

M.Des Project 2

Designing an interactive installation to build awareness about Indian textile heritage

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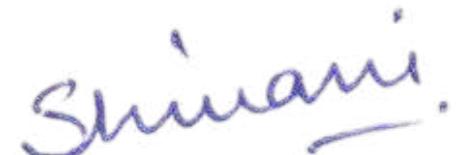
Co-Guided by:
Prof. Ajanta Sen

Declaration

I, Shivani Verma, hereby declare that this project report, titled "Designing an interactive installation to build awareness about Indian textile heritage" is entirely my own work, and where others ideas or words have been included, I have adequately cited and referenced the original sources.

I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea, data, fact or source in my submission.

I understand that any violation of the above will be cause for disciplinary action by the institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.



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September, 2023

Approval Sheet

Interaction Design Project 2 titled "**Designing an interactive installation to build awareness about Indian textile heritage**" (by Shivani Verma, roll number 22M2255) is approved for partial fulfillment of the requirement for the degree of 'Masters in Design' in Interaction Design at IDC School of Design, Indian Institute of Technology, Bombay.

Guide:



Chairperson:



Internal Examiner:

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I aspire to honor and live up to the trust and support generously extended by the individuals mentioned above.

Abstract

In this project, our aim is to design an interactive installation that introduces the vibrant world of Indian textile heritage, with a particular focus on embroidery, to the curious and tech-savvy Generation Z (Gen Z). Inspired by the rich history of textiles in India, our installation seeks to engage and educate Gen Z about the intricate artistry of textile.

Drawing insights from our research and interactions with educators and organizations, we have observed a gap in awareness among the younger generation about India's textile traditions. To address this, we are creating an immersive sensory experience that captures the essence of Indian embroidery. Through tactile and interactive elements, Gen Z will have the opportunity to explore various embroidery styles, learn about their origins, and appreciate the skill and creativity that goes into crafting these textiles.

Our installation aims to empower Gen Z with knowledge about India's textile heritage, fostering an appreciation for cultural diversity and craftsmanship. By making the learning process enjoyable and memorable, we hope to bridge the gap between tradition and modernity, ensuring that the legacy of Indian textiles is passed on to future generations. Ultimately, our goal is to create an engaging platform that not only educates but also inspires Gen Z to value and preserve this rich aspect of their cultural heritage.

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1. Introduction

India's handcrafted textiles are an integral part of its identity. These fabrics have a history dating back at least 6,000 years. Luxurious textiles were used to display royal grandeur, and sacred cloths remain significant in religious practices. India is blessed with abundant natural resources for creating and decorating textiles. Its diverse geographical regions and climates offer a wide array of plant fibers and natural dyes.

Over the centuries, each region has developed unique textile traditions based on local resources. For example, Assam is known for its golden silks, Bengal for its fine cottons, and southeast India for its red dyes. Skilled artisans employ a remarkable range of techniques to process raw materials and create regionally distinctive dyes, weaves, prints, and embroideries.

The history of textiles in India is one of the oldest globally, dating back to ancient times. While we can see early signs of clothing in Mesolithic cave paintings, solid evidence of textile production and usage begins to emerge during the proto-historic period, around the 3rd millennium BCE (Textiles and Fabrics in Ancient India).

India has a wonderful history of textiles, but many people today are not very knowledgeable about it. This makes it important to create an enjoyable and interactive way to teach people about India's textile heritage.

2. Aim

The aim of this project is to create an engaging and interactive installation to educate and inspire people, especially Gen Z, about India's textile heritage, focusing on embroidery.

2.1 Objectives

- Raise awareness about India's textile heritage.
- Showcase the diversity of Indian embroidery.
- Make learning enjoyable and memorable.
- Engage with Gen Z, encouraging them to explore their cultural heritage.

3. Approach

First, we'll do research and gather information to find a good story for the project. Then, we'll create and improve small models step by step. These models will help us make the final model. Finally, we'll use the final model to build the real installation.

4. Secondary Research

Before ideating on what the physical installation look and feel would like, it is important to find a story worth telling. Therefore, it was necessary to collect data about the culture and textile of India.

4.1 Textile

Textiles, woven or knitted, are material made up of yarn. Fibers are the essential and visible basic element of a textile. Through techniques such as twisting, twining and texturing, fibers are combined and interlocked in a vertical direction to manufacture one dimensional (1-D) yarns. These yarns or filaments are further integrated to make a 2-D or 3-D structure using methods such as weaving, knitting, or non woven techniques. (Bao Yang, 2020)

Fabrics are of three types, woven, knitted and non woven. Woven and knitted fabrics are made with yarns. Woven fabrics are made by interlacing warp and weft in a perpendicular to each other, e.g. denim. It creates a stable and grid like pattern using a loom. Whereas knitted fabrics are made by interlocking loops of yarn together, resulting in a stretchable fabric, e.g. sweaters.

4.1.1 Woven textile

Woven fabric consists of two basic structures in a fabric called warp and weft. Warp and weft is technical term for the yarns in a fabric. The yarn which runs parallel to the fabric edge (aka

selvage) are called warp and the yarn running parallel to warp are called weft. In the process of weaving the warp is drawn to warper beam in a loom to make the foundation of a loom shed. This is then followed by warp yarn, interlacing from one fabric edge to the opposite, and one by one. (Sarkar, 2020) Woven fabrics are weaved on looms. Looms are machinery which holds the warp in tension in vertical direction and interlaces the weft yarn to make a fabric. (Rungtai Lin, 2022)

4.1.2 Types of fiber

There are 2 types of fibers, natural fiber and synthetic fiber. Natural fiber includes cotton, wool, silk, jute, etc. Whereas synthetic fiber include (Know About Textile Fibres, 2022)

4.2 Textile history of India

If we study the history of textile in India, we get to know that there were remains of needle like structure made of stone, clay, metal, wood and terracotta found in Harappa valley site. The Priest King figure at the Mohenjo-Daro site, wearing a robe adorned with trefoil patterns, indicate that people in the Indus valley civilization knew how to decorate clothes. The minute dyes fragments of cotton were recovered from sites of Mehrgarh, Pakistan in 2000 BC. (Textiles and Fabrics in Ancient India) In ancient times, there are mentions of weaving in various texts. The Rig Veda, for example, talks about a weaver called a vasovaya. Buddhist texts refer to a fabric from Banaras known as 'kaseyyaka' or silk of Benaras, as well as woolen blankets from Gandhara, which is now parts of

Afghanistan and Pakistan. Jain texts talk about cotton thread (Kappasikasuttam) and cotton cloth (kappasi kadusam). During the Gupta period, evidence of cotton preparation can be seen in Ajanta paintings. In the 14th century, in Kashmir, vertical looms began to be used for carpet weaving. Cambay in Gujarat developed as an important port for the textile trade during this period. Emperor Akbar chose light fabrics like muslin and silk for his imperial clothing, which suited India's sub-tropical climate.

Under the Mughal rule, the textile industry became the largest industry in India. Leading centers of production included Gujarat, Cambay, Ahmedabad, Patan, Bengal, Kashmir, Agra, Lahore, Dhaka, and Delhi. Golconda became known for Chintz, Masulipatnam for Kalamkari, and Gujarat for block print techniques to decorate textiles. During this time, Kashmir became a center for shawl weaving, and Kashmiri needlework embroidery developed.

Seeing the expansion in the textile business, British and Dutch traders established permanent factories in Surat for trade. Bengal became a major exporting region of India, with silk being an important item of export. There were movements that textile had a major role to play in, e.g. Swadeshi movement, Indigo movement and importance of Khadi.

4.2.1 Swadeshi movement

In 1905, India had 193 textile mills with a total of 4,845,783 spinning machines. This marked the beginning of the Swadeshi Movement. During this movement, leaders urged all Indians to stop buying

foreign clothes. This encouraged Indian industrialists to make cloth in their mills on a large scale. As a result, the production of cotton fabrics doubled between 1900 and 1912.

4.2.2 Khadi

Mahatma Gandhi played a significant role in promoting the use of Khadi, which is a type of fabric hand-woven from hand-spun thread. He did this as part of his call for self-rule, known as Swaraj. Khadi and the spinning wheel became important symbols of the Indian Nationalist Movement. The national flag of India, with its saffron, white, and green tricolor, was adopted during this time.

4.2.3 Indigo movement

The Indigo Movement, primarily in the late 19th century, was a significant protest in the textile industry. Indian farmers and weavers, led by figures like Gandhi, resisted the oppressive indigo cultivation imposed by British colonial rulers. This movement played a crucial role in shaping India's textile history, advocating for the rights and sustainability of local textile production.

4.3 Types of textile

4.3.1 Weaving

India has total of 3,81,042 weaving mills and 68,442 looms. (Arora, 2018) There are varieties of embroidery in India, few of them are mentioned below:

- Tangaliya Weave, Gujarat

- Lepcha weave, Sikkim
- Kani weave, Kashmir
- Jamdani weave, West Bengal
- Chanderi weave, Madhya Pradesh (Rupani, 2020)

4.3.2 Embroidery

Embroidery is a craft where you decorate fabric with needle and thread to make beautiful designs. (Arora, 2018) Some iconic Indian embroidery is as following:

- Kashida, Kashmir
- Chikankari, Uttar Pradesh
- Kantha, West Bengal
- Phulkari, Punjab
- Kasuti, Karnataka

The word embroidery comes from a French word 'Broderie', which means embellishment. Embroidery is generally categorized into three types, i.e. outlining, filling in, and decorating. Hand embroidery is the art or craft of embellishment fabrics with decorative stitches by hand using a needle and thread. Hand embroidery can be used decoratively as well as practically. For hand embroidery there are multiple types of stitches e.g. running stitches, back stitch, cross stitch, French knit stitch, chain stitch and many more.

4.3.3 Painting

This is the practice of manually painting, textiles and fabrics, typically using natural dyes. In the past, painted textiles were often

This is the practice of manually painting, textiles and fabrics, typically using natural dyes. In the past, painted textiles were often created as large temple hangings featuring scenes from mythology, folklore, and religious texts. E.g.

- Madhubani Painting, Bihar
- Roghan painting, Gujarat
- Pattachitra, Odisha
- Kalamkari, Andhra Pradesh

4.3.4 Dyeing

Dyeing is a method for adding color to a textile or fabric material by applying dye to its surface. Typically, this is achieved by dissolving dye in water and immersing the fabric in this solution multiple times to set the color. These are of different types, e.g.

- Ikat, Odisha
- Lehariya, Rajasthan
- Bandhani, Rajasthan
- Tie and Dye, Gujarat

4.3.5 Printing

The term 'printing' refers to the process of adding different colored patterns or designs onto various types of fabrics, including cotton, linen, silk, jute, and various mixtures of these with other fibers. Some of the examples are mentioned below:

- Bagru Print, Rajasthan
- Sanganeri Print, Rajasthan
- Ajrakh print, Gujarat
- Bagh Print, Madhya Pradesh

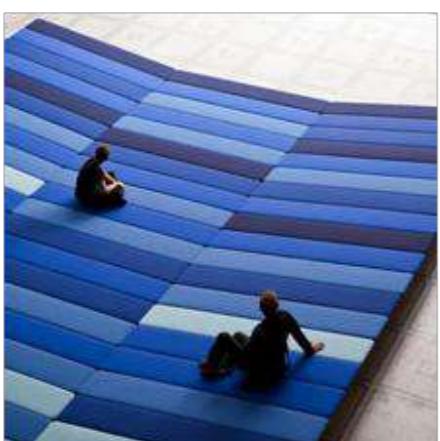
4.4 Installation

Installation is a form of 3-D art, typically consisting of multiple components, seizes and transforms the environment in which it is installed, prompting viewers to step into the space and actively engages with the artwork. (Das, 2007) Interactive installations are a fun way to make a place more likely using technology, sound and lights that react to you. They make people go from just watching to actively taking part. (Our Guide to Interactive Installations, 2016)

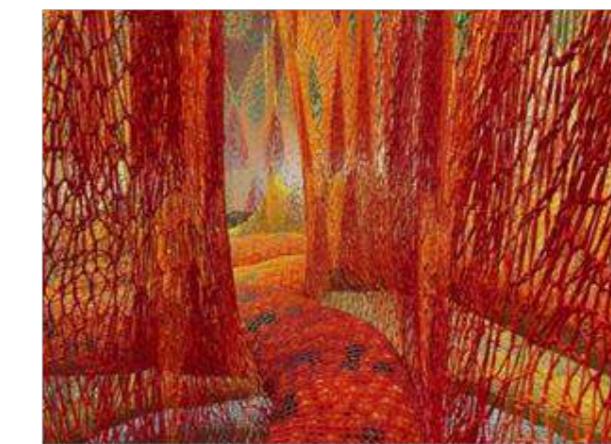
4.1.1 Exploring physical installations across the globe

The secondary research involved exploration of physical installation across the globe and in India to understand how the experience was created and also to find inspirations.

1. Textile Field by Ronan and Erwan Bouroullec: It comprises colorful, textile-covered foam pieces; it invites visitors to engage in a tactile exploration of form and space. It offers a sensory journey where touch, sight, and creativity converge, immersing individuals in a world of textile wonder.



2. Floating Threads by Ernesto Neto: "Floating Threads" by Brazilian artist Ernesto Neto is a captivating interactive installation that invites viewers into a sensory wonderland. This immersive artwork is characterized by its translucent, stretchy textile membranes suspended from the ceiling, creating a delicate, dreamlike environment. From an interactive perspective, the design process of "Floating Threads" prioritizes visitor engagement and sensory exploration. Neto selected materials that evoke a sense of touch and curiosity. The stretchy, semi-transparent fabric encourages tactile interaction as visitors can push, pull, and squeeze the textile forms, altering the installation's shape and spatial dynamics.



3. Interactive Textile: Touch by Hyojin Yoo: This is the best interactive installation I came across and fits best to explore further based on the kind of solution I want to generate. It is a piece of art that you can touch, feel, and interact with.

Design Process: To create "Interactive Textile: Touch," she used special fabric and technology. Imagine regular fabric but with a twist - it can sense when you touch it. She added and designed this fabric with tiny sensors inside. These sensors can feel when a user's hand or fingers touch the fabric. The fabric is stretched on a frame

or put on a wall, making it look like a big, soft canvas. But it's not just any canvas; it's a canvas that comes to life when you touch it.

How it Works: When the user touch the fabric, the sensors inside it detect your touch. They send a message to a computer. This computer or device then responds to your touch by creating beautiful or sounds of a harp.

- **Who Interacts and How:** Anyone can interact with "Interactive Textile: Touch." It's designed for people of all ages to enjoy. You can use your fingers, hands, or even gentle taps to interact with it. When you touch the fabric, the user can see it change colors, shapes, or patterns. He/she/they can also hear sounds that match the patterns on the fabric.
- **Sensory Experience:** Interacting with this textile installation is a sensory adventure. We use our sense of touch to feel the fabric's texture. It's soft and smooth, like a cozy blanket. When we touch it, we engage your sense of touch even more because we feel the fabric responding to you. We'll see vibrant colors and patterns that appear and move as you touch the fabric. It's like a living painting that you can control.



Other explored installations were as follows:

5. Interactive Textile: Sound by Hyojin Yoo



6. BREATHING SOFTSPACE , by Marie, Lisa, Matthias



7. Those who affect me by Malin Bobeck



8. Could made with 6000 bulbs, by Caitlind brown



4.5 User study

Geographical area: Mumbai.

I selected Mumbai as the geographical area primarily because it's convenient for user testing. Mumbai has a rich history and people here are interested and curious about historic information. Events like Mumbai Urban Art Festival in Sasoon Dock happen only in Mumbai and people especially the Gen Z are large visitor category there.

- Gen X: People belonging to Generation X were born from 1965 to around 1980 and currently fall within the age group of 41 to 56 years old.
- Gen Y: People born between 1981 and 1994, they are currently in the age group of 25-40 years old.
- Gen Z: It is the most recent generation, born between 1997 and 2012. They are currently between 9 to 24 year old.
- Gen A: Gen Alpha is the population born in between 2012-2025.

