

SHINE WITH SHELLAC: EXPLORING SHELLAC BANGLE ARTISTRY FOR CRAFTING LAMPS

A PROJECT REPORT

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FOR THE AWARD OF THE DEGREE
OF

MASTER OF DESIGN
IN
PRODUCT DESIGN

Submitted by

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(2K22/MDPD/06)**

Under the supervision of
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CANDIDATE DECLARATION

I, Prince Aryajeet Milind Ramteke, Roll No-2K22/MDPD/06, student of M.Des (Product Design), hereby declare that the project Dissertation titled “**Shine with shellac: exploring shellac bangle artistry for crafting lamps**” which is submitted by myself to the Department of Design, Delhi Technological University, Delhi in partial fulfilment of the requirement for the award of degree of Master of Design, is original and not copied from any source without proper citation. This work has not previously formed the basis for the award of any Degree, Diploma Associateship, Fellowship or other similar title or recognition.



Place: Delhi

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CERTIFICATE

I hereby certify that the Project Dissertation titled “**Shine with shellac: exploring shellac bangle artistry for crafting lamps**” which is submitted by Prince Aryajeet Milind Ramteke, Roll No’s – 2K22/MDPD/06, Department of Design, Delhi Technological University, Delhi in partial fulfilment of the requirement for the award of the degree of Master of Design, is a record of the project work carried out by the students under my supervision. To the best of my knowledge this work has not been submitted in part or full for any Degree or Diploma to this University or elsewhere.

Place: Delhi
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Abstract

In this thesis contemporary minimalism and traditional Rajasthan shellac bangle making are combined to create new wooden lamps. The purpose is to create fusion between shellac bangle making introducing it into modern products that were made using a new approach.

Research took place through an extensive study of Rajasthani shellac bangle making techniques and principles of contemporary minimalist design. A design language was formed based on experimentation that integrated thickness of grooves around lamp body & shellac inserts with their textures into clean line minimalism so that it provides for high contrast in colour.

As such these wooden lamps are embodiments of a synthesis between tradition and modernity by being attractive lifestyle & accessory pieces; they can be eye-catching yet usable at once. Lastly, the thesis argues on possible ways of further growth and use in other categories which contribute towards safeguarding as well as encouraging traditional crafts in our time.

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Date:

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1. Introduction

1.1. Project overview

Lifestyle accessories are not just functional parts of our life but also can signify our cultural roots. The marriage of traditional craftsmanship with modern design is a chance to create objects that are beautiful, meaningful & which satisfies our need to take pride in our culture.

Rajasthan is well known for the heritage of impressive buildings and handicrafts. Among these traditional arts, shellac bangle artistry stands out due to its elaborate nature and artistic finesse. In this art, also known as the varnish technique, bright colours are pigmented on a shellac infused with definite patterns.

This thesis is to explore and document the process of creating lifestyle accessory that not only has a modern aesthetic but also reflects the culture of Rajasthan. By combining modern minimalistic design and shellac bangle artistry this work will preserve and promote our traditional crafts. Fusion of these crafts into functional daily objects will showcase skills of Rajasthani artisans and potential of traditional crafts in modern domestic & internal markets.

This research explored the historical and cultural significance the craft, it's origin, technique and generational evolution. It looked into the challenges faced by artisans to preserve the traditional skills in the era of modernization. This thesis will showcase the creative potential as well as marketability of our handicrafts by keeping their essence in the core of modern products.

In the end this thesis will contribute in the discussion on sustainable craftsmanship with cultural preservation. Reinterpreting traditional arts in new forms the designs would shed a light on Rajasthan's cultural heritage.

1.2. Inspiration & concept

In April of 2023, Department of design, Delhi Technological university organised an education trip to Rajasthan to learn about handicrafts. The interaction with handicrafts families who have been practising the art from generations, led to generating curiosity about what can be further explored with the techniques. Studio Bagru at Rajasthan had done similar exploration of Bagru block prints & modern design aesthetic of apparel industry. Fusion of the traditional techniques

with functional daily life products will show off the skills of Rajasthani artisans and possibilities of traditional handicrafts crafts in the modern use.

The entire idea for this project came from that official college trip to Rajasthan, where the students got to see the rich artistic heritage of the region up close. Visit to various artisan workshops gave a firsthand experience of the craftsmanship of Bagru print & the artisanal communities involved with creating the raw materials for the craft. It showed how various communities were interdependent into each other & shows harmonious intersection of Indian heritage. The wooden blocks were made by Muslim community of Bagru but the block printers were Hindus, this is what Indian poets have described as “Ganga-Yamuna” Tehzib meaning the cohabitation of various religious groups with peace & harmony. The colours, designs and the dedication of the artisans inspired the journey ahead.

Witnessing the artisans at work & their skilful hands transforming raw materials into beautiful pieces of art, generated a desire to explore how the time honoured techniques could be preserved and adapted into modern contexts. The trip deepened the understanding of the cultural significance of these crafts as well as highlighted the challenges faced by artisans in sustaining their livelihoods with the changing market dynamics.

1.3. Objective and goals

The primary aim of this thesis is to explore & document the process of creating modern accessories which encapsulate rich cultural heritage of Rajasthan of shellac bangle artistry.

Firstly, the research delves into study the historical as well as cultural context of the crafts. This involves investigating origin, evolution, and cultural significance of wood turnery and shellac bangle artistry of Rajasthan, as well as understanding the traditional techniques, materials, and tools used by the traditional artisans. Documenting the craft techniques in detail includes capturing the intricate methods and craftsmanship through trips, observation, videos, and photographs of artisans at their work.

The project aims to explore the integration of these crafts with design. By experimenting with wood turnery and shellac bangle artistry the research will develop prototypes that showcase the fusion of traditional crafts with modern aesthetics. Evaluating the

market viability is also an important aspect. This involves analysing consumer design preferences, market placement strategies, etc.

The aim of this thesis is to promote sustainable workmanship. It also examines sustainable processes in these handmade items, such as raw materials sourcing and the environmental effects of engaged practices over time. Furthermore, raising consciousness regarding sustainable and ethical craft making also forms part of this study's objectives. This project's objectives are quite expansive in nature. In today's rapidly changing world, it is important to conserve systematic craft practices in order to revitalize traditional art by applying them for different purposes and creating new markets for the skills possessed by the craftsmen.

This paper will examine the importance of innovation in craftsmanship and design, as well as its role in demonstrating the creative potential of traditional crafts within modern design contexts. The purpose of this initiative is to encourage designers and artisans to explore new opportunities and ways of working together that can merge traditionalism with contemporary artistic expression. This project strives to economically empower artisans by supporting local economies through promotion of handcrafted products that embody distinctive features of Rajasthan's rich cultural heritage. In doing so, the project advocates for sustainability and responsible consumerism by stressing on the significance of handmade culturally relevant pieces. The overarching objective of this thesis is achieving a significant impact on the preservation and promotion of Rajasthani handicrafts through reaching out for all these objectives.

2. History of shellac bangle artistry

Dating back to ancient times, making shellac bangles have not only exquisite artistry but also deep meaning culturally. Well-decorated shellac bangles had bright colour, intricate patterns and shining surface and even today are a traditional ornament, especially for women of Rajasthan. This craft, which forms an integral part of the cultural history of Rajasthan, has transformed through time and is practiced till today. This paper investigates the history, techniques of making, social importance and modern practices of shellac bangle making in Rajasthan.

2.1. Historical Context of Shellac Bangle Artistry

For ages, shellac, a natural resin created by the lac insect (*Kerria lacca*), has been used in different forms. The lac insect prefers particular trees and is found mainly in India and Southeast Asia forests. The resin was formerly employed for diverse reasons, from varnishes and colorants to glue. Specifically in Rajasthan, due to the exclusive qualities of shellac, it became part of the jewellery-making custom; especially bangle making.

Rajasthan has a long tradition of shellac bangle making that can be traced back to historical texts and scriptures which described women wearing bangles as symbols of beauty, marital status, and spirituality. It was during the time of Mughal rule in India when manufacturing such bangles made from shellac gained popularity due to flourishing art, culture and craftsmanship in that country. Thus, Rajasthan became a centre for artisans good at making jewelry given its artistic heritage and lively courtly life. The shellac bangles were demanded for their artistic beauty alongside symbolism especially during marriages and religious worships.

At that time, making shellac ornaments became synonymous with Rajasthani royalty and affluent classes. The rulers and nobility in the region were art lovers, thus commissioning for them elaborate ornaments for ceremonies as well as everyday dress. Shellac bangles which could be used to carry attractive hues and complex designs were in great demand by queens and ladies of nobility as signs of social standing and sophistication.

2.2. The Crafting Process of Shellac Bangles

Making shellac bangles is a very advanced and laborious task that needs both expertise and perseverance. This craft has been given from one generation to another among artisan families traditionally in order to maintain age-old methods.

2.2.1. Collection and Preparation of Shellac

The beginning of the procedure is when raw shellac is collected from trees by lac insects. Artisan inconvenience is used to harvest this resin from branches of trees and undergo refinement processes whose aim is to remove impurities like bark and insect matter. The raw shellac is then melted after being filtered; thus forming a more purified resin that can be used for making things. This purified form of shellac appears as translucent amber but it can be dyed to different shades, both natural as well as synthetic pigments.

2.2.2. Heating and Moulding

When the shellac is prepared, it is heated to malleability for easy shaping. The artisan rolls out long, cylindrical strips of the heated shellac and then coils them around a mandrel following which bangle shape is formed. The temperature should be controlled carefully throughout the process to make sure that the shellac stays soft enough to be sculpted but not so hot that it becomes either brittle or fragile.

2.2.3. Shaping and Sizing

Following initial forming into moulds, they further shape and size the bangles to meet a precise fitting need. The artisan or tradesperson involved uses several hand tools for smoothing off abrasions, refining its circular shape as well as changing its thickness where necessary. This phase of production process calls for high measures of accuracy since slight inaccuracies may alter how it looks like or its durability.

2.2.4. Decoration and Embellishment

Once the artisans finished making the basic form of the bangle, they focused on decoration. This is the phase where artistry in shellac bangle-making shows through. They dress up the bangles with elaborate designs, sometimes using tiny tools to etch patterns into shellac's

surface. Patterns can range from simple geometric shapes to very complicated inspiration motifs from flowers, leaves or even animals.

