

Exploring handicraft in designing interiors of autonomous luxury vehicles

Submitted in partial fulfilment of the requirements
of the degree of

Masters of Design

By

Sudhanshu Ranjan
22M2291

Supervisor:

Prof. Unni Mohan and Prof. Sridhar Mahadevan



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

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Sudhanshu Ranjan

22m2291

Date:

Mobility and Vehicle Design

IDC School of Design, IIT Bombay

APPROVAL SHEET

This Mobility & vehicle design project report entitled "Exploring Indian handicraft in designing interiors for autonomous luxury vehicles" by Sudhanshu Ranjan is approved in partial fulfillment of the requirements for Master of Design degree in Mobility and vehicle design.

Project Guide -



Chair Person -



Internal Examiner -



External examiner -



Date -

Place -

Exploring Indian craft industry in designing interiors for autonomous luxury vehicles

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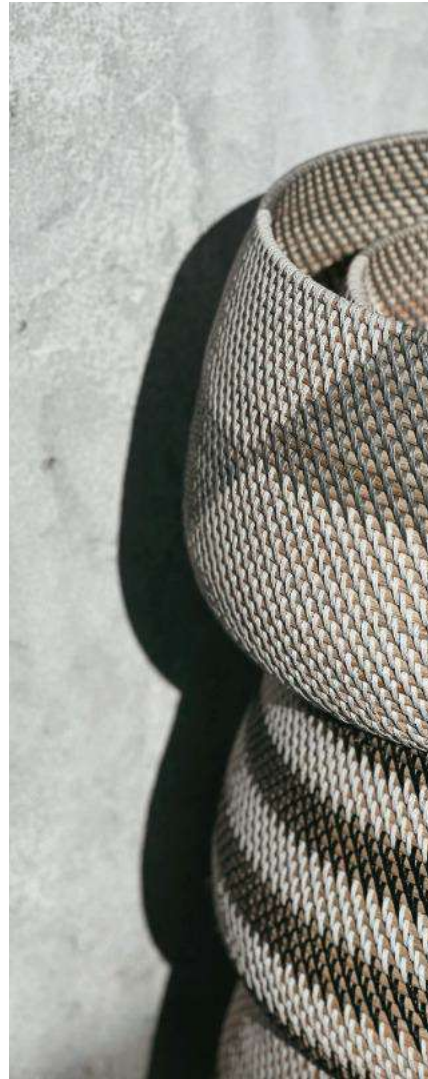
1. INTRODUCTION

The fusion of tradition and innovation is at the heart of modern design, and nowhere is this more evident than in the evolving landscape of luxury autonomous cars. In a world where technology is rapidly advancing, there is a growing desire to preserve and celebrate cultural heritage.

This project, *Exploring Indian Handicrafts in the Interiors of Luxury Autonomous Cars*, aims to bridge the gap between India's rich artisanal traditions and the cutting-edge design of autonomous vehicles. By integrating intricate Indian handicrafts into the interiors of these futuristic vehicles, we seek to create an immersive and culturally resonant experience for passengers, elevating the concept of luxury to one that is not only about comfort and convenience but also about a deep connection to heritage and craftsmanship.

Through this exploration, the project envisions a new paradigm in automotive design, where each journey becomes a celebration of India's artistic legacy, seamlessly woven into the fabric of tomorrow's mobility solutions.

Why this **Project**?



By integrating Indian crafts, my aim to create an interior that goes beyond mere functionality. The intricate details, vibrant colors, and rich stories embedded within each craft element would elevate the user experience, offering a sense of comfort, cultural immersion, and exclusivity.

- **Celebrating Indian Heritage:** This project goes beyond just design. It's a celebration of India's rich heritage. By showcasing Indian crafts in a global arena.
- **Exploration:** By this project i intend to explore how Indian handicraft can be amalgamated with current design trends so that we can imagine a new concept that fuels and promotes Indian rich artistry.
- **Innovation:** My vision for the future is where cutting-edge technology meets timeless artistry. My project explores the possibilities of seamlessly integrating Indian crafts into the futuristic setting of autonomous vehicles, pushing the boundaries of design innovation.

Image source - Unsplash

1. Why Explore **Indian Craft** Now?



The global luxury market is increasingly seeking authenticity and bespoke experiences. Indian craft, with its unparalleled artistry and diverse techniques, presents a fresh and exciting alternative to existing design trends.

- **Uniqueness:** Indian crafts offer a vast array of materials, textures, and colors not readily found elsewhere. From intricate metalwork to hand-woven textiles, these crafts can infuse the interiors with a distinct character.
- **Timeless Appeal:** The techniques and motifs employed in Indian crafts have been passed down for generations, offering a sense of heritage and cultural significance.
- **Storytelling:** Each piece of Indian craft carries its own story, reflecting the skills and traditions of its maker. This storytelling potential can add depth and meaning to the vehicle's interior design.

Image source - Unsplash

2. How is Indian Craft Different ?



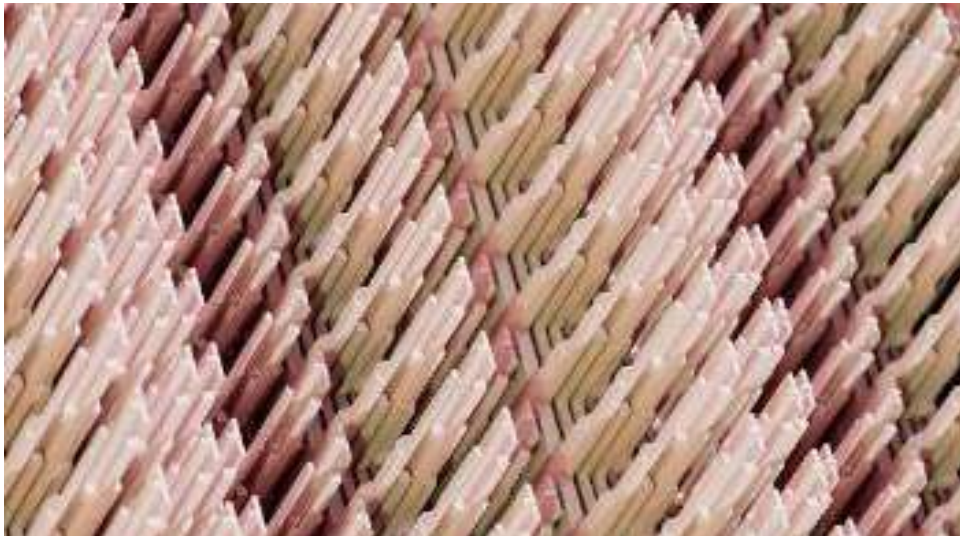
Figure 2.1 - Craft map of India

India is a vast country with a multitude of ethnicities and traditions. This translates into a staggering variety of regional craft styles, each with its own distinct visual language. This regional diversity offers a wider range of design options for incorporating into autonomous luxury vehicles.

Indian handicraft stands out for several reasons -

- **Diversity:** From the intricate embroidery of Kashmir to the vibrant silk weaving of Kanchipuram, India boasts a wide range of regional craft styles, each with its own distinct visual language.
- **Sustainability:** Many Indian crafts employ traditional, eco-friendly methods using natural materials like wood, metal, and textiles. This aligns with the growing focus on sustainability in the luxury sector.
- **Skill:** Indian artisans possess exceptional skills honed over generations, resulting in exquisite handwork and meticulous detailing.

3. Can **Indian Handicraft and Craftsmanship** in Mobility Provide an Identity of its Own?



Indian handicraft and craftsmanship have the potential to provide a distinct identity for autonomous luxury vehicles, setting them apart from the generic offerings in the global market. Here's why-

- **Customization:** Indian crafts offer immense potential for customization. Luxury vehicles can be tailored to individual preferences by incorporating handcrafted elements
- **Cultural Expression:** By integrating Indian crafts, autonomous vehicles can project a unique identity that celebrates India's rich heritage.
- **Sense of Place:** For autonomous vehicles designed for specific regions within India, incorporating local crafts can create a strong sense of place and connection to the surrounding environment.

Image source - Unsplash

4. What do we think of **Indian Handicraft** ?



- **Decorative Items Only:** Some might view Indian handicrafts as purely decorative, lacking the functionality or durability expected in a luxury car.
- **Exclusive item:** Indian crafts are often one-of-a-kind or limited edition pieces, increasing their value over time. This aspect adds to the exclusivity.
- **Stuck in the Past:** There's a misconception that Indian crafts are stuck in the past, unable to adapt to modern design aesthetics.
- **Not Luxurious Enough:** Indian crafts might be seen as too rustic or traditional to be considered truly luxurious compared to high-end materials like leather or polished metals.

Image source - Unsplash

4.1. What **Indian Handicraft** actually is



Indian handicraft refers to objects handmade by skilled artisans using traditional techniques passed down through generations. These crafts are as diverse as India itself, with every region boasting its own specialty.

- **Handmade:** Created by skilled artisans using traditional techniques.
- **Diverse:** Varies greatly by region, reflecting local styles and materials.
- **Material Rich:** Utilizes natural elements like wood, metal, textiles, and clay.
- **Functional & Beautiful:** Creates objects for daily use that are also aesthetically pleasing.
- **Cultural Heritage:** Embodies the traditions and stories of India.

Image source - Unsplash

5. Story of **Karim**



State of Affairs

Karim runs a small shop filled with handcrafted cane furniture, he uses traditional tools and techniques to produce cane furniture's and he shows his skills by creating furniture in which no two forms are same.



Driven by passion

Karim has practiced the art for 25 years, started at the age of 14. Wishes to carry on his legacy even with his offspring's and also carry on his deep tradition that he learned from his father.



Detailed craftsmanship

He produces cane weaved furniture's and baskets. People admire but rarely buy. Mass-produced furniture floods the market, leaving Karim's craftsmanship undervalued.

5. Story of a **Karim**



Family's involvement

Karim has indulged his whole family in this business and works with everyone to produce 1 artifact wherein every individual of the family is tasked with a set of task to carry out.