On exploring further the characteristics of Gen Z, it is observed that they tend to have a diverse attitude toward culture, traditions, art, and history. They value cultural diversity and are open to exploring different traditions. They often use technology to engage with and learn about art and history. Gen Z appreciates creativity and innovation in art, embracing both traditional and contemporary forms. They are keen on understanding the historical context of the world, seeking to learn from the past to shape a better future. While they may challenge some traditional norms, they are also actively involved in preserving and promoting cultural heritage. Overall, Gen Z shows a dynamic and inclusive approach to culture and history. (Karianne Gomez, 2019)

This user base is curious to know about the traditions, history and want that identity to pursue further. This is the reason why I prefer to select this user base as my target audience because they are curious in knowing new things which exist from ages.

4.6 Conclusion from secondary research

- In textile, considering the fact that I want my installation to have a distinguishable and interesting interactive haptic feedback, I will use embroidery based fabric as a category.
- I want my user to get to know the information about the textile, which includes where the embroidery is made, what it is called. I shorten this set of information because in a lesser span of time a person will be better able to remember this much information
- Target audience is Gen Z

5. Design Brief

5.1 Approach

The project will follow a phased approach:

- Research: In-depth study of Indian textile history, embroidery techniques, and the target audience's preferences.
- Design: Creation of an interactive installation concept with embroidery-based tactile elements.
- Prototyping: Developing a working model for testing and improvements.
- Testing: User testing with Gen Z to gather feedback.
- Finalization: Refinement of the installation based on user feedback.
- Production: Building the final installation.
- Deployment: Installation setup in a suitable public space or museum.

5.2 Design Considerations:

- Textile focus: The installation will primarily showcase various textile styles from different Indian regions.
- Interactive Elements: Users will be able to touch and feel the embroidery, which can trigger audio-visual responses.
- Information: The installation will provide concise information about each fabric style.
- Engagement: It should captivate the Gen Z audience by making learning fun and interactive.

5.3 Target Audience

- Gen Z (born between 1997-2012), who are curious, tech-savvy, and open to exploring their cultural heritage.

5.4 Sensory Experience:

- The installation will provide a tactile experience through touch.
- Visual elements will be triggered when users interact with the embroidery.

5.5 Location

- In front of office, IDC 1st floor
- At 2nd floor Rahul Bajaj Building, near weaving studios.

Here the crowd is usually the students and faculty. Students hang out to wait for faculty or any official work so in the mean time they can look at this and interact with this.

5.6 Desired Outcomes

- Increased awareness and appreciation of Indian textile heritage
- Positive engagement and learning experience for Gen Z.
- Encourage further exploration of India's diverse cultural traditions.

5.7 Evaluation

The success of the installation will be measured through user feedback, increased footfall, and social media engagement.

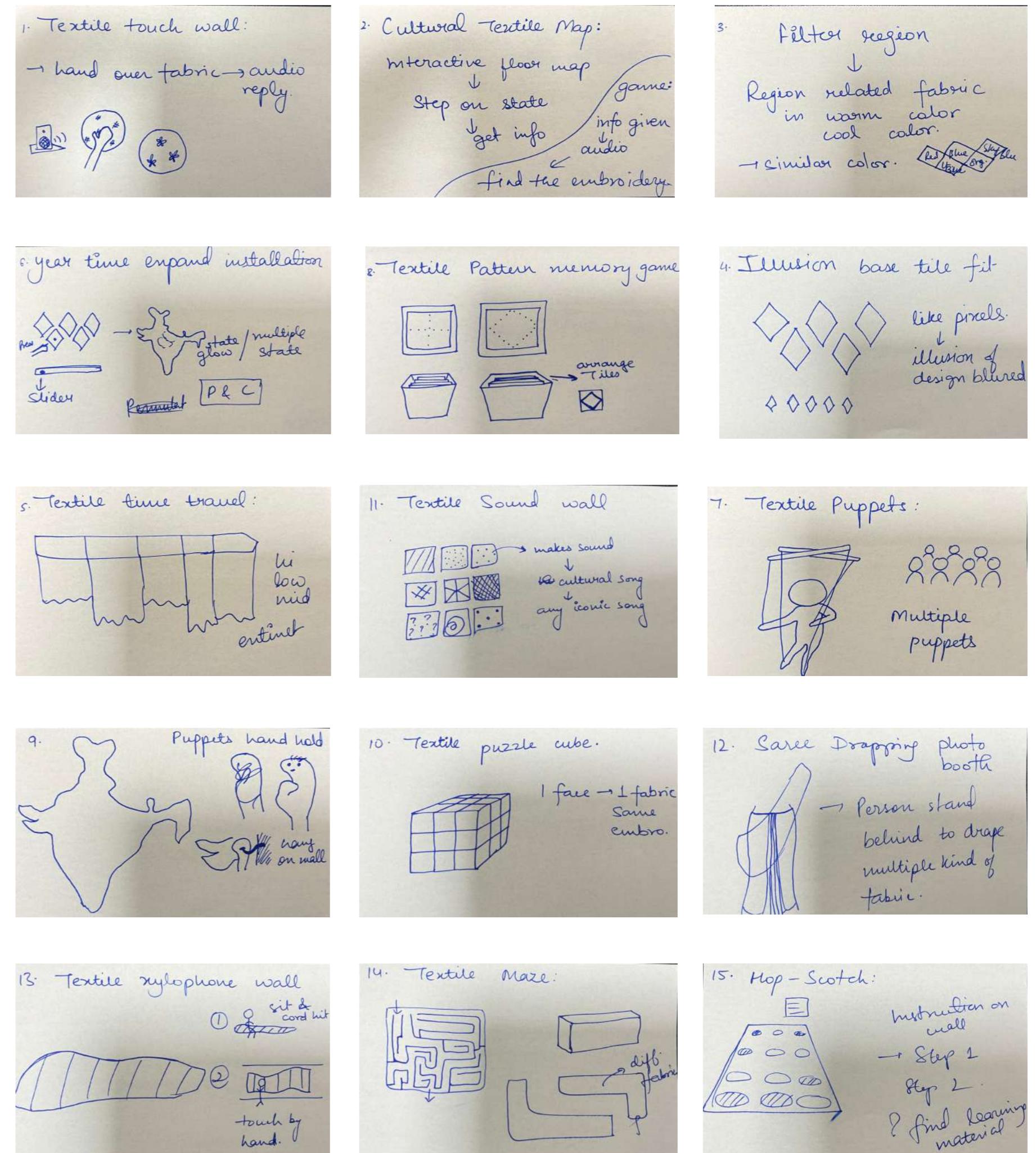
6. Purpose

Today Gen Z is curious, enthusiastic, believes in traditions, wants to know about rituals, and is very much interested in culture. They want to make choices which associate them with an identity, they are very identity conscious, as we analyzed from our secondary research. Here I see a good potential to educate them about the rich heritage we have of textile in our country. Today the export demand of Indian textiles is very high, so why not we make our current youth aware of this and make them aware so that they too promote the Indian wears and they have information to talk about what they are wearing. This gap of information can be bridged via an interactive installation which is fun learning experience and share easy to grasp information in short span of time.

7. Scope

The scope of this project is to create an interactive installation focusing on India's textile heritage, particularly embroidery. The installation will allow users to touch and feel the embroidery, triggering visual and audio responses. The key objectives are to raise awareness about India's textile heritage, make learning enjoyable, and encourage further exploration of cultural traditions. The project will involve research, design, prototyping, testing, production, and deployment in a high-traffic area in Mumbai. The installation should provide a memorable and sustainable way to showcase India's rich textile heritage to the target audience.

8. Ideations



Idea: 1

Concept: The kiosk will have a map of India in the first medium of interaction. The states in the map will have a sensor each. Each state will be having a embroidery textile pattern in second stage. When the textile will be shown, it will verbally tell the name of that textile, where it originates from. Light will help in validation of inout command.

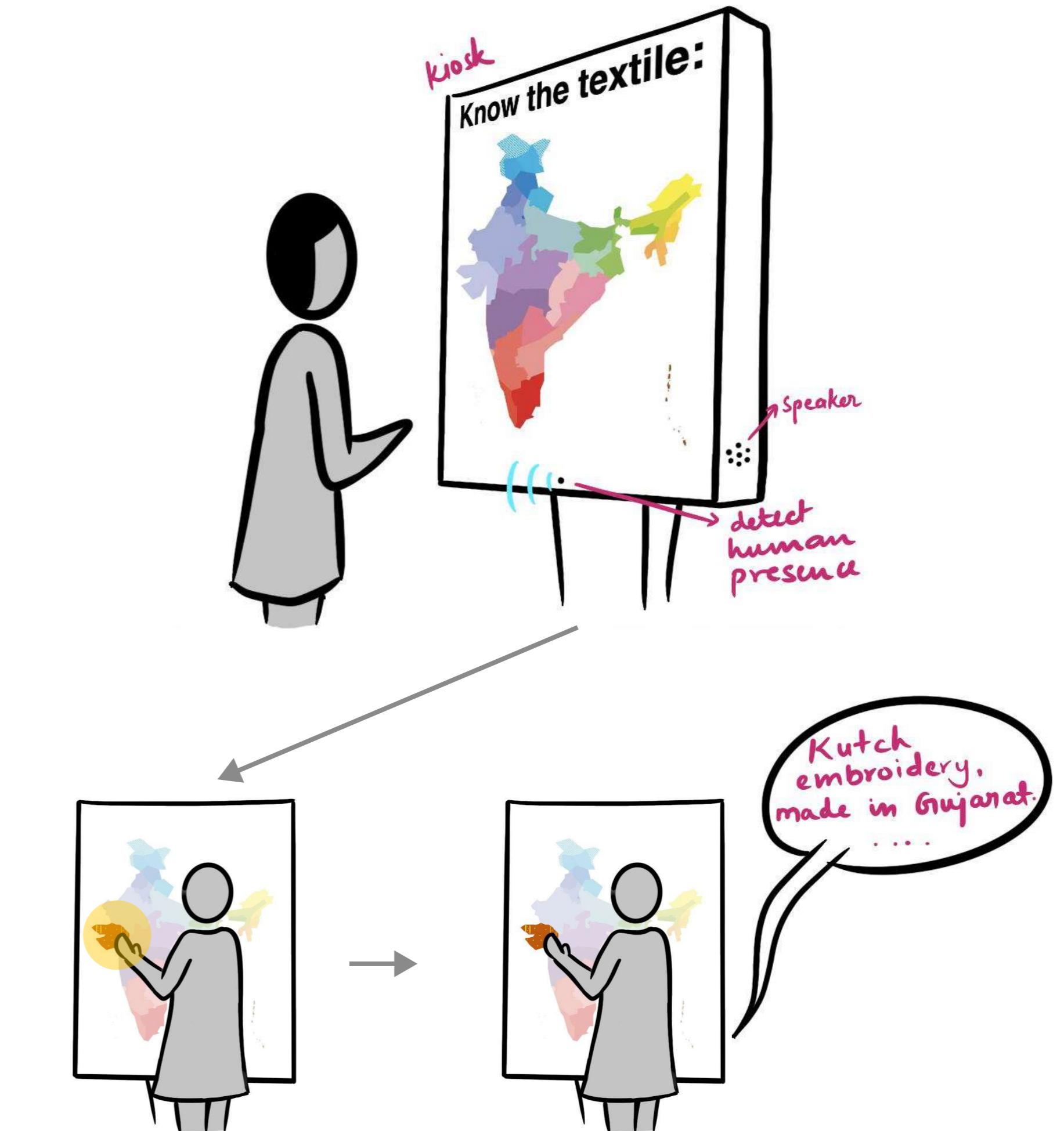
How to interact: Place the palm in from of a state on the screen from the map of India. When the hand motion is detected, the screen turns the light into the textile image in the outline of that particular state. Followed by telling the name of the state, the name of the embroidery. It will interact with vision, audio and touch sensors.

Pros:

- Interaction with map
- instant reaction from kiosk
- multiple language options

Cons:

- assembling digital interactive screen is very expensive



Idea: 2

Concept: The textile patch will be assembled in a honeycomb structure to make it look aesthetic. The installation will be assembled on a corner wall, with textile swatches on one side and India map on the right wall. The visual response feedback will help the user in memorizing the information shared.

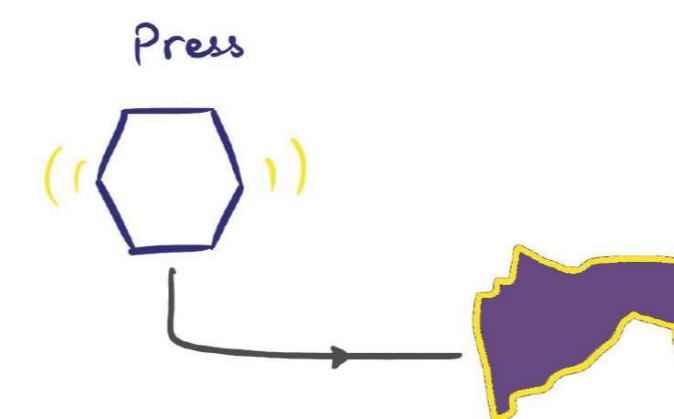
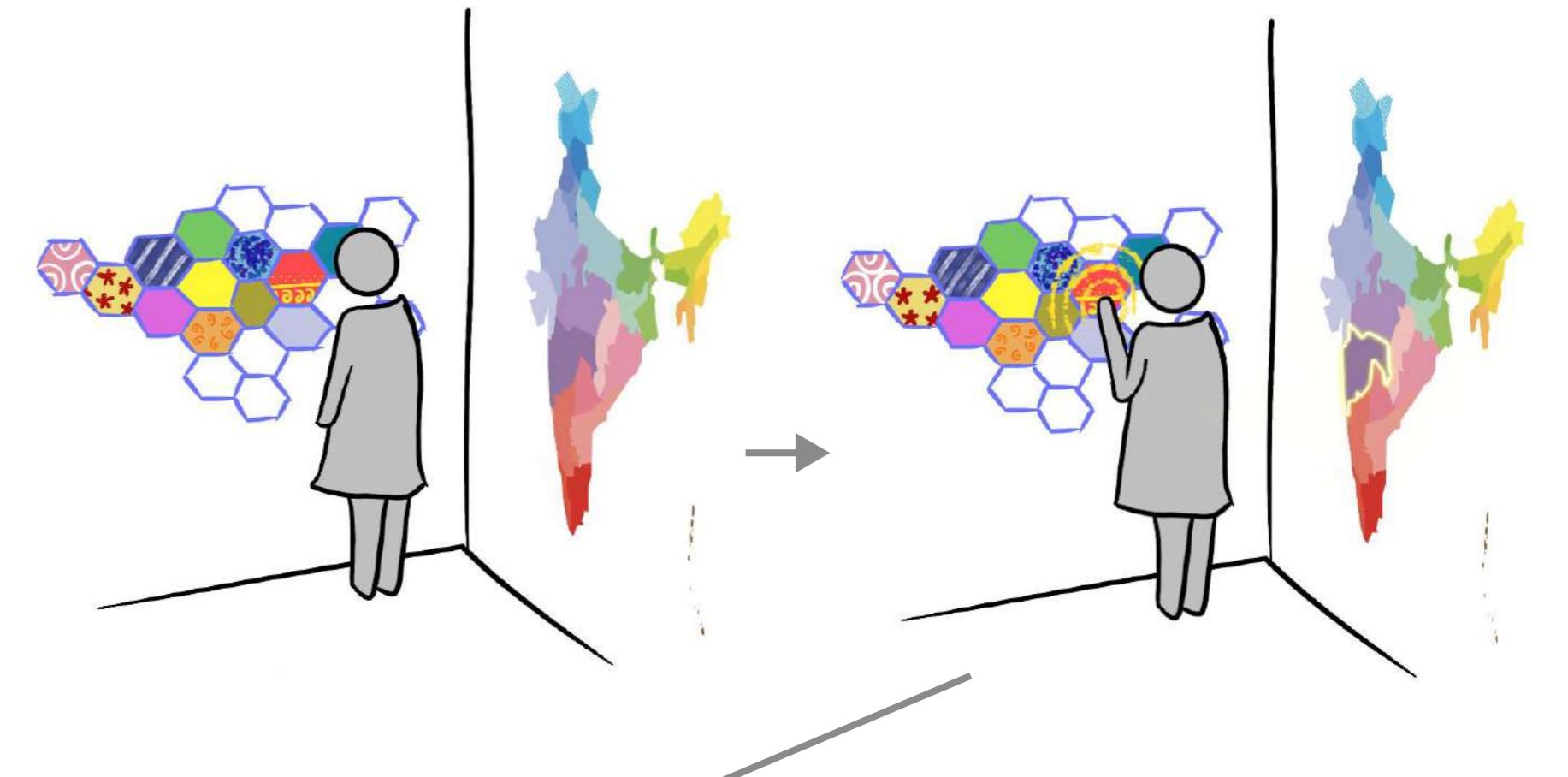
How to interact: In the starting as the user presses any one of the swatch, it will switch on the light of a particular state. When a user press it the light highlights the state the embroidery originates from.