Moreover, these bracelets get more decoration with some other materials such as metallic leaf, glitter, glass beads and gemstones. All these embellishments combine together on bangle surfaces adding textures and colour that makes them attractive. In some instances, artisans use a method called “tikki work”, where fine dots are placed on top of a surface to make symmetric lines creating clever patterns. This style needs precision hand movements and great observation to ensure there are no mistakes.

2.2.5. Polishing and Finishing

Finally, what comes next is an act of polishing. When polished, shellac provides a shine that not only makes the bangle more beautiful but also protects it against physical damages. Usually, workers use cloths or specific tools to smoothen out bangles and give them an even colouring. Letting the bangles cool and toughen after being polished, they are ready for market.

2.3. Cultural Significance of Shellac Bangles in Rajasthan

These bangles have different sizes and shapes depending on cultural preferences which make them unique from one another. They have a hollow space in between decorated with mirror pieces or beads to create shiny and bright look that attracts attention.

Female worshipers wear shellac bangles on their wrists during puja (worship) ceremonies as offerings to Goddess Durga during Navratri festival. The use of such bangles made from natural materials in temples symbolizes the sense of purity upheld within this institution. Interestingly enough, both for men and women there exists a relationship between their moral cleanliness and the wearing of bangles in India because when you don't own anything like this then your character becomes dirty.

In Rajasthan, shellac bangles are an essential part of culture and social life. They occupy a central place in many aspects of life especially among women. For instance, in Rajasthan and throughout India, the bangles signify marital status and are worn by women as identity markers of their husbands. In addition, they are related to brides' ornamentation and it is with these different coloured bangles that brides appear during their weddings.

Notably, shellac bangles serve significant function during religious and cultural occasions. Thus, when celebrating “Teej”, “Gangaur” or “Karva Chauth” among others women wear bangles that match their festive outfits. On other occasions including childbirth celebrations or women’s transition from girlhood to matrimony gifting bangles is common practice wherein friends present such items to one another as acts of kindness symbolizing special happenings in life. It is believed that this act brings good fortune prosperity happiness into one’s life; hence putting on bangles signifies good luck.

2.4. Modern-Day Practice of Shellac Bangle Artistry

Shellac bangle production still exists in Rajasthan today but it is being hampered by modernity along with changing fashion concepts. There are traditional craftsmen who still craft bangles using age-old techniques while machine-manufactured counterparts have become mass produced hence making it hard for them to survive.

To cater for these challenges, many artisans have revised their techniques to suit the tastes of modern consumers. They are trying out different designs and materials hence merging traditional art with current fads. For instance, some craftsmen are introducing Western Style elements like simplicity patterns and pale colours in their works. There are also those who have combined shellac with other materials like glass, metal, or cloth in order to make distinctively looking bangles.

Moreover, the revival of interest in fashion that is sustainable and ethical has boosted traditional crafts such as bangle-making from shellac. This is because customers want hand-made goods that are earth friendly hence adhering to their principles. In addition, these bangles made from natural materials and artisanal skills perfectly fit into this story. Craftsmen and their families' livelihoods have been made easier by online platforms together with commercial centres which assist artisans in making income supplement.

2.5. Challenges and the Future of Shellac Bangle Artistry

Shellac bangle artistry still faces severe difficulties in spite of interventions to safeguard and encourage it. The chances of many artisans changing their designs are reduced due to lack of formal education and training. In addition, less expensive alternatives that are mass produced continue providing strong competition for handmade bangles.

In another bid to sustain shellac bangle-making, more money should go into people's education, infrastructure development, and marketing initiatives. Artisans should be equipped with necessary tools and equipment enabling them to remain competitive internationally while at the same time maintaining their craft's authenticity. Fair trade promotion, sustainable production methods, as well as cultural preservation will be vital for future of this very old art form.

Rajasthan's shellac bangle art has an extensive historical past, which indicates its ancient and present cultural value. Shellac bangles' pathways have taken many shapes starting from their olden time in India; becoming respected decoration, identifying marital status among others. Rajasthani ladies still regard them highly as such they possess meaning they cannot easily dispose off. The process of making them is complexly intricate translating into several generations revealing artisans' skills with all their dedication, patience and passion that help keep this field alive. Ultimately, despite some current hardships, these artists are able to show extreme endurance always modifying themselves so that one day people will remember that this type of art existed in Rajasthan.

3. Shortlisting the product category to work on

As shown in Figure 3.1, a range of product categories were proposed as an option in the research at the start of the graduation project. This visual presentation shows the various possibilities that can come about when Rajasthani Shellac Bangles are merged with traditional woodturning techniques. The product categories considered included vases, trays, chairs, decorative sculptures, clocks, table organizers, floor lamps among others. Each of these categories represents a unique opportunity to merge traditional craftsmanship with contemporary design, reflecting both functional utility and aesthetic appeal.



Figure 3.1 Brainstorming Product Categories

The selection process included criteria such as potential for demonstrating the immense cultural heritage in Rajasthani craftsmanship, possibility of innovation and production and market considerations. When it comes to shellac bangles, they provide a plethora of choices in colour, designs and delicate finishing that are so vivid and elaborate. In similar fashion, wood turning is a flexible medium that can be shaped, carved and finished to match or even enhance the beauty of the shellac work.

For example, vases were thought about due to their chances as decorative ornaments that could have intricate patterns made from shellac on wood lathe surfaces. A more practical approach was offered by trays and table organizers, where these crafts could blend to produce practical yet beautiful items. On the other hand, chairs and decorative sculptures were equally good candidates considering that shellac work could be incorporated in furniture design making such pieces both functional and artistic at once. Even though I was fascinated by such categories eventually my attention turned towards design and development of table lamp. This decision did not come easily instead it was after a careful consideration taking into account unique features of every category as well as its potentiality on the market. The choice for a table lamp as the best option was based on a number of factors.

In conclusion, the table lamp strikes an impeccable synergy of practicality with creativity. It is both a source of light and an ornamentation that beautifies the environment it aspires to be set in. This characteristic goes hand in hand with my aim to design a product which serves its purpose and, at the same time, reflects the traditional making and artistry of Rajasthan.

Moreover, a table lamp has sufficient space on its surface upon which fine details can be portrayed thereby giving beauty to shellac craftworks characterized by colour variation and minute designs. Since lamp design involves cylindrical or conical shapes, these shapes lend themselves well to woodturnings thus enabling evenness without breaks that can then be decorated with shellac. Thus this integration turns such lamps into canvasses that exhibit the complete realm of creative potentials resulting from both trades coming together.

The table lamp is significant in interior spaces so that it attracts people and people admire it. Compared to smaller items such as trays or table organizers, the lamp is usually set in a central place in a room and thus it becomes more visible to users. My objective of creating a product that not only serves a functional purpose but also becomes a conversation piece with respect to Rajasthani cultural heritage. Additionally, constructing a table lamp opens up avenues for design innovation and technique alteration. By trying out different shapes, textures, and mixtures of shellac and wood, I can push beyond the conventional frontiers of craft whilst preserving the historical roots. Therefore, there is a linkage between tradition and modernity through which the lamp pays homage to Rajasthani artisans while using their methods towards modern-day situations.

Ultimately, my choice to make table lamps for my graduation project was motivated by wanting to make something that serves as both functional yet artistic at its core. With its capacity to exhibit delicate patterns found in shellac work, being central in an interior space as well as providing opportunity for imagination hence fusion between woodturning with shellacs bangles; it made sense that this would be an ideal medium to explore further into.

4. Competitive Analysis

Monitoring and analysing other customer's favourites can help highlighting strengths and weaknesses in their attributes and also pointing out areas that are untapped yet. For instance, understanding your opponents can make it easier for you to price your goods or services at favourable rates making sure they would fill any possible gaps within markets with these products thus enabling you gain a competitive advantage over them.

Due to their distinctive market positions, Zwende and Figliving made it into the competitive analysis. Artisanal products inspired by culture are Zwende's niche while modern luxurious designs define Figliving . These two contrasting brands provide insights about how consumers have different tastes and firms pursue different strategies for positioning themselves within this table lamp category.

4.1. General competitive analysis

In the general competitive analysis, the brands were compared against design aesthetics, materials, pricing strategy, target audience, brand positioning, sustainability & craftsmanship.

4.1.1. Design Aesthetics

- Figliving.com: Focuses on modern, minimalist designs with clean lines and subtle luxury.
- Zwende.com: Emphasizes artisanal, colourful designs blending traditional Indian craftsmanship with modern aesthetics.

4.1.2. Materials

- Figliving.com: High-end materials like marble, brass, and wood, polished for a sleek finish.
- Zwende.com: Handcrafted materials like wood, fabric, and clay, offering a textured, organic feel.

4.1.3. Pricing Strategy

- Figliving.com: Premium pricing reflecting luxury materials and elegant design.

- Zwende.com: Mid-range to premium pricing, emphasizing handcrafted value and cultural craftsmanship.

4.1.4. Target Audience

- Figliving.com: Luxury homeowners and professionals seeking sleek, modern decor.
- Zwende.com: Art enthusiasts and culturally-minded consumers drawn to traditional craftsmanship and unique design.

4.1.5. Brand Positioning

- Figliving.com: Positioned as a luxury decor brand focusing on minimalist elegance.
- Zwende.com: Celebrates Indian artisanship, offering handcrafted and customizable products.

4.1.6. Sustainability and Craftsmanship

- Figliving.com: Focuses on luxury, with less emphasis on sustainability.
- Zwende.com: Strong focus on sustainability, artisanal support, and eco-friendly practices.

4.2. Opportunities

The following are the opportunities identified for a product based on market analysis:

- *Tradition Meets Modernity:* Blending cultural craftsmanship like Rajasthani shellac artistry with modern design appeals to consumers seeking unique decor that combines heritage and contemporary aesthetics.
- *Sustainability Focus:* Products using eco-friendly materials while preserving traditional crafts attract eco-conscious buyers, offering a sustainable and culturally significant option.
- *Customization:* Allowing personalization of design elements enhances consumer engagement, making products more appealing as one-of-a-kind, tailored items.
- *Cultural Craftsmanship:* Incorporating traditional artistry as a core design feature differentiates products in the market, appealing to consumers seeking unique and meaningful decor.

