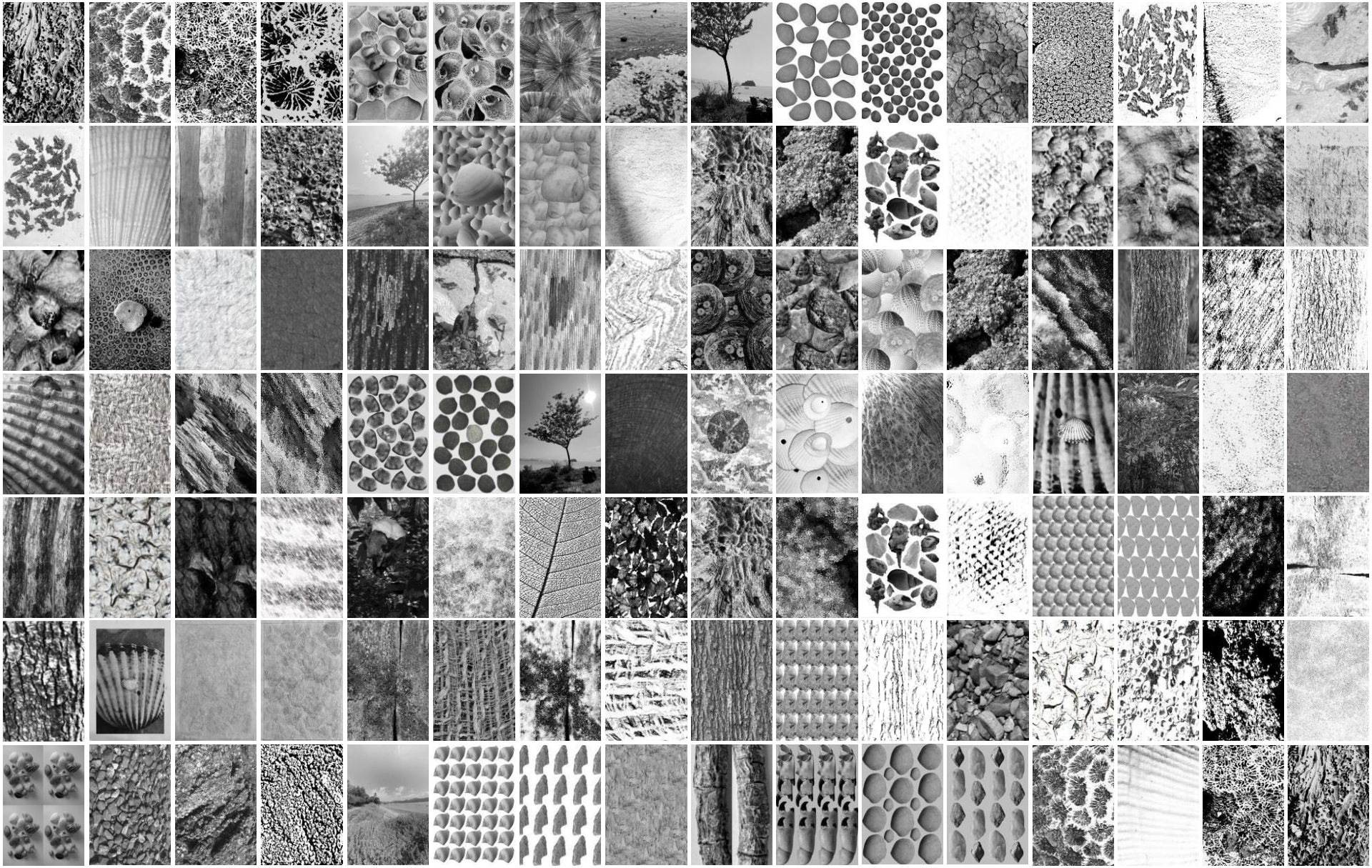


Condition profile - tree / sky



THE PHYSICAL CONDITION - THE ATTRIBUTES

TUBA ISLAND, LANGKAWI ISLAND, KEDAH



THE PHYSICAL CONDITION - JOURNEY THROUGH LIMINALITY

TUBA ISLAND, LANGKAWI ISLAND, KEDAH

ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE

Approaching the 3rd and final milestone towards a design prototype proposal, we have embraced qualities of impermanence and mobility which reflects a profound shift in how we conceive and interact with the built environment. This was predicated on the architectural philosophies of adaptable structures corresponding to the everchanging needs of their users (Yona Friedman), thinking and living that is decentralized, fluid and nomadic (Felix Guattari) and futuristic ideas of portable and flexible environments (archigram).

In the context of architecture, "*morphogrammatics*" can be interpreted as an approach to understanding and designing spaces based on the underlying patterns, forms, and structures that shape both physical and experiential aspects of architecture. The term combines the fundamentals of Morphograms + Spatial Grammar.

Morphograms in architecture could refer to recurring structural forms or patterns that define the identity and functionality of a space. These patterns might not be immediately apparent but have a deep influence on how a space is perceived and used. This may be seen through materials, form, inversion, physical elements etc.

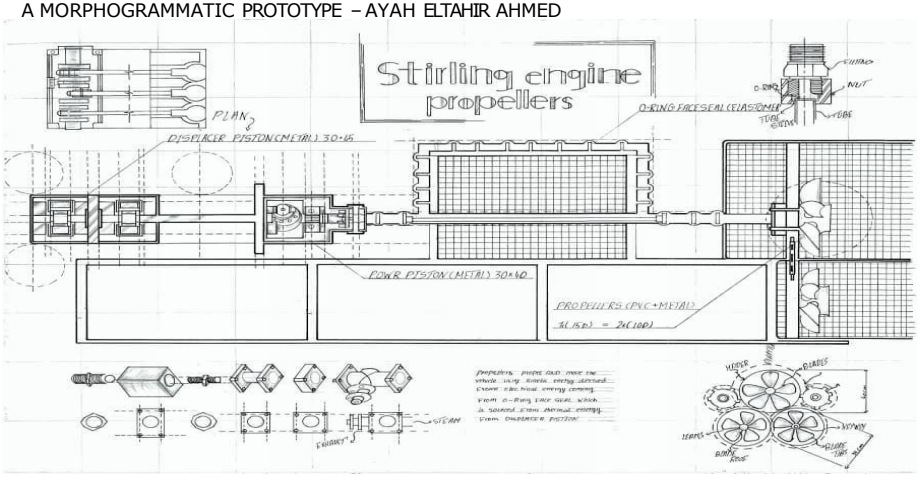
Just as grammar governs the structure of language, "*morphogrammatics*" in architecture can be seen as the grammar of spatial forms. This involves understanding how different architectural elements like walls, openings, volumes, and surfaces interact to create a coherent spatial experience.

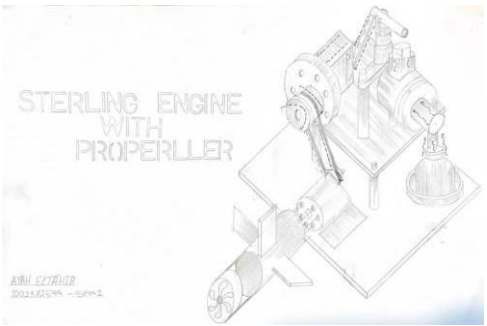
Progressing with the process, students were to design a holistic prototype of an impermanent house. This will be done via incorporation of / expanding from / dissection of the preliminary core space (morphogram) formulated in the 2nd milestone. The verb or action should accentuate and be predicated by the 'intentions' expressed in the apparatus of liminal transversion.

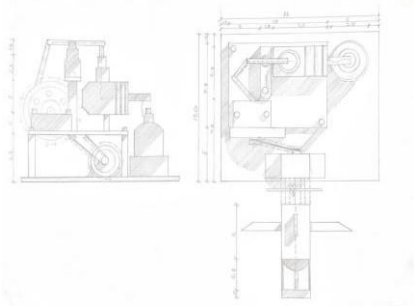
WATER
Ayah Eltahir Ahmed Abdelmuttlib
Caroline Patricia Santoso
Dhanish A/L Sreedharan
Faiz Muhammad Ridho
Habiba Mohamed Ibrahim Mohamed
Hana Ahmed Ibrahim Adam
Shri Vaaishnevii A/P Sritharan
Sondos Bakr Fathy Mohammed Gamda
Yau Wen Ghee

ARCHITECTURE OF IMPERMANENCE

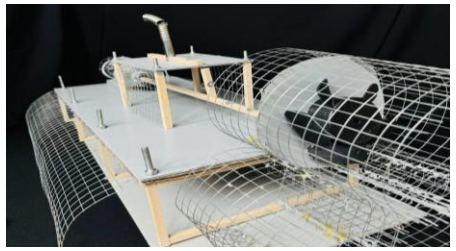
A MORPHOGRAMMATIC PROTOTYPE – AYAH ELTAHIR AHMED

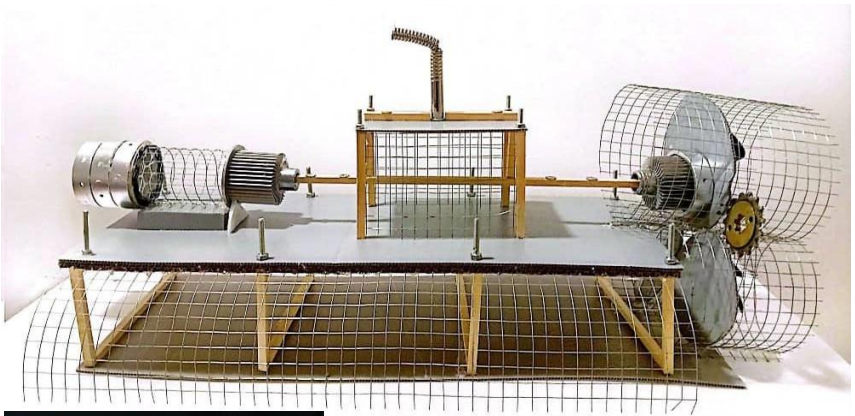


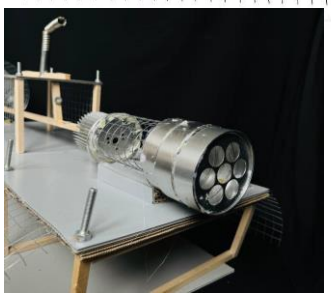


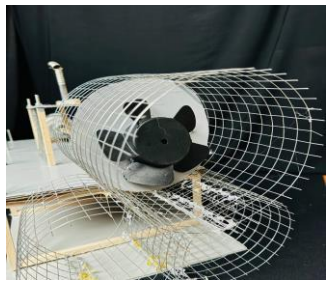


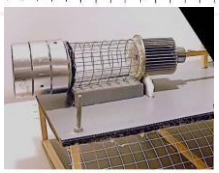
The design idea of this project revolves around nomadism, impermanence and mobility and how to link these terms with the operation of the project to suit the user and the surrounding environment. So this project started with one of the machines that are suitable for the aquatic environment such as seas, rivers and islands, which can fulfill the idea of this project. In my project, I started with an engine called the Stirling engine that works to move the propellers in the submarine. This engine works to convert the thermal energy from the water into electrical energy, which in turn converts it into kinetic energy for the propellers, which move the vehicle (submarine) underwater.

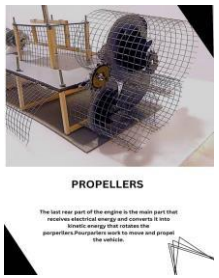


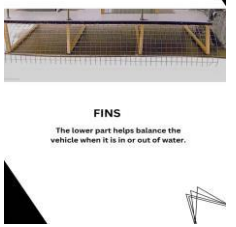






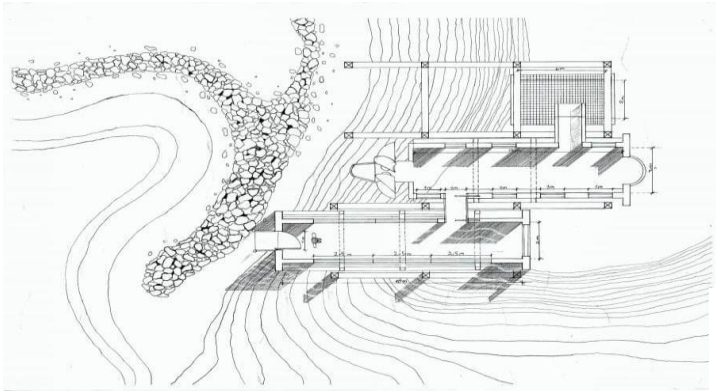


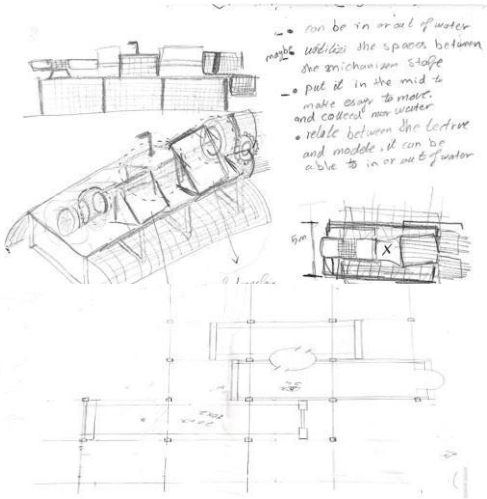


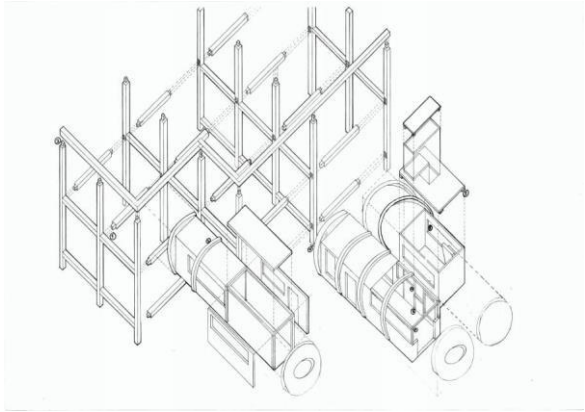


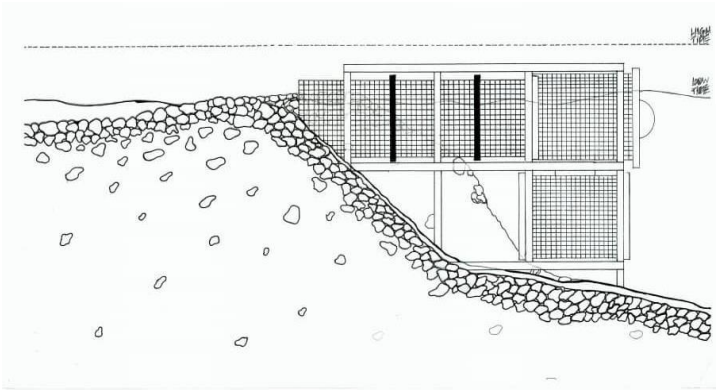
ARCHITECTURE OF IMPERMANENCE

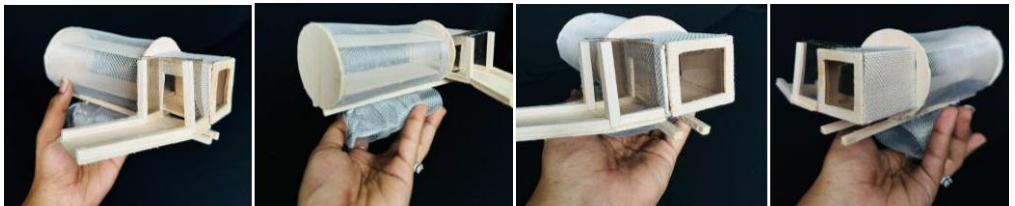
A MORPHOGRAMMATIC PROTOTYPE – AYAH ELTAHIR AHMED

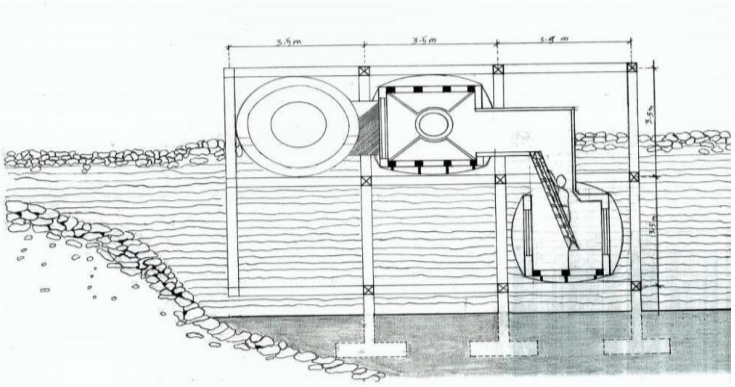


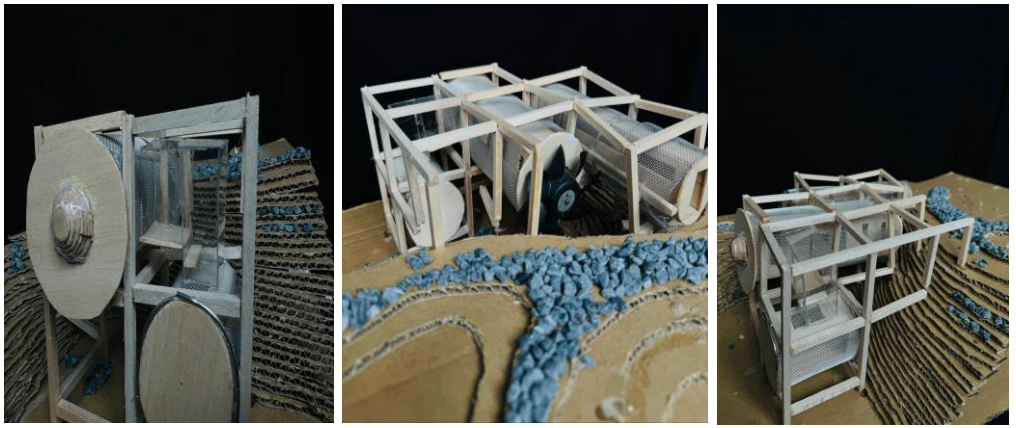






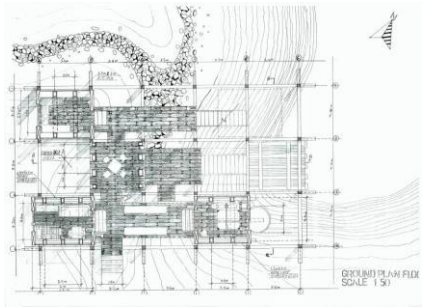


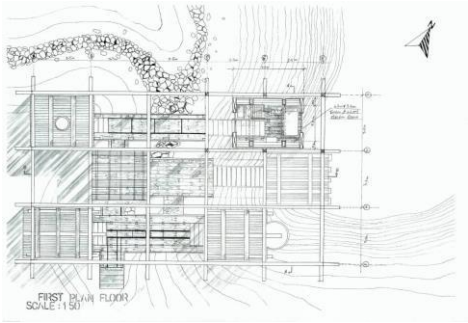


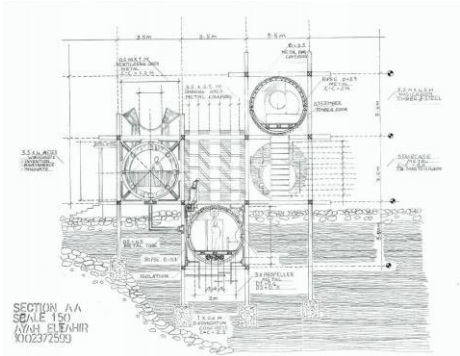


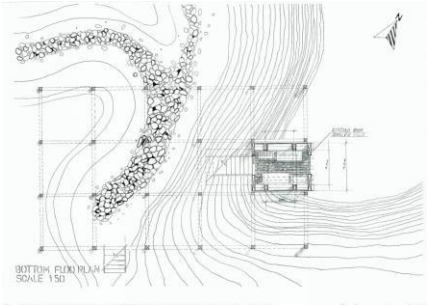
ARCHITECTURE OF IMPERMANENCE

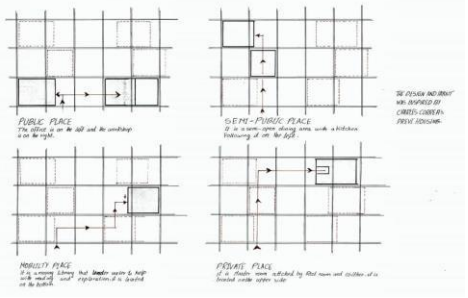
A MORPHOGRAMMATIC PROTOTYPE – AYAH ELTAHIR AHMED

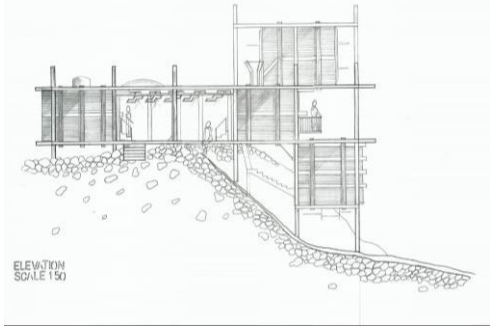


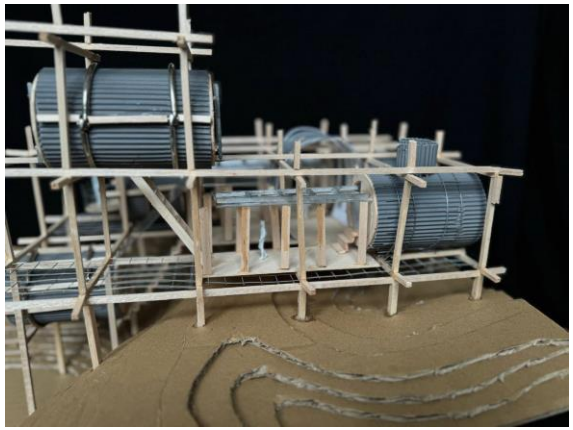


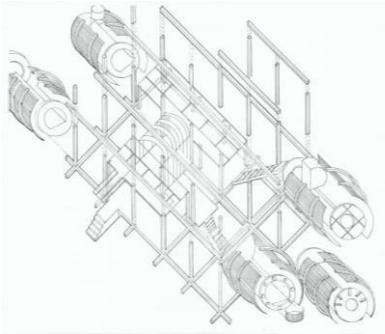




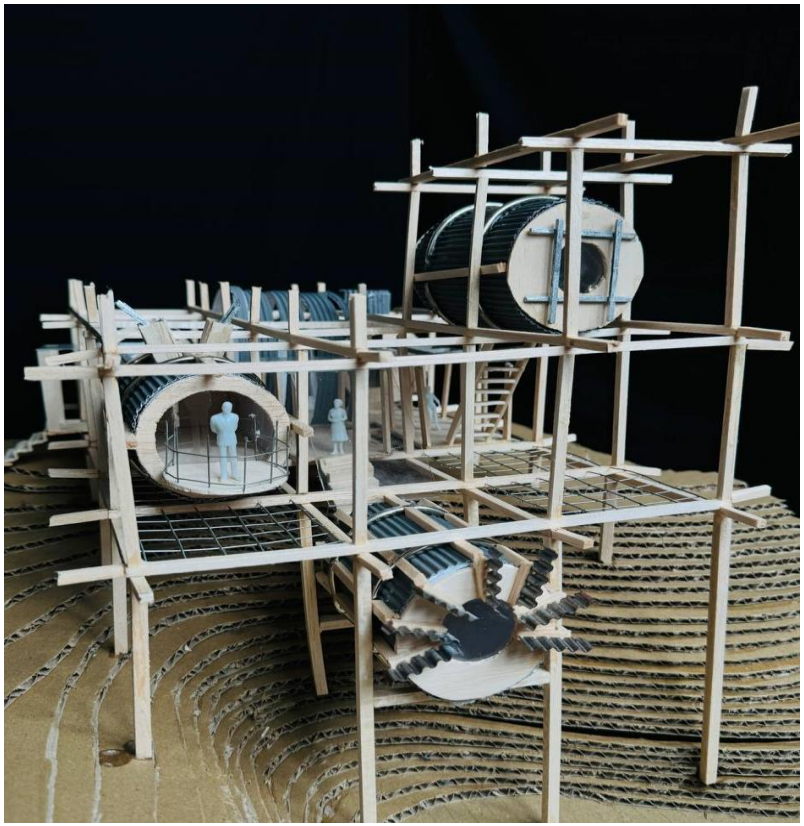
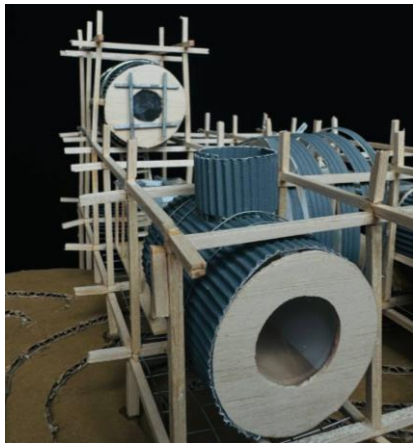
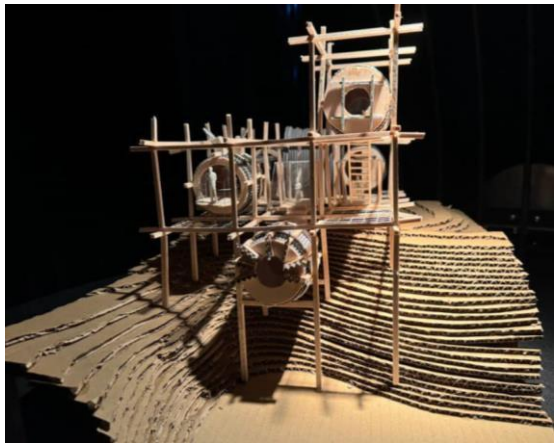
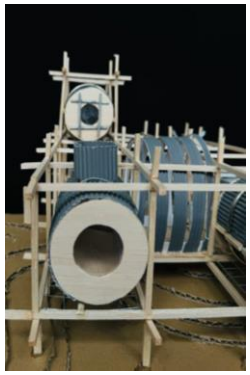


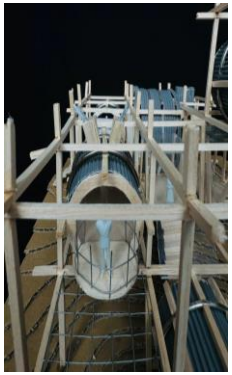
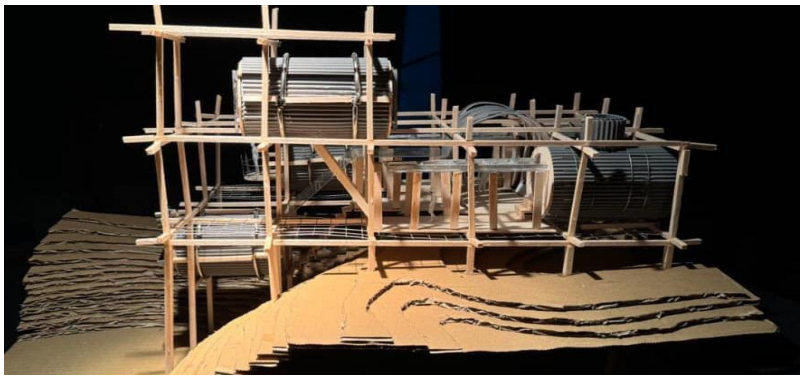
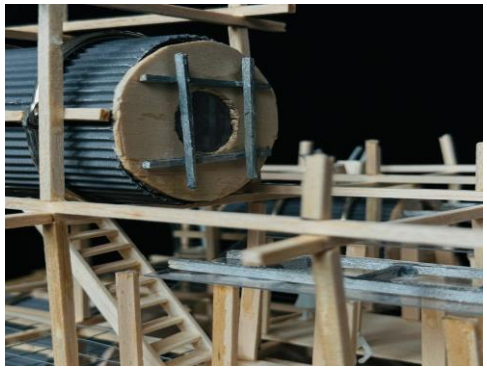
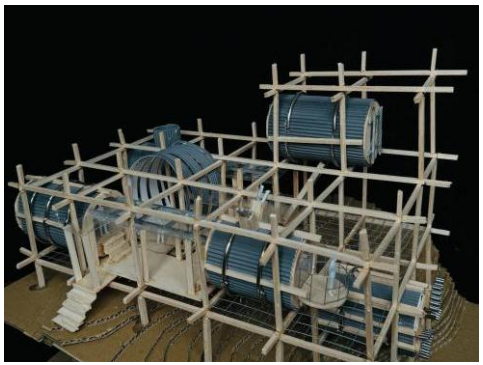






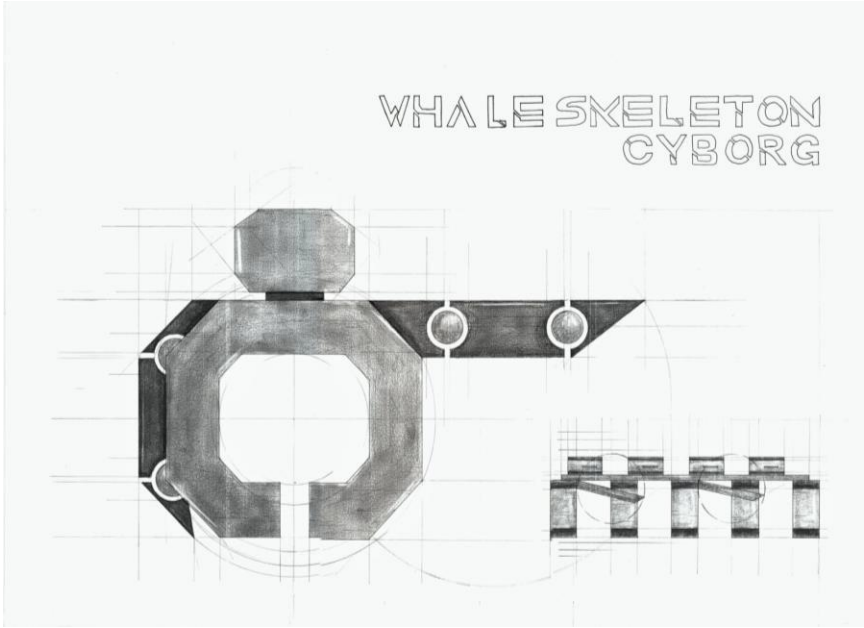
The development of the project idea from a machine that can operate spaces mechanically and kinetically to dividing and rearranging the engine parts, the project developed into a house based on the principles of this project (). The design and layout were inspired by the engineer CHARLIES CORREA'S PREVO HOUSING, and this structure was divided into 4 areas according to the nature of its owner, who is a craftsman who works on maintaining and designing engines that are compatible with the aquatic environment. These 4 areas were divided into public areas (work office and workshop) in the first section directly after the entrance, semi-public areas (dining area and kitchen), and private areas (master room) located in the upper level of the structure.The reading room is the soul of this structure and it works on the ideas of this project, which are nomadism and mobility. This space works and moves under water and was designed to help the owner of the building discover life under water. The propellers move the reading room as it is located under the room and hears its energy from the engine located under the umbrellas and these propellers supply energy through the pipes with electrical energy.

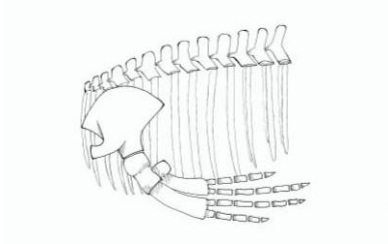





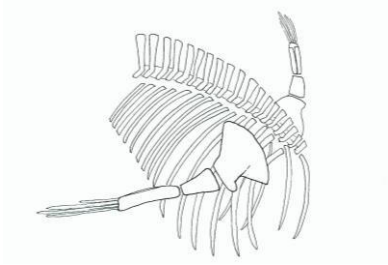






ARCHITECTURE OF IMPERMANENCE

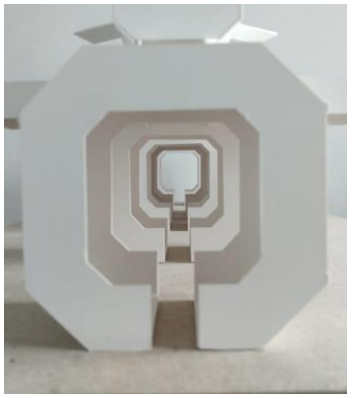
A MORPHOGRAMMATIC PROTOTYPE – CAROLINE PATRICIA SANTOSO





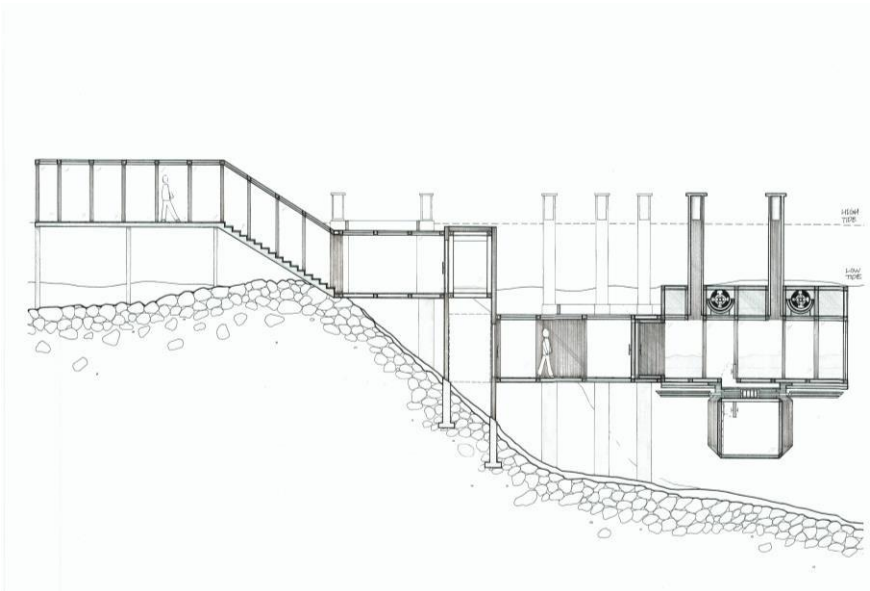


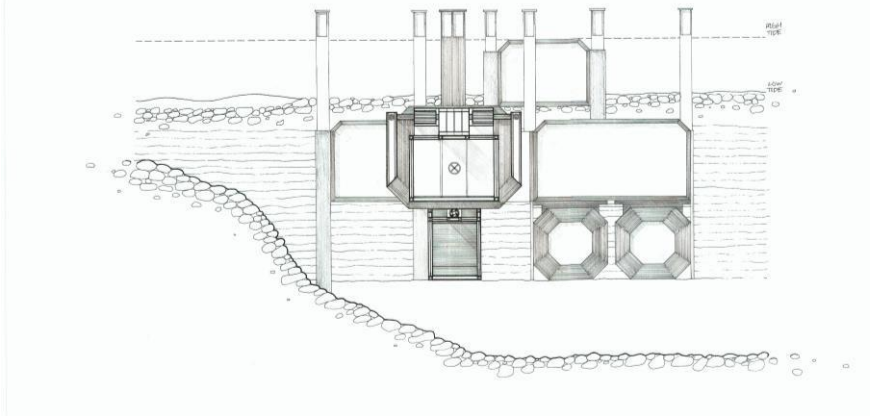
This apparatus of liminality is based on a skeletal structure of a whale, using each part of the skeleton for a different function.
The fins allow for the movement of the apparatus, it closes up into the ribs with the help of the ball and socket to blend in with the wall.
The ribs and spine makes for the occupiable space.
For future design exploration the ribs can be used for a more open, large, public area, while the spine can be broken down into small pods which then later on can be used for smaller, more private rooms.
The gap in the inner side of the ribs will then be used for the ballast tank that will control how deep this apparatus can dive.

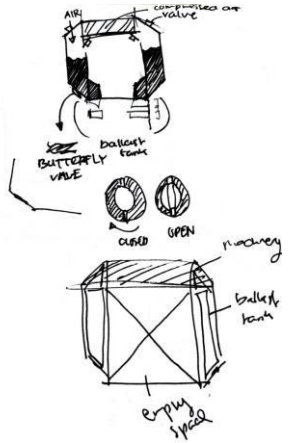


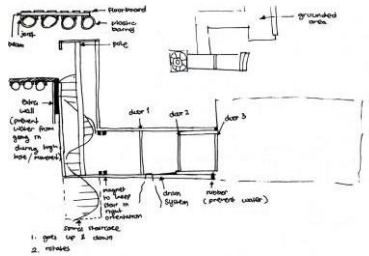
ARCHITECTURE OF IMPERMANENCE

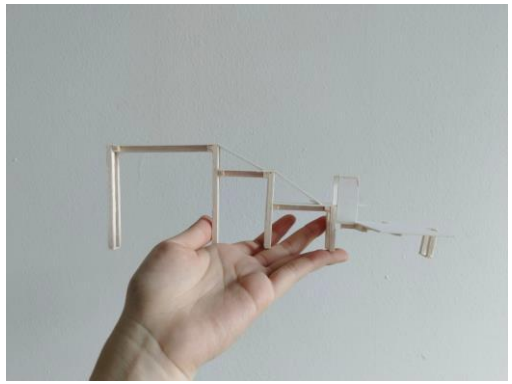
A MORPHOGRAMMATIC PROTOTYPE – CAROLINE PATRICIA SANTOSO

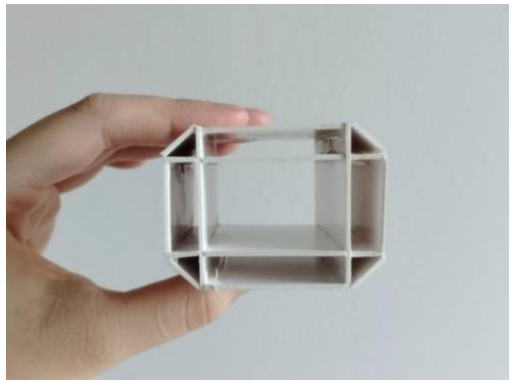


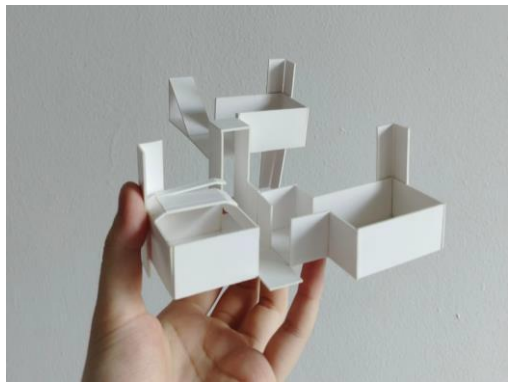


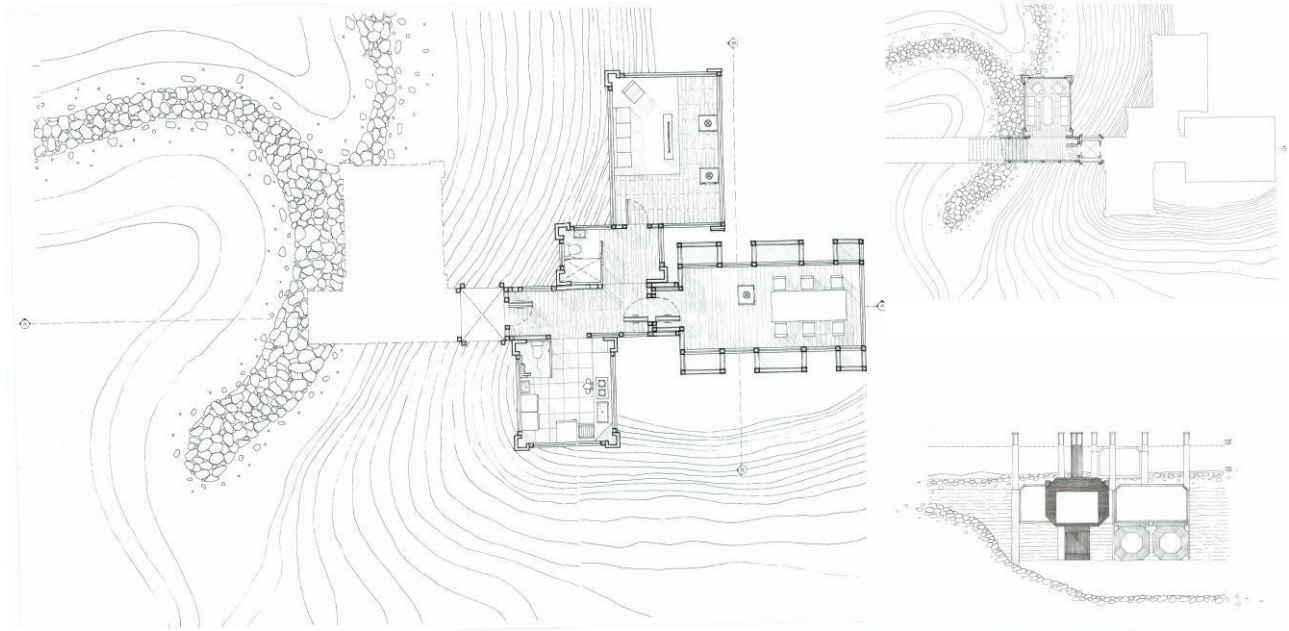




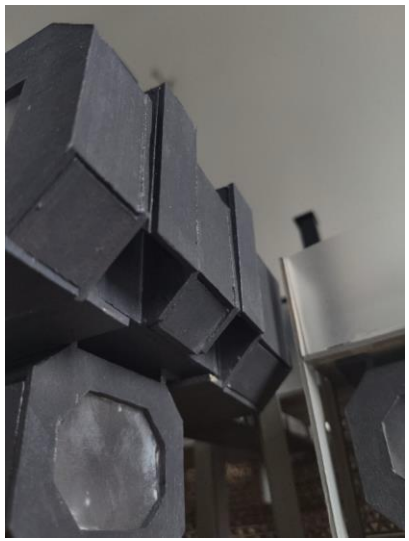


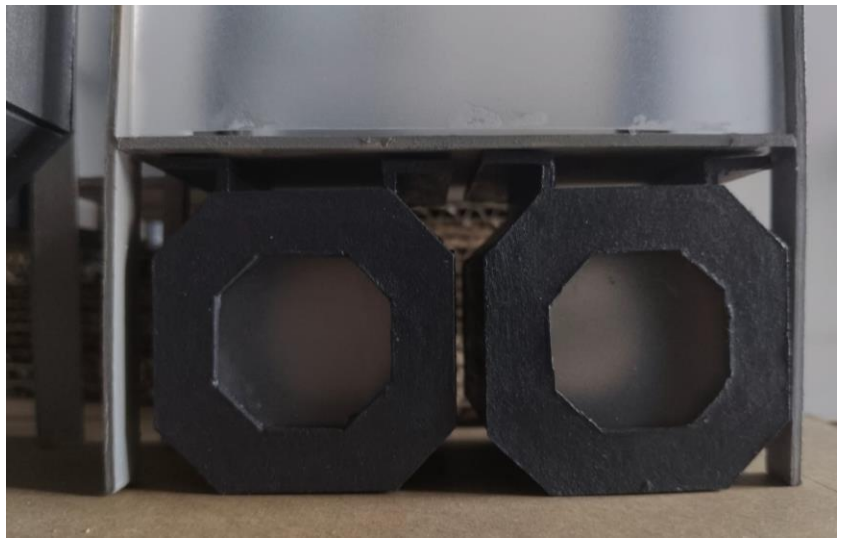


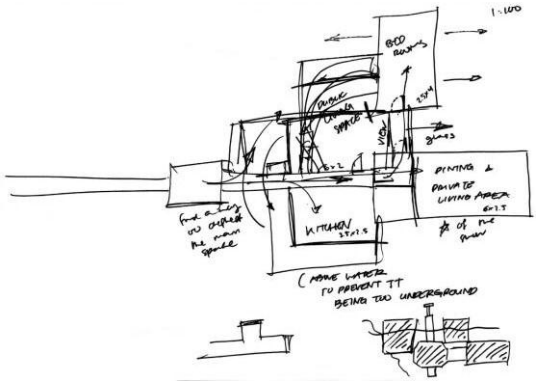




The design continues to develop according to the initial intentions, with certain aspects altered to fit into reality.
Additional connections are added to the apparatus to make this more livable.
Wind towers are added to allow ventilation into the space.
A bridge is added to the site to shade people from the sun and prevent them from walking on barnacles.
Then, stairs led to the living area that is fixed on an exact height so when the tide is low people can see the view outside and when the tide is high the view becomes the ocean.
The journey continues downwards through an elevator that operates with a ballast tank, this elevator is also placed exactly at the height that on the highest level, it can still take in water, and on the lowest level, it doesn't hit the ground.
From then you can find the kitchen, bathrooms, dining area and the bedroom.
The purpose of these other rooms that isn't movable is to ground it to site, and also to take in consideration of how hard it is to move a whole house and also the limited deep water there is to place this apparatus.

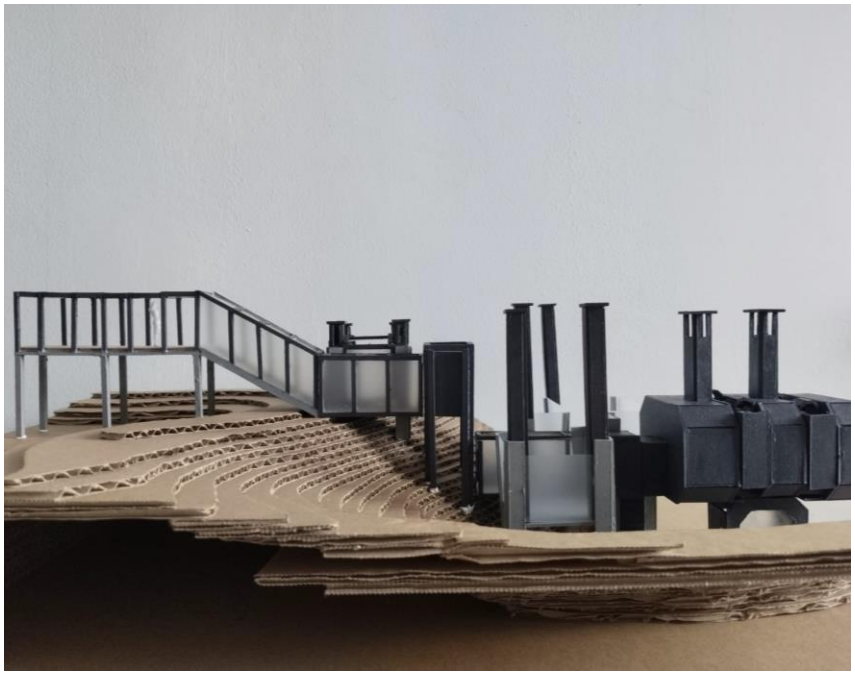






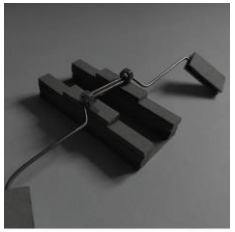
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – CAROLINE PATRICIA SANTOSO



WIND TOWERS

provides ventilation by distributing cold air
through the spaces and releasing hot air



DOUBLE ROW MECHANISM

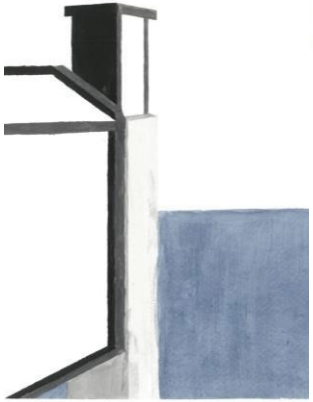
this row can be powered manually by installing pedals
in the middle
or it can be powered automatically by connecting a pulley
with a motor in the middle

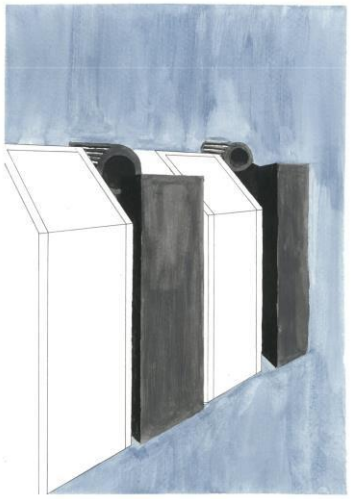
DETATCHABLE SPACES

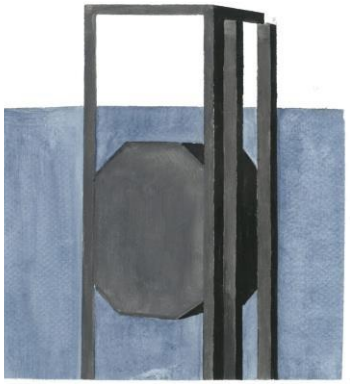
spaces hooked underneath the main space by slotting
and completed with watertight doors
provides privacy and personal space when needed

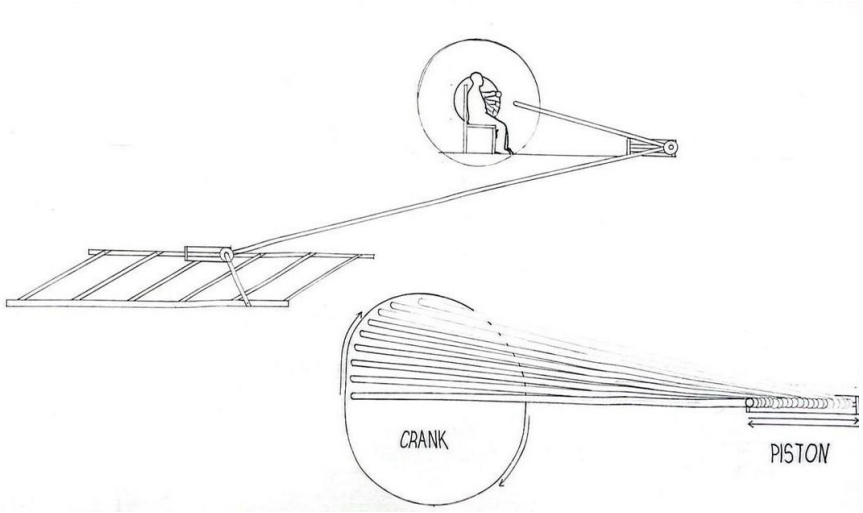
UNDERGROUND/UNDERWATER

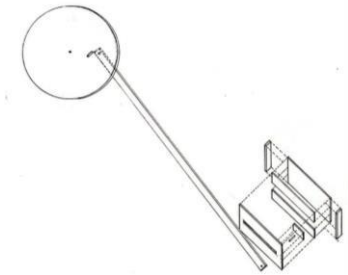
permanent spaces that are half underground
and half exposed to the water
providing a nice dwelling place with the ocean view











The Timber Poseidon

The apparatus is an occupiable vehicle designed to navigate liminal water surface zones, drawing inspiration from ship design characteristics. It is ideal for navigating across a variety of aquatic situations due to its hydrodynamic and v-hull design form, which makes it suitable for exploring both calm and choppy waters. With observation ports and buoyancy control devices, it gives passengers a fully immersive experience that allows them to interact directly with the underwater environment. Comfort and visibility are given first priority in the interior design, which promotes a feeling of interconnectedness with the surroundings. In addition to making exploration easier, this method invites users to examine and consider the complex relationships found in these underwater environments, fostering a greater understanding of the various ecosystems that flourish beneath the surface.
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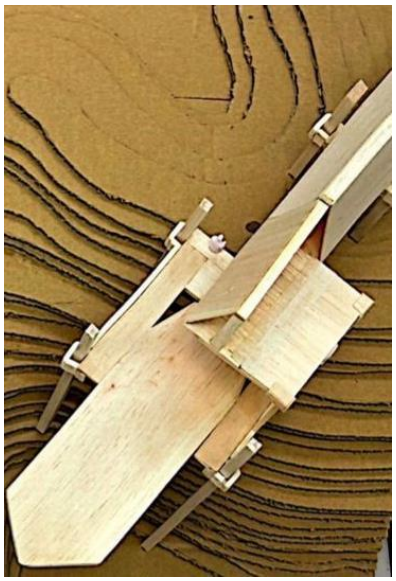
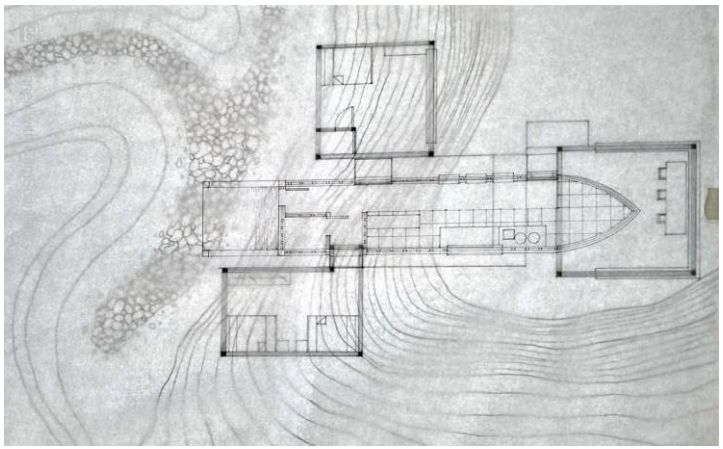
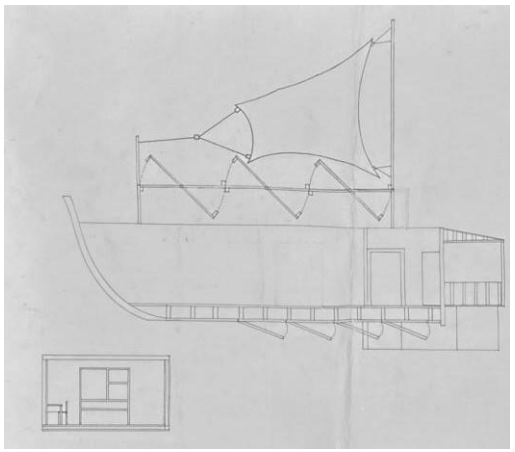
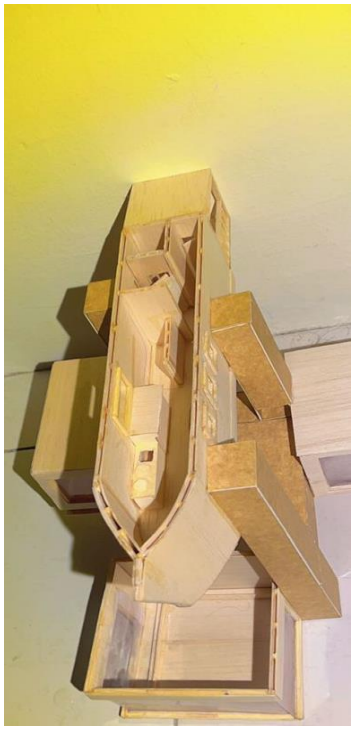
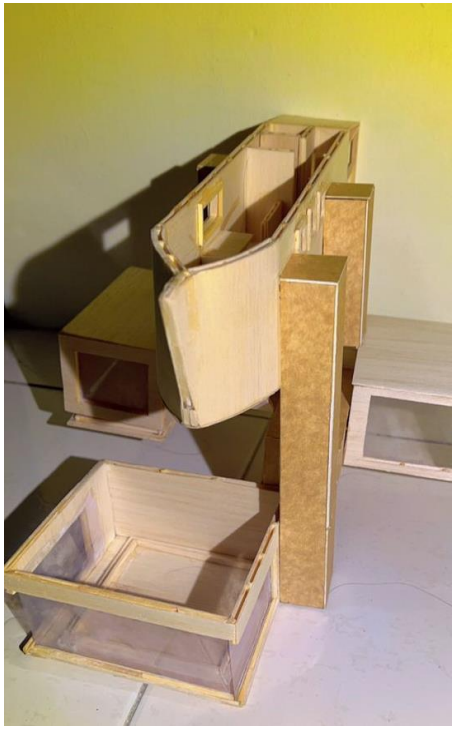


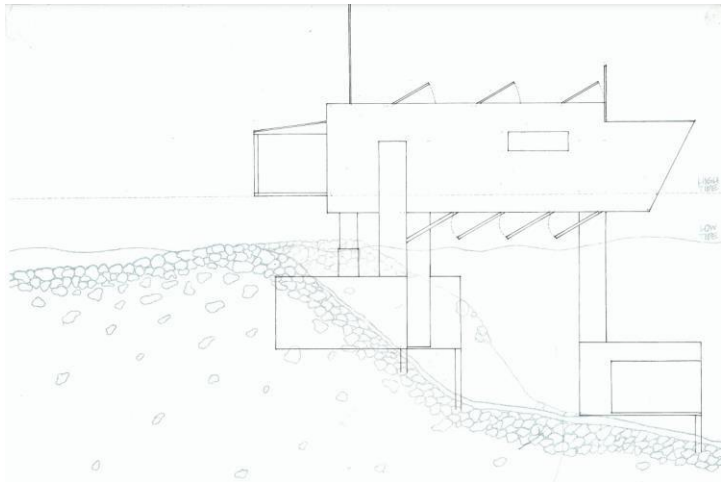


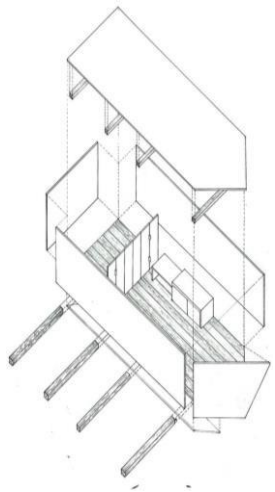


ARCHITECTURE OF IMPERMANENCE

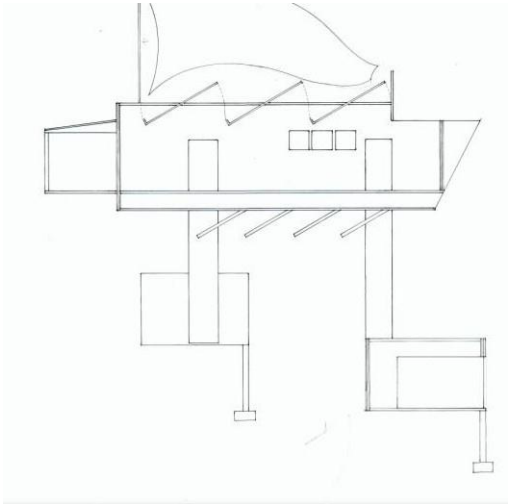
A MORPHOGRAMMATIC PROTOTYPE – DHANISH SREEDHARAN

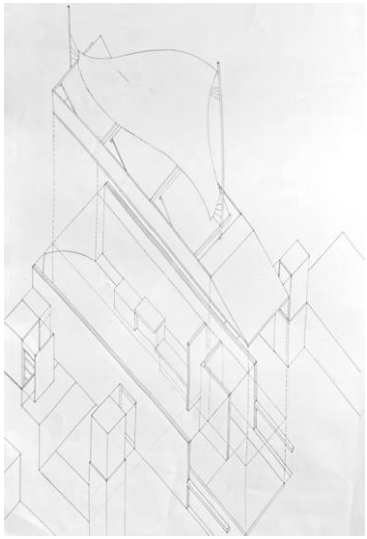


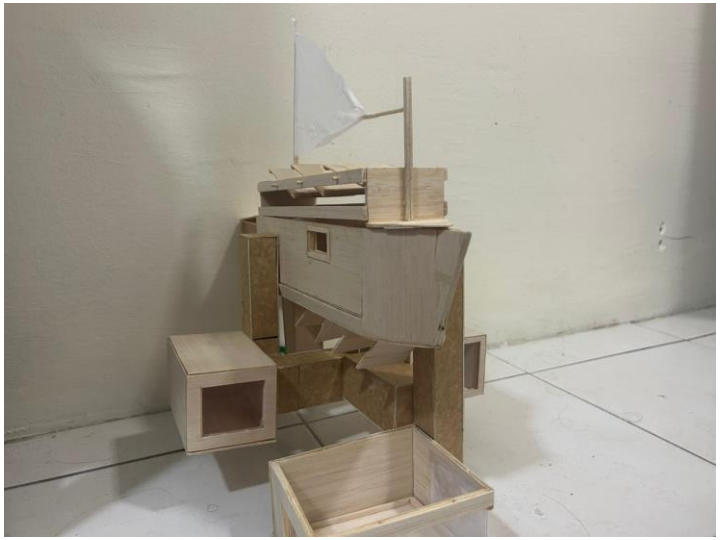


The apparatus operates through two primary mechanisms: a sail positioned atop the structure and a series of paddles inspired by the form and function of prawn gills. The paddles are driven by a crank-and-piston system, where the rotation of the crank activates the piston, generating movement in the paddles. This system facilitates the propulsion and ventilation within the apparatus.

