





DESIGN  
PORTFOLIO

*BIKRAM ADITYA NATH*



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## EDUCATION

2007

All India Secondary School Examination (AISSE),  
Maharishi Vidya Mandir Public School, Silpukhuri,  
Guwahati.

2009

All India Senior School Certificate Examination  
(AISSCE) Faculty Higher Secondary School, North  
Guwahati, Amingaon.

2011-16

### **Bachelor of Architecture (B.Arch)**

Guwahati College of Architecture  
Guwahati University, Guwahati.

2017-19

### **Masters of Design specialization in Computational Design,**

Faculty of Design, CEPT University,  
Ahmedabad, Gujarat.

[Thesis Project: - MAJULI-A Study on Multi-scalar  
Breakwater System for Riverbank erosion.](#)

## EXPERIENCE

Jan -May 2016

**Intern** at Designers Plenum, Guwahati, Assam.

June-March 2017

**Architect**, Designers Plenum, Guwahati, Assam.

July-Sept 2019

**Project Lead-Design**, Elemental Fixtures Pvt Limited, Bangalore

Feb 2020-Sept 2020

**Computational Designer**, The Busride Studio, Goa

Oct 2020-till Present

**Architect Supervisor,**

Flood And River Erosion Management Agency Of Assam  
(FREMAA), Government of Assam, India



# CONTENT

1

FLOOD AND RIVER EROSION MANAGEMENT  
AGENCY OF ASSAM(FREMAA),  
ASSAM WATER CENTRE,BASISTHA  
GOVT. OF ASSAM.(GUWAHATI)

2

THE BUSRIDE LAB.  
(GOA)

3

ELEMENTAL FIXTURE PVT LIMITED.  
(BANGALORE)

4

M.DES-(SPECIALIZATION IN COMPUTATIONAL DESIGN)  
CEPT UNIVERSITY.

5

DOCUMENTATIONS PROJECT

6

FREELANCE PROJECTS





## ASSAM WATER CENTRE

A Centre of Excellence for Knowledge and Technology for Management of Rivers, Water and Land in North-East India. It is a state of Art, convention centre and office building. It houses facilities for various conferences, seminar, meetings and video conferences related to water. It is an integrated one stop solution and building for entire water related infrastructure and also research.

It has one of the best auditorium with seating capacity of 208, different sizes of conference halls, business rooms, vip suites, cafeteria and other facilities like rain water harvesting system, open lawns, open terrace, solar panels etc.

Fig: Assam Water Centre, Basistha, Guwahati



Fig: 3D South -East View



Fig: Video Conference Room



Fig: CEO FREMAA CABIN



Fig: Reception Area



Fig: Conference Room



01



Fig: Conference Room



Fig: Auditorium



Fig: Natural Courtyard



Fig: Skywalk Corridor



Fig: Training Room



Fig: Open Terrace



# 02 A

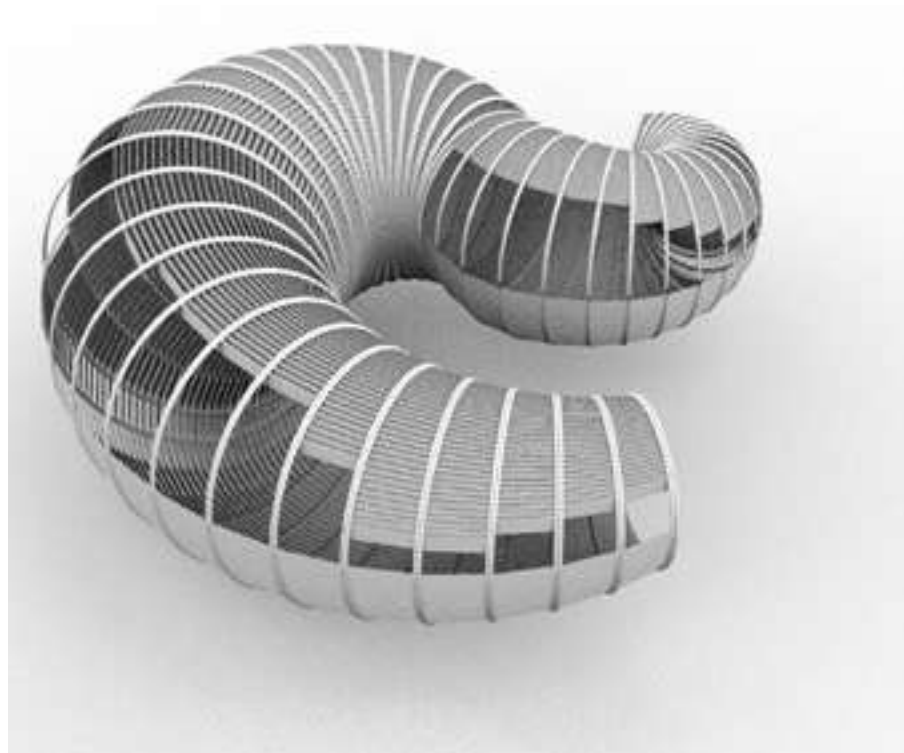


## THE BEACH HUT

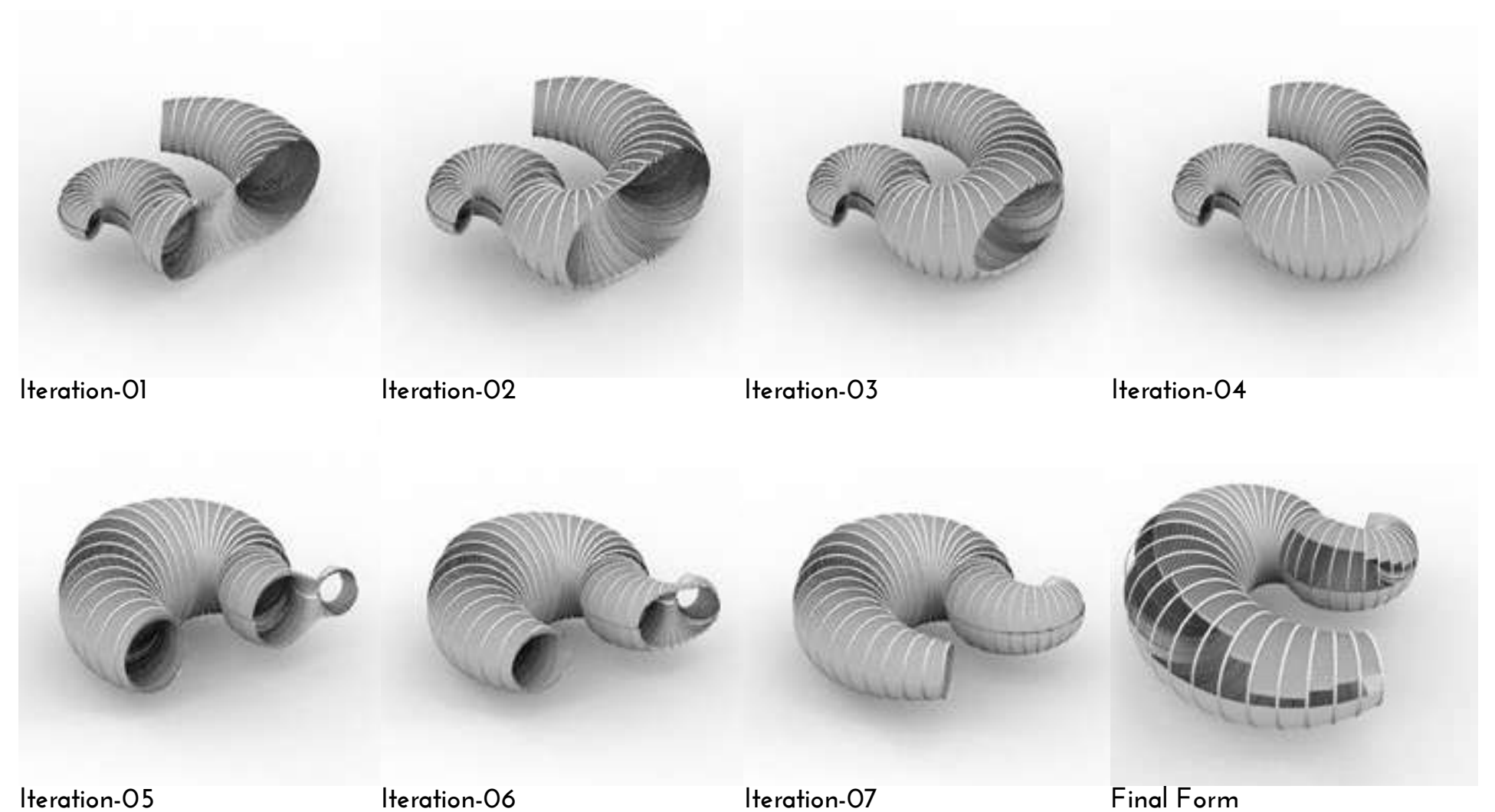
Comprehending the changing sea levels, the question, 'what is the next layer of topography that will emerge as the new Goa?' has been at the crux of speculative design research. Future environmental repercussions will cover beaches and we will have to move more inward to explore other topographies that might replace the quintessential Goan landscape. The beach huts, popularly known as 'shacks', are an important element in the architectural fabric of the beaches as well as the tourism industry. It was important to also consider and work with the crafts community in Goa that is known for its unique weaving techniques. The craft industry and tourism industry in Goa rarely collaborate. We ran experiments in woven reinforcement for sand and mud structures and further into designing an innovative structure using the weaving technique. This was intended to tap into the memory of the original beach huts to create reminiscence and nostalgia.

Image: Craft Revival-Beach Hut, TheBusride Lab

Published Source: [stirworld.com/see-features-the-busride-studio-s-design-for-beach-hut-in-go-a-bring-craft-and-tourism-together](https://stirworld.com/see-features-the-busride-studio-s-design-for-beach-hut-in-go-a-bring-craft-and-tourism-together)