- Artisanal & Luxury Positioning: Combining high-end materials with artisanal craftsmanship bridges the gap between luxury decor and handcrafted pieces, attracting a diverse consumer base.
- Storytelling: Highlighting the cultural and historical significance of craftsmanship adds emotional value to the product, deepening consumer connection through meaningful narratives.

These opportunities emphasize the demand for products that merge tradition, modernity, sustainability, and personalization to stand out in the competitive home decor market.

5. Mood board

As shown in Figure 5.1 & 5.2 the visual aesthetic theme of this project was to be set by mood-board 1 & 2 . As they are very popular in Rajasthan there are some collages for Shellac bangles and lehariya. Specifically, the traditional Rajasthani shellac bangles were very crucial in shaping the creative direction for this lamp project, as seen from the mood-board. In doing so, these collectibles gave a thorough analysis of complex artistic design, live hues, and luxurious textures that characterise shellac bangles' artistry. With these visuals collected together it becomes easy to link major features of shellac bangles with their aesthetic into lamp design. The big patterns and intricate details on their surfaces are among its prominent decorations; they dictate how complicated carvings would be made on wood and other décor available like shellac accents. Also inspired by bangles were warm bright colour combinations used in decorating the lamp which added culture richness while shiny polished finish done by using shellac helped to choose what materials to use, surface finishing procedures, colours, essences, shapes and even textures of objects



Figure 5.1 Shellac bangles Mood board 1



Figure 5.2 Shellac Bangles Mood board 2

As shown in Figure 5.3 The lamp project's colour scheme and pattern selection were inspired largely by the mood board that contained images of lehariya pattern fabrics. The lehariya technique, which is characterized by its vivid and flowing lines as well as diagonal stripes, served to inform the overall design in terms of colour dynamics and visual rhythm. The striking colours and strong contrasts present in these fabrics formed a vibrant collection of hues for this project which added to the lamp's beauty. These stripes were designed with an illusion of rhythmical flow thus providing guidelines for surface embellishments, decorative elements placements, and ultimately, balancing act between colours and shapes.

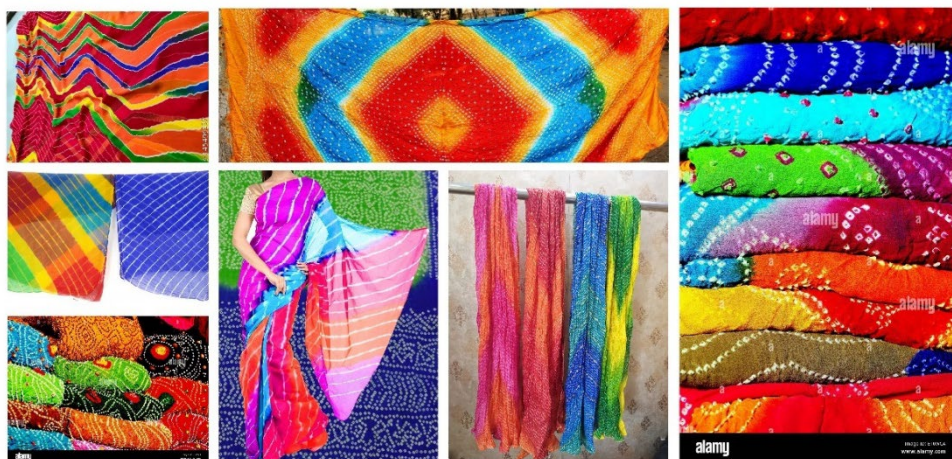


Figure 5.3 Lehariya patterns & colours mood board

6. Inspiration board

The aim was to create a fusion between minimal industrial forms & traditional Rajasthani shellac bangle artistry. This inspiration board helped to shape the form into minimal aesthetics. It was an iterative process to blend the minimal form with bright colours of shellac to create a balance between the two & ensure none of them is overpowering the other.

For the forms, inspiration was taken from the images of the most popular online table lamp sellers like Oorja, Zwende, Fig, etc. Taking inspiration from such renowned brand eased out the form exploration projects as it eliminated the random form exploration, it gave a direction to what is being purchased by the customer. And to what extent something new could be added to avoid complete rejection by the existing customer. There was no time to test the customer response of a completely new design, The addition of shellac artistry was very subtle by in depth study of the current accepted & rejected forms.

In figure 6.1, 6.2 and 6.3, all the image on it have been sourced from Google search engine about variety lamp designs. There is a mixture of different styles in them, including contemporary and traditional among others; these are made of wood, metal, glass or shellac, thus displaying the uniqueness in each product. Such a selection represents the blending of art with functionality as evidenced by sculptural bases, elaborate carving and novel ways of lighting.

Emerging trends encompass organic natural forms, stressing on sustainability in materials as well as trying out light diffusers and texture elements. This collection stands as a visual aid in charting the project's design direction especially in blending modern woodworking with Rajasthani shellac bangle art. Several sources provide clarity to the design process by favouring a balance between tradition and modern design principles. Therefore, this board inspires such creative engagements in form and materials that will result into an attractive but functional lamp. It is an attempt to merge tradition and modernity appealing to the contemporary society while respecting the artistry behind traditional crafts.



Figure 6.1 Inspiration board 1



Figure 6.2 Inspiration board 2



Figure 6.3 Inspiration board 3

As shown in figure 6.4 the lamp images have been sourced from Figliving.com gives an indication of several design ideas with a combination of artistic and functional elements. The lamps featured showcase modern aesthetics with a strong focus on clean shapes, luxurious materials, and stylish designs which generate numerous brain waves for the lamp project. From minimalistic to ornate designs, these tactics oscillate between simplicity and sophistication. Amongst them are materials like marble, brass, and wood overlapped by innovative lampshades playing around with light and texture. These designs portray how diverse materials can be altered to create lamps that are not only beautiful but serve as well. As a result, this board is therefore meant as a compass for divergent directions in making; one that chooses enticing aesthetics over functionality or vice versa? In addition, it facilitates an overview of potential design choices while moving towards designing a modern masterpiece that grabs attention through some classic touch too.



Figure 6.4 Inspiration board 4

As shown in the Figures 6.5 and 6.6 inspiration board 5 and 6 as shown in created features a diverse collection of table lamps from Zwende.com. Each lamp represents a combination of old-style art and up-to-date design. These lamps are strong encouragements that explain how this indigenous Indian art can be transformed into something modern.

Upon analysing these lamps, there was a point that got struck in me pertaining to the considerable emphasis placed on elaborated details and use of cultural symbols. Traditional Indian motifs such as handmade patterns, carvings on wood or metallic parts are sometimes found in the lamps which look contemporary. The designs appear warm and genuine because they are made from natural materials like wood or brass; this, in combination with their vibrant colours results in a striking visual appeal. There is also a range of shapes and sizes, from slender elongated forms to more robust geometric structures which demonstrates that it is possible to be creative within functional design constraints. The interplay between aesthetics and utility has been brought out with this study by showing how some traditional techniques can be modified to suit the demands of modernity.