Designed as an occupiable space, the structure accommodates three to four occupants, featuring a master bedroom, a guest room, and an isolated studio that remains detached from the main body of the apparatus. Upon entry, a washroom is located immediately to the right, followed by a corridor leading to a bar and a kitchen area, forming the central spine of the structure. This spatial arrangement optimizes both circulation and functionality within the compact footprint of the apparatus.



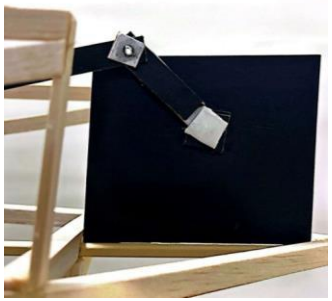




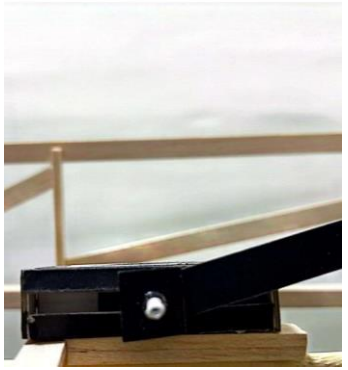
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – DHANISH SREEDHARAN

A mechanical assembly used to convert rotational motion into linear motion, or vice versa. It consists primarily of a crank (a rotating arm), a connecting rod, and a pivot point, usually known as a crankshaft. The crank transfers the kinetic energy from the rotation of the lever to the piston.

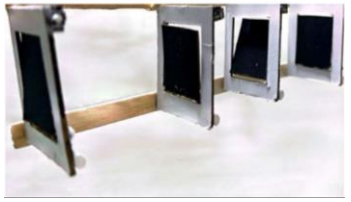


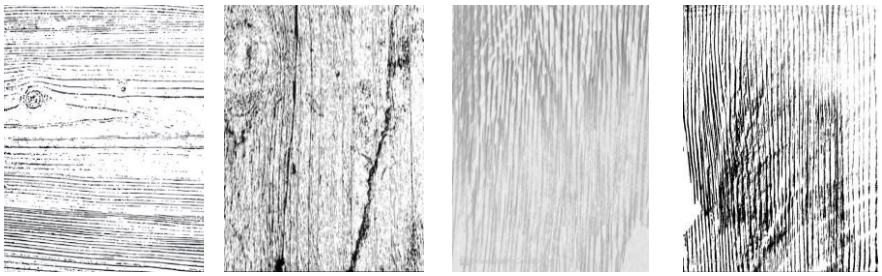
A piston is a cylindrical component that moves back and forth within a cylinder, typically found in engines and compressors. The piston is what moves the pedals that thrusts the device forwards.

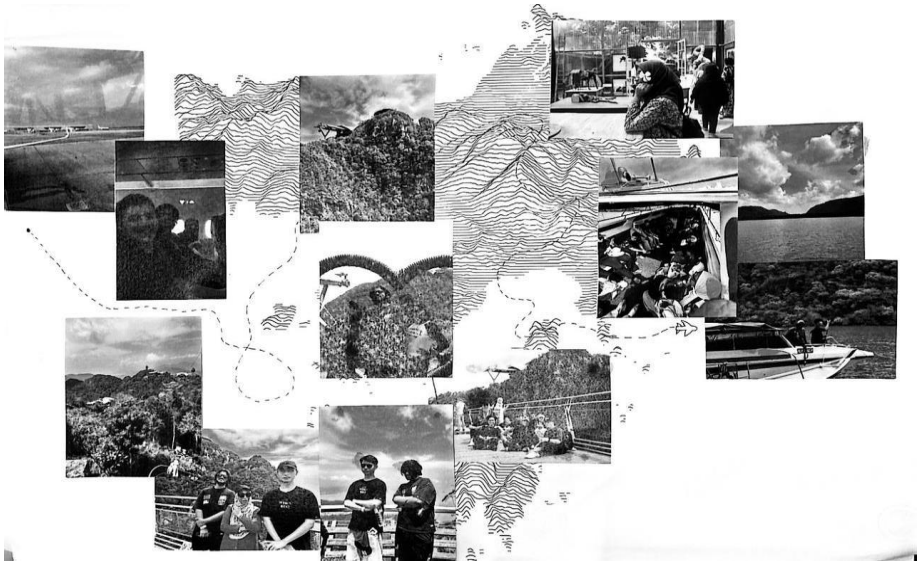


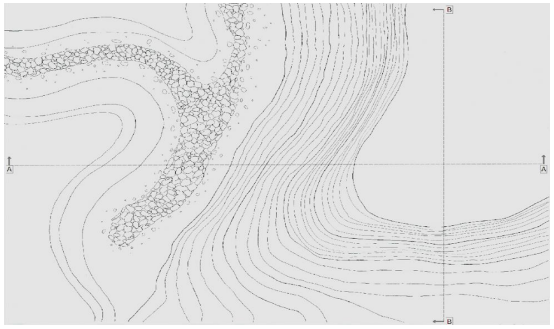
The crank and piston work together to transform the energy produced by combustion into mechanical motion that can be used to perform various tasks. In this case it's to move the pedals.

Pedals are lever-like components that are used to apply force in order to generate movement or perform a function. This type of propulsion is efficient and provides a low-impact workout while allowing for better control and manoeuvrability of the boat.





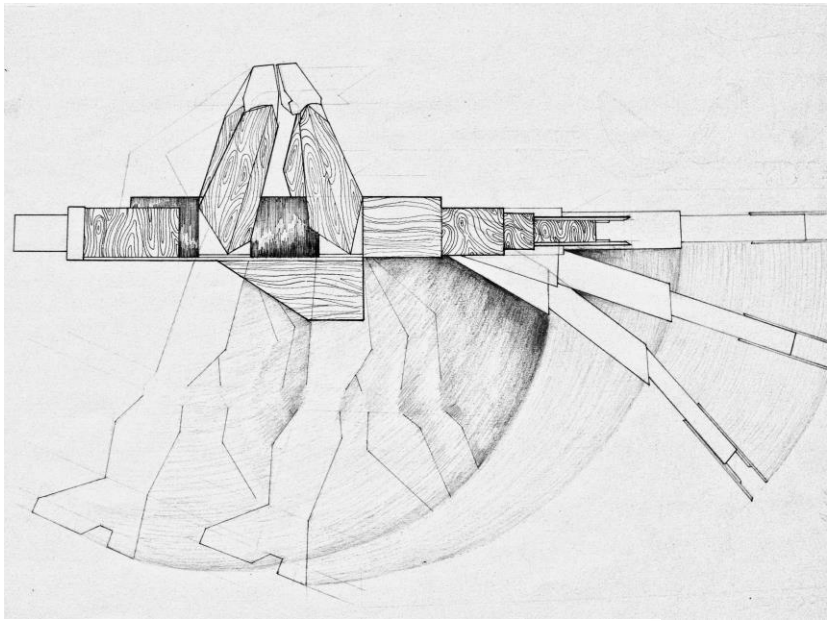


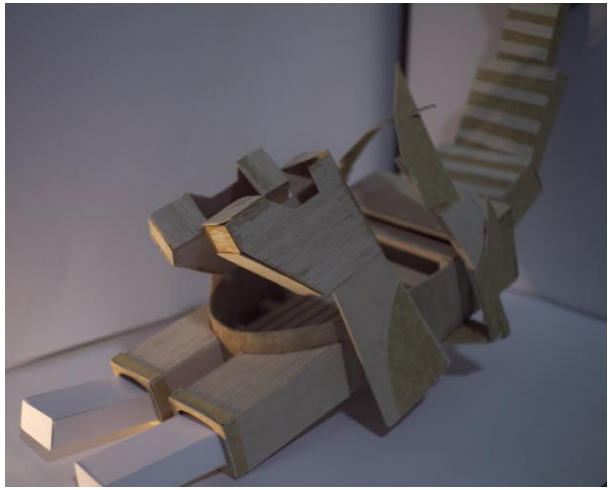


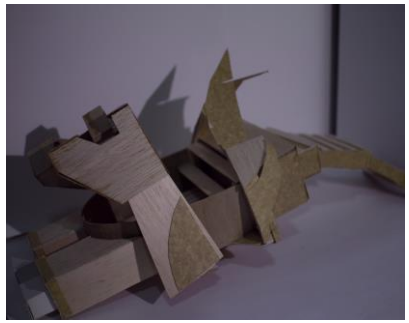

Robert Venturi: "The idea of permanence in architecture is a myth; what truly matters is how we interact with space in the present. Architecture should serve as a backdrop for the myriad activities of life, evolving as those activities change."

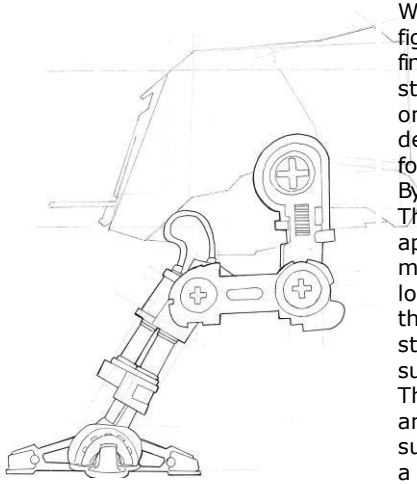
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – FAIZ MUHAMMAD RIDHO





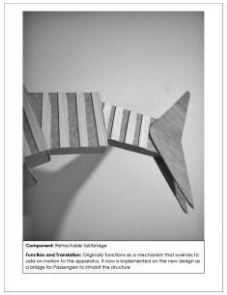




The Foundation of this apparatus The Wailing Mechanoid, both literally and figuratively- are the robot leggings and fins which controls the movement of the structure. The space accommodates only one to two individuals as it's designed to only house the occupants for traversal.

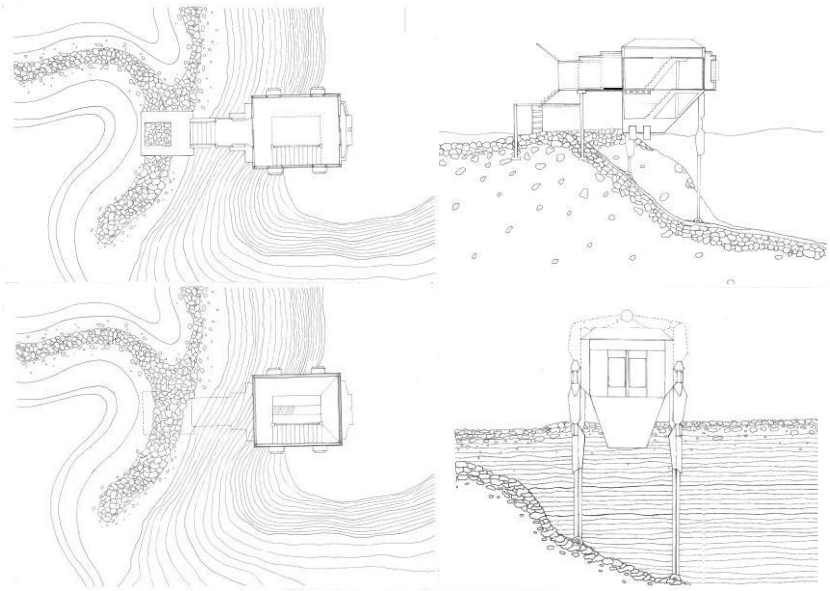
By design it's deliberately impermanent. The retractable components of the apparatus: the headlights and the 'tail', meant to be activated only when it's no longer stationary are key to supporting the user while in operation; helping to stabilize and light up the oncoming surroundings.

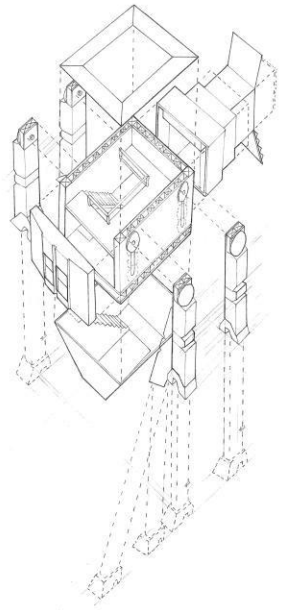
The mechanical 'legs' serve to move and attach the apparatus to the surface/bed of the environment (water) a user encounters along the way while maneuvering.

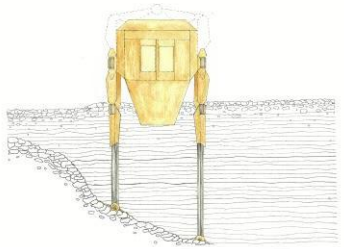


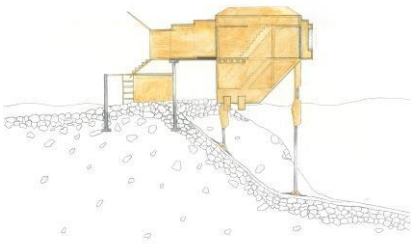
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – FAIZ MUHAMMAD RIDHO









Heading forward to an evolution of the design we have the Submerged Droid. This time the structure has a permanent housing- having the building capable of being attached to a site. One located in Pulau Tuba in Langkawi.

Aside from having a designated essentially parking area, the Droid is now capable of being lived in. having three floors: the bottom floor to observe the marine life below; the first as its main base of operations and the top as a viewing platform

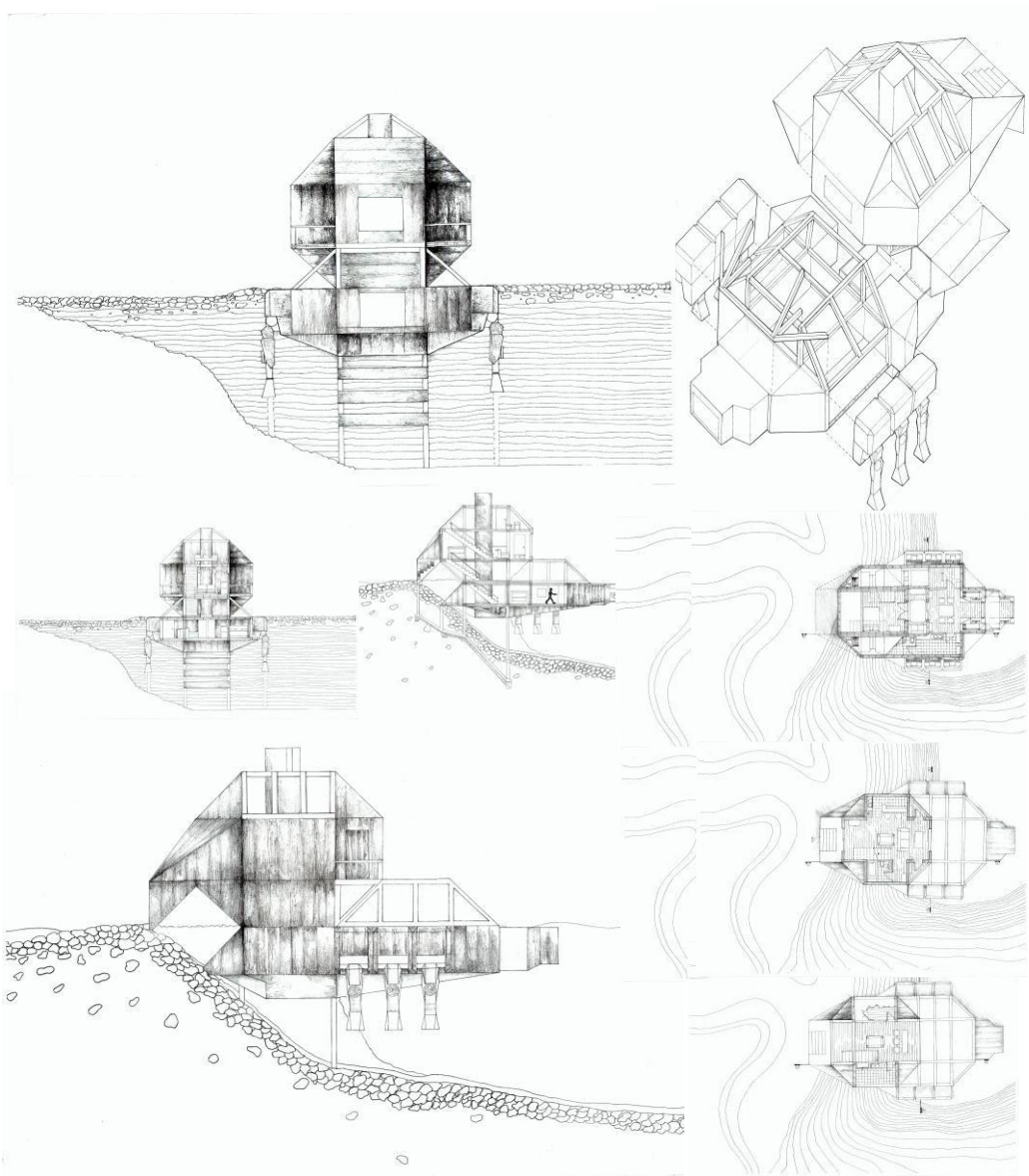
The tail which previously acted as a way of balancing and entering the apparatus has been upgraded as bridge- being retractable still, fully retracted when in operation/ moving out of the site and expands into the bridge when 'parking' at the dock located on the site, at its end being able to open and close as to not allow water flowage while moving from the base (the beach).

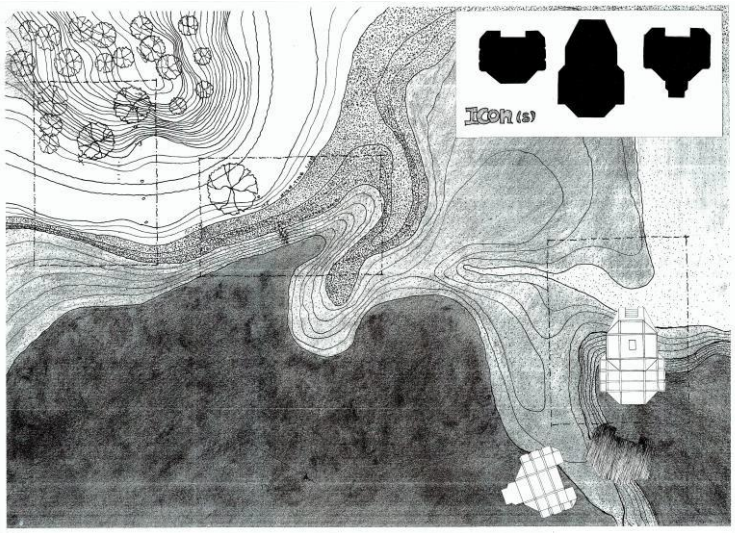
The legs which acts as columns to the structure, are now capable of extending too, enabling it to proficiently traverse the rocky terrain of the beach at which the dock is located at. This extendibility additionally allows for more stability on the building as a whole as the operator can accommodate for the changes in elevation by adjusting the leg's height.

The Droid's headlights now serves as a viewing platform as to accommodate for the changes in scale, whereas the coverings made the use of a 'headlight' negligible.

ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – FAIZ MUHAMMAD RIDHO

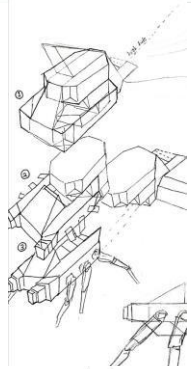


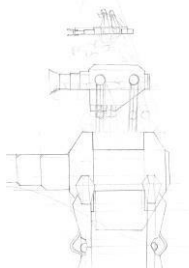


At last, the culmination of the design decisions leading up to this point. The structure, dubbed now the 'Akupara' is now at a much larger scale as to accentuate its evolutions. At this stage, all three floors contain a multitude of uses as spaces realized to act as a proper housing for an individual(s). There contains two main parts of the building.

The first is the central building where the entrance lays, connecting to the site itself, allowing potential occupants to enter and enjoy the beachside scenery. Accommodating all sorts of activities a house by the ocean would.

The second part is located on the bottom floor (Ground Floor), which is the detachable part of the structure that traverses the seas just as the previous one do. This is essentially a building on its own, housing the necessities one would need to live in. A key part of the entirety of this house is how both parts; detachable and fully permanent, could be lived in on their own. The person (people) being in either structure, or whole, wholly able to survive, and most importantly- live in.

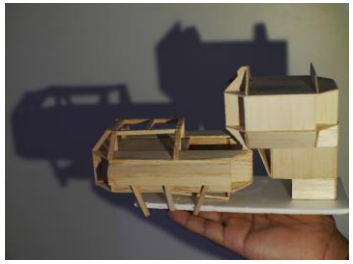


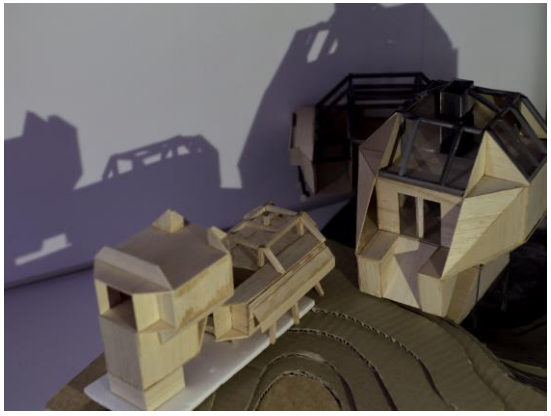


ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – FAIZ MUHAMMAD RIDHO

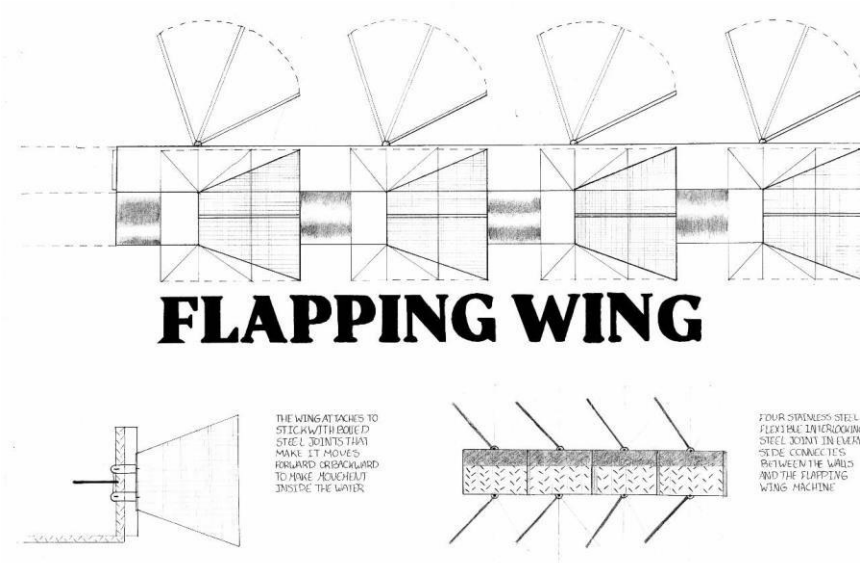
AKUPARA

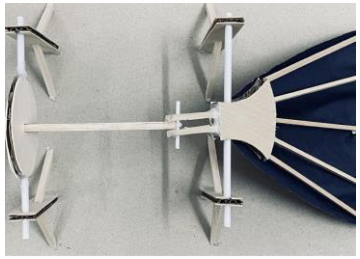




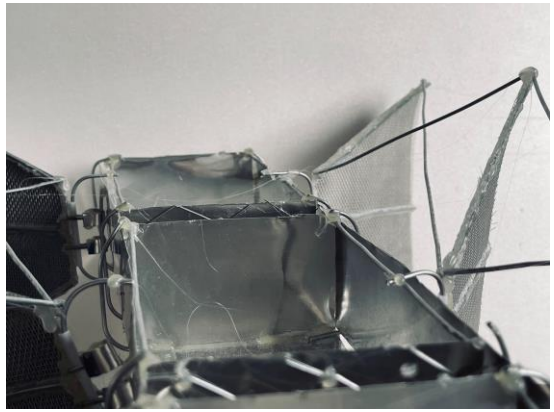
ARCHITECTURE OF IMPERMANENCE

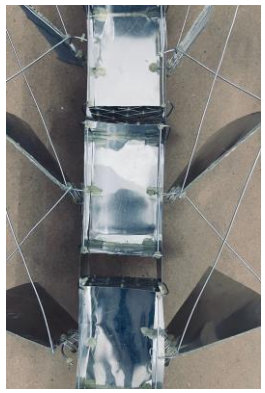
A MORPHOGRAMMATIC PROTOTYPE - HABIBA MOHAMED

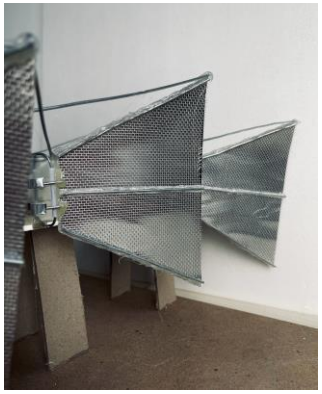




This innovative apparatus draws inspiration from the ingenious flapping wing machine conceptualized by the Renaissance polymath Leonardo da Vinci. The device's core mechanism involves a movable stick that, when manipulated vertically, induces a corresponding motion in the attached wing. This stick, in essence, transforms into a wall-like structure adorned with wings. As the stick is propelled forward and backward, the wing experiences a synchronized movement within the aqueous medium. The design incorporates multiple walls, strategically positioned to create inhabitable spaces between them. These interstitial areas possess the remarkable quality of buoyancy, allowing them to remain afloat on the water's surface.

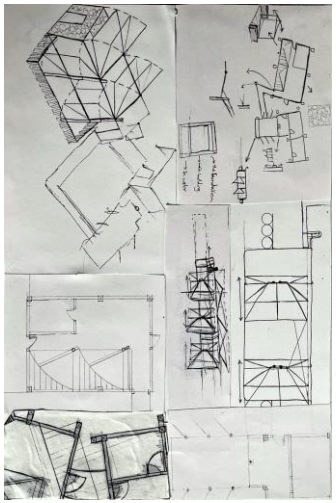


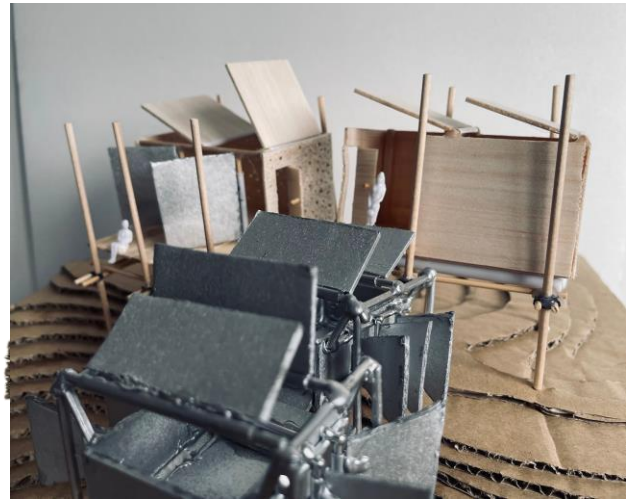




ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE - HABIBA MOHAMED





SEMI TRANSPARENT WALLS

IT'S A WALL THAT A LOT OF HOLES WITH DIFFERENT SIZES THAT ALLOWS THE LIGHT TO ENTER THE PUBLIC AREA AND THE WIND INSIDE

MOVING SPACES

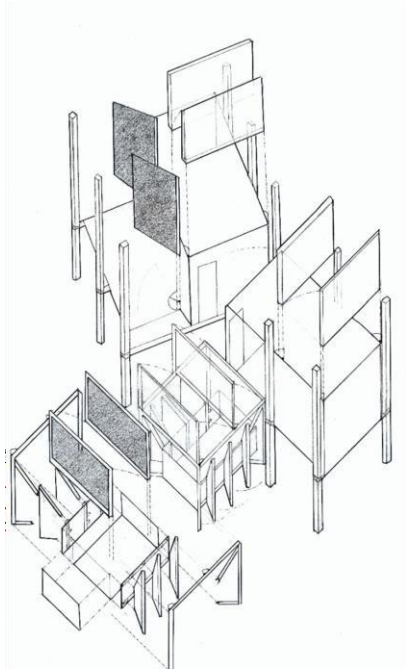
IT'S TWO MOVING SPACES THAT ATTACHES TO THE BUILDING AND SEPARATE TO GO AROUND IN THE WATER AND THEY CONNECT TO EACH OTHER

OPENING ROOF

IT'S A STRAIGHT ROOF THAT ATTRACTS TO THE WALL WITH INTERMEDIATE TIMBER JOINTS THAT GOES UP AND DOWN AND ALLOWS THE LIGHT IN AND CLOSE When ITS RAINING

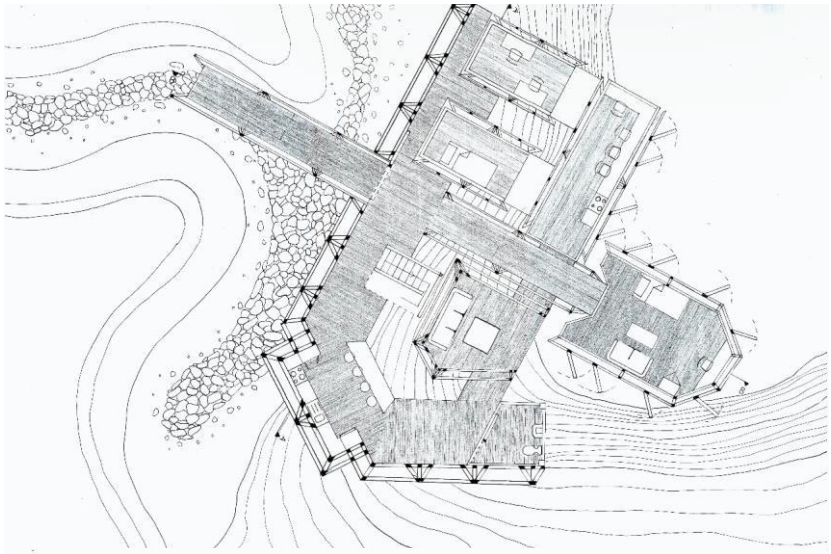
STRUCTURE OF THE BUILDING

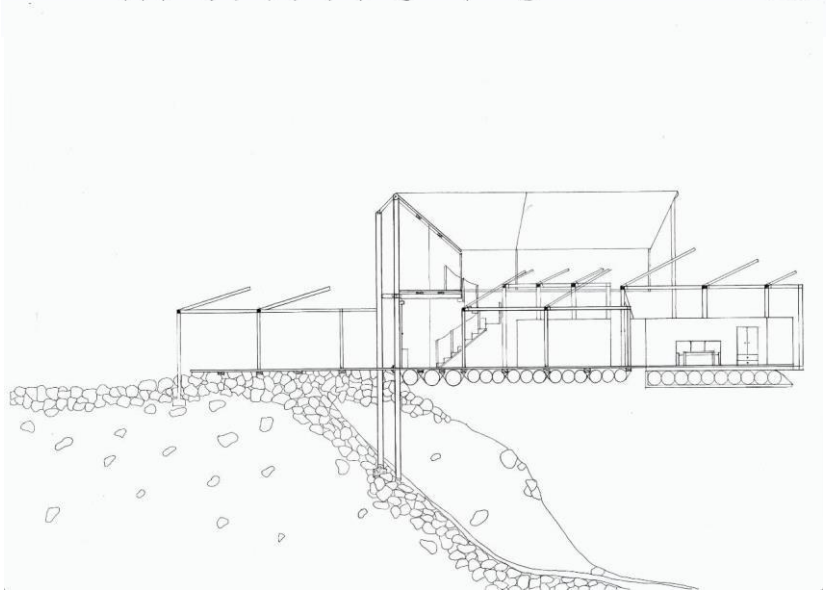
ITS FIXED TO THE GROUND AND IT HOLDS THE BUILDING AND MOVES UP AND DOWN ACCORDING TO THE LOW AND HIGH TIDES

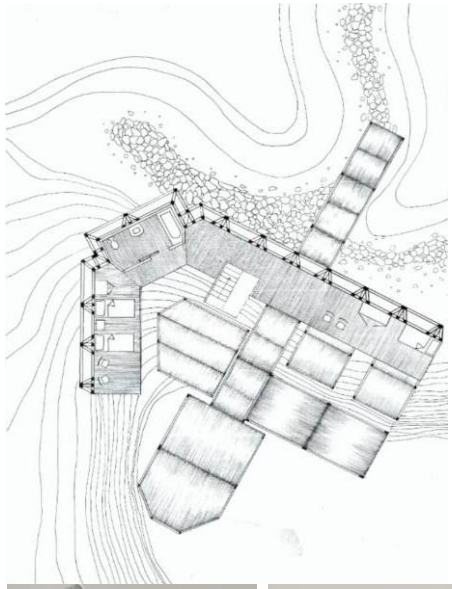


ARCHITECTURE OF IMPERMANENCE

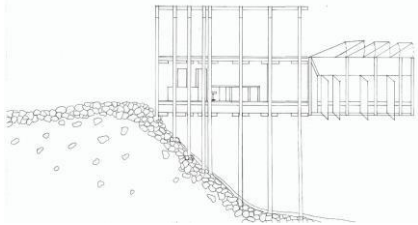
A MORPHOGRAMMATIC PROTOTYPE - HABIBA MOHAMED

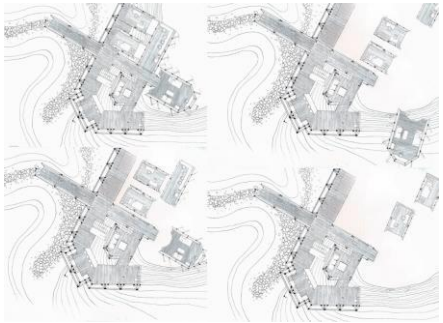






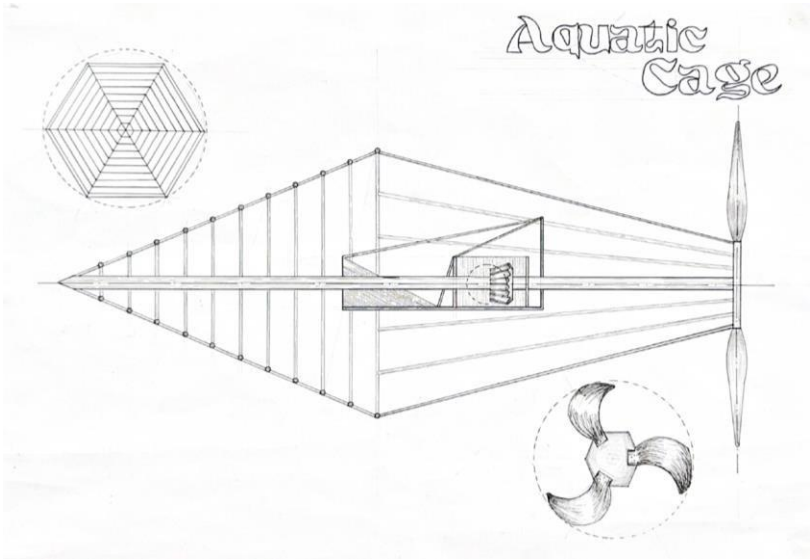
This unique building design combines stability and flexibility. It has a strong steel frame anchored to the ground for support. The ground floor is attached to this frame but can float on water, moving up and down with the tides. This allows the building to adapt to changing water levels while staying secure.The second floor is fixed to the steel frame, providing a stable space above the water-adjusting ground floor. The roof is special - it can open and close like a wing. This feature allows for control over natural light and air flow, and might even help generate energy.An interesting part of this design is a movable section connected to the main building. This part can move through the water around the building. It could be used for transportation or as a flexible living space that can be moved around. This feature adds mobility to the otherwise fixed building.

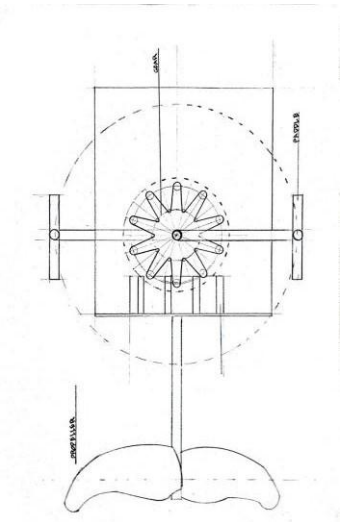




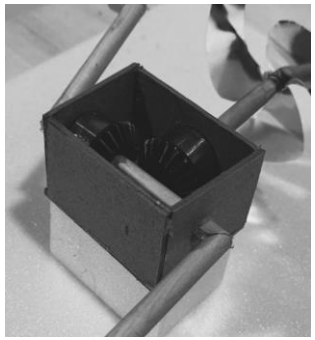
ARCHITECTURE OF IMPERMANENCE

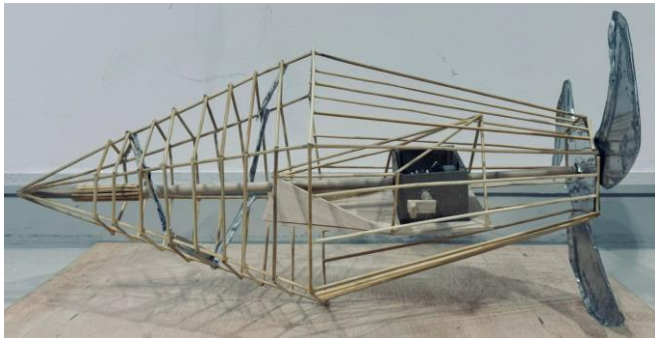
A MORPHOGRAMMATIC PROTOTYPE – HANA AHMED

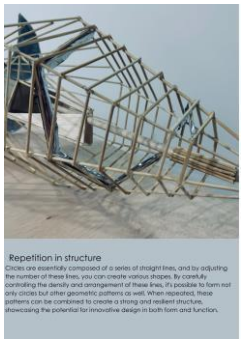




the main convection of the design is to create submerged structural space that is fully integrated with a hydrodynamic form to house in a miniature space that carries the paddle and gear mechanism. The inner space is where operations take place, spinning the entire outer structure to navigate through water. The hydrodynamic shape, with its pointed form, helps reduce drag, while the propeller at the end ensures effective propulsion. taking these aspects and using them as a foundation to further develop and enhance the design in the next step of the project.

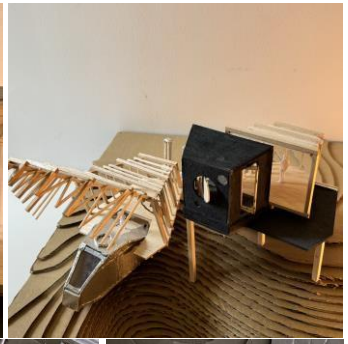


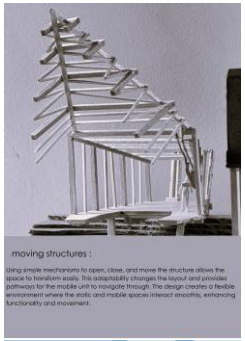


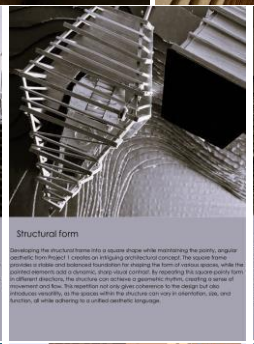


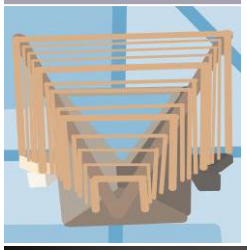
ARCHITECTURE OF IMPERMANENCE

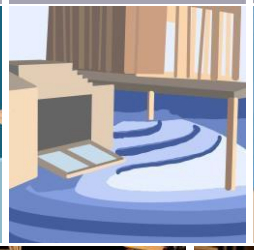
A MORPHOGRAMMATIC PROTOTYPE – HANA AHMED

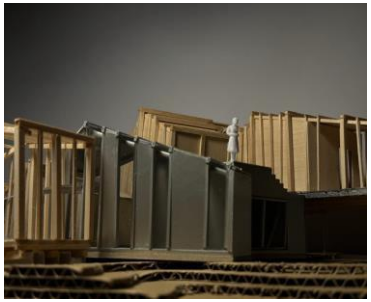


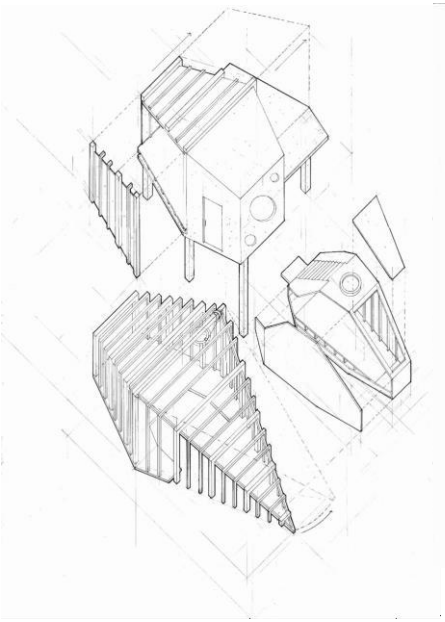


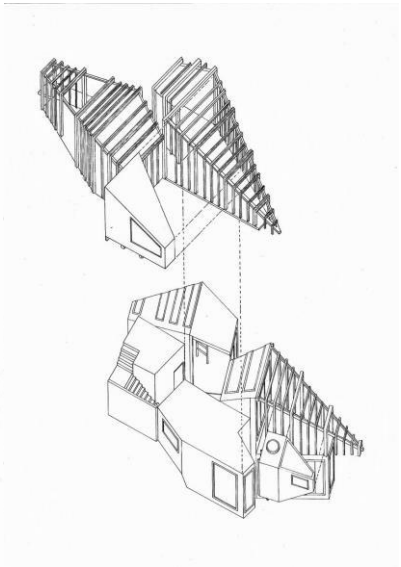






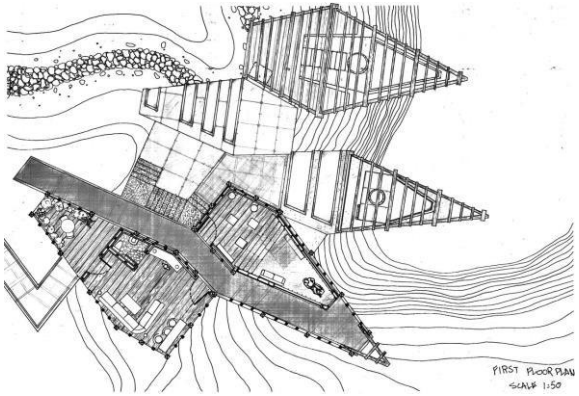


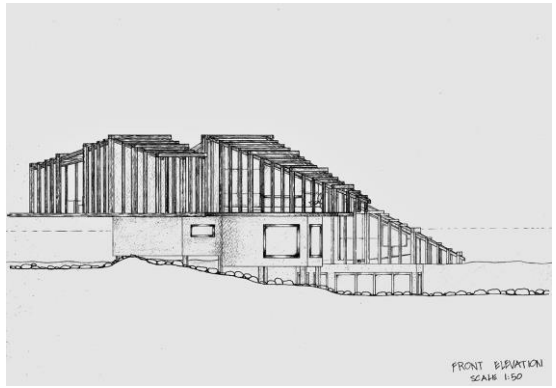


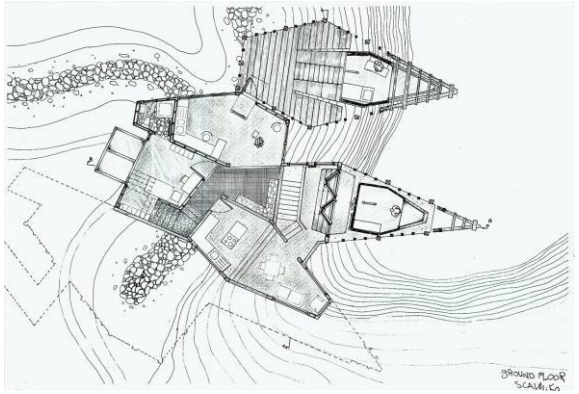


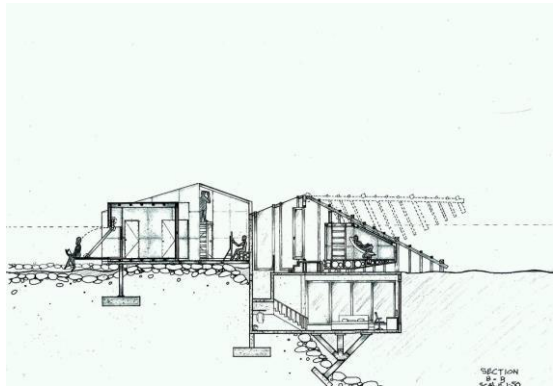
ARCHITECTURE OF IMPERMANENCE

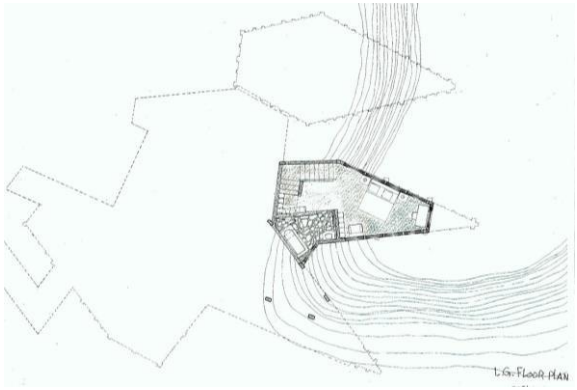
A MORPHOGRAMMATIC PROTOTYPE – HANA AHMED

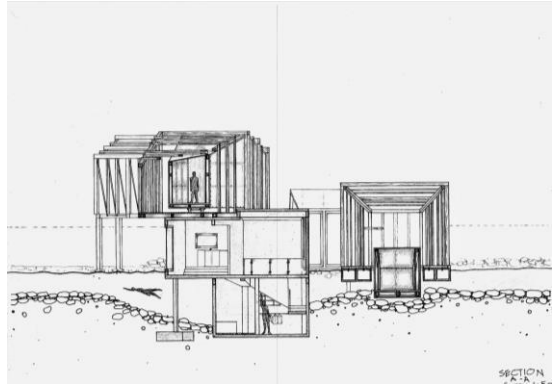












On the second part of the project I created a core inhabitable space keeping the principles from project one. what I did is I made the structure a covering for a submarine that can open and close using a crank in sup of the paddle and the gears. and when the cover open and the submarine leaves the empty space that is left can be used to jump into the water. the whole space can move up and down with the high and the low tie by having floaters at the bottom and a track at the back to keep it in place. another part that is using the paddle and the gears to slide the space and convert it from a closed space to an open area where It changes the behaviour of it and have different ways and looks to use the same space.

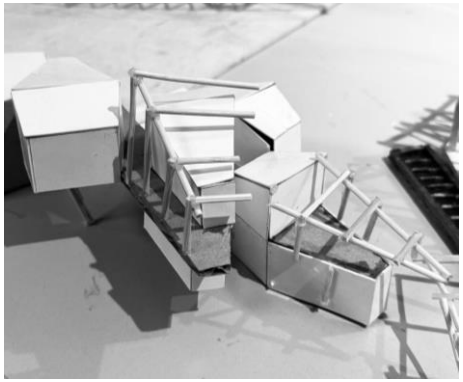
For the third part of the project I token the structural space and repeated it following the context of the site. for the first floor I minimized the walls and kept the timber studs and columns open and added some bracing to insure the user is fully enjoying the sea breeze and have a nice view of it from all directions, and added mesh metal flooring to drain any potential rain water on the open spaces. and I devolved the wheels and tracks from project two and added it to one of the spaced where the gallery space can slides into the water when it high tie and change from an enclosed to an open more outdoor space. the ground floor, metal and concrete is used to insure the building dose not get effected by the constant change of water level.

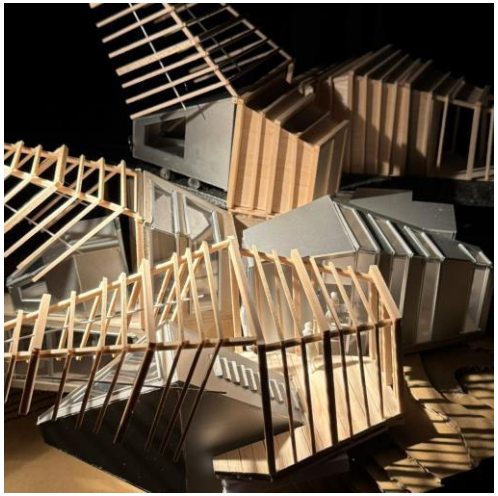
I add the samples from the site in small area jut to remines us of where we are, so I added the shells I collected to some of the windows since they have a translucent tendency, and the rocks on the flooring of the bathrooms.

All the roof that con open and close have a space within that can detach itself from the building and float or submerge on the water while changing the behaviour of the building it self

ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – HANA AHMED

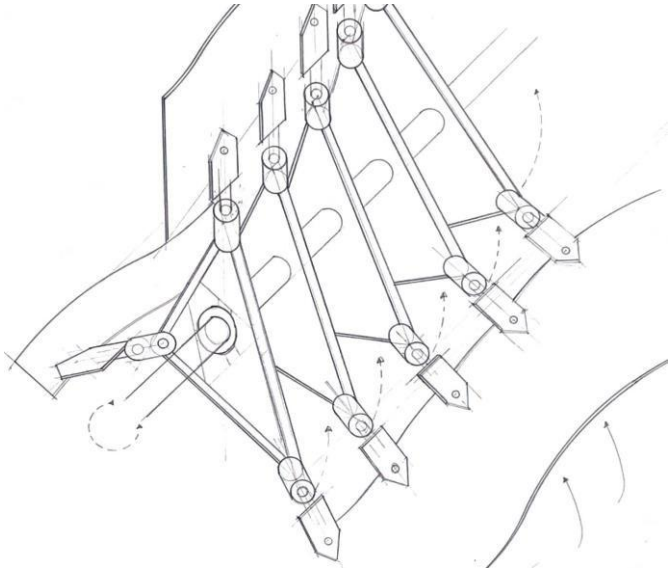




Peter Eisenman: "The architecture of the future must be the architecture of the present, an architecture that embraces the fleeting moments of existence. It should recognize the impermanence of our surroundings and respond to the temporality inherent in our lives."

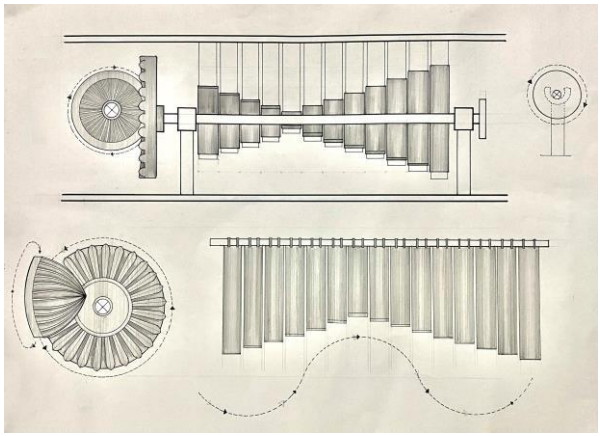
ARCHITECTURE OF IMPERMANENCE

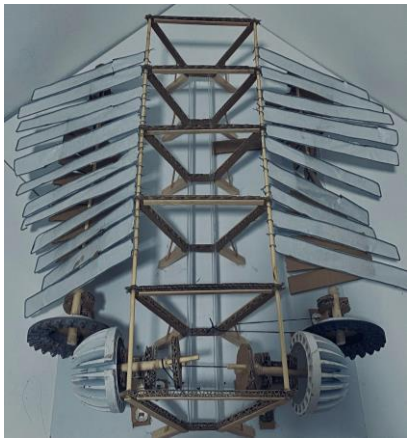
A MORPHOGRAMMATIC PROTOTYPE – SHRI VAAISHNEVII

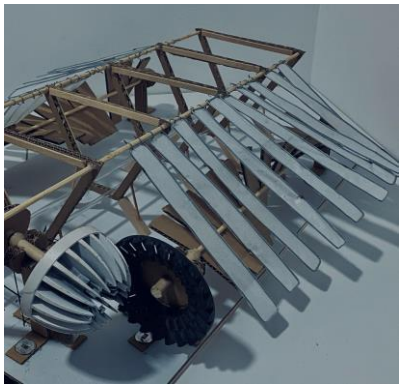


This introduction outlines the critical importance of understanding and addressing evolving concepts of nomadism, impermanence, and mobility in architecture. These emerging trends challenge traditional notions of stability and permanence, yet also offer innovative solutions to some of today's most pressing global challenges. By embracing these dynamic concepts, architecture can more effectively respond to society's ever-changing needs, creating environments that are not only functional and sustainable but also resilient and adaptable.

A key aspect of this process is the study of precedents—analyzing built works to understand what has been explored, tested, and realized in practice. This allows for a deeper comprehension of existing knowledge, which can then be refined and applied to the creation of improved design solutions. To move forward, it is essential to objectively dissect and critically analyze existing buildings, systems, and cases, understanding their structural anatomy and conceptual foundations. Only through this analytical approach can we effectively extract insights and adapt them to future architectural innovations.







Fixed Element

The Fixed element from this device can be called as the main mechanism that powers the movement of the flaps. This mechanism is a replica of a bevel gear that helps rotate the sub-mechanism.

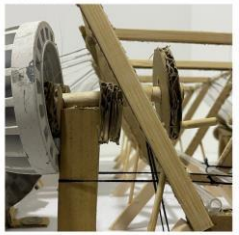
Repetition

The arrangement of the flaps shows the principle of repetition that mainly helps the mobility of the device. The flaps create a kinetic wave movement which helps the device move in water.

Rhythm

The Rhythmic arrangment of the sub-mechanism helps convay the movement to the flaps. This method is much efficient as it simplifies the movement of the flaps

Movement



To keep the device Mobile, it starts with the rotating crankshaft. It is operated simply by rotating the crankshaft, which is connected to the main mechanism that helps the sub-mechanism rotate.

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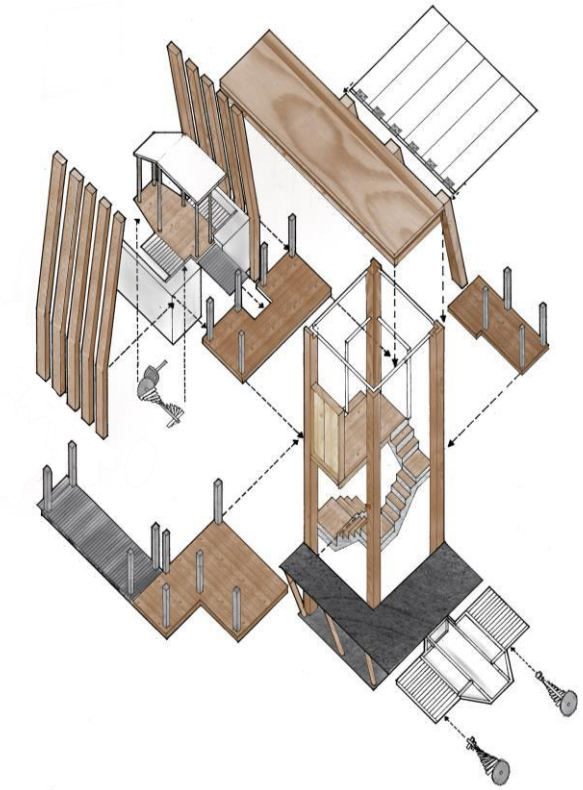

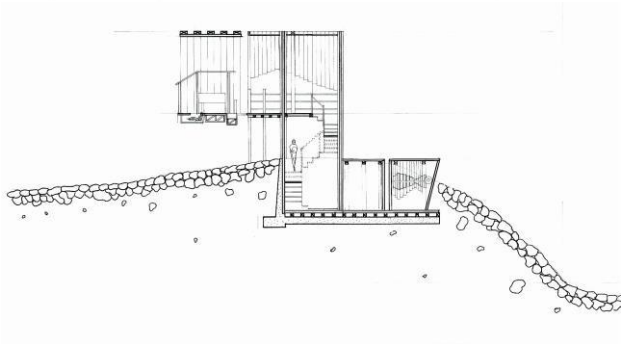

REPETITION

The repetition of the flaps that were taken as a strategy from the apparatus of Liminal Transversion were used strategically in this core space. It was used as a form of creating shades that can be turned into a roof board or a wall shade.

SPACE

The space used in the core space was abstracted from the idea of a triangle shape that could accommodate enough space for human movement

SPACE

The idea of playing with shapes to give a minimal space for a reason. As for the bottom part of the core space, it was created with an inverted triangle to limit the space for human movement as it is meant to be a private area.

MOVEMENT

The mobility is not only applied on the device and the flaps, but it is also applied on the entrance to the core space. This walkway moves along with the tidal waves to allow access to the core space anytime. Which is also applied for the entrance to the floating device.