Pros:

- Embroidery gives a good haptic feedback
- less cognitive load on user

Cons:

- connecting multiple sensors is time consuming task



The learning from this prototype is that the interaction is not so engaging, the input-output is very linear no fun element in between. Also the user will not be interested in using it.

Prototype for analysis

Idea: 3

Concept: The story telling kiosk, box like structure will be designed for a public space preferably where people spare good amount of waiting time. Each element will be a AR marker in itself, in the front the textile will be a tactile surface, behind it their will be a sticker which tells the name of that textile along with its origin place. To know in detail the user can scan the marker to read further details..

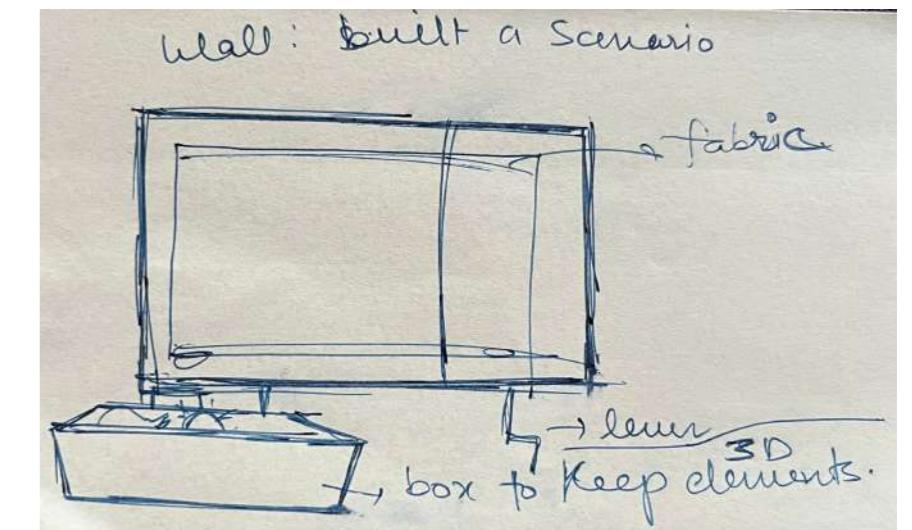
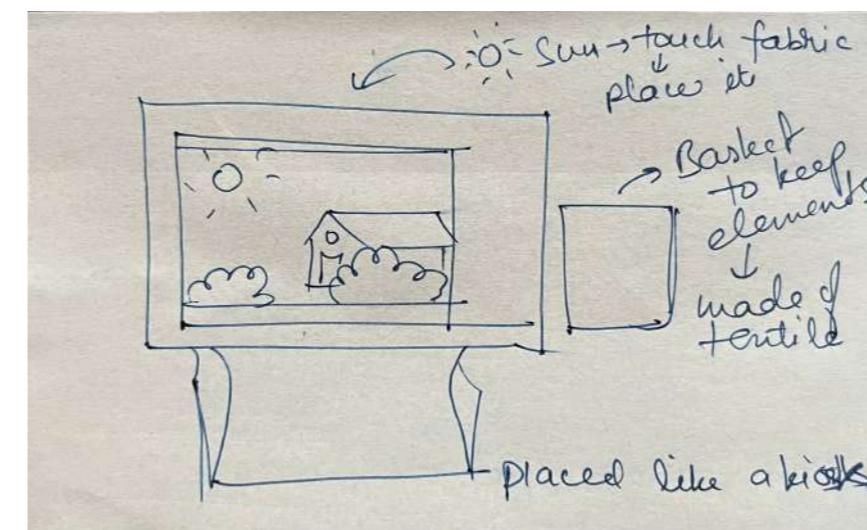
How to interact: The user need to pick the elements(cushion like 3D elements, scenario inspired), kept in a basket adjacent to the box. The user will have the choice of 2 base color fabrics i.e. blue and green. Each element will be like a soft cushion in the shape of flower, animal, fruits, cloud, grass etc. Each cushion will be of different fabric type and will resemble as an individual element.

Pros:

- emotion triggered: fun, nostalgia to make sceneries
- engaging, with the elements

Cons:

- might not be interactive for people with less interest in textile to use the AR



Deciding the dimension from mini prototype:
Outer box: 61x92x4"
Pipe: 76x1.5"
Distance between screen area: 2.5"

One fruitful observation from this prototype was that users were enjoying the movement of pipes, where the back fabric, moves once we rotate the pipe. Though, by default they expect it to move like a movie with characters in it.



Idea: 4

Concept: The setup will feature textiles hanging vertically, one end fixed on a platform, creating a visual flow. The fabrics are chosen to form a VIBGYOR pattern, adding to the beauty. Each textile is unique, sourced from various parts of India, each with its own story. Basic details like textile name and origin will be under each. For more info, users can scan the QR code and explore the app.

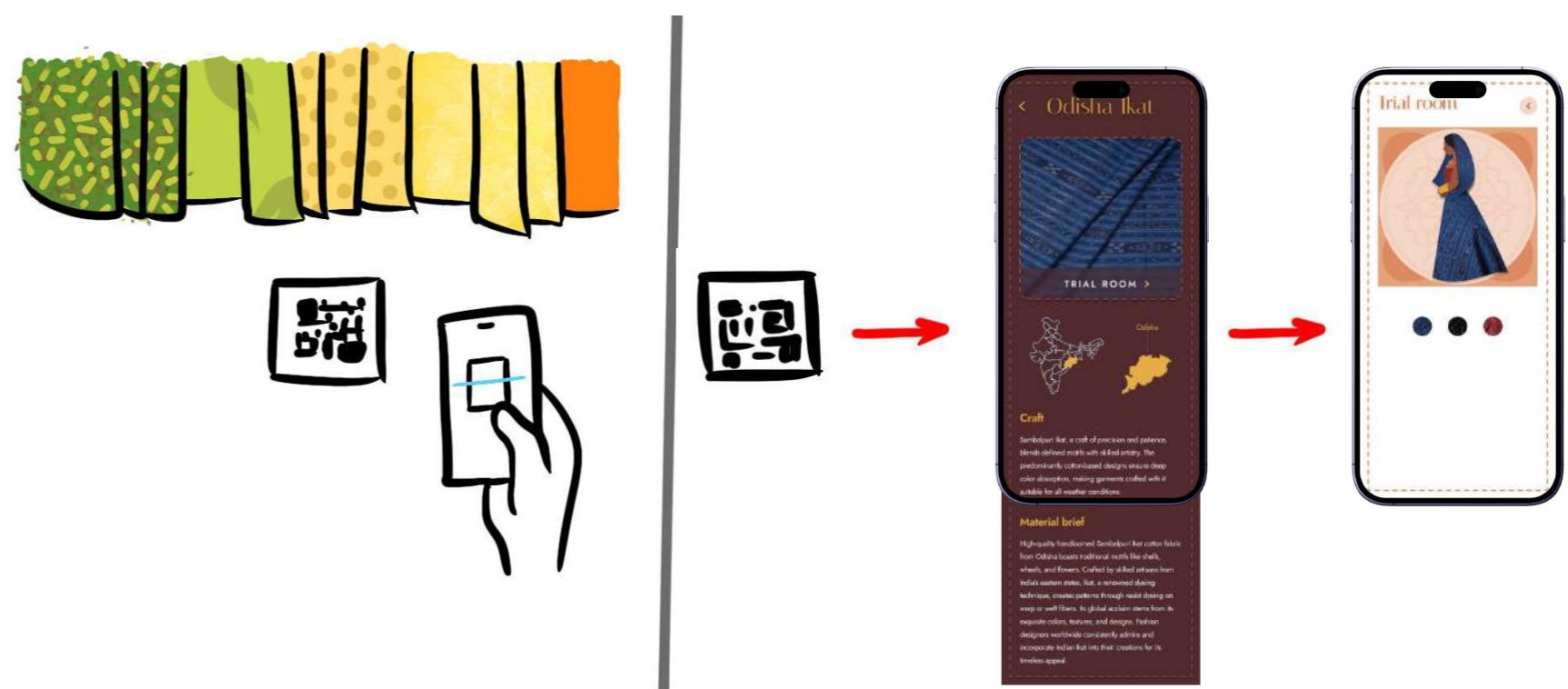
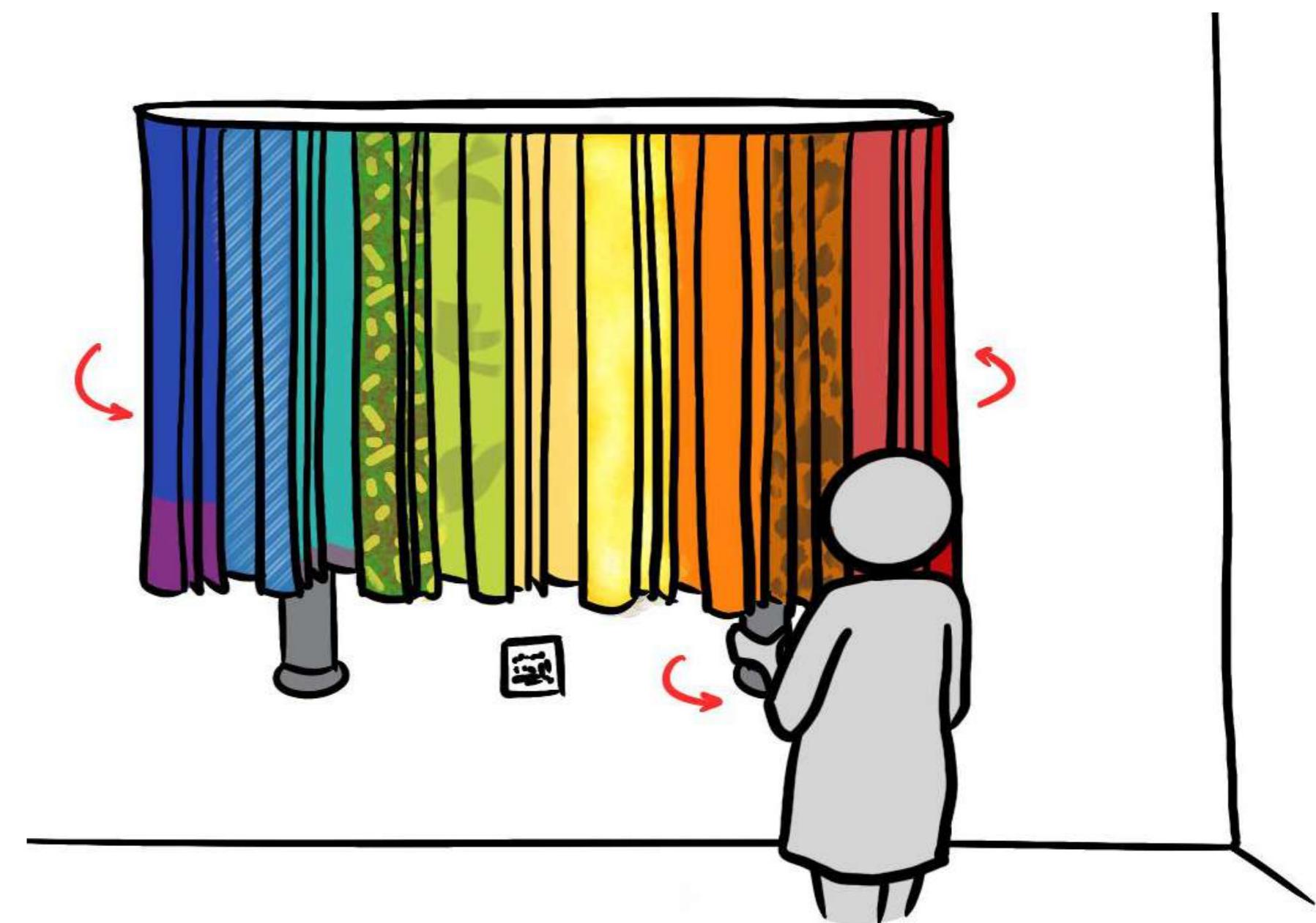
How to interact: This installation has two main interactions. First, you can touch and feel each textile. The pipes can rotate to show different fabrics. At one time, only 7 out of 14 fabrics are visible. You need to rotate the pipes to see the rest. The second interaction is with QR codes. At first, you see only 2 details. But when you scan the QR code, you get more information and see variations of the fabric in different colors or patterns.

Pros:

- touch, of the fabric can be felt, the drape of a fabric can be experienced
- Visually VIBGYOR pattern
- each fabric is unique, and has a story to tell

Cons:

- might not be interactive for people with less interest in textile
- Some people can find it as an extra effort to open the application



This concept will be simple in interaction but will share more information according to the interest of the user. It provides a two step information level, here the user can by default see the fabric as a 3-d experience, touch and feel the real material. In the first level the user can see the name of the fabric and where the material originates from. If the user wants to know in detail then they can scan the QR in front of each textile which will take them to the landing of the application prototype.

Once the user visits a particular detail page, they can visit the explore more page. In the explore more page they can see similar pattern of same textile, e.g. phulkari, if I see one phulkari pattern in front of my eye, I can touch feel it, then here I can see similar patterns in different colors, or similar patterns.

Finally, after modification and upper mentioned additional ideations, **idea 4 was finalized** considering multiple models and practical engagement of the installation. The idea was refined in terms of information needed for formation of digital prototype, the sourcing of fabric and the working mechanism of the idea. Also the material required in making this concept to reality, e.g. pipes, fabric, wood for stand etc.

I tried exploring the material and material handling part, how to make a 3-d product using such diverse materials. It seemed like a good opportunity to make a tangible interaction using sensory in combination with technology

9. Design process

To achieve a simple and seamless interaction into the installation, I decided to include the following set of information in the installation:

Through the physical device:

The fabric in itself is the major stand out material for the entire system, then the name written and the place of origin. Viewers can rotate the pipes to make the movement, and the fabric will move with respect to it. Fabric from different region of India are sourced, covering each region.

Through the digital interface:

When the user will scan the QR, they will be taken to the interface, which tells the story of its manufacturing process along with the story of the textile. For better understanding of the user, they can view different patterns of same textile in the explore more section. There will be 3 options for all the textile, to switch between.

9.1 Collective feedback

The feedback I received over the time through various stages presentations are as follows:

Idea 1:

- What will be the base material? Sensors needed to detect entire surface when person places the hand
- How is the user going to remember without any differentiating factor? Audio feedback cannot work in a public space.

Idea 2:

- It is very linear to interact with
- fun/surprise element is missing in the device
- What will a person interact with the device more than one time?

Idea 3:

- Why will a user make a scenario? Who will remove/clear the base fabric every time a landscape is made?
- Not an engaging installation to have fun with.
- Elements too small to know and feel the texture.

9.2 Scale model

To begin with, I build a scale model trying to replicate what this installation would ideally look like once done, and also to understand the mechanism of how it will function. It helped me visualize the working of installation in a realistic way and also finalize the dimensions for it

9.3 Exploring the mechanism

To better understand the mechanism, I made a scale down working prototype via a paper model. Few iterations to make it realistic were done to find the best implementable one.

In this model, 2 pipes are used to rotate and make the motion happen physically, once we rotate one side of the pipe the other end also moves. Along with the movement of the pipes, the fabric also moves like a loop. It works like a pulley connected with a belt that supports the entire movement of the setup.

The pipe at the top is connected with wooden board to hold it firmly. The are connected with a plank at the bottom as well, to give it a better grip and to keep the pipes parallel.