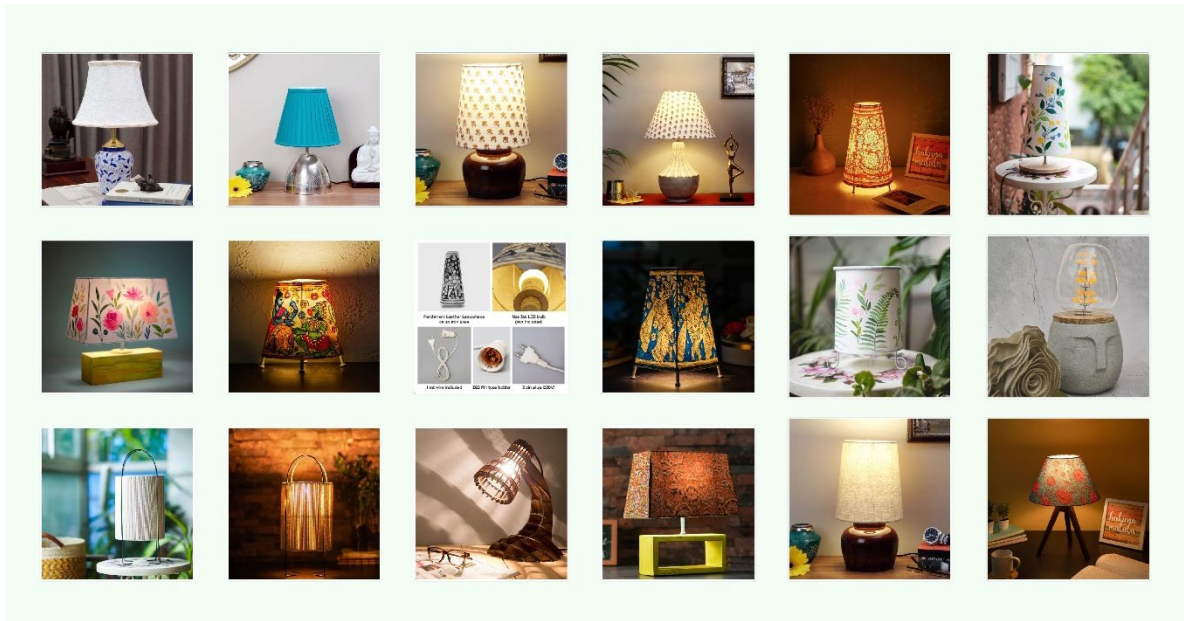


Figure 6.5 Inspiration board 5

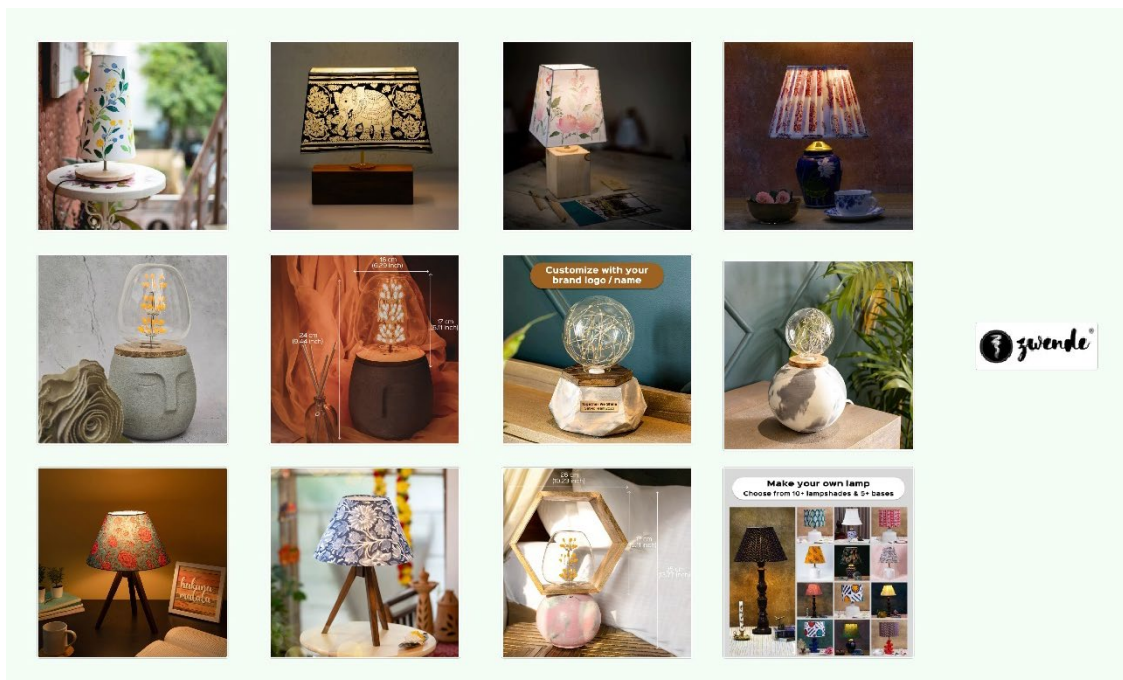


Figure 6.6 Inspiration board 6

As shown in figure 6.7 & 6.8 the mood-board 7 & 8 shows pendant lights hanging down (images sourced from Google image search results), the creative process between art and lighting becomes evident. These pendants are unique because they use natural materials and

transform normal places with their captivating presence. In terms of form and style, there are many different versions available. The majority of lamps in this category tend to be organic – comprised of bamboo, jute or handmade paper – which have been manipulated into shapes that look as if they are alive. The way light plays through shapes makes it almost impossible to separate these lamps from the walls; they are no longer just sources of illumination but also points around which everything else is organized.

Another astounding aspect is how the artisanal methods have been incorporated into every single piece, which makes it look handmade. All these textures and patterns both woven and carved or simply stacked to add some atmosphere to the place giving a warm, natural light that illuminates any place indiscriminately.

These pendant light fixtures have motivated me to investigate the potentials of merging conventional artistry with contemporary design, leaning towards investigating the application of light in shaping places and making them practical and artistic at the same time.

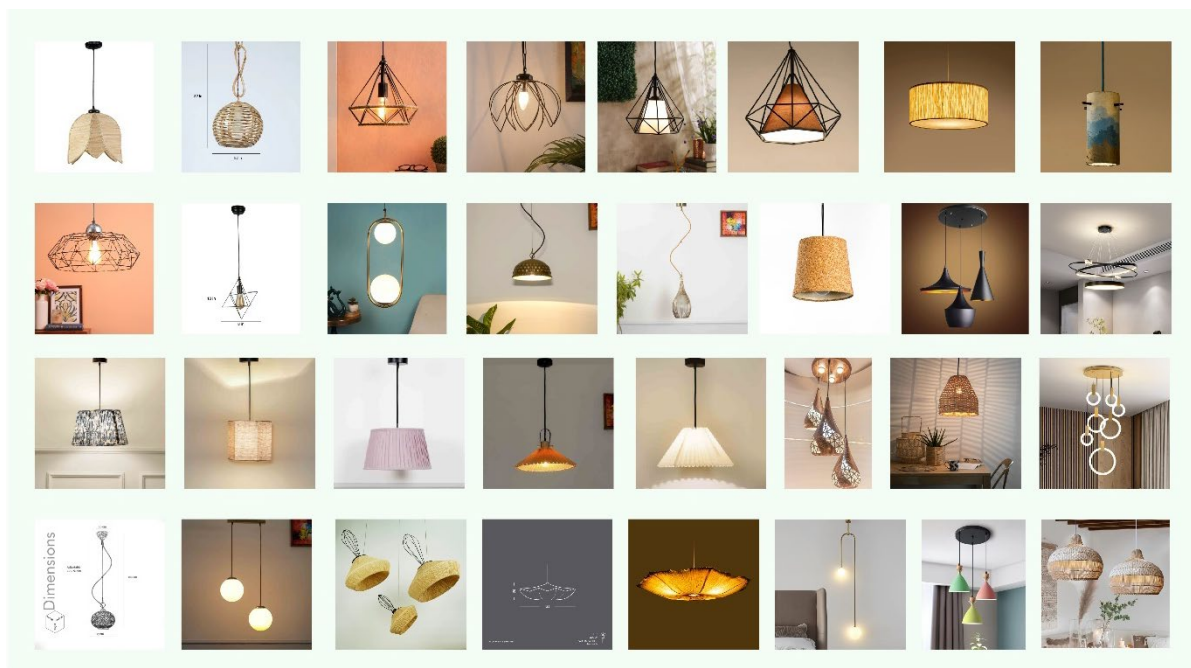


Figure 6.7 Inspiration board 7

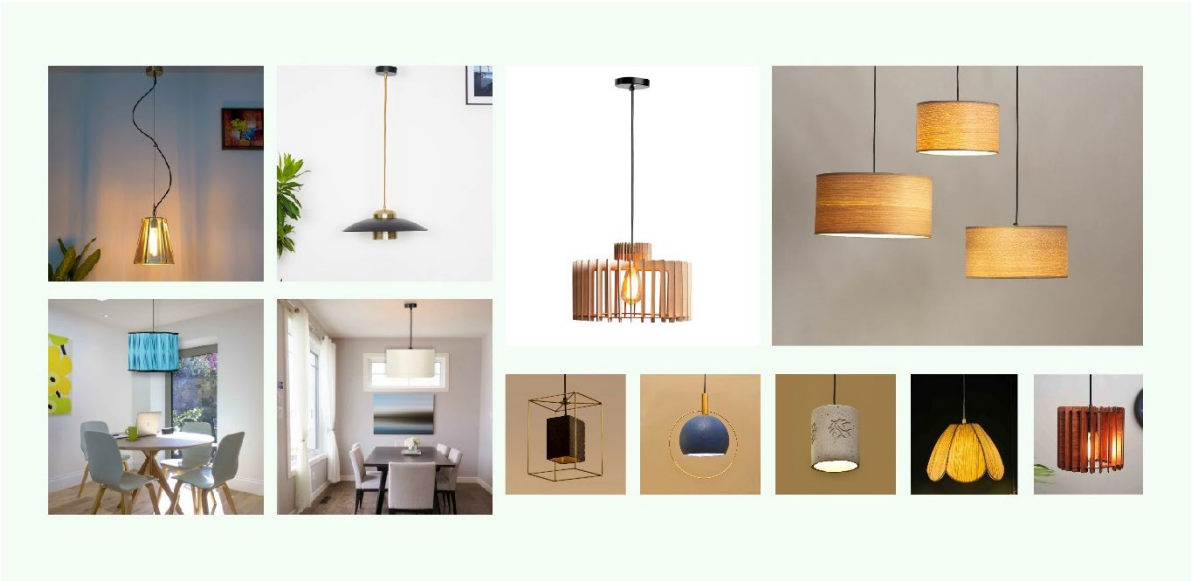


Figure 6.8 Inspiration board 8

7. Ideation

7.1. Sketches

In this phase, forms were explored via the medium of sketching. Hundreds of forms were sketched, out of which a few are shown below.