Market Competition

Due to many people from the same community the whole market is flooded with cane handcrafted artifacts and thus it has made the competition in the market tuff for Karim and he finds it hard to continue his business as it questions his survival in the market.



His Son

Imran his son, dreams of a "modern" life. The workshop, once a source of family pride, now seems a space of fading dreams.

5.1. Takeaways from **Karmin's** story ?



Identity of Indian handicraft

We are losing a whole identity of Indian handicraft as we are not intending to use it beyond its generic purpose.

Uniqueness and Detail

Handicraft allows for intricate details and one-of-a-kind touches that are difficult, if not impossible, to achieve with mass production. This can lead to truly special design elements that set a car apart.

Exploration of Materials

Artisans often work with a wider variety of materials than what's typical in car manufacturing. This could include wood, leather treated with unique techniques, or even woven elements. These materials can bring warmth, texture, and a sense of craftsmanship to a car's interior.

Sustainable Practices

Handicraft often aligns with sustainable design principles. Artisans frequently use recycled or reclaimed materials and traditional techniques that minimize waste.

6. Automotive sector and Handicraft “the middle ground”



While mass production limits handcrafted details in cars, a middle ground exists. Focusing on interior accents or offering limited customization with handicraft techniques adds value without breaking the bank.

Collaboration with material artisans and using sustainable materials further elevate design and eco-friendliness. This approach creates distinctive, appealing cars that celebrate tradition in a modern way.

Image source - Unsplash

6.3. Different Handicraft in India



Embroidery

Phulkari practiced in Punjab

Material used

Silk, satin, cotton, khadi

Process

- Fabric Preparation: Stretch silk, satin, or cotton fabric taut on a frame.
- Design Transfer: Mark intricate geometric and floral patterns onto the fabric.
- Embroidery: Using satin stitch, meticulously embroider the patterns onto the fabric.
- Mirror work (Optional): Add mirror work for extra sparkle and cultural symbolism.

Key Features

- Rich use of floral motifs, satin stitch embroidery, mirror work

Modern Alternatives with same Technique

Recycled polyester, bamboo fibers, metallic threads , optical fibres

Potential Car Applications

Seat covers, door panels, headrests, steering wheel covers

6.3. Different Handicraft in India



Embroidery

Kantha practiced in West Bengal

Material used

Recycled cotton fabrics

Process

- Fabric Selection: Choose recycled cotton fabrics with rich textures and colors.
- Layering: Layer multiple fabric pieces together, creating a thick and textured base.
- Running Stitch: Use the running stitch technique to stitch all the layers together, forming beautiful narrative and geometric patterns.

Key Features

Leather scraps, recycled wool felt, organic cotton blends

Modern Alternatives with same Technique

Recycled polyester, bamboo fibers, metallic threads , optical fibers.

Potential Car Applications

Floor mats, armrests, dashboard covers, sun visors, Seats

6.3. Different **Handicraft** in India



Metalwork

Bidri practiced in Karnataka

Material used

Black metal (usually zinc or alloy), silver Inlay

Process

- Base Preparation: Polishing a black metal (zinc or alloy) base to achieve a mirror-like finish.
- Design Etching: Carefully etch intricate designs onto the polished surface using sharp tools.
- Silver Inlay: Cut thin sheets of silver and meticulously inlay them into the etched grooves.
- Heating & Polishing: Heat the piece to secure the silver, then polish to a shined finish.

Key Features

Intricate floral and geometric patterns.

Modern Alternatives with same Technique

Other metals like brass

Potential Car Applications

Air vent covers, cup holders, door handles, dashboard accents, etc

6.3. Different **Handicraft** in India



Metalwork

Silver Filigree practiced in Odisha

Material used

Fine silver threads

Process

- Wire Drawing: Drawing silver into incredibly thin threads under metal presses.
- Wire Bending & Twisting: Skilled artisans shape the thin wires into intricate patterns using their fingers and tools.
- Soldering/Gluing: Secure the shaped wires together using soldering or specialized glue.

Key Features

Filigree jewelry, decorative items, intricate floral and geometric designs

Modern Alternatives with same Technique

copper wire, gold , brass

Potential Car Applications

Air vent grills, speaker grilles, control panel accents, cup holder inserts

6.3. Different **Handicraft** in India



Woodcraft

Saharanpur Woodwork practiced in Uttar Pradesh

Material used

Sheesham wood (Indian rosewood)

Process

- Wood Selection: Sheesham wood with desirable grain and texture is chosen.
- Design Transfer: Desired design is drawn onto the wood surface.
- Carving: Expertly use chisels and hammers to carve out the design.
- Sanding & Polishing: Smooth out the carved surface with sandpaper and polish it to a lustrous finish.

Key Features

Traditional geometric and floral patterns and details.

Modern Alternatives with same Technique

Sustainable bamboo, recycled wood composite, reclaimed wood with resin casting

Potential Car Applications

Door panels, dashboard trim, center console, steering wheel inserts

6.3. Different **Handicraft** in India



Leathercraft

Jawaja leather practiced in Rajasthan

Material used

Embossed and decorated leather bags, wallets, and jackets.

Key Features

Used to make durable and stylish accessories.
They use traditional motifs and geometric patterns.



Kolhapuri Chappals practiced in Maharashtra

Material used

They handcraft leather to make a chappal.

Key Features

They use traditional designs and natural colors



Charma karya practiced in Gujarat

Material used

They weave and handcraft leather to make bags , belts .

Key Features

They use traditional weaving techniques to make leather products.

6.3. Different **Handicraft** in India



Weavecraft

Bamboo craft practiced in North-Eastern states of India

Material used

Strips of bamboo are used and woven to form baskets.

Key Features

Used to make durable and stylish accessories

They use traditional motifs and geometric patterns.

Cane craft practiced in Assam, Tripura, and Kerala

Material used

Cane is derived from the rattan palm, which grows abundantly in tropical regions,

Key Features

There are several types of cane used in craft, each varying in thickness, flexibility, and color.

Dyes derived from natural sources like plants, roots, and minerals are used to color the cane.

6. Automotive sector and Handicraft “the middle ground”



While mass production limits handcrafted details in cars, a middle ground exists. Focusing on interior accents or offering limited customization with handicraft techniques adds value without breaking the bank.

Collaboration with material artisans and using sustainable materials further elevate design and eco-friendliness. This approach creates distinctive, appealing cars that celebrate tradition in a modern way.

Image source - Unsplash

6.1. Introduction of **Handicraft** in Automotive sector



Image source - Unsplash

Limited-Edition or Concept Cars

Luxury or concept cars could leverage handicraft for unique design features, creating a halo effect for the brand.

Collaboration with Artisans

Automakers could collaborate with artisans to develop unique materials, finishes, or even one-off interior components for special editions.

Customization Options

Car manufacturers could offer limited customization options using handicraft techniques, allowing customers to personalize specific interior elements like upholstery stitching or trim pieces.

6.4. Bespoke design in Automotive sector



Image source - Unsplash

Bentley

Founded in 1904, prioritized "best that exists & making it better," handcrafted everything for exclusivity & quality.

Merged in 1965, combined expertise to bolster commitment to artisanal techniques.

Beyond Aesthetics they represent attention to detail, meticulous processes, and the dedication of skilled artisans.

They utilize laser cutting and computer-aided design for precision while respecting traditions.

Rolls Royce

Founded in 1919, focused on performance & sporting luxury, embraced traditional interior craftsmanship with wood, leather, & bespoke touches.

Bespoke options allow customers to create unique interiors reflecting their individuality.

Incorporating sustainable materials and practices for responsible sourcing and production.

6.4. Bespoke Design in Automotive sector



Bentley



Rolls Royce



Bentley



Rolls Royce

Handcrafted parts in Automotive Sector

Wood Veneering

Materials

Fine woods like burr walnut, piano black lacquer

Process

Timber sourced from sustainable forests, sliced into ultra-thin sheets.

Hand-applied and matched for grain patterns, painstakingly polished.

Interior Areas

Door panels, dashboards, consoles, steering wheels

Leatherwork

Materials

Full-grain cowhide in various textures and colors , Suade , Alcantara , carhmere

Process

Hides sourced from specific regions.

Hand-cut and stitched, intricate diamond quilting or contrasting piping patterns applied.

Interior Areas

Seats, door panels, headliners, armrests, consoles

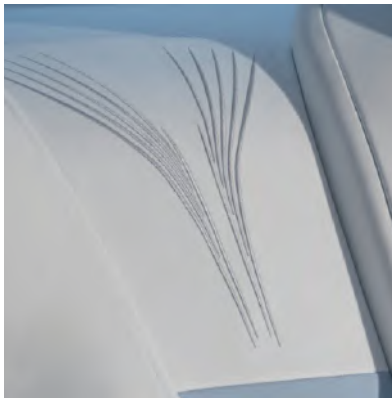
6.4. Handicraft in Automotive sector



Bentley



Rolls Royce



Bentley



Rolls Royce

Handcrafted parts in Automotive Sector

Metal Work

Materials

Chrome, brushed aluminum, gold accents , copper

Process

Metal components hand-sculpted or machined. Knurled knobs created using a rolling tool. Item is then polished to a give a glossy finish.

Interior Areas

Air vents, speaker grilles, buttons, knobs, trim accents

Embroidery & Quilting

Materials

Silk, wool, metallic threads

Process

Designs hand-stitched onto headliners, door panels, or seats, intricate motifs can depict family crests, landscapes, or personal stories.