Building on the exploration of liminality, this phase encourages the expression of core ideas and radical possibilities concerning how transversion, mobility, and impermanence can coexist within occupiable spaces. In this context, strategies refer to the methods used to approach architectural design by identifying a clear sequence of priorities, which will serve as a guiding framework for how the design evolves from concept to tangible proposal. The focus is now on designing and proposing a preliminary core space that embodies these strategic principles, serving as the foundation for the final mobile habitation. The emphasis is on developing a living space that incorporates mobility through either elemental perceptions or mechanical integrations, aligning with the fundamental intents expressed in the earlier phase.

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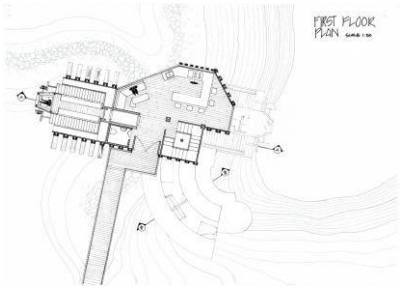
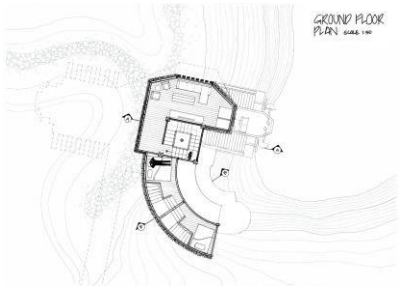
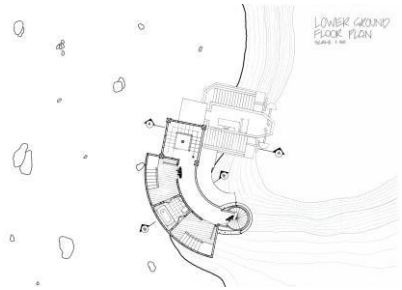
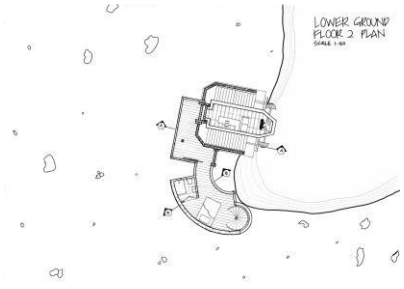
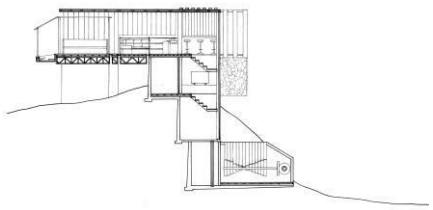
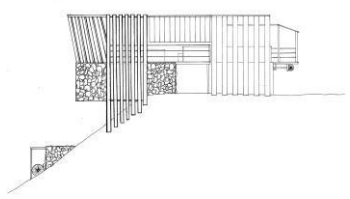


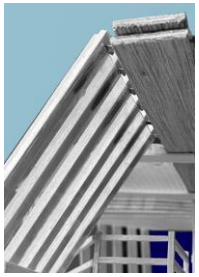


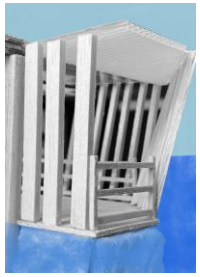


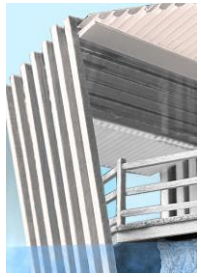


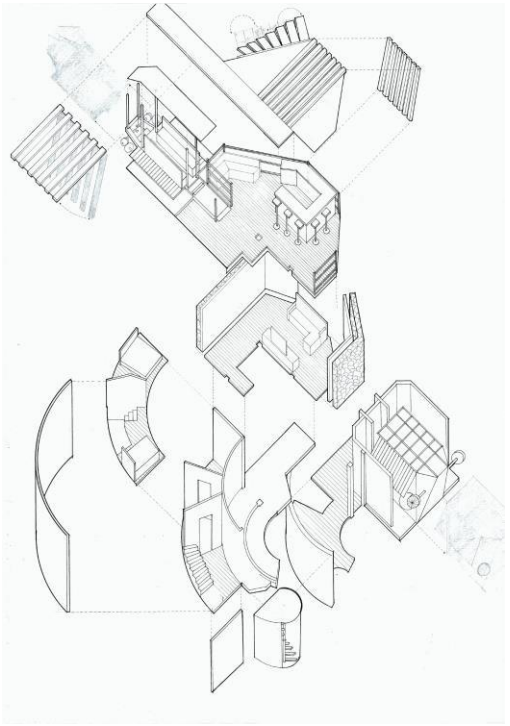




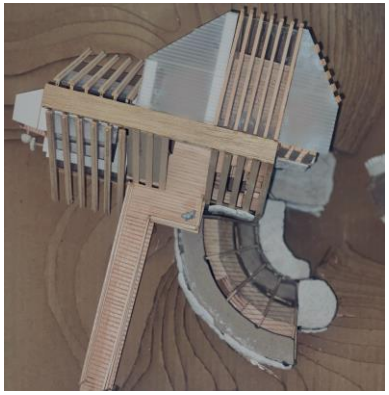








In.architecture, morphogrammatics can be understood as a design approach that explores the underlying patterns, forms, and structures that shape both the physical and experiential dimensions of a space. The term integrates the principles of morphograms and spatial grammar, where morphograms refer to recurring structural forms or patterns that define the identity and functionality of a space. Although these patterns may not always be immediately visible, they profoundly influence how a space is perceived and utilized. This concept can manifest through elements such as materials, forms, inversions, and other physical components, providing a deeper framework for architectural design.



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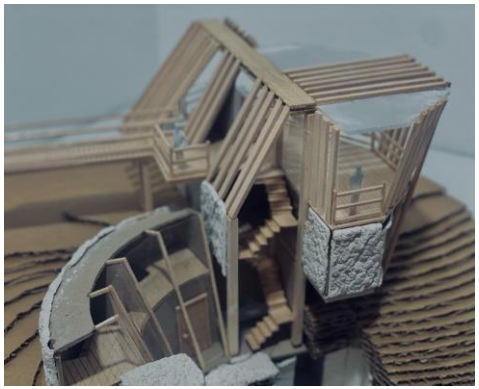

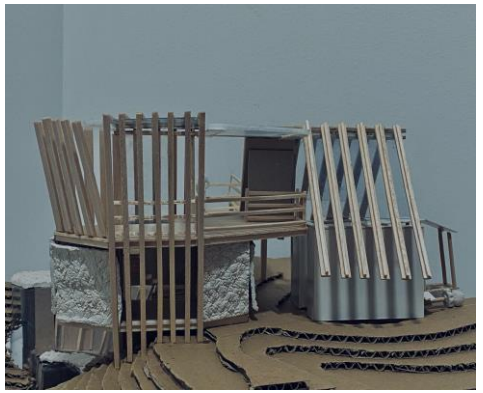

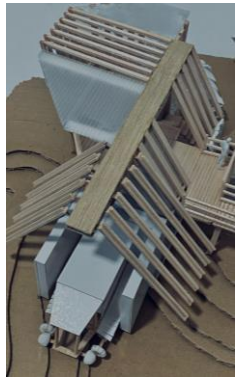

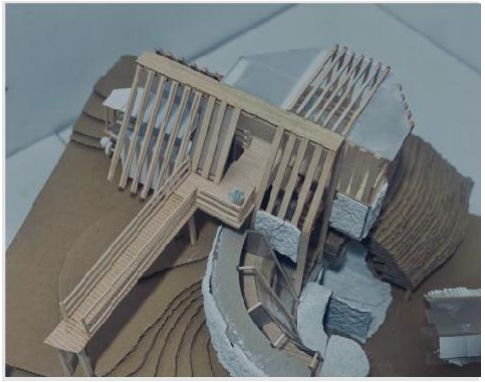

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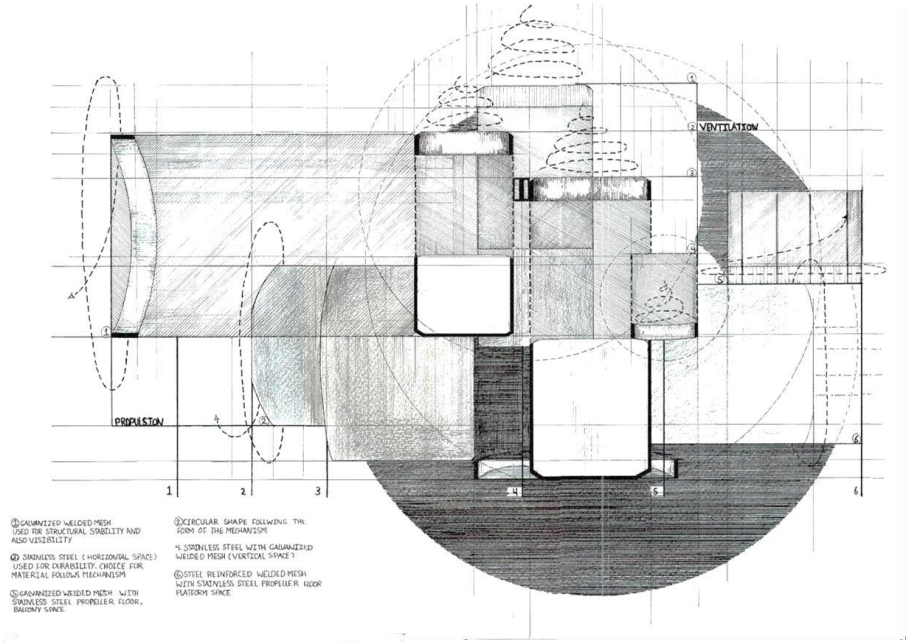
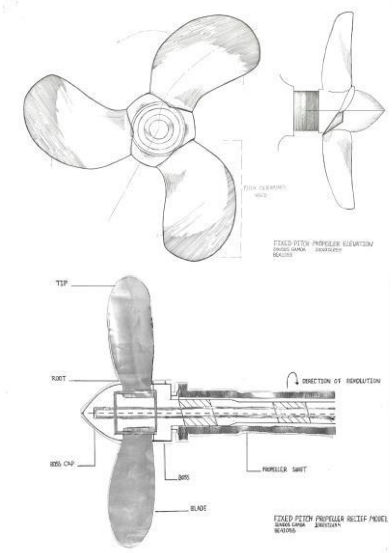
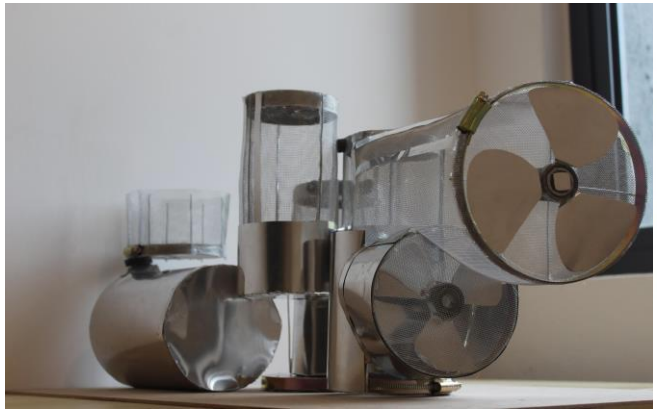
A MORPHOGRAMMATIC PROTOTYPE – SONDOS GAMDA



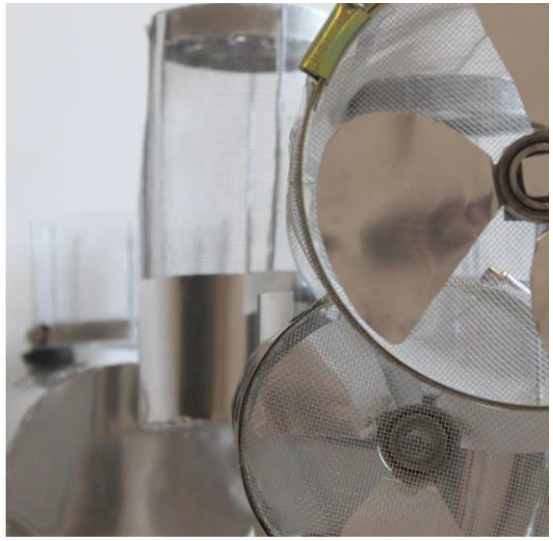


Although the propeller mechanism seems straightforward and quite simple, that simplicity is what made it such an interesting yet challenging building material. I experimented with turning the mechanism into my space rather than adding it as an attachment, All whilst exploring the many different applications and functions of it. By having the roofs made up of multiple propellers, they also promote ventilation. Likewise, the propeller walls propel the apparatus. Furthermore, as our project focuses on mobility and impermanence, each component of my apparatus disconnects from one other and is able to act independently, changing according to the user's needs, my attempt of applying Yona Friedman's concept.



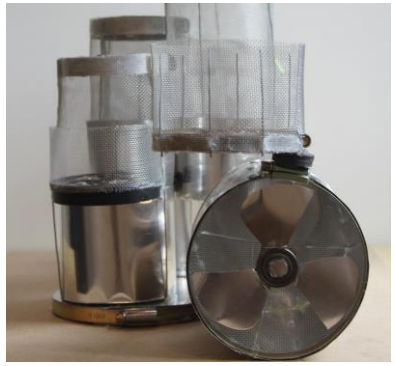
VERSITALITY OF PROPELLER APPLICATIONS

The propellers unique shape makes it extremely versatile and resourceful, I wanted to experiment with using the same mechanism to achieve different goals. such as ventilation, keeping the apparatus afloat, propelling the structure forward through water and also using air flow.



USING THE PROPELLERS INTO BUILDING ELEMENTS

Using the mechanism itself as various building elements - such as walls, roofs and floors- allowed me to analyze and question what building elements are and how I could change their form to fit my objective while still maintaining its functionality and purpose.



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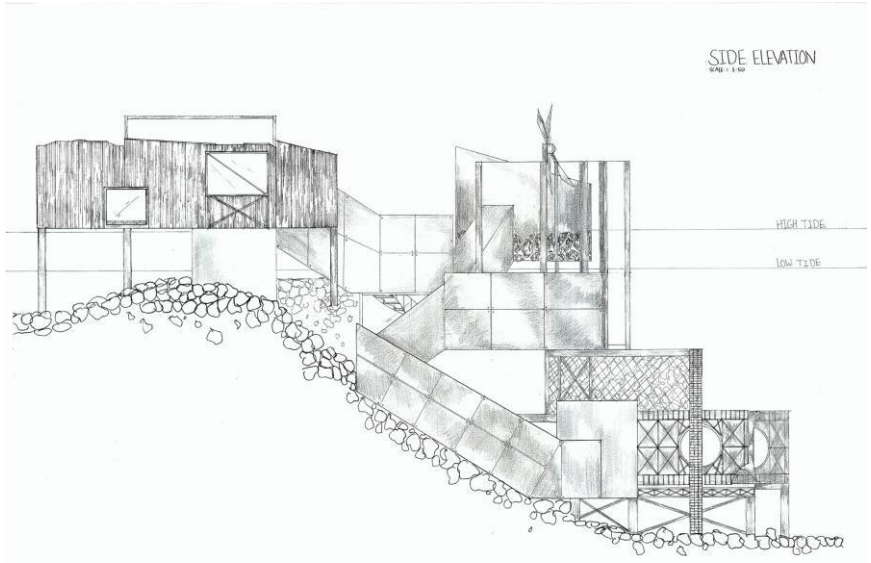
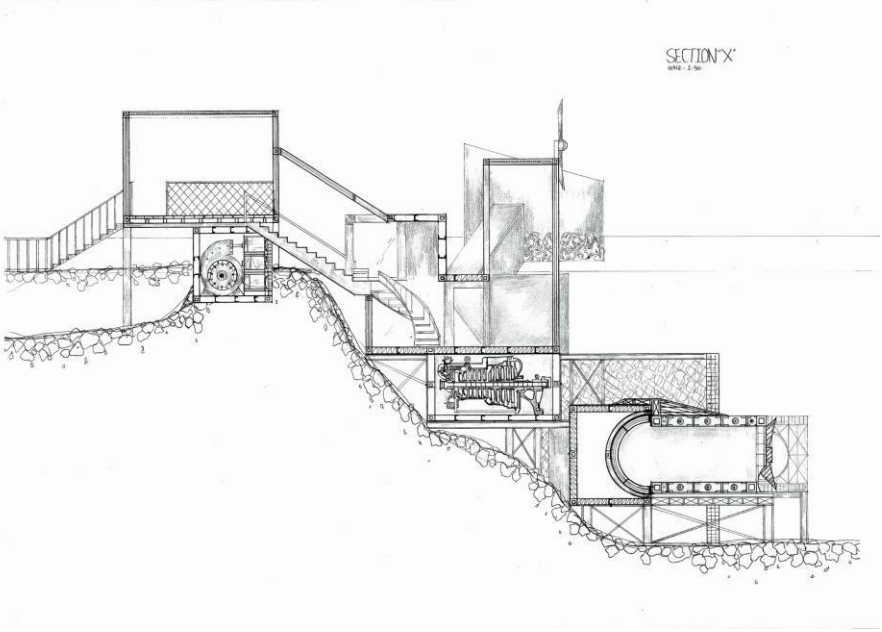




STRUCTURES FOLLOWING A GRID

containing the structures inside the border of coral reefs thus forming an outline that dictates the area of which the building will occupy.
using a grid for the placements of the each part of the building results in making the layout more cohesive

VARIANCE IN HEIGHT & INTERSECTION OF VERTICAL AND HORIZONTAL STRUCTURES

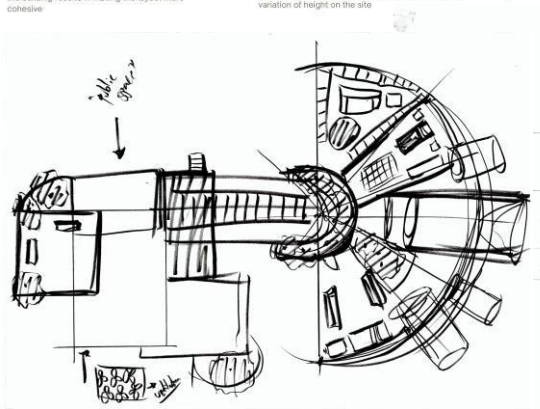
The difference in height allows for each space to carry a different atmosphere based on its intended purpose, the intersection of vertical and horizontal structures makes use of the water depth and variation of height on the site

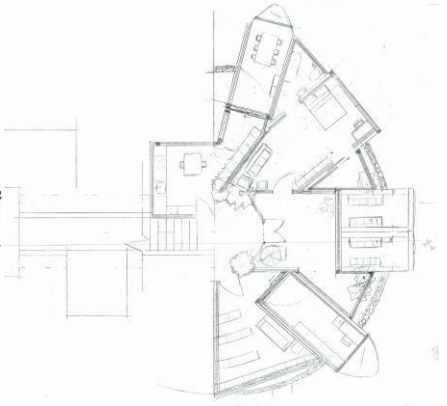
ENCLOSED "OUTDOORS" SPACE

using glass that extends above the water level, creates an enclosed space where trees can grow, with an interesting view and fresh air, all while being under water

CORAL REEF BORDER

the coral reef border not only protects the underwater structures from barnacles of which break down materials over time, it also increases biodiversity and makes use of materials found on site





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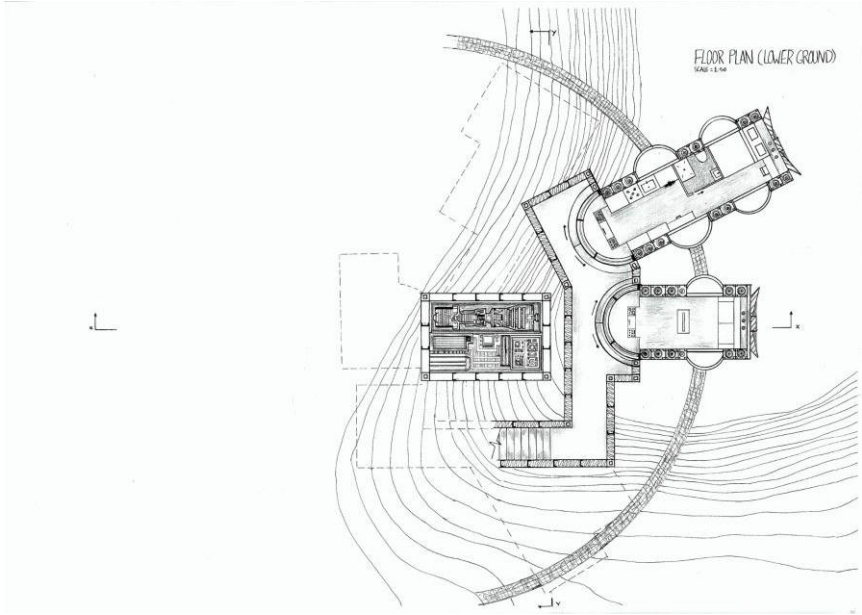
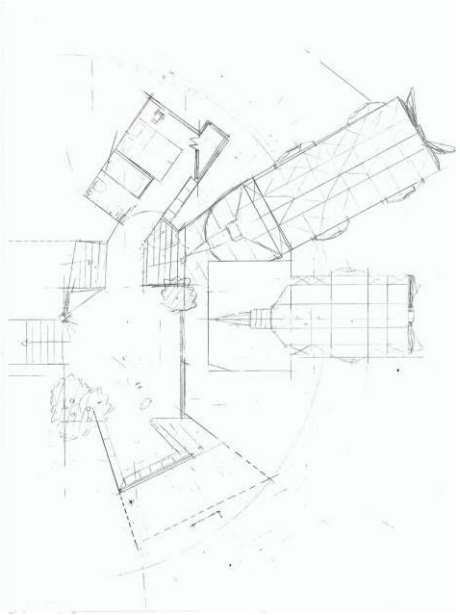
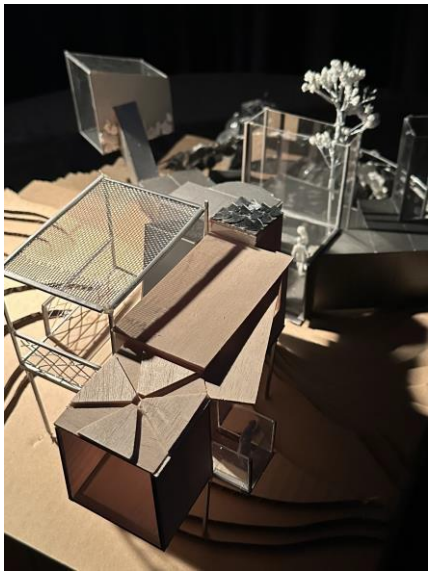




The placements of my structures follows a radial grid based on the coral reef boarder of which encompasses and caries the structural supports for the underwater portion of my building. The detachable submarines in the lowest water level on our site, to allow easy facilitation when detaching and leaving the main structure. The submarines are propelled by propellers and the form follows its circular shape. The function of these spaces is altered when it detaches, serving a different purpose than it did when it was attached, exploring the concept of impermanence and applying what I learned from the previous two projects. Utilizing the sloped site and increasing depth into the water, my building is a journey from the driest, topmost point in our site, to the lowest and most secluded, the structures on land are more public, with a patio and guest room. The extending glass from the underwater structures go over water level, bringing in fresh air into the space and acting as an underwater balcony, creating an interesting scenery for the user and allowing plants to be grown.



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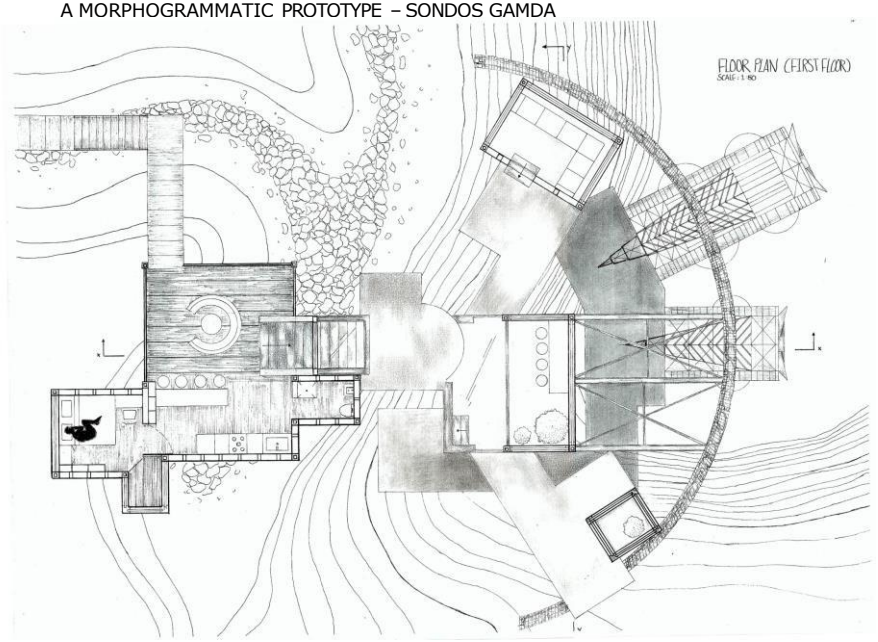

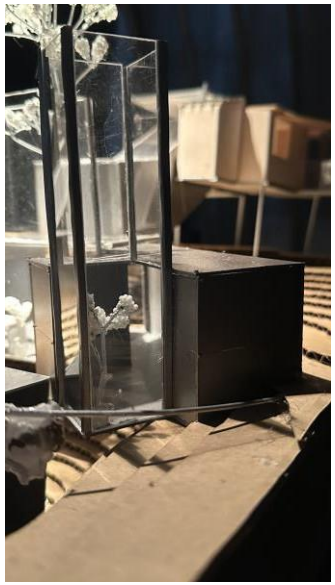

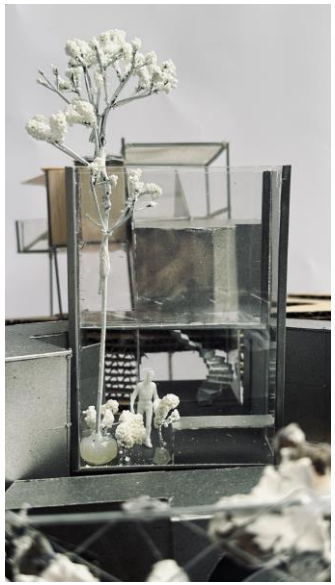

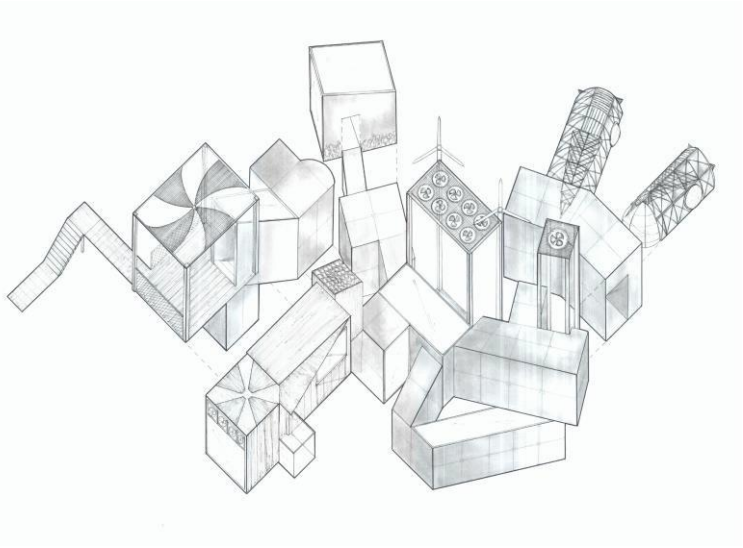

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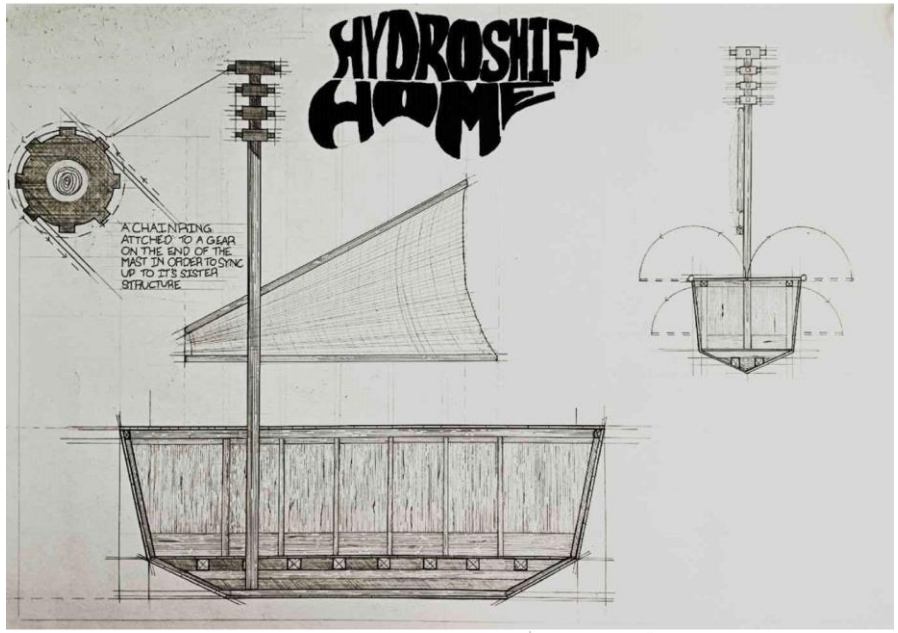
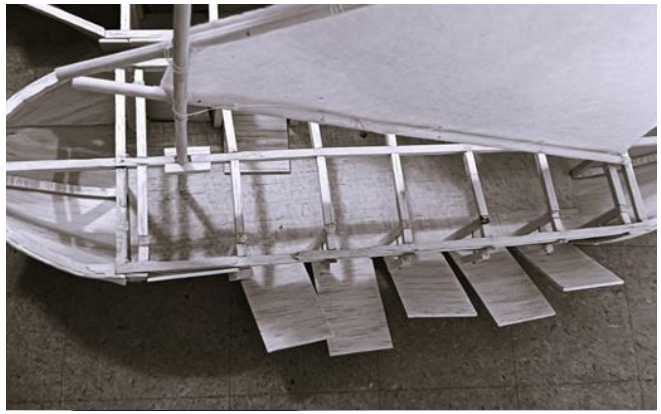
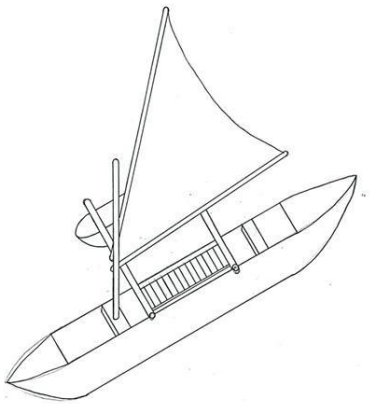
A MORPHOGRAMMATIC PROTOTYPE – YAU WEN GHEE







The core of my design is based off mobile architecture, and the impermanence they impose. The base of my design is based on the traditional boat in order to create a unique and comfortable home and paying respects to the nature of its impermanence. What's unique about my design is that it allows the user full control on the layout of their home. This is done through establishing an evenly spacing the ribs so that no matter the size and shape of the boats they all ultimately work together. The sails are designed to be in sync with one another so that the whole structure can move in unison without having to come apart.

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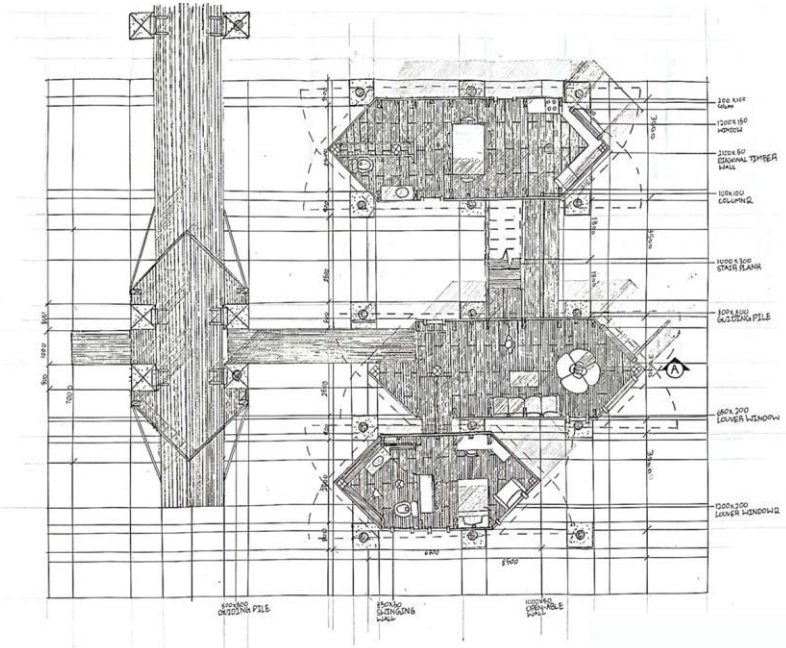

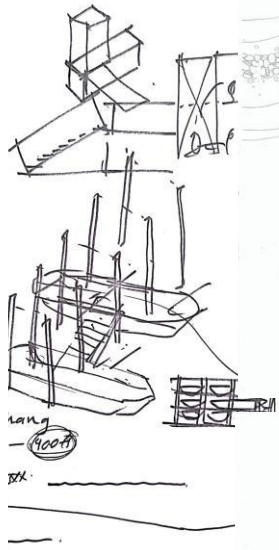

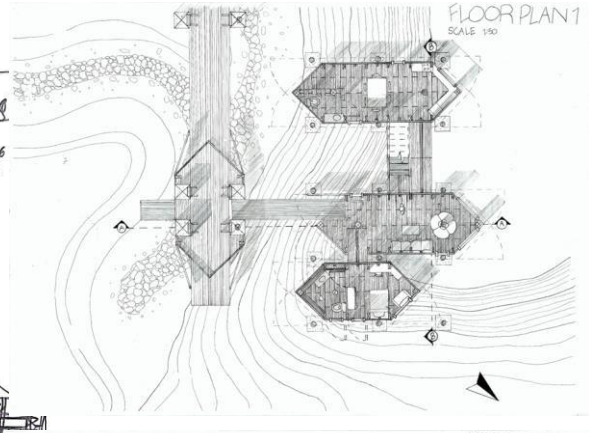

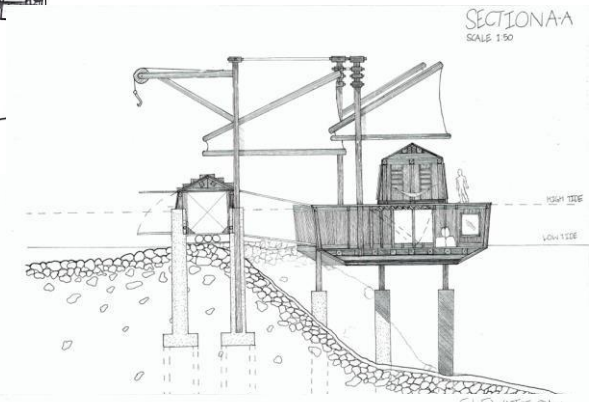

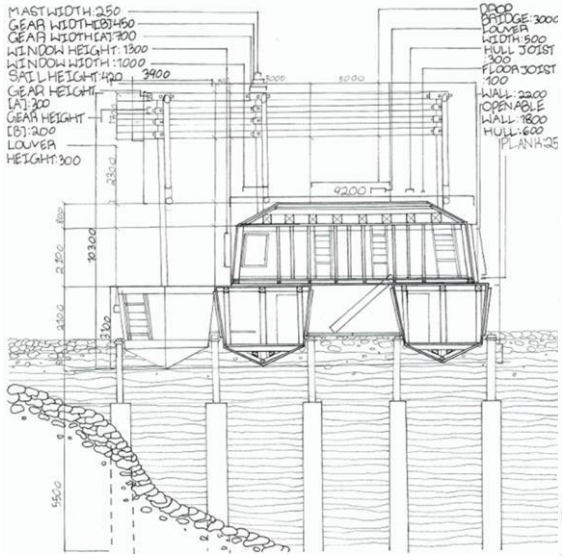

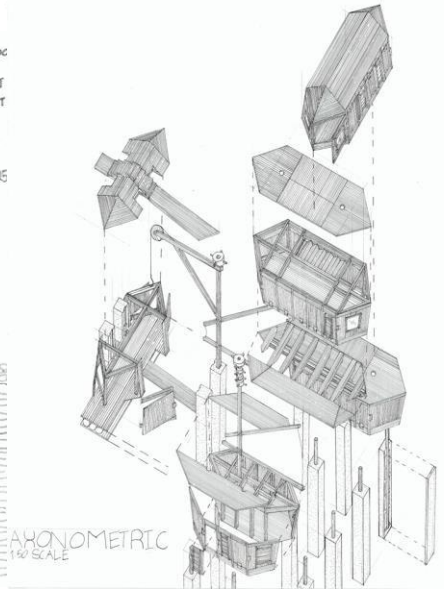

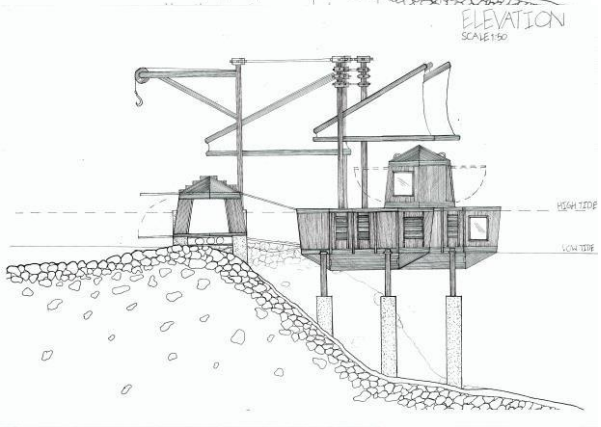

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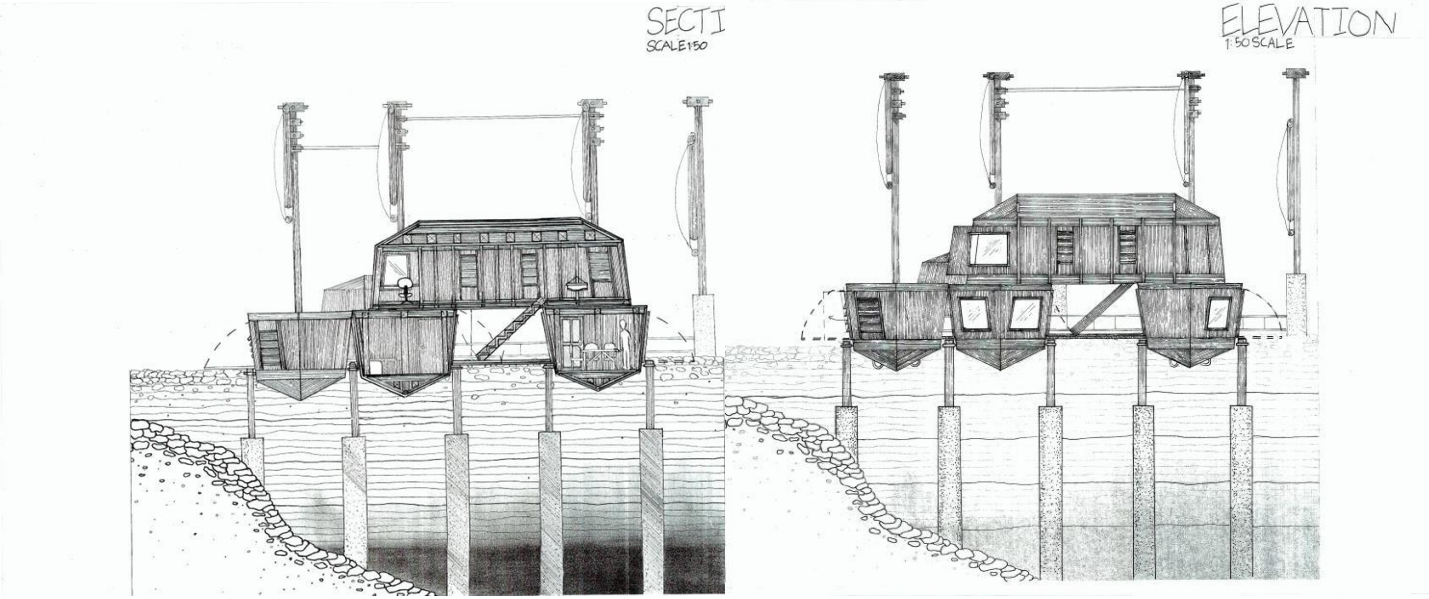
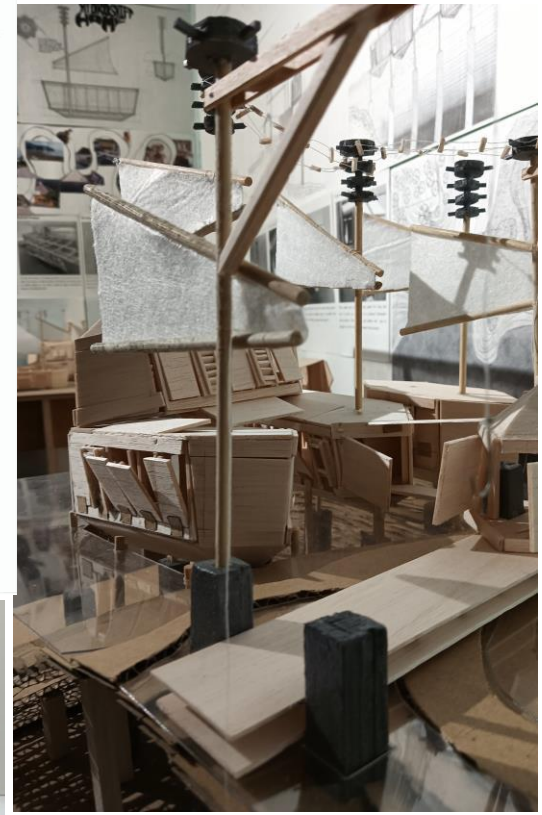
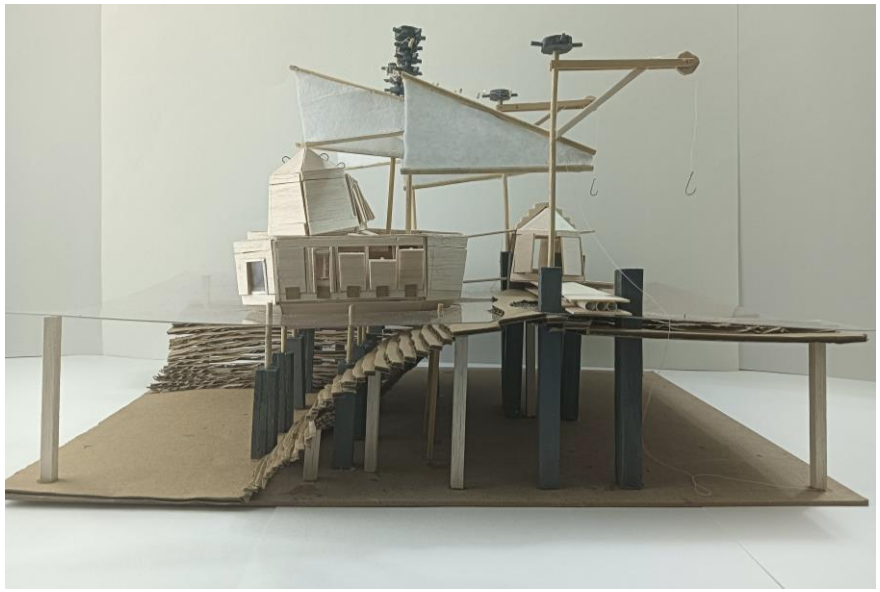
A MORPHOGRAMMATIC PROTOTYPE – YAU WEN GHEE

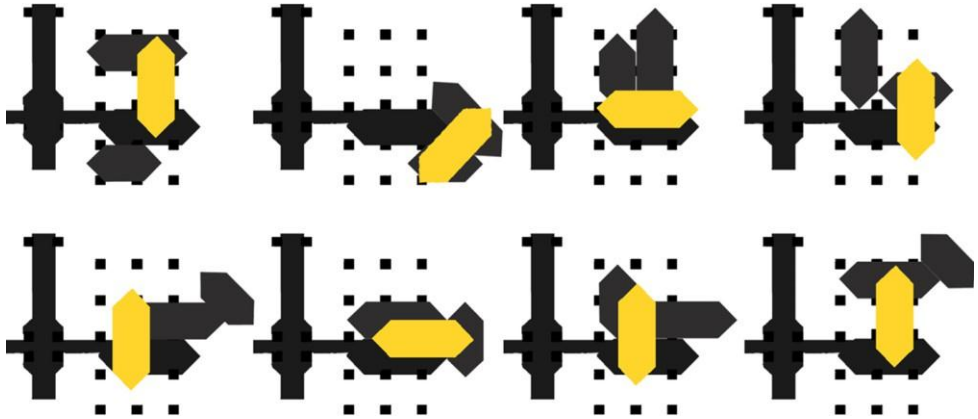






ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – YAU WEN GHEE



Openable Walls

The walls are openable and when it's fully laid out it acts as a bridge to connect between structures. This bridge can either be 6m in length or 9m in length between structures.

Stacking

Stacking the boats allow for more living space. This also unlocks multiple ways to position the structure creating unique home layouts.

Evenly Spaced Ribs

As mentioned previously the ribs of the structure has been designed to be evenly spaced. Here, it's been designed to be 1 meter in width and 3 m in height this allows for the connection between each individual unit to be consistent.

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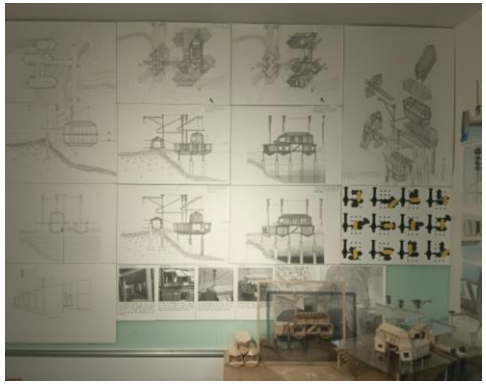
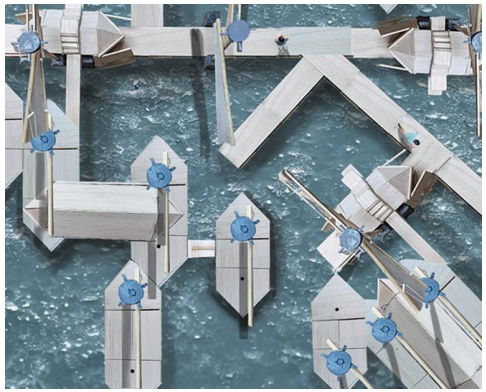
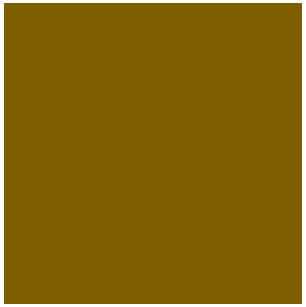


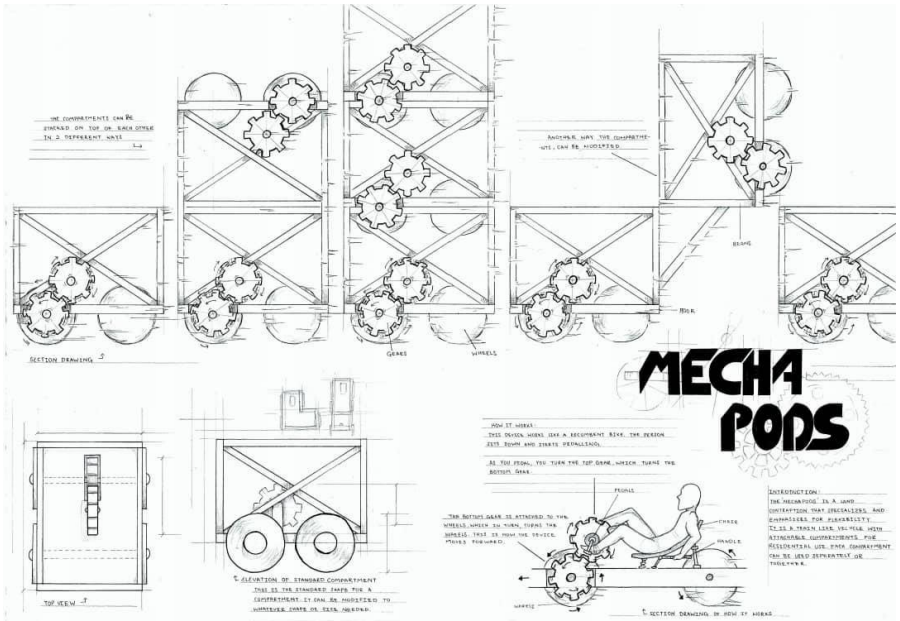


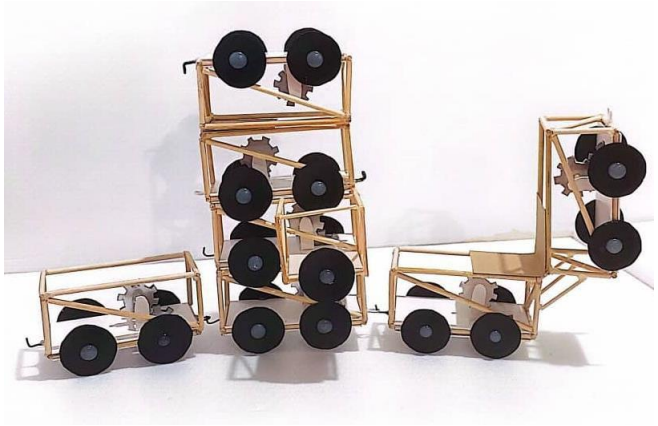


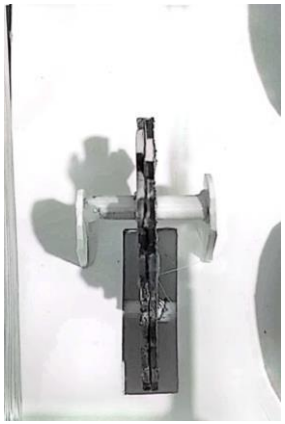
LAND
Bibiana Wong Hou Yen
Chew Jia Xin
Loh Zhi Yan
Maryam Rishma
Mohamed Zayyan Shareef
Murtaza Khuzema Tapya
Nawal Zia
Shun Lae Zaw
Tai Li Kun
Wong Kha Moon

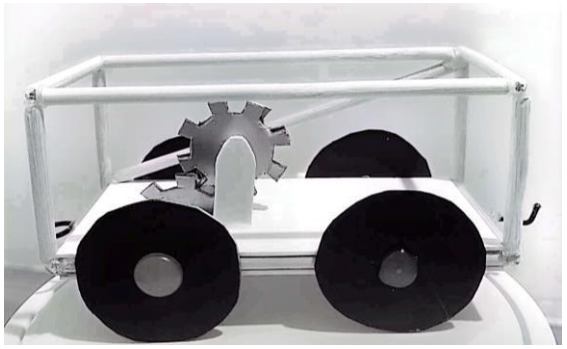
ARCHITECTURE OF IMPERMANENCE

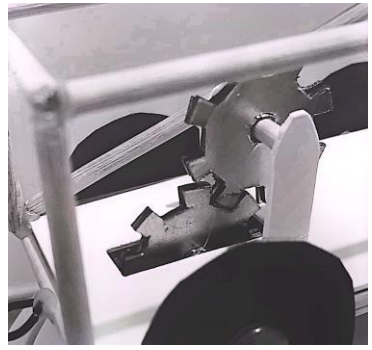
A MORPHOGRAMMATIC PROTOTYPE – BIBIANA WONG HOU YEN

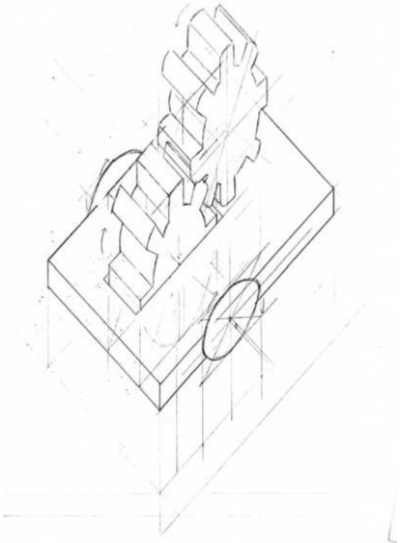






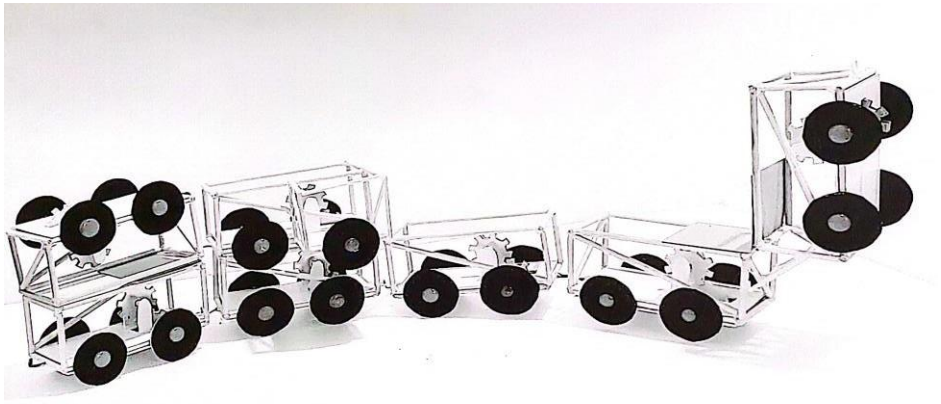






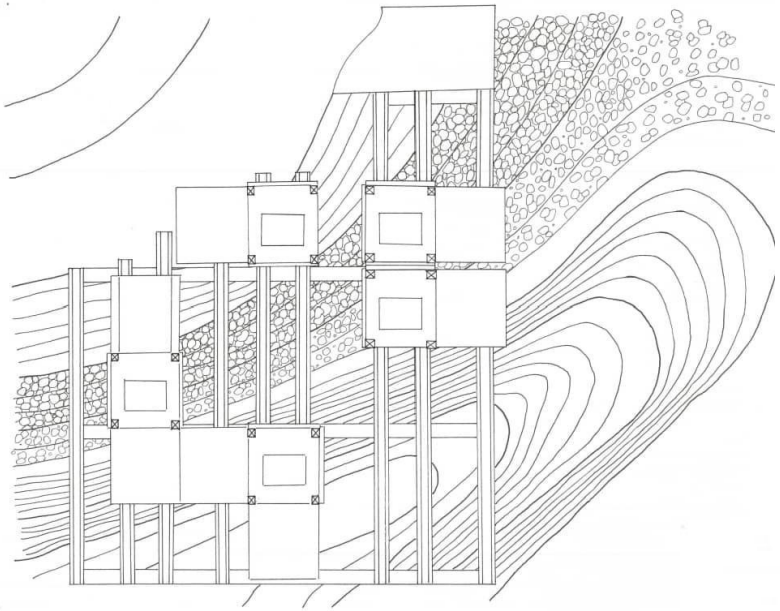
My design philosophy for a movable home emphasizes axis, grid, and water to foster a seamless connection with nature. This sanctuary blends with natural surroundings, blurring indoor-outdoor boundaries for a cozy, inviting feel. Carefully placed columns harmonize built and natural spaces, creating spacious yet adaptable compartments.

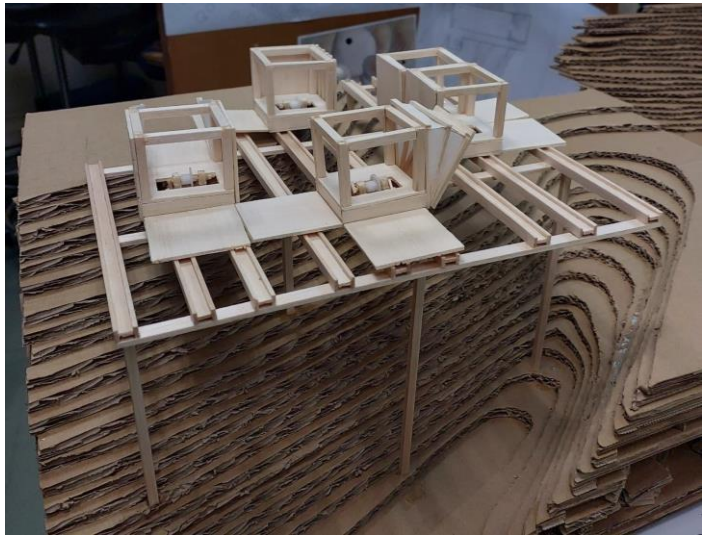
Guided by a central axis, spaces unfold with intentional interaction points. Inspired by hierarchical design and storytelling, elements like trees and water platforms add a dramatic touch, reflecting a commitment to sustainability and innovation. These prototypes set new standards for flexible, nature-centered, and eco-conscious living on the move.