Final Form



Iteration-01

Iteration-02

Iteration-03

Iteration-04

Iteration-05

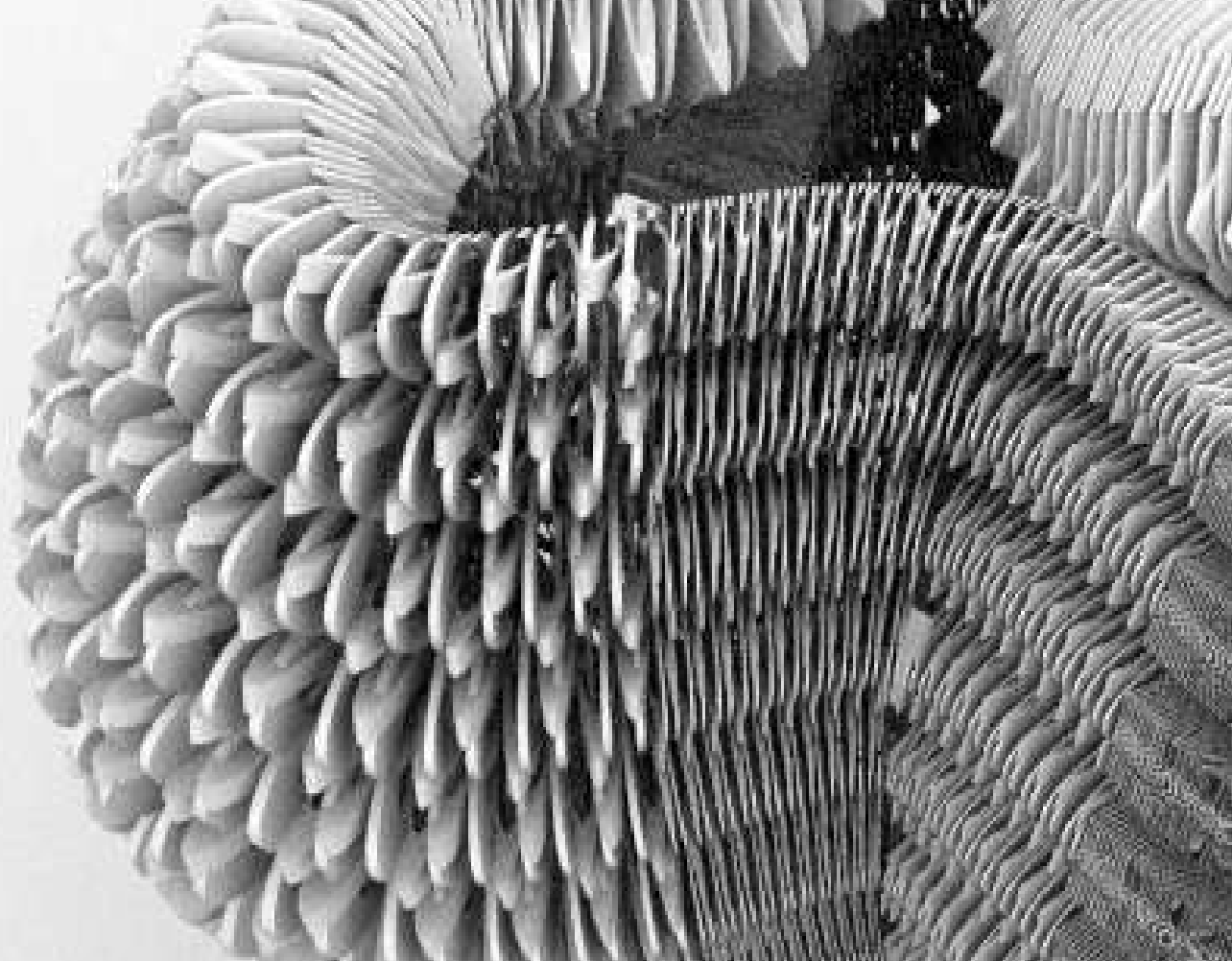
Iteration-06

Iteration-07

Final Form



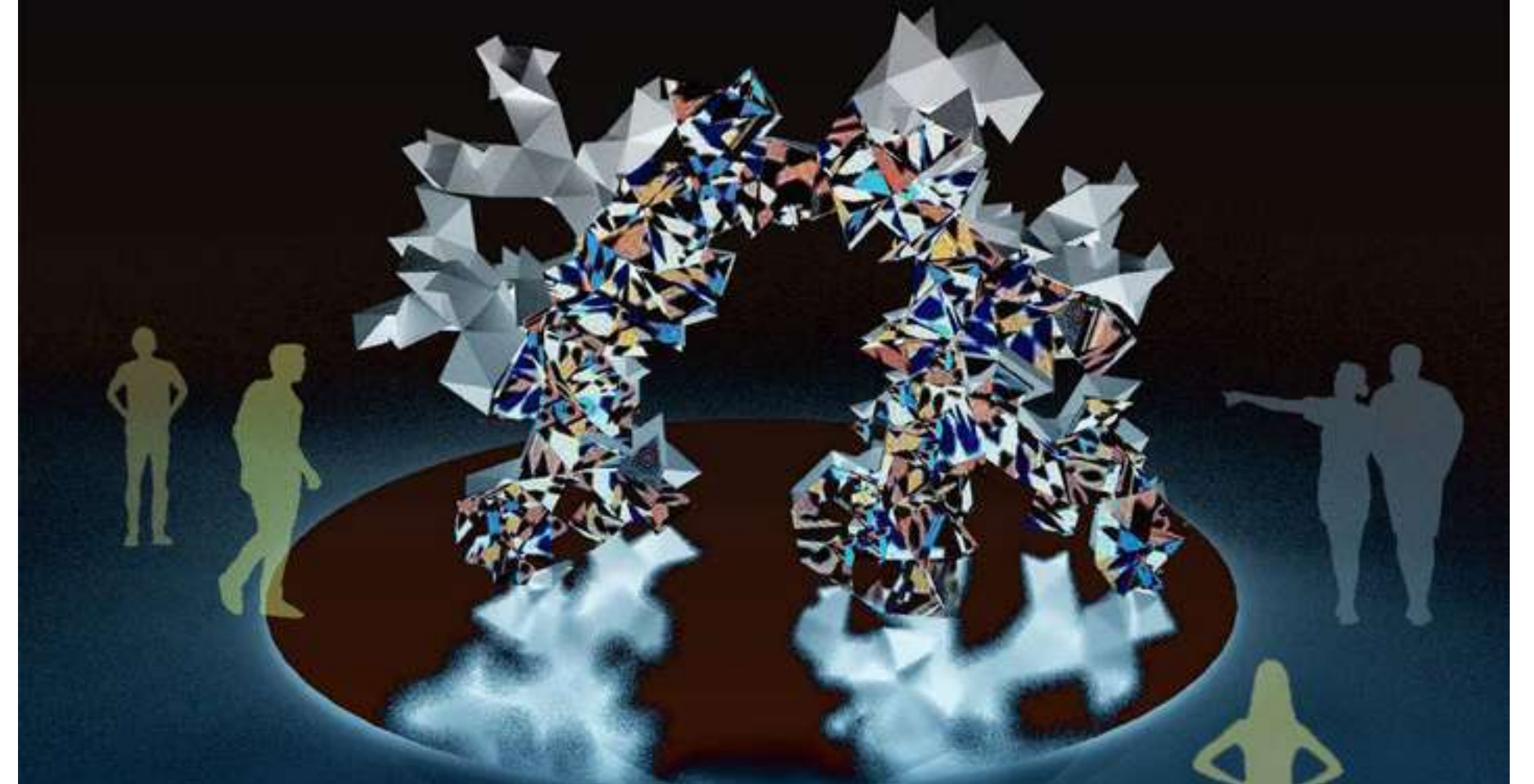
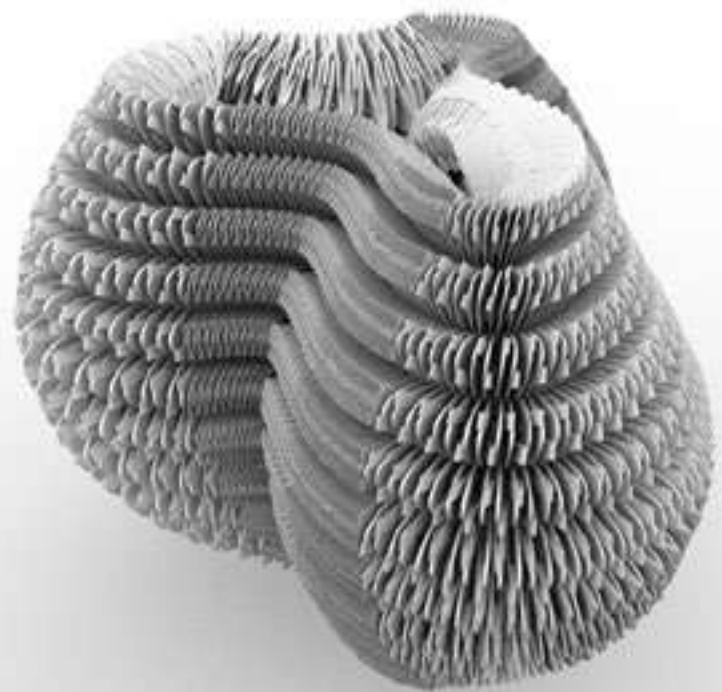
# 02 B



## THE BEACH HUT

Image: Craft Revival-Beach Hut, TheBusride Lab

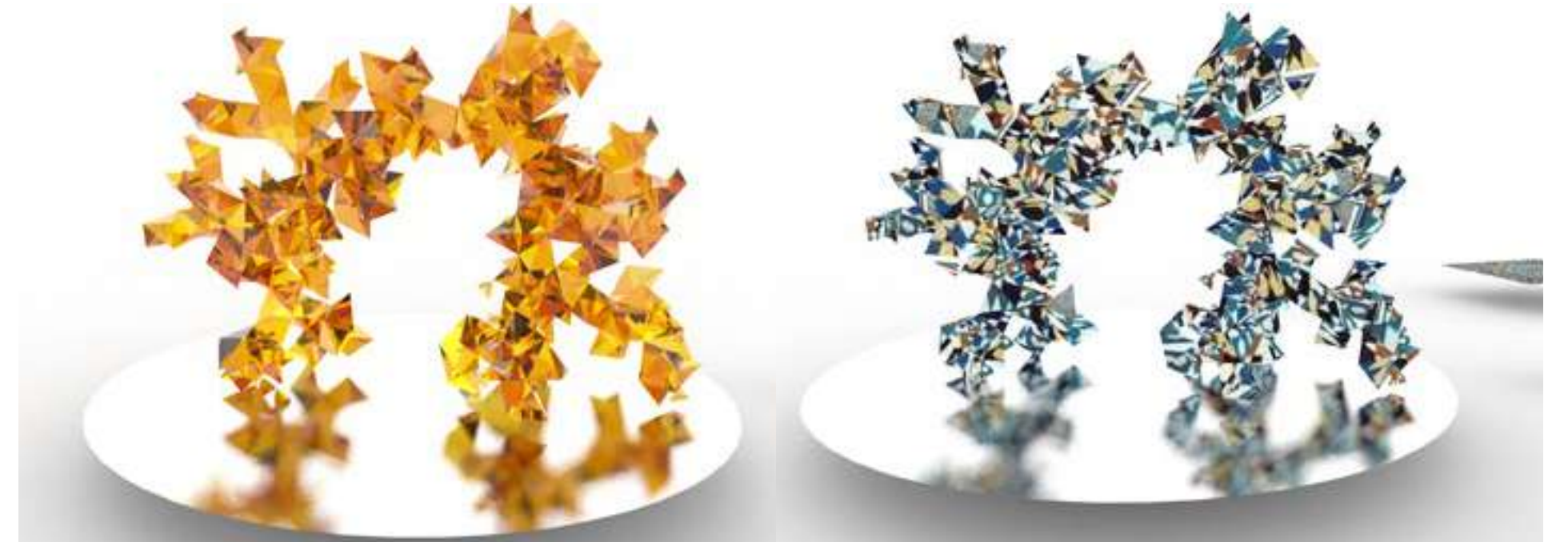
More ideas around generative pavilions for the beach belt in Goa. Explorative working on a bunch of ideas to create various scales of installations at the beach to harness different beach activities.



## CRAFT TREE

Image: CRAFT TREE, TheBusride Lab

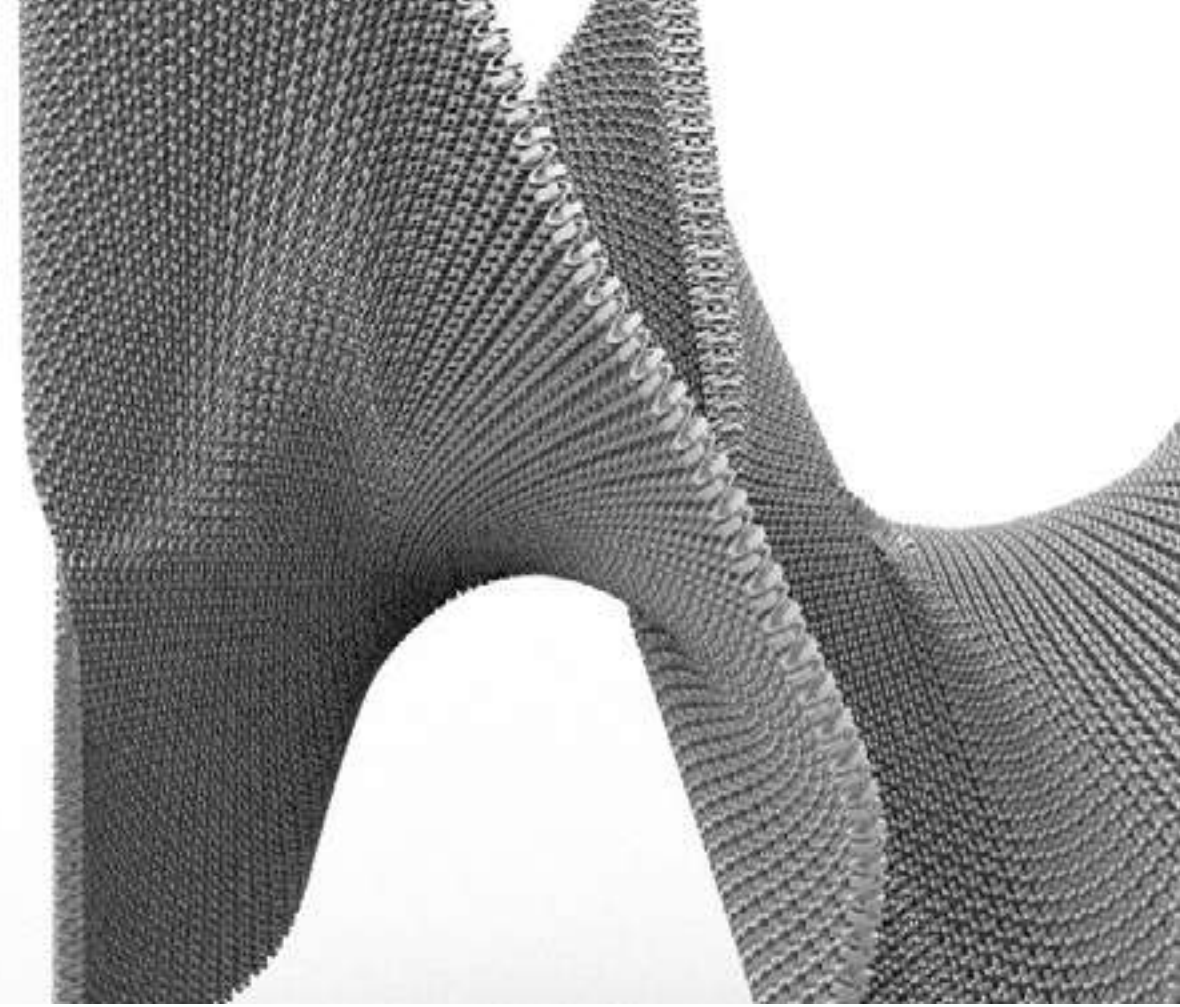
Explorations with Gond Art. The process is to migrate the intense beauty of Gond by extracting the intricate beauty into 3D clouds to generate 3Dimensional immersive display spaces to be experienced completely differently.





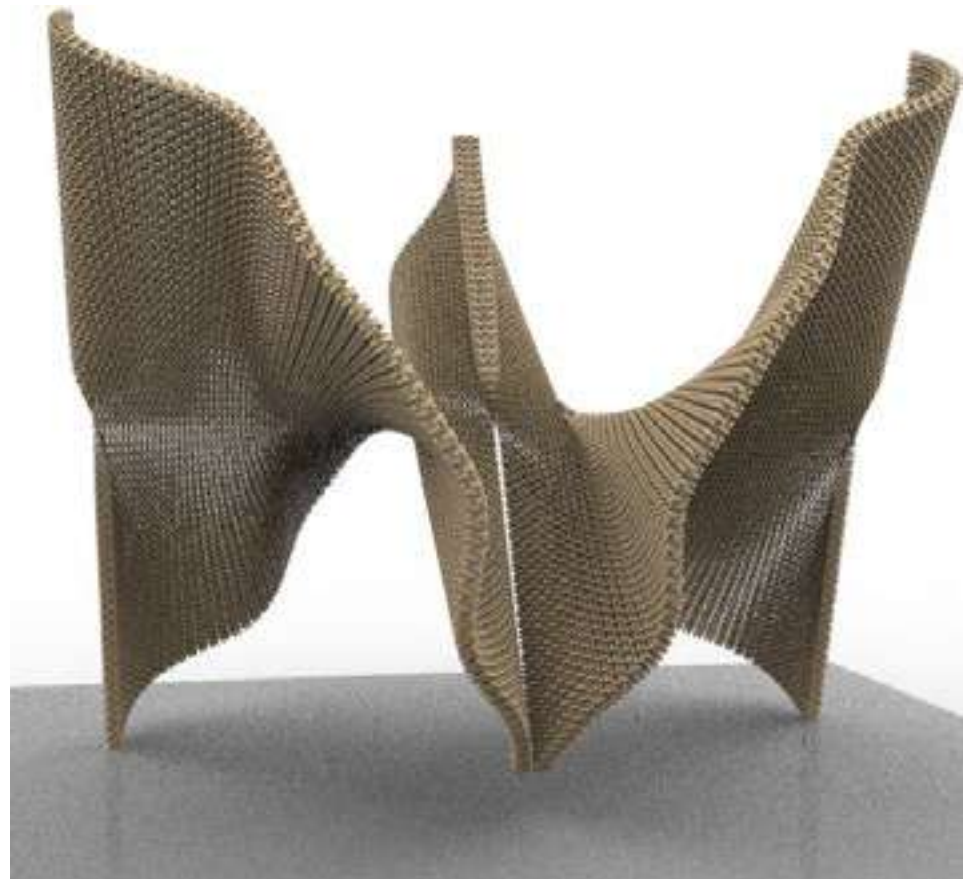
# 02

## C



### THE BEACH HUT

More ideas around generative pavilions for the beach belt in Goa. Explorative working on a bunch of ideas to create various scales of installations at the beach to harness different beach activities.