Interior Areas

Headliners, door panels, seats, backrest cushions

6.4. Handicraft in Automotive sector

MOP Inlays



Rolls Royce



Metal and Gem inlays



Rolls Royce



Hand painting wood veneers



Rolls Royce



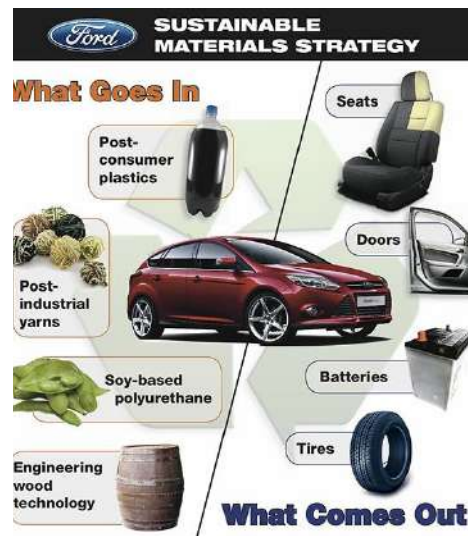
Enamel patterns



Bentley



6.2. Some Stats



Consumer Awareness and Demand

70% of Indian consumers are interested in connected car features like safety and convenience services (Source: Mahindra Group, 2022).

Market differentiation

A different line of niche custom cars produced by Rolls Royce , Bentley and Mercedes.

Artistic Expression in Vehicle Customization

The Indian aftermarket industry for automobiles is estimated to be worth ₹48,000 crore (US\$6.5 billion) as of 2023 and is expected to reach ₹98,000 crore (US\$13.4 billion) by 2027, growing at a CAGR of 14.3%. (Source: FISITA)

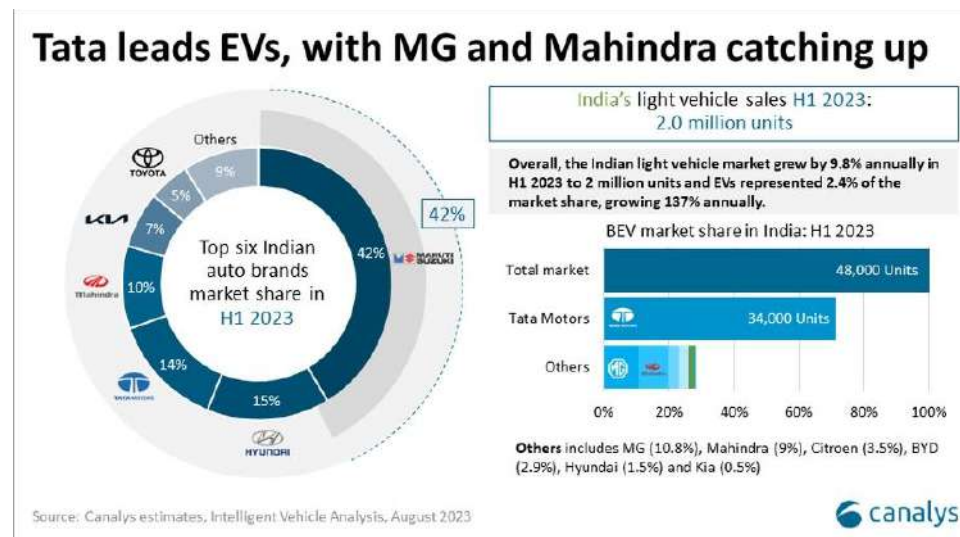


Image source - Unsplash

7. Indian Handicraft and Mobility



Royal Enfield - Metal casted Emblem

Indian handicraft, known for its intricate details and regional variations, hasn't found a place in car design due to challenges. Mass production in the auto industry clashes with the slow, handmade nature of these crafts. Additionally, ensuring components meet safety and durability standards can be difficult with traditional handicraft techniques.

Scalability: Handicraft techniques are slow and can't be easily mass-produced, which is essential for car manufacturing.

Durability & Safety: Meeting car safety and durability standards can be difficult with some traditional handicraft materials and techniques.

8. Weaving as a Handicraft in India



The intricate art of weaving offers a treasure trove of possibilities for the automotive sector. Unlike mass-produced materials, woven textiles boast unique textures, patterns, and regional flair, injecting a touch of individuality into car interiors.

Elevated Aesthetics: Hand-woven elements like seat inserts or door panels can significantly elevate a car's interior design, making it feel more bespoke and luxurious.

Texture and Patterns: Weaving, especially cane and bamboo weaving, offers unique textures and patterns that can be both intricate and elegant. These elements add a tactile dimension to the vehicle's interior, enhancing the visual and sensory experience.

Storytelling and Personalization: Collaboration with weaving artisans allows for incorporating regional motifs, cultural symbols, or even personal designs into the car's woven elements. This creates a unique narrative and a sense of personalization for the owner.



Image source - Unsplash

8.1. Why **Weaving** as a Handicraft specifically for this project



Celebrating Craft

Integrating woven handicraft into car design highlights the artistry and skill behind traditional techniques. This elevates the perceived value of the car and fosters appreciation for cultural heritage.

Material Diversity

Weaving incorporates various natural materials like leather, silk, wool, jute, and bamboo. These materials can be surprisingly durable and lightweight, contributing to a car's comfort and potentially even its eco-friendliness.

Sensory Appeal

Woven textures add a tactile dimension to car interiors, creating a more engaging and luxurious experience for passengers.

Image source - Unsplash

8.1. Weave craft with cane and bamboo



Image source - Unsplash

Aesthetic Appeal and Design Versatility

Visual Texture and Patterns

Weaving, especially cane and bamboo weaving, offers unique textures and patterns that can be both intricate and elegant.

These elements add a tactile dimension to the vehicle's interior, enhancing the visual and sensory experience.

Customization Options

Weaving allows for a high degree of customization in terms of color, pattern, and design.

This versatility is crucial for luxury markets where personalization is a key aspect.

Strength and Resilience

Cane and bamboo are known for their strength and resilience. When treated properly, these materials can withstand the rigors of automotive use, ensuring longevity and maintaining aesthetic appeal over time.

8.1. Different weaving patterns



Jaapi Weaving

Jaapi is a traditional conical hat made from bamboo and cane strips.

The weaving pattern typically features intricate geometric designs, often in vibrant colors.

Jaapi weaving is not only a craft but also an integral part of Assamese culture, symbolizing hospitality and respect.



Kerela Mat Weaving

These mats are traditional floor mats made from split bamboo strips in Kerala.

The weaving pattern typically features alternating colors or shades, creating a visually appealing checkerboard effect.

These mats are commonly used in households and temples.

Image source - Unsplash

9. Collaboration with **Artisans**



I collaborated up with a talented cane artisan to explore how their beautiful craft could translate into car design.

Together, we created mockups, experimenting with various weaving techniques to see how cane could be incorporated into different car elements. This collaboration opened my eyes to the exciting possibilities of integrating traditional handicraft with modern automotive design.

This project not only yielded innovative design ideas but also fostered a deep appreciation for the artistry and potential of integrating tradition with modern car design.



9.1. Mockups

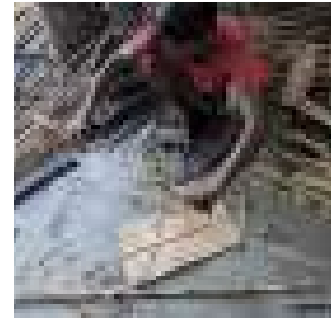
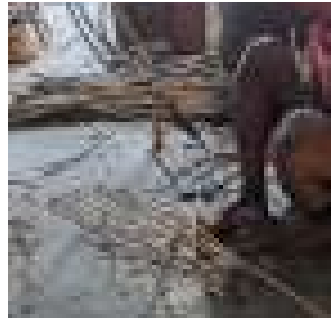


For this mockup the general idea was to create different parametric forms and learn how things can be joined and attached and also know the limitations of the cane strand.



For this mockup i tried to know how bamboo mat can be bent and molded around a geometric shape to get a desired form and result such that the shape edges remains intact.

9.1. Mockups



For this mockup I tried to see how and till what degree a cane strand be bent to get any organic form also combined with the mockup of form 1 where its woven to make a weaving pattern.



For this mockup i tried to create a organic and flowing structure that can be weaved around with a mat cane.

9.1. Mockups



For this mockup i tried to combine multiple forms of weaving pattern together in one single piece to get the desired output.



9.2. My Learnings



- The potential of cane handicraft for creating unique and visually appealing car interiors.
- The versatility of cane weaving techniques in shaping and forming different forms.
- The importance of collaboration between artisans and designers for innovation in car design.
- The possibility of integrating traditional handicraft with modern automotive design principles.
- The value of appreciating and leveraging cultural heritage in car design.

10. Insights

Market Differentiation: Handicraft in car design creates unique, eye-catching interiors that stand out from the competition.

Association with Luxury: Handcrafted elements elevate a car's perceived value and imbue it with a touch of luxury.

Untapped Market Potential: Integrating traditional handicraft like weaving offers a fresh, unexplored design direction for the automotive industry.

Diversity of Indian Handicraft: The vast range of Indian handicraft styles provides endless possibilities for creating car interiors with a distinct cultural identity.

Personalized Experience: Car designs incorporating weaving handicraft can be customized with specific weaving patterns or colors, offering a more personal touch for the owner.

11. Why a **Context of luxury and handicraft**



To truly merge handicraft and mobility today, car design needs to tell a uniquely Indian story. Customization options using traditional techniques and regional motifs allow for a personal touch.

This, alongside showcasing Indian craftsmanship globally, fosters cultural pride. Finally, blending innovation with heritage is key.

Uniquely Indian Experience: Today's consumers crave authenticity and experiences that differentiate them. Handicraft in car design offers a unique connection to Indian heritage, creating a car that feels special and tells a story.

Customization and Personalization: Modern car buyers seek options that reflect their individuality. Handicraft allows for customization - the use of specific weaving patterns, regional motifs, or even the owner's initials woven into the design.

Showcasing Indian Craftsmanship to the World: The global market is increasingly interested in products that celebrate heritage and cultural traditions.

11.1 Hermes x Bugatti



Bugatti, renowned for its luxury automobiles, collaborated with Hermès, the esteemed French luxury fashion house, to create a limited edition of the Bugatti Chiron.