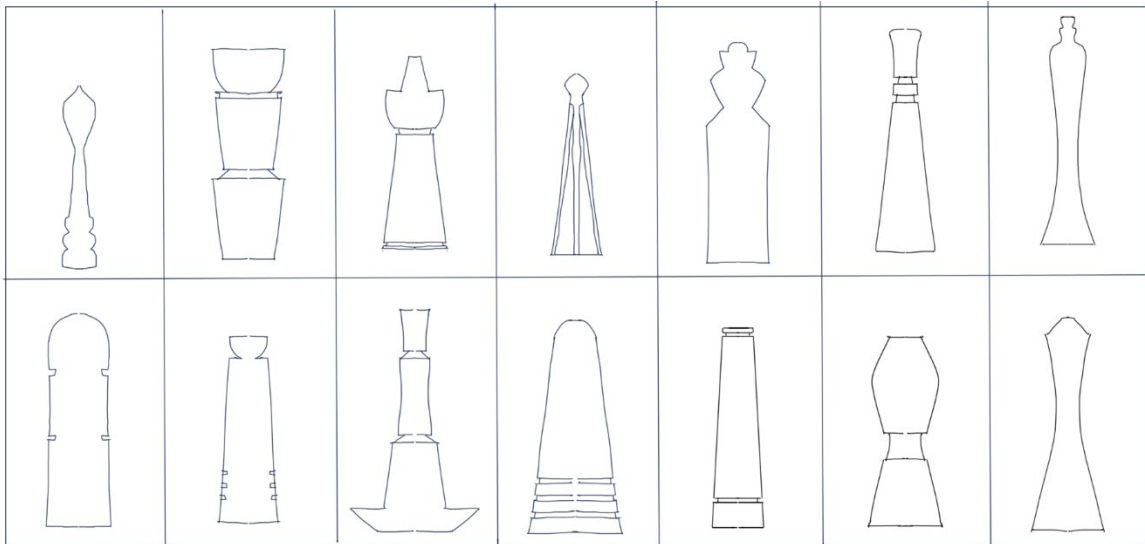


Figure 7.1 Ideation sketches 1

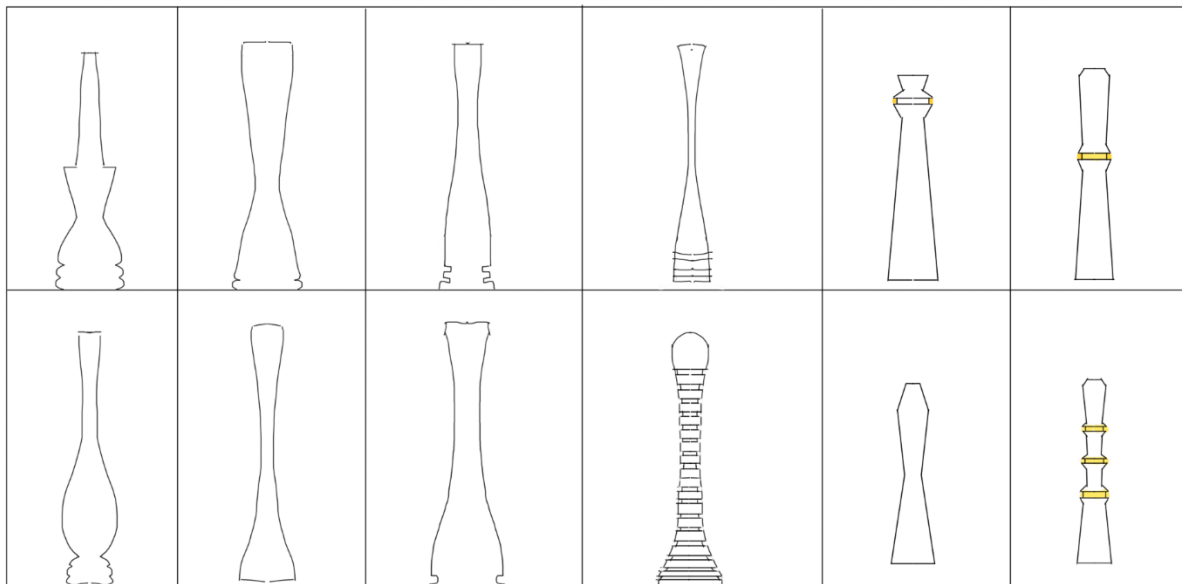


Figure 7.2 Ideation sketches 2

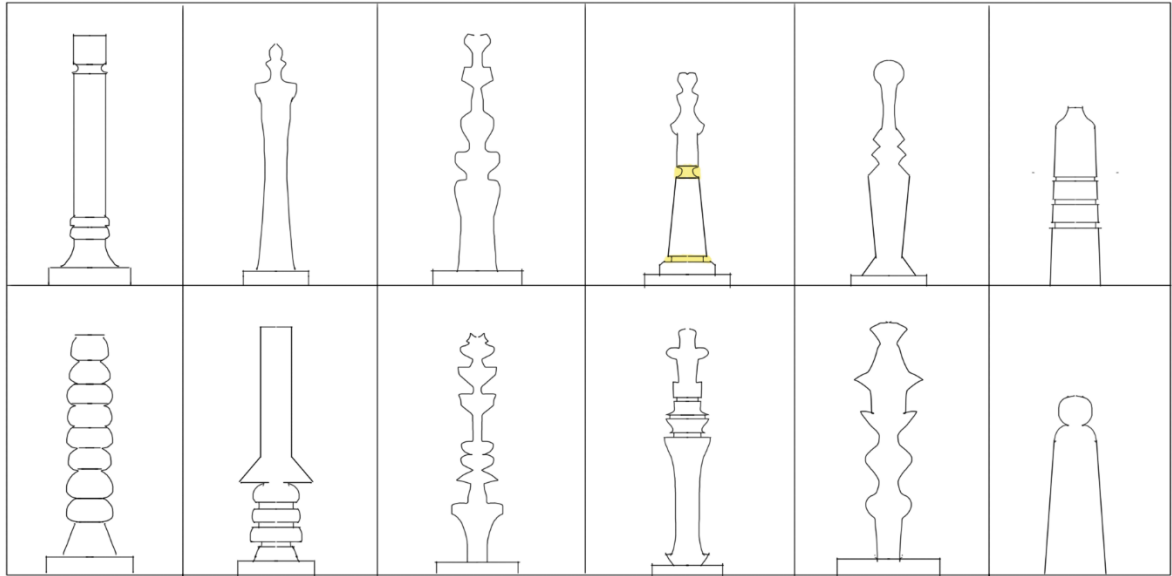


Figure 7.3 Ideation sketches 3

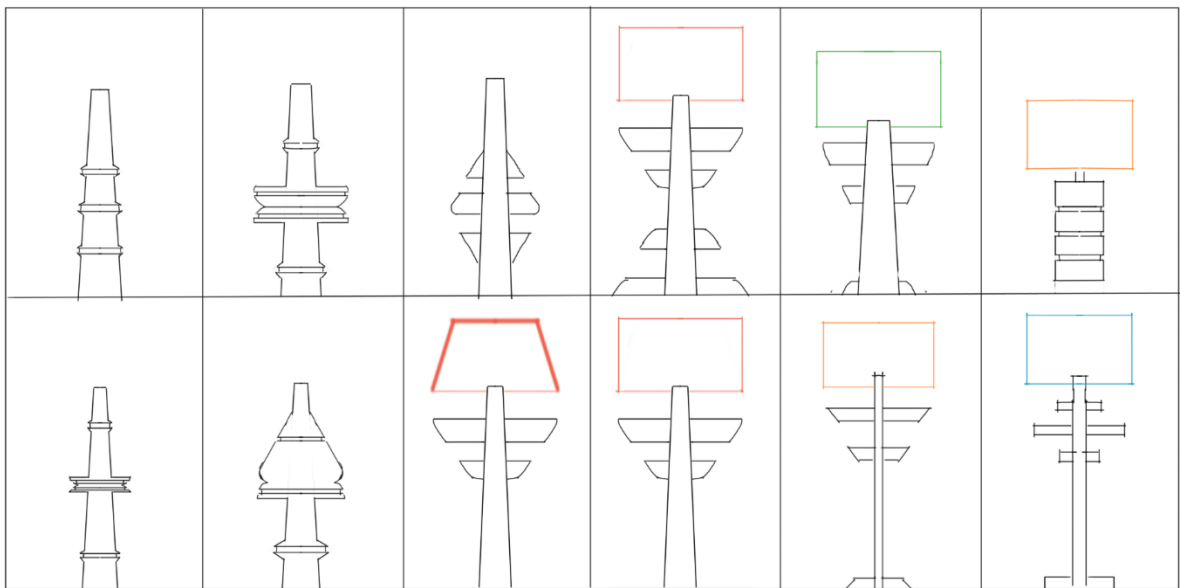


Figure 7.4 Ideation sketches 4

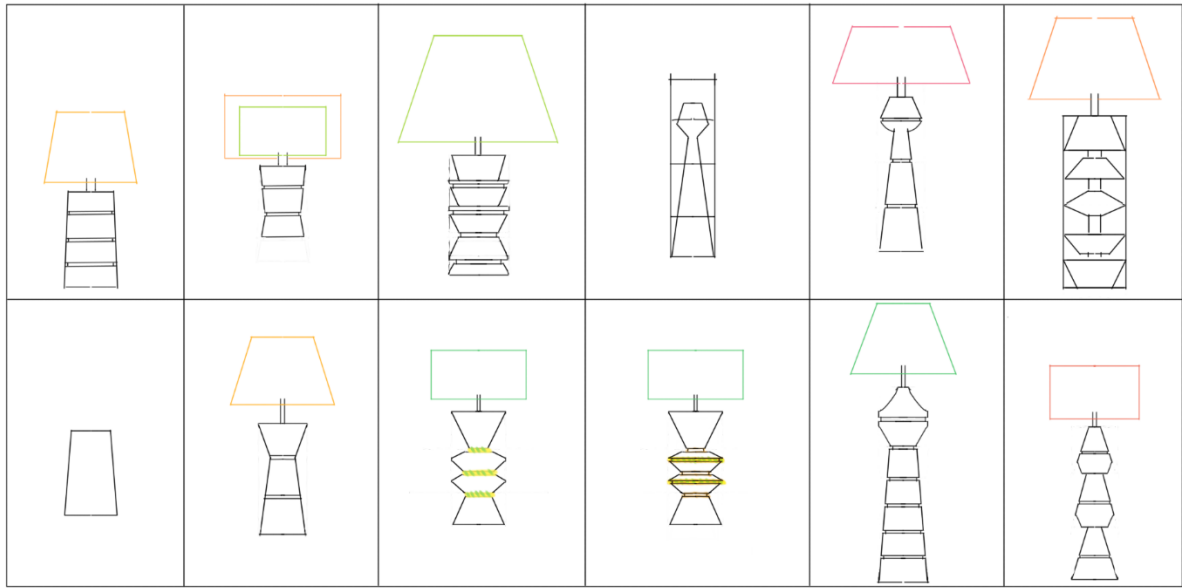


Figure 7.5 Ideation sketches 5

7.2. Finalising forms

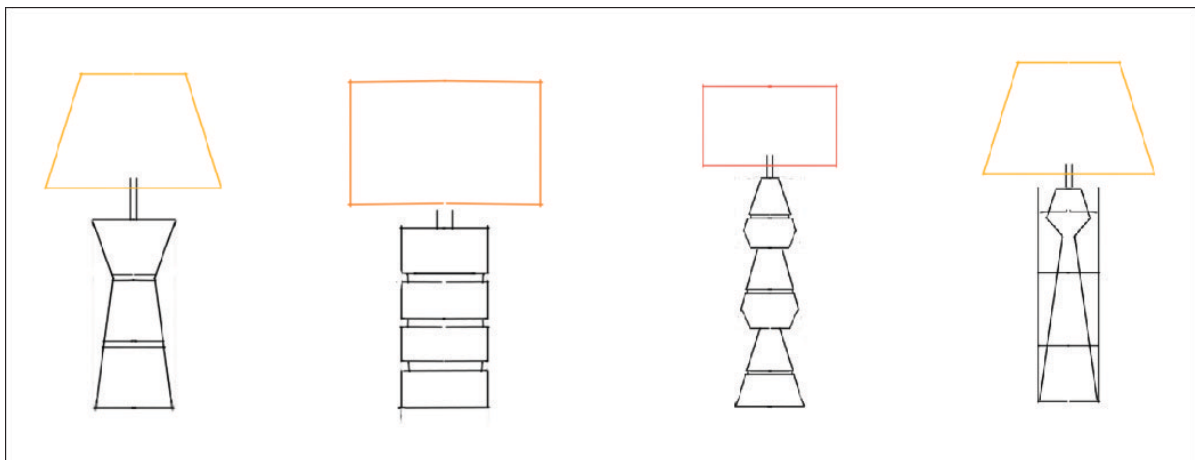


Figure 7.6 Finalised forms for lamps

7.3. Comparing & reviewing renders

As shown in figure 7.7, 7.8 & 7.9 various renders were done to test out the colour combination and predicting actual look of the final lamp. The shortlisted shapes were rendered with different shapes of lamp shades and different colours between grooves. This phase helped in finalising the colour of the lamp body.