Final Form

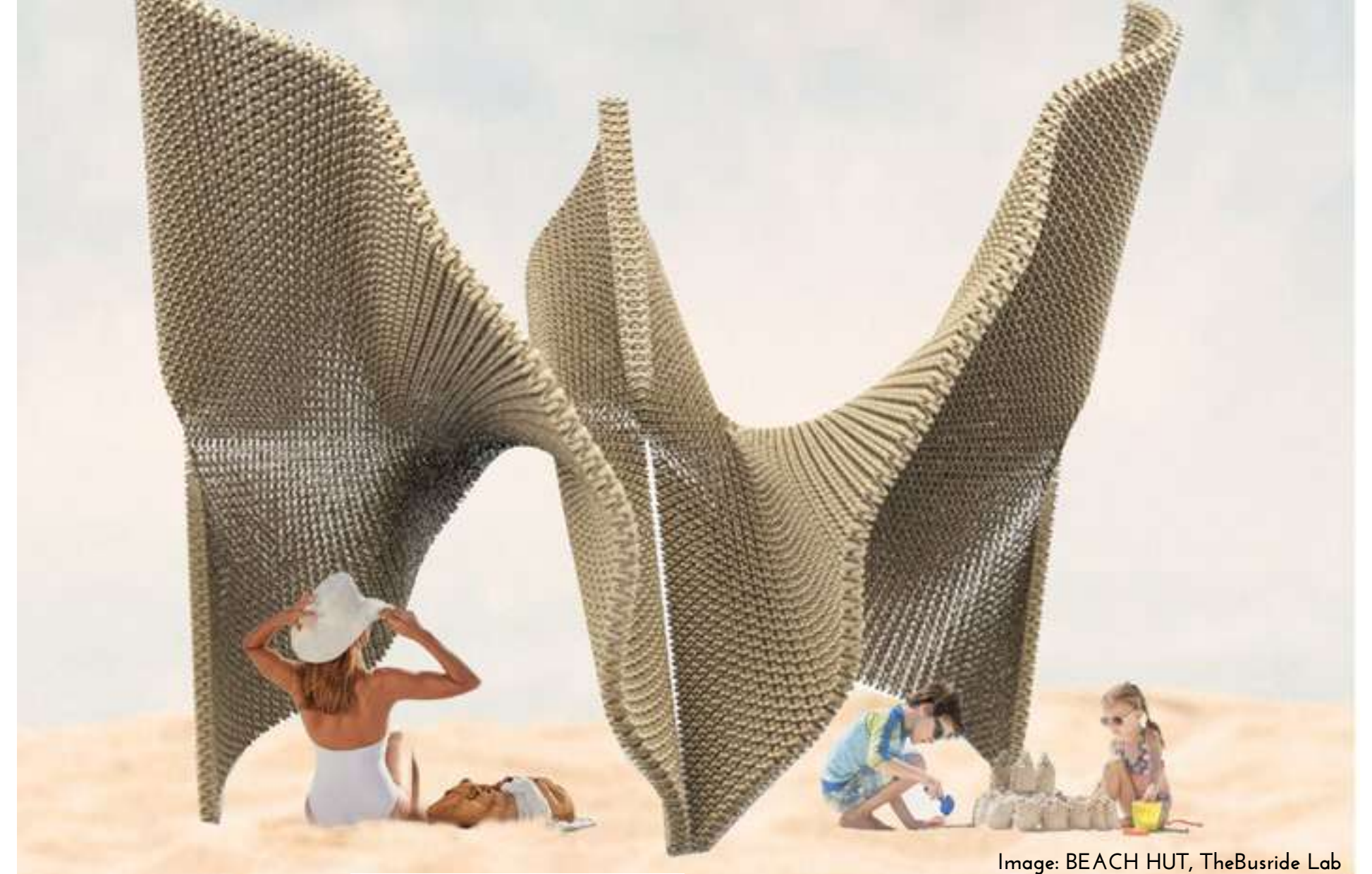


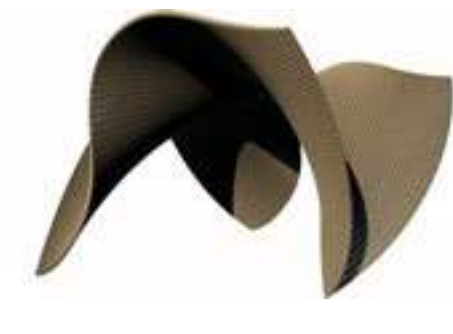
Image: BEACH HUT, TheBusride Lab



Iteration-01



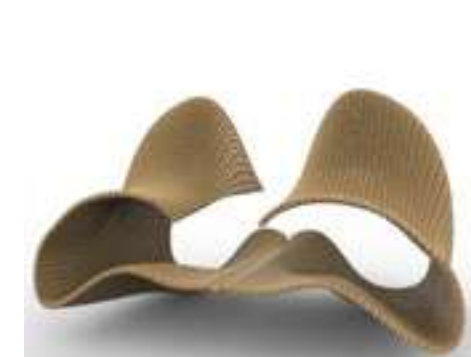
Iteration-02



Iteration-03



Iteration-04



Iteration-05



Iteration-06

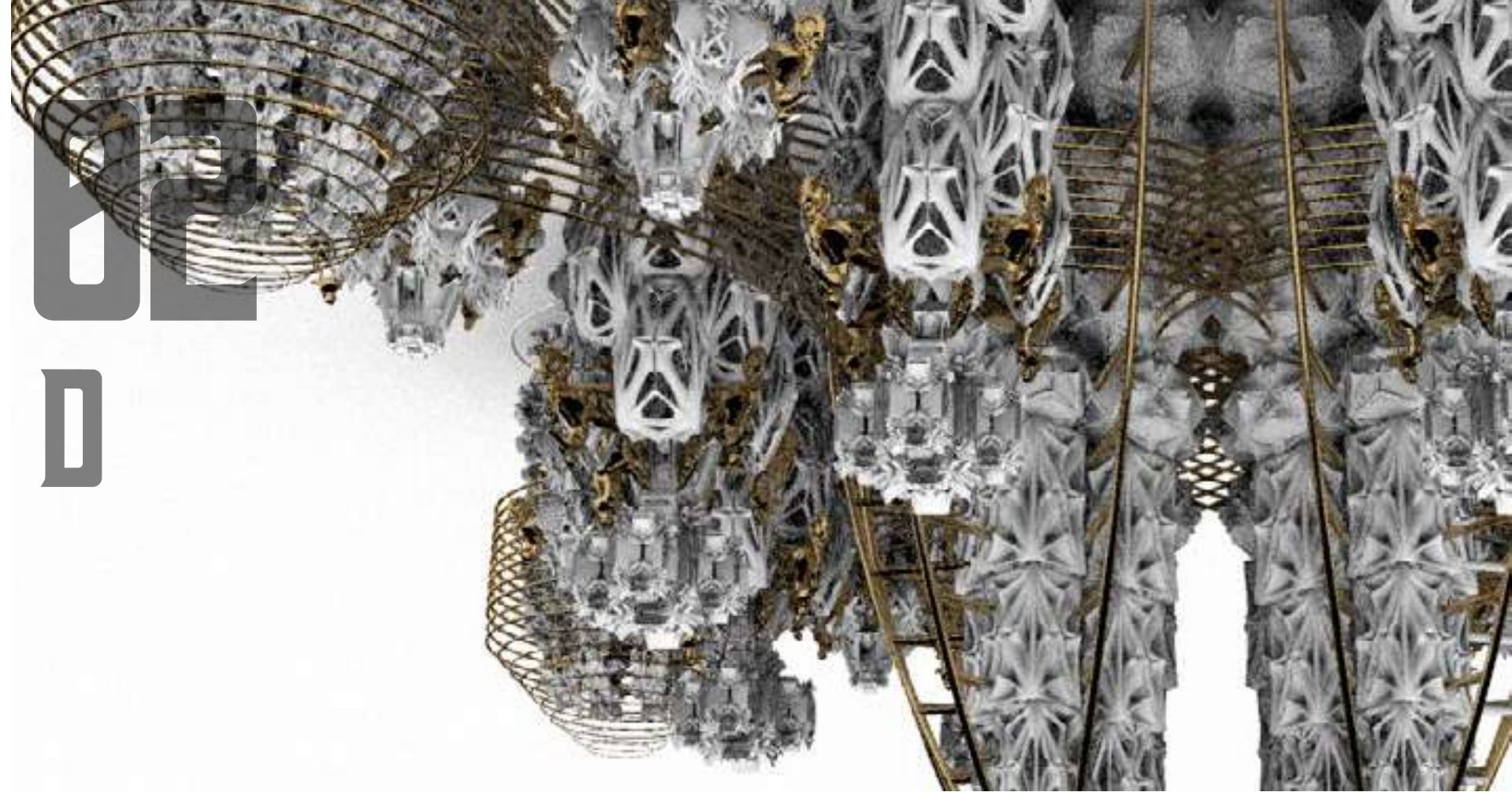


Iteration-07



Final Form





## THE MODERN MAHARAJA

Form studies using base geometry from the four cardinal directions and regions of India, for a new future of craft Working closely with investigating the fun intersection of digital computation and traditional making.

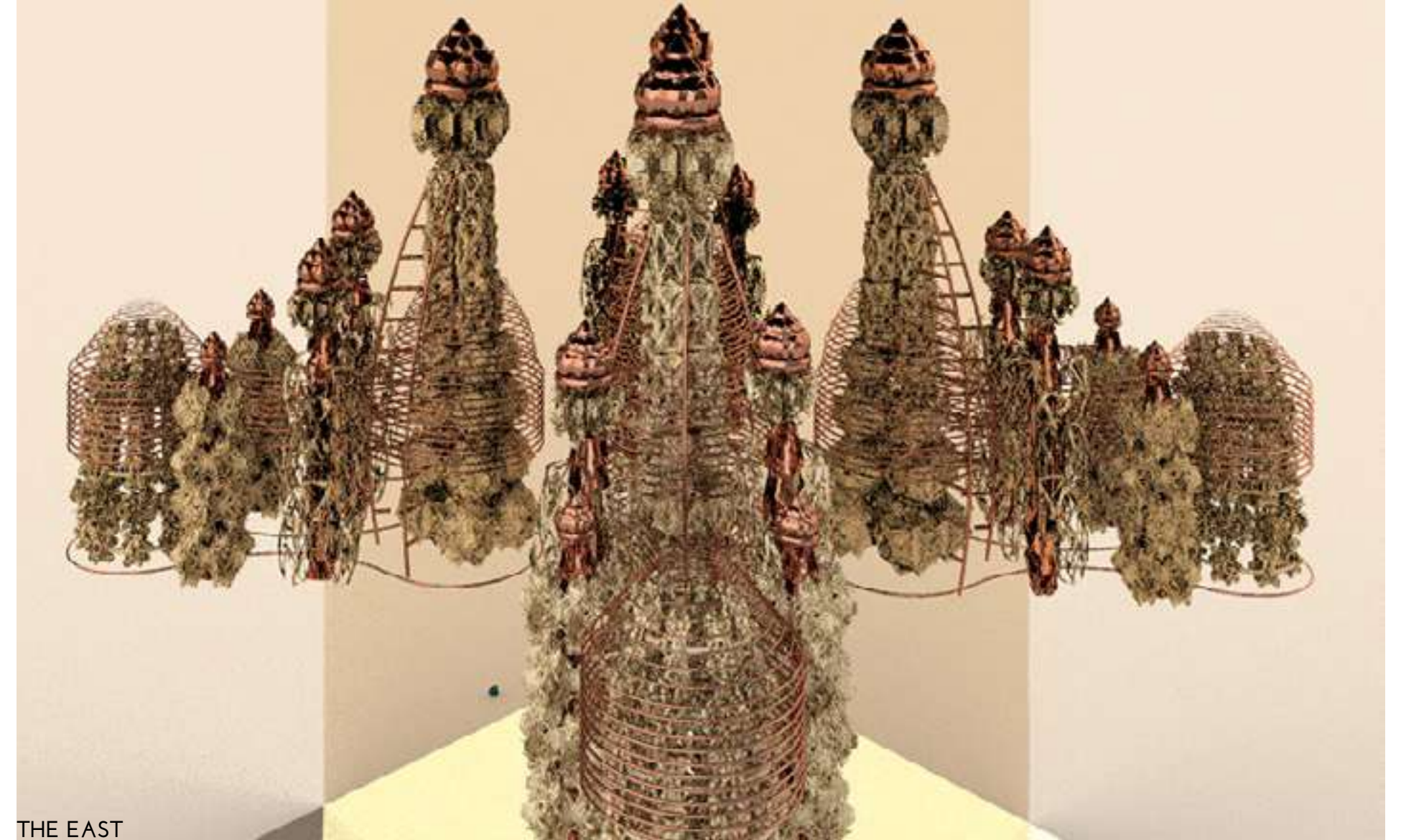
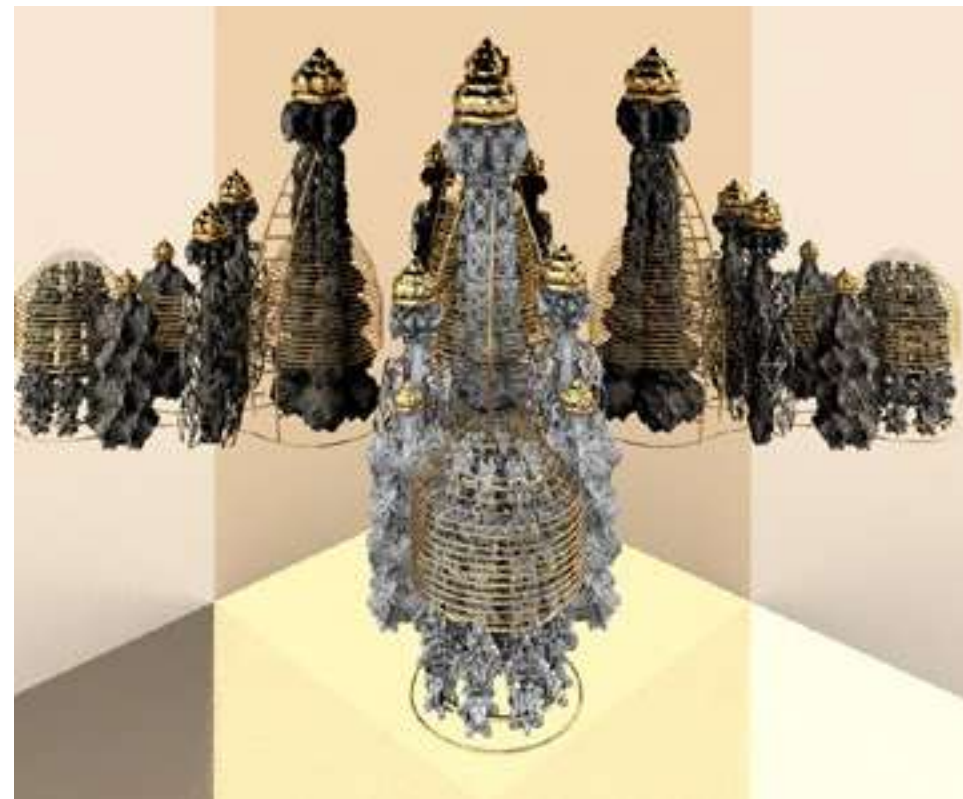
The representation of paying homage to the age-old traditions of Royalty, a fealty to sacred geometry, a boldly maximal expression and an Indian Crafts Renaissance. Indian Crafts practices are a goldmine of materials, processes, deep understanding, humility, transcendental skill and a connection to the divine that our modern traditions are increasingly losing.

Our pavilions are framed around a Grid of our own.