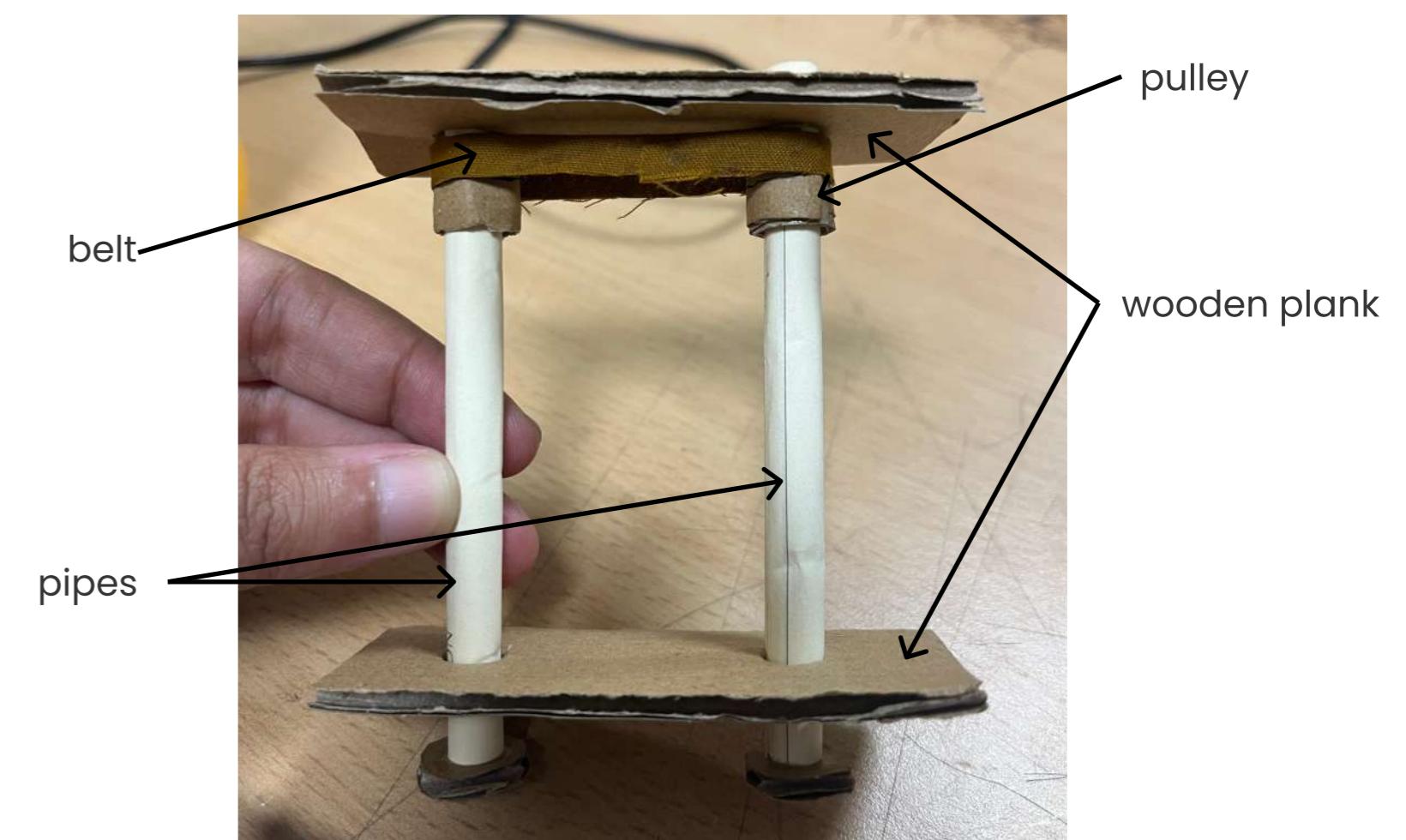


Fig. Mechanism prototype

9.4 Exploration with fabric

Categories of fabric:

Initially I thought of narrowing down the fabric choice with embroidery fabric, but later I collected all types of fabric to add in this installation. Now if a viewer sees the fabric, then he/she/they will notice that there are different weaves, embroidery, dyeing, painting and printing in this collection.

Textile from different region of India:

The fabric sourced are from all 5 regions of India, based on availability of fabric I collected the fabric from:

North:

Rajasthan: Bagru, Leheriya, Shibori(Tie & Dye)

Uttar Pradesh: Banarasi

Punjab: Phulkari

West:

Gujarat: Bandhani

Central:

Madhya Pradesh: Bagh Print

South:

Telangana: Ikat

Tamil Nadu: Zari work, Kanchipuram

Karanataka: Khun, Dharwad

East:

West Bengal: Batik

Odisha: Sambalpuri Ikat

The final information pattern will include the following:

Textile of India

Level 1 info.

Textile name

Place of origin

Level 2 info.

About the craft

Material brief

Base fabric

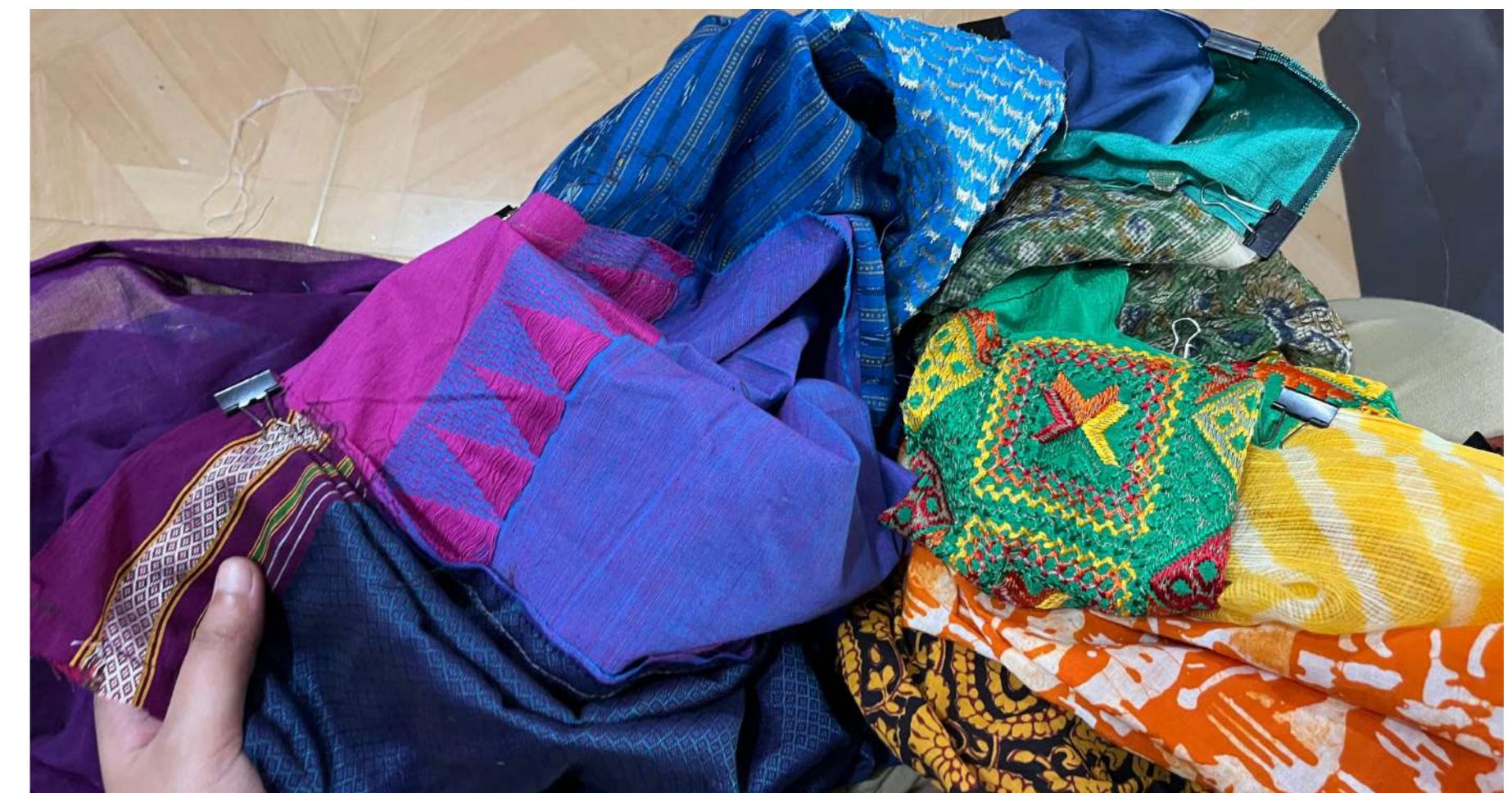


Fig. Connecting individual ply before stitching

9.5 Information architecture

For the final installation, a set of 14 textile were selected based on availability of material. The authenticity of the material were cross checked from verified sources.

P2 info architecture

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Fabric name	Textile	Origin	State	Textile type	Base Fabric	Craft	Material brief				Process	
2	Bagru Block Printed Kota Doria Cotton Fabric	Bagru	Alwar	Rajasthan	Prints	Cotton	In Rajasthan, Bagru prints showcase a commitment to sustainability, utilizing natural dyes and traditional wooden blocks. Renowned for eco-friendliness, these prints merge tradition and environmental consciousness, delivering exceptional quality with a touch of heritage.	High-quality Bagru block-printed kota doria cotton fabric reflects traditional craftsmanship. Crafted in Bagru, Rajasthan, using natural dyes and mud resist, each piece undergoes meticulous handcrafting with wooden blocks. Kota Doria, a blend of sturdy cotton and silk, is a time-honored Indian textile from Rajasthan's Kota district. The threads are intricately woven to form check patterns, lending the fabric a lightweight, sheer texture, and distinctive elegance.					
3	Banarasi Weaving Brocade Silk Fabric	Banarasi	Banaras	Uttar Pradesh	Weave	Silk	Banarasi weaves exemplify the exceptional craftsmanship of Indian artisans, showcasing rich patterns and shades. Woven with gold/silver threads, it is a testament to centuries of evolved, nurtured, and perfected skills, reflecting the artisans' enduring abilities.	This special fabric is called Banarasi. Skilled Indian artists make it with care. They use silk and cotton, creating beautiful patterns. The threads have gold or silver, showing the artists' talents passed down for centuries. It's a living example of Indian artistry, rich in shades and patterns, and each piece is a testament to the craftspeople's abilities honed over many years.					
4	Traditional Phulkari Embroidered Chinnon Fabric	Phulkari		Punjab	Embroidery	Chinnon	Phulkari, an exquisite embroidery practiced in Punjab, combines the words "phul" (flower) and "kari" (craft). This art involves crafting intricate designs and motifs on fabrics with vibrant colored threads, showcasing the rich cultural heritage of the region.	Smooth and high-quality chinnon fabric from Punjab has beautiful phulkari embroidery, using colorful viscose silk threads. Phulkari is a detailed embroidery method with intricate designs using various colored threads. This machine-embroidered fabric reflects Punjab's rich culture. Additionally, Bagh work, a phulkari variation covering the material entirely with embroidery, adds to the traditional charm of this fabric, showcasing skilled craftsmanship.					
5	Pochampally Ikat Weave Pure Cotton Fabric	Ikat	Bhoodan Pochampally	Telangana	Weave	Cotton	Pochampally Ikat, crafted in Bhoodan Pochampally, Telangana, showcases exquisite beauty with traditional geometric patterns and a distinctive washed design, emanating a captivating old-world allure.	This high-quality fabric comes from Telangana and is known for its Pochampally Ikat weave in pure cotton. Ikat, a renowned dyeing technique, creates patterns through resist dyeing, much like tie-dye, on the fabric's warp or weft fibers before dyeing. Celebrated globally for its beautiful colors, texture, and designs, Indian Ikat is a favorite among fashion designers. While this fabric is power loom-produced, the intricate tie-dye process is done by hand, showcasing skilled craftsmanship.					
6	Kutch Bandhani Tie-Dye Mul Cotton Fabric	Bandhani	Kutch	Gujarat	Dyeing	Mul cotton	Bandhani, an ancient craft dating back 5000 years, stands as one of Gujarat's oldest practices. This renowned tie-and-dye technique, known as "Bandhani," draws its name from "Bandhan," symbolizing the intricate art of tying up fabric to create distinctive patterns.	Artisans in Kutch employ a traditional method to hand-tie and dye this fabric, a practice known as Bandhani. This intricate process includes tightly binding threads at various points to form detailed patterns. The exceptional quality of this fabric not only showcases the skill of the artisans but also preserves the rich cultural heritage of Kutch, reflecting the region's artistic legacy and craftsmanship.					
7	Leheriya Tie-Dye Kota Doria Cotton Fabric	Leheriya		Rajasthan	Dyeing	Cotton	Leheriya, a renowned tie-dyeing tradition in Rajasthan, draws inspiration from waves, creating intricate wave motifs through its unique dyeing technique. This traditional craft adds a touch of Rajasthan's cultural heritage with its distinctive and stylish patterns.	This premium original fabric is crafted from Kota Doria cotton using the traditional Leheriya tie & dye technique by the skilled artisans of Badshah Miyan's family in Rajasthan. The wavy patterns, dyed with azo-free colors, showcase their expertise. Known for its high quality, the lightweight and sheer Kota Doria cotton make it ideal for stylish and distinctive garments. Infuse your wardrobe with the cultural heritage of Rajasthan through this exquisite Leheriya tie-dye Kota Doria fabric.					
8	Hand Batik Printed Cotton Fabric	Batik	Java	Indonesia	Prints	Cotton	Batik, renowned for its wax-resist dyeing on entire cloth, features exceptional traditional Indian designs. This unique resist printing method involves selectively applying wax to specific areas on the fabric, creating intricate motifs and patterns.	This cotton fabric is made using a special technique called hand batik printing, which uses wax-resist dyeing. Skilled Indian artisans, passing down their expertise through generations, create intricate designs. The fabric's unique patterns and top-notch quality make it ideal for crafting breathtaking, enduring garments, as well as stylish and timeless home decor items.					
9	Shibori Tie-Dye Pure Cotton Fabric	Shibori		China	Dyeing	Cotton	Shibori, a renowned dyeing craft, entails intricate cloth manipulation through folding, twisting, and binding, followed by dyeing in vibrant hues like indigo. This traditional technique is skillfully practiced in regions such as Delhi, Gujarat, and Rajasthan.	Shibori tie-dye, deeply rooted in Rajasthan's history, showcases the region's artisans' expertise. This high-quality pure cotton fabric exemplifies their skill. In the intricate shibori tie-dye process, fabric is tied or clamped in a chosen design, dyed in vibrant hues, resulting in unique patterns. Each piece is genuinely one-of-a-kind, possessing distinctive character and charm, making it a testament to the rich tradition of Rajasthan.					
10	Ajrakh Hand Block Printed Cotton Fabric	Ajrakh	Kutch	Gujarat	Prints	Cotton	Ajrakh, a renowned traditional art, involves vegetable dyeing that resists block-printing on fabric. With roots in Kutch, it boasts a rich history, dating back approximately 4,500 years, and is practiced by the Khatri community of Kutch and Sikh artisans.	This fabric is made with care by skilled artisans in the Kutch region of Gujarat, using a traditional method called Ajrakh hand block printing. They use natural dyes, giving the cotton a fine quality. The Ajrakh technique, practiced for generations, involves intricate hand-block printing with vibrant colors. Each piece reflects the rich cultural heritage and craftsmanship of the Kutch community.					
11	Sanganeri Block Printing Cotton Fabric	Block Print	Jaipur	Rajasthan	Prints	Cotton	Sanganeri, originating from Sanganer in Jaipur, Rajasthan, is a hand-block printing technique with a five-century-old tradition. Revered by weavers worldwide, this textile printing method continues to hold a prominent position in the realm of craftsmanship.	This is a good quality fabric made with a special hand block printing method called Sanganeri. It comes from Sanganer, a village in Jaipur, Rajasthan. They use dyes that don't bleed. It's a traditional way of making fabric with unique designs, and it's done by hand, making each piece special and different.					

9.6 Exploration with pipes

I went a hardware shop and compared various pipes with different weight, thickness, costs and diameters. Since the use case here was just to rotate the fabric and move it left to right and vice versa. I required only 2 circular material, which is light weight, easy to rotate with hands and does not slip easily.

Advantage of using PVC pipes:

- regular diameter throughout
- easy to assemble and lock unnecessary movement
- durability for longer usage, also the rigorous usage can make any other material like wood or bamboo tear by getting groves around the wood.
- light weight will make it, easy in getting attached from top plank

So the final selected pipe was 1.5 inch in diameter, with 2 caps on each pipe to close it from moving up or down.