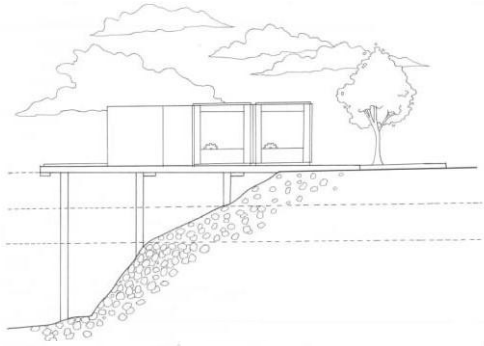


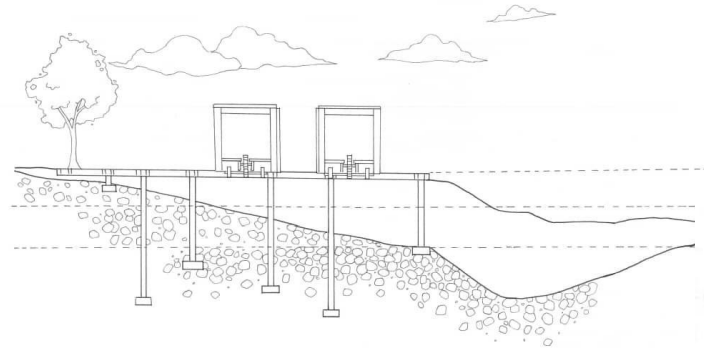
ARCHITECTURE OF IMPERMANENCE

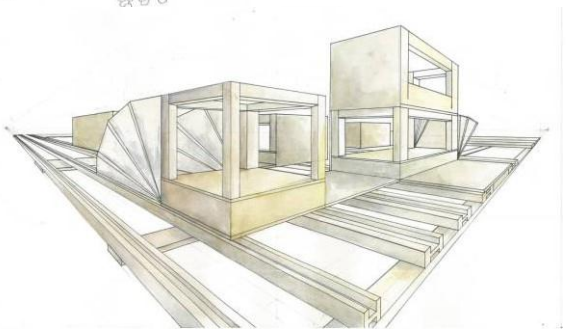
A MORPHOGRAMMATIC PROTOTYPE – BIBIANA WONG HOU YEN

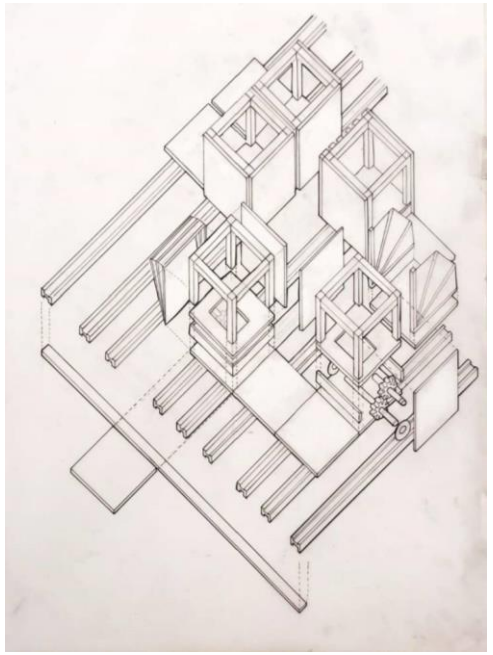












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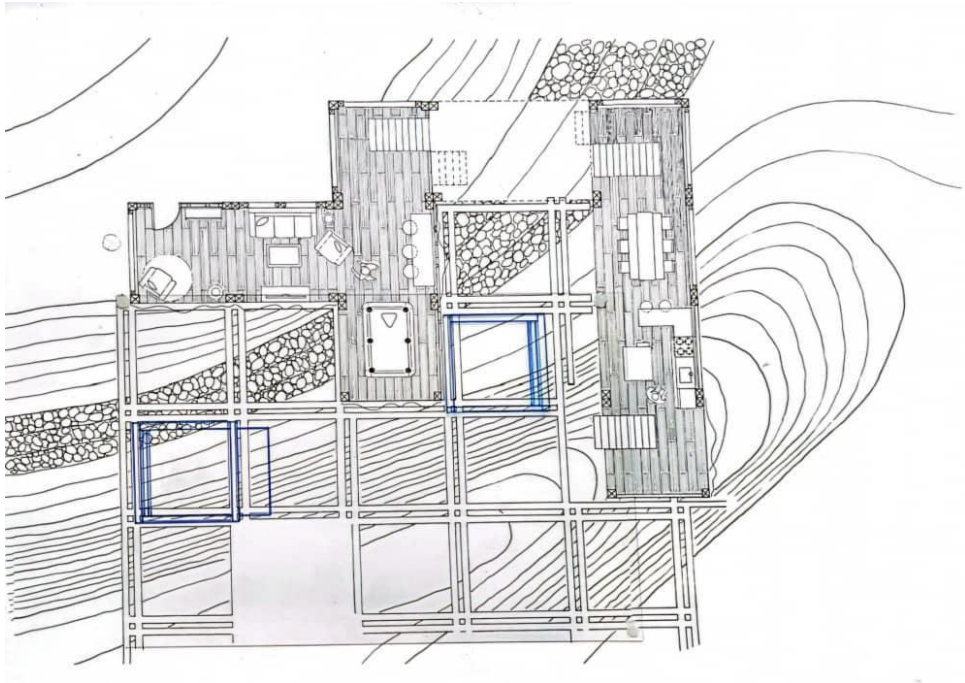
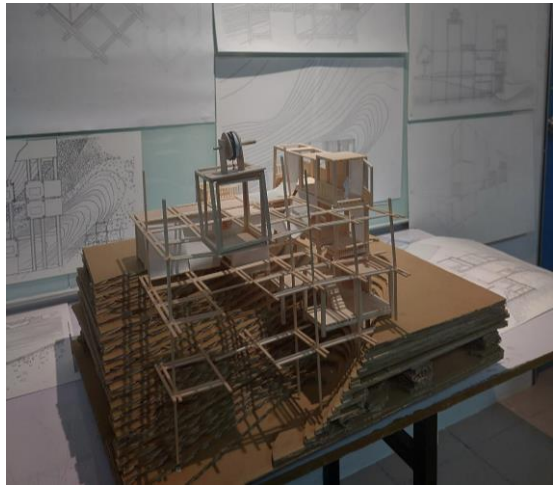
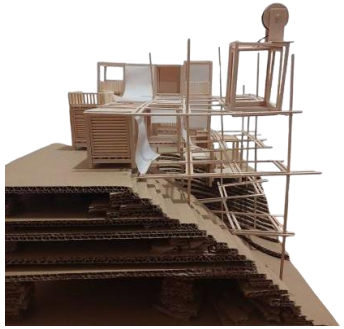
A MORPHOGRAMMATIC PROTOTYPE – BIBIANA WONG HOU YEN



For Project 3, I took components from project 1 and project 2, combining and scaling them up. My project consists of a permanent structure, tracks and movable foldable spaces. The design of the movable spaces allows you to extend and transform living spaces to create a more spacious and flexible environment. An elevator is connected to the tracks to allow seamless vertical movement for the movable compartment to access any floors. The tracks are also built in a way that allows additional tracks to be added or removed depending on the landscape or needed use, shows the adaptability of this design. This approach maximizes spatial flexibility and enhances the user experience by enabling the building to adapt to changing needs seamlessly.





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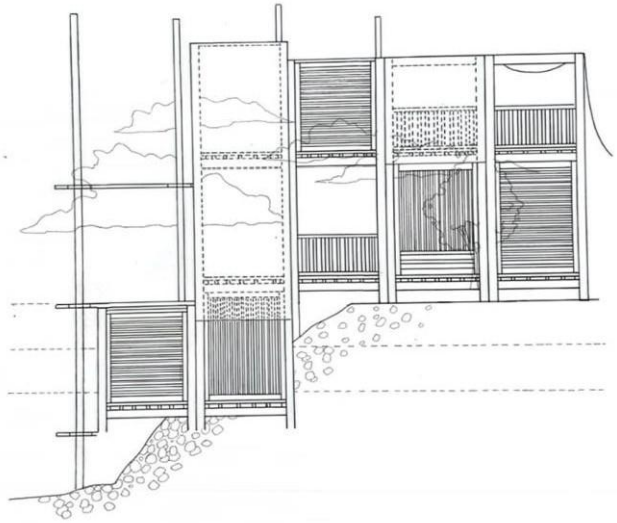
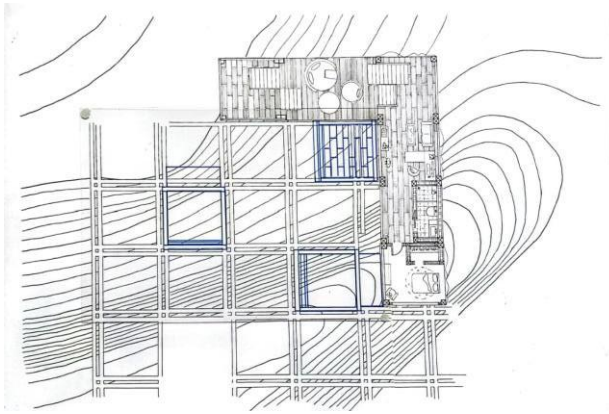
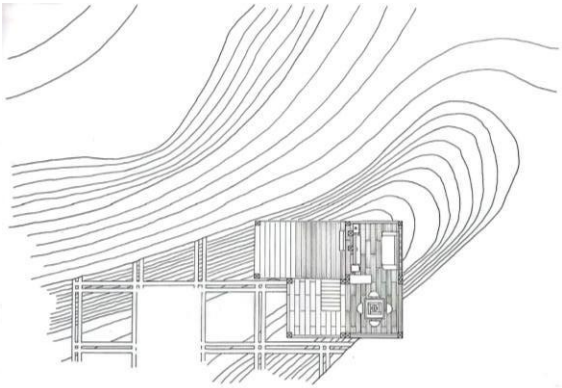
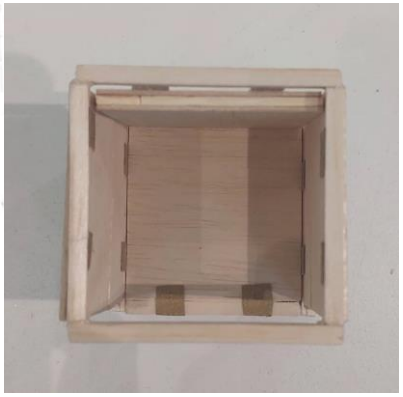
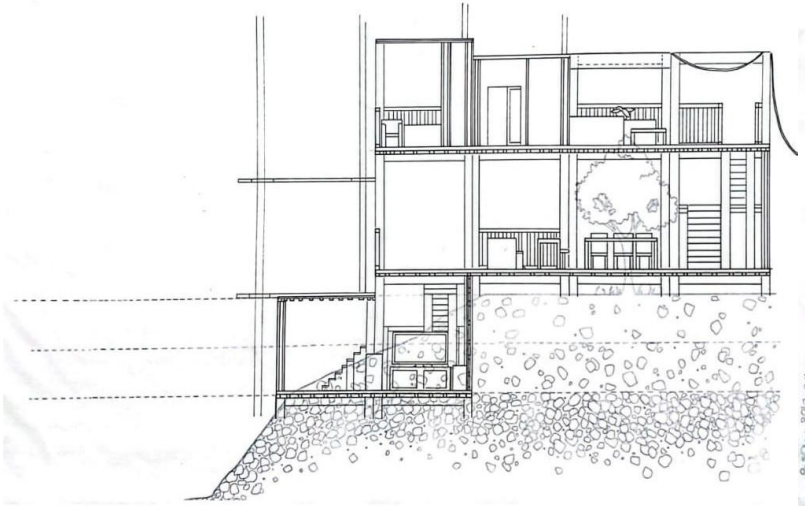
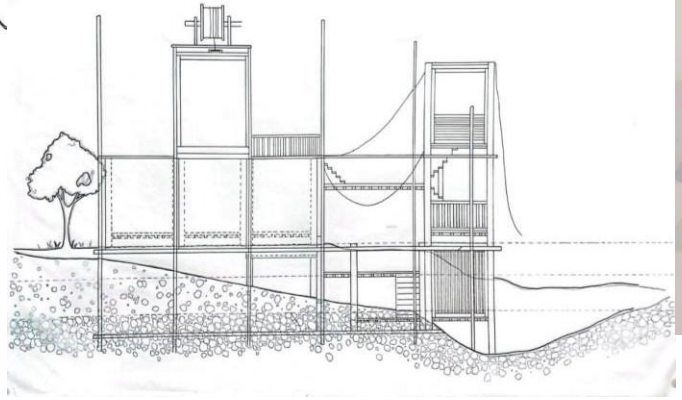










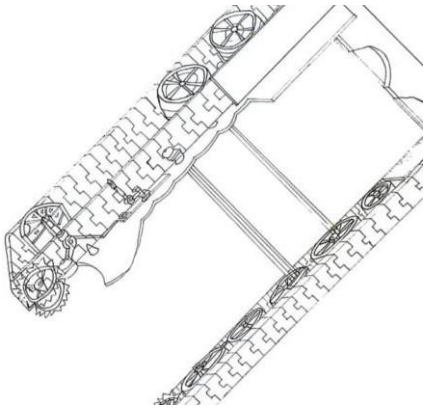


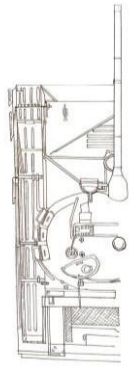
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – CHEW JIA XIN

My design concept is inspired by the mechanical principles of a tank, creating a mobile living space. This space serves as a basic residence for human habitation, and it can be moved by human-powered mechanisms. The design includes a push-rod system that can rotate 360 degrees, driving the main wheel and tracks, which in turn propel the other wheels, allowing the structure to move.

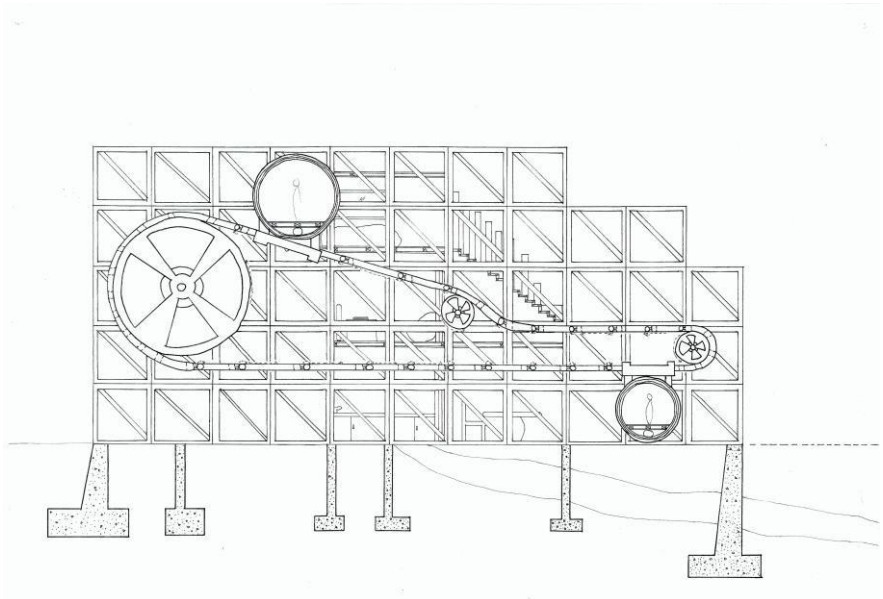
This mobile space not only meets the fundamental needs of human living but also incorporates a bio-mechanical system that offers a novel mode of mobility, integrating human-powered elements to reduce energy consumption and promote sustainability. The push-rod mechanism represents the fusion of mechanics and architecture, where inhabitants are not merely users of the space but active participants in its movement, breaking away from traditional static architecture and achieving a truly dynamic, mobile structure.

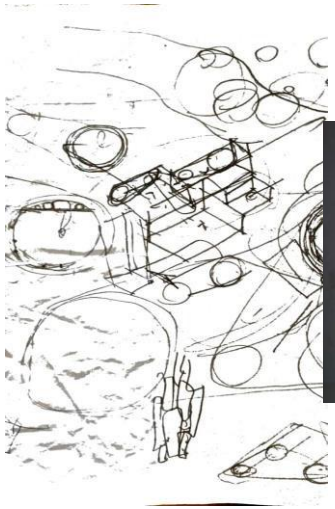




ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – CHEW JIA XIN



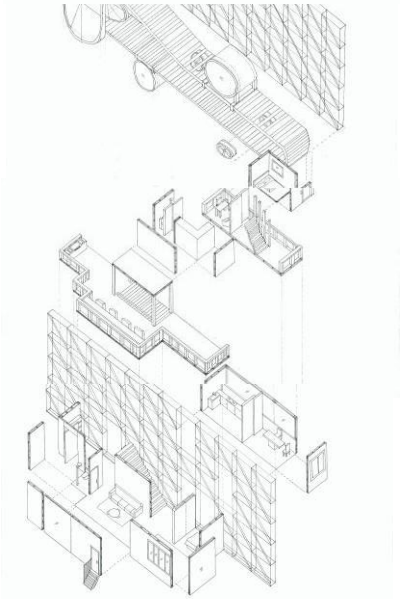


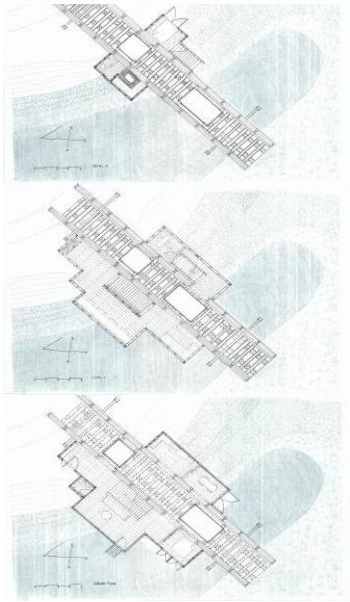
This innovative cylindrical movable space is designed to attach to a track system, enabling it to move effortlessly to any desired position. The mechanism allows the space to adapt by expanding or contracting, providing flexibility in usage. It can transform into a larger area or function as a standalone structure, such as a bedroom or a private living space. This adaptable design offers versatility, making it ideal for dynamic environments where mobility and spatial efficiency are key. The system provides seamless relocation and reconfiguration, catering to various needs and settings.

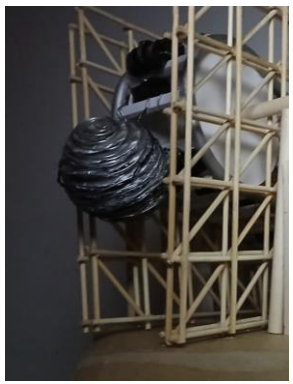
The track, along with a spherical structure, is attached to the left side of the building, gradually moving vertically to enable deeper exploration of underwater landscapes. This mechanism allows the structure to descend into the ocean, providing unique opportunities to observe marine life and enjoy scenic underwater views. Additionally, the system enhances the building's spatial flexibility, as the structure can also move to the basement area, effectively expanding the building's usable space. This design not only increases functionality but also offers convenient access to different levels, whether above ground or below the surface.

The staircase from the ground floor to the basement is thoughtfully designed to follow the natural slope of the site, gradually descending into the lower levels. As the stairs lead down, they provide access to a unique ocean-level floor, where the space opens up into an underwater entertainment room. This design allows users to seamlessly transition from the surface to a submerged environment, creating a dynamic connection between the building and the surrounding ocean. The staircase not only serves as a functional pathway but also enhances the overall experience by offering a journey into an extraordinary underwater space.

The track mechanism is driven by two gears, which enable smooth horizontal movement along the surface, allowing the structure to reposition as needed. Additionally, the track has the capability to incline upwards, providing an elevated perspective. This upward movement is designed to enhance the experience of the site, especially in coastal areas, where the structure offers unobstructed views of the ocean and the surrounding natural landscape. By elevating the space, users can enjoy panoramic scenery and fully engage with the natural environment, creating a seamless connection between architecture and nature. This feature not only improves functionality but also enhances the sensory experience of the location, allowing for an immersive interaction with the outdoors while ensuring flexibility and adaptability in the space's positioning.







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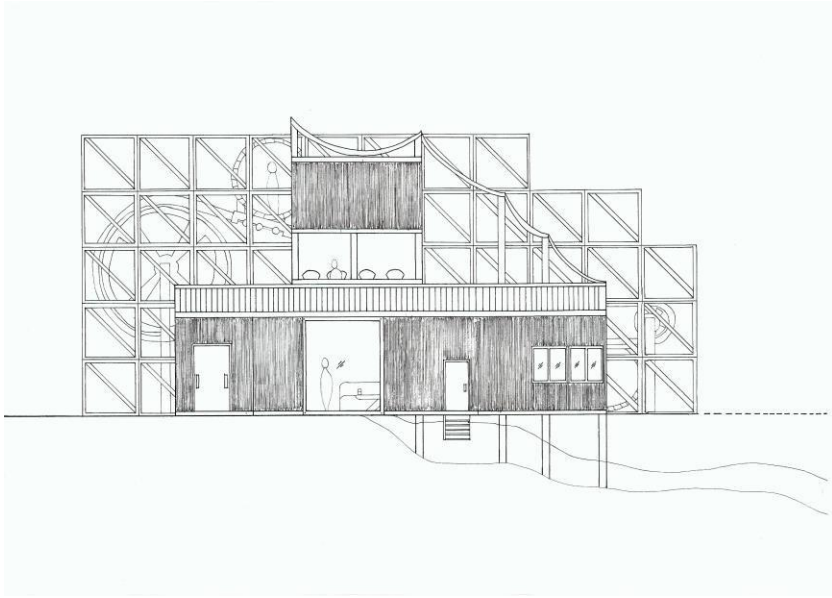
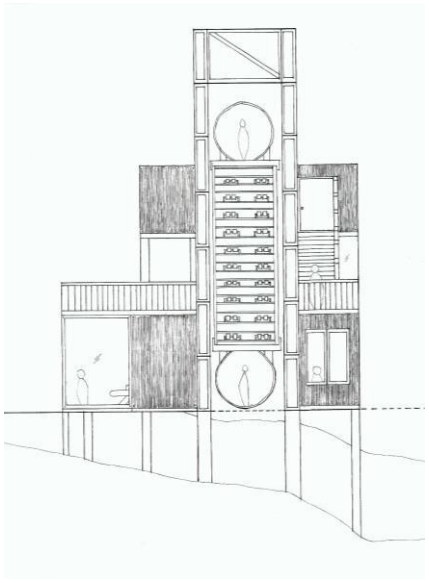
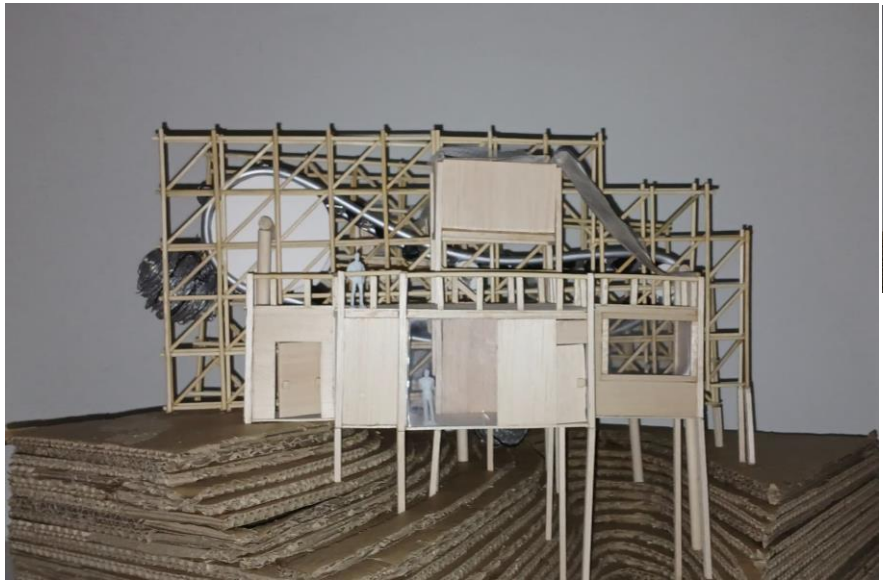
A MORPHOGRAMMATIC PROTOTYPE – CHEW JIA XIN





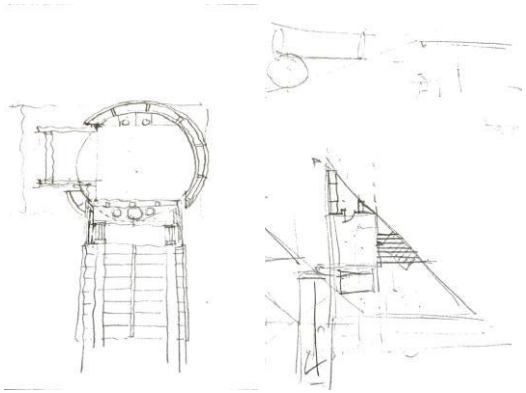


In my design, I drew from tank mechanics to explore both horizontal and vertical movement, creating a unique three-story structure split through the center. A mobile space, integrated in the middle, can access different floors and expand each room's capacity. This mobile unit rotates 360 degrees along a track with a gyroscope for stability.

Two massive structural walls flank the mechanism, serving as visual focal points and counterbalancing forces for safety and aesthetics. This design reimagines mobility within architecture, blending dynamic movement with structural integrity.

The building's first floor combines private and public spaces, with a large living room and guest bedroom on the left, and a kitchen and dining area on the right. The second floor features a rooftop bar on the left and a studio with balcony on the right. A staircase leads to the third floor with the main bedroom, walk-in closet, and bathroom, forming a cohesive living arrangement across all levels.

This design seamlessly merges mechanism with architecture, creating a bold and innovative structure.



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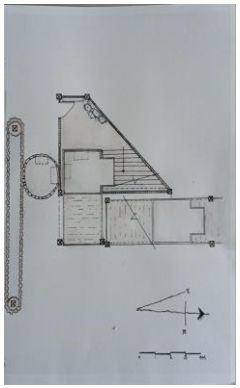
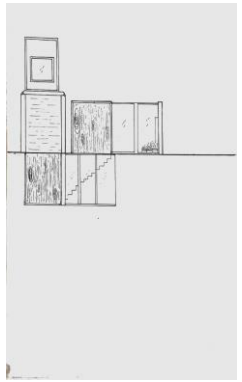
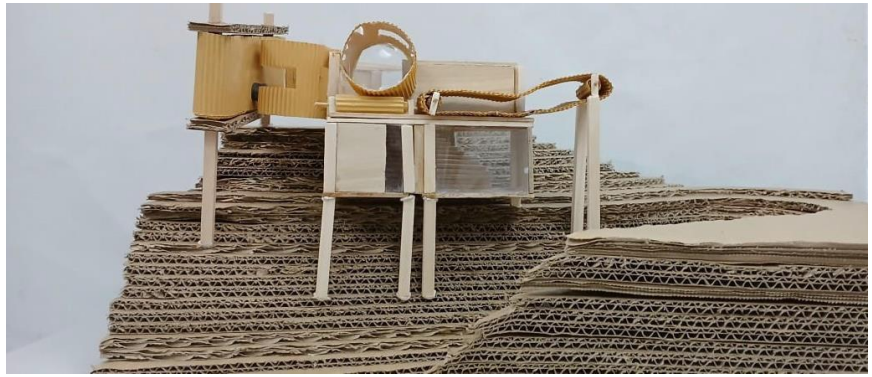
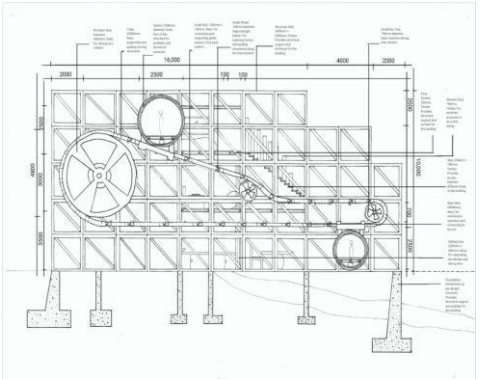
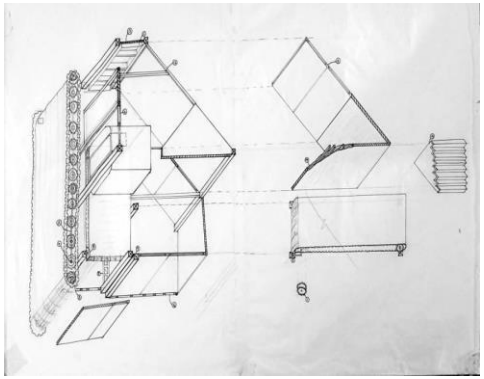
A MORPHOGRAMMATIC PROTOTYPE – CHEW JIA XIN







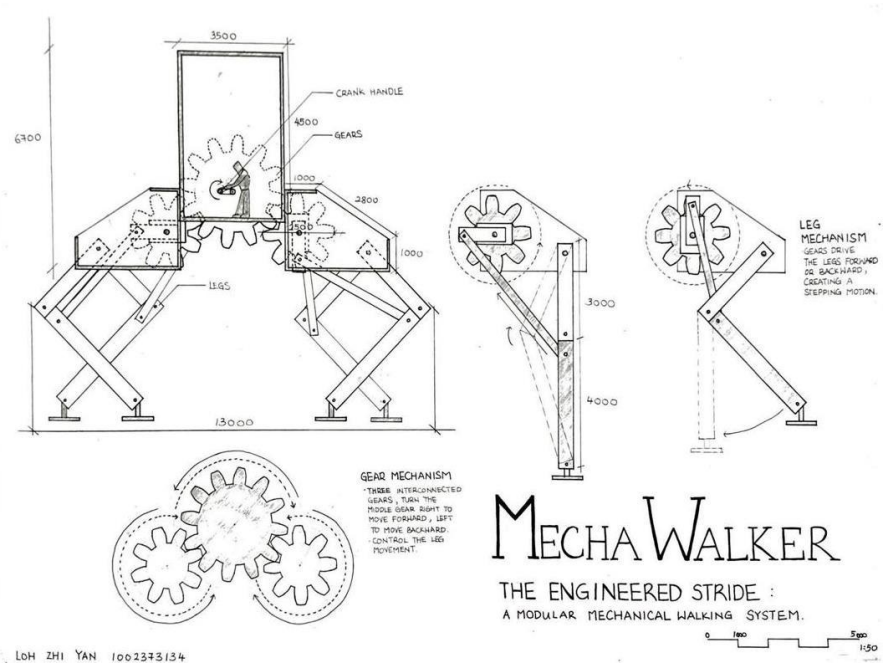


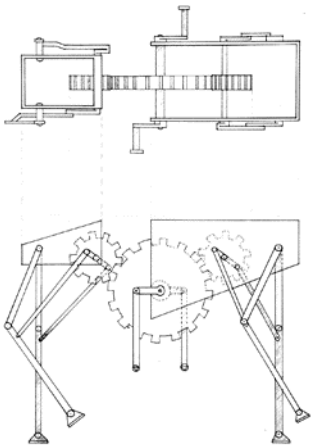


Archigram: "Architecture should not be a monument; it should be a living organism, responsive to the desires and needs of its inhabitants. By allowing for movement and change, we can create environments that reflect the vibrancy and unpredictability of everyday life."

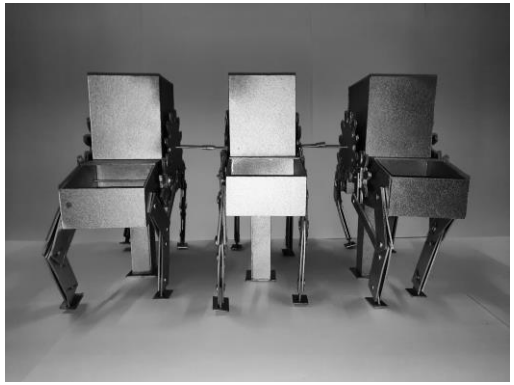
ARCHITECTURE OF IMPERMANENCE

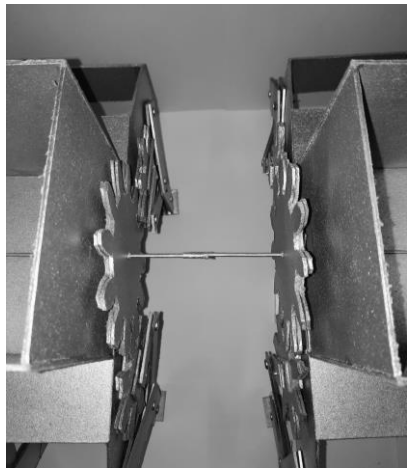
A MORPHOGRAMMATIC PROTOTYPE – LOH ZHI YAN

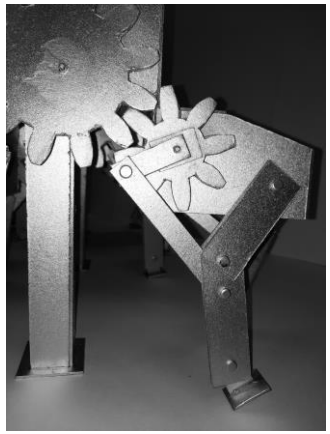




At the core of my design lies an emphasis on axis, grid, and movement, blending technology with nature. My MechaWalker project, inspired by horse-leg mechanics, bridges human innovation and environmental interaction. Its gears and articulated legs enable smooth movement, creating a system that respects both form and function. With a modular design and sustainable focus, the project reflects innovation, ethics, and sustainability, challenging norms to redefine mobility and space for a connected, eco-conscious future.

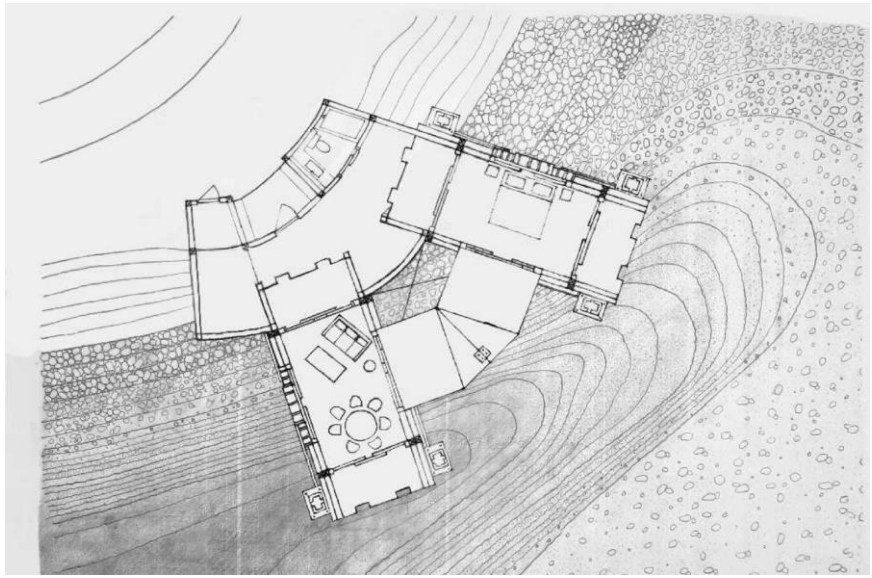






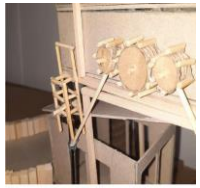
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – LOH ZHI YAN



Movable Attachment and Height Expansion Mechanism

The image focuses on the movable attachment mechanism, which allows buildings to connect and expand vertically. It illustrates how the supporting legs and gears enable different modules to join together, increasing the height and number of stories. This mechanism facilitates the flexibility to scale the building by adding or removing additional sections as needed. The modular design allows for dynamic growth while ensuring the building maintains its walking capability and structural integrity.



Gear Rotation and Leg Movement

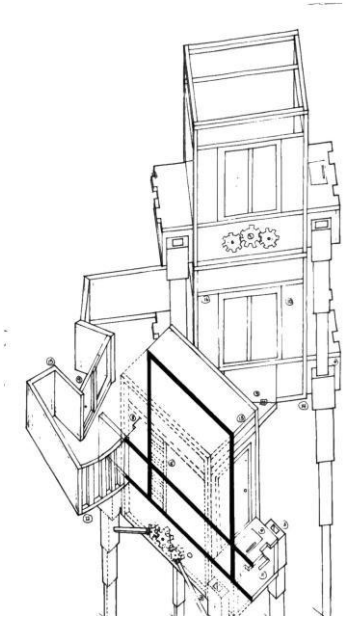
The image focuses on the gears that play a crucial role in the mechanism. These gears are designed to rotate, driving the movement of the legs. This rotation mechanism enables the legs to transition smoothly, facilitating the building's movement or reorientation on the site. The precise control offered by the gear system ensures that the structure can navigate or adjust its position as required.

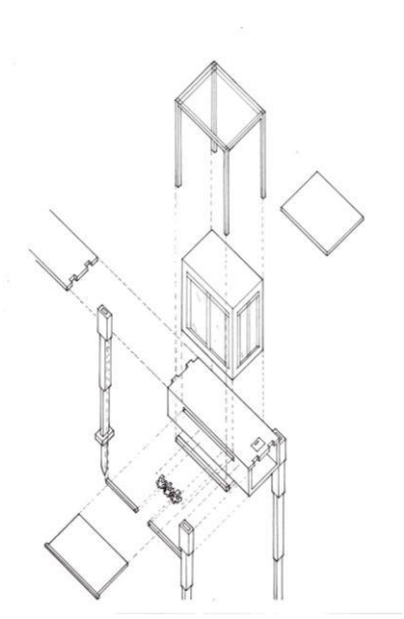
Leg Mechanism and Height Adjustment

The image highlights the leg components of the mechanism, which are equipped with an adjustable antenna system. These legs can modify their height to accommodate the varying contours of the terrain, ensuring that the structure remains stable on uneven ground. The adjustable nature of these legs allows the building to adapt dynamically to different site conditions.

Movable Space Connection

The image shows a movable space that connects seamlessly with a permanent space. This mechanism likely allows the movable section to slide or align with the fixed structure, creating a dynamic interface between the two. This setup allows the space to adapt or reconfigure itself to fit with its surroundings.





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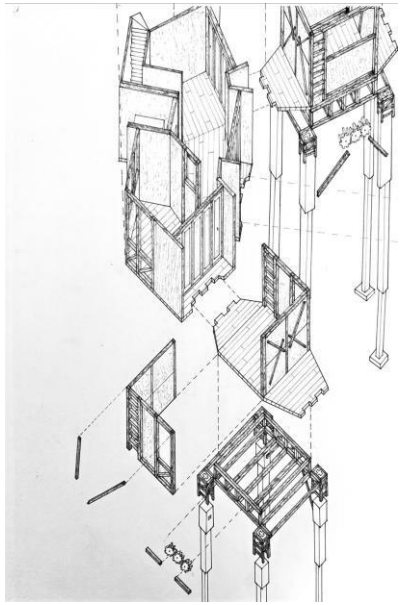
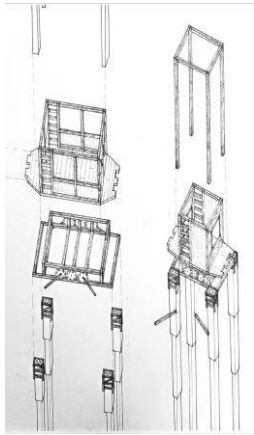
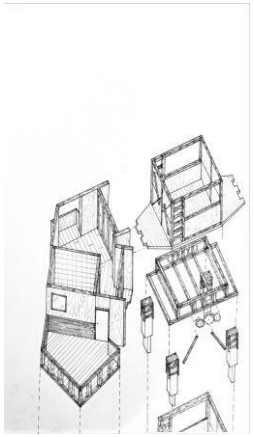


The MechaWalker Habitat reimagines mobile architecture with a modular, two-story design inspired by the articulated motion of a horse's leg, equipped with adjustable legs capable of traversing diverse contours and challenging terrain. This innovative structure features attachable and detachable components, allowing flexible reconfiguration or relocation to adapt seamlessly to new environments. At its core, the habitat incorporates an extendable fabric roof that unfurls into a protective canopy. It provides shelter while maintaining an open connection to the surroundings, creating a harmonious blend of indoor and outdoor living. The ladder-accessed upper level not only elevates inhabitants above ground, offering sweeping views but also engages them with the inner workings of the habitat's mechanical system, allowing for an immersive and interactive experience with the engineering principles driving its movement. As a transformative living sanctuary, the MechaWalker Habitat embodies a commitment to sustainability and adaptability, merging innovative design with an intimate relationship to the land—an ideal refuge for those seeking a sustainable, mobile, and nature-connected lifestyle.





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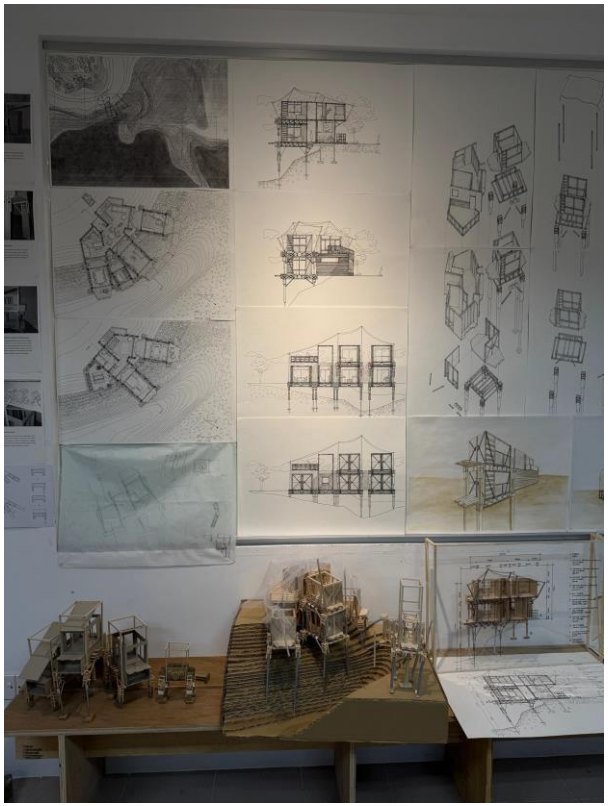
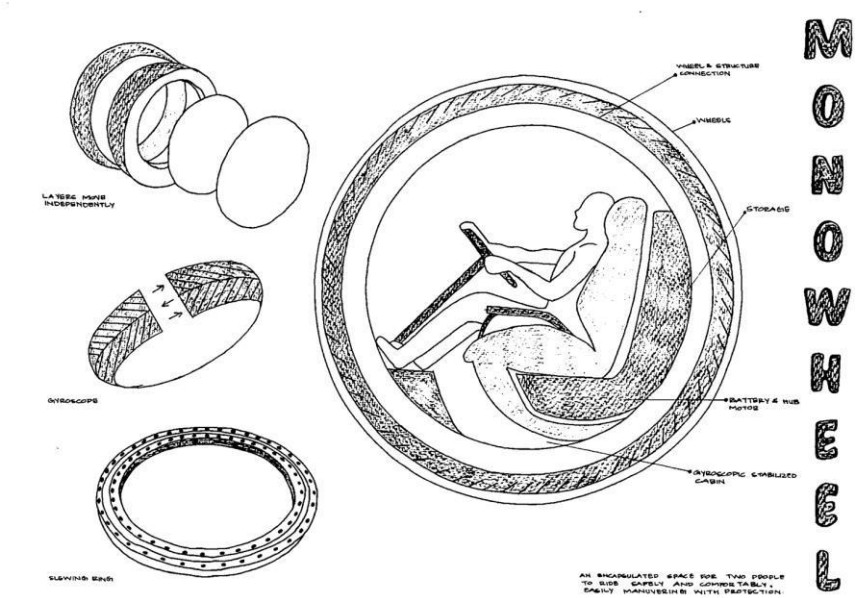
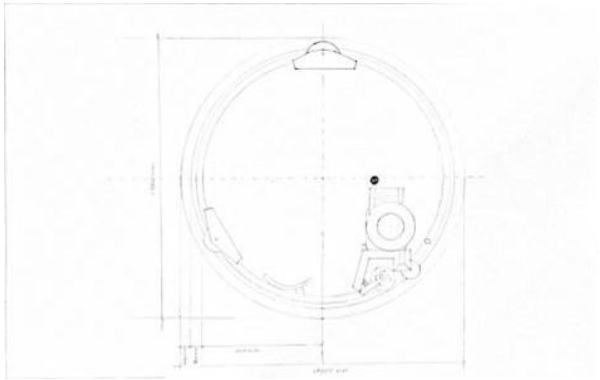


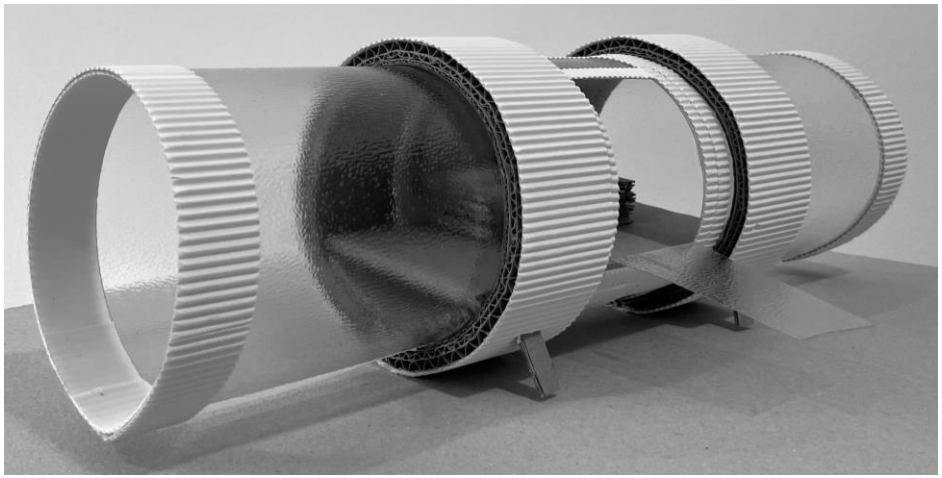
ARCHITECTURE OF IMPERMANENCE

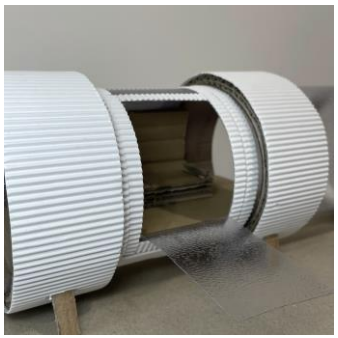
A MORPHOGRAMMATIC PROTOTYPE – MARYAM RISHMA



The monowheel design fits with the ideas of nomadism, impermanence, and mobility. This is to show a flexible architectural response to ever-changing social and environmental needs. Made as a mobile and adaptable structure, the monowheel represents fluidity and versatility. It has extendable cylinders that changes its small shape into a large resting area whenever its stopped. The flexibility of the feature shows the concept of mobile architecture by Yona Friedman, emphasizing user participation and changeability in time. A transparent middle part will improve the link between people inside and their environment, turning the mono-wheel not only into transport but also into a changing, interactive space of habitation. Like the nomadic architecture of Deleuze and Guattari, the monowheel's design resists traditional static forms, offering a decentralized, resilient solution for modern living. Through this, the monowheel redefines how we conceive space, emphasizing mobility and adaptability as core tenets of contemporary architecture.







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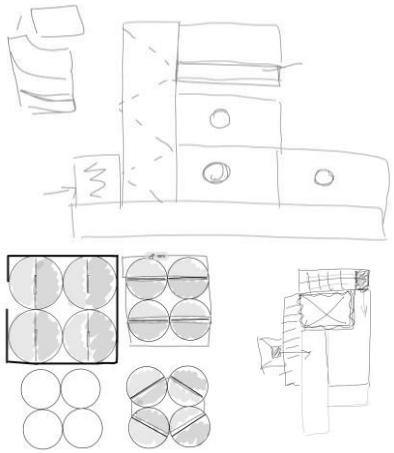
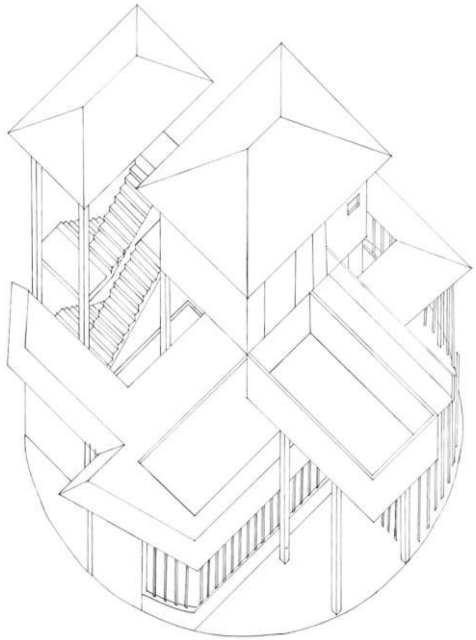


The room features a rotating floor, allowing flexible spatial orientation to suit various needs. This dynamic design enhances the adaptability of the space, making it possible to change views or align with adjacent rooms. The large window further amplifies this flexibility by providing abundant natural light and framing expansive views, fostering a seamless connection with the outdoors while maintaining privacy when needed.

The facade, inspired by cracked hard soil, features textured, irregular surfaces that evoke natural patterns. This design adds visual depth, symbolizing resilience and complementing the building's adaptive, flexible nature.

The open balcony extends the interior space, aligning with the retractable wall system for flexible spatial arrangements. Its minimal railing design offers unobstructed views, supporting various activities and enhancing the building's connection to the outdoors.

The circular roof covering the open area is designed to provide partial shelter while maintaining the sense of openness. Its curvature complements the building's overall geometry, blending seamlessly with the space below. The roof's design allows for natural light and ventilation, creating a balanced environment that offers protection without fully enclosing the area.



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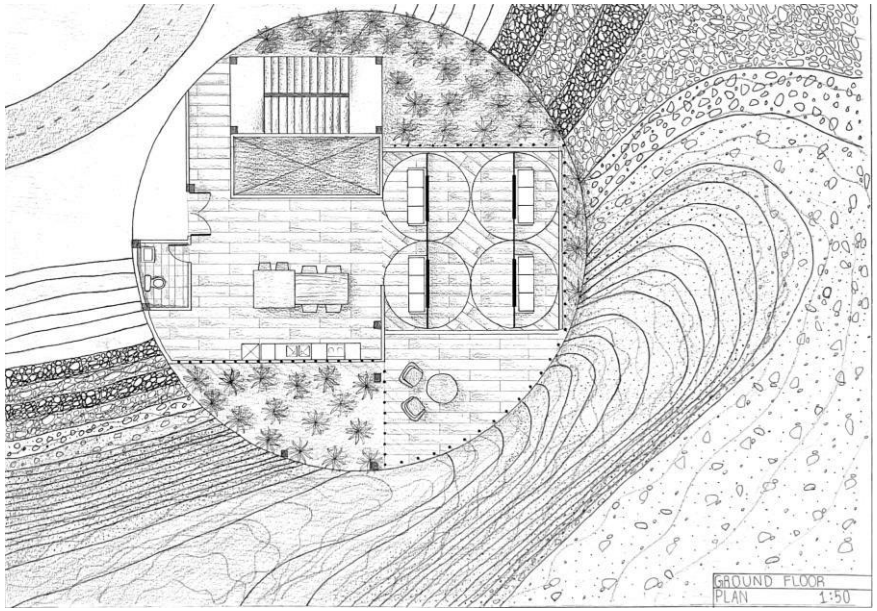
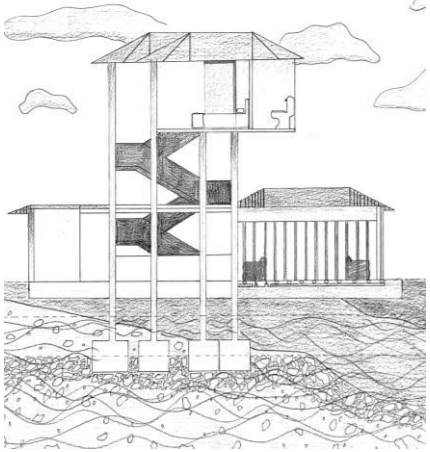




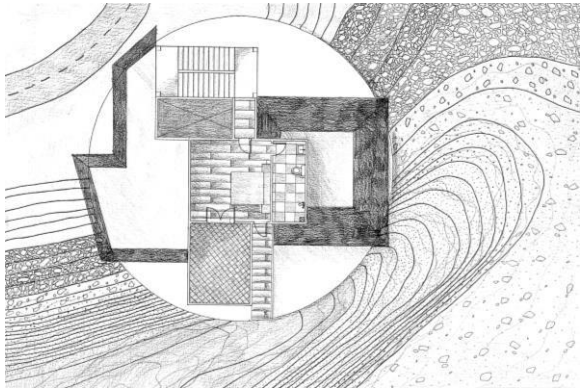
For Project 3, I created a versatile, impermanent house prototype designed to serve as a sustainable and adaptable living space. This project marks the third and final milestone in a series exploring impermanence and mobility.

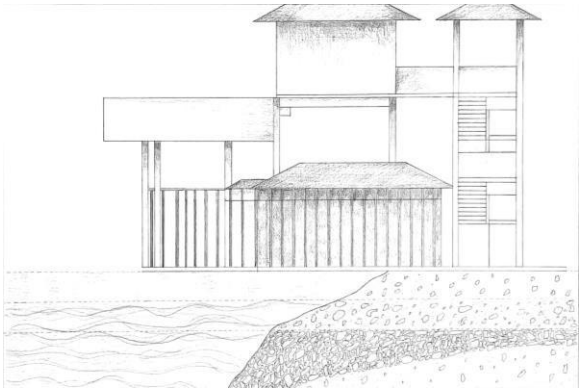
Informed by "morphogrammatics," a concept I applied to understand and shape spaces based on recurring structural patterns, this design focuses on creating modularity and flexibility. This project examines these elements, seeking to establish a "spatial grammar" where structural forms and configurations work together to support both physical and experiential aspects of living.

The structure includes five primary spaces, each capable of multiple functions, achieved through rotating floors and retractable walls that create dynamic spatial connections. Inspired by the rotating mechanisms from previous projects, these movable features enable residents to shift the orientation of specific rooms, offering adaptability in privacy and openness. This design not only meets the need for mobility and transformation in modern architecture but also aligns with sustainable, minimalist living, providing a flexible and functional environment that adjusts to the user's lifestyle.

ARCHITECTURE OF IMPERMANENCE

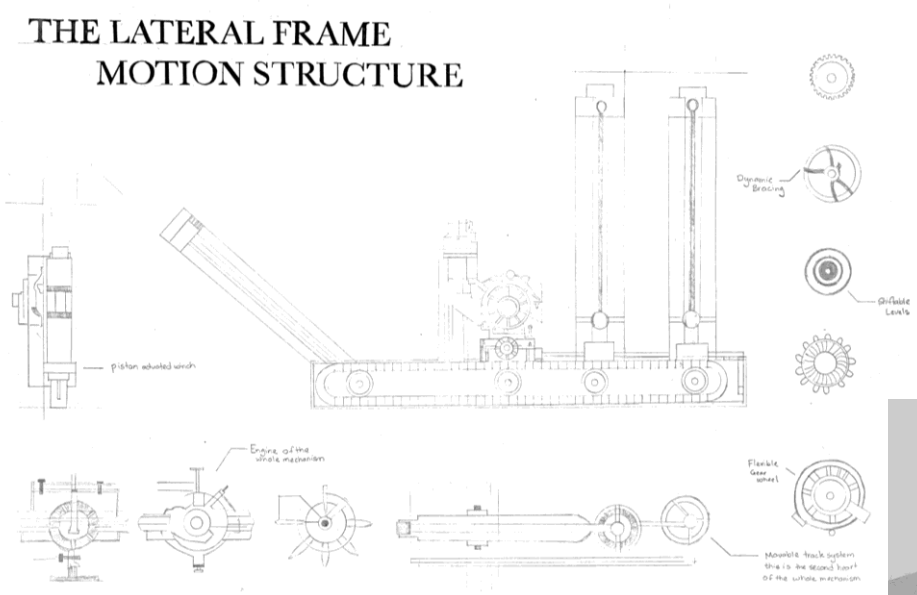
A MORPHOGRAMMATIC PROTOTYPE – MARYAM RISHMA

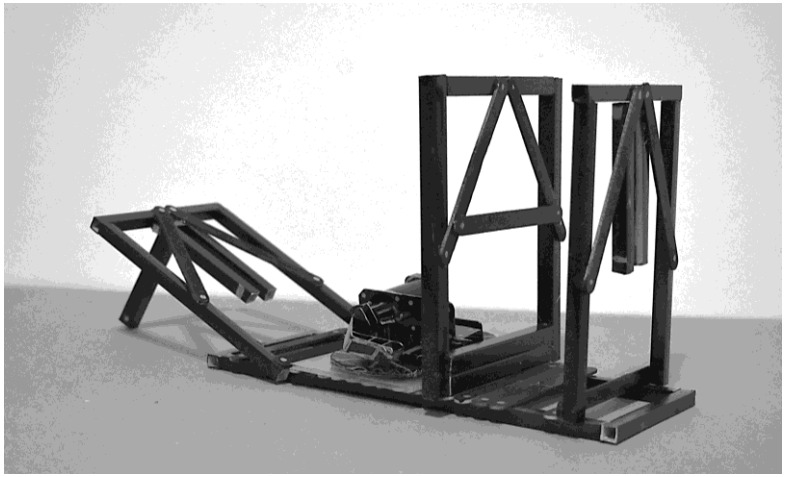


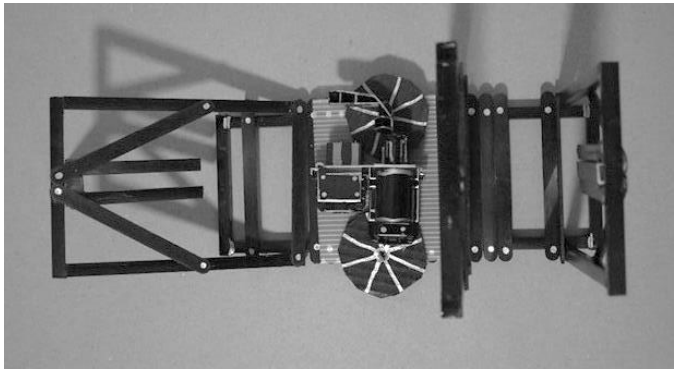


ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE - MOHAMED ZAYYAN SHAREEF



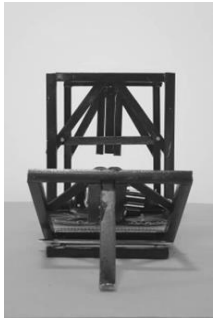


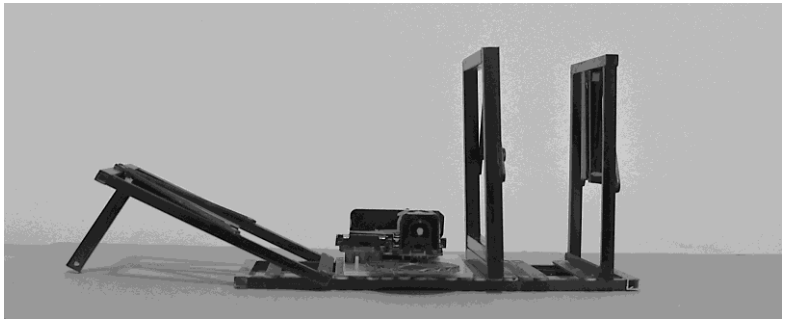


My design draws inspiration from the structure and from the movement of a trailer. What gives inner strength to the design is the big steel-framed mechanism allowing the lateral and rotational pivoting, therefore the flexibility is intensified. By adding wheels onto the base structure, it turned from having a stationary platform base into a mobile and versatile body that offers different perspectives.

The mechanism has been done on a mobile basis wherein the individual steel pipes held by riveted bolts connect and shift along the major base, thereby creating diverse spatial arrangements. One of the frames can move down to 180 degrees, providing vertical adaptability. The motion is provided through a piston engine, thus enabling the usage mechanism within the design.

Structural and Material Properties: Strength and resistance have been achieved through the use of steel and stability through rivets and gears. This design does not only appreciate mobility but also encourages new approaches to impermeable architecture.