Figure 7.7 Rendering in black body



Figure 7.8 Rendering in wooden texture

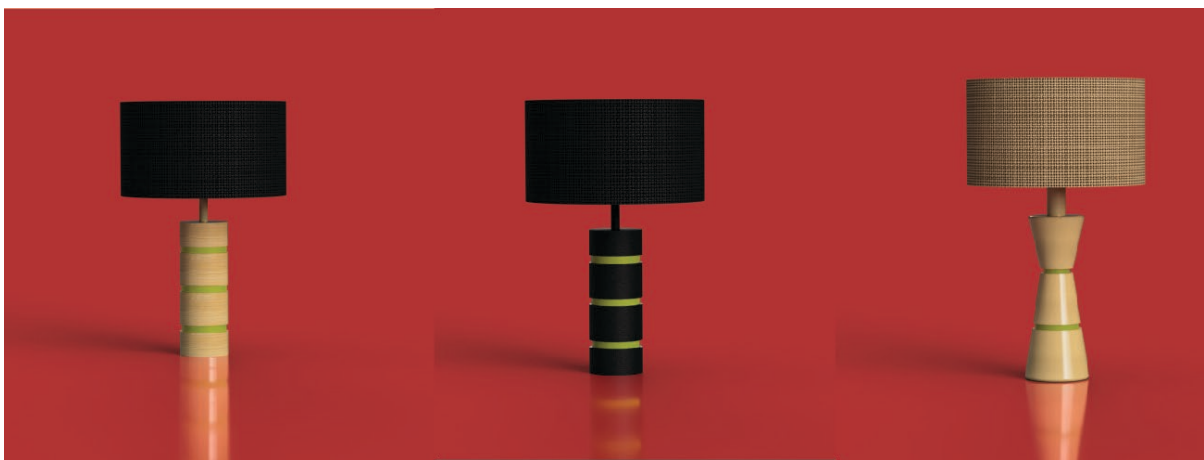


Figure 7.9 Rendering in black & wooden tecture

8. Prototyping

8.1. Wood work on wooden lathe machine

For prototyping the main body of the lamp wood as a base material was used. It would be easier to combine shellac with wood so it would be a perfect fit. For prototyping the wooden piece a technique of subtractive manufacturing was inculcated using wooden lathe machine. Two logs of 5-inch & 4-inch square width were used. All the wood work has been executed in the famous furniture market of Delhi where the most skilled craftsmen reside. There is a colony of “Kharatis” (Traditional wood turners) near block A of Kirti Nagar near the “Nawab furniture” store. Their work is very hands on and they turn the required wooden furniture in front of you.

Earlier hand operated lathes were used, later came the diesel operated ones but now electric operated lathes are used. A lathe is installed outside of small shops of the Kharatis. There is a master craftsman and along with them is one apprentice.

8.1.1. Fitting Wooden blocks on Lathe



The log is placed between the head & tail stocks of the wooden lathe. The head contains sharp teeth shaped stock but the tail stock has single pointy end. The Log is initially fixed, rotated few times then hammered from the end which spins unevenly. The log is repeatedly hammered until it is spinning uniformly from both ends without deviation.

Figure 8.1 Fixing wooden log in lathe

8.1.2. Turning into Cylinder

The log is roughly in the shape of a cuboid with a square cross section across the length. For achieving the shapes as illustrated in the ideation part, the log must be first turned into a cylinder using a “*spindle roughing gauge*”, later the cylinder can be passed through turning operations to achieve desired shapes. The turning process of cuboid log is a very rough process and requires stable hands. Strong vibrations are produced but still the artisan keeps on working till the harsh vibrations reduce and finally cylindrical section is achieved.



Figure 8.2 Turning the piece round

8.1.3. Chiselling out shapes

The desired shapes were achieved using the combination of *spindle and skew gauges*. The wooden piece was slowly operated using the spindle gauge at an angle over different force levels to achieve the *taper*.



Figure 8.3 Shaping the wooden piece

8.1.4. Applying Grooving operation

In this phase the turner applied grooving operations to carve out groove spaces where the shellac would be filled. *Skew gauge* was used for this operation.



Figure 8.4 Chiselling grooves for shellac inserts

8.2. Working on Metal Lathe

For the operations of drilling a 12 inch hole through the wooden body, it was necessary to operate the piece on a metal lathe. This operation was not possible on wooden lathe alone. A industry grade 12 inch drill bit was purchased for Rs.600 for this operation.

8.2.1. Centring the piece

It is very important for the piece to be centred before any operations are performed. Failing to do so leads to the piece not turning properly & damages the piece. The chucks are repeatedly tightened from all the sides according to the estimation of the turner. The turner uses a specialised needle scale for centring the piece.

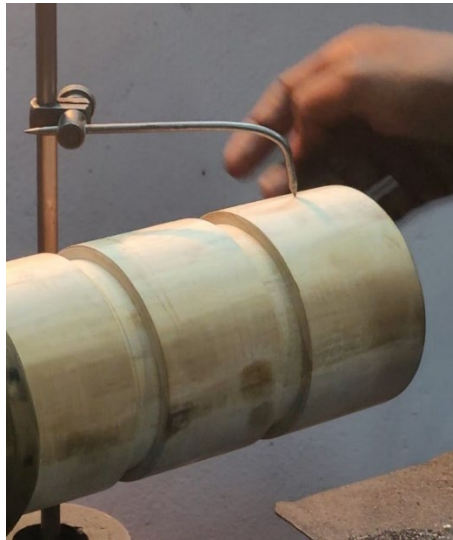


Figure 8.5 Centring of the wooden piece on lathe

8.2.2. Drilling Operation

The bit is repeatedly penetrated and removed in intervals to remove the waste residual. If we don't remove the bit in intervals then it would eventually get stuck inside the piece & can potentially break the drill bit. So, it requires an expert turner who has a judgement on the intervals when to remove and penetrate the drill bit.

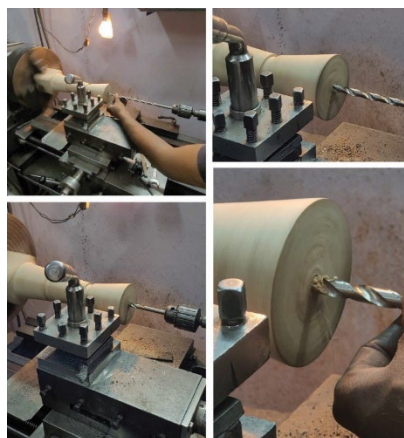


Figure 8.6 Drilling hole inside the wooden body

8.2.3. Drilling 1 inch using drill press

While fitting the 12-inch drill bit, one inch goes in the tailstock, leaving effective length of 11 inch to work with. So, with that, 11-inch hole was drilled. After drilling the hole, remaining one inch was achieved using a manual drill press.

Note- Drill press solely couldn't be used to drill the 12-inch hole due the vibrations produced during the operation. An attempt of drilling a 12-inch hole with the drill press led to shifting of the centre of wooden piece, damaging the wooden piece. So, a new wooden piece had to be turned to proceed further.



Figure 8.7 Drilling using a drill press

8.2.4. Some mistakes that happened

Two turned pieces were wasted because the wood turner forgot to leave a base underneath the turned item that could have been placed into the chucks of the metal lathe. Without the base, it is impossible to centre the wooden component on the lathe due to the taper process.

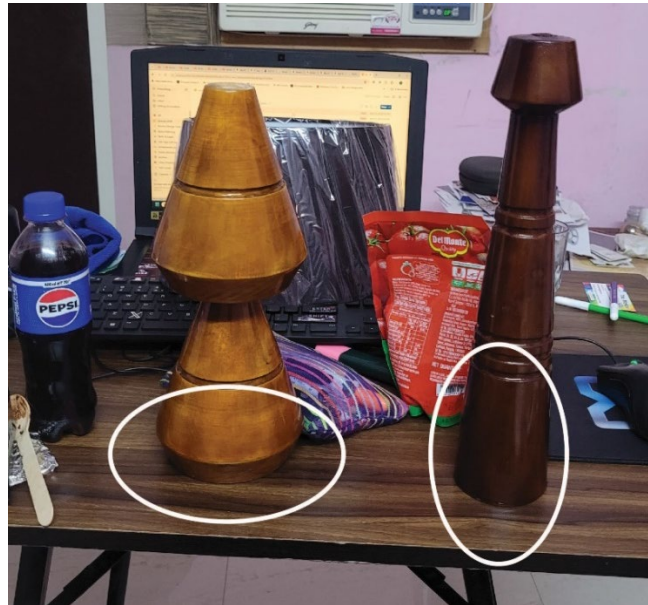


Figure 8.8 Tapered pieces without lathe chucks holdable base

8.3. Machining the threaded metal piece

The threaded metal insert needs to be made on which the bulb & lamp shade holder would be placed. The threading needs to be just of around a centimetre to allow the bulb holder to snugly fit.

8.3.1. Cutting a metal rod

At first a rod of 3 inches is cut. One inch goes into holding the piece in metal lathe chucks. The remaining two inches are worked on. After working on the piece, two one inch pieces would be cut to fit into each individual lamp.