This collaboration aimed to blend the exquisite craftsmanship of Hermès performance and design of Bugatti, resulting in a vehicle that epitomizes automotive luxury and sophistication.

Custom Interiors: Hermès infused its signature craftsmanship into the interiors of the Bugatti Chiron, offering bespoke leather upholstery, hand-stitched details, and luxurious finishes.

Artisanal work: Hermès' expertise in leatherwork and handcrafted accessories added artisanal touches to the Bugatti Chiron, elevating its interior to a new level of luxury.

Exclusive Materials: The collaboration incorporated Hermès' finest materials, including premium leathers, exotic woods, and precious metals, to create a truly bespoke experience.

11.1 Brands & handicraft



Lexus LS 500h - Nishijin & Kiriko Glass

Traditional Craft Techniques: Lexus incorporated traditional Japanese Nishijin brocade and Kiriko cut glass into the interior of its LS 500h model. This case study demonstrates how traditional textile and glass techniques can be adapted for modern automotive use, providing a blueprint for incorporating Indian weaving.

Genesis GV80

Genesis vehicles feature hand-stitched leather upholstery, which enhances the feeling of luxury and attention to detail. Artisans meticulously craft the seats, steering wheel, dashboard, and door panels, ensuring that each stitch is perfect.



12. Present Design Trends



Lexus LF30 electrified



Mercedes-Benz EQS Hyperscreen

Sculpted Surfaces

Users

- Luxury and design-conscious buyers.
- People looking for new experiences.

Experience

- Desire for visually dynamic interiors.
- Personalized spaces

Floating screens and Displays

Users

- Tech-savvy (enthusiasts).
- Early adopters of such tech.

Experience

- New Experience.
- Demand for personalization

12. Present Design Trends



Volkswagen ID. Buzz

Minimalist Aesthetics

Users

- Those valuing simplicity and order.
- Design-forward consumers

Experience

- Desire for a clean and sophisticated visual appeal.



BMW XM concept

Asymmetric layout

Users

- Design enthusiasts.
- Design-forward consumers.

Experience

- Unique aesthetics.
- New Experience.

12. Present Design Trends



Skoda Vision 5 concept

Seating Design

Users

- Luxury car enthusiasts.
- Comfort seekers.

Experience

- Adjustable ergonomics positions.
- A need to stand out from the crowd.



Toyota Century SUV

Handcrafted Interiors

Users

- Luxury enthusiasts.
- Design-forward consumers.

Experience

- Unique aesthetics.
- New Experience.

12. Present Design Trends



Aston Martin Lagonda

Parametric Design

Users

- Tech Savy consumers
- Design-forward consumers

Experience

- Focus on personalized experiences.
- A need to stand out from the crowd.

13.1 The New Difference

Current user



Future user

Car = Transportation

The Driving Task limits the User Experience

Fixed Seating

All riders facing forward Interaction - Road dynamics



Car = Work Space

Self Driving offers flexible experience

Flexible Seating

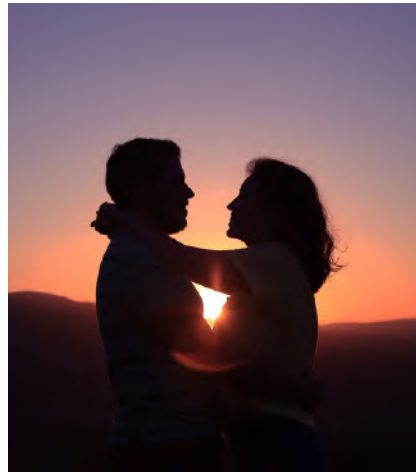
All riders facing each other Interaction - Personal space



13.2 User persona - **For Young Boss**



His preferences and work



His partner



Business Meetings



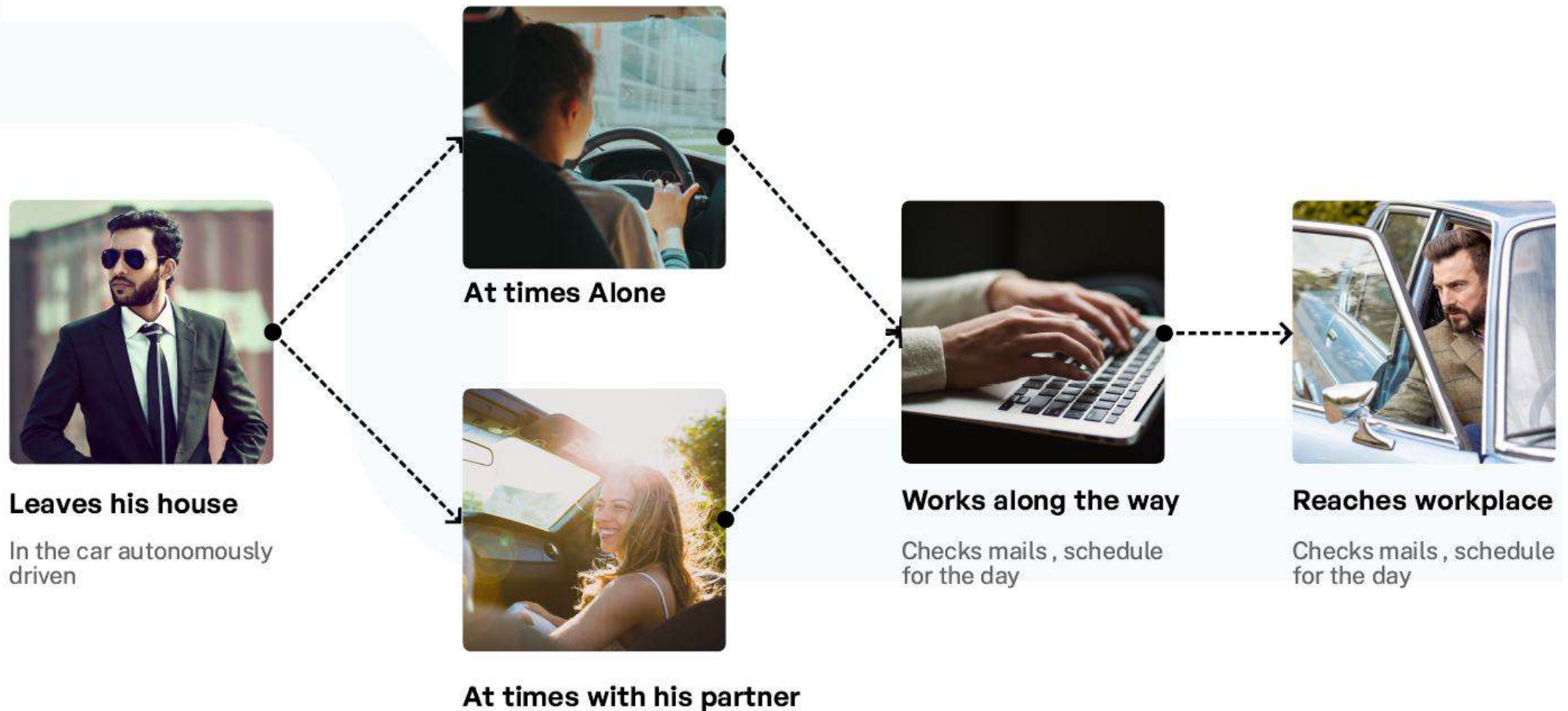
Work alone

Young Entrepreneur

Tech. Enthusiast
Prefers to work alone

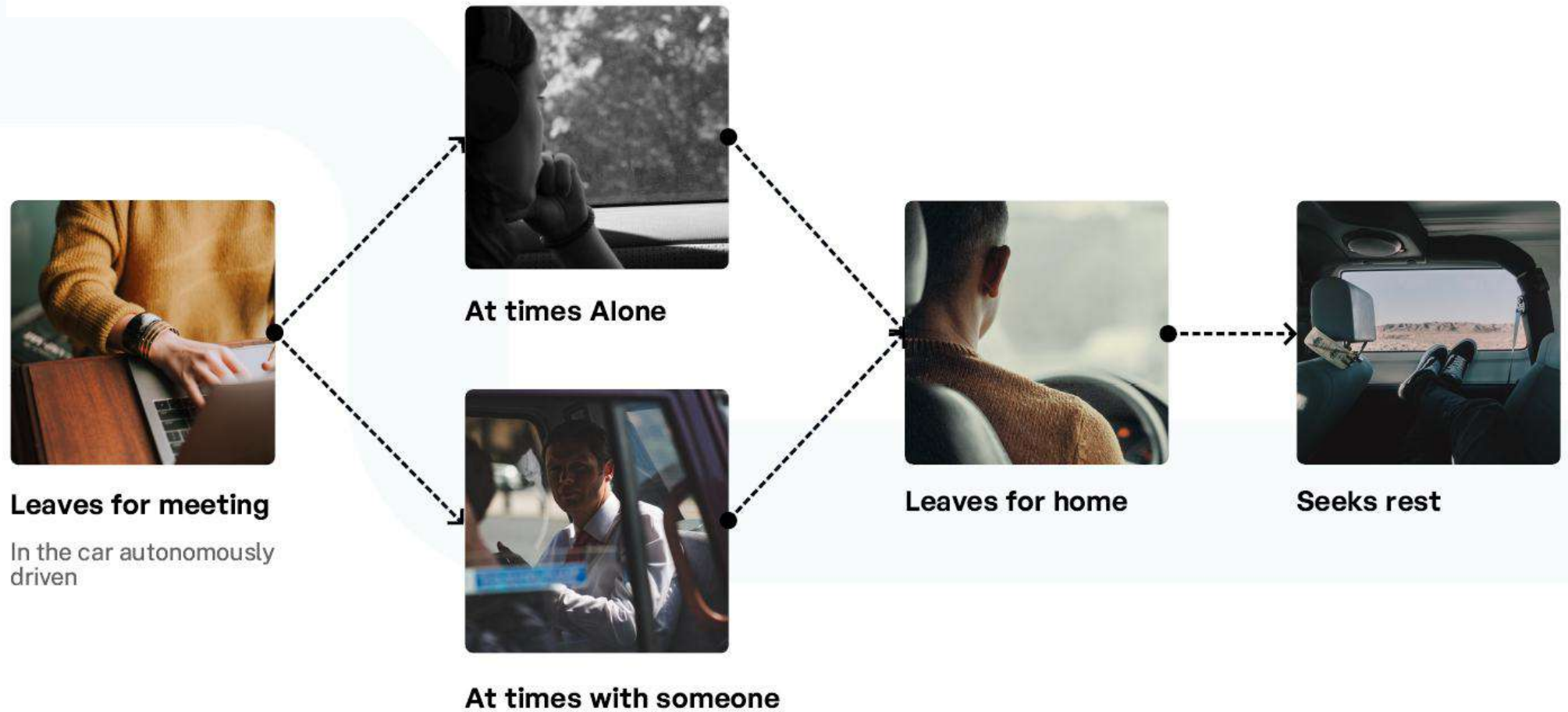
13.2 User persona - His routine

How does his car come into play



13.2 User persona - His routine

How does his car come into play



14. Design Brief

How might we design interiors of a autonomous mobility vehicle (AMV) that caters to a luxury consumer, integrating Indian handicrafts specifically weaving as bespoke design elements to add aesthetics and cultural richness.