We engage with

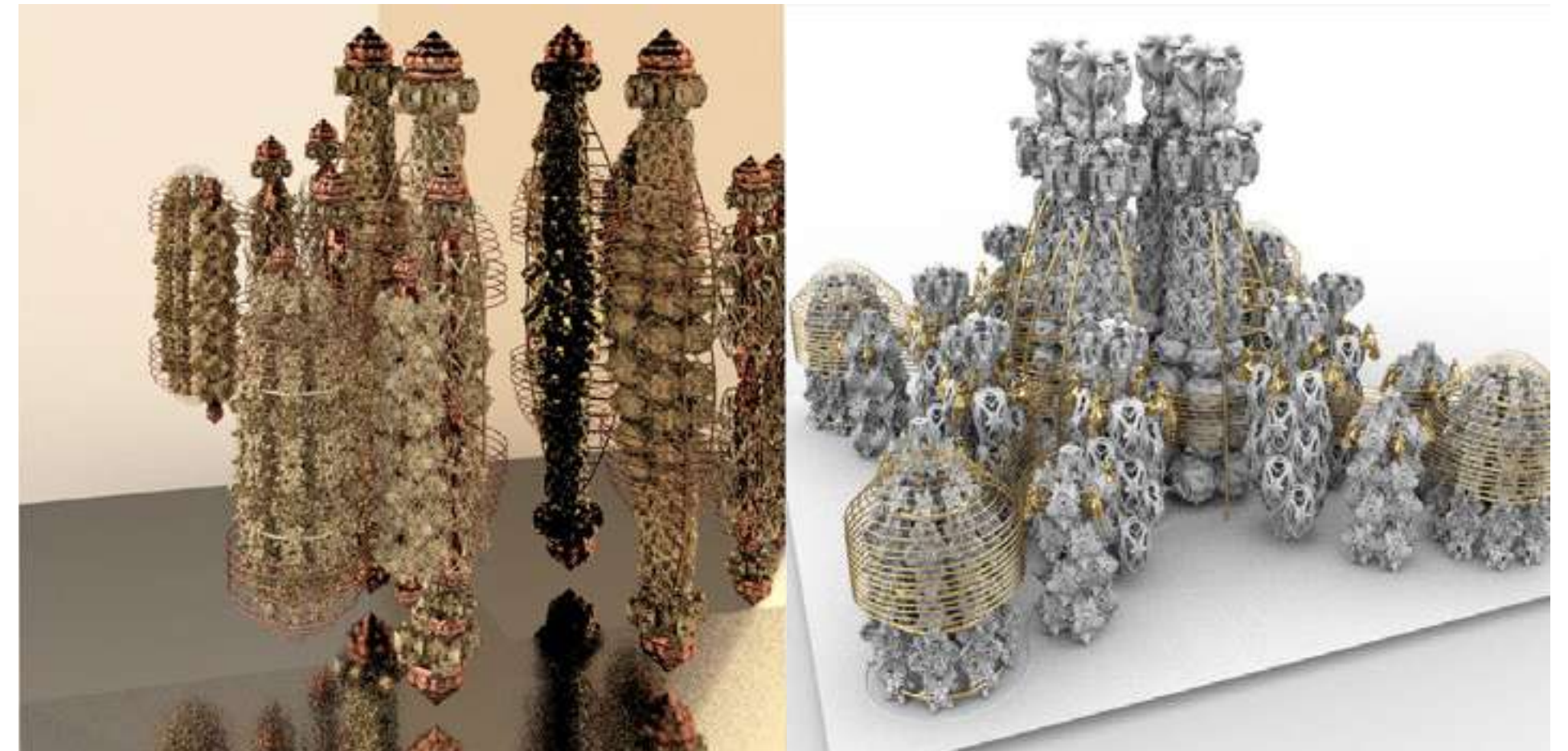
- 4 Pavilions
- 4 Cardinal directions
- 4 Levels of Abstraction

Published Source:-<https://www.goodhomes.co.in/dcode/augmented-reality/ayaz-basrai>  
<https://www.instagram.com/p/CD9HKzdJ4b4/>



## THE EAST

Inspiration - Temples of Odisha and the Sthapati (Sculptor)





# 02

# E

## KHATAMBAND

Exploration of khatamband Craft creating new bridges between emerging technology and traditional Indian craft. By working on visualisations of Future Crafts we can aim to engage with the performative, the meditative and the transcendental aspects of Craft in addition to the purely market or commercial aspects.

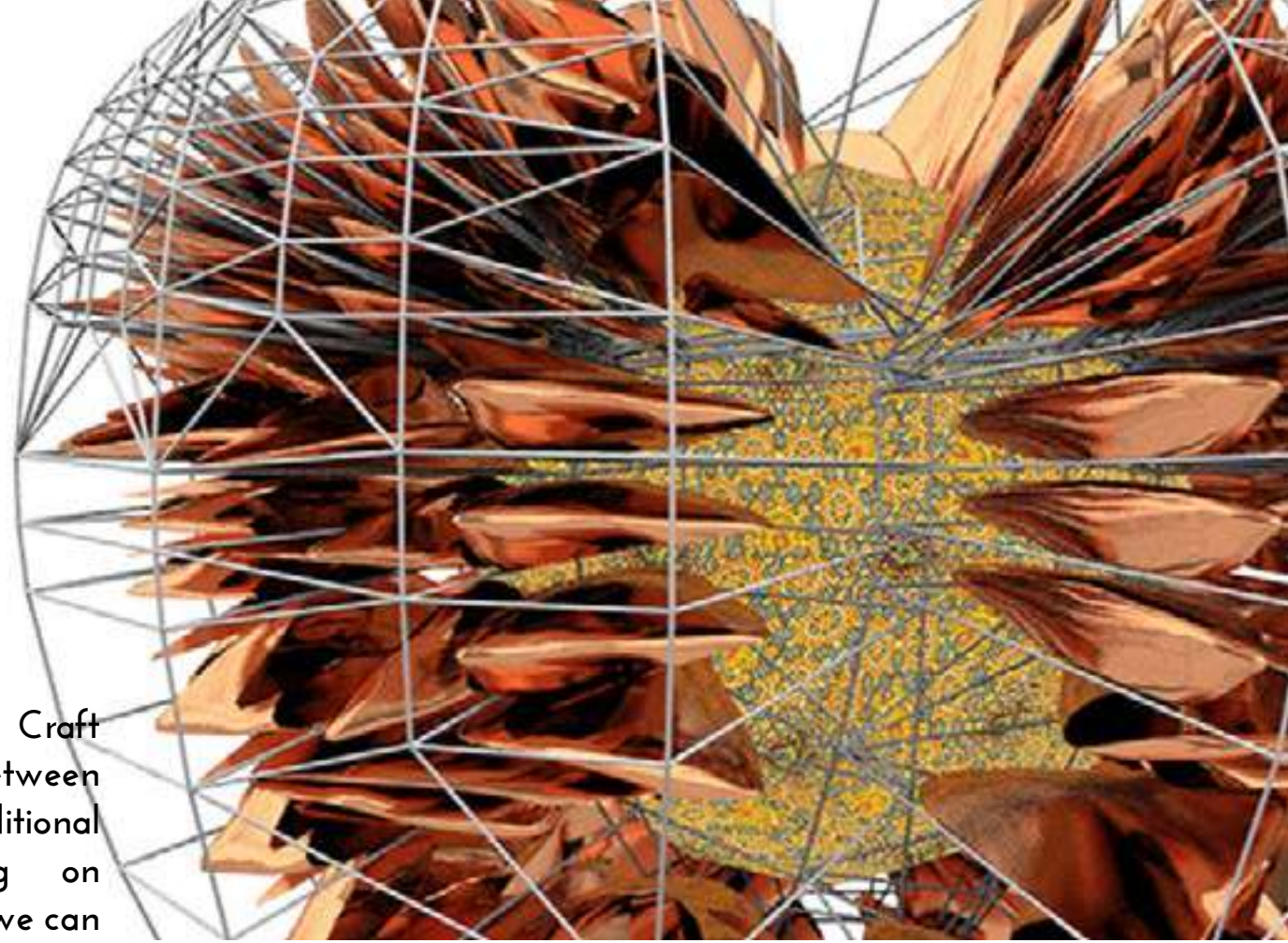
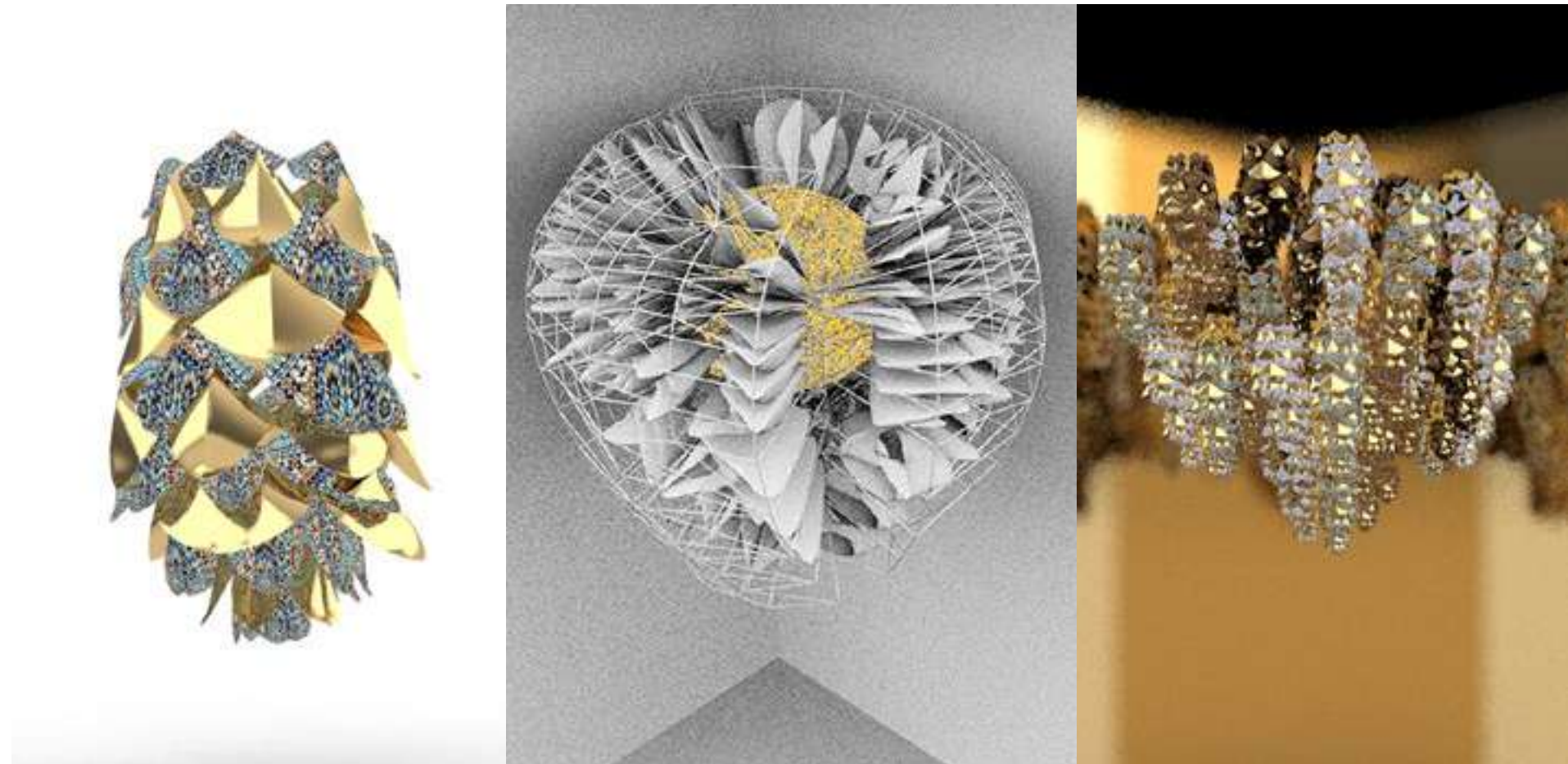


Image: Creative Dignity, TheBusride Lab



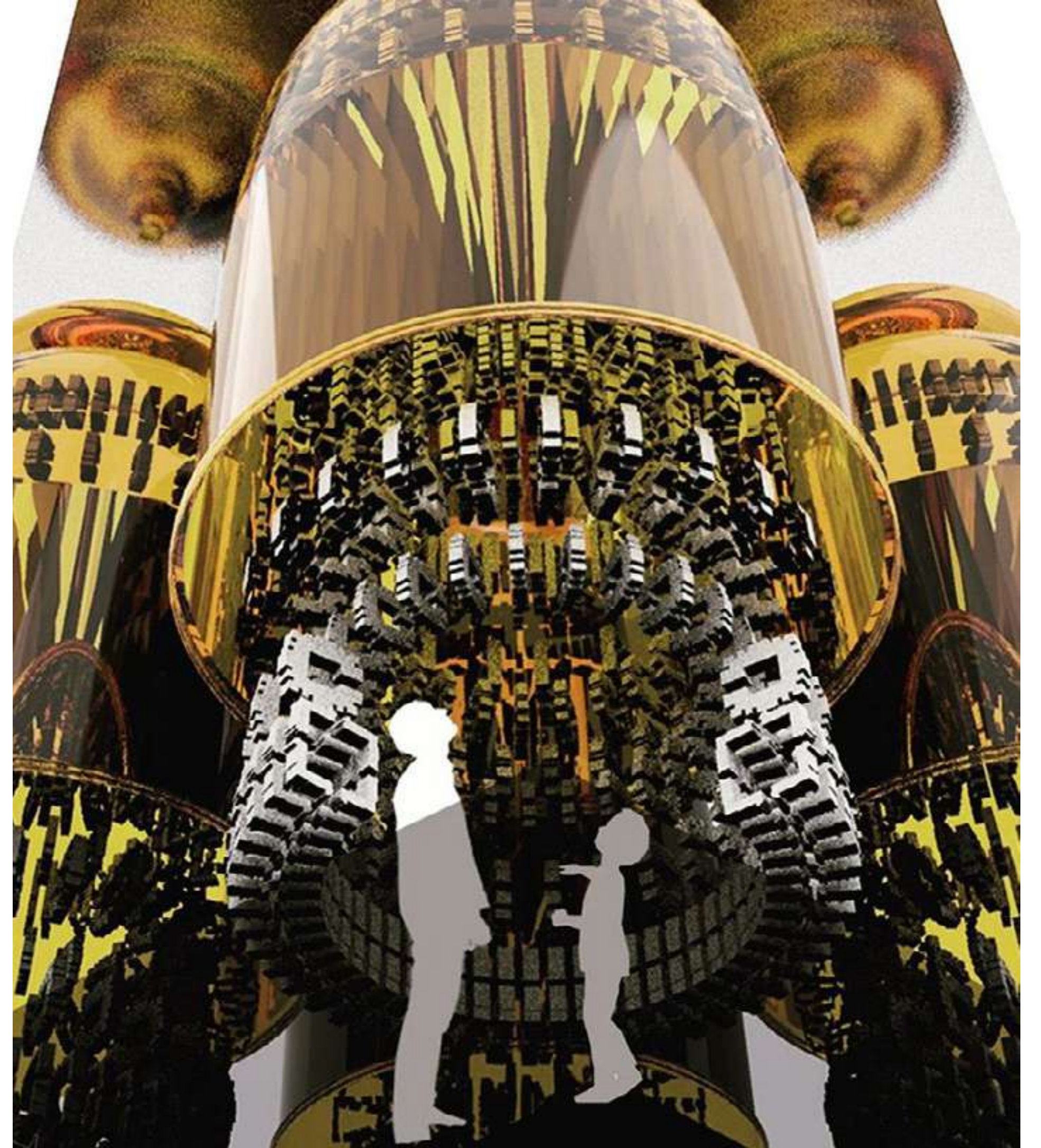


# 02

# F

## HERITAGE\_NEXT

Interpretation of forms and silhouettes of the Lingaraja temple, and playing around with computation to create immersive virtual experiences inspired by the age old craft of traditional stone carving. with the inspiration of Quantum computer laguage.