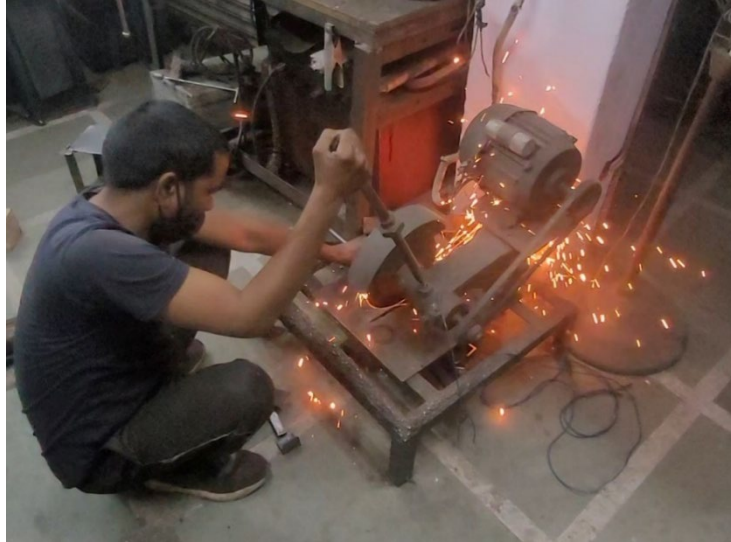


Figure 8.9 Cutting metal rod

8.3.2. Fixing metal rod piece in chucks

The rod is fixed in metal lathe chucks to ensure smooth operations.

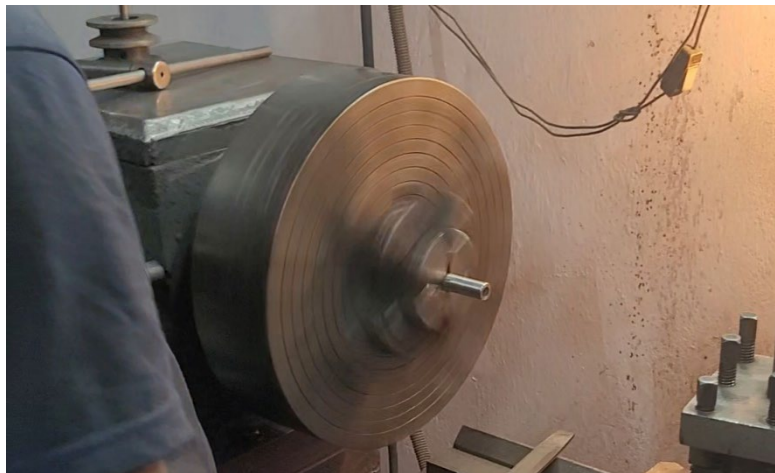


Figure 8.10 Chucking metal rod onto lathe

8.3.3. Turning the rod

The metal rod is turned slowly & gradually to achieve the desired diameter & cross section. This process also scraps of the rust, uneven surface & dirt out of the piece.

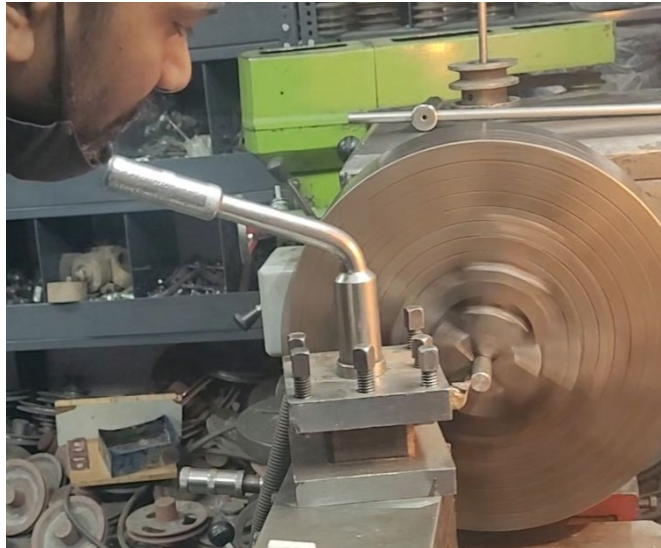


Figure 8.11 Turning of metal piece

8.3.4. Performing drilling operation

The drilling operation generates a lot of heat, so, the drill bit was repeatedly penetrated as well as removed to prevent excessive heating. The turner was squirting some water via a bottle with small holes on the cap over the metal piece to effectively cool it.



Figure 8.12 Drilling operation

8.3.5. Sanding and buffing for shine

The surface was scratched against a file then a sand paper to achieve shiny desirable surface. Few drops of oil were also applied on the sand paper to prevent abrupt scratches on piece.

Table 8.1



Figure 8.13 Filing metal piece



Figure 8.14 sanding metal piece

8.3.6. Chamfering hole entrance via drill press

It is necessary for the piece to be chamfered before a threading tap inserted to carve threads. The chamfering allows smooth entry for the tap bottom.



Figure 8.15 Chamfering metal piece using the drill press

8.3.7. Threading

A specialised threading tap of 300rs was purchased via a tooling shop to perform this operation. The tap comes in 3 pieces, the turner uses the taps according to the complexity of operations.



Figure 8.16 Threading taps



Figure 8.17 Threading operation

8.4. Inserting the metal piece into wooden body

The metal piece is hollowed as well as threaded which would allow the bulb holder to be placed properly as well as allow the electric wires to pass through properly.

Placing the piece rightly in the middle of the lamp body to so that it is hammered rightly into the cavity without damaging it.

8.4.1. Hammering metal piece into position

A heavy metal pipe along with hammer is used to strike the piece into cavity. The metal pipe reduces the impact of hammer acting as a mallet.



Figure 8.18 Hammering metal insert

8.5. Shellac work

This is the most intricate part of the process as two different materials come into harmony to create a single piece. It took 3 hours for the artisan to execute shellac inserts into the wooden body, which indicates the amount of labour & skill which went into creating the pieces.

8.5.1. Preparing shellac

Older leftover broken bangle pieces are melted together with new shellac block. Shellac is recyclable & reusable. This indicated the sustainable nature of our traditional Indian handicraft practices.



Figure 8.19 Shellac melting & preparing process

8.5.2. Adding the yellow pigment for base

Adding yellow pigment over shellac block to create base of the bangle. The pigments are created from lacquer using a different technique.



Figure 8.20 Adding yellow pigment onto shellac base

8.5.3. Adding multi colour pattern lines

Various colour pigments including gold, white, dark green, maroon & baby pink are applied over the shellac base in similar manner as above chronologically to create a pattern.



Figure 8.21 Drawing wires of multiple colour of pigments

8.5.4. Heating & spinning

The base block is extruded via heating it on the coal stove. Gravity is used to create tension & stretching.



Figure 8.22 Heating & spinning shellac base

8.5.5. Rolling & drawing into a longer cylindrical section

The shellac section is drawn as per the thickness required to create bangles. In this case it is drawn according to the thickness of the grooves on wooden lamp body. Flattening tool was used to perform this operation.



Figure 8.23 Drawing into smaller cylindrical section

8.5.6. Cutting according to groove measurements

Three cylindrical sections of the length approximately equal to the circumference of the grooves are cut. Now these are ready to be wrapped around the grooves.



Figure 8.24 Cutting sections according to groove circumference

8.5.7. Heating individual grooves with cigarette lighter

For better sticking, the artisan heats each individual groove before applying shellac over it using a cigarette lighter on high flame setting. Pieces of burning coal were placed over the grooves for them to heat better allowing shellac to stick aptly with the wooden surface. When the coal pieces were not found enough to heat all the grooves efficiently & faster, cigarette lighter was used.

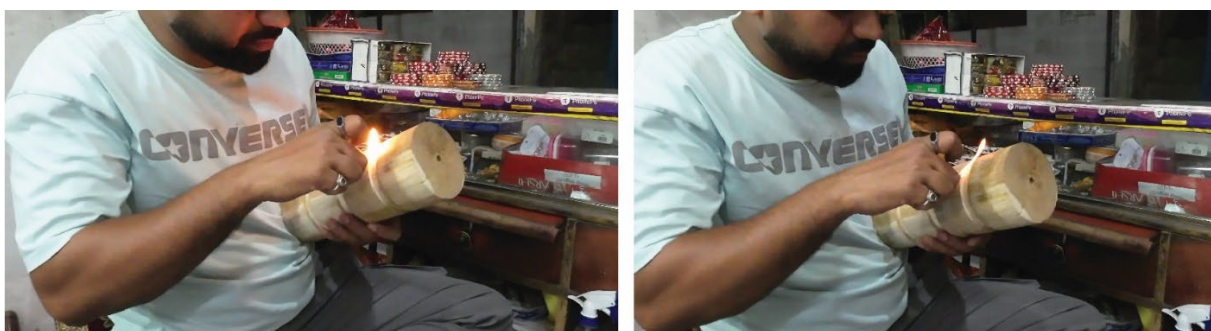


Figure 8.25 Heating grooves using a cigarette lighter

8.5.8. Fitting shellac into grooves and cutting the excess part

A wire culler was used to cut the excess cylindrical shellac section.



Figure 8.26 Cutting excess shellac part

8.5.9. Heating the ends of shellac cylindrical section

The ends are heated over the stove to be joined after wrapping around the grooves.



Figure 8.27 Heating shellac ends

8.5.10. Placing shellac into grooves

Now accurate length is wrapped around the grooves and ends are joined. The processes were iterated over and over to snugly fit the shellac. In the first few attempts the artisan failed to do

that but soon in few iterations he achieved to do that. This kind of work was new for him, so, he also ideated new techniques to execute the task in hand.



Figure 8.28 Placing shellac into grooves

8.5.11. Heating the entire wooden piece

Once all the grooves were filled with shellac, the entire piece was heated over coal stove to prepare it for the next phase which is rolling. In rolling the shellac surface would match the wooden piece's surface levelling leaving no visual bulge.



Figure 8.29 Heating entire wooden piece

8.5.12. Inserting spinning driver for aiding even heating of the wooden piece

A screw driver like tool was used to put the metal shaft inside the hole of wooden piece and it was rolled over the hot coal stove.