Fig. PVC pipes, with a cap to cover

9.7 Exploration with wood

To build a strong wall mounted base, I preferred to make it using a wood plank of 12 mm. This thickness was best suitable to hold the amount of weight the total structure will hold. Also, it was easy to drill a circular cut for the pipes to fit in and move in between while rotating the model.



Fig. drilling a hole in wooden board, in metal studio



Fig. Drafting the circles with exact measurements

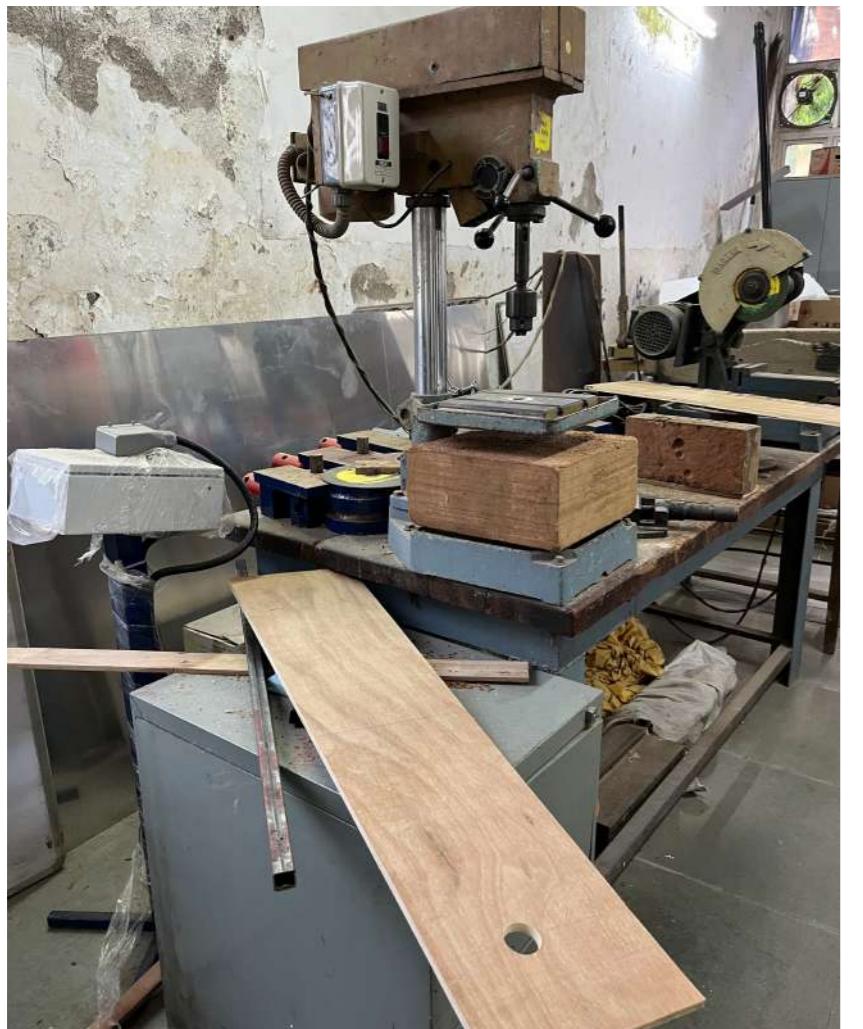


Fig. Drill machine



Fig. Curving the edges



Fig. Sanding the edges for smooth corners

9.8 Exploration with technology

To link the installation for further information in detail and description, I tried to explore the possible tech features which can ease the user, when he/she/they want to know second stage information.

QR code scanning was most convenient method for the phone carrying users to scan and explore the application.

The step includes:

The link will take the user to the specific textile detail page



Scan the QR using a mobile scanner



The page with an image of the fabric with place of origin, about the craft like how it is made is explained, the material brief is also mentioned in the end.



The user taps on explore more option



The viewer can now see variations of same textile



They can navigate from the bottom, via icons of each variation

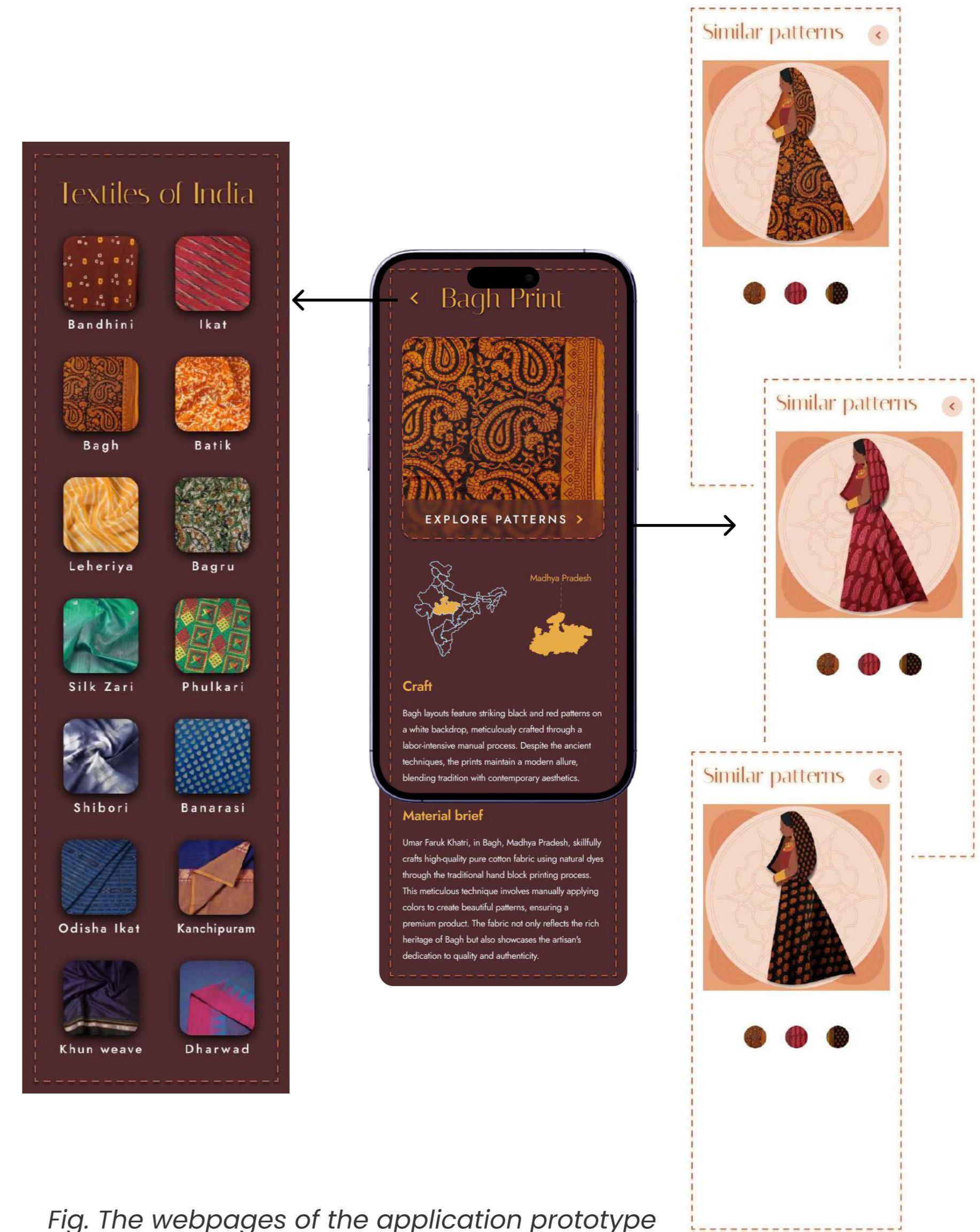


Fig. The webpages of the application prototype



Fig. Stitching the fabric together to make it one big fabric



Fig. Spray painting the board and pulley

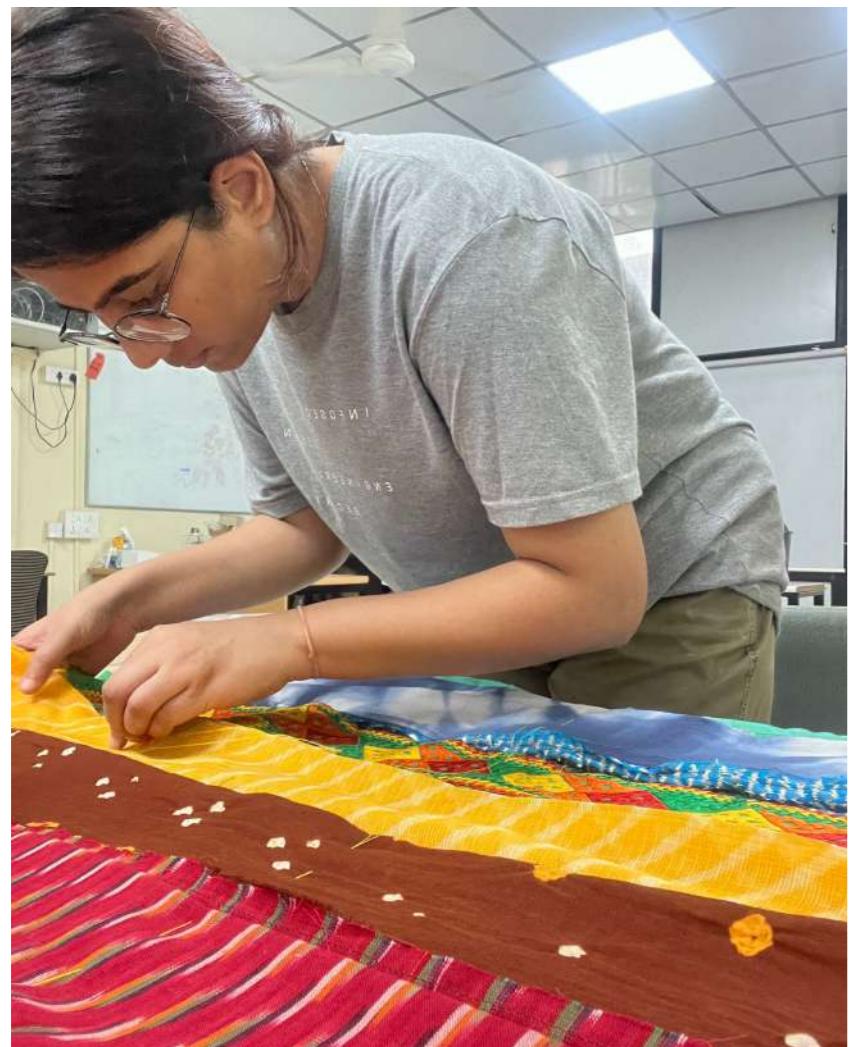


Fig. Marking loose stitch in fabric

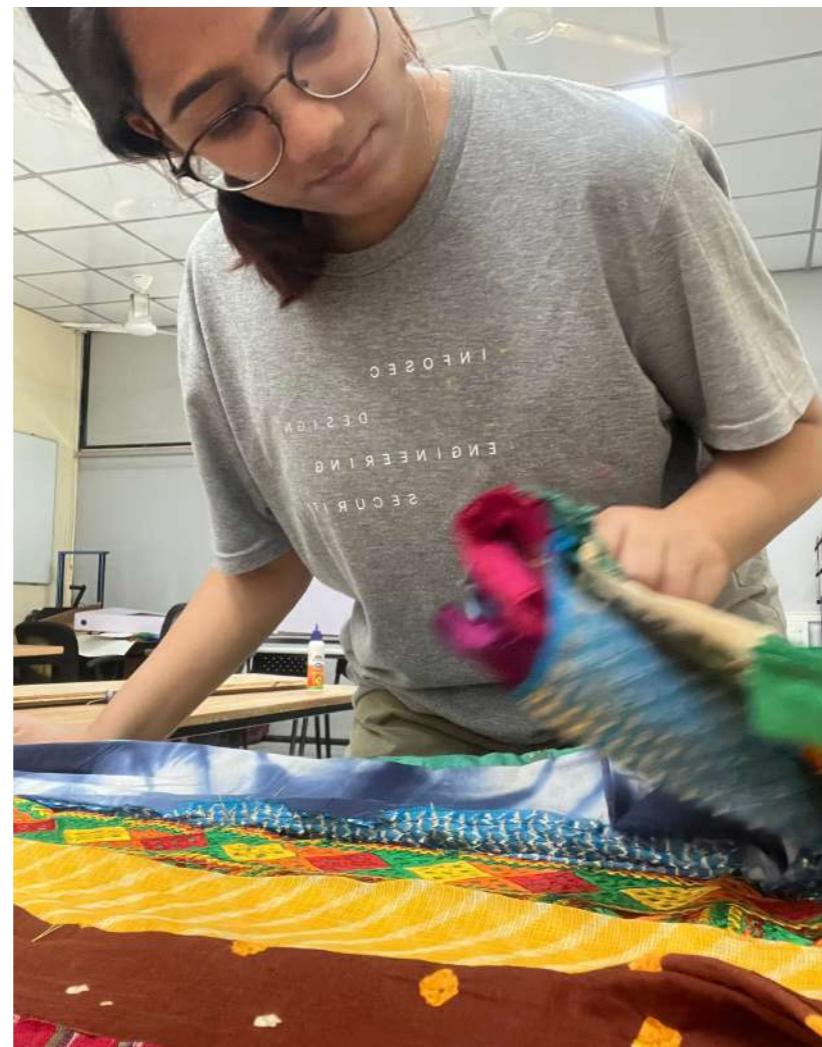


Fig. Making creases



Fig. Laser cutted the customized pulley

9.9 Building the working set-up

Based on my scale-down models, I replicated those dimensions into real material. Based on the previous feedbacks, I implemented all the positive feedbacks I was receiving from my guide, co-guide and through different stages of work. This will help in understanding the drape and texture of the fabric. It was difficult to manage fabrics like leheriya, bagru to bring them together.