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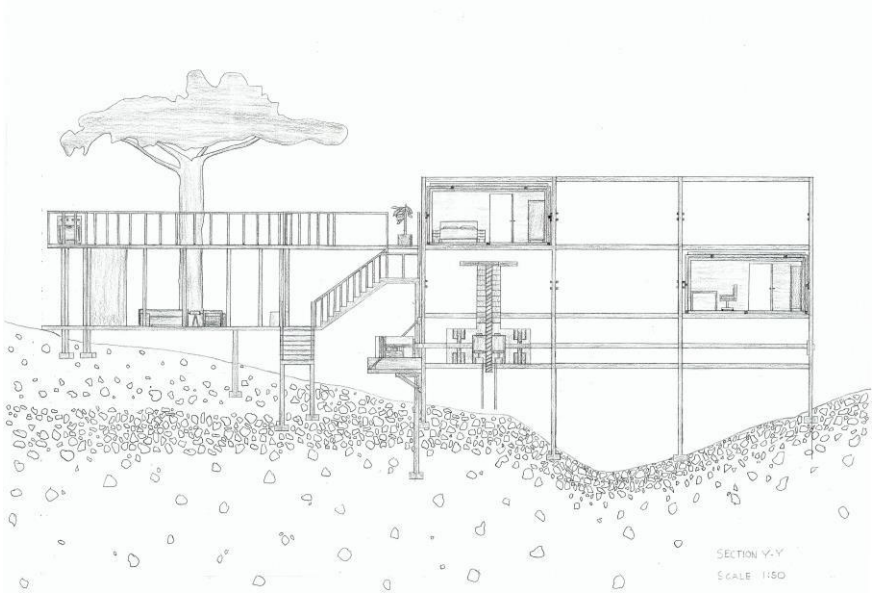
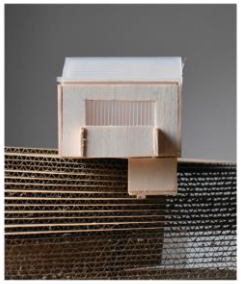


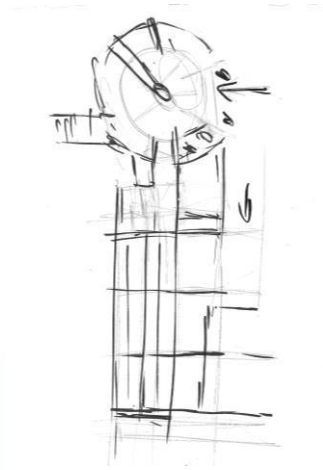


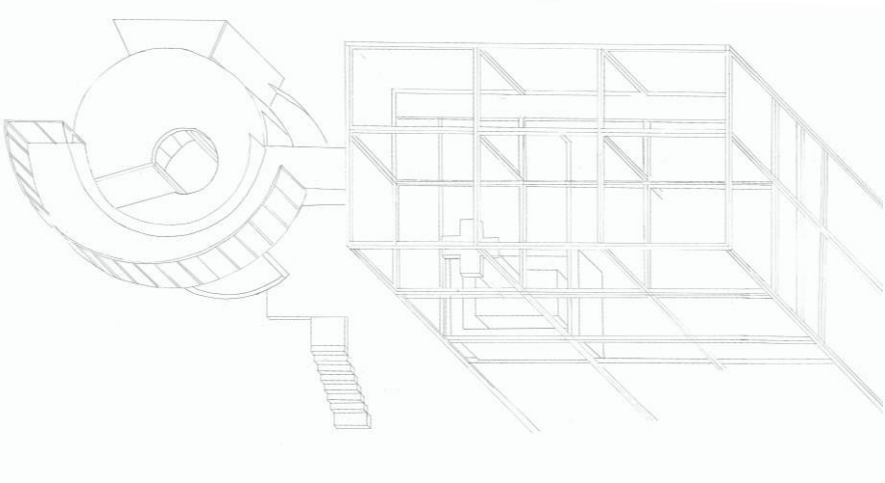
Incorporation of mechanisms within the design, allowing for movement or adjustments in the structure. These mechanisms are essential for creating a dynamic, flexible space that can be easily altered. Whether for expanding areas, opening walls, or moving parts of the structure, these mechanisms are key to realizing the project's goal of impermanent, adaptable architecture.

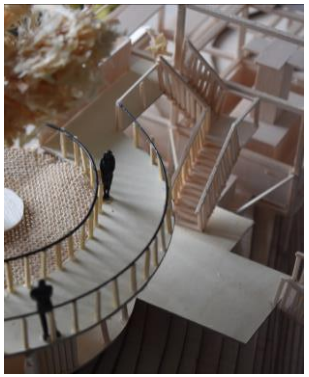
Shows an opening from a smaller space to a larger one. This transition illustrates the flow and adaptability within the structure. The design allows spaces to expand or contract, depending on their use, which reflects the concept of mobility and flexible architecture. It's designed to meet different needs without being restricted to fixed dimensions.

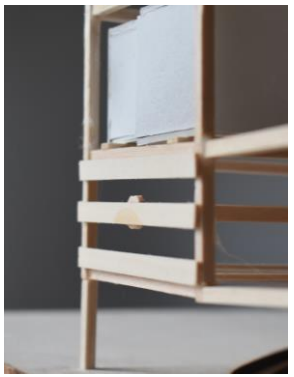
Transparent roof folding roof, the connection between indoor and outdoor environments. This open roof design brings in natural light and ventilation, creating a sense of openness and impermanence. The ability to open or close the roof adds to the adaptability of the space, making it responsive to environmental changes and user preferences.

Shows multiple columns, represents the structural framework that supports the overall design. These columns are key to creating a flexible space, allowing for open layouts and easy adjustments. The use of columns reflects the idea of impermanence, as they provide support while still allowing the space to be reconfigured as needed.









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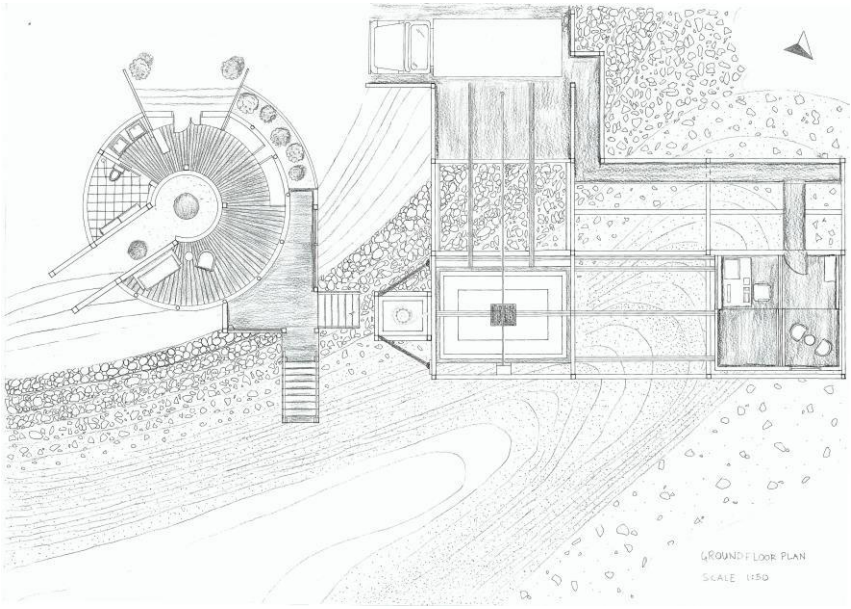
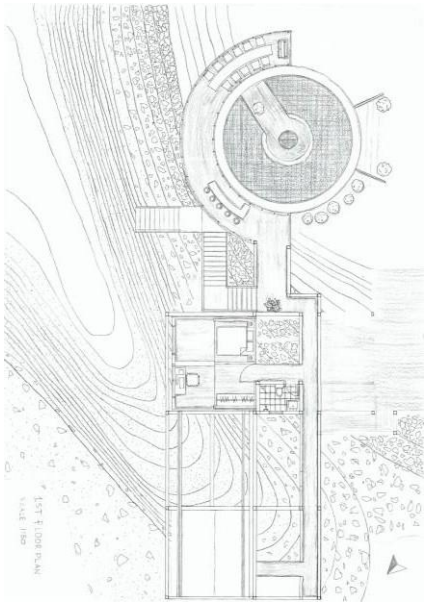
A MORPHOGRAMMATIC PROTOTYPE - MOHAMED ZAYYAN SHAREEF





Environmental Sensitivity and Community Impact: Although the design was influenced by a practical trailer, it transforms the transportable idea into a sophisticated architectural experience that seamlessly merges interior and outdoor spaces. Because of its mobility, the structure may blend in with a variety of settings, the existing tree was incorporated into the design. During sunrise, the building will be illuminated from the eastside from Morning to Afternoon the extended space will allow sunlight to enter the ground floor space.

Philosophical and Functional Intent: This proposal aims to create a flexible and sustainable architectural paradigm that will accommodate contemporary lives that value simplicity and adaptation. It promotes a flexible, space-efficient lifestyle that reduces environmental impact by using long-lasting materials and designing a structure that can be moved rather than rebuilt, all while drawing inspiration from the idea of mobile living. This idea supports areas that adjust to their environment rather than imposing themselves on them, which is consistent with more general sustainable design ideas, the extending

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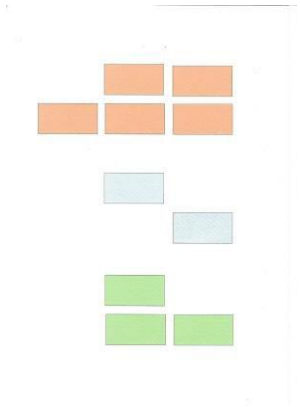
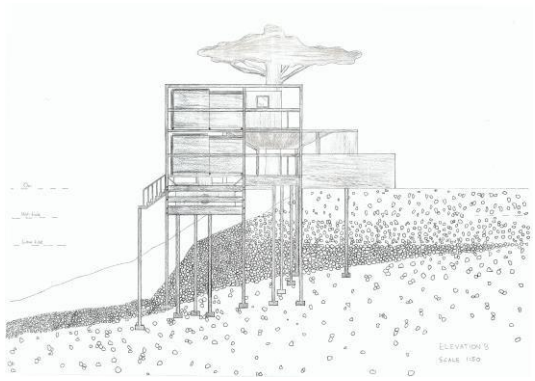
A MORPHOGRAMMATIC PROTOTYPE - MOHAMED ZAYYAN SHAREEF





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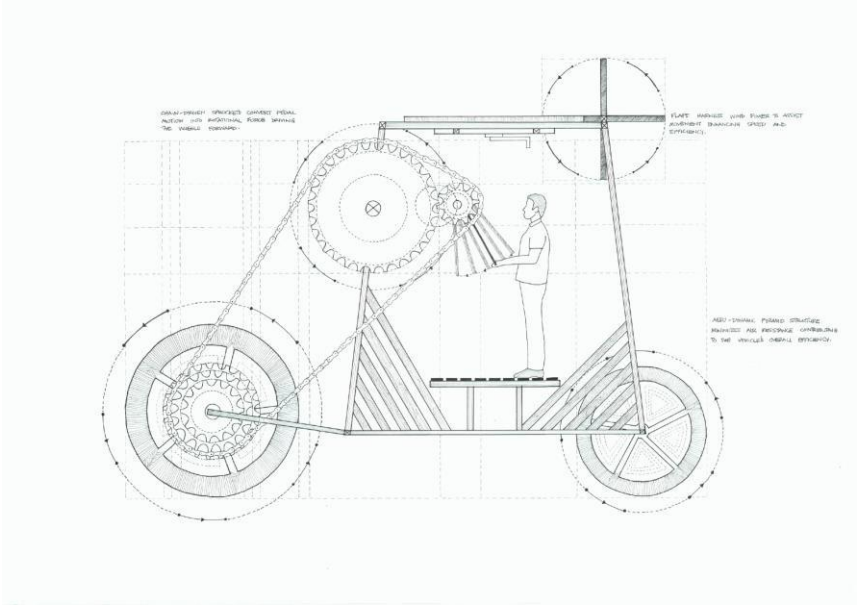
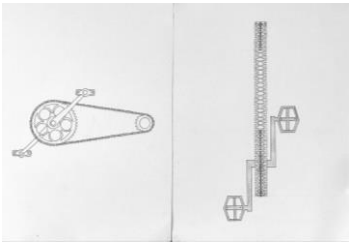
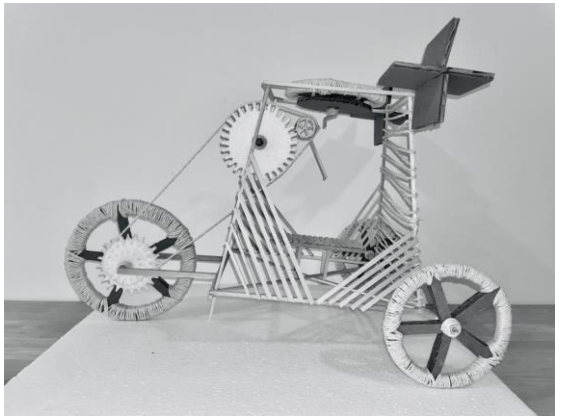
A MORPHOGRAMMATIC PROTOTYPE – MURTAZA TAPYA

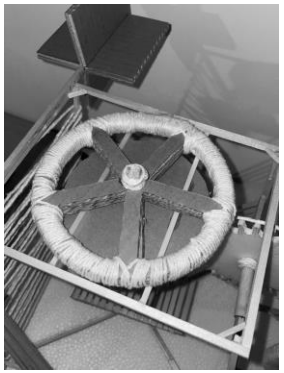


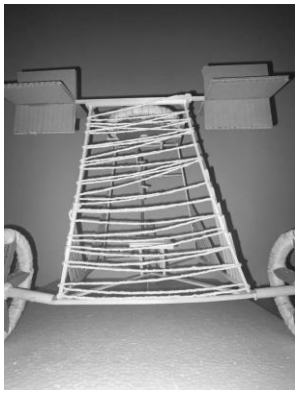


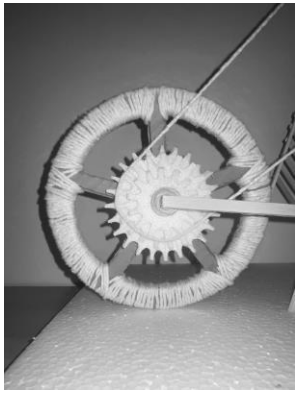
The design philosophy for Project 1 centers on *adaptive mobility* and *human-powered movement*. Using a hand-pedaled tricycle mechanism, the design encourages an interactive experience where the user directly engages with the apparatus to produce motion, promoting a sustainable approach that minimizes reliance on external power sources. The minimal, functional structure embodies resilience and simplicity, with each component serving a clear purpose.

Wind-powered flaps further reflect this philosophy, utilizing natural forces to amplify speed and showcasing *conditional liminality*, allowing the tricycle to adapt between powered and unpowered movement. This approach embodies *nomadic freedom* and the synergy between human effort and environmental interaction, establishing a design rooted in sustainable, versatile mobility that can adapt to future innovations.









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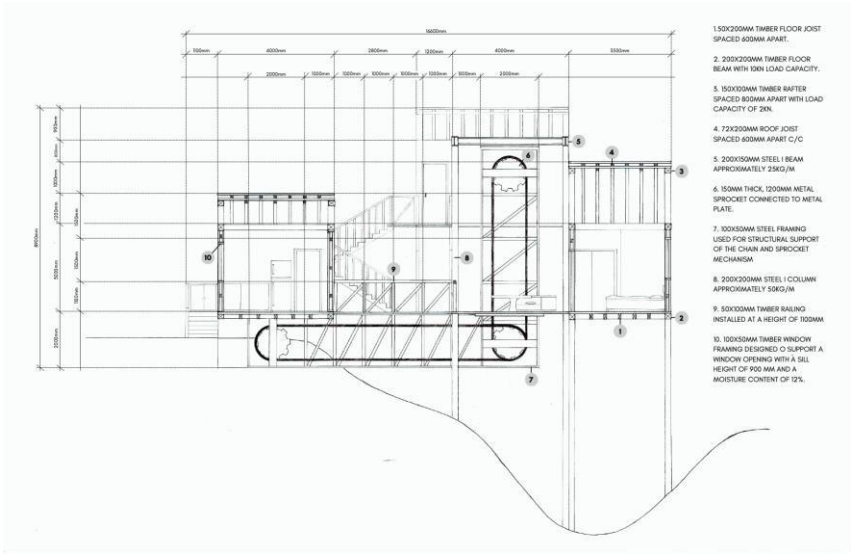
A MORPHOGRAMMATIC PROTOTYPE – MURTAZA TAPYA



1.50X200MM TIMBER FLOOR JOIST SPACED 600MM APART.

2. 200X200MM TIMBER FLOOR BEAM WITH 10KN LOAD CAPACITY.

3. 150X100MM TIMBER RAFTER SPACED 800MM APART WITH LOAD CAPACITY OF 2KN.

4. 72X200MM ROOF JOIST SPACED 600MM APART C/C

5. 200X150MM STEEL I BEAM APPROXIMATELY 25KG/M

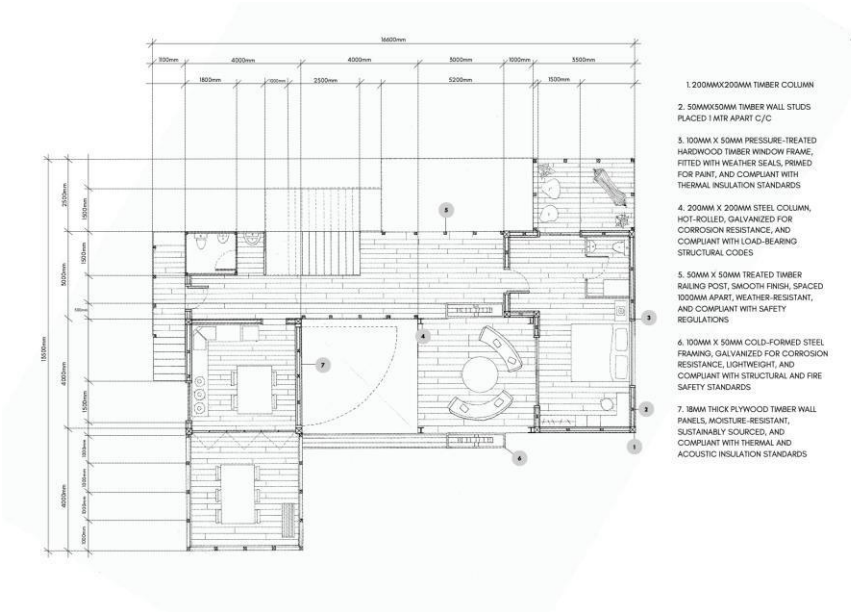
6. 150MM THICK, 1200MM METAL SPROCKET CONNECTED TO METAL PLATE.

7. 100X50MM STEEL FRAMING USED FOR STRUCTURAL SUPPORT OF THE CHAIN AND SPROCKET MECHANISM

8. 200X200MM STEEL I COLUMN APPROXIMATELY 50KG/M

9. 50X100MM TIMBER RAILING INSTALLED AT A HEIGHT OF 1100MM

10. 100X50MM TIMBER WINDOW FRAMING DESIGNED O SUPPORT A WINDOW OPENING WITH A SILL HEIGHT OF 900 MM AND A MOISTURE CONTENT OF 12%.



1. 200MMX200MM TIMBER COLUMN

2. 50MMX50MM TIMBER WALL STUDS PLACED 1 MTR APART C/C

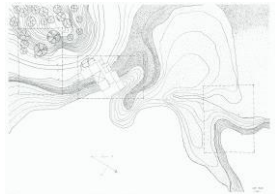
3. 100MM X 50MM PRESSURE-TREATED HARDWOOD TIMBER WINDOW FRAME, FITTED WITH WEATHER SEALS, PRIMED FOR PAINT, AND COMPLIANT WITH THERMAL INSULATION STANDARDS

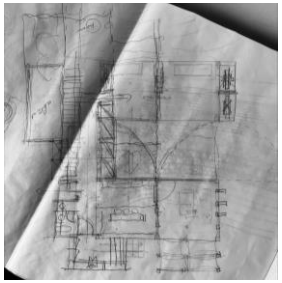
4. 200MM X 200MM STEEL COLUMN, HOT-ROLLED, GALVANIZED FOR CORROSION RESISTANCE, AND COMPLIANT WITH LOAD-BEARING STRUCTURAL CODES

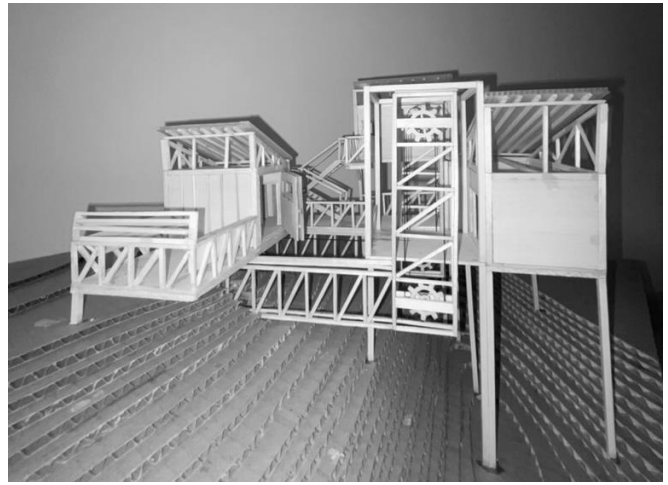
5. 50MM X 50MM TREATED TIMBER RAILING POST, SMOOTH FINISH, SPACED 1000MM APART, WEATHER-RESISTANT, AND COMPLIANT WITH SAFETY REGULATIONS

6. 100MM X 50MM COLD-FORMED STEEL FRAMING, GALVANIZED FOR CORROSION RESISTANCE, LIGHTWEIGHT, AND COMPLIANT WITH STRUCTURAL AND FIRE SAFETY STANDARDS

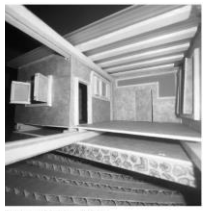
7. 18MM THICK PLYWOOD TIMBER WALL PANELS, MOISTURE-RESISTANT, SUSTAINABLY SOURCED, AND COMPLIANT WITH THERMAL AND ACOUSTIC INSULATION STANDARDS



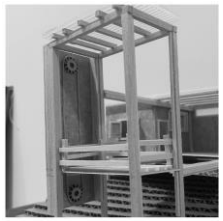




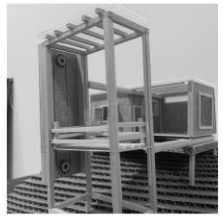
Lightweight Structure:
A key strategy from Project 2 that I am bringing forward is the use of a lightweight structural system. The lightweight design ensures ease of transport, assembly, and mobility, which are essential elements of a nomadic or mobile living space. For Project 3, I will be refining the material selection to maintain structural integrity while further reducing weight, making the structure more efficient without compromising stability.



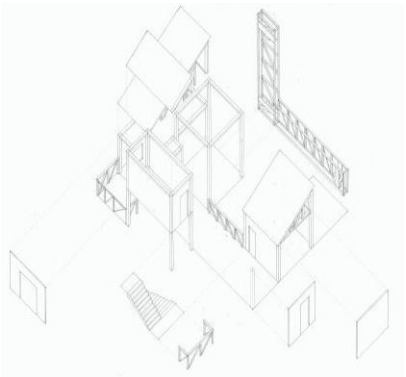
ilding and Rotating Walls:
Project 3, I am further exploring the concept of flexible patial organization by incorporating both sliding and otating walls. These walls will allow for greater daptability of the interior spaces, enabling the user to odify the size and function of different areas amlessly. This strategy builds on the rotating wall echanism used in Project 2, adding the sliding feature enhance the dynamic interaction between spaces and ffer more fluid transitions.



Chain and Sprocket Mechanism:
The chain and sprocket mechanism from Project 2 played a vital role in facilitating movement and adaptability. In Project 3, I will expand the use of this mechanism to integrate with both the sliding and rotating walls, providing a smooth and controlled movement system. This will not only enhance the user experience but also ensure that the transformation of spaces occurs with minimal effort and maximum precision.

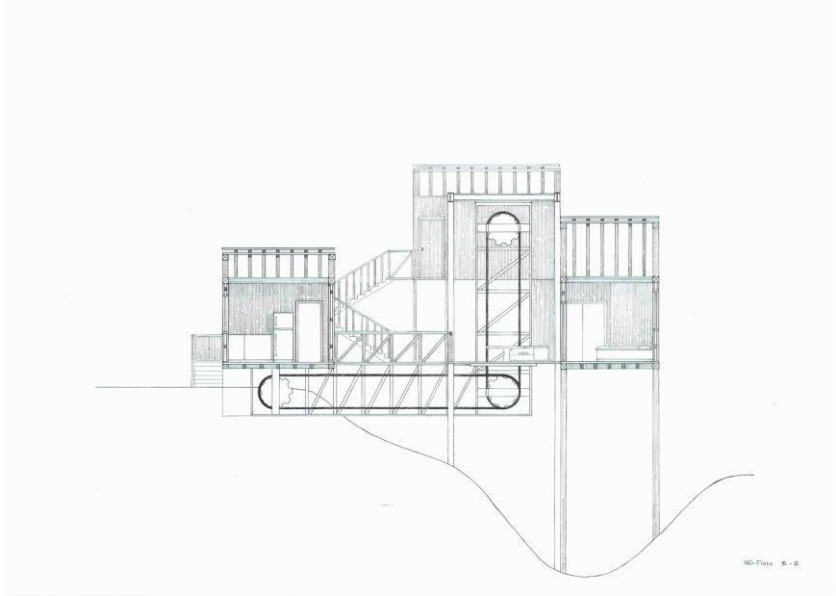


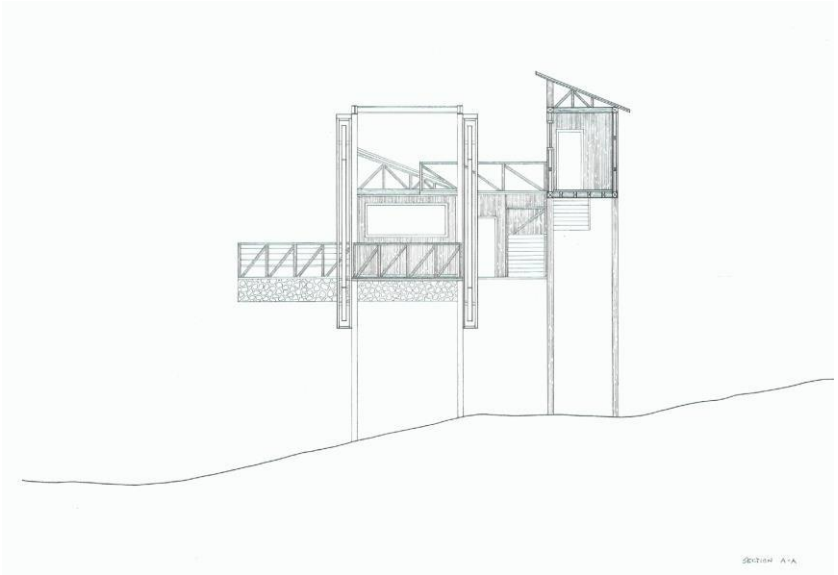
Vertical Lift Platform:
The vertical lift platform from Project 2 will continue to be a core feature in Project 3, providing an innovative solution for vertical space utilization. By refining the lift mechanism, I aim to create a more efficient and reliable platform that can be easily adjusted to change the function of spaces. This feature will work in harmony with the sliding and rotating walls to maximize the spatial potential of the design.

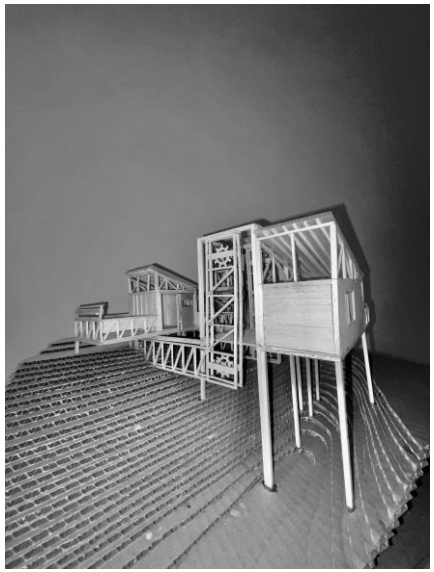


ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – MURTAZA TAPYA

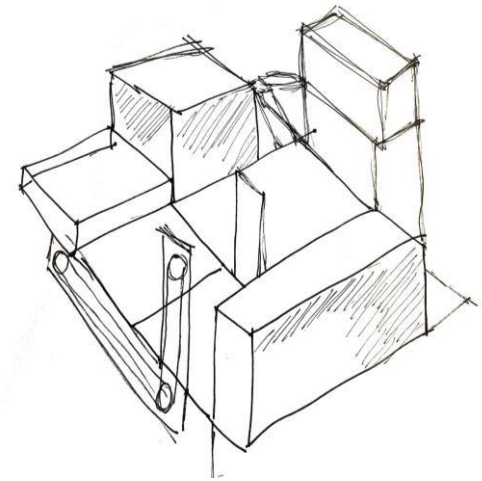






Project 3 builds upon the core concepts of *mobility* and *transformative space*, creating a dynamic, adaptable living environment suited for nomadic lifestyles. Integrating rotating walls, sliding partitions, and a vertical lift platform, this design allows users to reshape their surroundings, adjusting functionality and size to meet evolving needs. The rotating walls enable seamless shifts in room purpose, enhancing flexibility and optimizing the 150-square-meter space for both individual and group interactions.

The inclusion of a chain and sprocket mechanism, inspired by bicycle systems, and a lift platform that connects the workspace and dining area vertically and horizontally emphasizes versatility and structural ingenuity. This lightweight, sustainable structure responds to environmental and spatial constraints, allowing for intuitive adaptability within Pulau Tuba's natural setting. Through this design, Project 3 captures a vision of *transformable living*, where spatial freedom and efficient use of movement mechanisms create a compact, interactive habitat aligned with the principles of land mobility and nomadic architecture.



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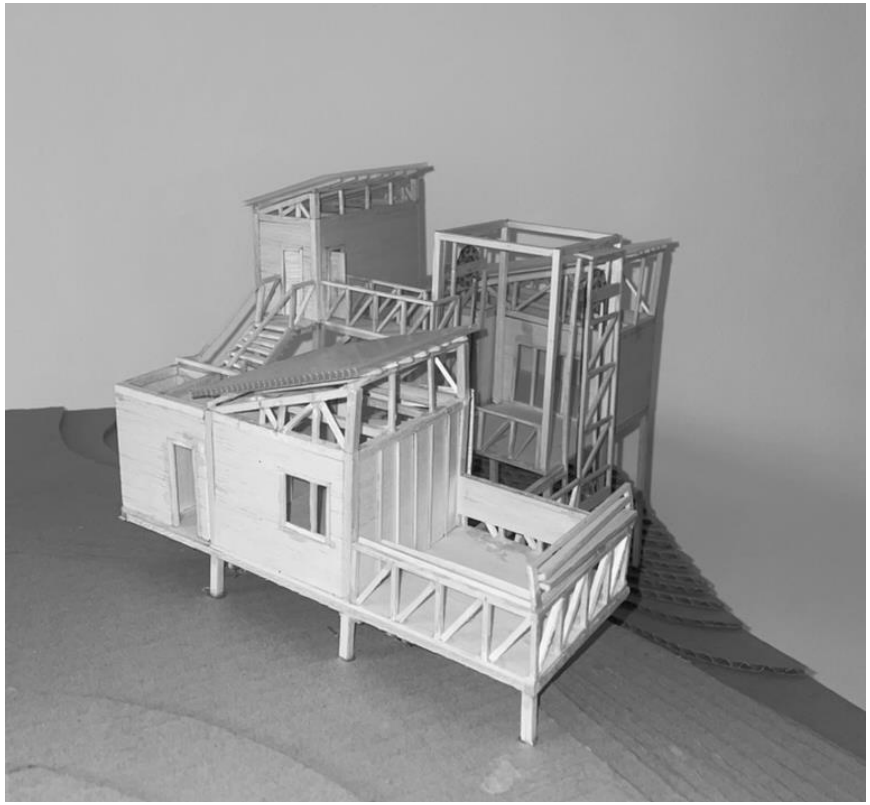
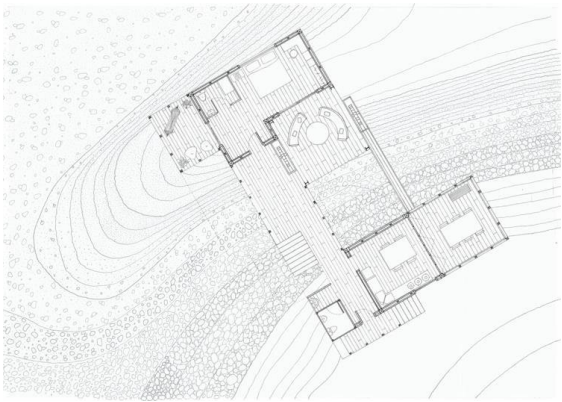
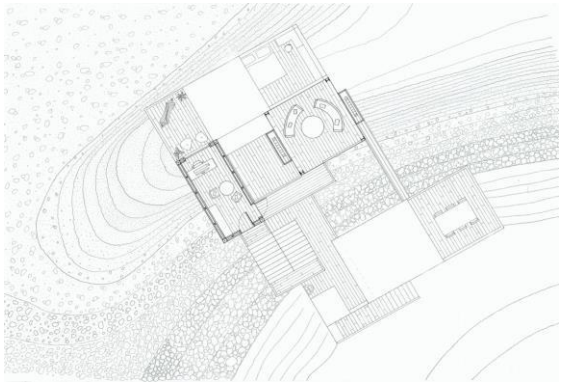
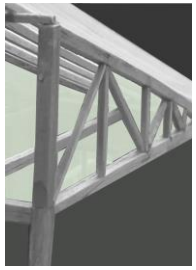
A MORPHOGRAMMATIC PROTOTYPE – MURTAZA TAPYA

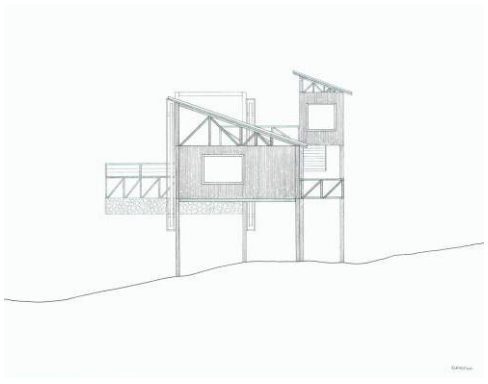








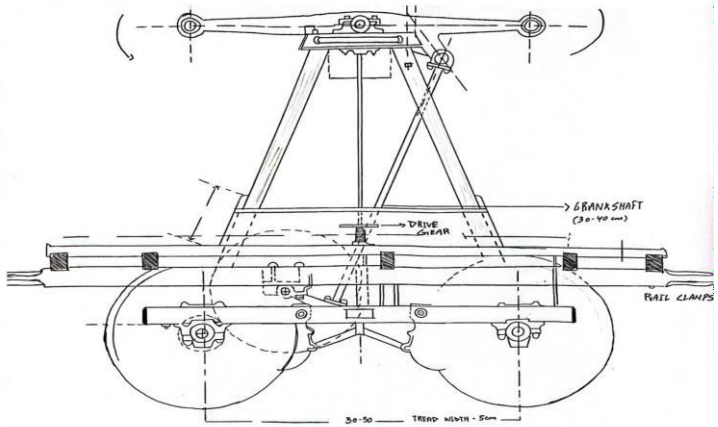
Project 3 has been an insightful exploration of *mobility* and *adaptive design* tailored to nomadic living. Working with rotating walls, sliding partitions, and a chain-and-sprocket lift mechanism challenged me to create a space that evolves with its occupants' needs. This project highlighted the importance of balancing functionality with simplicity, using minimal mechanics to achieve flexible, responsive architecture. Ultimately, Project 3 deepened my understanding of architecture's potential to be dynamic, sustainable, and harmoniously integrated with its environment.

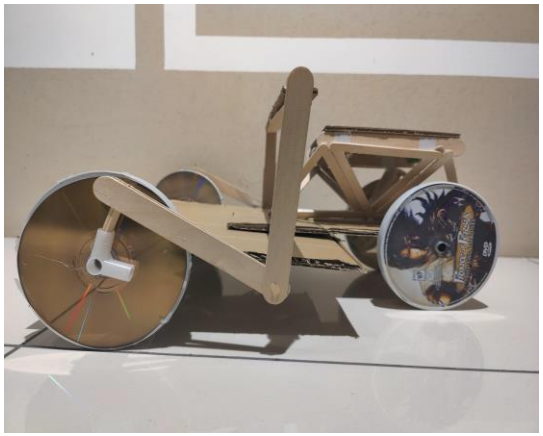


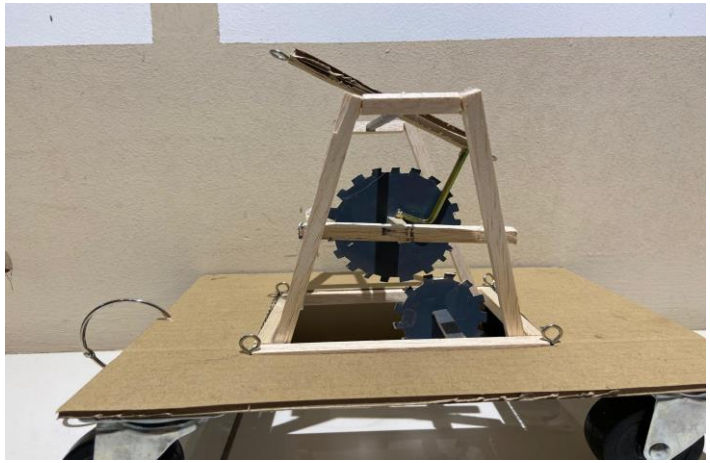
Gilles Deleuze: "To become is to change; it is the movement of time and the way things unfold in a continuous flow. Architecture, like life itself, should embrace this perpetual transformation, becoming a space that evolves alongside the changing rhythms of human existence."

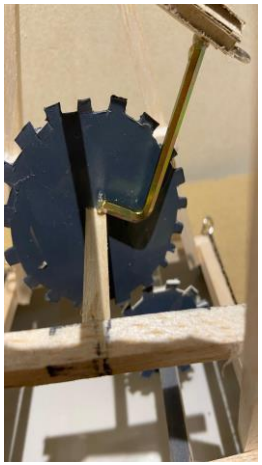
ARCHITECTURE OF IMPERMANENCE

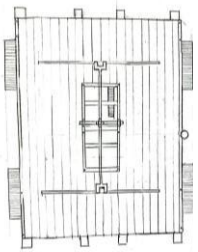
A MORPHOGRAMMATIC PROTOTYPE – NAWAL ZIA

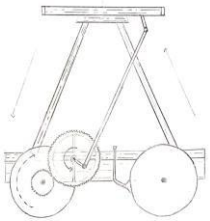








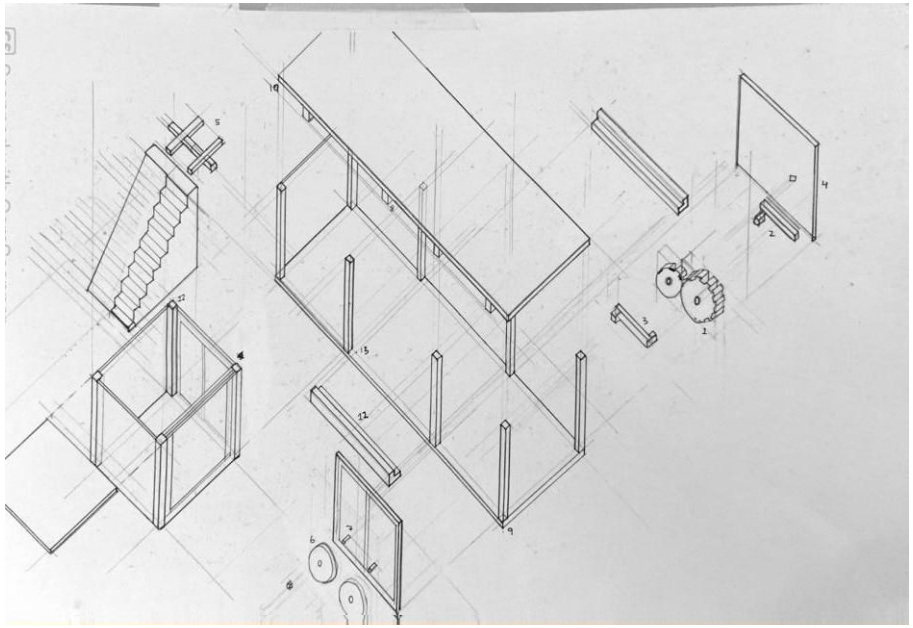


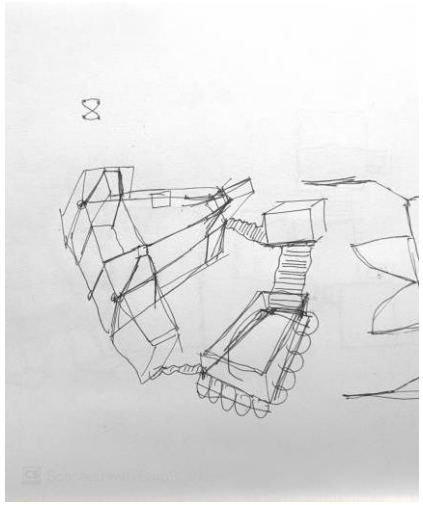


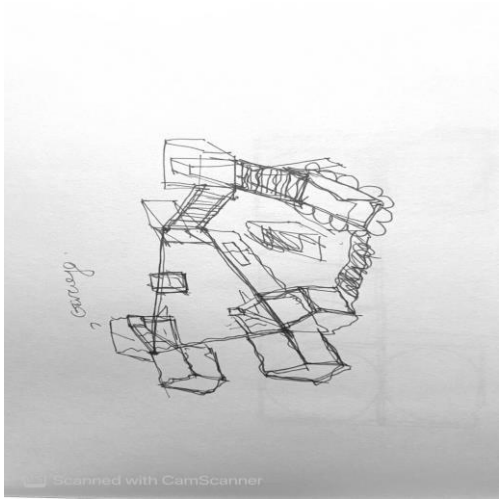
By harnessing the principles of a handcar's operation—interconnected gears, efficient crankshafts, and guiding wheels—we can reimagine architecture on Pulau Tuba not as static edifices, but as living, breathing structures capable of evolving and adapting to the needs of their inhabitants. This approach can preserve the island's traditional charm while embracing modern, adaptable design principles.

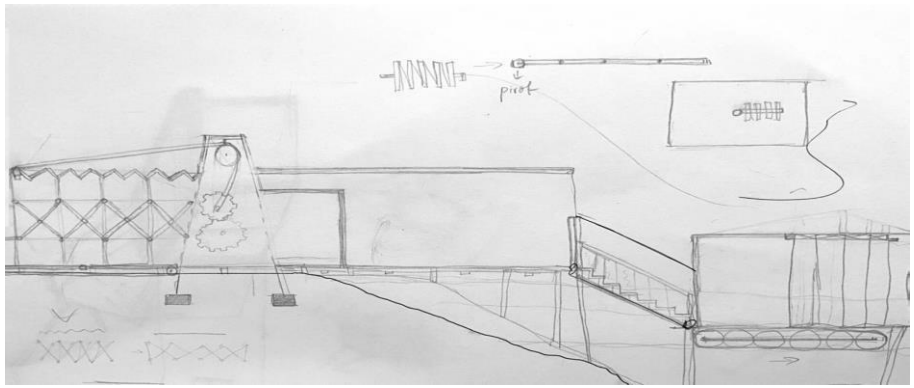
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – NAWAL ZIA









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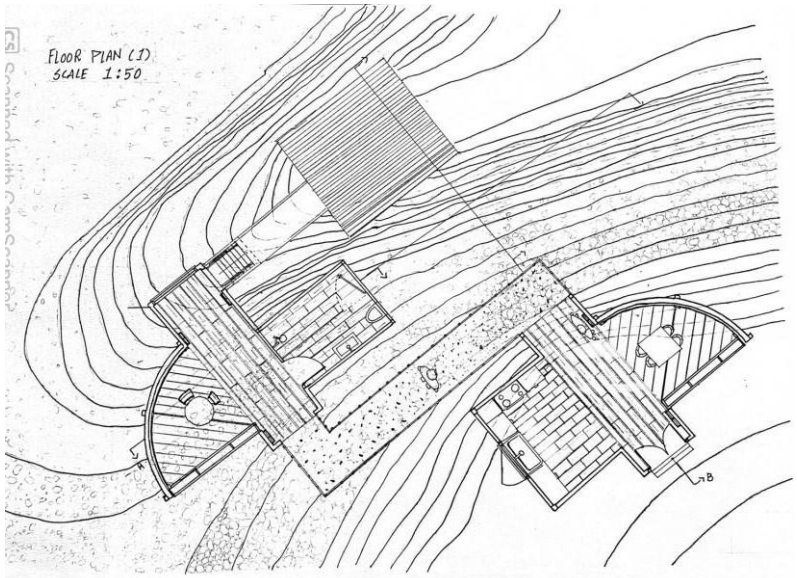
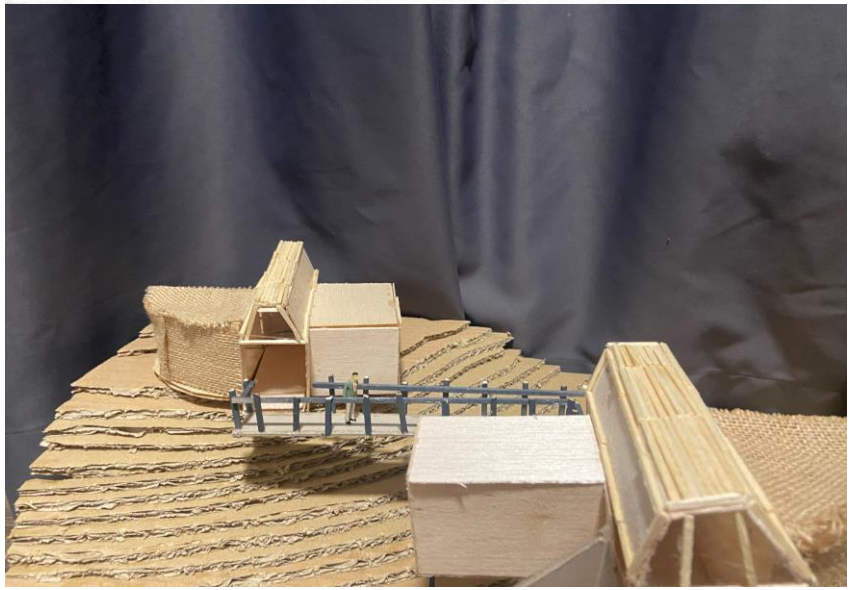
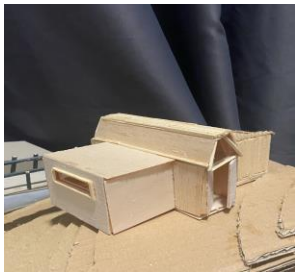
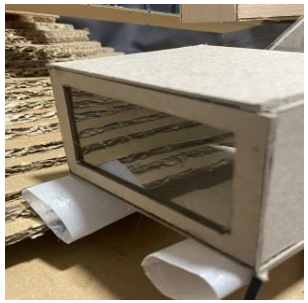
A MORPHOGRAMMATIC PROTOTYPE – NAWAL ZIA

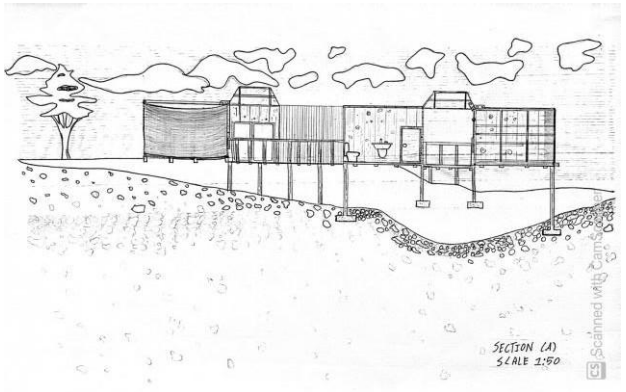






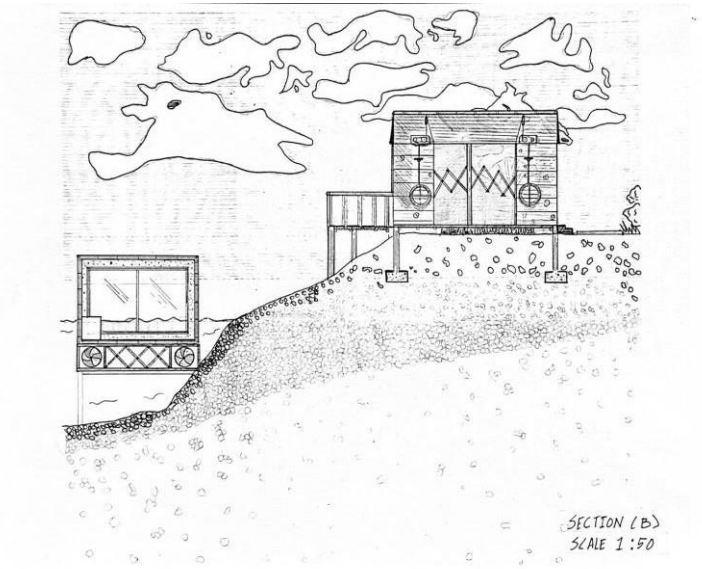


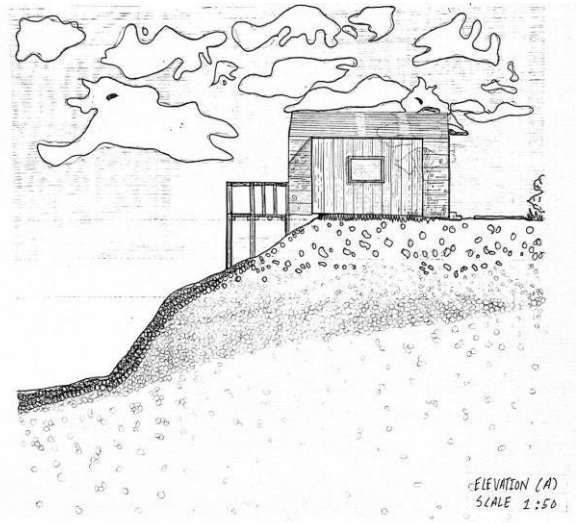
I draw inspiration from Tom Kundig's ingenious approach to architecture, especially seen in his Chicken Point Cabin. Kundig's knowledge of physics and his integration of the seven simple machines—levers, wheels and axles, pulleys, inclined planes, wedges, and screws—into his designs solve numerous challenges without the need for complex motors. These fundamental mechanical devices provide mechanical advantage, allowing structures that are both visually stunning and highly functional. This makes it possible to manually move heavy panes of glass or facades, a hallmark of Kundig's work.Similarly, my aim is to create spaces within permanent structures that can expand and contract according to need. These adaptable spaces are equipped with retractors connected to pulleys, utilizing human motion (turning the wheel around) to open and close. To facilitate this movement, the floor features a series of small wheels around the circumference that follow a pie-shaped track. These dynamic spaces are designed in harmony with the permanent features, allowing the dining area and library to be flexible, while the kitchen and bathroom remain fixed. This approach marries practicality with aesthetic appeal, offering versatile, responsive living spaces.

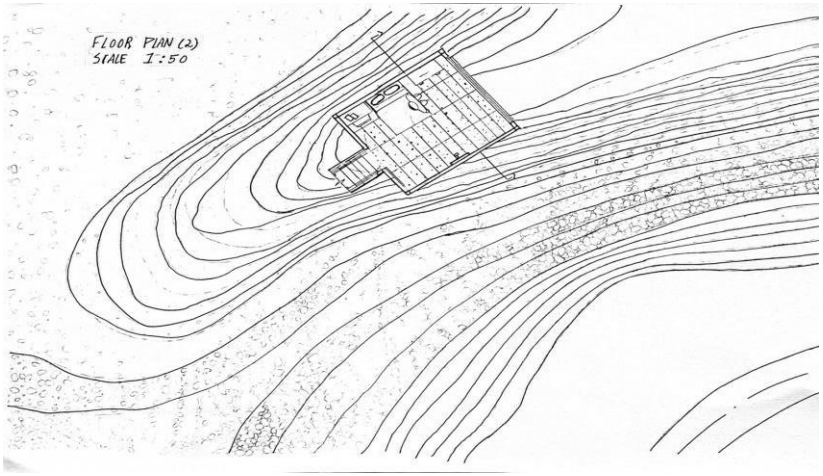


ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – NAWAL ZIA

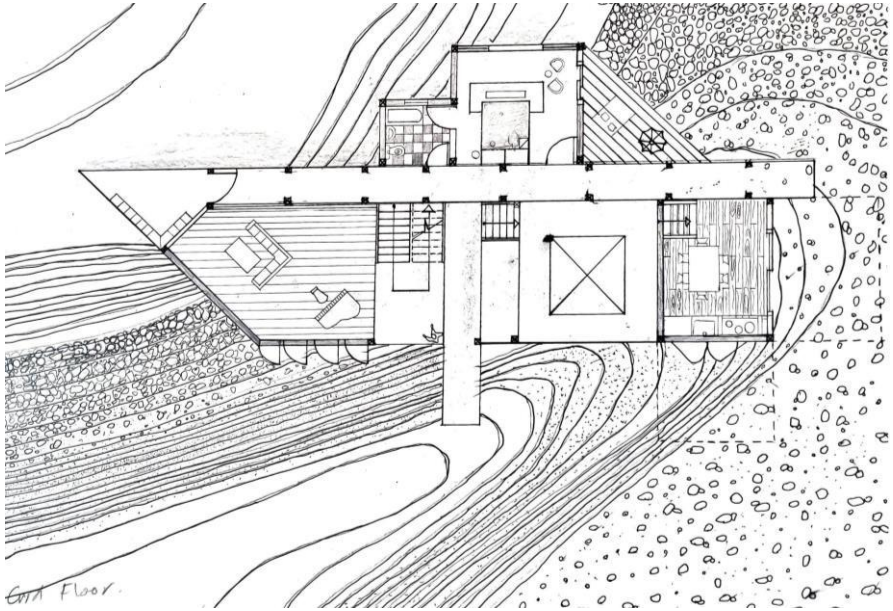


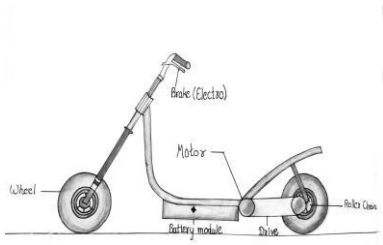




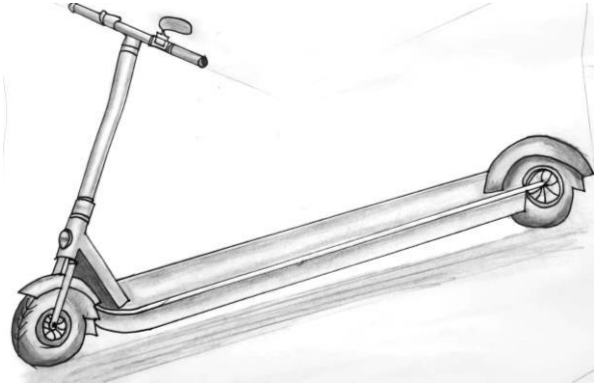
ARCHITECTURE OF IMPERMANENCE

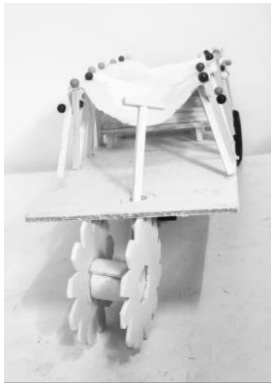
A MORPHOGRAMMATIC PROTOTYPE – SHUN LAE ZAW

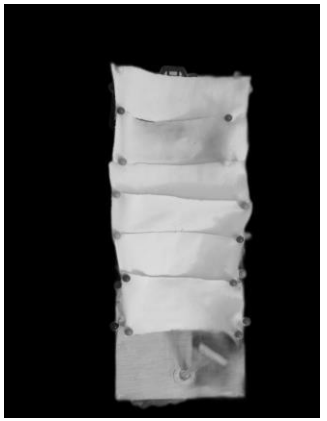


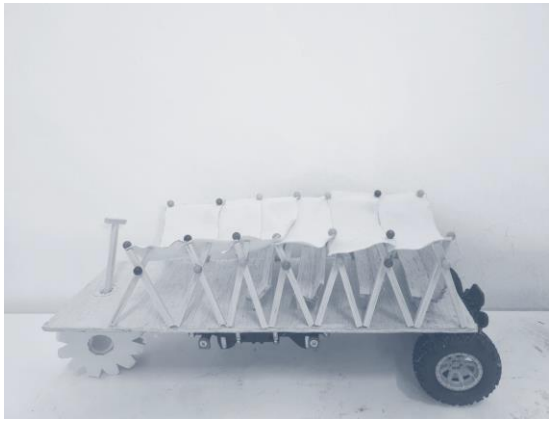


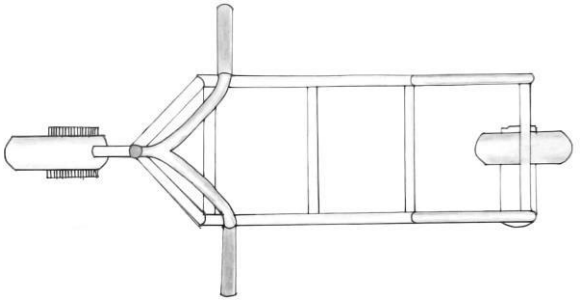
At the core of my design I mainly emphasized on the mobility normadised apparatus which can be able to move around in diverse landscape and also designed to make occupiable space for humans to hop on.This mobility apparatus is visionary blend of freedom and functionality , inspired by essence of scooter. The design introduces stretching windows along the sides, which create an immersive experience by extending panoramic views and connecting the inhabitant to the surroundings. These flexible windows can be expanded or minimized as needed, adjusting to light, privacy, and spatial preferences. At the heart of the apparatus is a flowable fabric roof, a soft structure that stretches and contours inside the machine. This flexible canopy allows for adaptability and shelter, protecting the occupant from elements while also creating a cozy interior atmosphere. It can be adjusted for ventilation or privacy, adapting to changing weather and user needs.