Target user

A successful, discerning Indian man who appreciates luxury, technology, and cultural heritage. He seeks a unique and personalized driving experience that reflects his sophisticated taste and appreciation for Indian craftsmanship.

Key considerations

- The AMV interior should provide a seamless and luxurious travel experience.
- The AMV should incorporate bespoke design elements with weaving in the interior space that showcase the beauty and heritage of Indian handicrafts.
- The design must include the learnings from the artisans in terms of shape , form , techniques and the limitations of the material.

Specifications

- Platform chosen - Mercedes-Benz F 015
- Dimensions - length - 5280 / width - 2018 / height - 1524

15. Theme Board

Sculpted



Fluidic



Dynamic



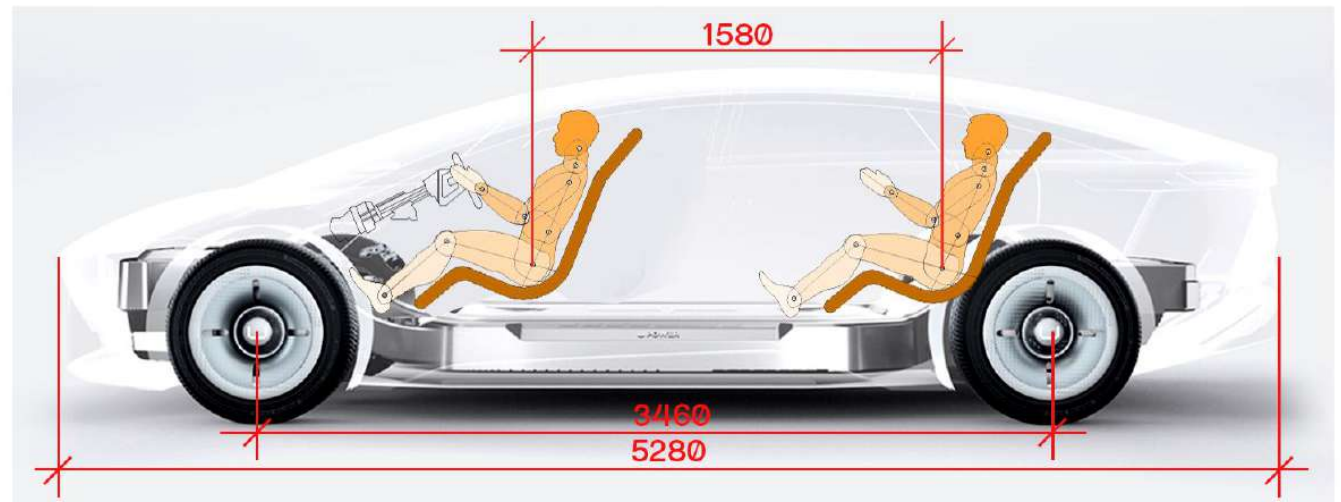
16. Mood Board



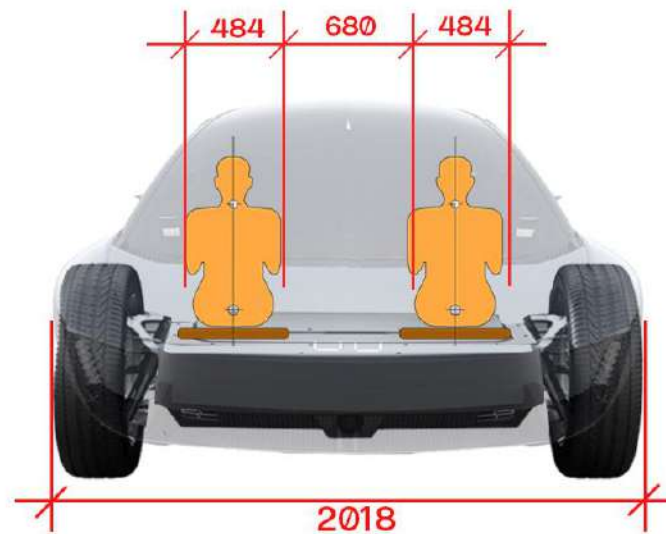
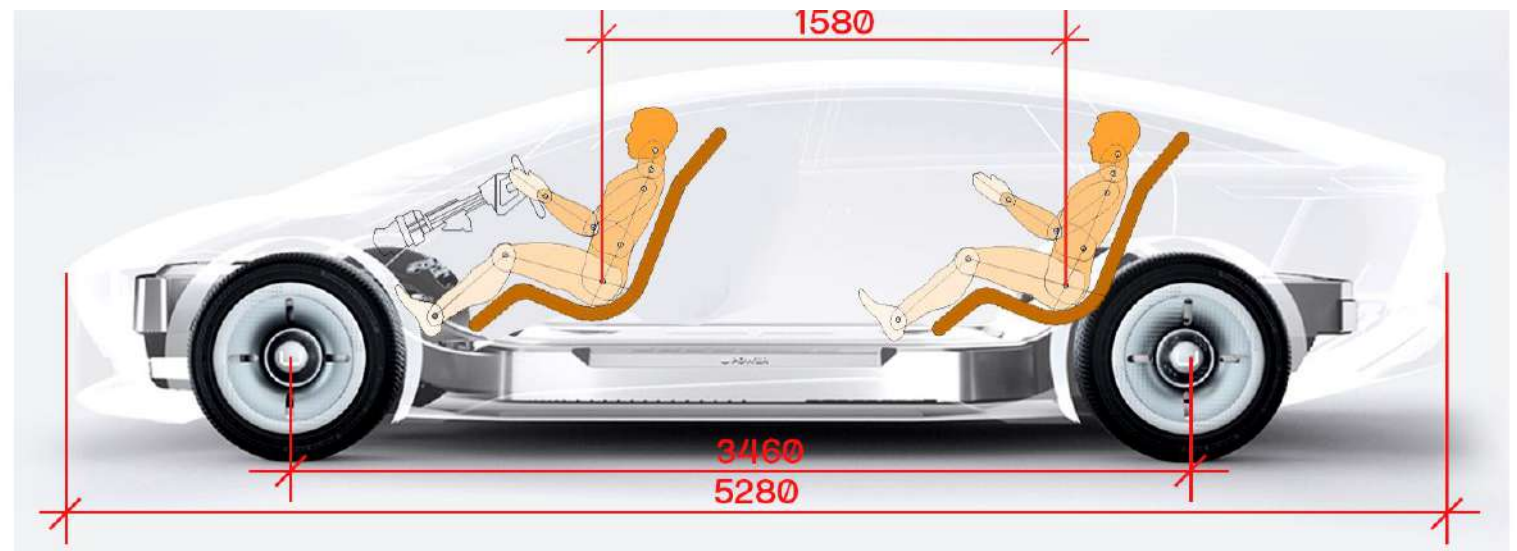
17. Vehicle packaging

Vehicle - Mercedes-Benz F015

- Platform chosen - Mercedes-Benz F 015
- Dimensions - length - 5280 / width - 2018 / height - 1524