Fig. Making equal pleats for even fall of fabric

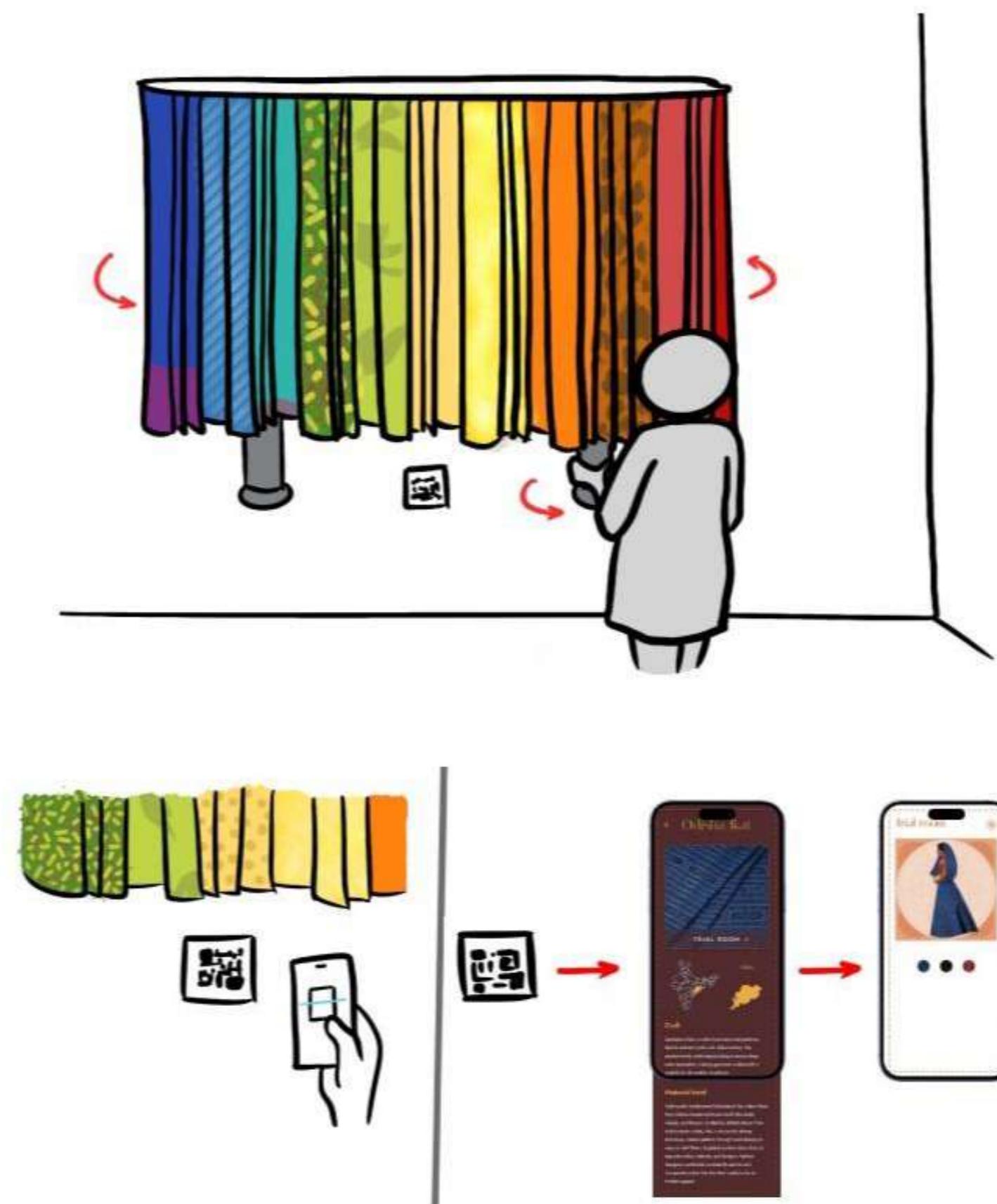


Fig. sketch of final product



Fig. Trying to find the best way to move this fabric around the pulley

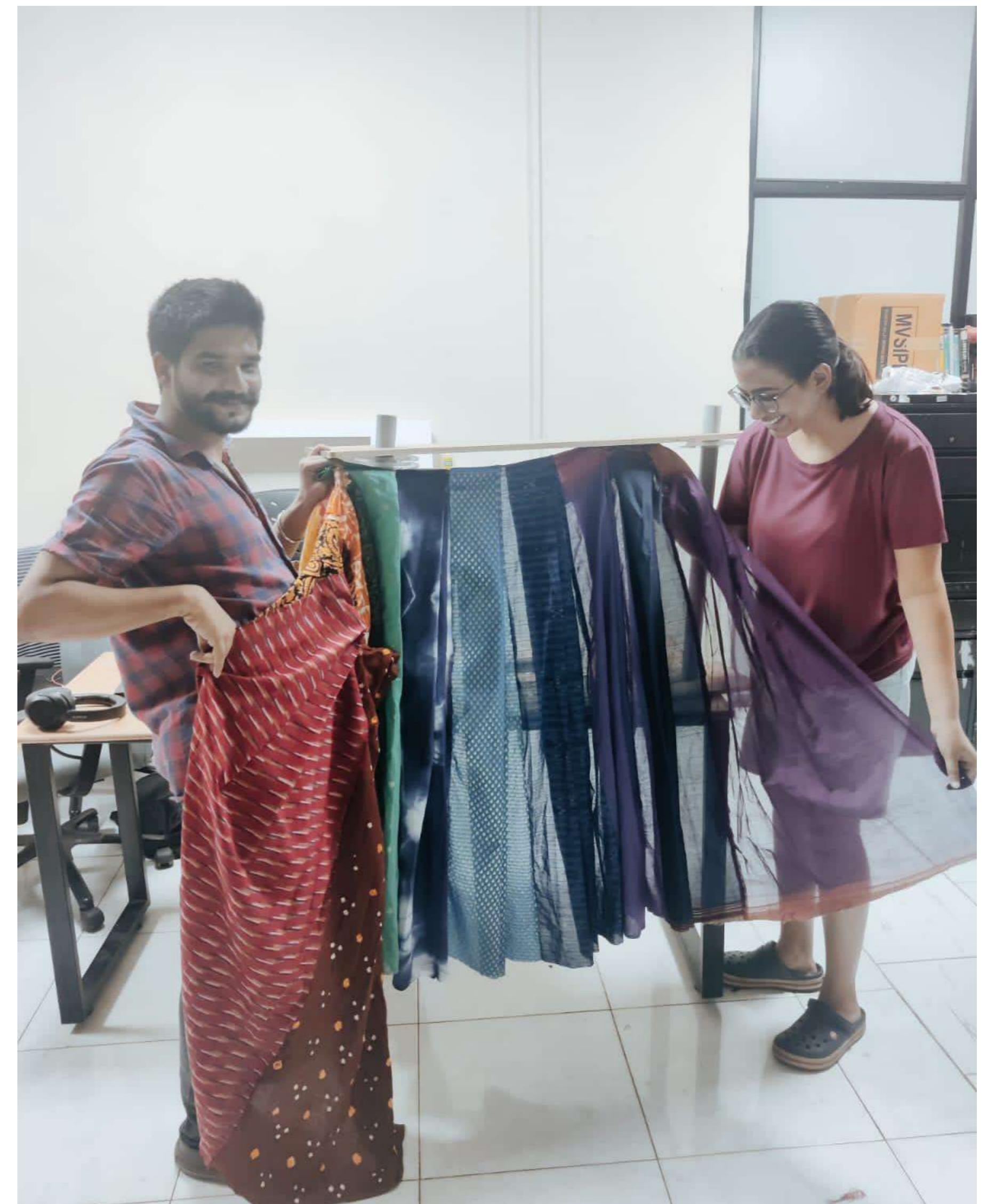


Fig. Experimenting the drape of the fabric



Fig. End stitching to keep the drape compact



Fig. The drape of each fabric was unique

9.10 Preparing the data

For the installation, a collection of 14 textiles, different in weave, embroidery, dyeing, printing and painting were selected as previously mentioned. It was important to know the exact and right facts about it. So, I collected information regarding the right place of information, the technique used, and the method of manufacturing.

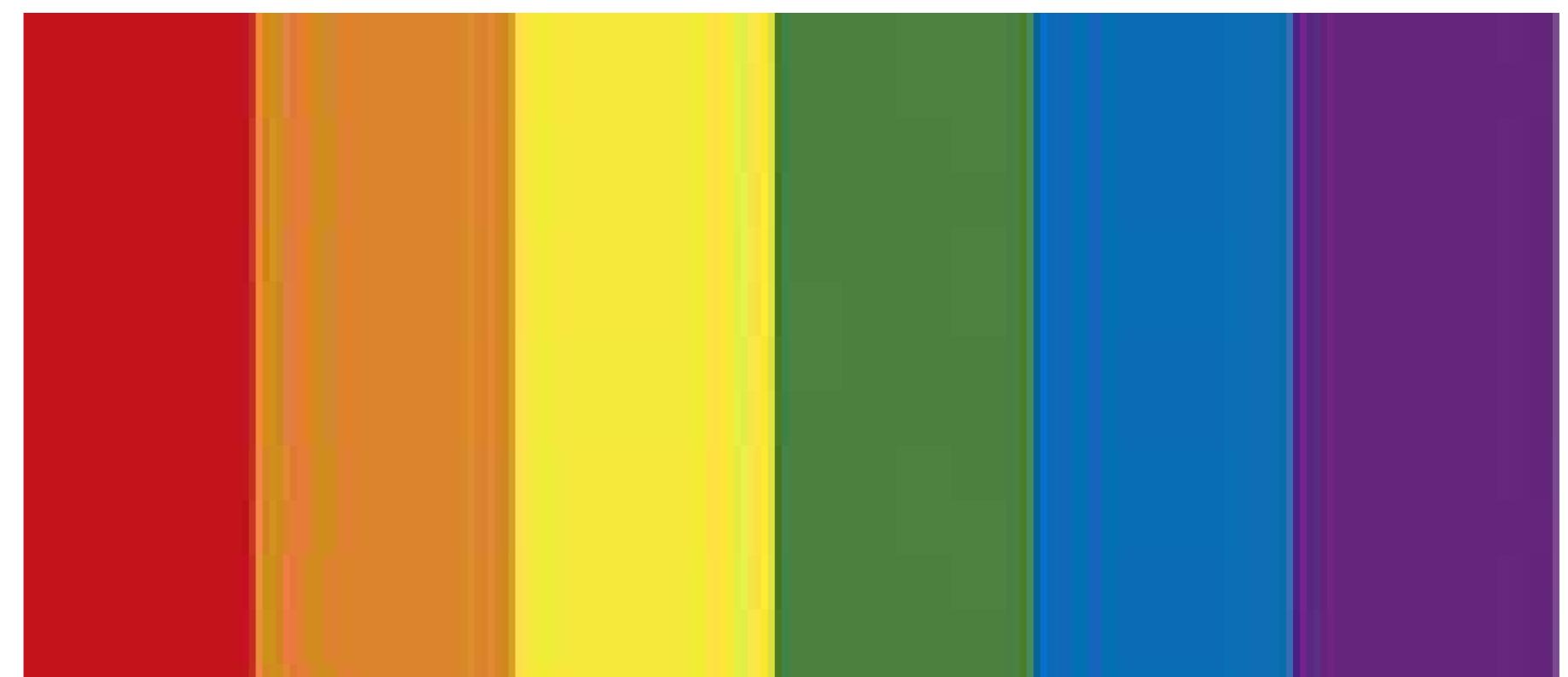
Also for easy visualization and memorability, I added a map of India, with a state map on the side. As we know visual memory is a strong memory, I used that logic to try to make a user consume the information majorly through visuals and haptic feedback.



The state being highlighted in the map of India, and right next to it is the state with state name.

9.11 Deciding the color of fabrics

The idea of this installation is revolving around to show the diversity in textiles, the diverse cultural of India. Here is the same concept I'm trying to continue forward, to show the fabrics in all colors of a rainbow, from all region of India, catering in all categories of textiles.



The rotation of the installation will help them discover the pattern set in rainbow color. Each color has 2 examples of fabrics, which has helped me in showing the gradation, the example with better variations.

Finding the fabric in the particular set of color was difficult, as the sourcing was done majorly from local market of Mumbai, India. This includes Dadar cloth market and Andheri market.

9.12 Location of installation



Fig. The wall near IDC faculty cabin, 2nd floor, Rahul Bajaj Building



Fig. The wall leading to IDC faculty cabin, 2nd floor, Rahul Bajaj Building

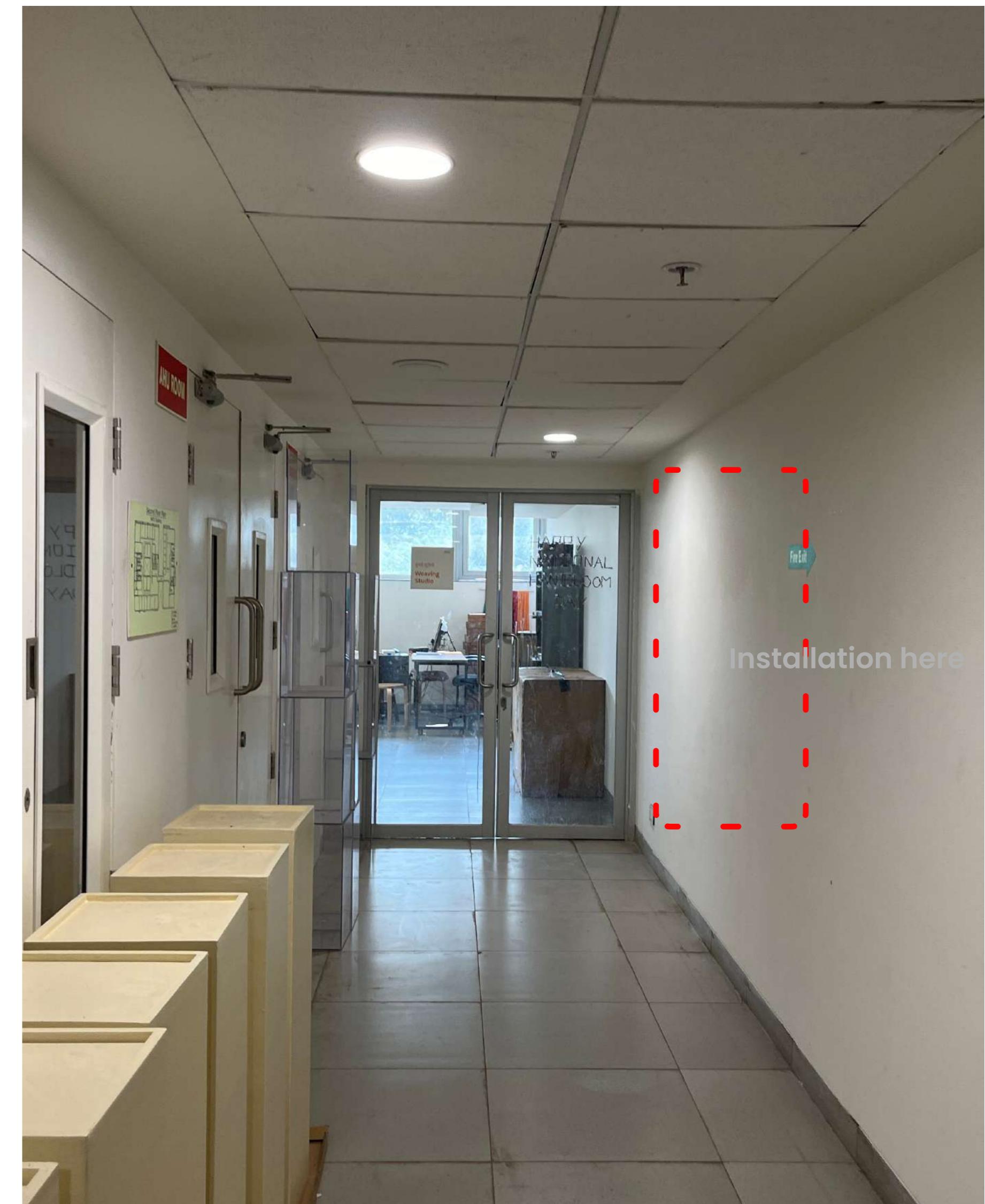


Fig. The corridor wall leading to Weaving Studio

10. Final Concept and Design

After understanding the issues faced in creating one single, mockup, sourcing fabric swatches and collecting information that can help the fellow users to interact with, I decided to collect all the data set and assemble it together.

The installation is named "Threads of India"

The final concept is much oriented to how the person will interact with the installation in the first place. Considering the fact that I install this installation near weaving studio, where the users are students, faculty members and visitors. The installation consists of 14 fabrics, unique in their own way. Each fabric is inspired from a natural elements, the technique is either originated or inspired in its form. Each fabric draped here, tells a story of its culture, tradition, its name is simple yet confusing, and with the trial of haptic feedback this is aimed to be remembered.

A set of details are prototyped to be linked with it. The textile has the unique characteristics, which a person can observe when they'll touch it. The fabric is moved with hand, but rotation of the pipes, working with a pulley mechanism in a loop formation. It is a simple and easy to interact with installation. My focus was to make it in a way that involves least amount of cognitive load, looks interesting that a person at least once wants to go and touch the fabric and if interested more then gets to scan the QR and read more about it.