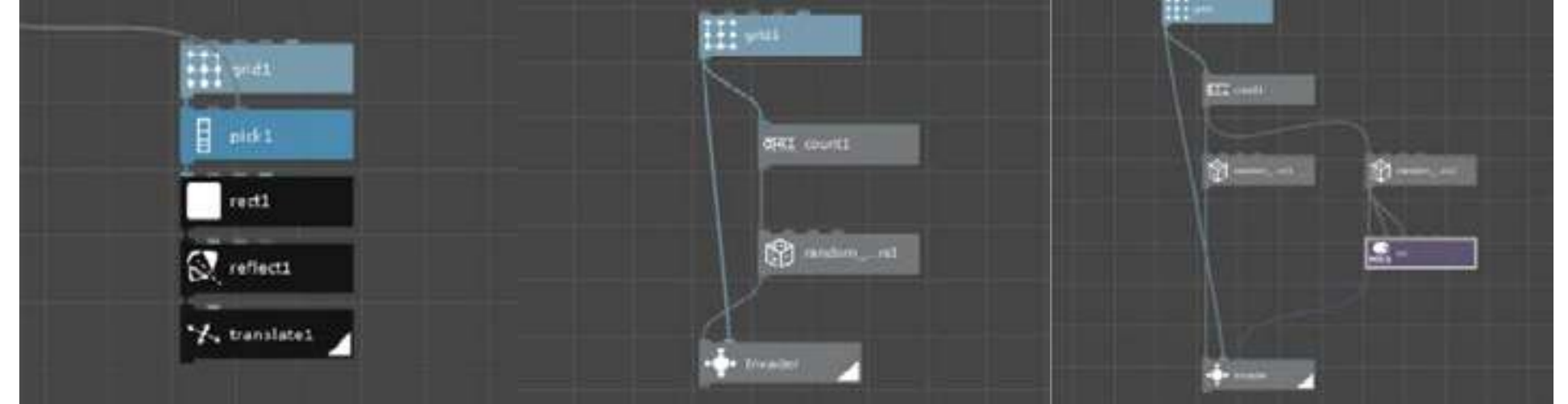


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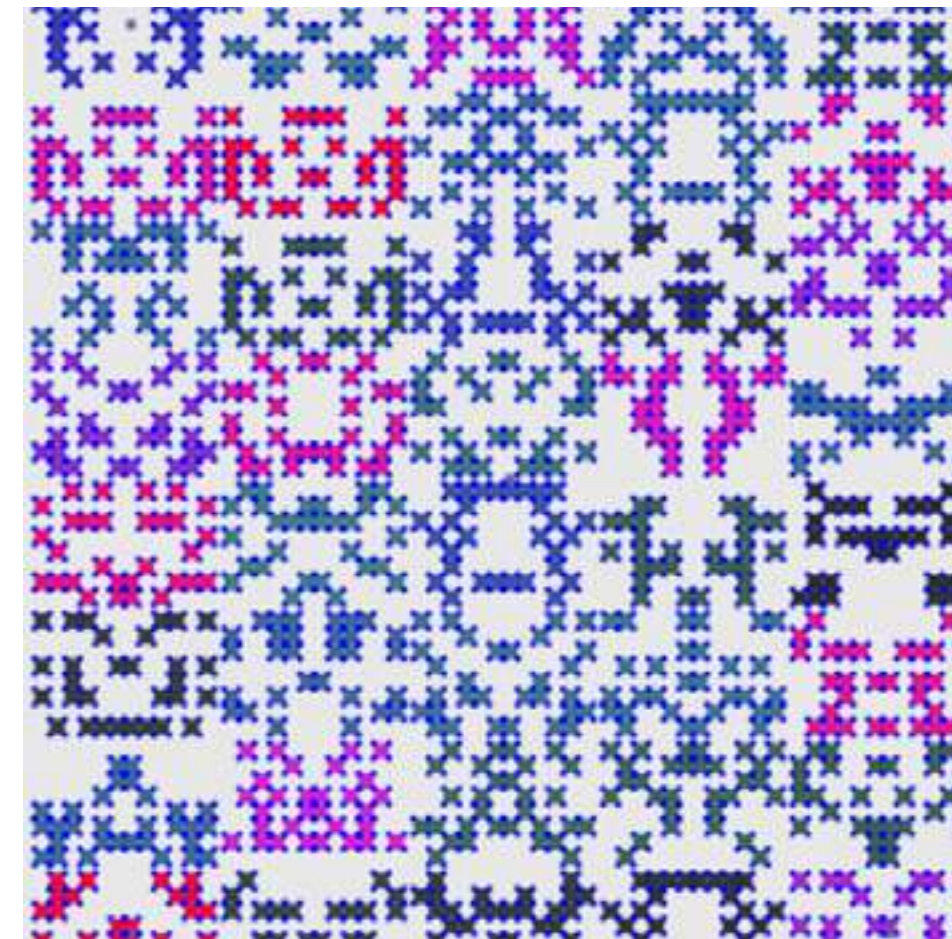
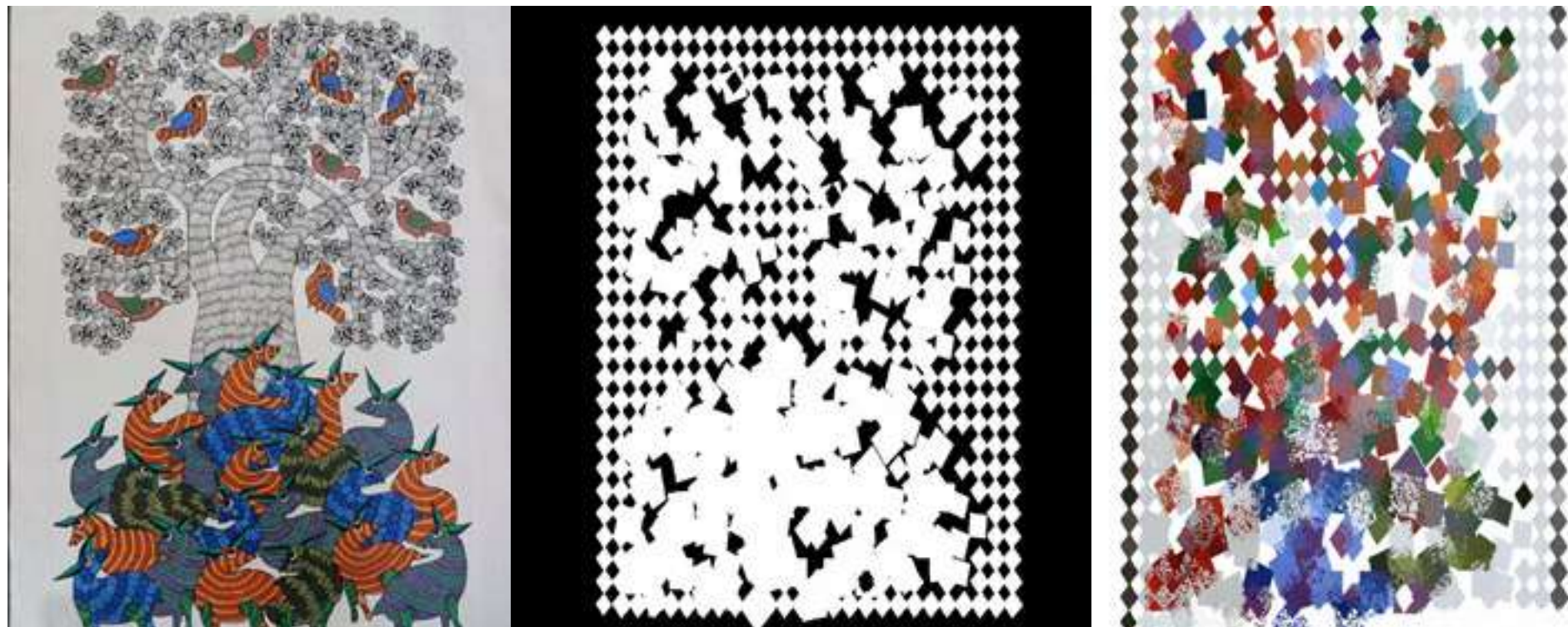
## 4

### GOND ART

In an increasingly uncertain world, India's amazing tradition of Craft and Vernacular Art is facing a severe crisis. Exploring on a few collaborative ideas trying to abstract the grammar of various craft practices to explore adjacencies within processing and parametric design.



Gond Art coded on NODE



CODED PATTERN



STITCHED PATTERN



# 02

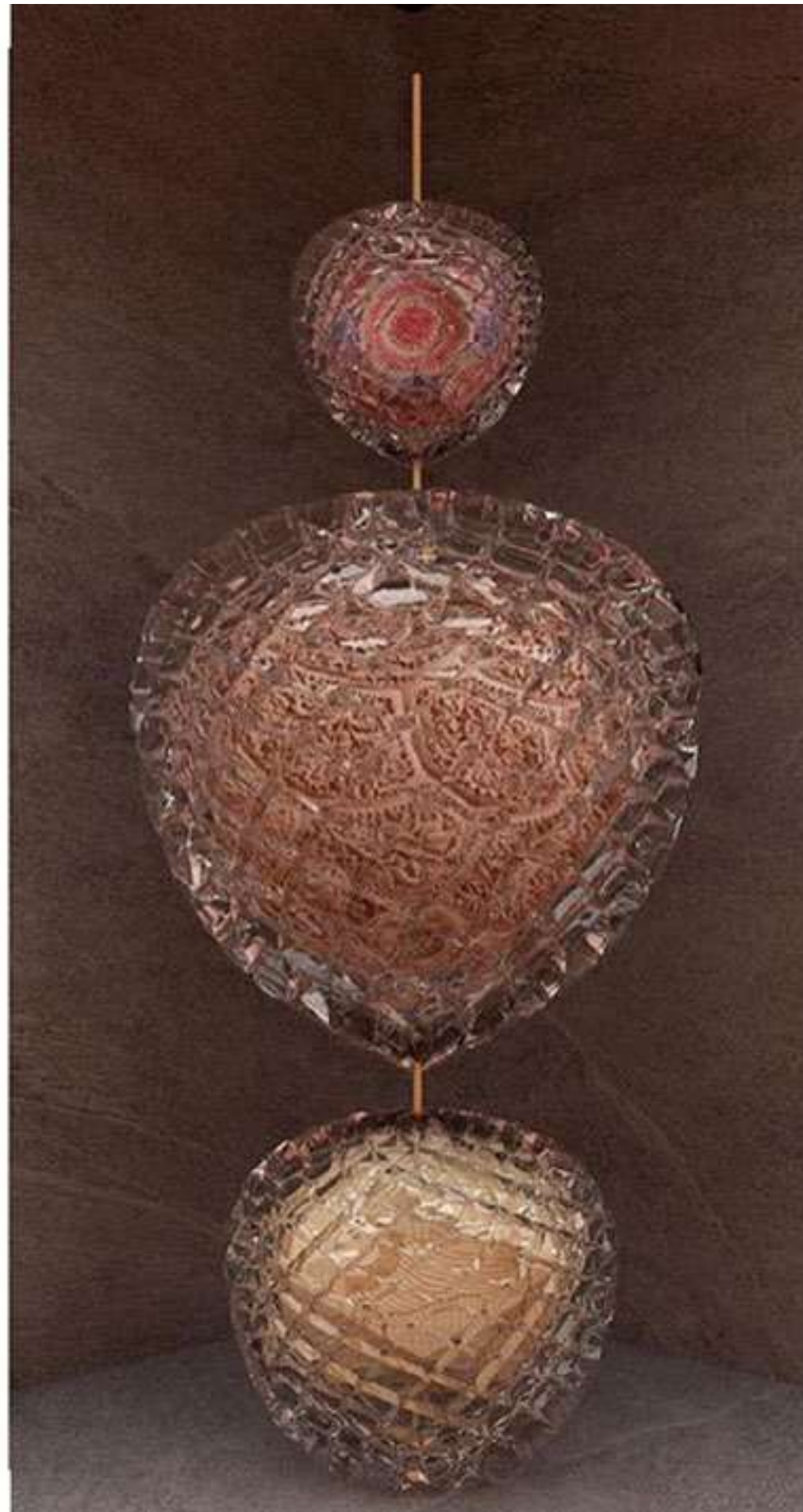
# H



## CREATIVE DIGNITY

Visualisations of Future Crafts with the main objective to engage with the performative, the meditative and the transcendental aspects of Craft in addition to the purely market or commercial aspects.

### KHATAMBAND



CASAMIA  
PRESENTS  
**D/code**  
DESIGN  
BIENNALE  
INDIA'S FIRST CURATED  
VIRTUAL ART AND DESIGN FESTIVAL  
JAIPUR  
EDITION



## CREATIVE DIGNITY

### ODISHA TEMPLE



CASAMIA  
PRESENTS  
**D/code**  
DESIGN  
BIENNALE  
INDIA'S FIRST CURATED  
VIRTUAL ART AND DESIGN FESTIVAL  
JAIPUR  
EDITION





CREATIVE  
DIGNITY

TAZIA



CASAMIA  
PRESENTS  
**D/code**  
DESIGN  
BIENNALE  
INDIA'S FIRST CURATED  
VIRTUAL ART AND DESIGN FESTIVAL  
JAIPUR  
EDITION