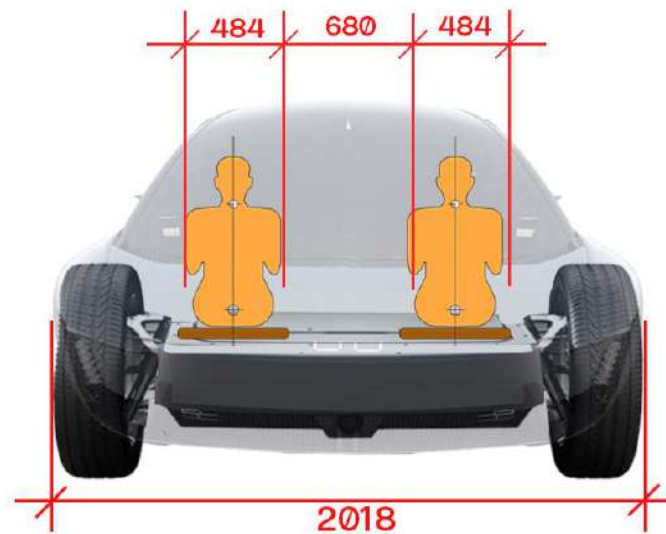
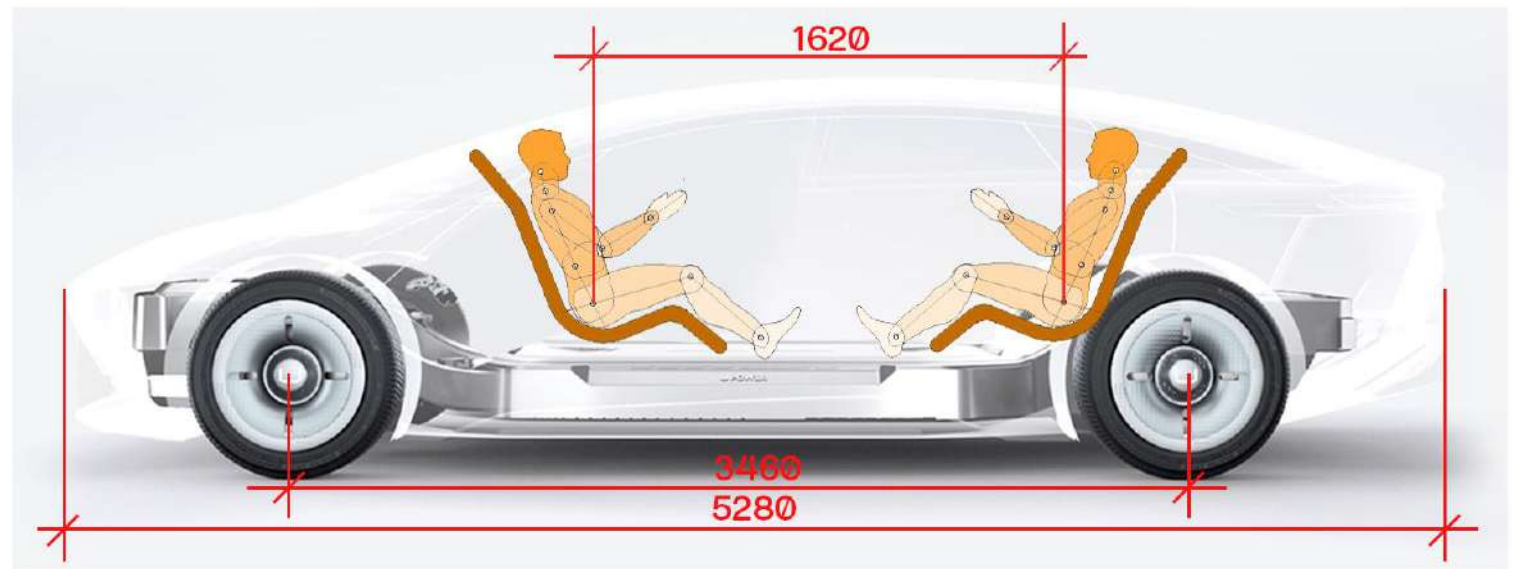


17. Vehicle packaging



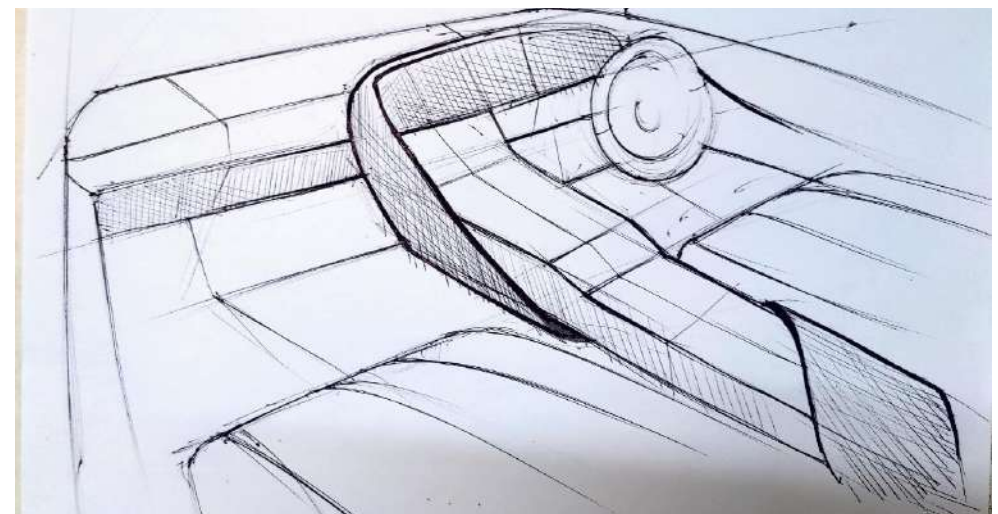
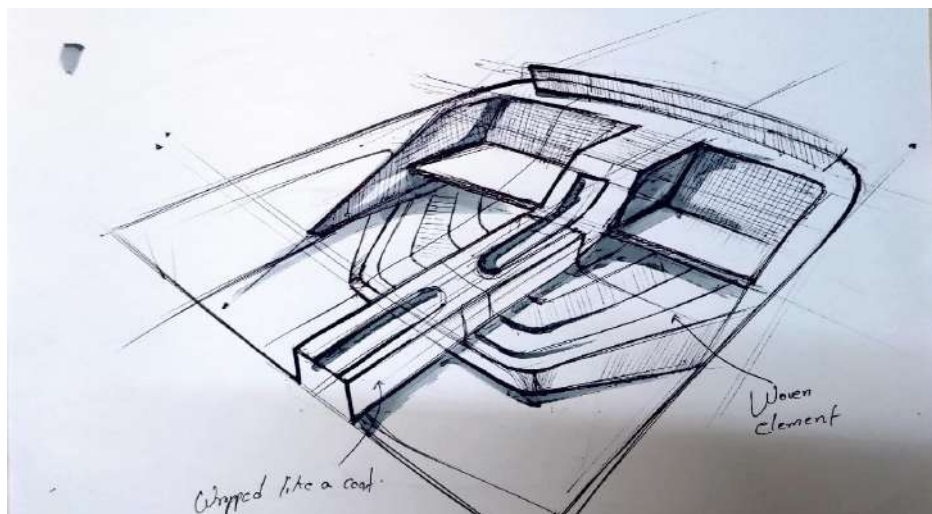
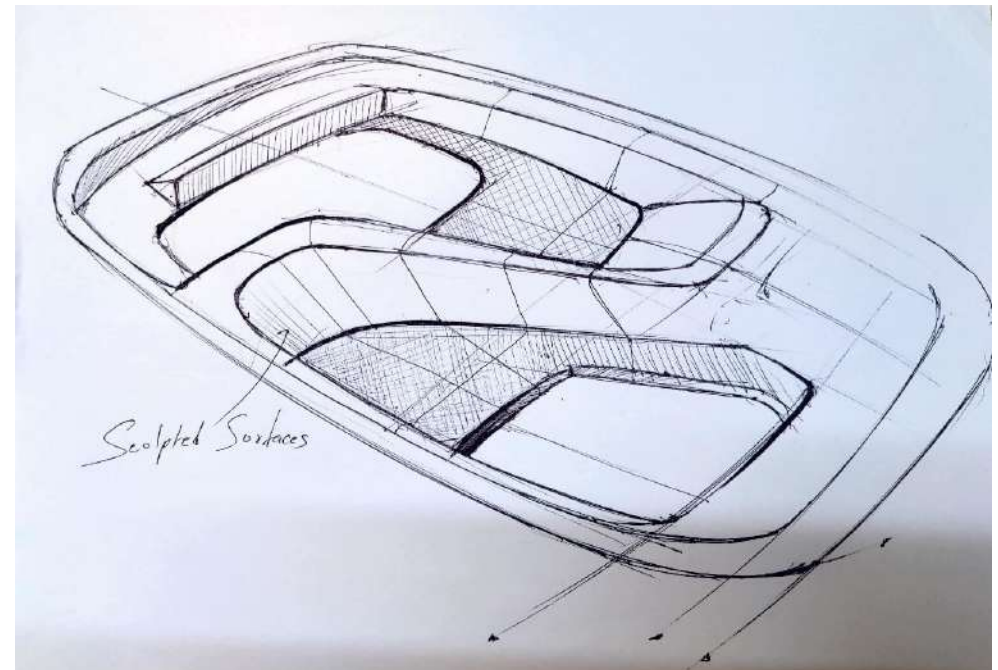
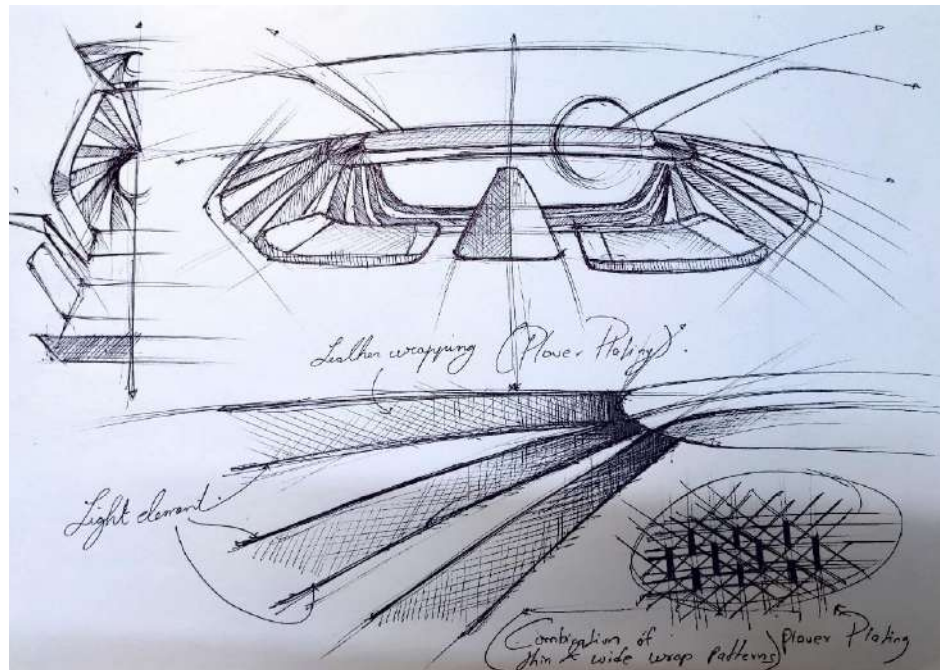
Side and front view of distance between the riders in a traditional seating layout.