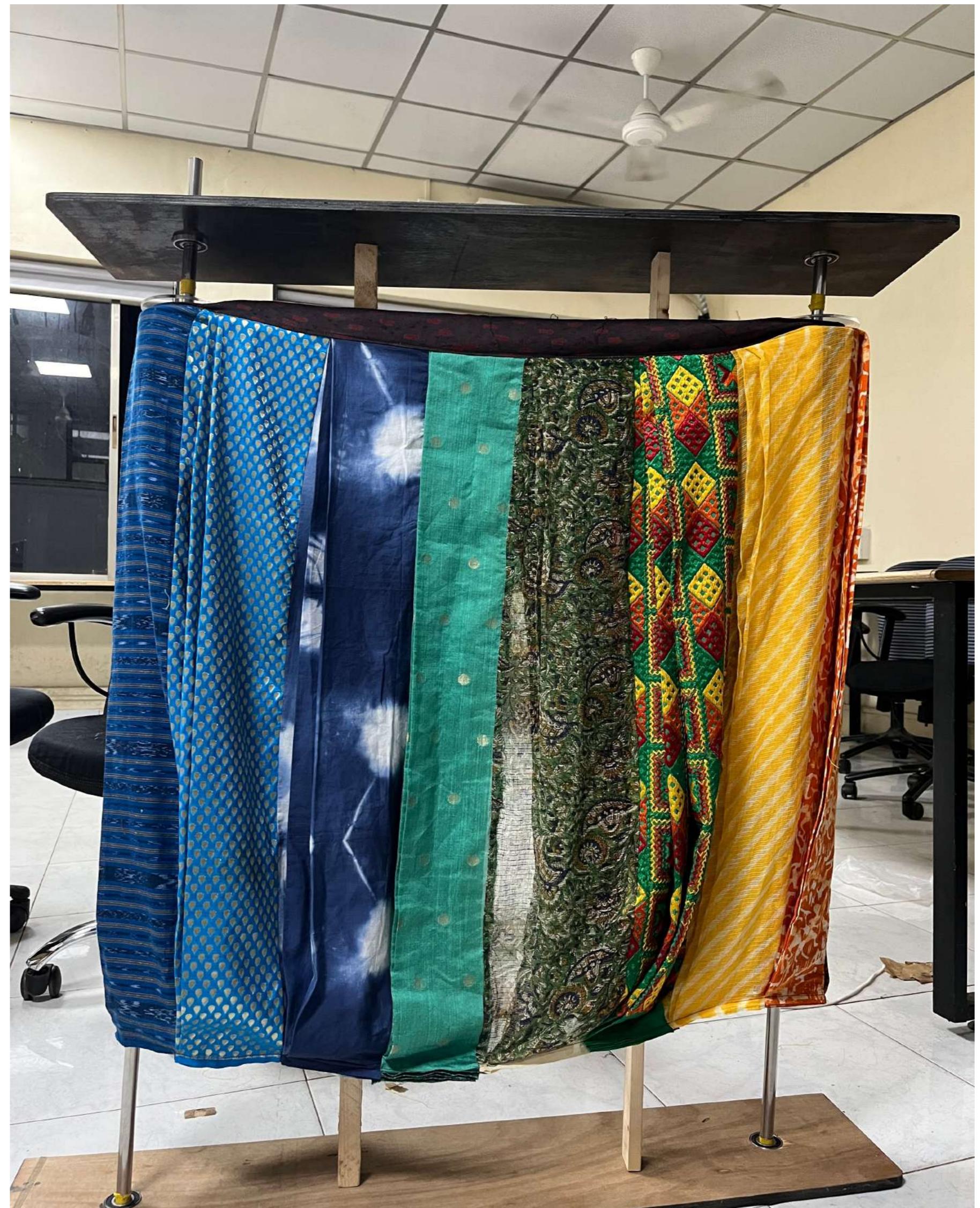
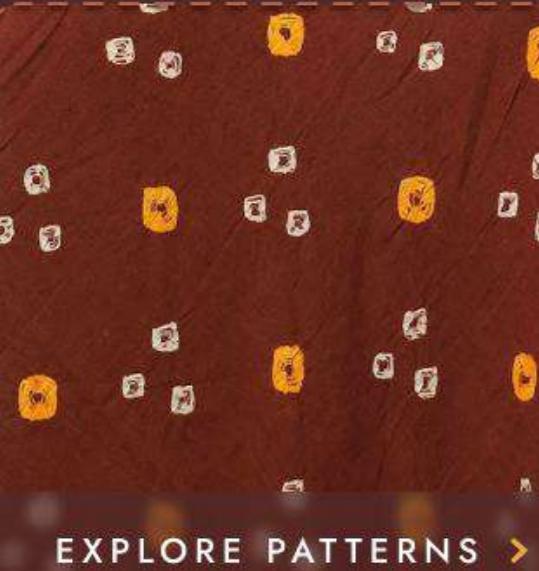


Fig. The final prototype of installation, "Threads of India"

10.1 Fabric used with scanner and details

Bandhani



EXPLORE PATTERNS >

Craft

Bandhani, an ancient craft dating back 5000 years, stands as one of Gujarat's oldest practices. This renowned tie-and-dye technique, known as "Bandhani," draws its name from "Bandhan," symbolizing the intricate art of tying up fabric to create distinctive patterns.

Material brief

Artisans in Kutch employ a traditional method to hand-tie and dye this fabric, a practice known as Bandhani. This intricate process includes tightly binding threads at various points to form detailed patterns. The exceptional quality of this fabric not only showcases the skill of the artisans but also preserves the rich cultural heritage of Kutch, reflecting the region's artistic legacy and craftsmanship.

Gujarat



Similar patterns





Fig. Scan to view

Ikat



EXPLORE PATTERNS >

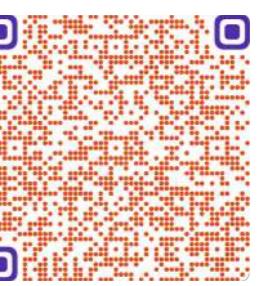
Craft

Pochampalli Ikat, crafted in Bhoodan Pochampally, Telangana, showcases exquisite beauty with traditional geometric patterns and a distinctive washed design, emanating a captivating old-world allure.

Material brief

This high-quality fabric comes from Telangana and is known for its Pochampally Ikat weave in pure cotton. Ikat, a renowned dyeing technique, creates patterns through resist dyeing, much like tie-dye, on the fabric's warp or weft fibers before dyeing. Celebrated globally for its beautiful colors, texture, and designs, Indian Ikat is a favorite among fashion designers. While this fabric is power loom-produced, the intricate tie-dye process is done by hand, showcasing skilled craftsmanship.

Telangana



Similar patterns



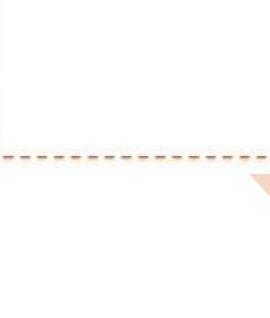
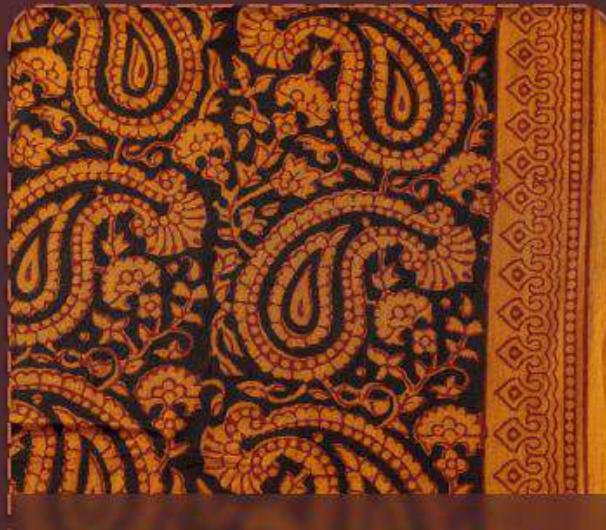


Fig. Scan to view

Bagh Print



EXPLORE PATTERNS >



Madhya Pradesh

Craft

Bagh layouts feature striking black and red patterns on a white backdrop, meticulously crafted through a labor-intensive manual process. Despite the ancient techniques, the prints maintain a modern allure, blending tradition with contemporary aesthetics.

Material brief

Umar Faruk Khatri, in Bagh, Madhya Pradesh, skillfully crafts high-quality pure cotton fabric using natural dyes through the traditional hand block printing process. This meticulous technique involves manually applying colors to create beautiful patterns, ensuring a premium product. The fabric not only reflects the rich heritage of Bagh but also showcases the artisan's dedication to quality and authenticity.

Fig. Scan to view

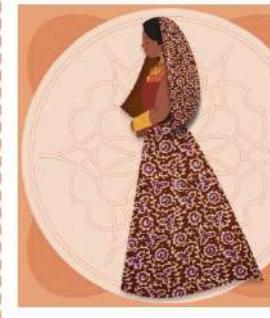


Similar patterns < >





Similar patterns < >


Batik



EXPLORE PATTERNS >



West Bengal

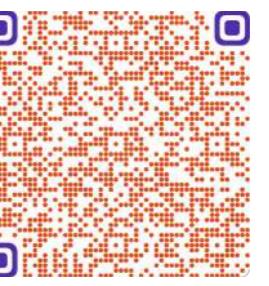
Craft

Batik, renowned for its wax-resist dyeing on entire cloth, features exceptional traditional Indian designs. This unique resist printing method involves selectively applying wax to specific areas on the fabric, creating intricate motifs and patterns.

Material brief

This cotton fabric is made using a special technique called hand batik printing, which uses wax-resist dyeing. Skilled Indian artisans, passing down their expertise through generations, create intricate designs. The fabric's unique patterns and top-notch quality make it ideal for crafting breathtaking, enduring garments, as well as stylish and timeless home decor items.

Fig. Scan to view



Leheriya



EXPLORE PATTERNS >

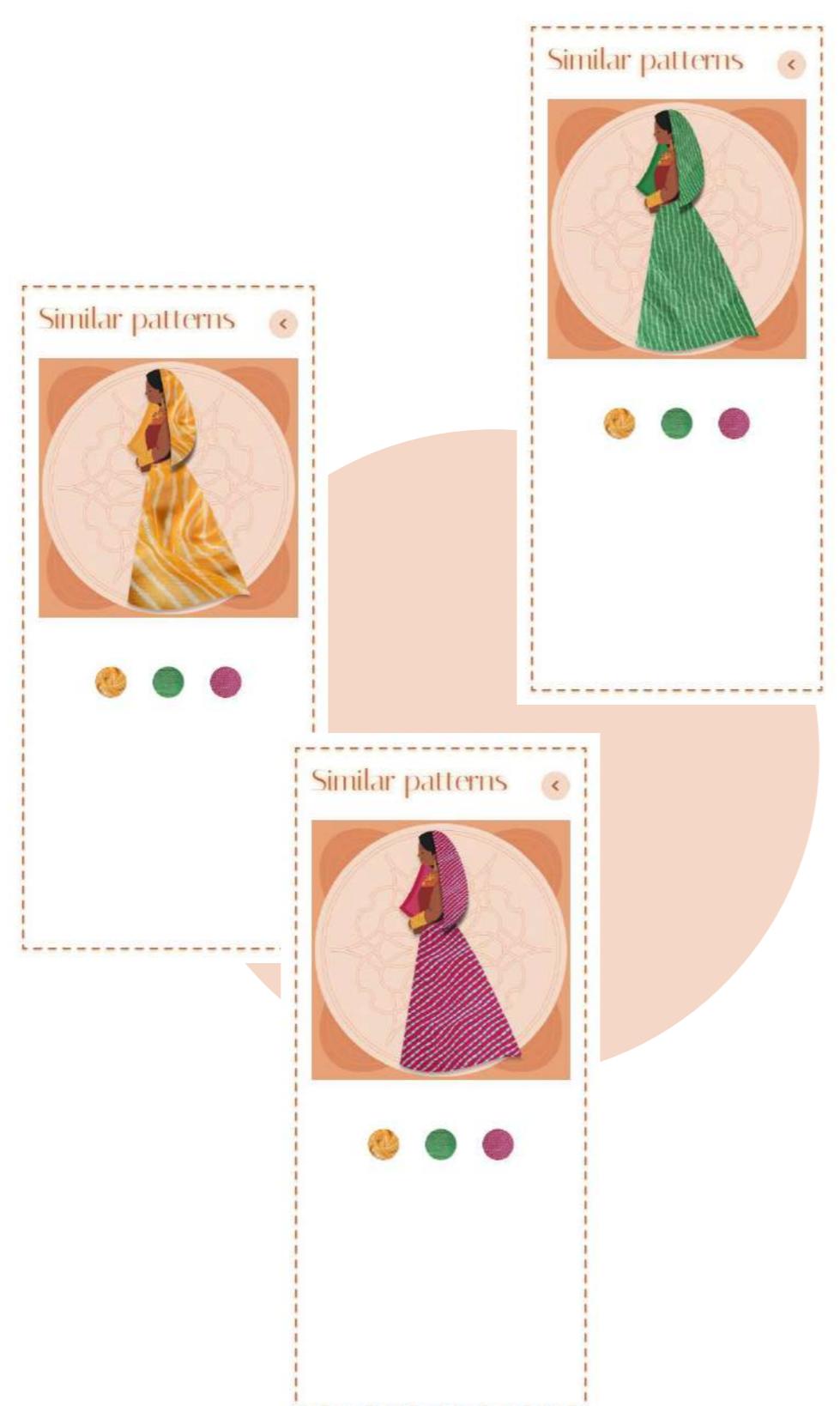



Craft

Leheriya, a renowned tie-dyeing tradition in Rajasthan, draws inspiration from waves, creating intricate wave motifs through its unique dyeing technique. This traditional craft adds a touch of Rajasthan's cultural heritage with its distinctive and stylish patterns.

Material brief

This premium original fabric is crafted from Kota Doria cotton using the traditional leheriya tie & dye technique by the skilled artisans of Badshah Miyan's family in Rajasthan. The wavy patterns, dyed with azo-free colors, showcase their expertise. Known for its high quality, the lightweight and sheer Kota Doria cotton make it ideal for stylish and distinctive garments. Infuse your wardrobe with the cultural heritage of Rajasthan through this exquisite leheriya tie-dye Kota Doria fabric.



Similar patterns



Fig. Scan to view

Bagru



EXPLORE PATTERNS >




Craft

In Rajasthan, Bagru prints showcase a commitment to sustainability, utilizing natural dyes and traditional wooden blocks. Renowned for eco-friendliness, these prints merge tradition and environmental consciousness, delivering exceptional quality with a touch of heritage.

Material brief

High-quality Bagru block-printed kota doria cotton fabric reflects traditional craftsmanship. Crafted in Bagru, Rajasthan, using natural dyes and mud resist, each piece undergoes meticulous handcrafting with wooden blocks. Kota Doria, a blend of sturdy cotton and silk, is a time-honored Indian textile from Rajasthan's Kota district. The threads are intricately woven to form check patterns, lending the fabric a lightweight, sheer texture, and distinctive elegance.



Similar patterns



Fig. Scan to view

Zari Buti



EXPLORE PATTERNS >

Craft
Zari, crafted from silk, adds opulence to significant events like weddings and religious festivals. Renowned for its intricate designs, this fabric, often interwoven with gold or silver threads, symbolizes cultural richness and is favored for celebratory garments and accessories.

Material brief
This is a very nice polka dot fabric. It's made from a mix of good materials like silk and polyester, using machines. People didn't make it by hand. It comes from Tamil Nadu, a place known for its textiles. About 65% is soft viscose, which is a type of silk, and 35% is strong polyester. It's good for making different things like clothes or decorations.

Tamil Nadu

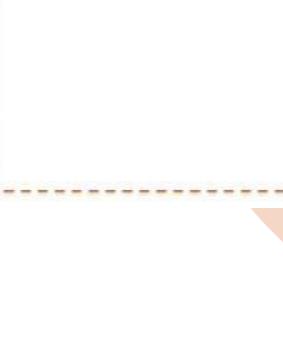
Similar patterns





Three small colored dots: teal, orange, and green.

Similar patterns





Three small colored dots: teal, orange, and green.



Fig. Scan to view

Phulkari



EXPLORE PATTERNS >

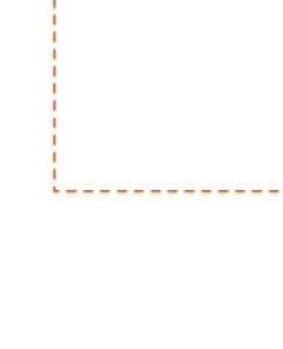
Craft
Phulkari, an exquisite embroidery practiced in Punjab, combines the words "phul" (flower) and "kari" (craft). This art involves crafting intricate designs and motifs on fabrics with vibrant colored threads, showcasing the rich cultural heritage of the region.

Material brief
Smooth and high-quality chinnon fabric from Punjab has beautiful phulkari embroidery, using colorful viscose silk threads. Phulkari is a detailed embroidery method with intricate designs using various colored threads. This machine-embroidered fabric reflects Punjab's rich culture. Additionally, Bagh work, a phulkari variation covering the material entirely with embroidery, adds to the traditional charm of this fabric, showcasing skilled craftsmanship.