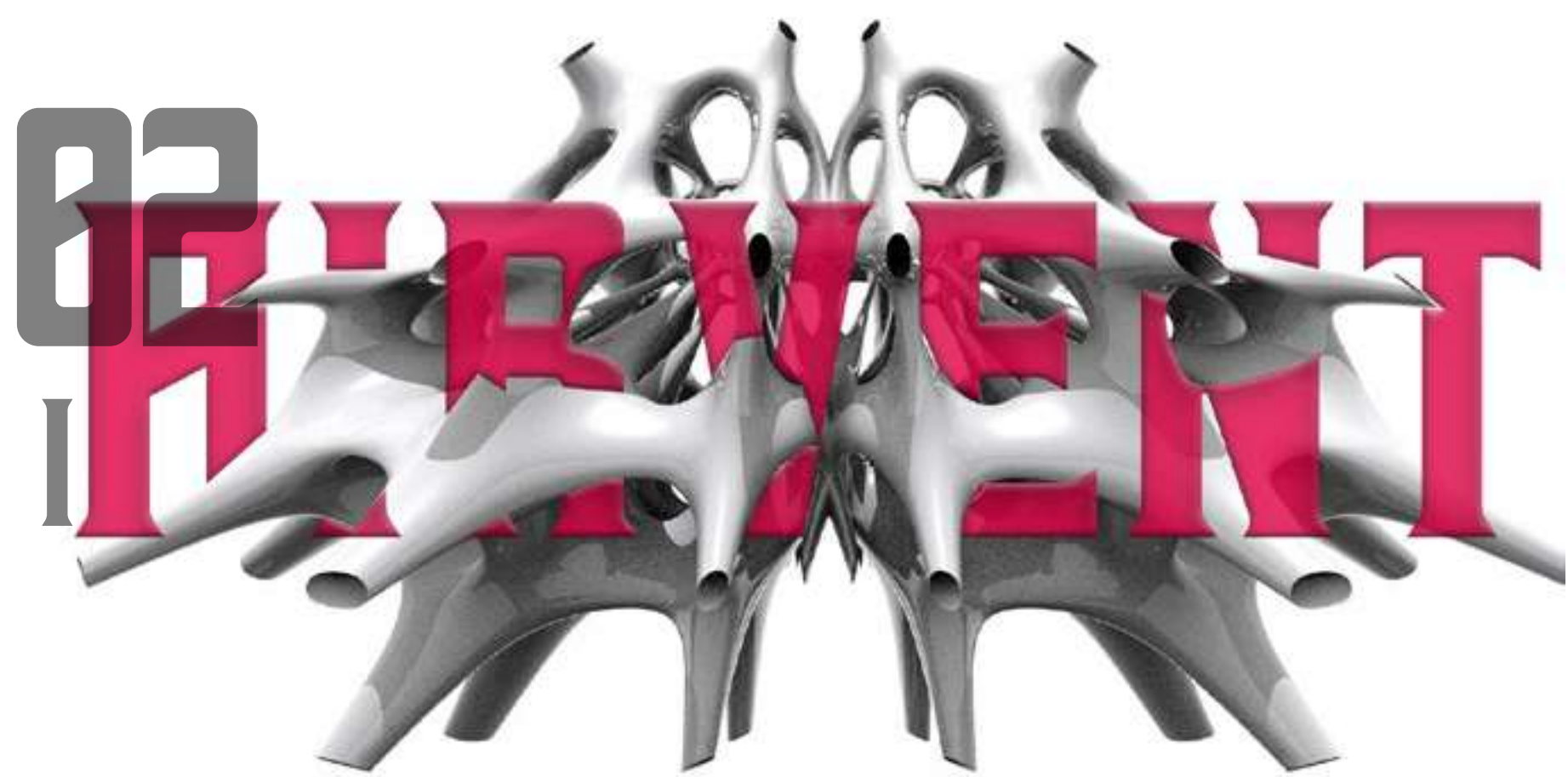
CREATIVE  
DIGNITY

MADURAI TEMPLE



CASAMIA  
PRESENTS  
**D/code**  
DESIGN  
BIENNALE  
INDIA'S FIRST CURATED  
VIRTUAL ART AND DESIGN FESTIVAL  
JAIPUR  
EDITION

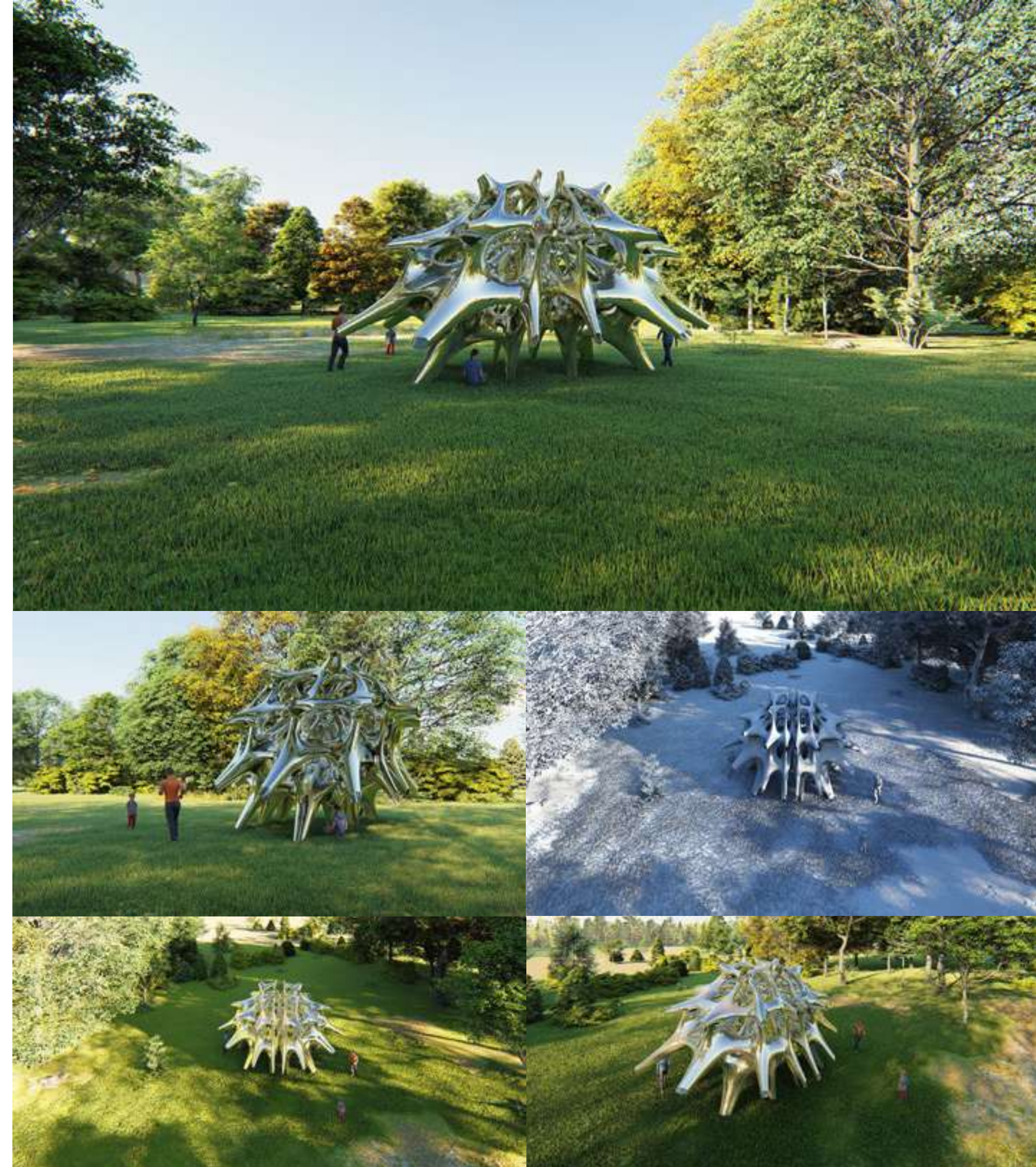
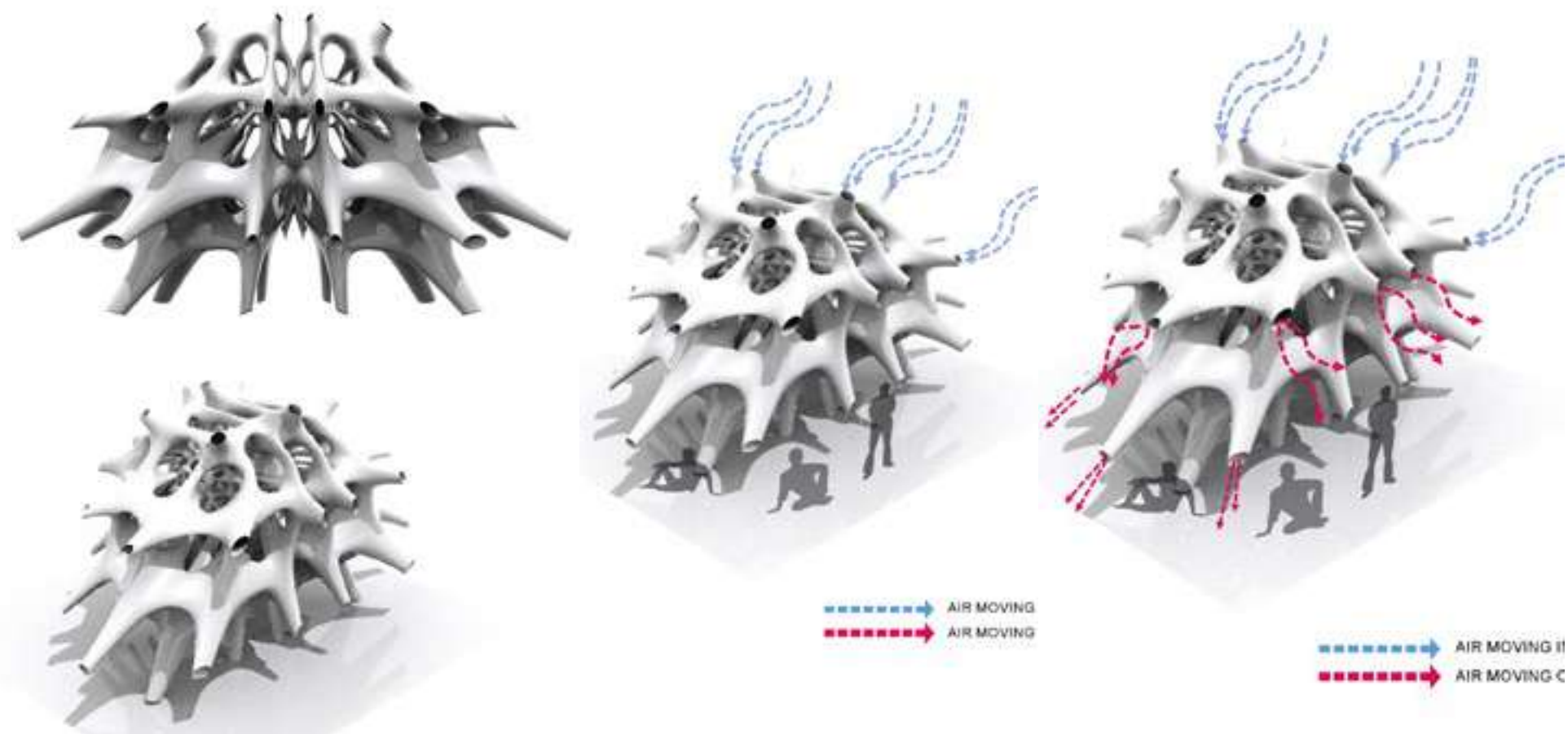




# AIRVENT

Inspired by Cape Porcupine Skull

Function: Act as Ground Cooler with venetion to air circulation for outdoor use sculture





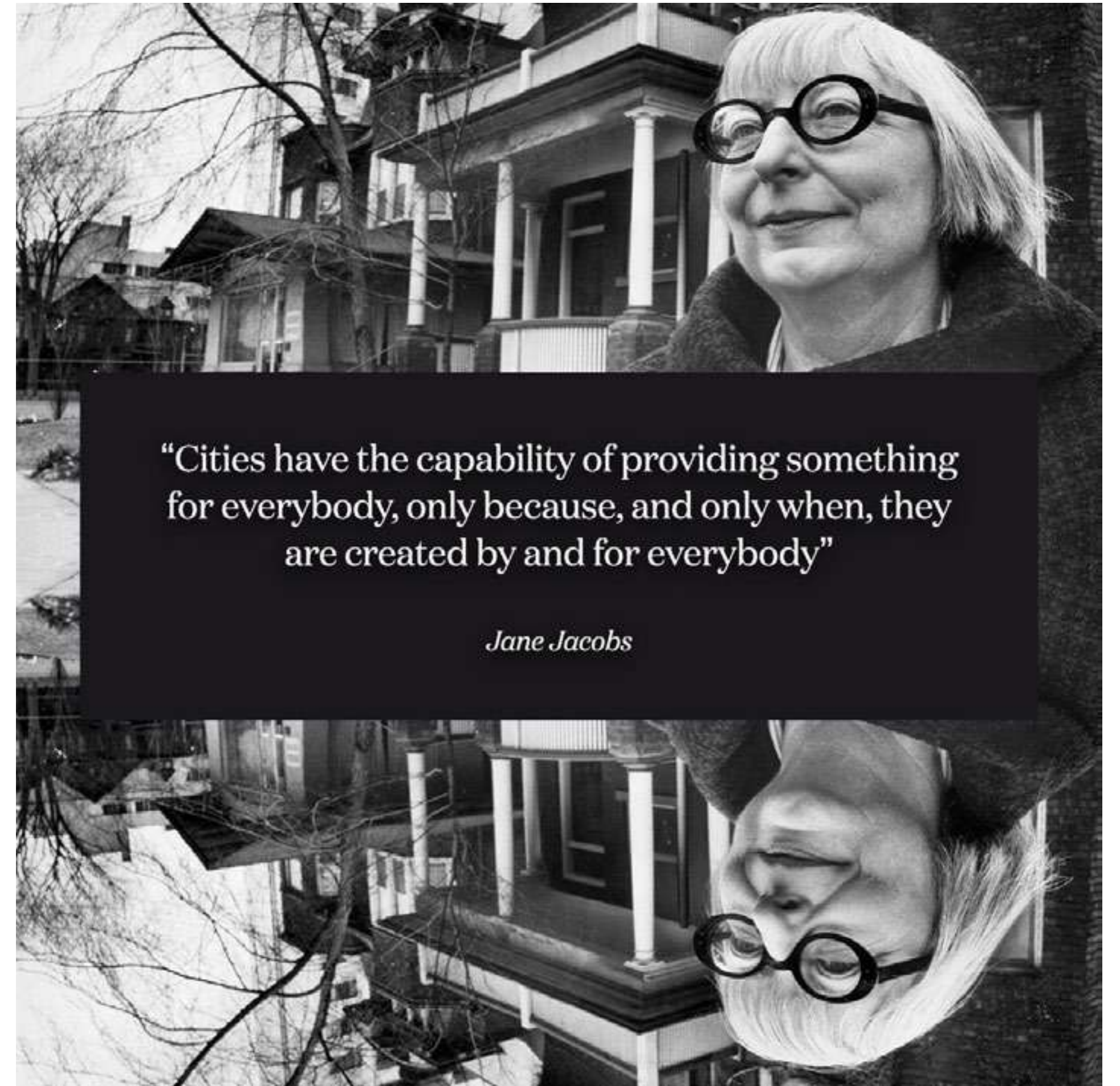
02  
1

#4

# BOMBAY POST APOCALYPSE

RETURN OF THE GREEN

THEBUSRIDELAB



“Cities have the capability of providing something for everybody, only because, and only when, they are created by and for everybody”

*Jane Jacobs*



# 02

J

The Bombay Hanging Gardens were first prototyped in January 2035 at Chowpatty, linking up the disused terraces of the old buildings along the sea face stretch. Residents took control of the prime real estate to create elaborate rooftop farms, walkways and causeways along the narrow setbacks.

A recent addition had been the net bridges, creating a whole new kind of navigation for the city. Residents now come to the street only when they have to leave the precinct.