Figure 8.30 Spinning wooden piece over coal stove

8.5.13. Rolling on a flat surface

The artisan rolled the piece over the small steel work station in front of him. The steel sheet also stays hot as it is in close proximity of the stove which allows for effective rolling.



Figure 8.31 Rolling the lamp body on flat steel workstation

8.5.14. Rubbing with cotton towel to bring shine on the applied shellac

Finally, the shellac has been successfully inserted in the groves. Now to bring about good shine on shellac, the shellac part is rubbed against a cotton towel. This really enhances the shine on the shellac by a lot.

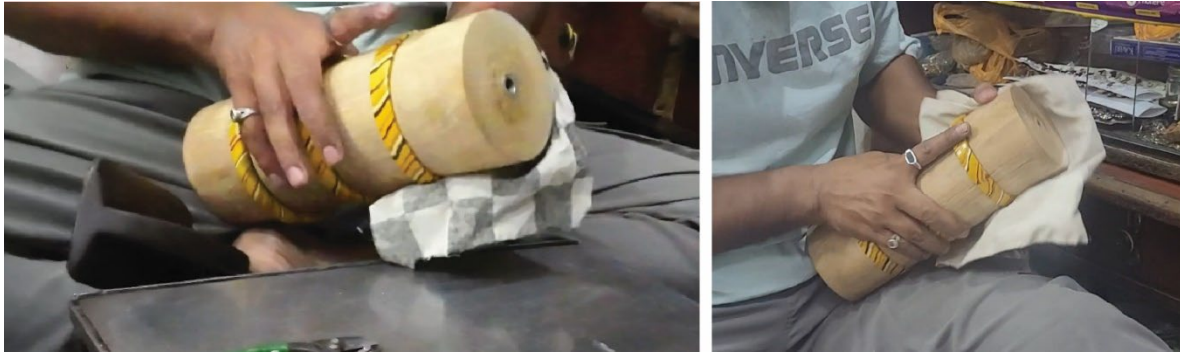


Figure 8.32 Rubbing shellac part with cotton towel to bring shine

8.5.15. Repeating the same procedure for another lamp body piece

This lamp body had a different shape and the shellac inserts had white & cherry red pattern.



Figure 8.33 Final step of cherry red piece

8.6. Correcting the mistake of threaded metal insert

The metal insert that was hammered had no protruding visible shaft out of the wooden piece which was not visually desirable.

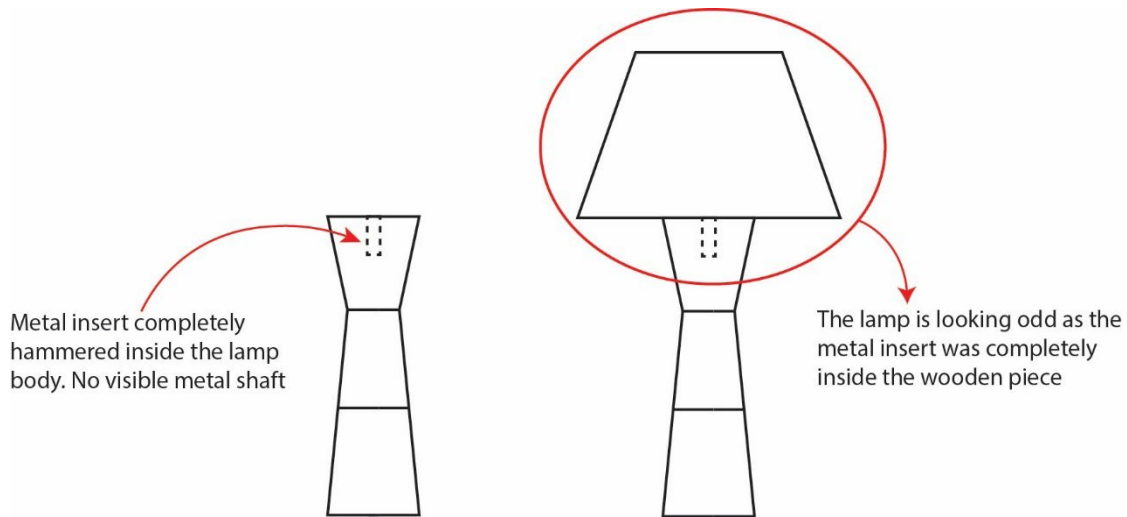


Figure 8.34 Lamp aesthetic without outward metal rod extrusion

New metal threaded insert needs to be made which have 2 inches of metal piece exposed outside of the wooden body to enhance the visual aesthetic.

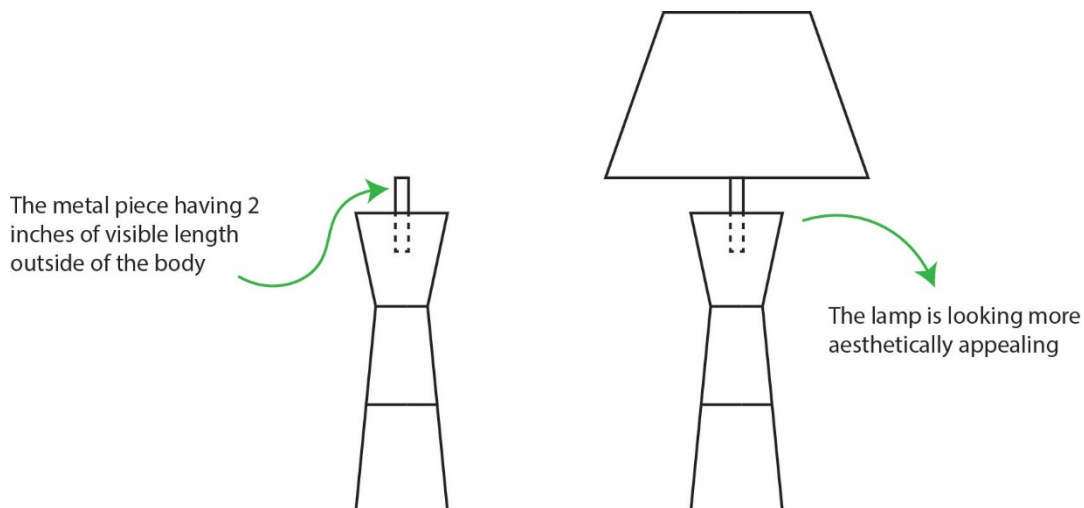


Figure 8.35 Lamp aesthetic with 2 inches of outward metal rod extrusion

8.6.1. Metal pieces of desired length are successfully installed



Figure 8.36 Photo with technician

8.7. Varnishing & painting

I was clueless about the painting process. I couldn't find any relevant guide online as well. I blankly went to a hardware paints shop. Luckily, there I met an expert painter. He guided me through the wooden painting process & suggested me the list of things required for my individual case. I thanked him a lot. Truly he was God sent man. I regret not taking a picture with him, I felt embarrassed to ask for a picture with him.

List of things- Primer, black pigment, black spray paint, paint brush, varnish & turpentine oil.

8.7.1. Black lamp piece

The process for both the lamp pieces are different. One is a black coloured piece while other is a natural wood textured piece.

8.7.1.1. Applying masking tape

Masking tape was applied over the shellac part to prevent it getting affected from paint. A cutter was used to cut the overlapping part & push inside the curves of shellac inside the grooves to prevent any paint drop from seeping in.



Figure 8.37 Applying masking tape

8.7.1.2. Preparing primer

50 ml of primer was mixed with turpentine oil to reduce its density. Later when the consistency of primer was apt, a black pigment was added in it. Adding a black pigments creates a easier base for the black paint to sit on rather than a completely white base.



Figure 8.38 Preparing primer

8.7.1.3. Applying 3 coats of primer

Keeping drying interval of 6 hours, 3 coats of primer were applied to ensure the pores of wood surface were filled properly. With every coat of primer, after drying, the surface was sanded for more even applying of a new coat.



Figure 8.39 Applying primer over wooden surface

8.7.1.4. Applying 3 coats of spray paint

Spray paint was applied by placing the wooden piece 2 feet apart and spraying by continuously moving the paint can up & down. An interval of 4 hours between each consecutive coat was kept in order to ensure proper drying of every coat. Bulging areas of surface due to dried paint drops were sanded using sand paper to ensure even surface for each consecutive layer.



Figure 8.40 Spray paint

8.7.2. Working on the cherry red piece

This piece is different from the black lamp piece. The body of this lamp has to show natural wood texture revealing natural grain structure of the wood. So, there is no process of painting

done on this piece. Layers of a standard wood varnish “Asian paints Touchwood” were applied over the wooden lamp body to bring about good amount of shine.



Figure 8.41 Varnishing cherry red piece



Figure 8.42 Varnish used

9. Final presentation at the “Design Degree Show 2024”

As shown in figures 9.1, 9.2 & 9.3 the presentation of the lamp project at the design degree show on the 29th of April 2024. The presentation board laid out the entire design process, from initial concept sketches and mood-boards to the final lamp prototype, illustrating the evolution of ideas and materials. The project aimed to strike a balance between honouring traditional craftsmanship and embracing contemporary design elements. The finished lamp, which is both practical and visually compelling, captured the audience's interest with its unique combination of cultural heritage and modern design aesthetic.



Figure 9.1 Full display panel with lamp



Figure 9.2 Demonstration of panel info to visitors



Figure 9.3 Lamps close up picture

10. Conclusion

In conclusion, the project has revealed into the synthesis of contemporary woodworking technology with Rajasthani shellac bangle making that produced one-of-a-kind lighting solution. Its goal was to maintain traditional craftsmanship spirit while incorporating current design trends for current market appeal. By going through research, trials and corrections; finally reached the lamp design which served as both a functional item and a creative combination of cultural background with contemporary aesthetics. This project highlights how sustainable, culture specific designs can still be relevant in today's business world by connecting past and present in a more significant way.

More so than the project deliverables, this voyage has tremendously contributed to my knowledge. This has broadened my understanding of woodworking through natural materials and enhanced my appreciation for shellac craftsmanship's sophistication. Combining these techniques was a challenge that stimulated critical thinking in me, as well as improved my creative abilities and technical know-how. In this respect, I have realized that merging old and new is crucial while at the same time learning that there are many ways to mix tradition together with contemporary design.

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