Punjab

Similar patterns

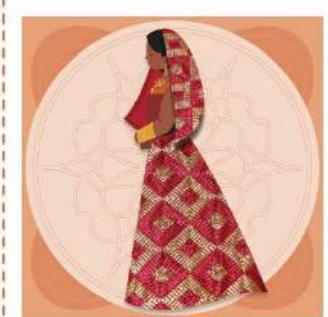




Three small colored dots: teal, orange, and green.

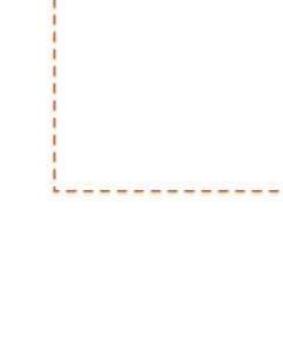
Similar patterns





Three small colored dots: teal, orange, and green.

Similar patterns

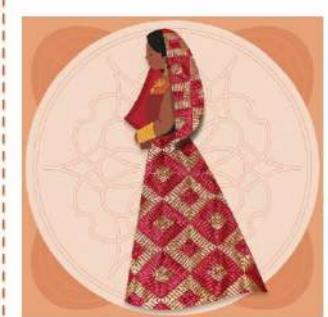




Three small colored dots: teal, orange, and green.

Similar patterns





Three small colored dots: teal, orange, and green.

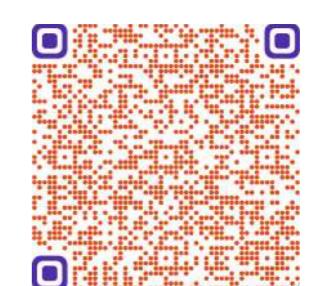


Fig. Scan to view

Shibori



EXPLORE PATTERNS >

Craft

Shibori, a renowned dyeing craft, entails intricate cloth manipulation through folding, twisting, and binding, followed by dyeing in vibrant hues like indigo. This traditional technique is skillfully practiced in regions such as Delhi, Gujarat, and Rajasthan.

Material brief

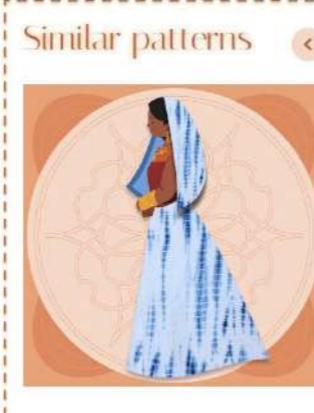
Shibori tie-dye, deeply rooted in Rajasthan's history, showcases the region's artisans' expertise. This high-quality pure cotton fabric exemplifies their skill. In the intricate shibori tie-dye process, fabric is tied or clamped in a chosen design, dyed in vibrant hues, resulting in unique patterns. Each piece is genuinely one-of-a-kind, possessing distinctive character and charm, making it a testament to the rich tradition of Rajasthan.

Rajasthan & Gujarat

Fig. Scan to view



Similar patterns < >





Similar patterns < >

Banarasi



EXPLORE PATTERNS >

Craft

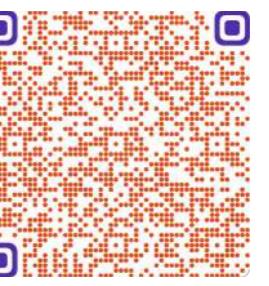
Banarasi weaves exemplify the exceptional craftsmanship of Indian artisans, showcasing rich patterns and shades. Woven with gold/silver threads, it is a testament to centuries of evolved, nurtured, and perfected skills, reflecting the artisans' enduring abilities.

Uttar Pradesh

Material brief

This special fabric is called Banarasi. Skilled Indian artisans make it with care. They use silk and cotton, creating beautiful patterns. The threads have gold or silver, showing the artisans' talents passed down for centuries. It's a living example of Indian artistry, rich in shades and patterns, and each piece is a testament to the craftspeople's abilities honed over many years.

Fig. Scan to view



Similar patterns < >





Similar patterns < >

Odisha Ikat



EXPLORE PATTERNS >

Craft

Sambalpuri Ikat, a craft of precision and patience, blends defined motifs with skilled artistry. The predominantly cotton-based designs ensure deep color absorption, making garments crafted with it suitable for all weather conditions.

Material brief

High-quality handloomed Sambalpuri Ikat cotton fabric from Odisha boasts traditional motifs like shells, wheels, and flowers. Crafted by skilled artisans from India's eastern states, Ikat, a renowned dyeing technique, creates patterns through resist dyeing on warp or weft fibers. Its global acclaim stems from its exquisite colors, textures, and designs. Fashion designers worldwide consistently admire and incorporate Indian Ikat into their creations for its timeless appeal.

Odisha

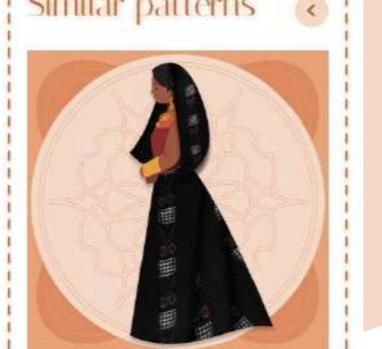
Similar patterns



Similar patterns



Similar patterns



Similar patterns



Similar patterns



Similar patterns



Similar patterns

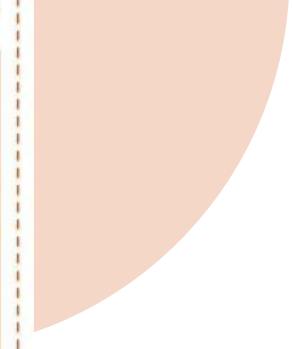
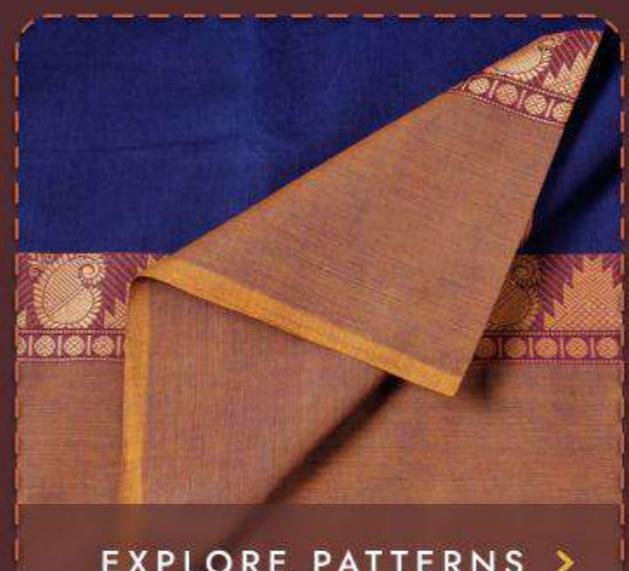


Fig. Scan to view



Kanchipuram



EXPLORE PATTERNS >

Craft

The Kanchipuram silk sari is renowned for its opulent gold borders, timeless design, and exquisite fabrics with vibrant color combinations. It holds a distinctive position in South India, often adorning weddings, festivals, and special celebrations.

Material brief

Soft, high-quality cotton fabric with a thread border from Kanchi, Tamil Nadu. Kanchi cotton is the pride of Kanchipuram, known as the Textile hub of the south. Renowned for its genuine and superior fabrics, Kanchipuram contributes exquisite cotton wear to the world, showcasing its brilliance in weaving and textile craftsmanship.

Tamil Nadu

Similar patterns



Similar patterns



Similar patterns



Similar patterns

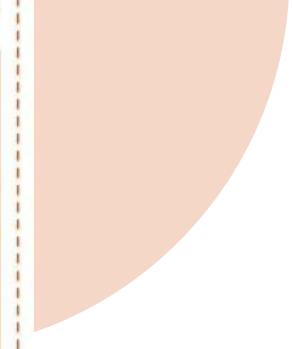
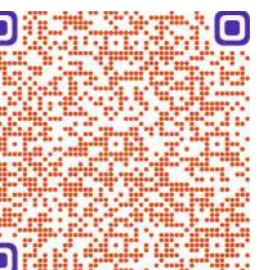


Fig. Scan to view



Khun

EXPLORE PATTERNS >

Craft

Khun, crafted solely on a loom in Guledagudd, Bagalkot region, Karnataka, is reserved for sari blouses. Recognizable by its small white intricate motif and distinct reddish-purple border, this handmade fabric exudes uniqueness and traditional charm.

Material brief

High-quality traditional Khun weave cotton fabric, expertly crafted by skilled weavers in Karnataka, blends 55% nylon and 45% cotton. Khun, used for centuries, is now popular in modern times, offering a radiant glow and unique texture. Its versatility extends to jewelry, kurtas, and decorative pieces. This ancient art, with a 4000-year history in Karnataka and Maharashtra, is in high demand. Itokri collaborates with handloom weavers to produce top-notch mercerized cotton Khun sarees, fabrics, and more, contributing to the promotion of India's rich traditional weaving heritage.

The image displays three distinct fashion lookbooks, each featuring a woman in a traditional Indian saree. The lookbooks are arranged in a grid-like fashion with overlapping sections.

- Top Right Lookbook:** A woman in a red and black striped saree. The background is orange with a white circular pattern. The color palette includes dark blue, orange, and red. The title "Similar patterns" is at the top, and a back arrow is in the top right corner.
- Top Left Lookbook:** A woman in a dark blue saree with a yellow border. The background is orange with a white circular pattern. The color palette includes dark blue, orange, and red. The title "Similar patterns" is at the top, and a back arrow is in the top right corner.
- Bottom Lookbook:** A woman in an orange and red striped saree. The background is orange with a white circular pattern. The color palette includes dark blue, orange, and red. The title "Similar patterns" is at the top, and a back arrow is in the top right corner.

The lookbooks are set against a light beige background with a large, semi-transparent, rounded rectangular shape on the right side.

< Dharwad

The image displays a collage of three fashion illustrations, each featuring a woman in traditional Indian attire (Sarees) within a circular frame. The background of the collage is a light beige color.

- Top Right:** A woman in a brown saree with a red blouse. The background is a light orange color. The text "Similar patterns" is at the top, and three circular color swatches are at the bottom: blue, red, and brown.
- Top Left:** A woman in a blue and purple saree with a red blouse. The background is a light orange color. The text "Similar patterns" is at the top, and three circular color swatches are at the bottom: blue, red, and brown.
- Bottom:** A woman in a red saree with a red blouse. The background is a light orange color. The text "Similar patterns" is at the top, and three circular color swatches are at the bottom: blue, red, and brown.



Fig. Scan to view



Fig. Scan to view

11. Evaluation plan

The evaluation plan for the installation, will be focused on assessing the

Measuring the impact on awareness:

- Asking the people before the exhibition, how many textiles are they aware of?
- In numbers how many textiles do they think exist in India?
- Which region/state they think is rich in textiles?

Repeating the same set of questions once the person has attended the exhibition - can help assess any changes in awareness and understanding.

Gather feedback on the experience: asking them questions about the interactivity e.g.

- Which part they engaged with the most?
- Which textile they felt was they most impressed from?
- Did they scan any of the textile scanner to read about it in detail?
- Have they tried to rotate the pipes to view all the fabric?

The key would be to encourage viewers to provide feedback on their overall experience and any specific aspects they found particularly impactful or engaging. Audience should be encouraged to point out any aspects of the exhibitions that they failed to relate to, or found dull, confusing or uninteresting. This is also a good opportunity to understand any issues that viewers felt while interacting with the installation.

Assessing interest in learning multiple textiles:

Observing audience's interaction with the installation can help to determine their level of interest in exploring multiple textiles.

- to observe whether audience is scanning more than 1 fabric QR code or touching more than 1 fabric to analyze
- Observing if they read the detail part completely, if they read entire set of information or just a skim read.

Interest in further exploration:

Evaluating audience's inclination to learn more about the textiles, apart from the one already displayed. If they want to know about the textiles from the state they belong to, or are they already aware of few from their native state.

This evaluation plan can generate interesting insights regarding the awareness levels, engagement and interest of the target audience in the cultural diversity and other textiles of India. These findings will help assess the success of the project in raising awareness, fostering cultural appreciation, and stimulating curiosity among visitors.

Evaluation will be mainly done in two phases. The nature of the initial phase of evaluation will be more informal, with room for free-flowing conversations, which will not burden audience members who are visiting to just casually experience an art installation. The second stage will be focused on have a one-on-one interview kind of conversation to get better insights.

12. Challenges and learnings

Undertaking this project presented me with several significant challenges, particularly in the realm of creating a physical installation. As someone with limited experience in this field, working with material, spaces, and tools was relatively new to me. It was a great learning experience of knowing how to integrate tangible and intangible experience at a same time.

To categorize the key issues, here are few of them:

- 1. Limited experience:** As I previously mentioned that this was a completely new domain for me, so to analyze everything was a very new experience. Before this I haven't made any installation, I have to learn with process the manufacturing process of it. It was not a easy task to analyze the final outcome in the starting, and also how to proceed about it.
- 2. Studio familiarity:** To reach to the final ideation and to take the journey from idea to implementation required involvement of studios, like CNC studio where I got the pulley laser cut, wood studio to make the frame which will get attached to pipe mechanism, then I needed plastics studio where the sanding of pipes was done. It also required the metal studio to drill a cavity for the pipes and bearing to fit in the wooden plank and lastly the paint studio to cover the pipes with metallic finish color. I learnt to draft a drawing for laser cut machine, for a person like me who has never worked with 3-d software, it was a learning.

- 3. Managing the raw material:** Sourcing the raw material was a consistent challenge, I remember initially starting from confining to embroidery fabric, but the major constraint was budget, embroidery fabrics are super expensive it we source the original. Also in Mumbai, it was not possible to find most known embroidery. Then based on the feedback, I removed the limit of keeping it to embroidery, I included weaves, painting, dyeing and printed textiles.
- 4. Working with iterations:** I made 3 prototypes during my project, and last one being the scaled up version, all this while there were multiple rejections on the size of pulley, the thread material, the pattern in which fabric will be stitched and also getting to change the mechanism with different pipe material and rotation pattern.
- 5. Finding the information about the textile:** It was a responsible task to find the right set of information, I am working to share awareness hence it becomes much more important that whatever the information is taken is from a valid source and nothing about it is incorrect.
- 6. Sourcing the fabric:** I would like to share an incident, when I first went for fabric sourcing, the shop owner were telling me some information, like how a weave is made, and from what is the base fabric, but I did some ground research so it was better to not get into the words of what the shopkeeper is telling. I looked for information majorly from online resources and the local sellers which sell Indian textile like Fabindia, Jaypore.

13. Reflections

My all stage presentations have really helped me shape this project what it looks like today, even this can be done in a better mechanism but from what idea I presented initially, where everything was linear and less interesting, I believe the "Threads of India", has shaped better with a haptic feedback, with a pinch of technical involvement to it, and also to give a realistic approach to narrate the story of textiles of India.

After coming towards my final outcome, I realized that this is a start to what a better version could have been. There are multiple reflections which I feel, could have been implemented, and must make going forward:

Data visualization: I would have invested more time into making aesthetics and visual database of this installation more aesthetic. I was more focused to reduce the cognitive load of the user, hence was totally focused on reducing the complexity.

Sensory experience: I started with adding multiple sensory, but later I felt that it can make it further complex, and also the overall functioning might not function if it becomes more complex.

Use of eco-friendly materials: I initially started by using PVC pipes which is definitely not a ecofriendly material. Later, as I kept improvising the model, I switched to stainless steel pipes and ball bearings. The base was always fixed to wood, which is ecofriendly.

Accounting for color blindness: My installation currently does not account for issues like color blindness and that is one issue which can be discussed as a future scope.

14. Conclusion

To conclude, the installation "Threads of India", is focused to get people know about diverse textile of India and raise awareness among the GenZ(as major audience) so that they become more vocal for local. Irrespective of coming across multiple challenges throughout the journey, such as making a interactive physical installation, sourcing fabric to add in it, to find the right set of information, and most importantly getting to know if this was the right approach to achieve the target.

The installation consists of 14 fabrics, each fabric telling a different story, a unique pattern and representing a state of India. By adding interactive elements and digital platform for sharing the right information, the installation bridges the gap of textiles and viewers to explore and appreciate the story of its respective region.

However, there are certain drawbacks in this installation, and I will direct my efforts towards navigating these shortcomings in order to improve this project further.

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