Image : johnny miller photography

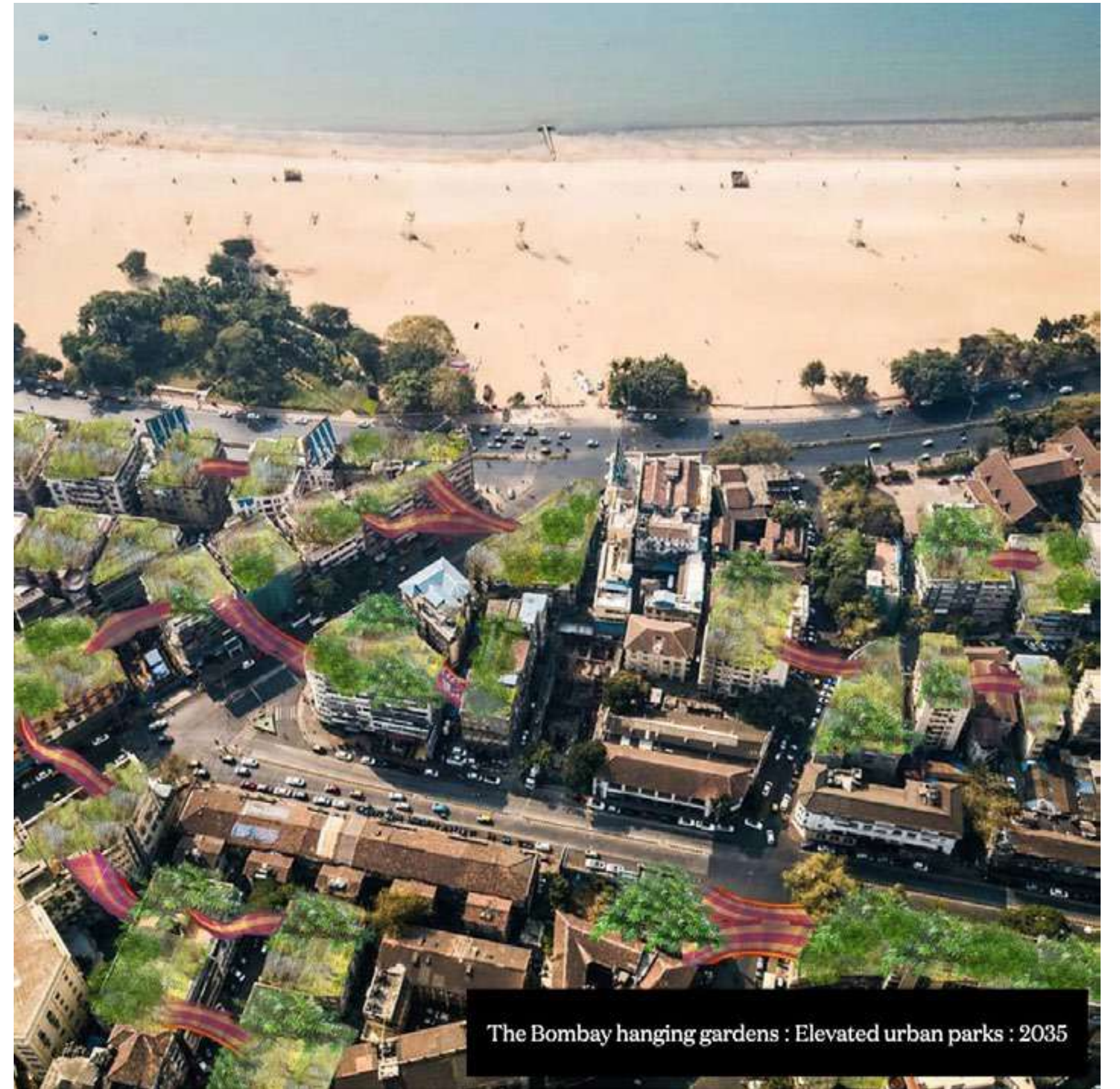
The Mithi River Fork : Barge farms with pedestrian walkways



02  
K



The Bombay hanging gardens : Elevated urban parks : 2035



The Bombay hanging gardens : Elevated urban parks : 2035



# 02

# L

In Post Pandemic Bombay 2020, where people remained locked up in their apartments for 3 months with extremely limited access to light, air and ventilation, the inhumane conditions of life in the city became suddenly apparent to its residents.

In the post pandemic collapse of Governmental machinery, some resident groups took it into their own hands to create their own hacked versions of Urban Productive Green.



The BKC Corporate Park : Green Retrofits : 2035

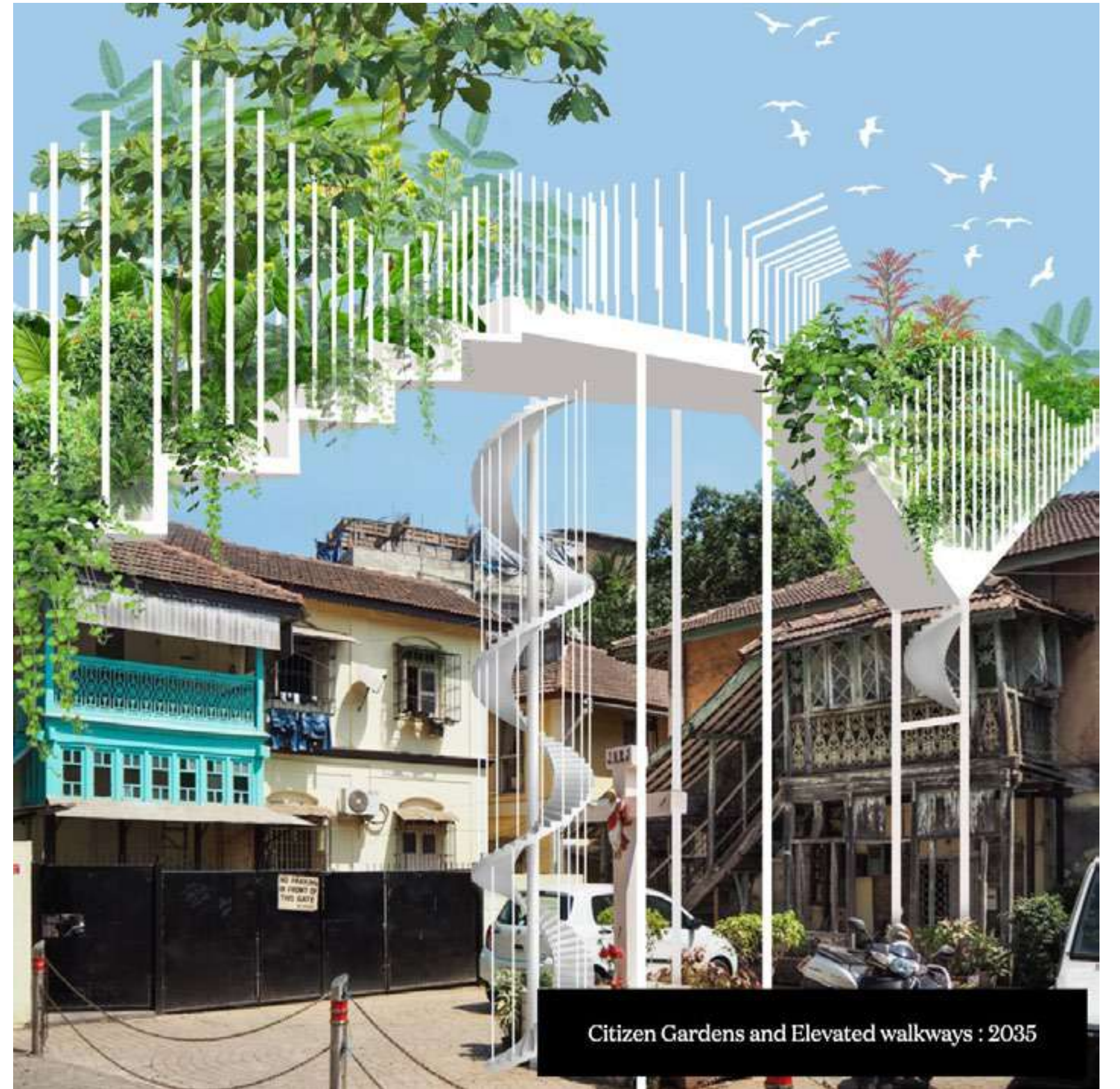


02

M

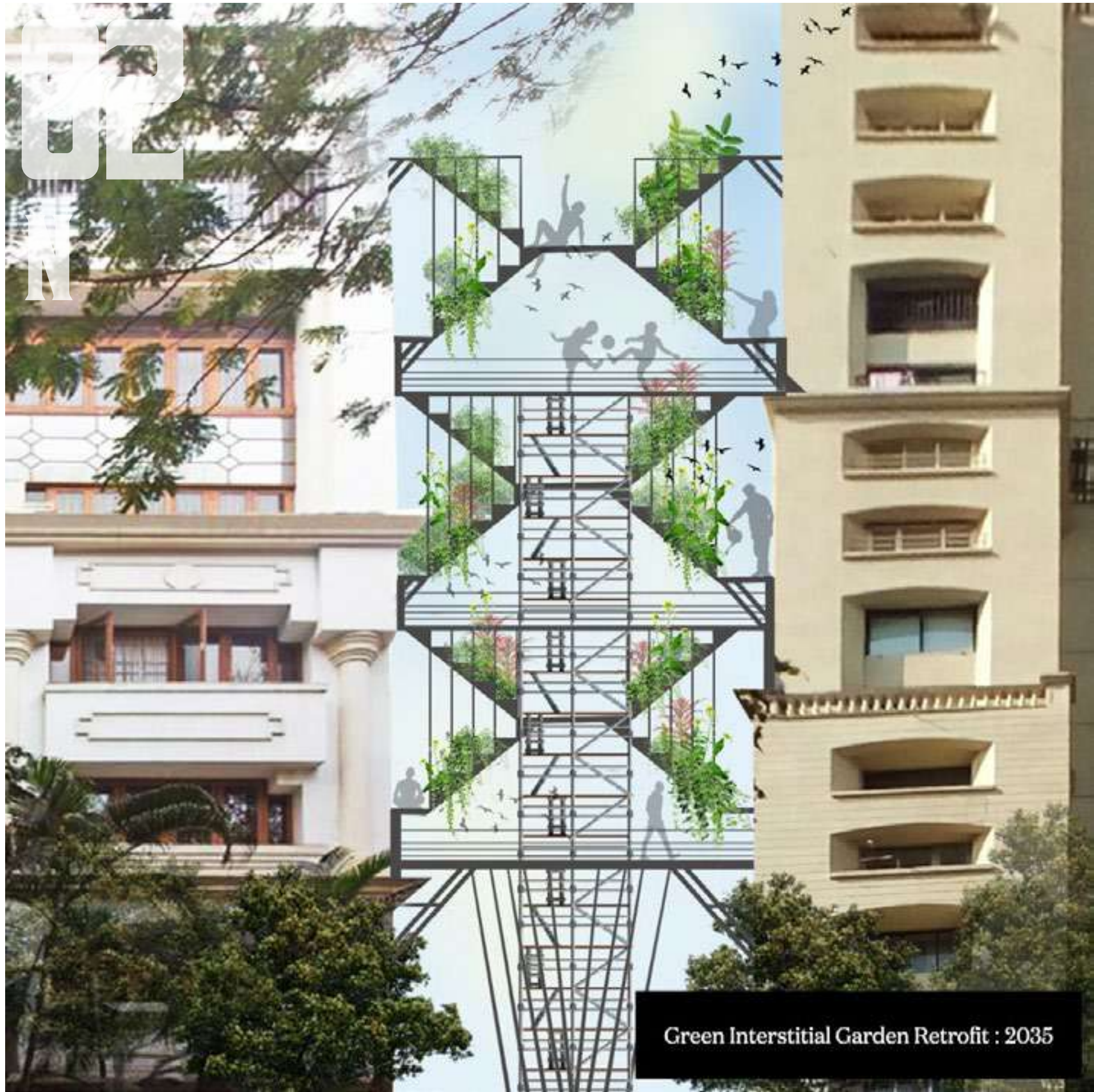


Green Pedestrian Elevated walkways : 2035



Citizen Gardens and Elevated walkways : 2035





Green Interstitial Garden Retrofit : 2035







Image: LLADRO, EFPL

## LLADRO-Porcelain Retail Store Kolkata

LLADRO- A porcelain retail store located in South-City Mall,Kolkata.It comprise of (08) fixture with corian finished furnitures with veneer wall finish and partial green covers as vertical garden.Catered with the touch of gold as the backdrop to enhance the luxury look of the brand relating to its original theme.



Image: LLADRO, EFPL



03  
Я



Image: LLADRO, EFPL



Image: LLADRO, EFPL





### A STUDY ON MULTI-SCALAR BREAKWATER SYSTEM FOR RIVERBANK EROSION

MASTER OF DESIGN-COMPUTATIONAL DESIGN THESIS  
(SPECIALIZATION IN COMPUTATIONAL DESIGN)  
CEPT UNIVERSITY.

#### Abstract

Multi Scalar Breakwater system is a study that investigates on integrating different strategies to address reduction on riverbank erosion and develop organizational logics of a system for the cause of riverbank erosion centred around the Majuli Island. This is in crucial response to the compound effects brought about by rapid changes of landmass caused by soil erosion and increasing demand of protection of the Majuli Island. The research was contextualized in Majuli District, Assam, India where an existing silk industry with Holy Sattras

are thriving, but face vulnerabilities due to heavy flood bringing destructive rise in water level that damages property and the lack of a system to address. Through sets of experiments, development of analytical tools and algorithm, an integrated strategy need to achieve where wave attenuation serve as the major driver for the anti-erosion system and its pattern arrangements along with logics to influence the development of an adaptive logic for the riverbank of Majuli, District.

#### Global Scenario



Fig: Flood risk caused due to change inflow in river, shrink in bankline & rise in sea level rise in worldwide

#### Why to look into Majuli: The Shrinking Island

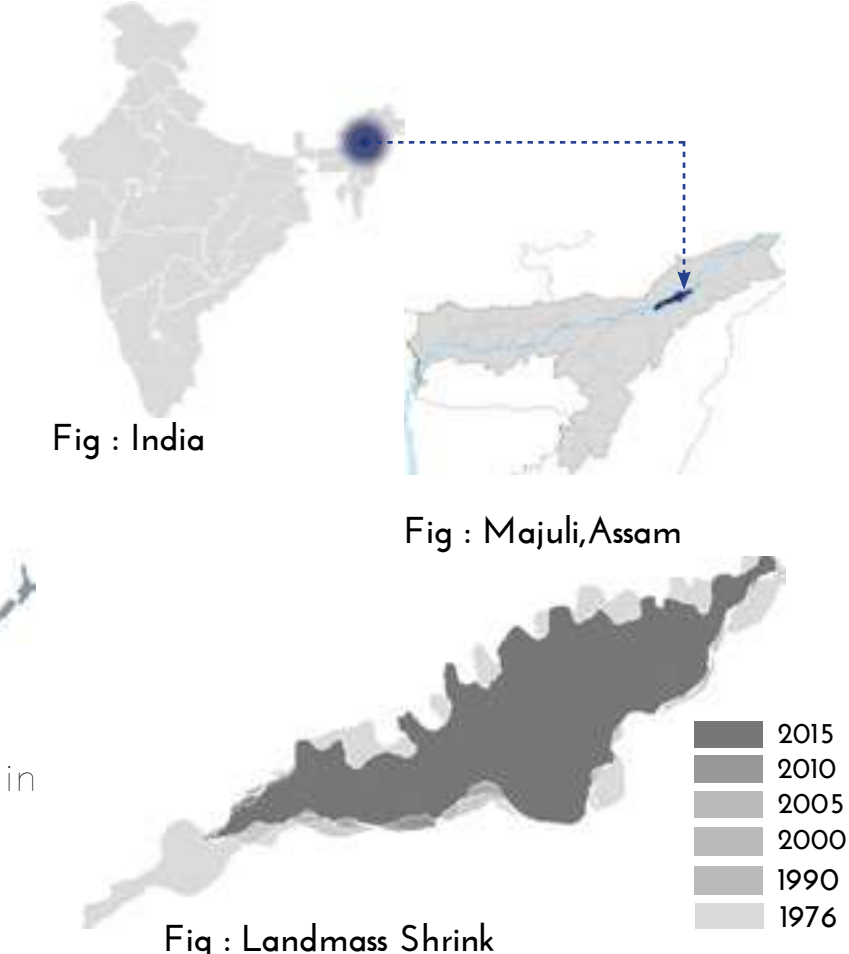
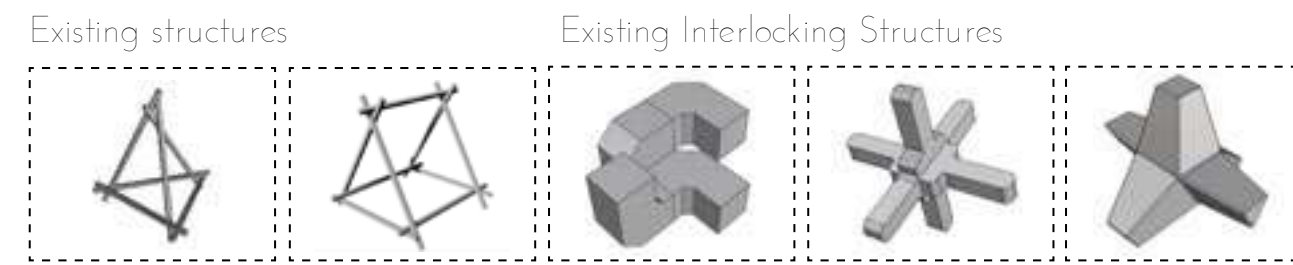
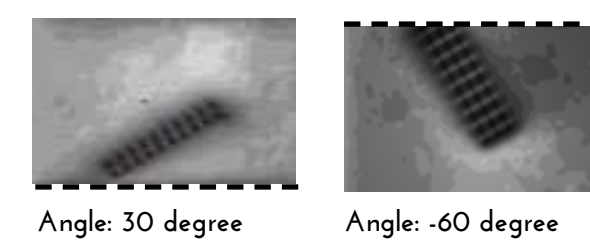