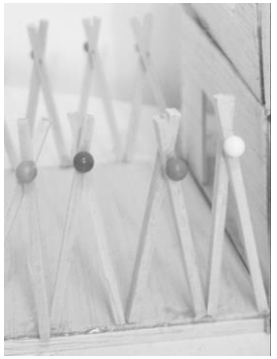






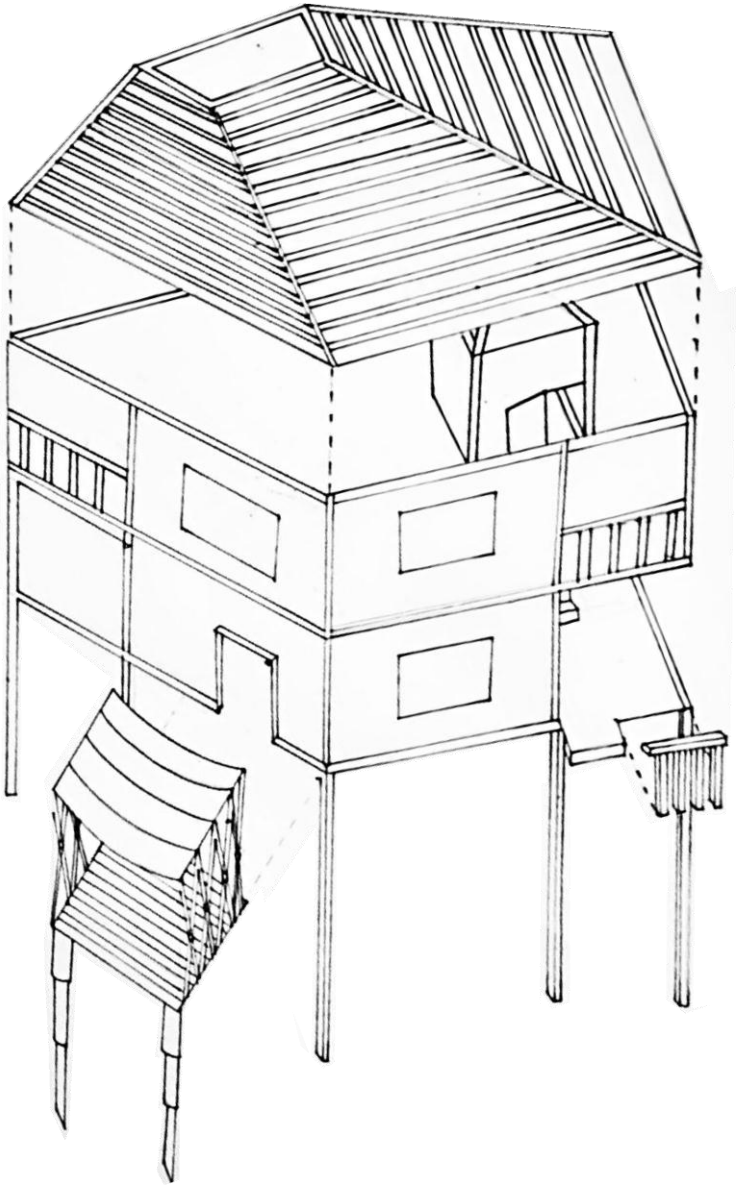


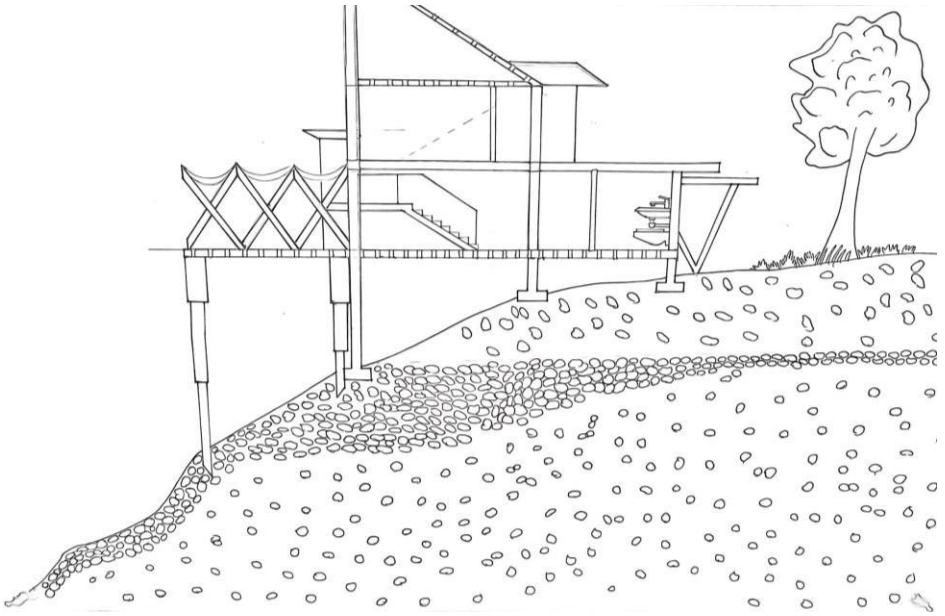




ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – SHUN LAE ZAW





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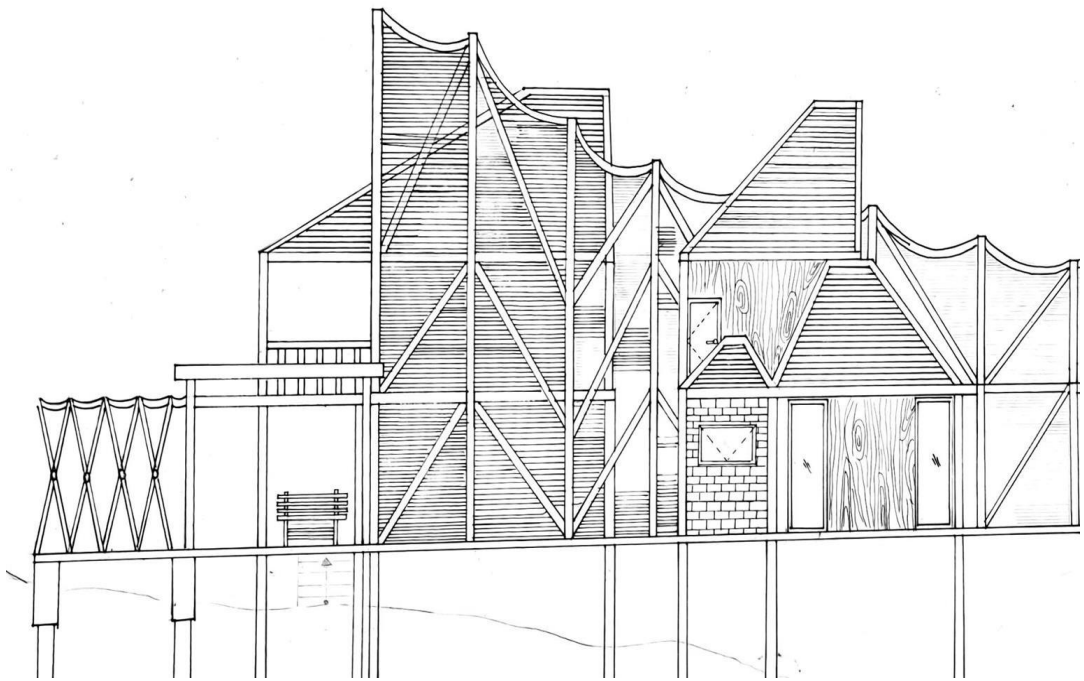
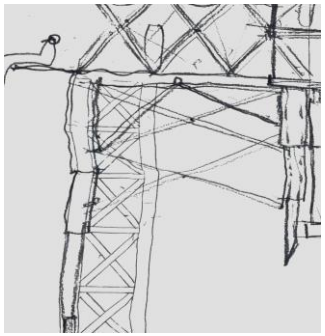
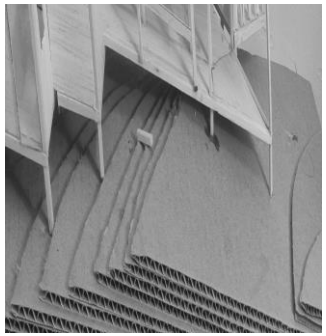
A MORPHOGRAMMATIC PROTOTYPE – SHUN LAE ZAW



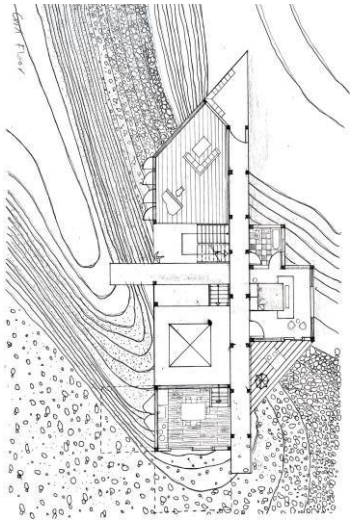
My design centers on a mobile, adaptable apparatus inspired by the freedom and functionality of a scooter. It features adjustable side windows that offer immersive views and can be modified for light, privacy, and spatial preference. A flexible fabric roof provides adaptable shelter, contouring within the structure to ensure comfort, ventilation, and privacy, easily adjusting to different weather and user needs.

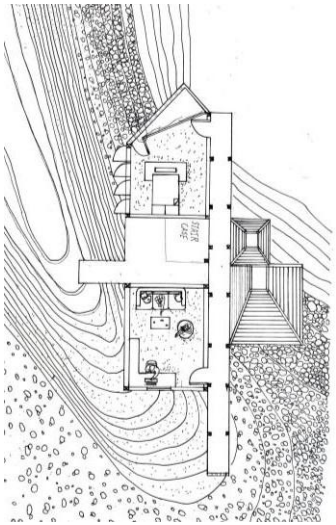


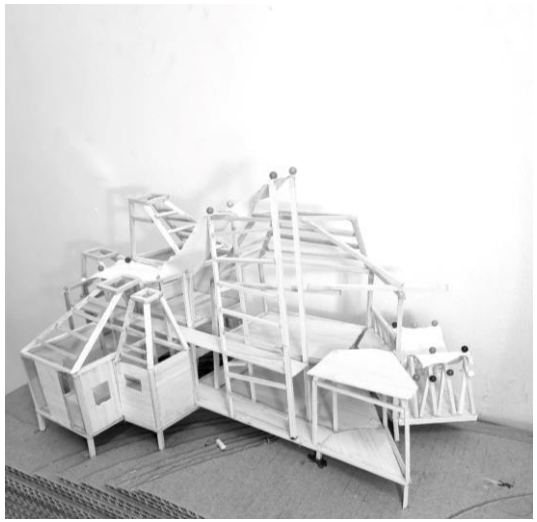


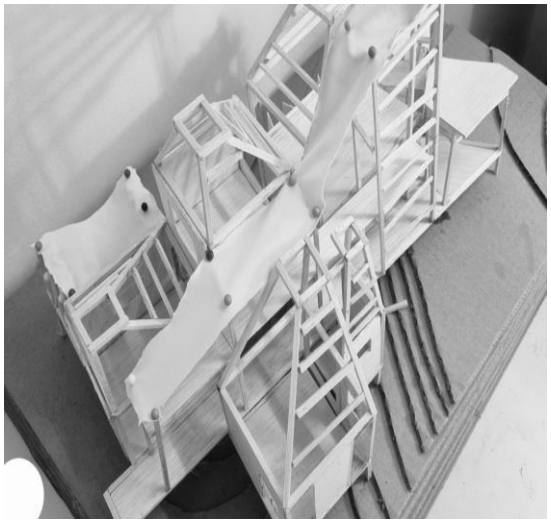
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – SHUN LAE ZAW



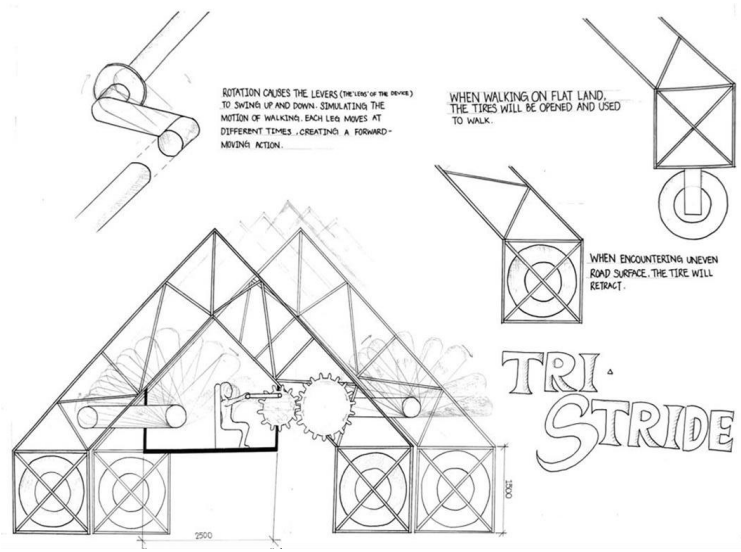


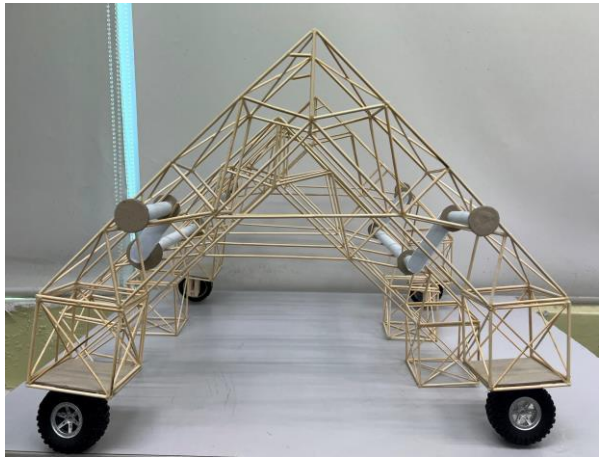


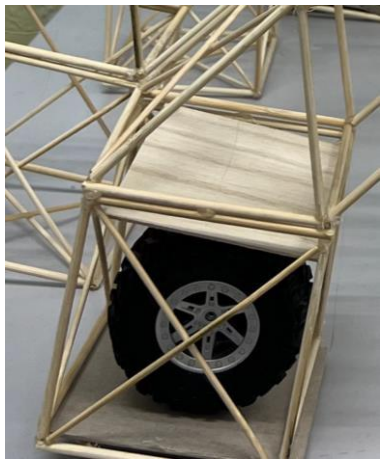


ARCHITECTURE OF IMPERMANENCE

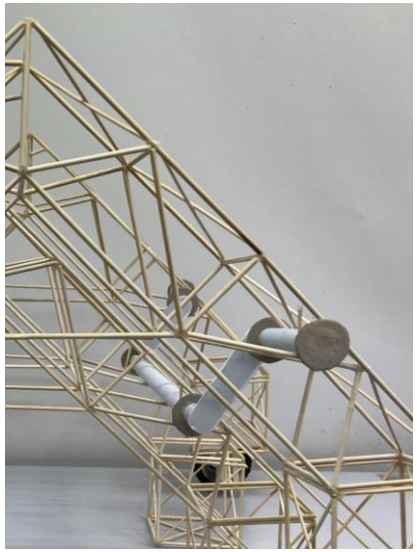
A MORPHOGRAMMATIC PROTOTYPE – TAI LI KUN





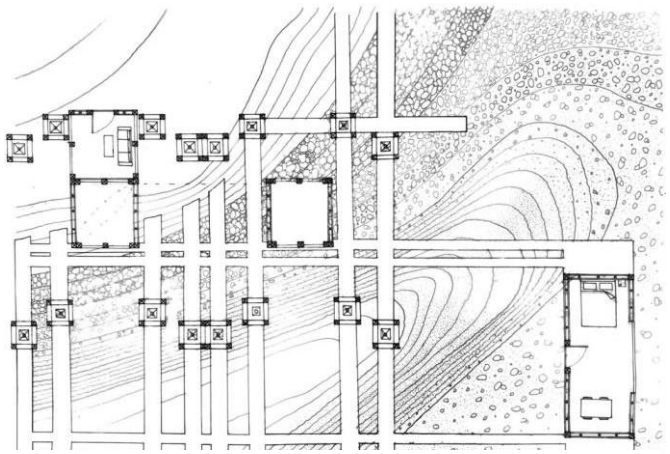


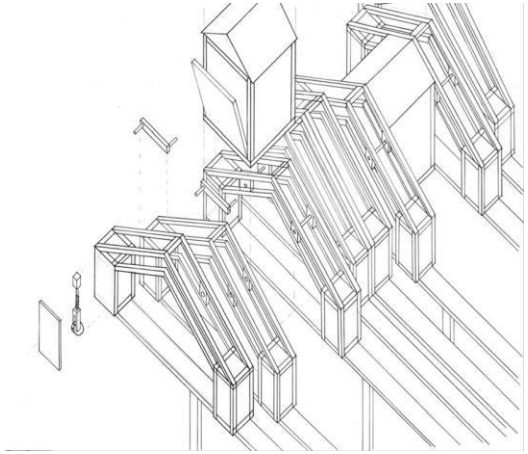
This design philosophy emphasizes structure, movement, and land interaction. I aim to create a mobile shelter allowing humans to choose their environment freely. The structure features triangular and quadrilateral trusses with diagonal struts for stability and lightness. The vehicle adapts to various terrains with a unique tire mechanism: extending outward on flat surfaces for stability and retracting inward on uneven terrain for adaptability. Lever mechanisms simulate walking motion, ensuring efficient movement. The design promotes human-animal interaction, with ample space for both and vital interaction points. Layered structures and elements like trees and water platforms enhance innovation and sustainability. This approach interweaves storytelling with ethical and humanitarian ideals, setting a benchmark for environmentally friendly development. The prototype challenges norms and embodies a commitment to creating a mobile, adaptable shelter that harmonizes with nature.

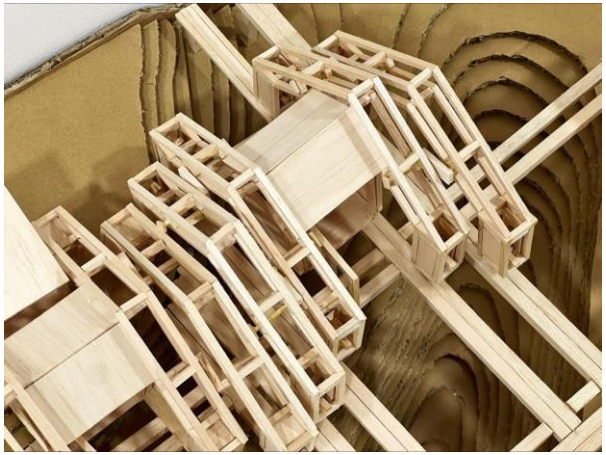


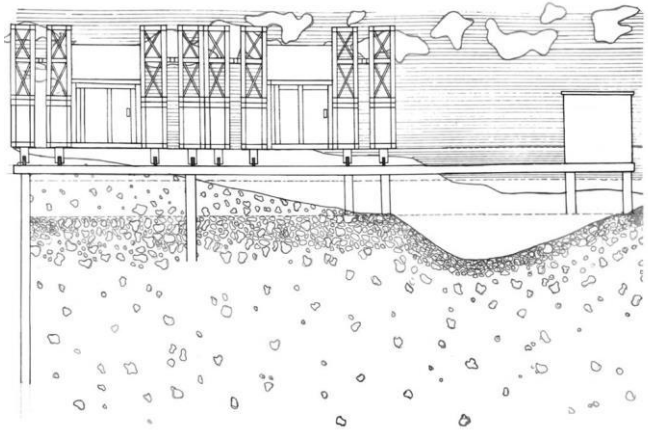
ARCHITECTURE OF IMPERMANENCE

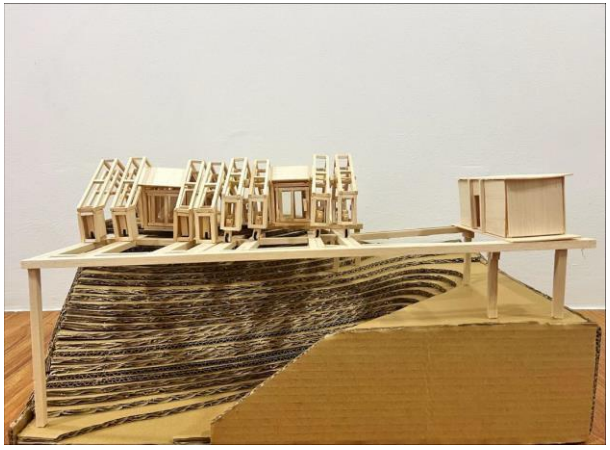
A MORPHOGRAMMATIC PROTOTYPE – TAI LI KUN





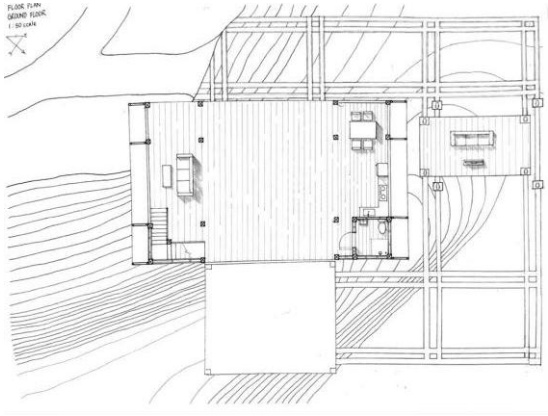


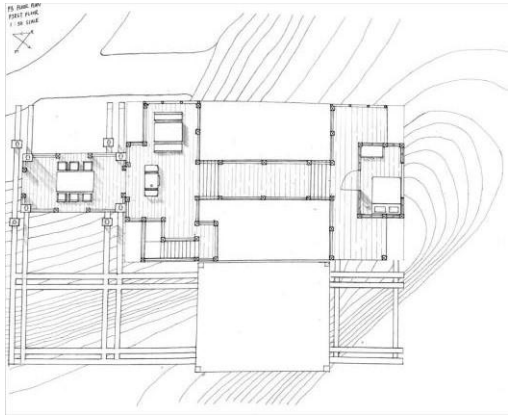




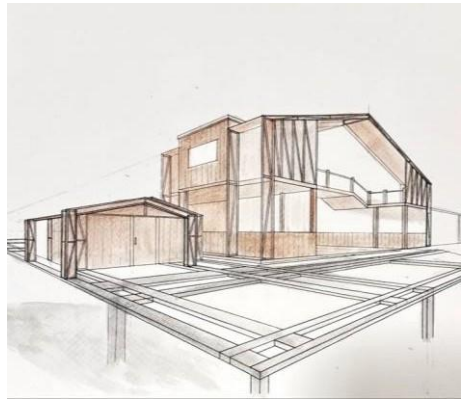
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – TAI LI KUN





In Project 3, I significantly increased the dimensions of both the permanent and movable spaces, enhancing the building's capacity for a wider variety of functions and activities. The design of the movable spaces allows them to be easily extended and reconfigured to accommodate various living functions, such as transforming into a spacious living room, a functional kitchen, or even a balcony entertainment area. Additionally, an elevator connects these spaces, enabling seamless vertical movement and adaptability, so that the building's layout can change fluidly to suit different needs across multiple floors. This approach not only maximizes spatial flexibility but also enriches the user experience by allowing the building to transform according to dynamic requirements.



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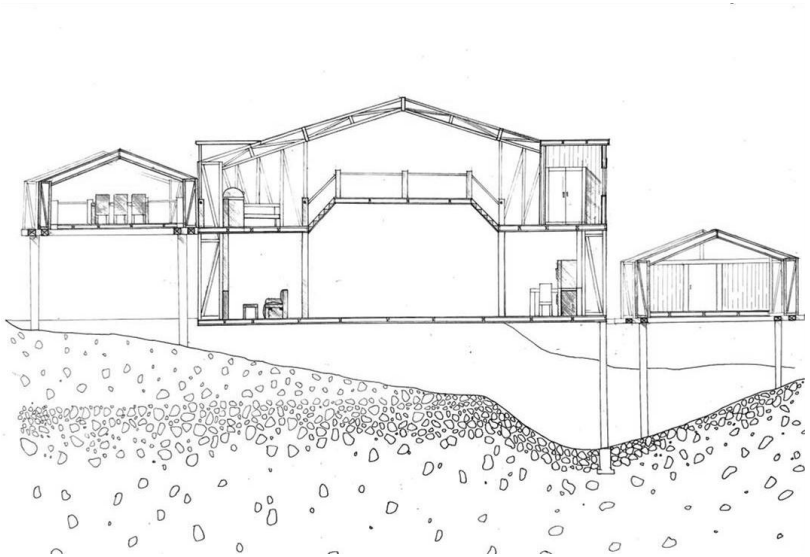
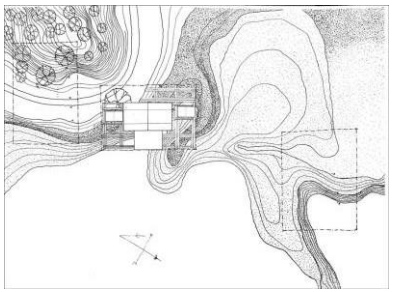
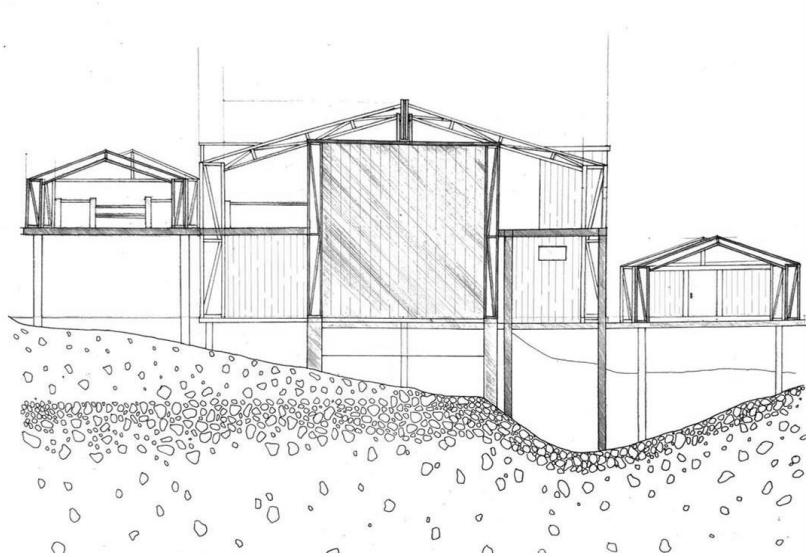
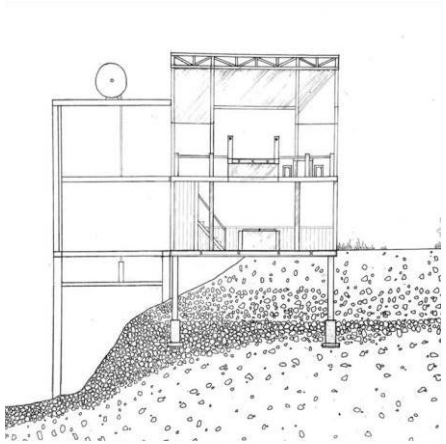
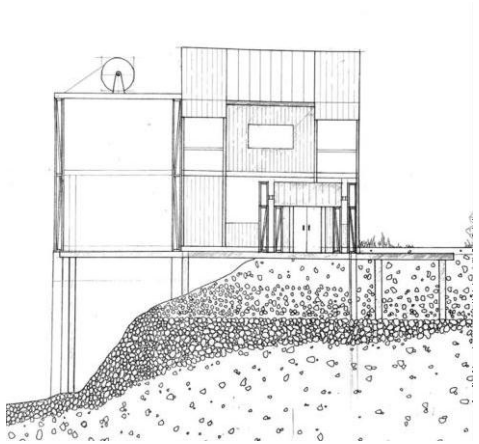
A MORPHOGRAMMATIC PROTOTYPE – TAI LI KUN

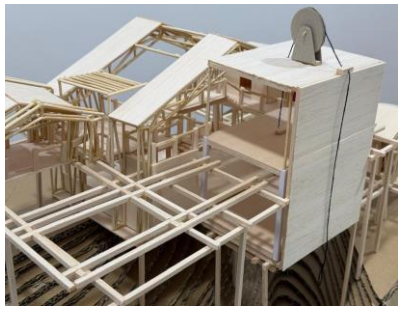






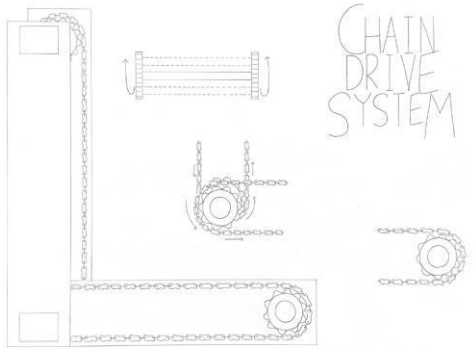




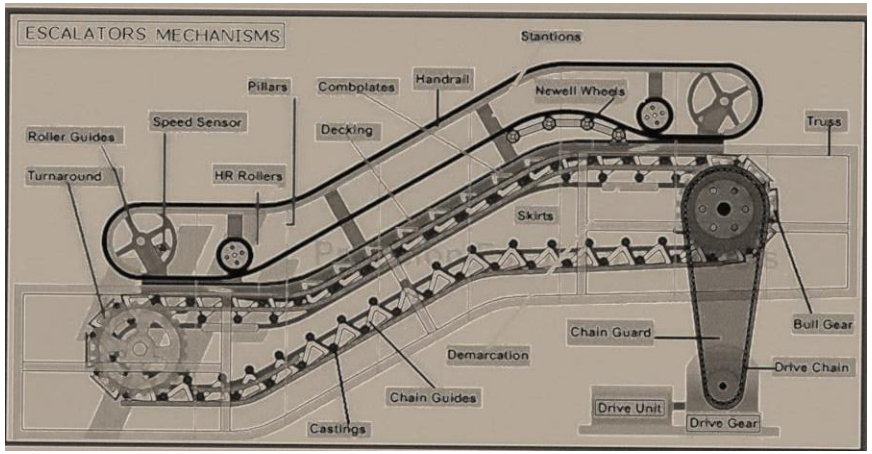


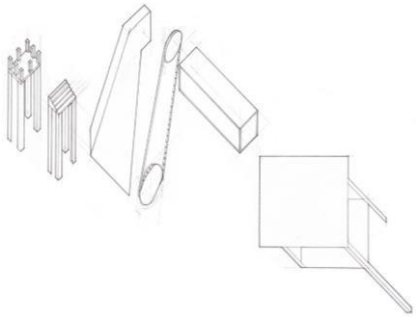
ARCHITECTURE OF IMPERMANENCE

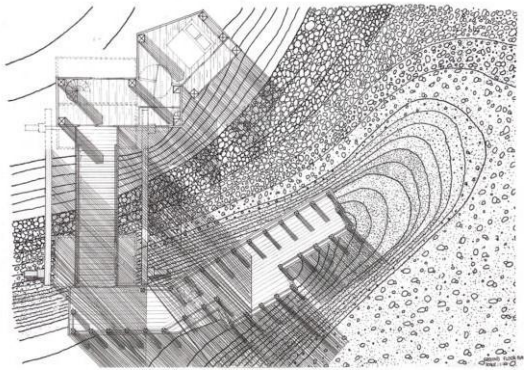
A MORPHOGRAMMATIC PROTOTYPE – WONG KHA MOON

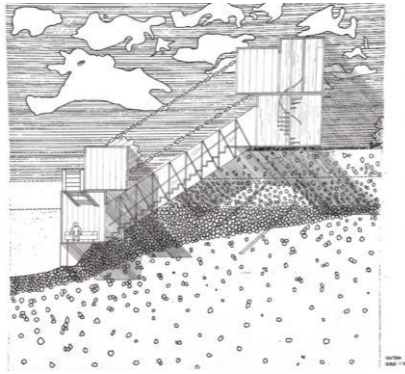


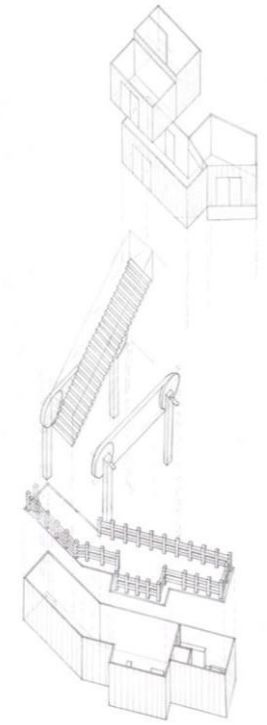
Intrinsically to my model of the chain drive mechanism, it simply highlights mobility, an elemental precedent analysis of my choice. In the works of creating this mechanism, considerations such as chain length and gear size contributed to escalation. Therefore, the chain drive system's usage is to move the core space up and down through leveled terrains. With that, the chain connects to the motor and drives the steps, facilitating smooth and efficient escalation. For the support structure, the core space provides structural support for the escalator's mechanisms. This includes housing the motor, drive components, and safety systems, ensuring that the escalator operates safely. Considerations are built up on accessibility that incorporate escalators into core spaces, enhancing accessibility for individuals, including those with mobility challenges alongside inclusive design concepts. This architectural design is driven by integrating mechanical systems like escalators within spaces or buildings enhances functionality, ensure efficient movement, and maintain an organized layout that supports user experience and safety.





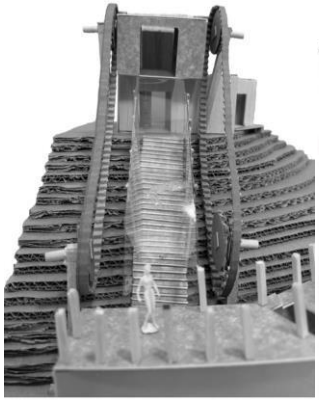


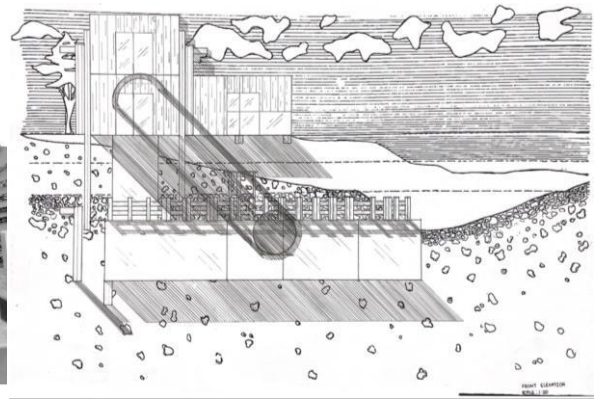




This diagram depicts an exploded axonometric of the created core space along with the chain drive mechanism. The core space is designed to be attached to the chain drive mechanism for it to move in ascending and descending order. Therefore, the core space escalates simply by using the chain drive mechanism, providing accessibility.

Here's an elaborated version: The provided diagrams offer a comprehensive view of the chain drive mechanism and its core space from three perspectives: plan, section, and elevation. This multi-faceted approach allows for a thorough understanding of the system's spatial arrangement and functional components. A key focus of this structure is the core space integrated into the mechanism. This space serves as a crucial element, likely housing essential components or facilitating specific operations. Moreover, the incorporation of multiple terrain levels underscores the importance of seamless transitions within the system. These levels may represent different operational phases, energy levels, or spatial zones, highlighting the dynamic nature of the mechanism.



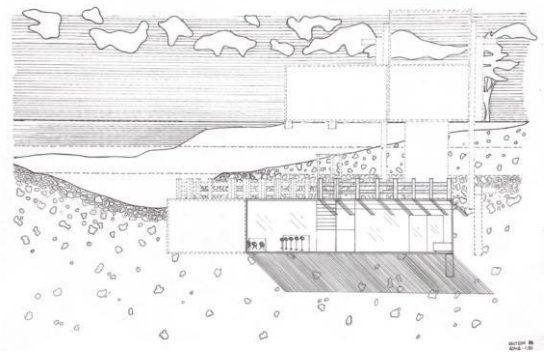


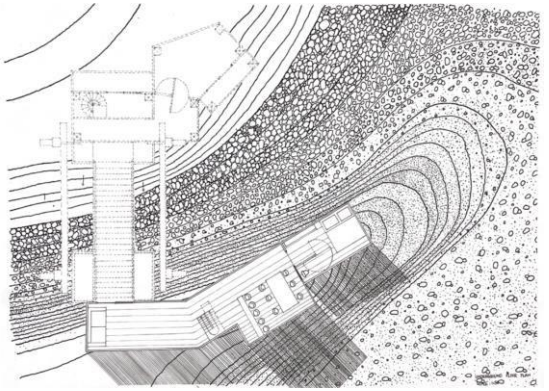
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – WONG KHA MOON

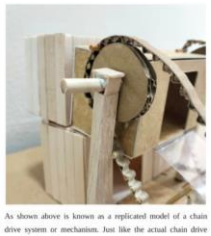
The chain drive mechanism is a mechanical power transmission system that utilizes a chain, a driver sprocket, and a driven sprocket to transfer rotational motion and power. This system is widely employed in various applications, including bicycles, motorcycles, and industrial machinery. Factors such as chain length, sprocket size, chain tension, and lubrication significantly impact the system's efficiency and durability. Another factor that would contribute would be gear size that usually complements the chain length in order for it to be smooth.

The inclusion of a moving core space within the chain drive mechanism further enhances its functionality and efficiency. This dynamic element, propelled by the reliable and proven chain drive system, offers a robust solution for power transmission. By incorporating a moving component, the system can adapt to varying conditions and demands, making it a versatile and effective tool for a wide range of applications.





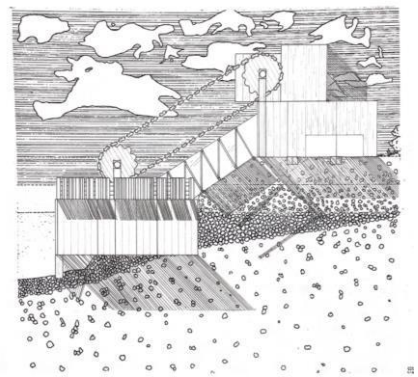
In relation to the model, a larger gear is replicated as it is only advantageous in application to sustain high load of the moving object without risking failure. The angle of structure would also impact transmission as it may cause mechanical stress, leading to inefficiencies. Gradual angles enhance operational efficiency by smoothing transitions and minimising sudden force shifts. This also links to the type of terrain as rocky, unevenness or even inclined surfaces that increases challenges. Gradual angles improve operational efficiency by smoothing transitions and minimising sudden force shifts, thereby enhancing the overall experience.



As shown above is known as a replicated model of a chain drive system or mechanism. Just like the actual chain drive system, it functions as a power transmission system to move things power from one place to another. As it is commonly used to transfer power to the wheels of a vehicle, it is also particularly used in bicycles as well as motorbikes. Therefore, it is moreso utilised in a wide range of machines that requires some form of mechanical movement. For a chain drive system to work, there are three separate components that would compliment each other to ensure smooth transmission of an object which are the chain, driver sprocket, and driven sprocket. Other than that, properties such as chain length, gear diameter, angle of structure and type of terrain would influence smoothness as well as speed of transmission.

Chain length is crucial as it depends on tension of the mechanism, supplementing the degree of flexibility as well as adaptability. For instance, a shorter chain yields better friction and produces more energy through the responsiveness of the chain and gear. However, range of motion might be limited as it is more rigid compared to a longer chain. Responsiveness depends on gear diameter as it plays a vital role in defining the relationship of torque and speed. Similarly, a smaller gear would generate less torque, which sustaining heavier load becomes harder even with faster rotational speed.

This replica as a whole represents the robust and efficient method for power transmission. In real life context, the design allows for versatility in speed and torque adjustments, making it suitable for a wide range of industries. While they require more maintenance than some alternatives, the durability and efficiency makes it a popular choice in both transportation and industrial applications. The significance in industrial and transportation contexts cannot be overstated, as they provide reliable power transmission under various conditions.



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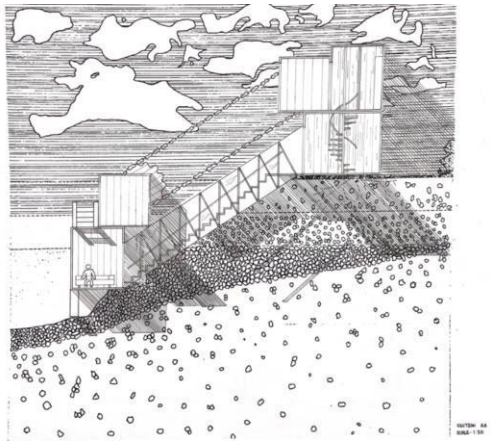
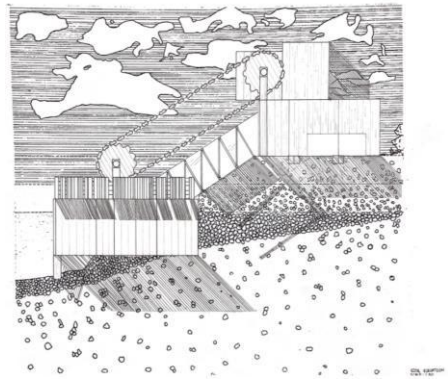
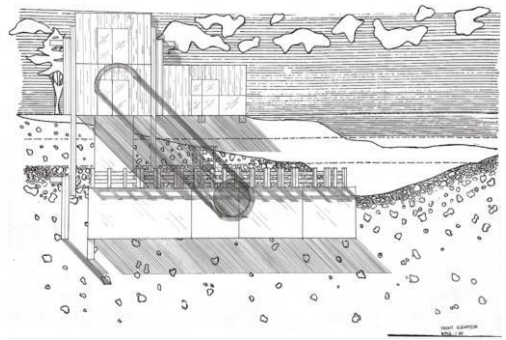
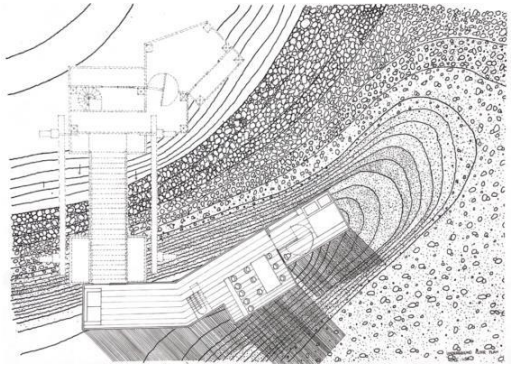
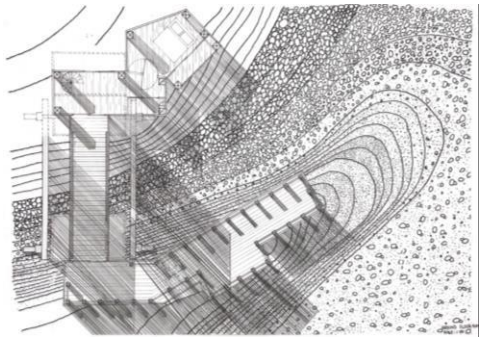
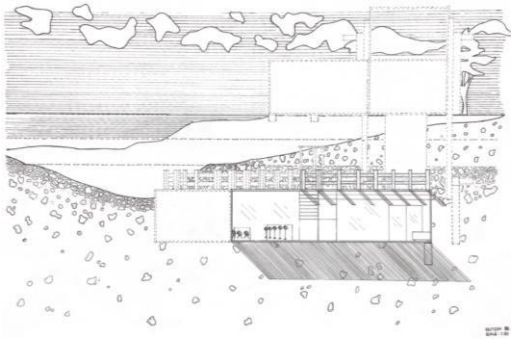


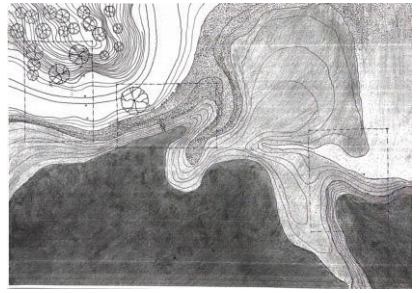


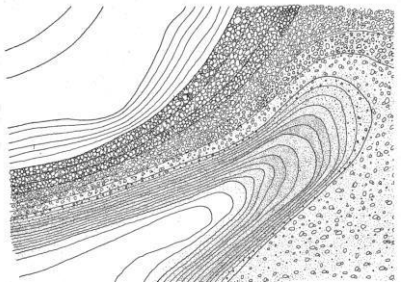








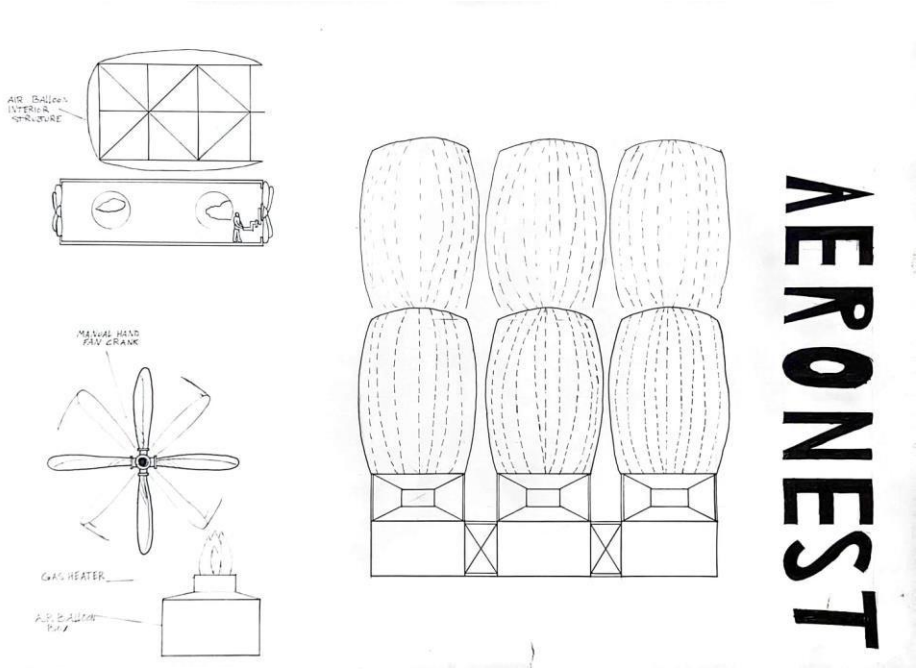


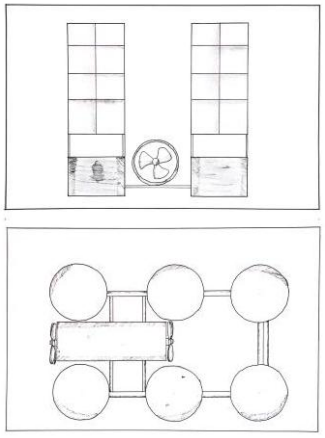


TREE | SKY
Abdelrahman Youssef Mohamed Farouk
Alaa Abdelwahab Abdalla Mahgoub
Arwa A A Elmahmodi
Avellie James
Chia Jia Hang
Hiba Abdelmoniem Ahmed Mohamedbabikir
John Jong Ming
Tan Kim Chun

ARCHITECTURE OF IMPERMANENCE

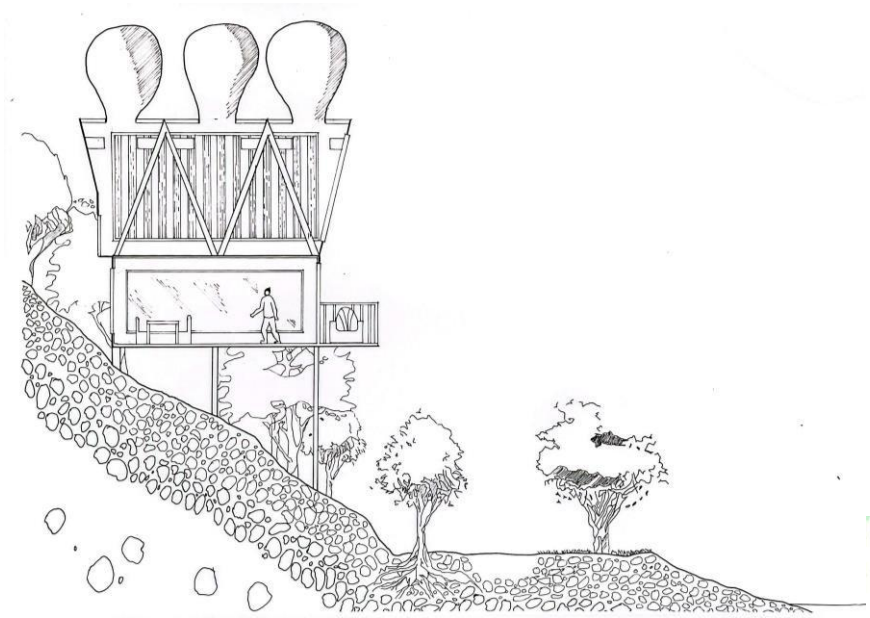
A MORPHOGRAMMATIC PROTOTYPE – YOUSSEF ABDELRAHMAN

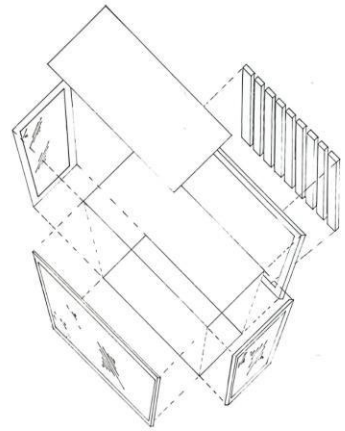


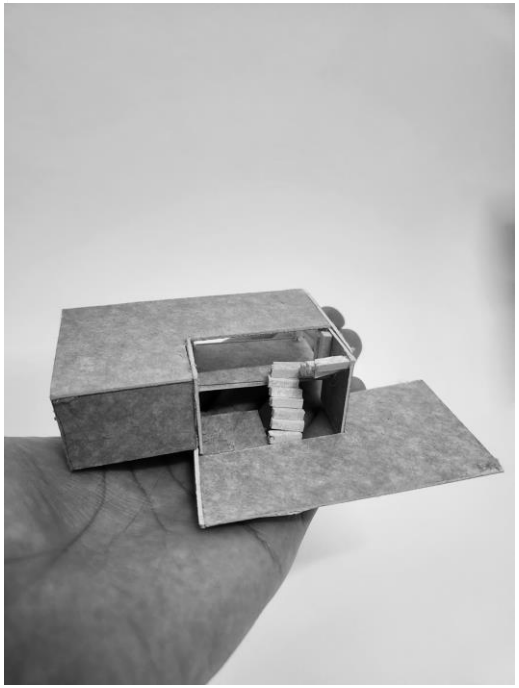


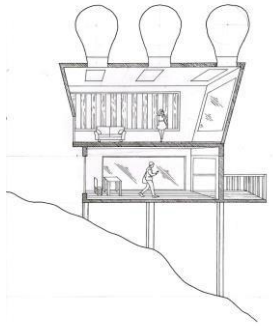
This liminal structure concept relies on a cluster of hot air balloons, each with an internal lightweight metal framework wrapped in fabric. A manual crank with gears powers two fans, enabling controlled flight direction.

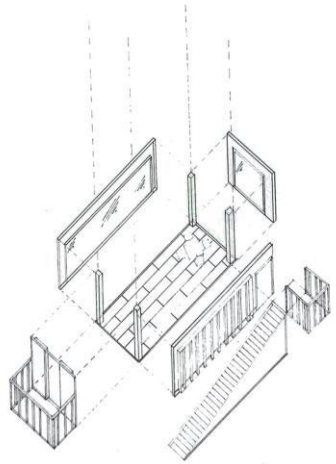
Future designs will connect these balloons to a lightweight second-floor platform, enhancing stability and portability. Using six balloons with adjustable hot air density allows for flexible altitude and directional movement, envisioning a mobile architectural solution for dynamic environments.

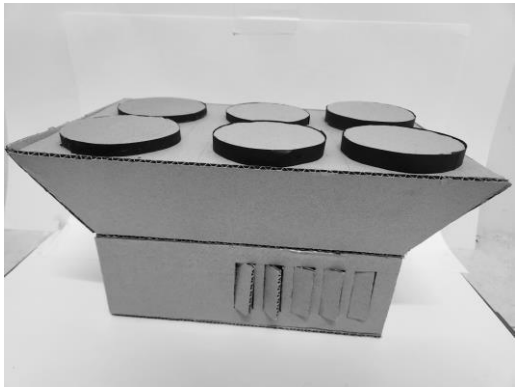






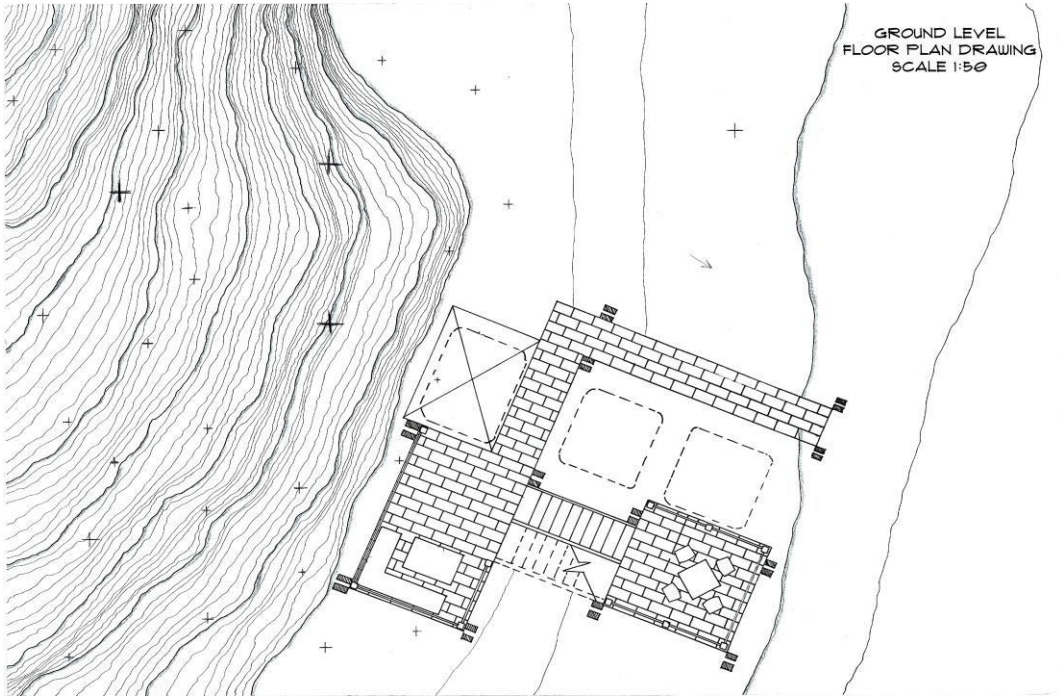


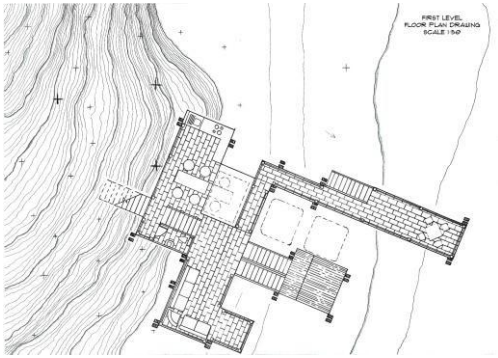


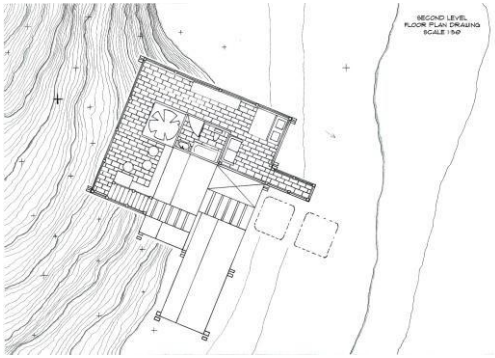


ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – YOUSSEF ABDELRAHMAN





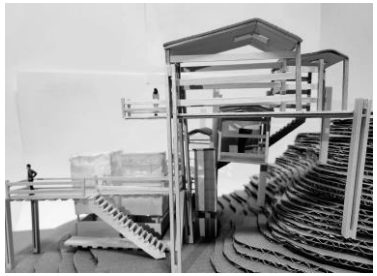


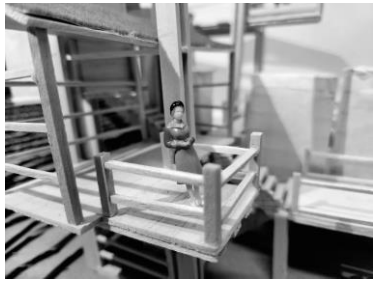
The design continues to evolve from the initial concept, enhancing its connection with nature and its surroundings.

An open layout allows seamless integration with the landscape, featuring green rooftop areas and a top-level void to preserve an existing tree within the structure. This layout reinforces the bond between the house, the sky, and the forest environment.

To enable mobility, two hot air balloons are integrated for traveling around Langkawi's islands, while an additional balloon serves as an elevator, transporting residents from the ground level to the second floor. The elevator's roof doubles as an extension of the first-floor dining area, providing adaptable space when not in use.

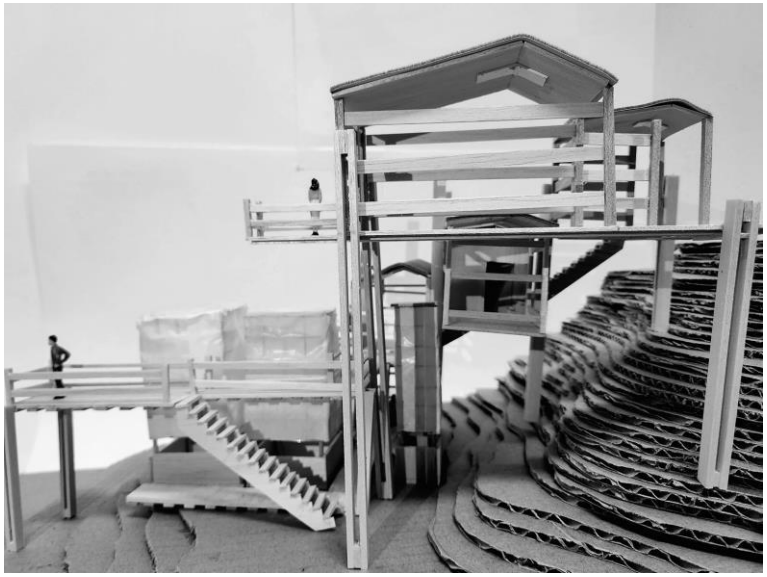
Each of these elements emphasizes an immersive, livable design in harmony with nature and offers flexible functionality for unique island experiences.