17. Vehicle packaging

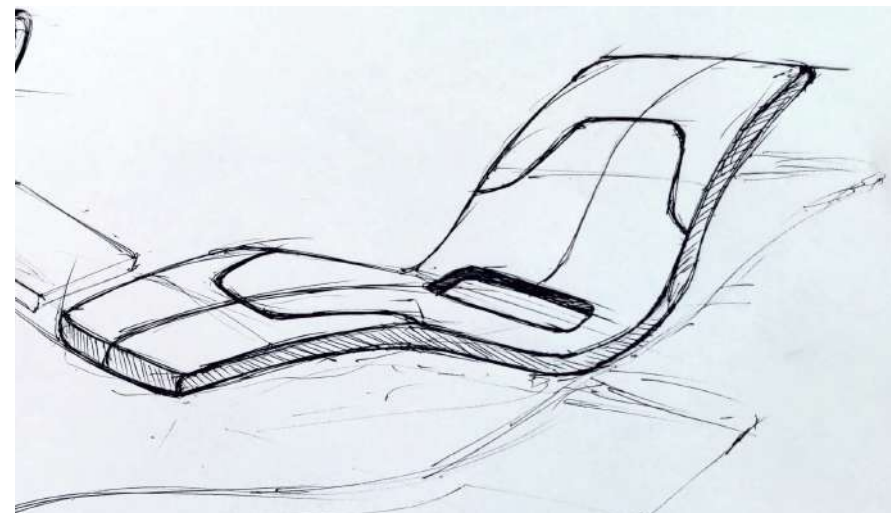
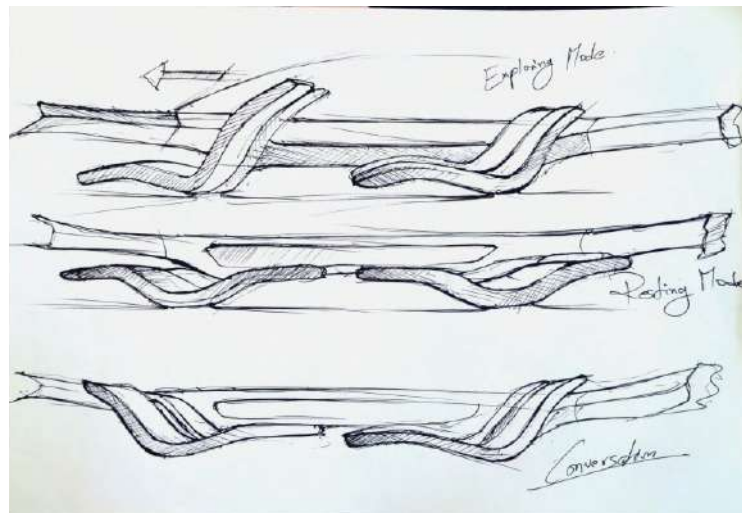
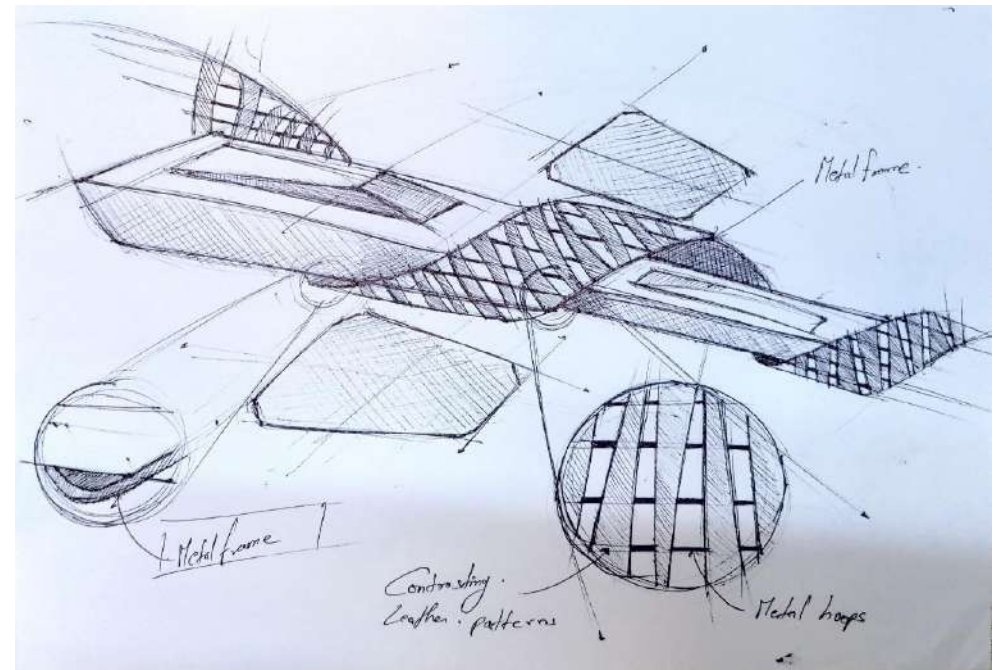
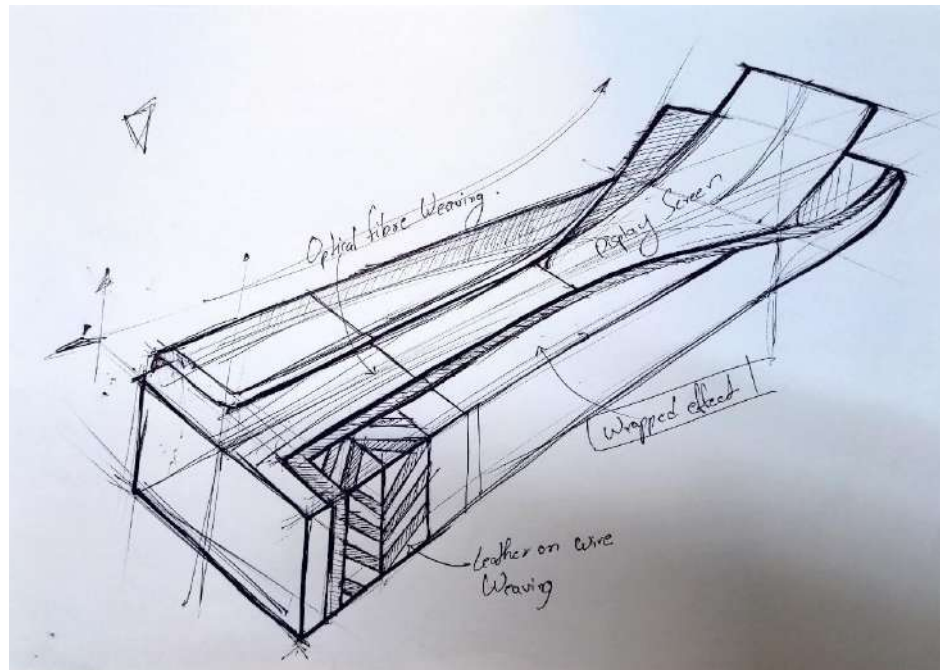


Side and front view of distance between the riders in a face to face seating layout.