Fig : Landmass Shrink

#### Experiment & Analysis

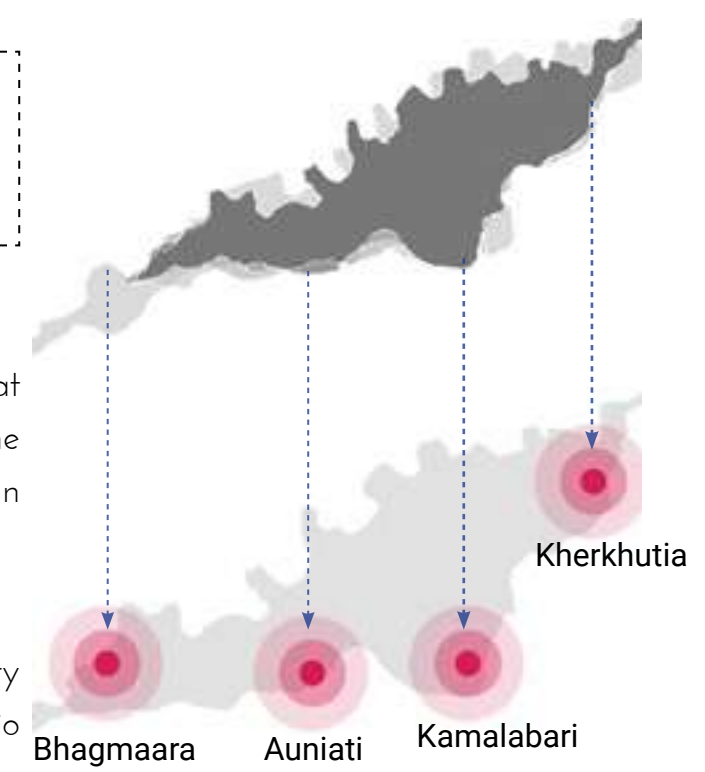


#### Single layer Experiment : Existing Structure



It is found that, the structure (Geometry-2) at an angle of 45 degree has the highest volume flowrate and also it has got the minimum at an angle of -60 degree

It is found from the over all experiments that the flow rate is influence by the density of the units placed and with the scale of the unit size. It is observed from the scenario that the flow rate depends on the scale and arrangement of the units.





# 04 B



## FORM GENESIS THROUGH RESIN-IMPREGNATED FABRIC

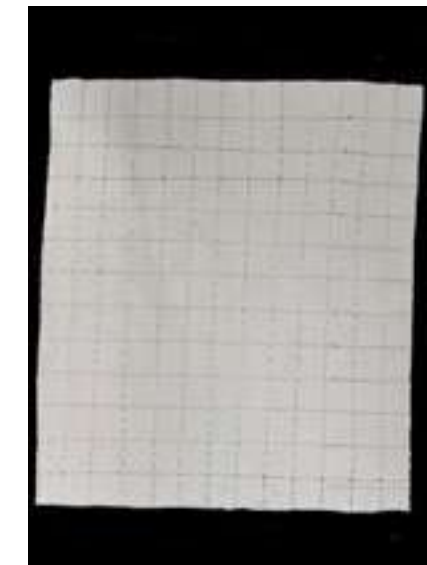
“What does a brick want to be?” In his philosophical explorations the architect Louis Kahn proposed that buildings were not inert configurations of form but “living organic entities”

By reinterpreting the tectonics of structural processes Kahn sought to postulate a universal ordering system whereby function had to accommodate itself to form insofar as form was the result of a profound and timeless understanding of the task it had to support. Let us replace the word “brick” with the notion of “material”, and the concept of “task”, or “function”, with that of “performance”. Now let us speculate on how does a material perform? Moreover, is there a way in which we could predict material behavior and organization within a given

context? How do we find material form? This present research seeks to build upon design work based on physical form-finding and to extend this experimental research tradition to the inquiry into what the implications of such experiments may be when translated from the physical to the digital realm. How, and indeed when, does digital matter transcend its representational value and acquire ontological, operative and, even, generative validity for the designer in his creative search for formal, structural and material integrity.



## APPARATUS & PROCESS



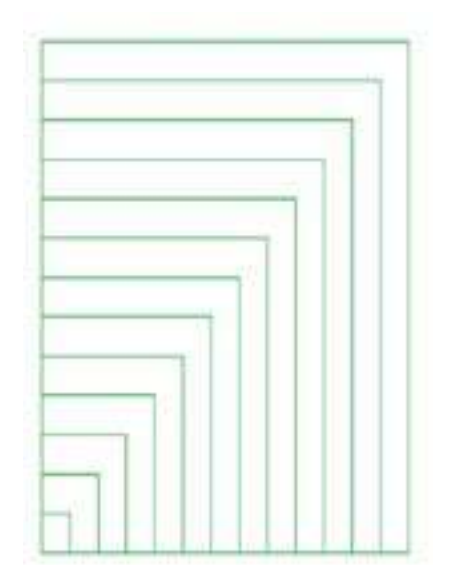
1. Drawing the required grid size on the fabric and the pattern



2. Size of wooden frame depends on the length of stretched fabric.



3. Fixing the fabric with frame with the help of nails



4. Selecting a pattern to draw



5. Applying resin with the help of brush in the geometric pattern.



6. Letting the resin to dry and then pulling out the fabric from frame



# 04

## C

### UNDULATING SAND

The main of this project was to study the behavior of a material to the development of a system with which we had to design an element for a railway station platform.

To achieve this aim we had chosen sand as our material to which we had added hardening agent, sprayed adhesive solution, by doing so we have tried to understand the process, recorded the observations so as to digitalize the natural behavior of sand into design element by keeping in mind the site context.

Sand being a self-organizing material the forms obtained self-forming which was initial stage experiment we had studied the behavior of sand with viscous liquid being poured from a fixed point which leads to branching system. Our second stage

Image: Craft Revival-Beach Hut, TheBusride Lab

of experiments was focused on draining the sand from a levelled plain and let it to fall under gravity and attain a self-form which is then retained by spraying the adhesive solution on them, from this experiment it was observed that the adhesive wasn't controlling the behavior of the sand.

This experiment lead us to final stage of experiment where the sand form obtained was controlled by the adhesive liquid by creating the grid over the resulting sand form. The observations obtained and then digitalize to create design element for the railway station platform by considering the circulation, user activity and environmental fitness criteria like daylight hour, visibility and wind flow which are run using grasshopper plug-ins.



### APPARATUS & PROCESS



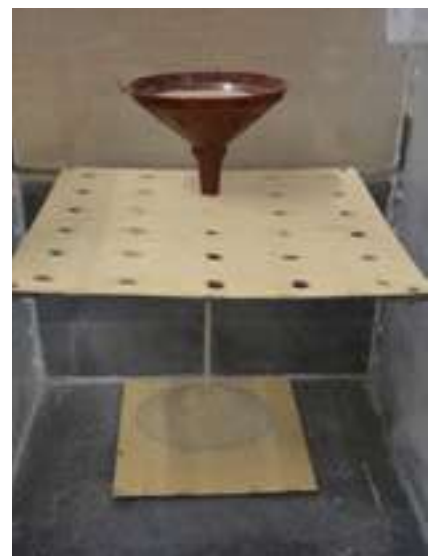
1. Measured quantity of Sand



2. Measured quantity of Fevicol



3. Apparatus set for the process



4. Sand poured through funnel



5. Patterns made by saturated Fevicol solution



6. Form obtained after left to dry



05  
A



## Conservation of Church & Convent of Our Lady of Mt.Carmel in Chimbél,Goa

A digital rendering of what the Church and Convent might have looked like in the early 20th century.

This image is the result of more than 3 years of archival research spread across Goa, Portugal and the UK.

The research and efforts to trace the origins and evolution of the site, and have documented its unique architectural for posterity.











INTERIOR WORKS OF LOUNGE BAR, GUWAHATI

Combining refreshments and a Neon display, this main bar emphasises Gold finish, Bar's social focus and curves down to meet the wooden board floor.

The design solution focused on reprogramming the layout of the lounge to create a series of intimate seating areas that feel like residential living rooms, but with furniture pieces that are flexible in their uses. Sofas and swivel chairs were designed using soft velvet fabrics in jewel tones, such as amber yellow, clay red, sapphire blue and emerald green.





Video Conference Room, Assam Water Centre, Guwahati



CEO FREMAA CABIN, Assam Water Centre, Guwahati







Mission Director Cabin, Jal Jeevan Mission, 5th Floor, Assam Water Centre, Guwahati

The design is focused on the layout of the cabin space to create feel like spacious office room with separate meeting areas attached balcony with green covers on the wall. The finished are mostly veneer with plywood on the wall with fabric tiles and concrete cladding on walls with a layers of artificial grass to enhance the space and change the mono-directional viewpoint of an office cabin concept.



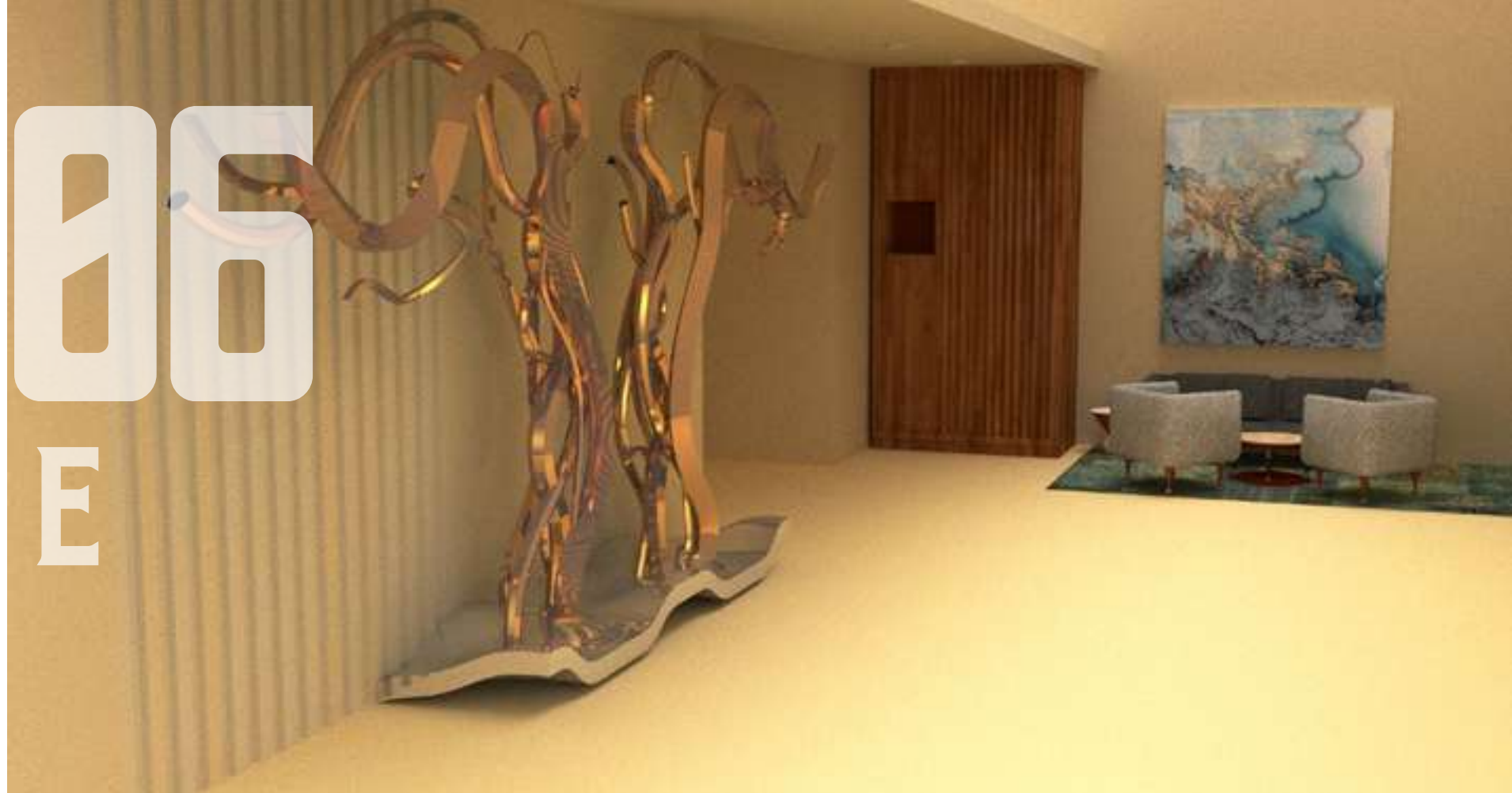


P.W.D Guest House for Engineers, Jorhat





06  
E



Interior Works of Riverfront Penthouse, Kharghuli, Guwahati

The proposal is developed in two general areas, in the first are the semi-private spaces of the project, such as the living room, dining room, terrace and kitchen.

A main feature of this space is its relationship with the outside, generated through the terrace and the large window that accompanies the living room, provoking a sense of spaciousness and sense of permanence in the user.

Due to the adequate distribution of its elements, a visual composition is created that can be appreciated from different angles, and at the same time it conserves homogeneity and harmony in reference to its materials and decoration, characterized by the contrast of warm and dark colors.



Fig: 3D Living Room View



Fig: 3D Ground Entrance View