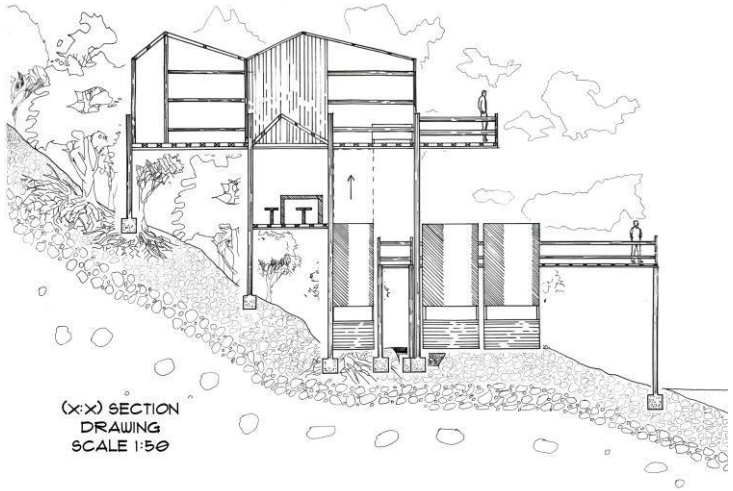


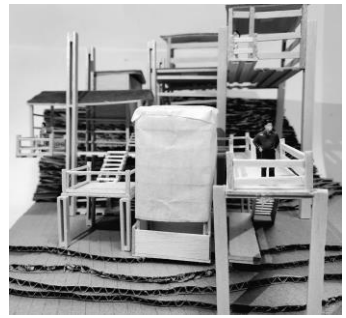


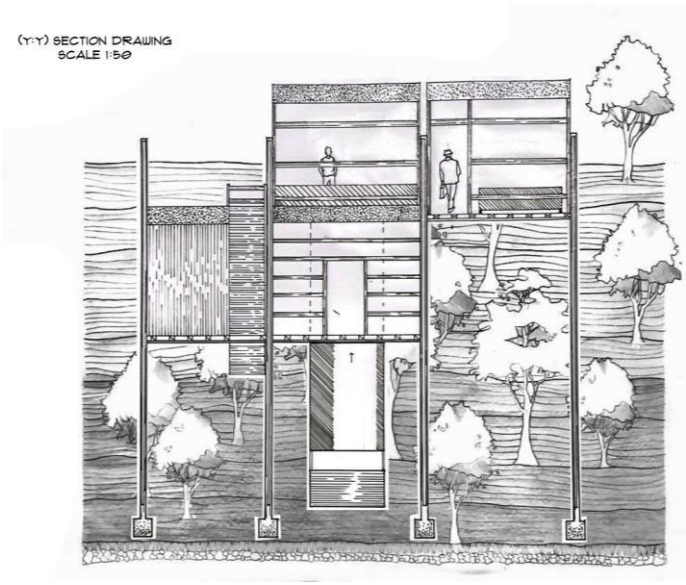
ARCHITECTURE OF IMPERMANENCE

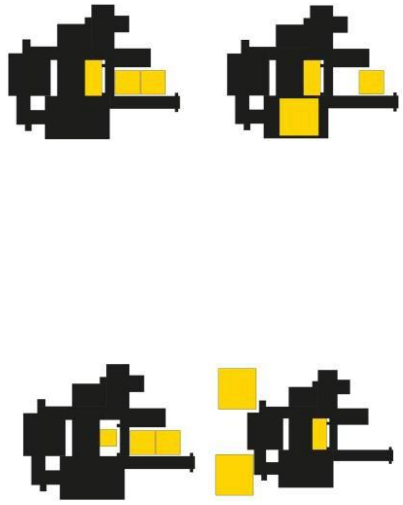
A MORPHOGRAMMATIC PROTOTYPE – YOUSSEF ABDELRAHMAN

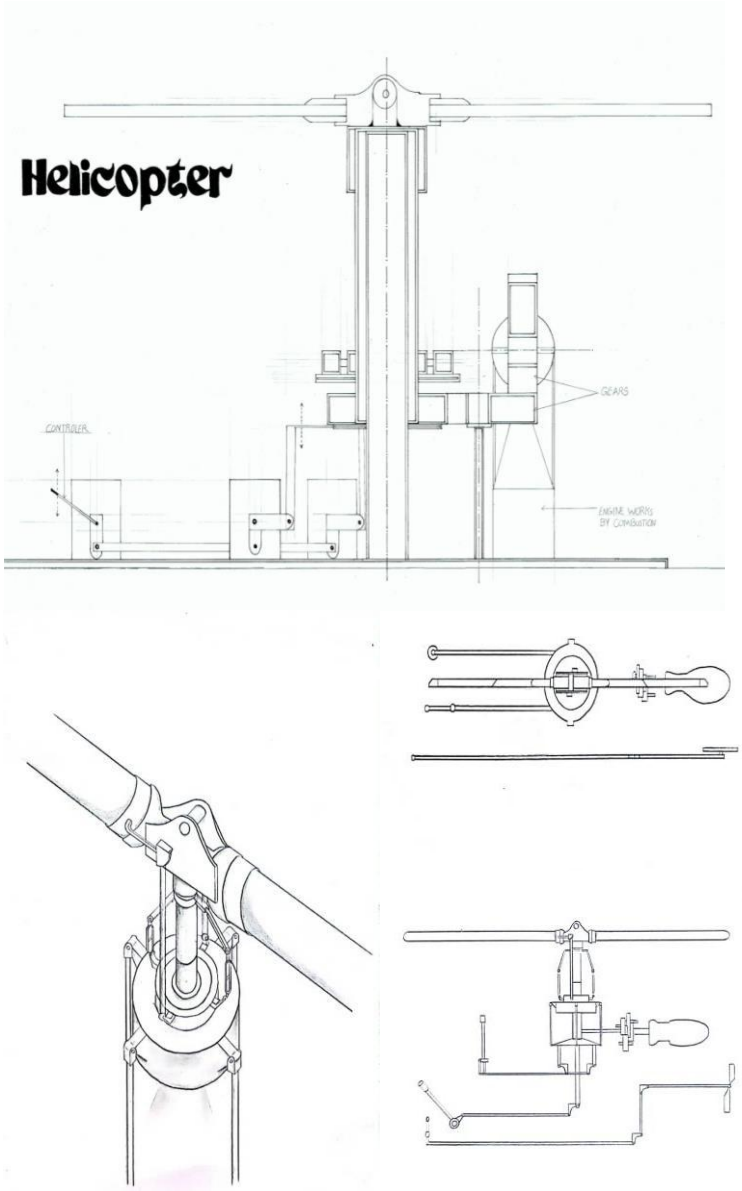


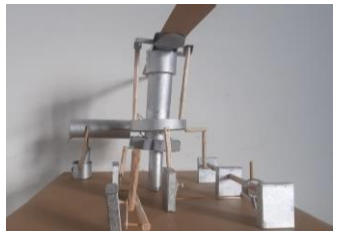


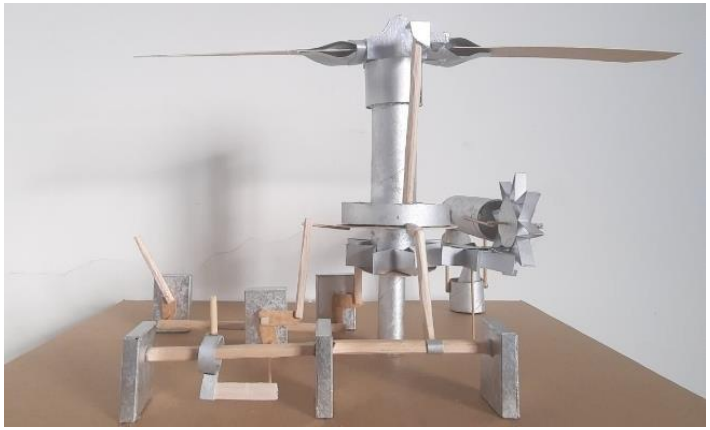




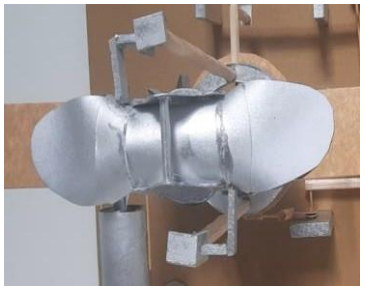


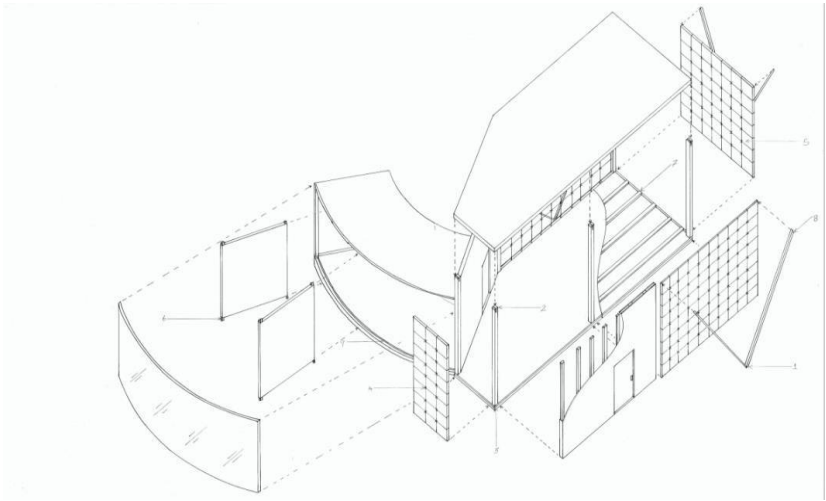


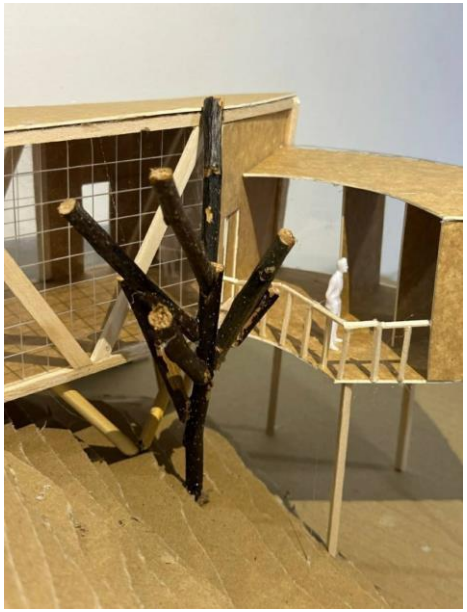


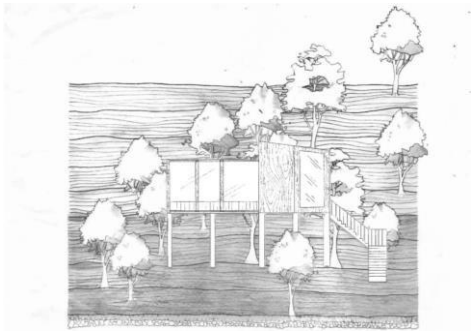


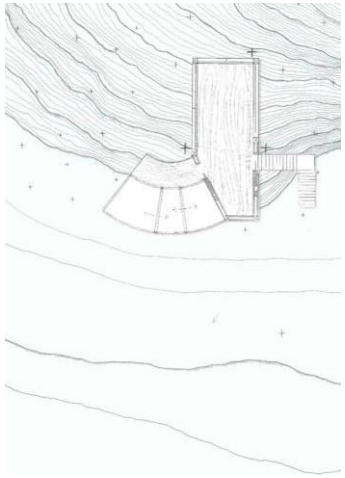
The first project was inspired by the helicopter, where the basic helicopter was carefully studied, including the aircraft's propeller, its wings, and all the mechanisms that lead to its movement. The first project focused on studying the three basic movements in it, which are the movement up and down, the movement of tilting to the sides, and the movement Winding around the axis. Emphasis was also placed on the mechanics of the control arm and how it leads to the rotation of the wings

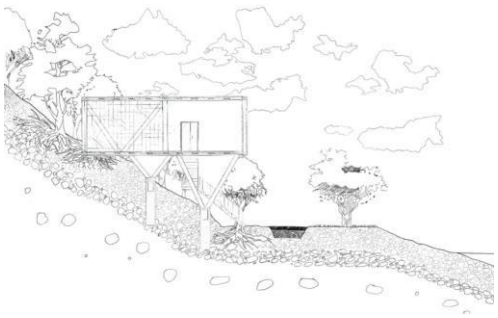




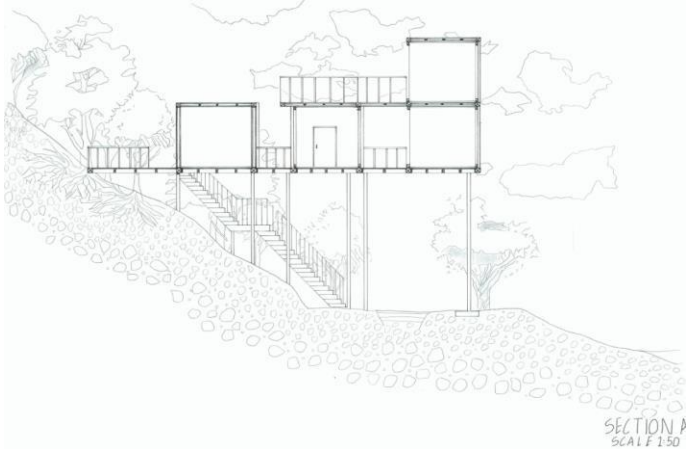


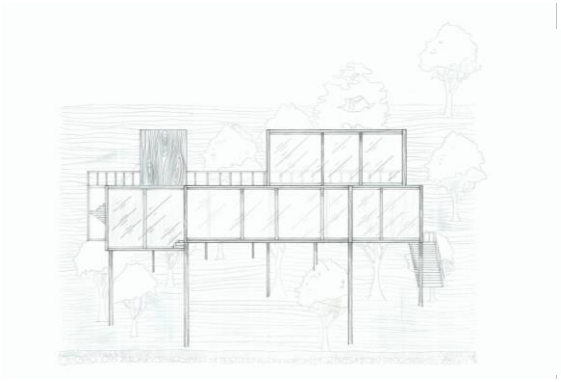


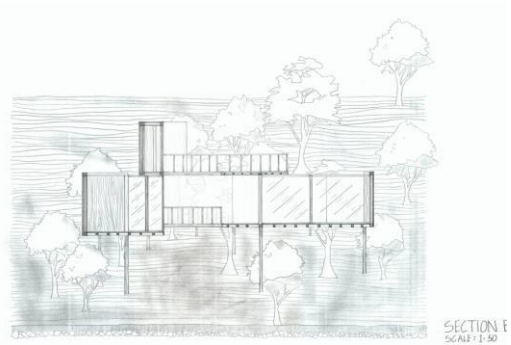


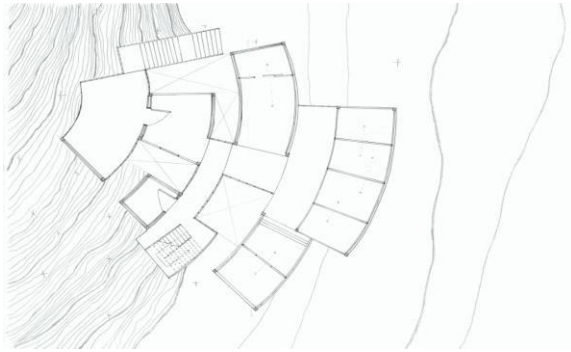


The second project was a reflection of the first project, as it took the shape of a helicopter wing with its movement around itself, and this is what formed the basic form of the building. Inside the building there are several moving walls in the form of rotations inspired by the movement of the wing around its axis, which is the basic mechanism in the building. The function of these walls is to provide Isolate and control space and provide privacy

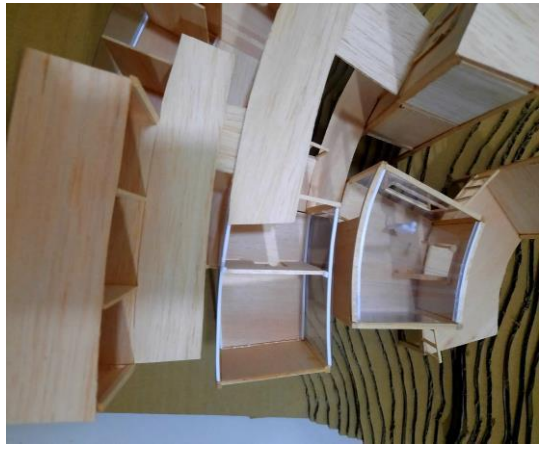


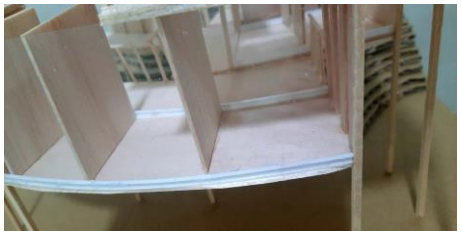






The third project was a development of the idea of wall rotation in the second project, where the building was designed to contain 8 movable walls and a movable roof. These walls provide several advantages in dividing the building and are related to the way the spaces are created. These walls are designed to be lightweight and are attached to the top and bottom of wheels placed on tracks The building also contains two bathrooms and a kitchen, in addition to a reception hall with a retractable roof.

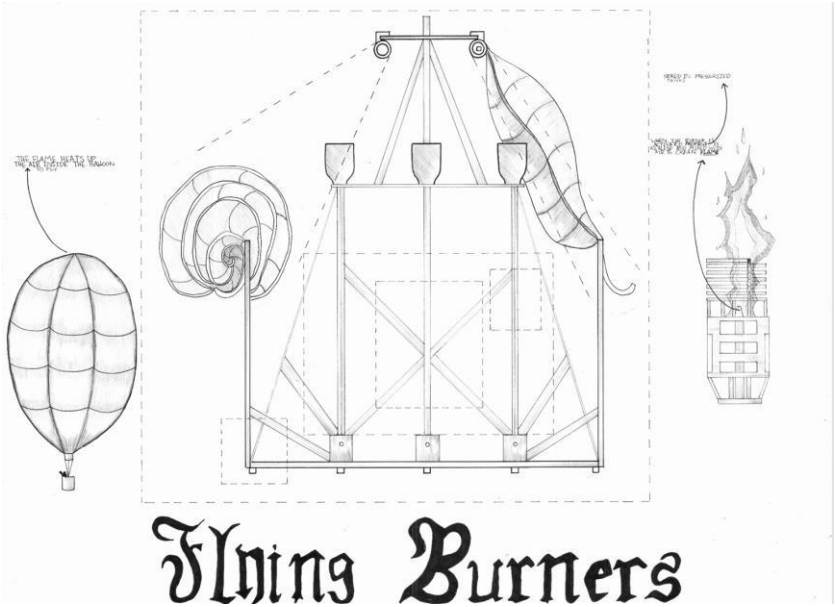



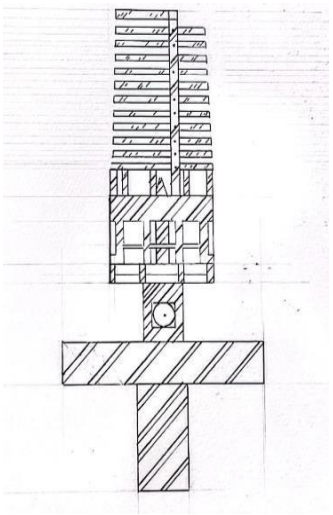





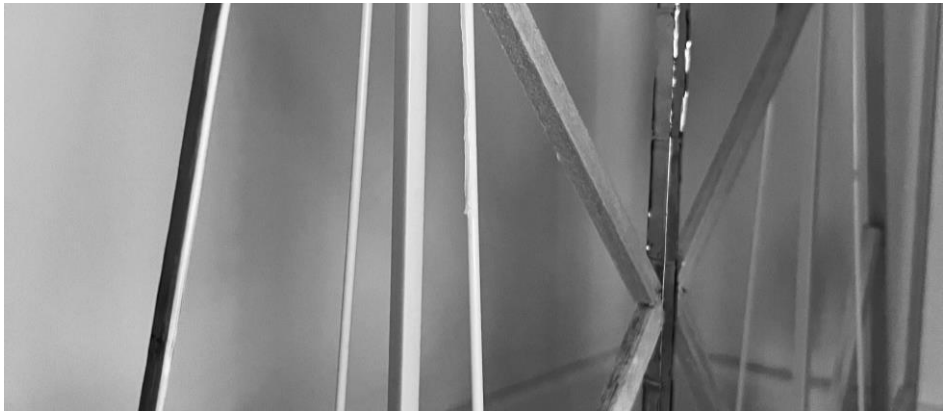

ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – ARWA A A ELMAHMODI



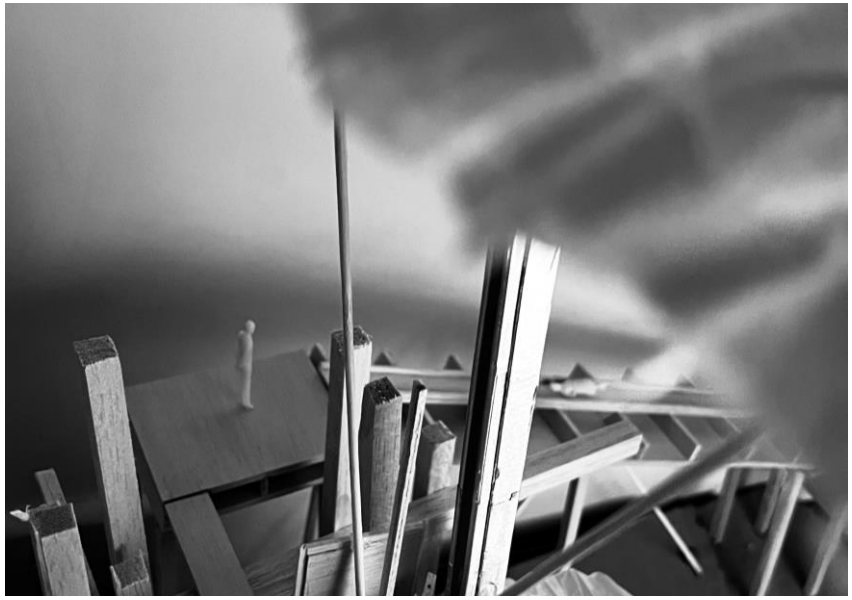


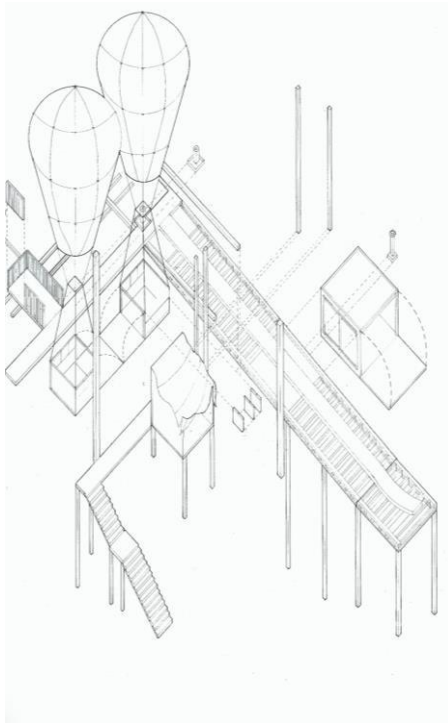
The design centres around a hot air balloon, with a focus on the intricate burner mechanism that powers its ascent. It features a high, elongated structure that mirrors the verticality and graceful lift of the balloon. The burner is designed to be both functional and symbolic, representing the delicate interplay between fire and air, which enables the balloon to defy gravity. The balloon itself, with its expansive, rounded form, contrasts with the slender, vertical lines of the burner, creating a visual tension. The tragic element is woven into the design through the fragility and unpredictability of flight, emphasizing how the entire structure, despite its height and elegance, is constantly at the mercy of external forces, underscoring themes of vulnerability and impermanence.

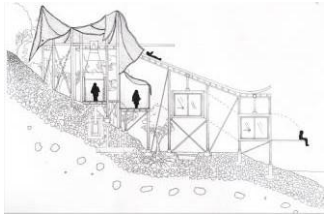


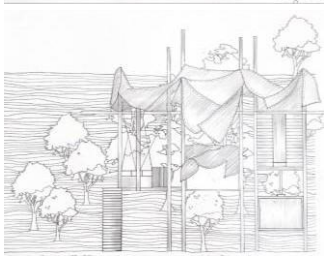
ARCHITECTURE OF IMPERMANENCE

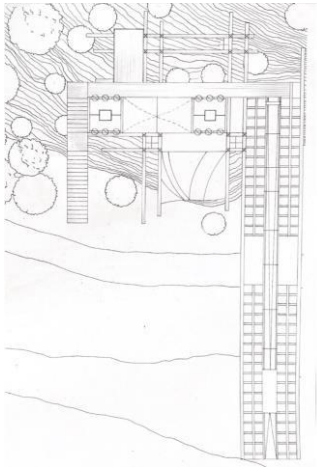
A MORPHOGRAMMATIC PROTOTYPE – ARWA A A ELMAHMODI











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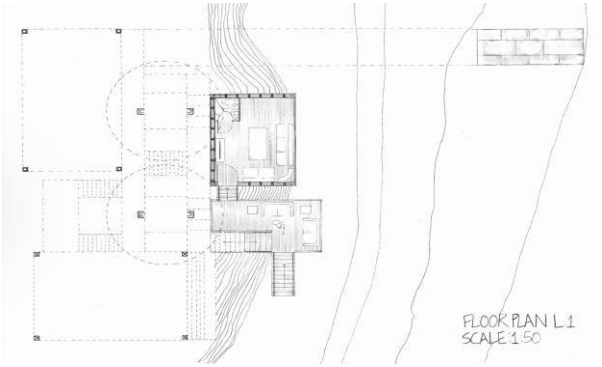
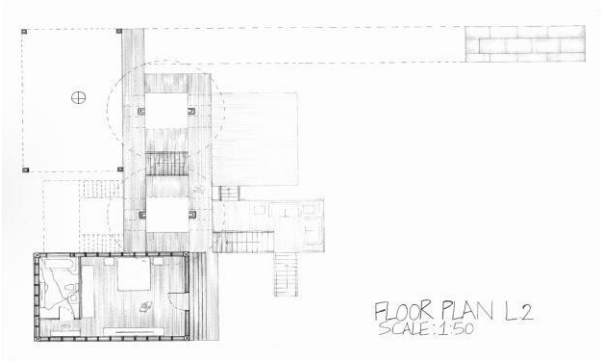
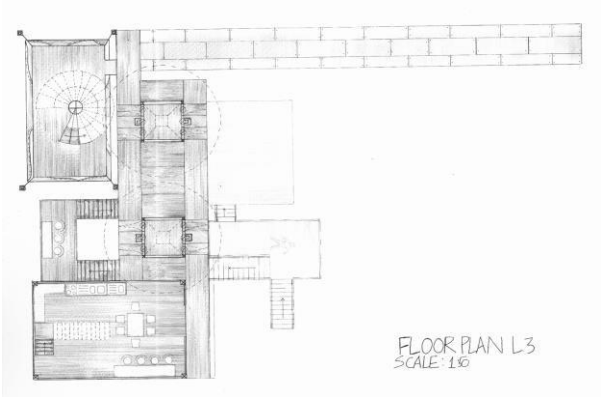
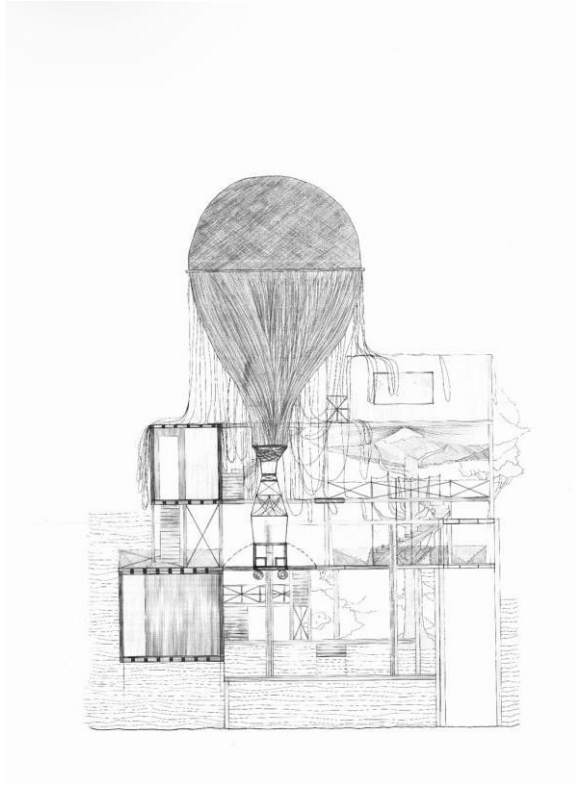
A MORPHOGRAMMATIC PROTOTYPE – ARWA A A ELMAHMODI

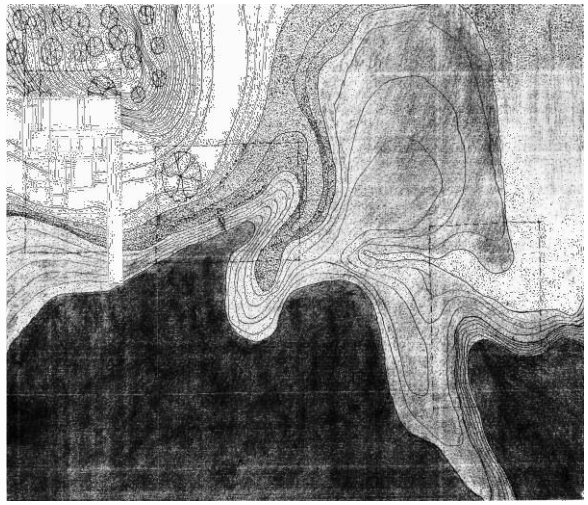








This design envisions a dynamic, impermanent space where two hot air balloons travel along two tracks, transforming the entire area into a single, adaptable environment. The balloons can leave the structure, reinforcing the theme of mobility and flexibility. Two walls incorporate foldable chairs, providing continuous usability whether deployed or stowed. A dual-level slide, with metal for the baskets and timber for people, fosters both functional and experiential elements as it links various levels of the space, including water access. The design strategically plays with varied levels to separate public, semi-public, and private spaces, enhancing interactivity and creating a decentralized, nomadic, and immersive spatial experience.

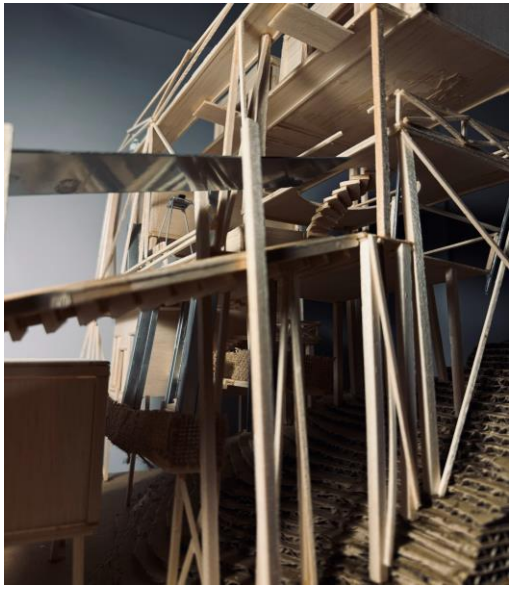


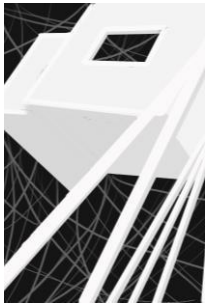
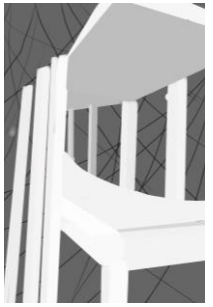
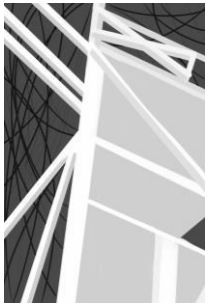
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – ARWA A A ELMAHMODI





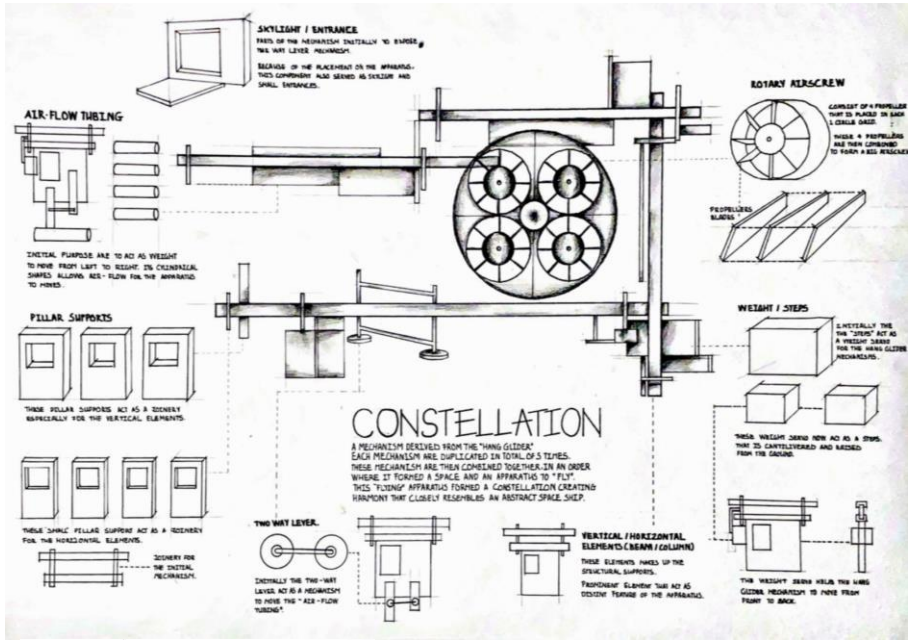


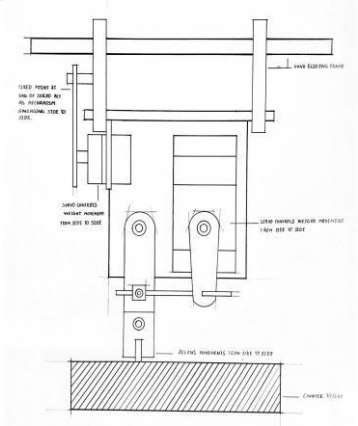





Richard Sennett: "The environment must be designed not as a finished product but as a process—an ongoing negotiation between form and function. In this way, spaces can encourage change and adaptation, fostering a sense of community and connection."

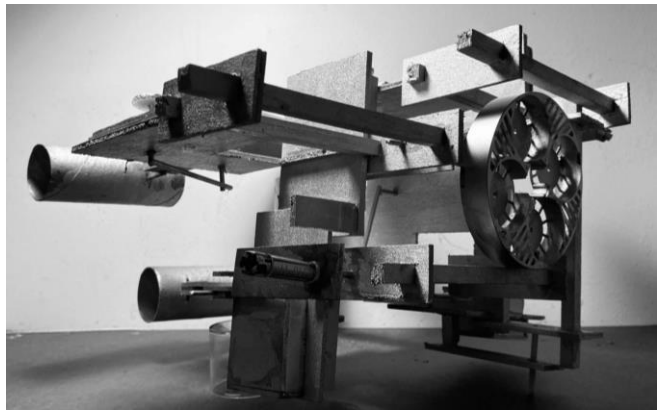
ARCHITECTURE OF IMPERMANENCE

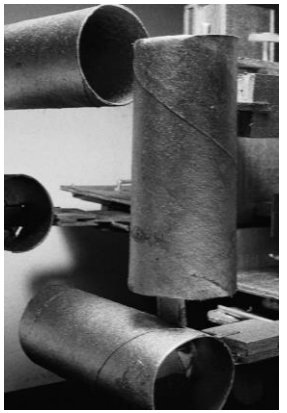
A MORPHOGRAMMATIC PROTOTYPE – AVELLIE JAMES

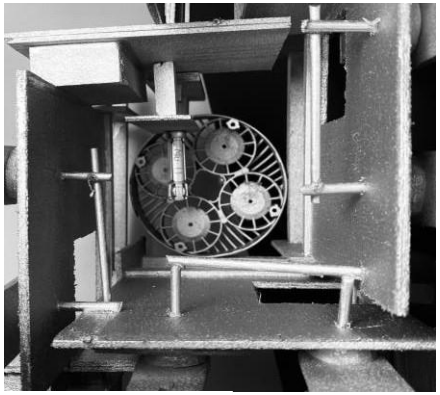


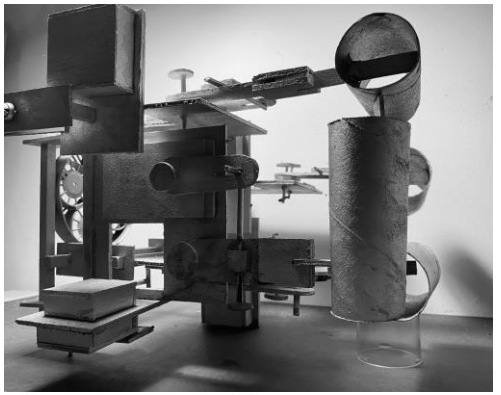


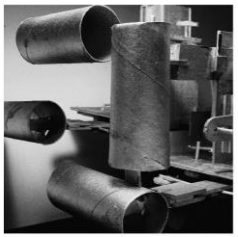
The design titled "Architecture of Impermanence: A Morphogrammatic Prototype" embodies the project's theme of nomadism and mobility by incorporating dynamic mechanical elements such as rotary screws, airflow tabling, and multi-layered surfaces, allowing for flexibility and adaptability. The structure reflects the idea of traversing liminal, transitional spaces, aligning with the project's focus on creating adaptable, lightweight, and occupiable structures that challenge traditional notions of architectural permanence. The design explores how architecture can evolve and transform, serving as a speculative apparatus for inhabiting ever-changing environments.

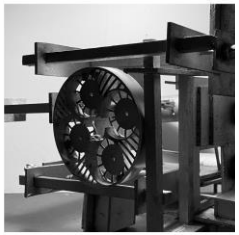


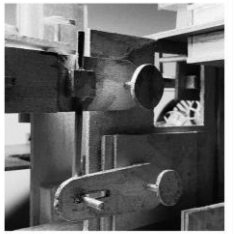












Fenestration

The fenestration are an opening that exposed to back part of the mechanism. Although it serve no function in term of mechanical functionality of movements, it is crucial for the apparatus design such that it gives an aesthetic balance and the feeling of openness for the overall design. It also adds the elements of structural air flow or air ventilations as the design runs from the concept of enclosed space while also providing enough space for privacy and comfort.

Airflow Tubing

The airflow tubing are a part of the main selected mechanism. Initial purpose are for it to act as a weight for movement from left to right. Instead, because of its cylindrical shape and are hollow inside, it is transformed into a mechanism that allows airflow for the apparatus to move up and down. This tubing is also connected to the "Two - Way Lever" allowing for it to move according to the lever mechanism.

The Rotary Airscrew

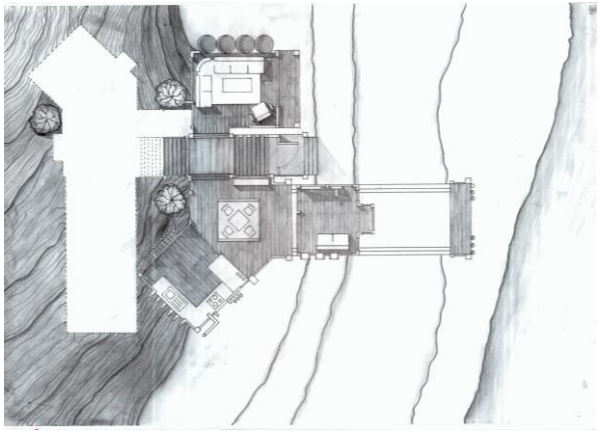
The rotary airscrew are a mechanism that consist of 4 propellers that is repeated and place in 1 circle grid. Each individual propeller consist of 12 blades. The 4 propellers are then combine to form a big airscrew. It is then placed at the centre far end of the apparatus. The rotary airscrew mechanism allows the overall apparatus to be able to move forward and backward when flying.

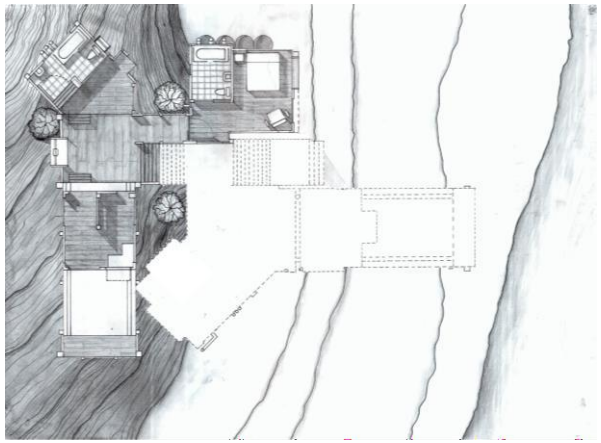
Two - Way Lever

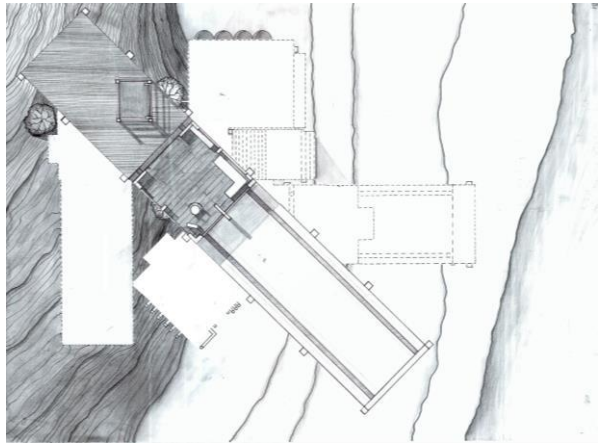
The two - way lever are also connected and are parts of the main mechanism that makes up the over all apparatus. The mechanism allows the movement from left to right or up and down based on the placements of the overall component. The movements of the two - way lever creates a, symmetrical rhythm from left to right allowing configuration of the overall apparatus structure.

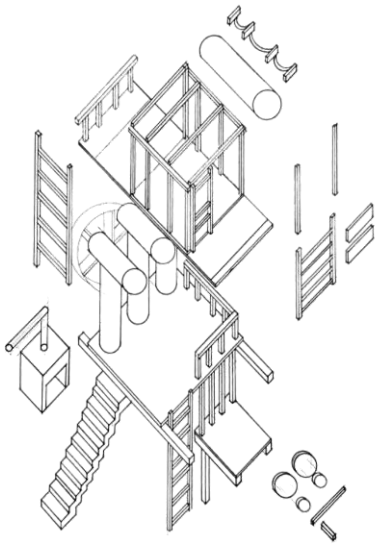
ARCHITECTURE OF IMPERMANENCE

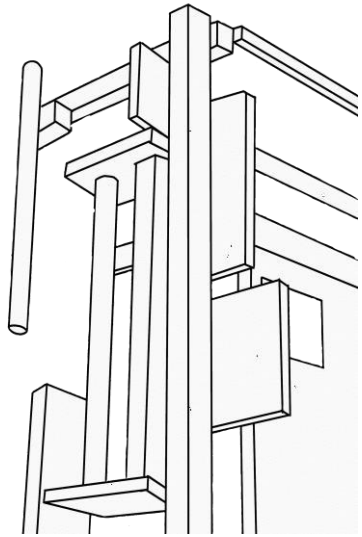
A MORPHOGRAMMATIC PROTOTYPE – AVELLIE JAMES

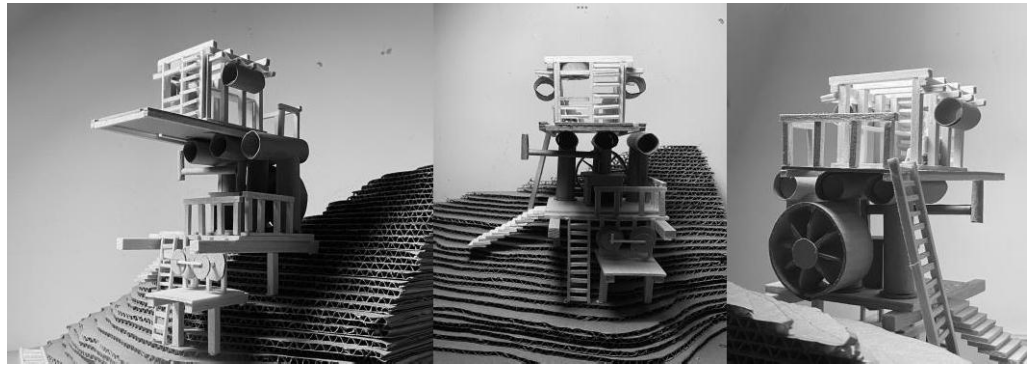






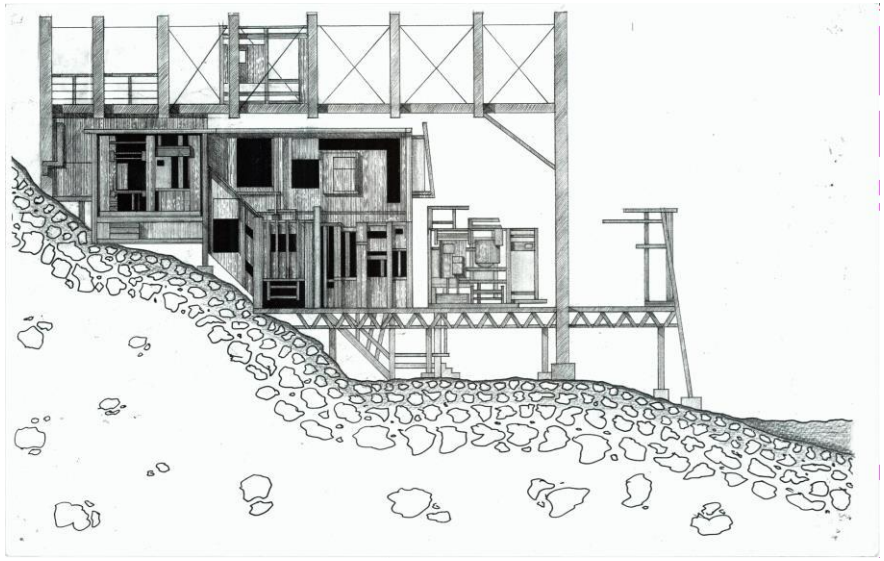


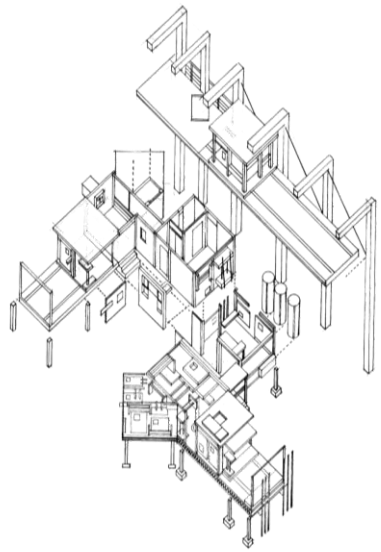




ARCHITECTURE OF IMPERMANENCE

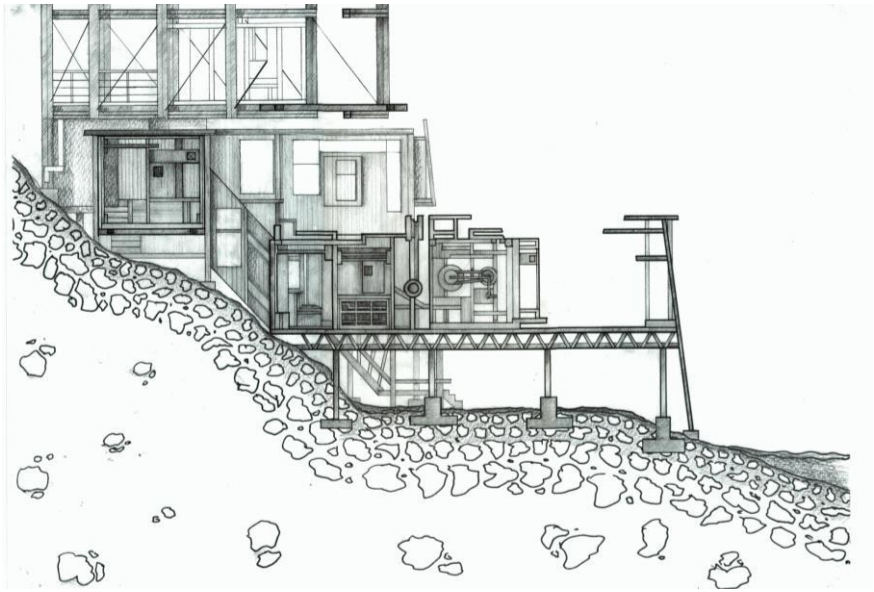
A MORPHOGRAMMATIC PROTOTYPE – AVELLIE JAMES

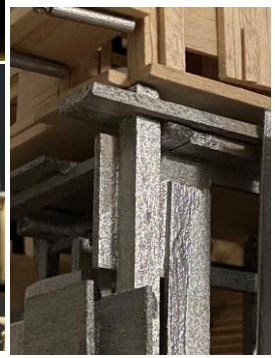




The key aspect of the design for project 03 are to incorporate the elements as well as the components derived from project 01. The overall components that makes up the spaces of my design are exactly the structures of my mechanism itself. As the subject of impermanence and mobility, I've incorporated a simple moving platform at every levels that serve a purpose such that it widens the view of the surrounding site. Although the mechanism itself is not the key point of the so called "mobility" aspect of the overall structure, but it serves as the main components that makes up the whole structure and its internal and external details.

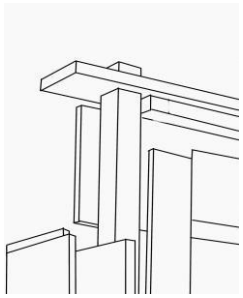
Highlighting on the "impermanence", the structural design are meant to be upgraded and are able to be transformed into a completely different spaces. Unlike a conventional structure, the spaces and overall structure are design to have a unique ascent incorporating steel and timber as its main structural materials. These materials are designed to create a chaotic yet harmonious design that mimics the mechanism structural functions and structural aesthetic.



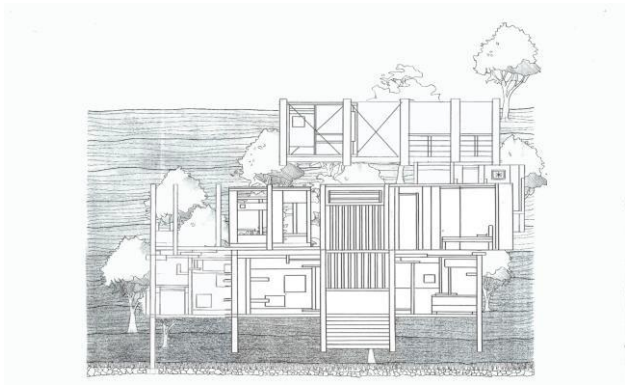
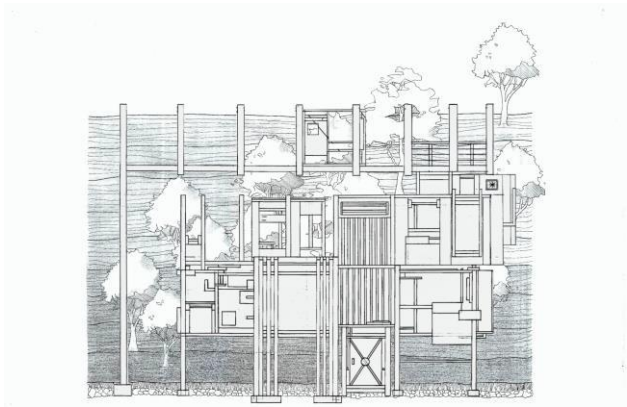
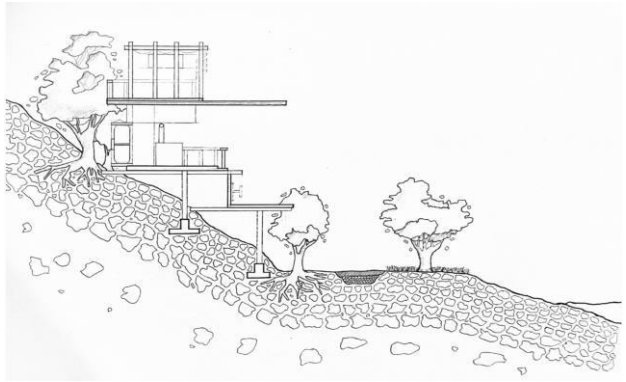


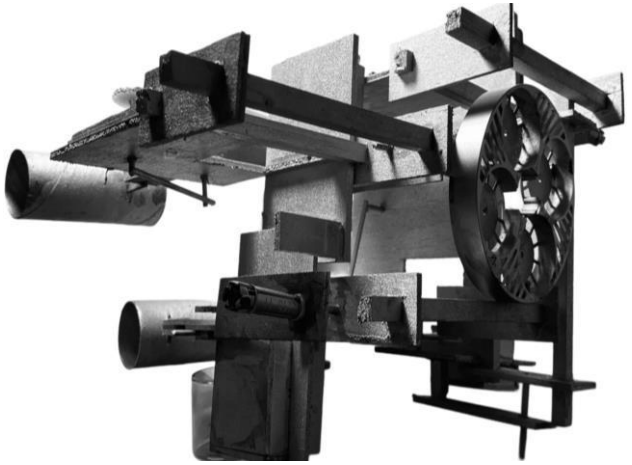
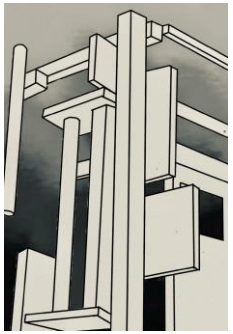
ARCHITECTURE OF IMPERMANENCE

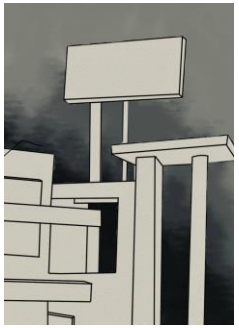
A MORPHOGRAMMATIC PROTOTYPE – AVELLIE JAMES

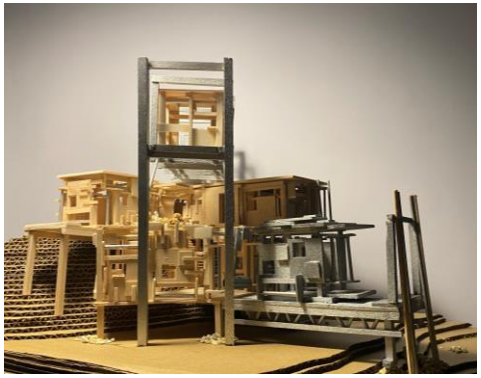




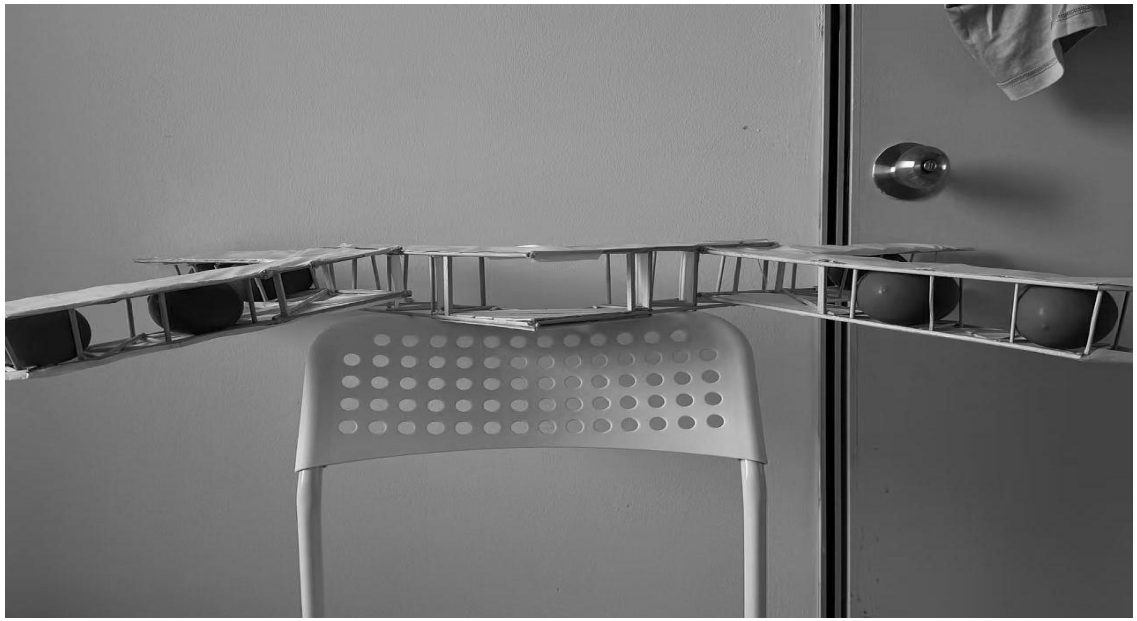


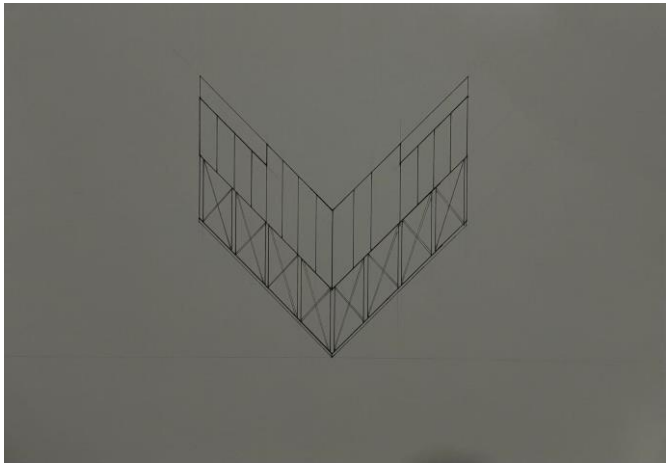
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – CHIA JIA HAN

THE CONCEPT OF MY DESIGN IS BASE OFF OF THE MECHANICAL PRINCIPAL OF AND THE SHAPES OF A PLANE & AND GILDE.
WITH THE SHAPE OF THE STRUCTURE, A SPACE IS CREATED WITHIN. THE SPACE FUNCTION AS A LIVIBLE AREA FOR HUMAN HABITATION, IT CAN ALSO BE MOVED WITH HUMAN POWERED-MECHANISM. THE DESIGN INCLUDES A FRAME THAT IS SHAPE LIKE A WING OF A GLIDER. WITH MULTIPLE OF THE SAME WING, IT CAN BE CONFIGURATED INTO DIFFIRENT ORIENTATION.MOREOVER, EACH STRUCTURE AND PERFORMED DIFFERENT TASK THAT ENABLE FLIGHT. THE WINGS OF THE MAIN FRAME IN THE MIDDLE CONTAIN WINGFLAPS THAT ENABLE THE ENTIRE STRUCTURE TO FLY IN DIFFERENT DIRECTION, WHILE THE TWO FRAME ON THE SIDE CONTAIN BALLONS THAT LIFT THE ENTIRE STRUCTURE TO FLOAT IN THE AIR.

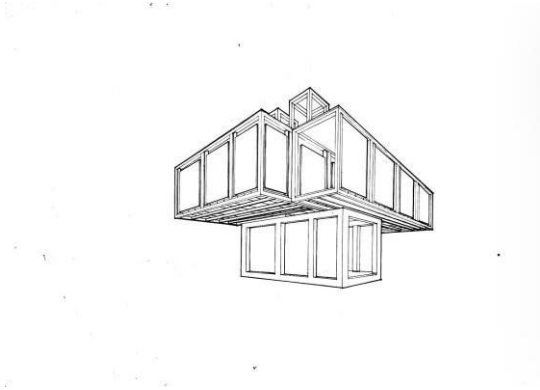
THIS MOBILE SPACE NOT ONLY MEETS THE FUNDAMENTAL OF HUMAN LIVING BUT ALSO INCOPERATE A BIO- MECHANICAL SYSTEM THAT OFFERS A NOVEL MADE OF MOBILITY. INTEGRADING HUMAN-POWERED ELEMENTS TO REDUCE ENERGY COMSUPTION AND PROMOTE SUSTAINABILITY.

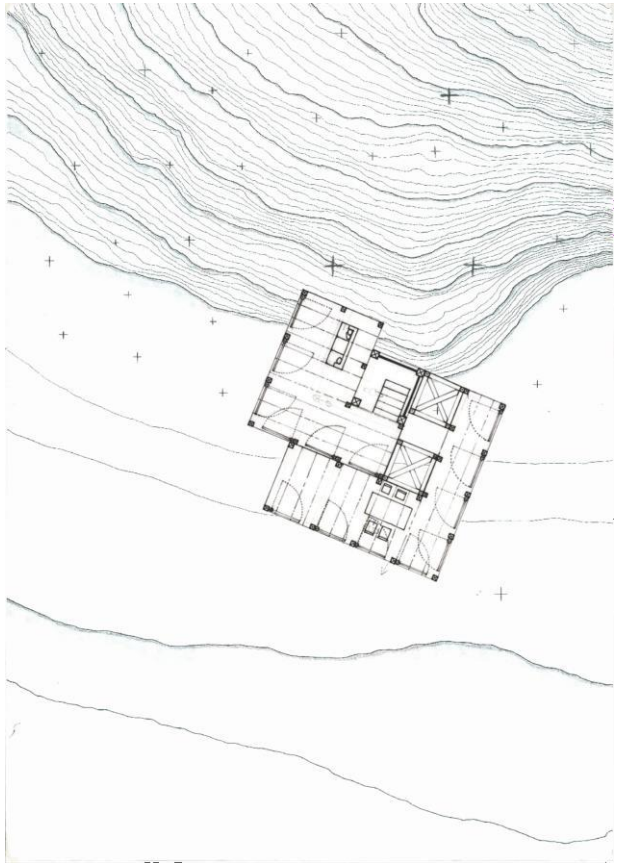


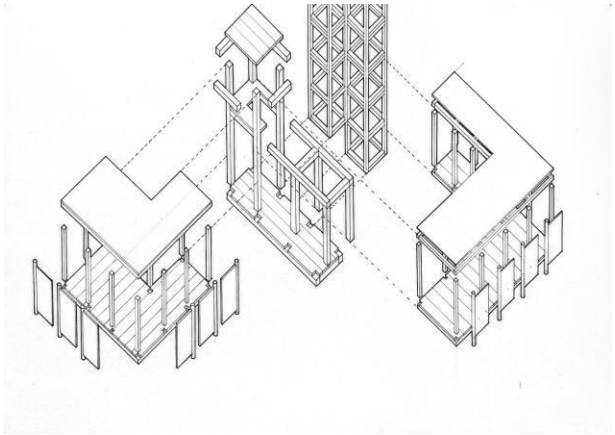


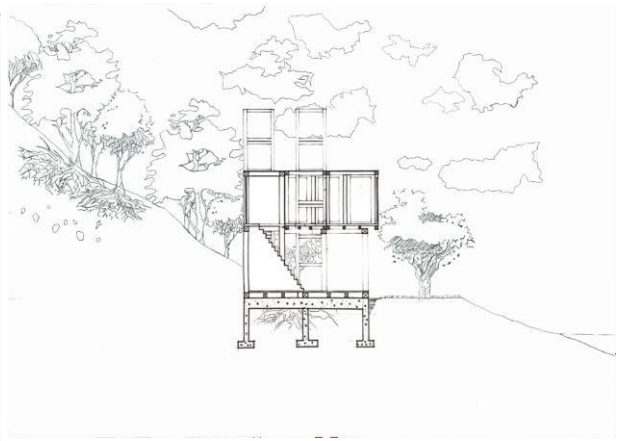
ARCHITECTURE OF IMPERMANENCE

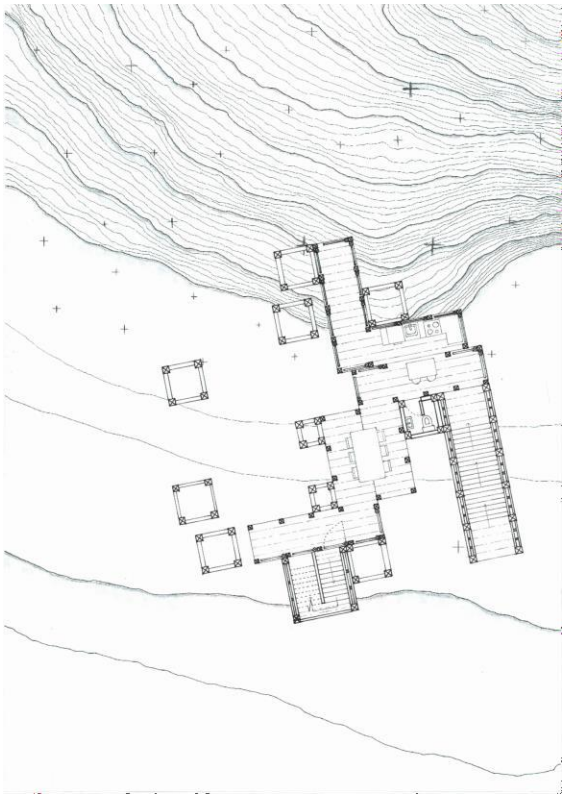
A MORPHOGRAMMATIC PROTOTYPE – CHIA JIA HAN

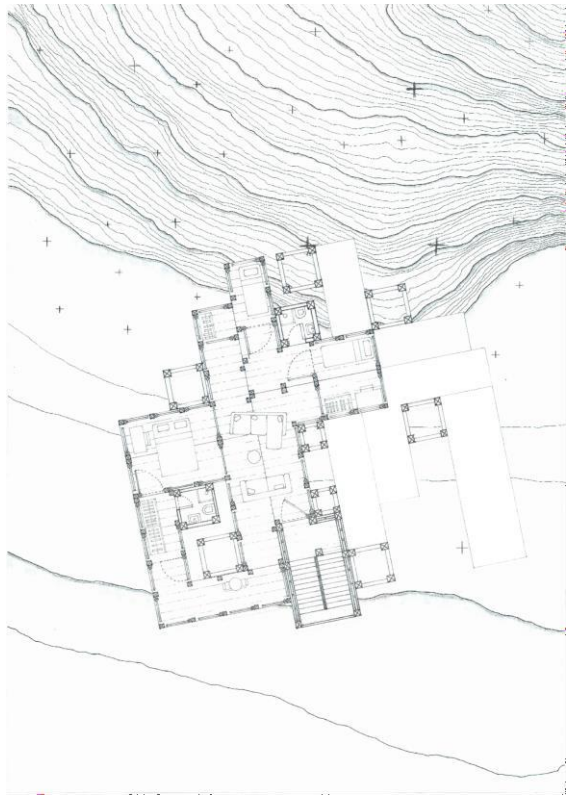












ARCHITECTURE OF IMPERMANENCE

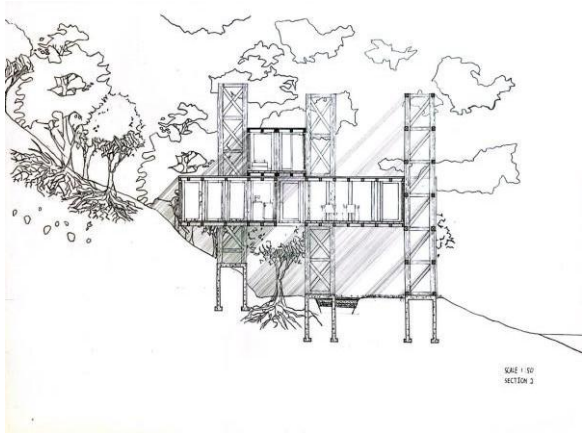
A MORPHOGRAMMATIC PROTOTYPE – CHIA JIA HAN

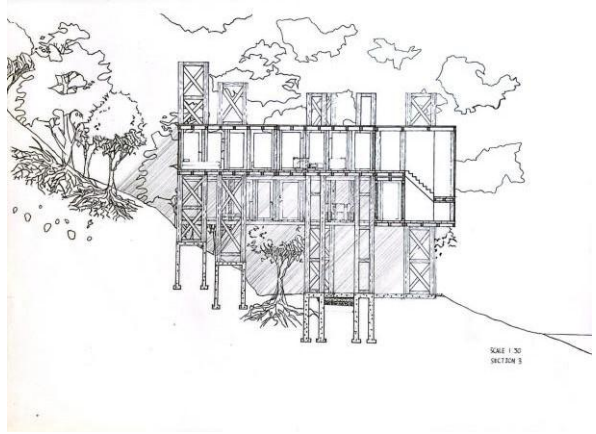
WITH THE UNDERSTANDING AND THE USE OF CONCEPT FROM THE MECHANISM OF PROJECT 1, THE DESIGN CONTINUES TO DEVELOP FLLOWING THE INITIAL INTENTION, WITH CERTAIN ASPECT AND COMPONENT CHANGED TO BETTER FIT INTO PRACTICAL USE.

WITH THE SAME FRAME AND SHAPE OF THE STRUCTURE FROM PROJECT 1, THE "L" SHAPE STRUCTURE IS NOW USE AS A MAIN BUILDING BLOCKING FOR PROJECT 3 TO CREATE A LIVING SPACE WHICH CAN ACCOMMODATE UP TO 4 PEOPLE.

THE MULTIPLE "L" SHAPE STRUCTURE ARE NOW MADE SMALLER BUT A LOT MORE. THE "L" SHAPE ARE CONNECTED WITH EACH OTHER TO MAKE A LARGER LIVING SPACE THAT INCLUDE BEDROOMS, LIVING AREA, AND KITCHENS. TO MAKE THE LIVING SPACES, THE "L" SHAPE STRUCTURE ARE CONNECTED TO EACH OTHER WITH MAGNET AND THEN CONNECTED TO A LARGE FRAME COLUMN WHICH FUNCTION AS A SUPPORT FOR THE MAIN STRUCTURE,

FOR THE WINGFLAP OF THE STRUCTURE FROM PROJECT 1, THE WINGFLAPS IN THIS PROJECT 3 HAS MULTIPLE ROLE, IT CAN FUNCTION AS A WINDOW, A WALL OR A DOOR DEPENDING ON THE ORIENATION OF THE SPACE OR LAYOUT. WHEN THE STRUCTURE IS NEEDED TO BE MOVED, THE "L" SHAPE STRUCTURE CAN BE DISENGAGE FROM EACH OTHER AND FROM THE LARGE FRAME COLUMN. MOREOVER, THE WINGFLAPS CAN BE MOVE TO THE EDGE OF EACH SIDE OF THE "L" SHAPE STRUCTURE CREATING LIKE A WING AND THEN GLIDE OF FLY TO THE LOCATION THAT IS NEEDED, BUT THE LARGE COLUMN ARE PERMANT STRUCTURE AND CANNOT BE MOVED.

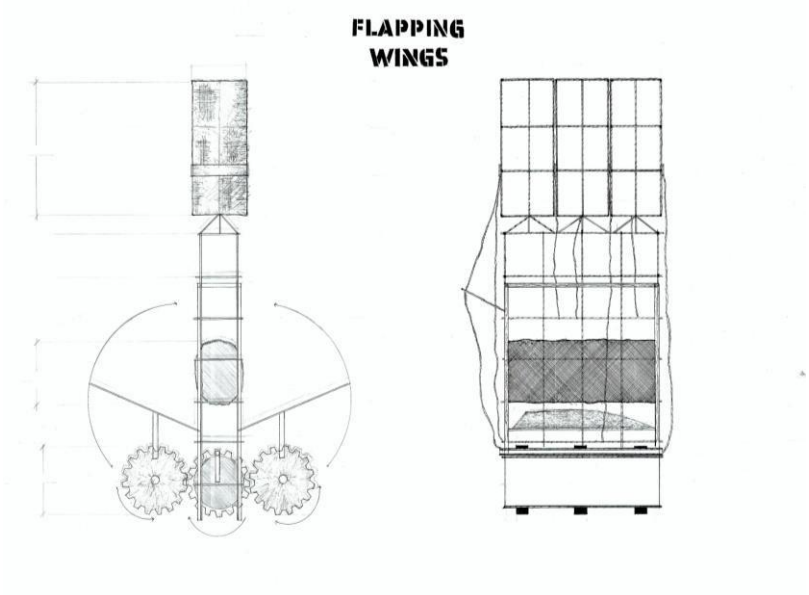





Félix Guattari: "The world is not a machine, but a network of relationships, always in motion and transformation. In this context, architecture should not be seen as a static entity but as a dynamic participant in the ongoing interplay of social, cultural, and environmental forces."

ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – HIBA ABDELMONIEM



Architecture's evolution towards mobility, impermanence, and nomadism has significantly altered our understanding and relationship with the built environment.

Accordingly, we were required to carryout a precedent study of a mechanism that is based on sky, water, and land.

The mechanism I chose is "flapping wing", as the name implies, it should lift the structure in air. The mechanism is based on a set of gears that transmit rotational motion to move the wings up and down.

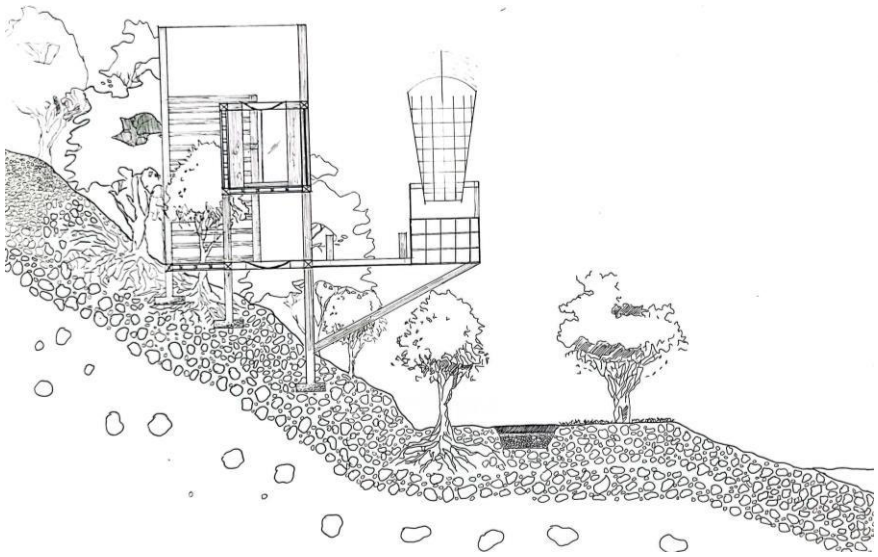
In my design, I lined three sets of gears creating an occupiable space in between. These gears are attached to the wings to enable maneuvering the structure when flying.

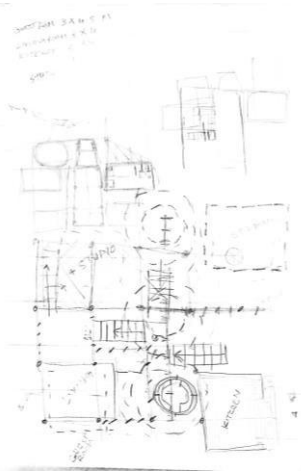
A steel grid accommodates the occupiable space connecting them to the helium balloons. The balloons make the structure fly.

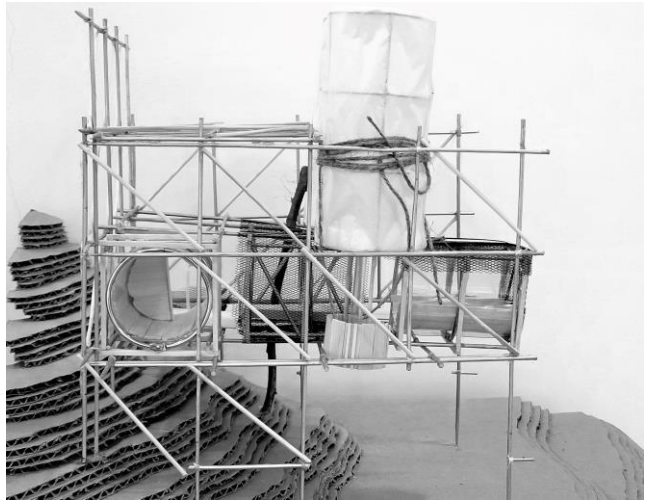
ARCHITECTURE OF IMPERMANENCE

A MORPHOGRAMMATIC PROTOTYPE – HIBA ABDELMONIEM

Project 2





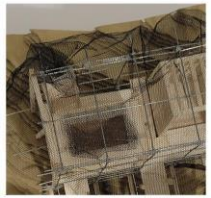


Gears

They were attached to the air ballon bascket, and the gear is attached to a wing helping the air balloon to maneuver.

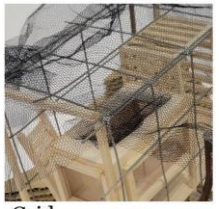
Balloons

Filled with helium and covered with fabric, can fly and act as a lounge when not flying.



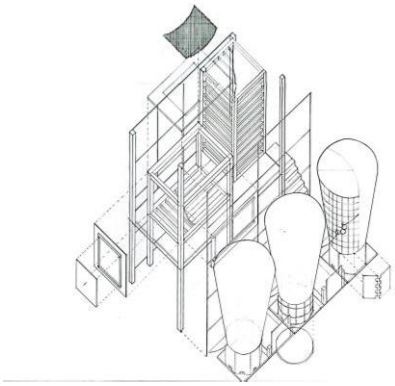
Mesh

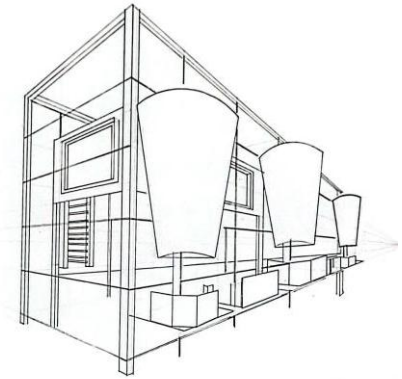
made of netting or ropes, Covering different areas of the structure, and acting as a hammock in some spaces



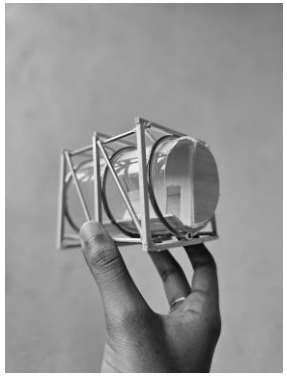
Grid

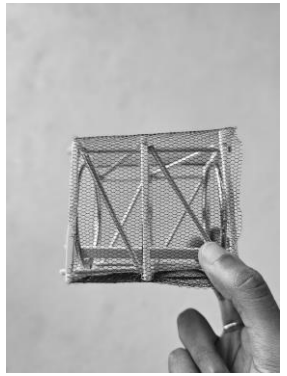
Made of steel, acting as a structural frame, and accommodates spaces, giving translucency and a lightweight look.





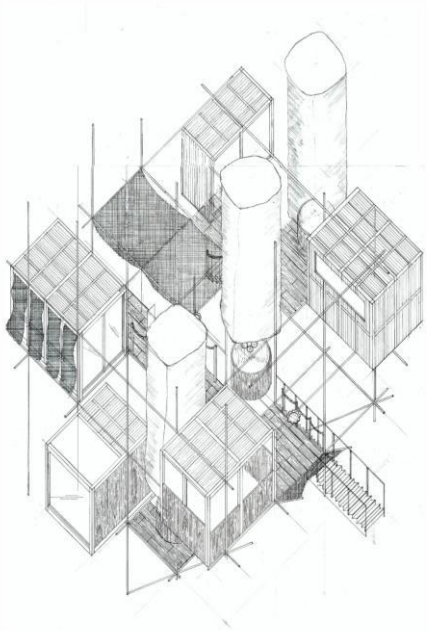
Mock-ups and design process

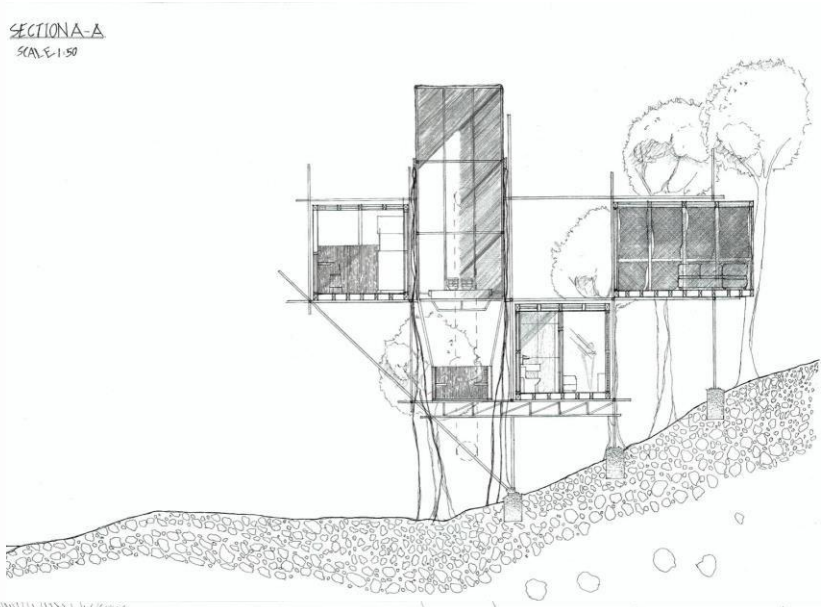


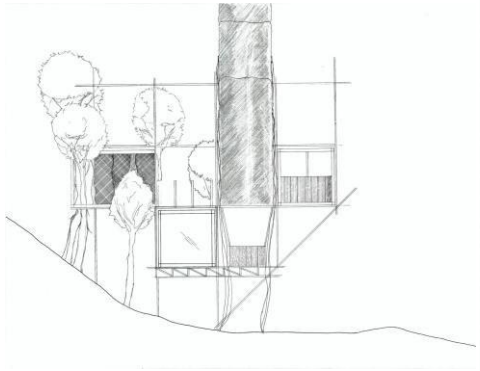


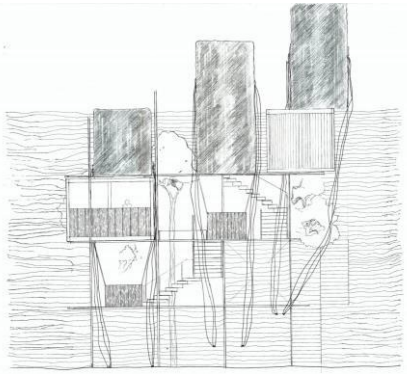
ARCHITECTURE OF IMPERMANENCE

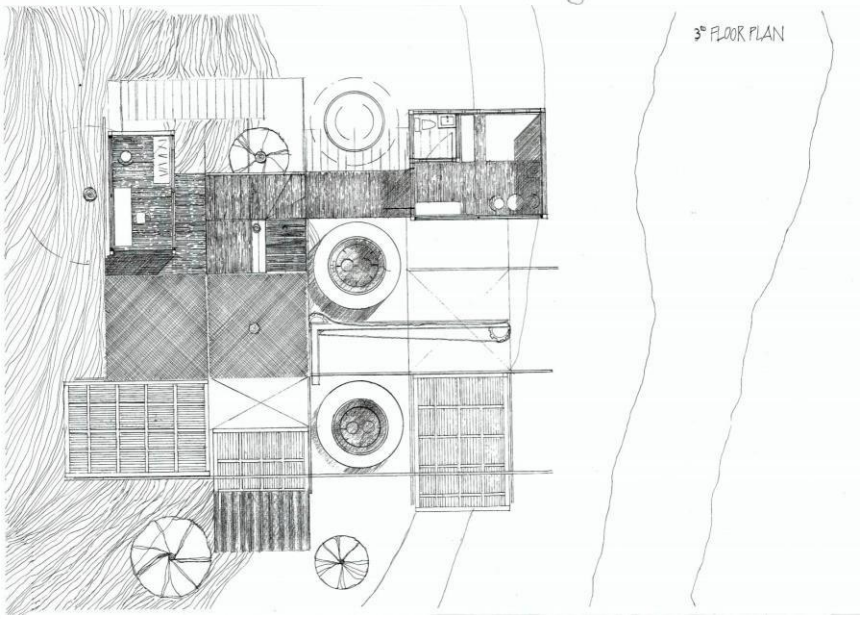
A MORPHOGRAMMATIC PROTOTYPE – HIBA ABDELMONIEM





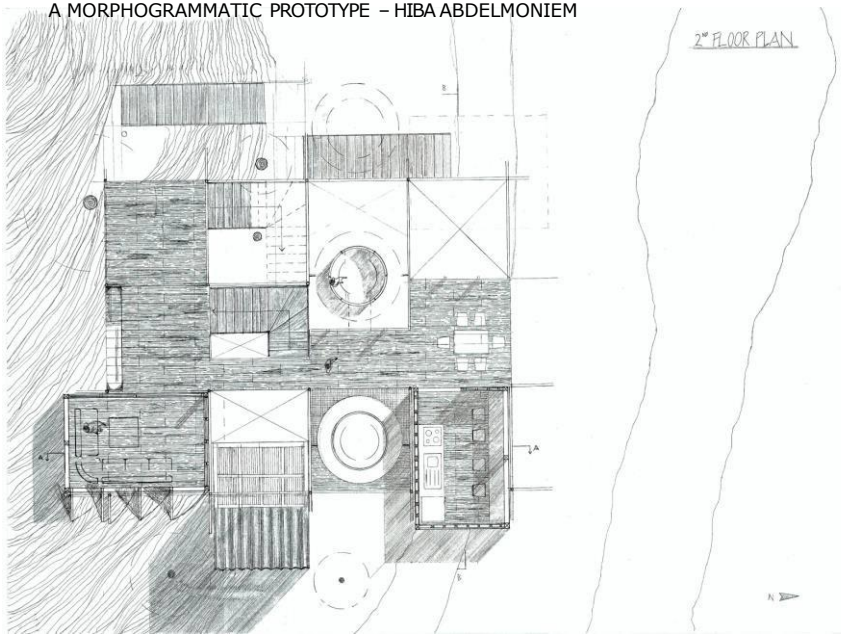


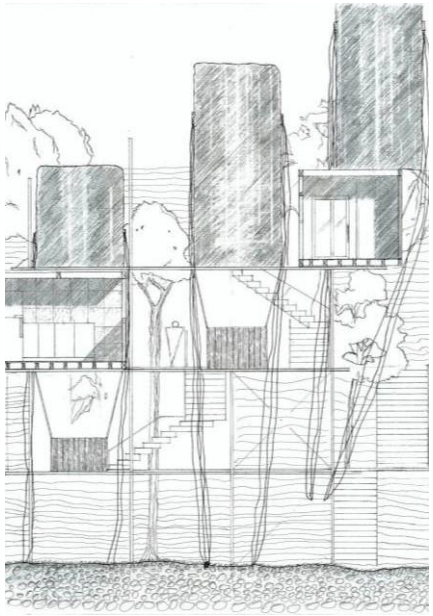




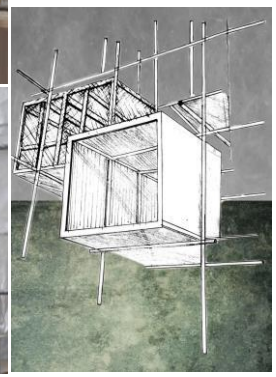
ARCHITECTURE OF IMPERMANENCE

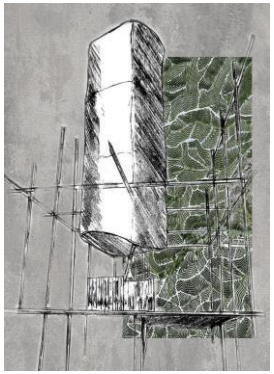
A MORPHOGRAMMATIC PROTOTYPE – HIBA ABDELMONIEM





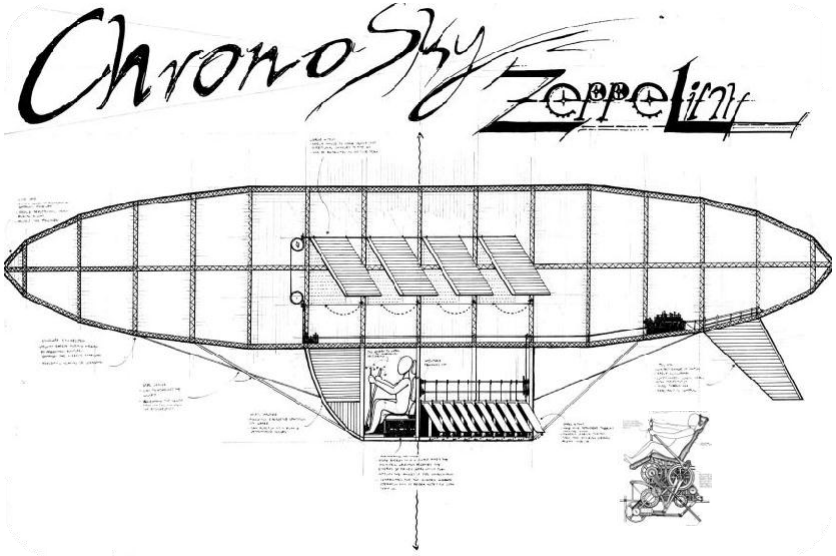
My design has been inspired by the Yona Friedman theory as in the plug-in city.
The spaces in this project are plugged in a high steel grid, which, together with the surrounding nature, creates liminal spaces with a unique atmosphere.
To conserve the language from the previous projects that encompassed lightweight, structural, and translucency, four key components have been used: steel grid, mesh, balloons, and gears.
The main features of my design, which achieved the theme of the project- _mobility_ - are helium balloons.
The house has three balloons placed at different levels on the grid.
These balloons have been designed to fly smoothly through the vast sky to explore the island of Langkawi. The balloons are maneuvered by gears, and they launch on an L-shaped metal track. When not flying the balloons, act as a lounge with a relaxing atmosphere in the beautiful nature.
The materials used in this project vary widely. They include steel, wood, polycarbonate, fabric, and mesh.
The mix of the above materials with the different levelling of the spaces and translucency give this unconventional house its unique features.

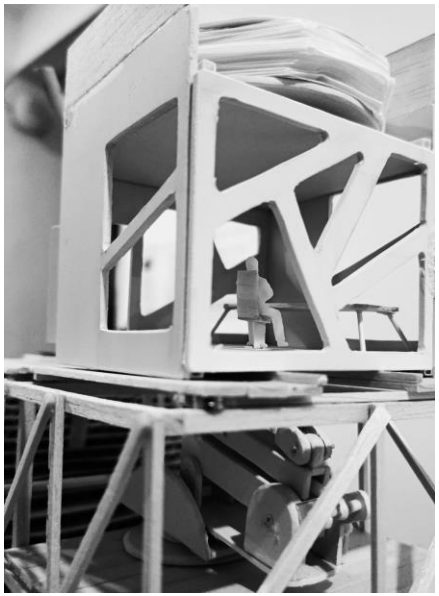




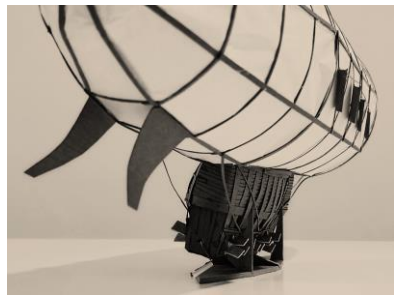
ARCHITECTURE OF IMPERMANENCE

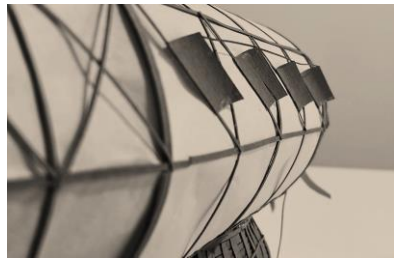
A MORPHOGRAMMATIC PROTOTYPE – JOHN JONG MING

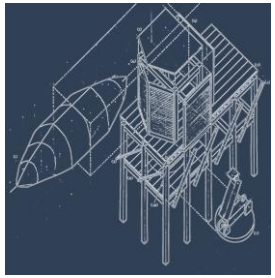


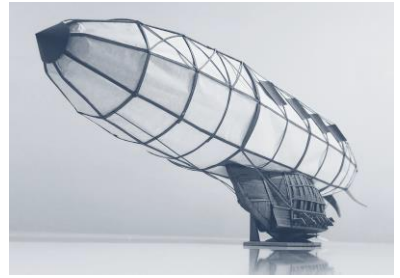


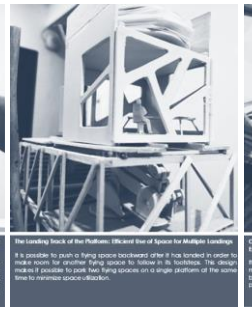
The design, named "Architecture of Impermanence: A Morphogrammatic Prototype," encapsulates the project's exploration of nomadism and mobility through the integration of dynamic mechanical features, including an adaptive tail fin system, precision control, reinforced exoskeleton design, and adaptive wing design. This structure mirrors the concept of navigating transitional and liminal spaces, reinforcing the project's emphasis on developing adaptable, lightweight, and habitable forms that question conventional ideas of architectural permanence. The design investigates how architecture can transform and evolve, acting as a speculative tool for inhabiting fluid and shifting environments.

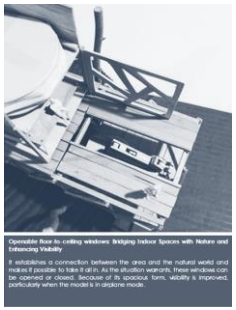


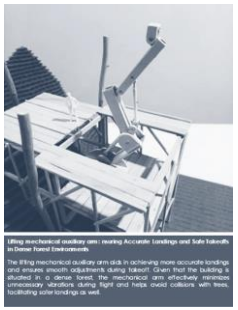












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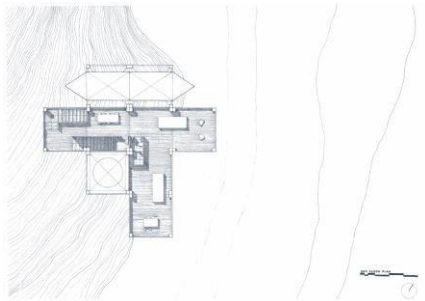
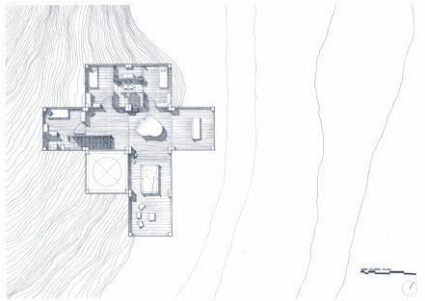
A MORPHOGRAMMATIC PROTOTYPE – JOHN JONG MING





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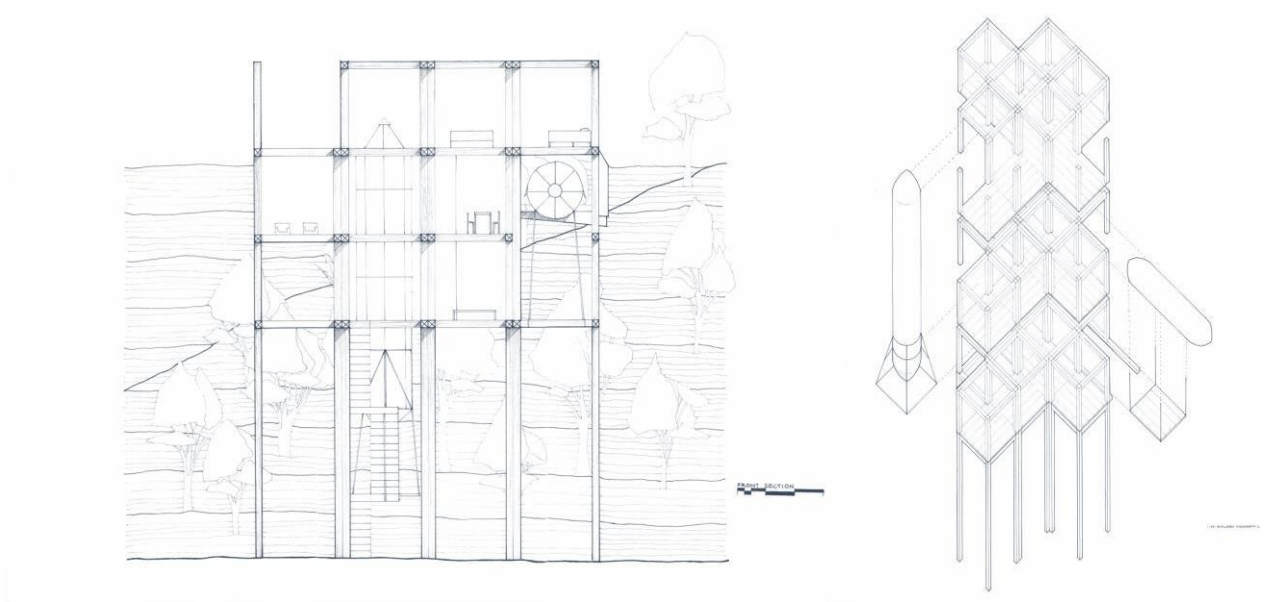

The key aspect of the design for Project 03 lies in integrating elements and components derived from Project 01. The overall components that define the spatial configuration are, in fact, the mechanical structures themselves. Aligned with the theme of "impermanence" and "mobility," I have incorporated a simple moving platform at each level, utilizing mechanisms such as a Zeppelin airbag for platform displacement or as a lift system, both of which operate independently from the main structure. These mechanisms significantly enhance the panoramic view of the surrounding environment. Although the mechanical systems are not the central focus of the building's "mobility" concept, they form the core elements that shape the entire structure and dictate its internal and external details.

Emphasizing the concept of "impermanence," the design prioritizes lightweight, detachable structures that can be repurposed into entirely different spaces or even used as a form of transportation. Unlike traditional architecture, the design features a distinctive aesthetic, integrating steel and timber as primary structural materials, with bamboo as a secondary element. These materials are arranged to create an open, harmonious space that blends with the environment while emphasizing simplicity and functionality.

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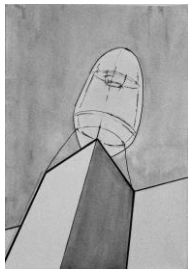
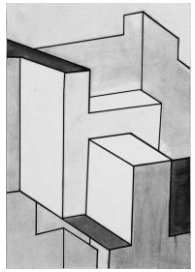
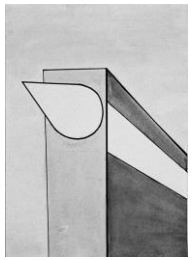
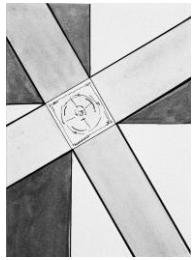
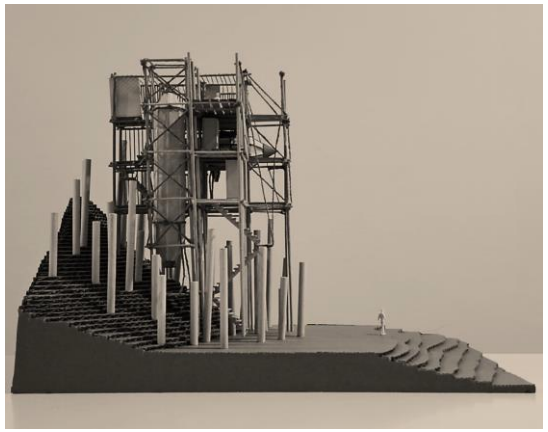
A MORPHOGRAMMATIC PROTOTYPE - JOHN JONG MING

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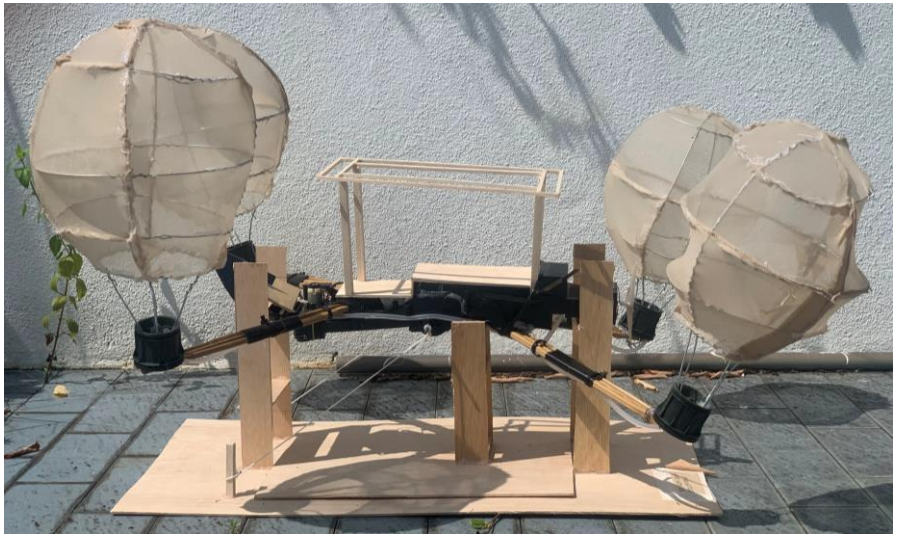
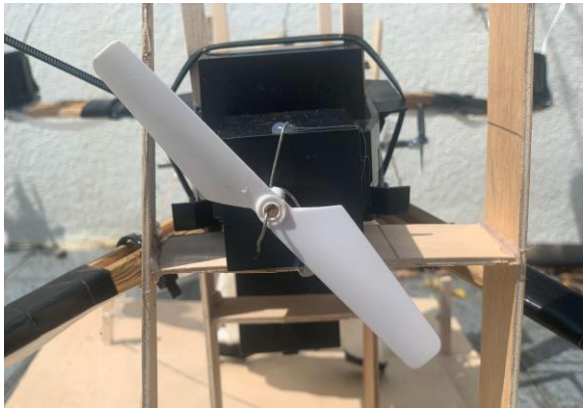
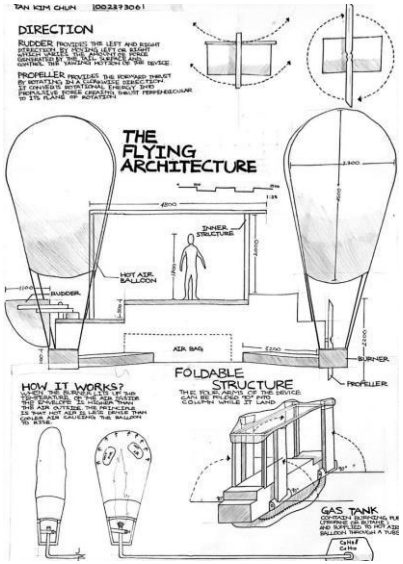
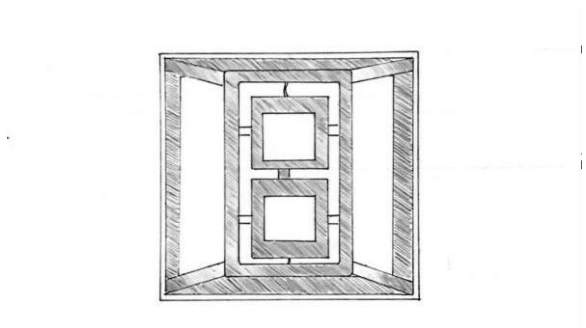
A MORPHOGRAMMATIC PROTOTYPE – TAN KIM CHUN







THE FLYING STUDIO: The study of mobility architecture aim to explore a transformative design concept that creates living spaces capable of both residing in one place and transporting to new environments. The flying studio operated by a hot air balloon with a drone-like design. This unique concept combines the gentle ascent of a hot air balloon with the maneuverability of a multi-rotor drone, creating a versatile platform for capturing breathtaking aerial footage. At the heart of this flying studio is a classic hot air balloon, providing stable lift and a serene flying experience. Attached to the balloon are four drone-like arms, which not only offer structural support but also house propellers and rudders. The propellers provide thrust, allowing the balloon to move in various directions, while the rudder enables precise steering. The operator can easily control the direction and speed of the platform, making it adaptable for various environments and tasks.



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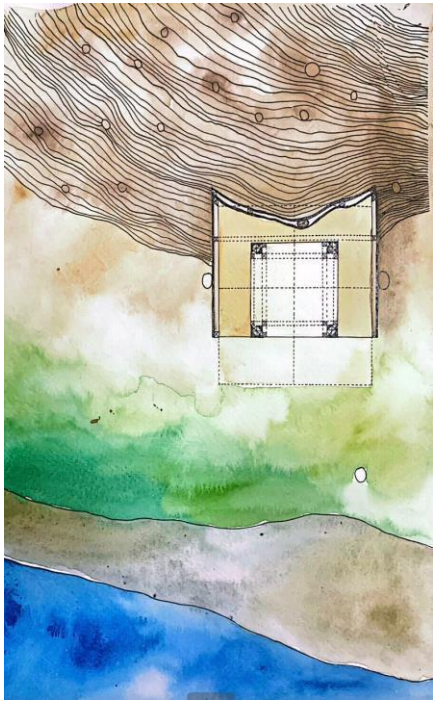
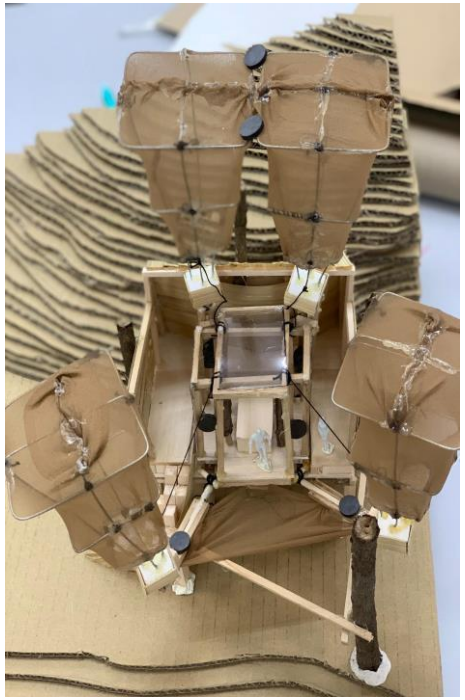
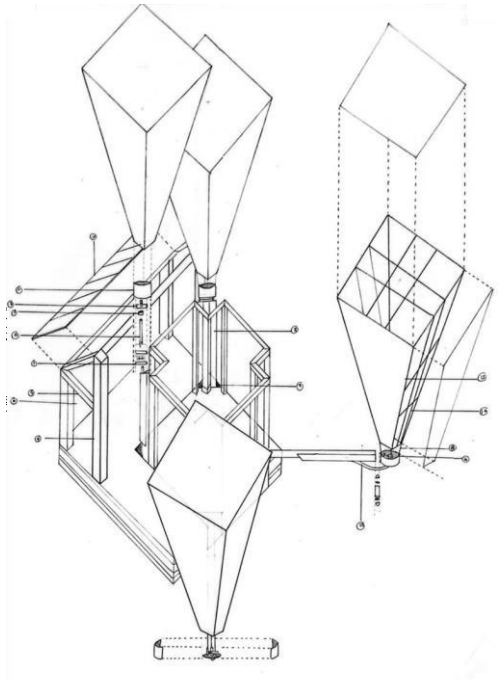
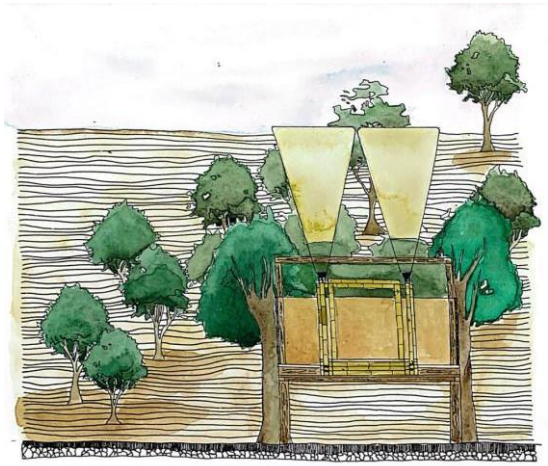
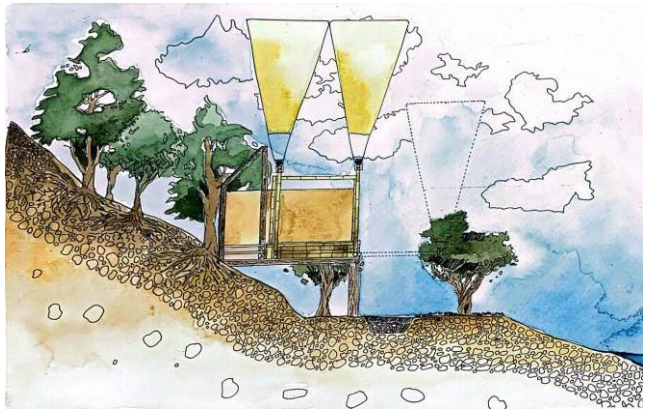
A MORPHOGRAMMATIC PROTOTYPE – TAN KIM CHUN



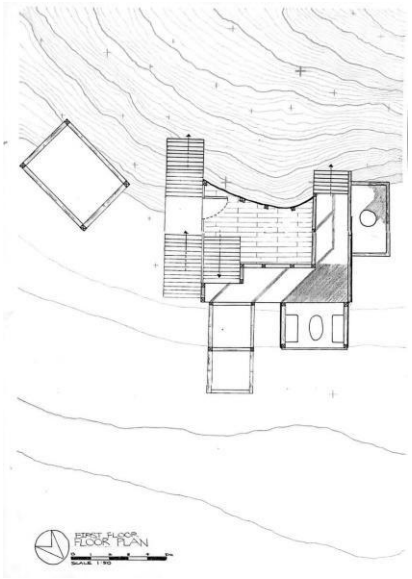


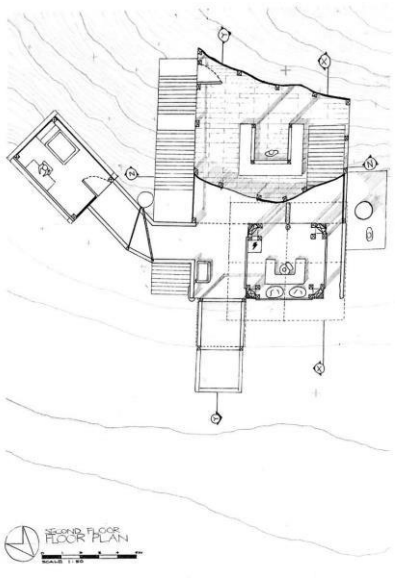


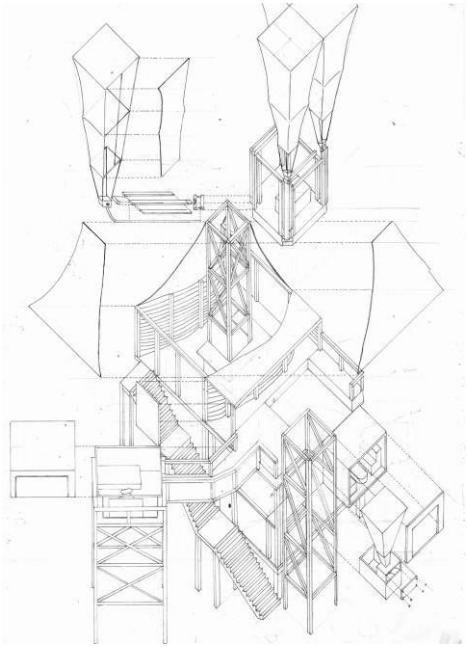


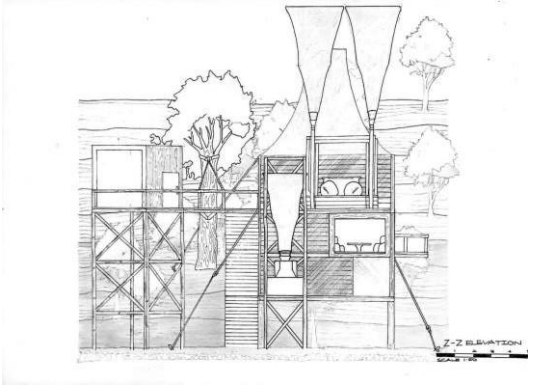


PHASE 2: In the second phase of the flying studio project, significant enhancements were made by exploring the concept of liminality, which blurs the lines between aerial and terrestrial spaces. A dedicated landing area was added for safe access, while the innovative design of the studio's four arms allows them to fold 90 degrees, improving aerodynamics and simplifying transitions from air to land. Notably, when the arms are retracted, the balloon transforms into a roof, creating a sheltered multifunctional area for activities beneath it. This design not only enhances functionality but also fosters a vibrant hub for creativity and collaboration, ultimately redefining the flying studio as a dynamic space that invites engagement with the environment.

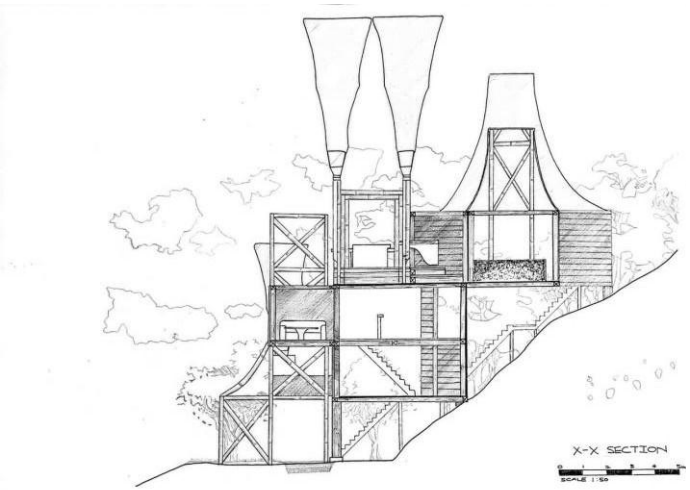


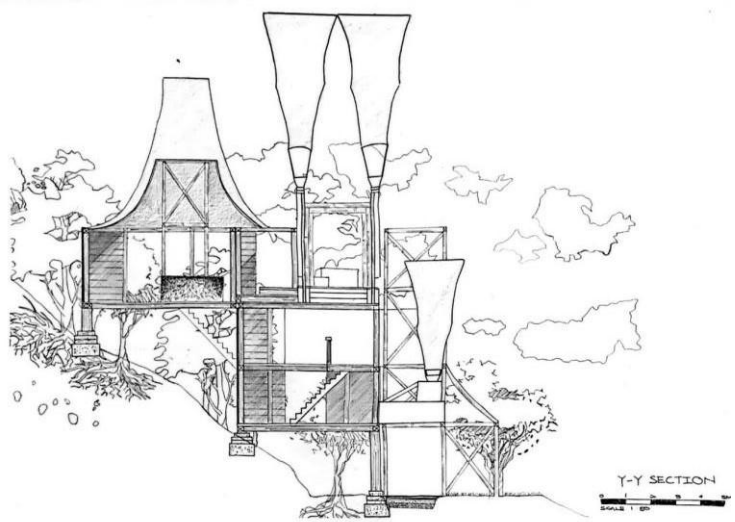






THE JUNGLE NEST: In Phase 3, the project was renamed "The Jungle Nest," featuring a two-story design that integrates several innovative elements. Central to this phase is a fabric tensile-roofed kitchen, which serves as a striking light source for the outdoor space when illuminated from within. The flying studio remains a key component, alongside a cozy capsule bedroom that offers a unique sleeping experience. Enhancing accessibility, a hot air balloon elevator provides a whimsical ascent to the upper level, while a semi-enclosed living room fosters a connection to nature. Additionally, the design includes canvas walls that can be pulled back using an anchor system, allowing for flexible indoor-outdoor living. Completing the design is a cantilevered guest room that faces the sea, offering breathtaking views and creating an airy, adventurous atmosphere that embodies the spirit of the jungle. The name "The Jungle Nest" encapsulates the project's essence as a serene, nature-infused sanctuary. Like a bird returning to its nest, the flying studio lands back at the building, creating a seamless connection between aerial exploration and grounded living. This concept symbolizes safety and comfort, integrating natural elements that allow residents to feel at home in their surroundings. The hot air balloon serves as both a means of adventure





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A MORPHOGRAMMATIC PROTOTYPE – TAN KIM CHUN











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A TRIBUTE

The philosophies of Archigram, Yona Friedman, Félix Guattari, and Gilles Deleuze collectively illuminate the vital role of impermanence, mobility, and adaptability in contemporary architecture. By advocating for flexible and responsive design, these thinkers challenge the conventions of static structures, urging architects to embrace a dynamic approach that reflects the fluid nature of modern life. Friedman's notion of mobile architecture emphasizes the importance of user participation and customization, enabling occupants to actively shape their environments according to their evolving needs. This focus on adaptability fosters a deeper sense of ownership and connection to space, allowing individuals to engage with their surroundings on a personal level.

Archigram's vision further promotes environments that can evolve alongside human activities, envisioning structures that incorporate technology and mobility to create immersive experiences. This perspective transforms architecture from mere shelter into a platform for interaction and creativity. Meanwhile, Guattari and Deleuze's concepts of becoming and multiplicity advocate for decentralized, interconnected spaces that encourage community engagement and collaboration. Their emphasis on fluidity and relationality suggests that architecture should facilitate diverse interactions, accommodating varying social dynamics and fostering empathy among users.

Incorporating these ideas into architectural academia is crucial for preparing future designers to navigate the complexities of contemporary society. By integrating principles of impermanence, mobility, and adaptability into curricula, educators can cultivate a generation of architects who are not only technically skilled but also empathetic and attuned to the needs of diverse communities. This educational approach can inspire students to experiment with innovative design strategies that prioritize resilience and inclusivity, empowering them to create spaces that resonate with the emotional and social needs of individuals and groups.

Ultimately, the incorporation of these philosophies into architectural practice and education underscores the importance of designing resilient, adaptable environments that enhance user experience and foster a sense of belonging. By emphasizing empathy, architects can shape spaces that address the complexities of contemporary living while empowering individuals and communities to engage meaningfully with their surroundings. This fosters a richer, more connected urban life, where architecture becomes a catalyst for understanding, interaction, and shared experiences.

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