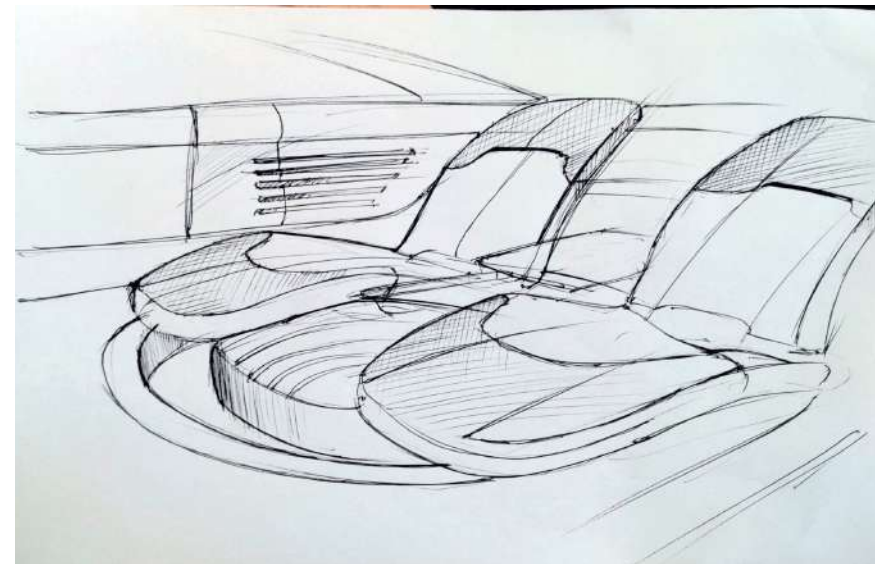
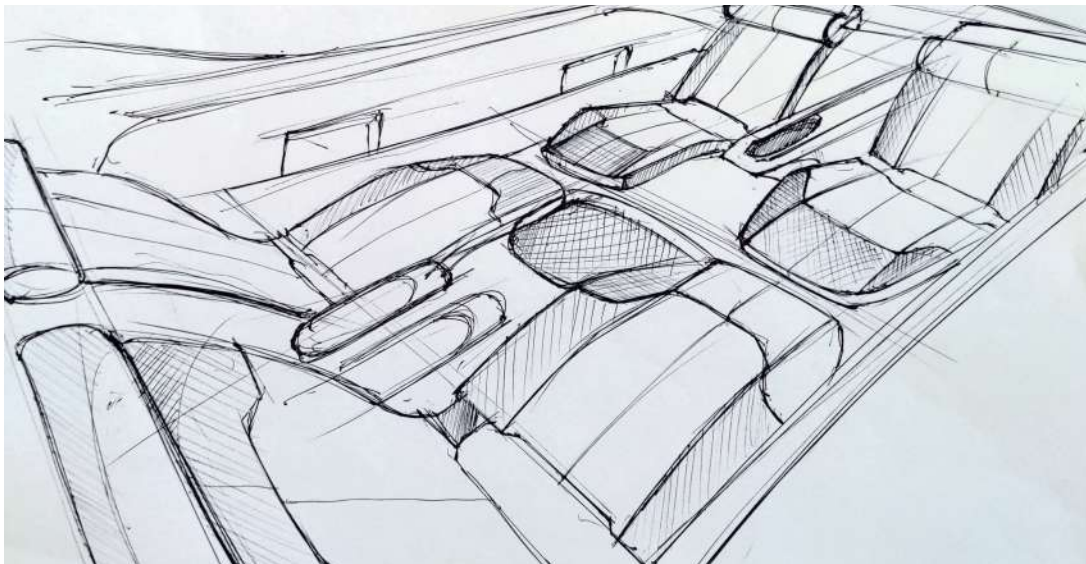
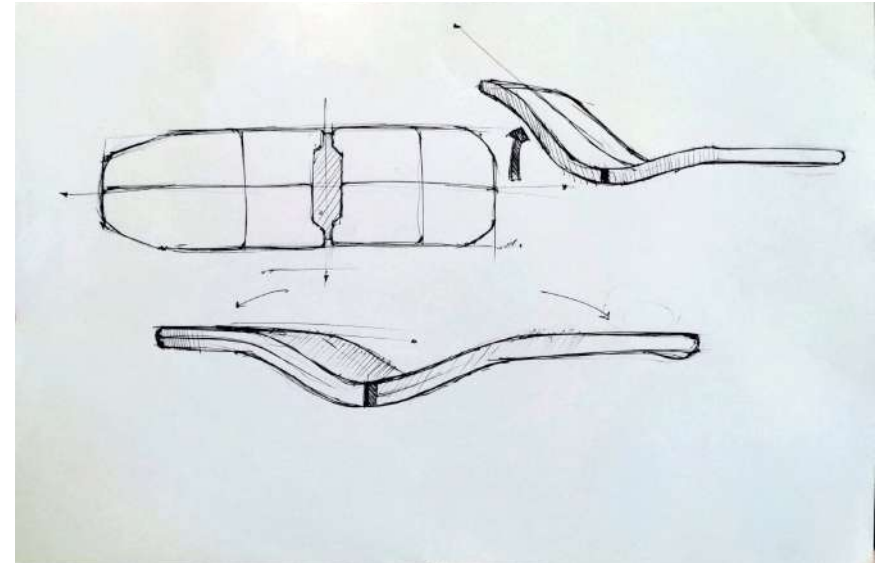
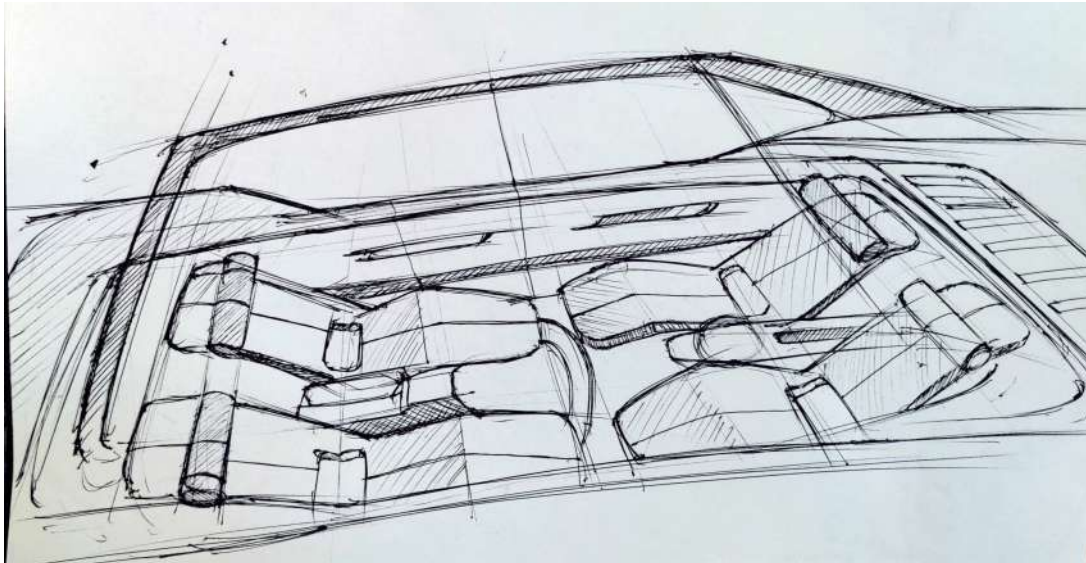
18. Ideation sketches



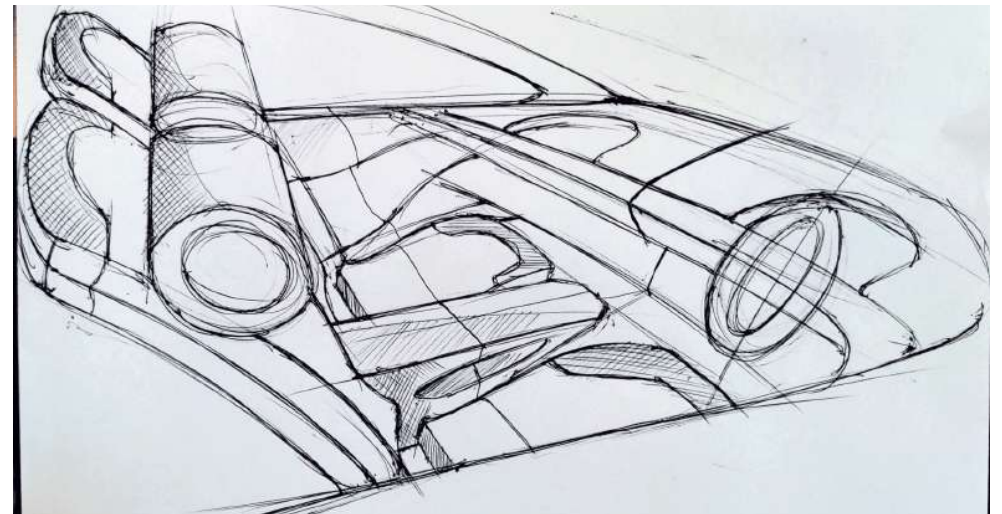
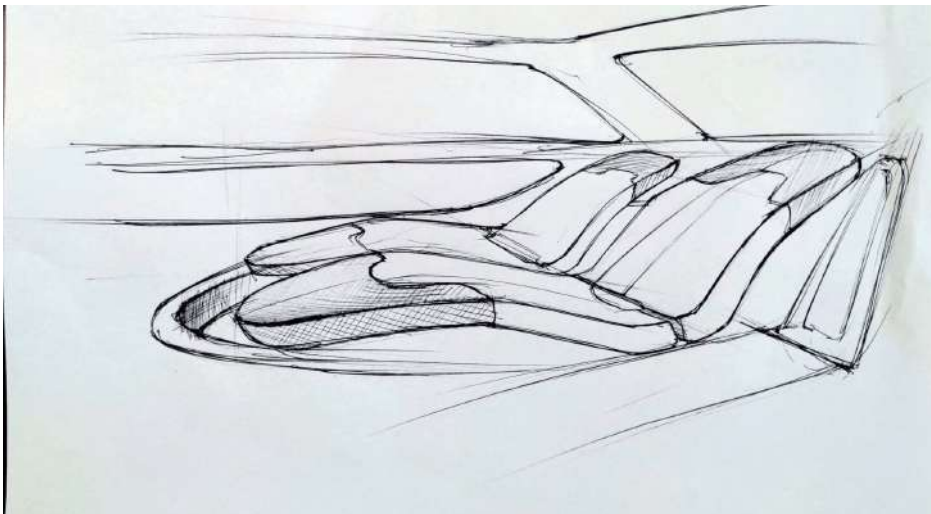
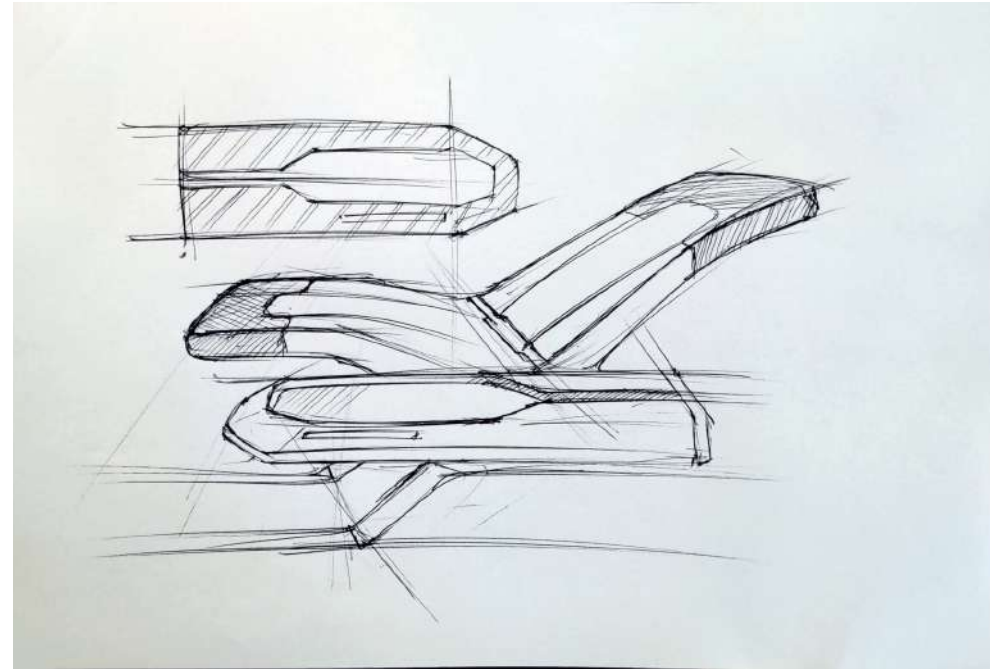
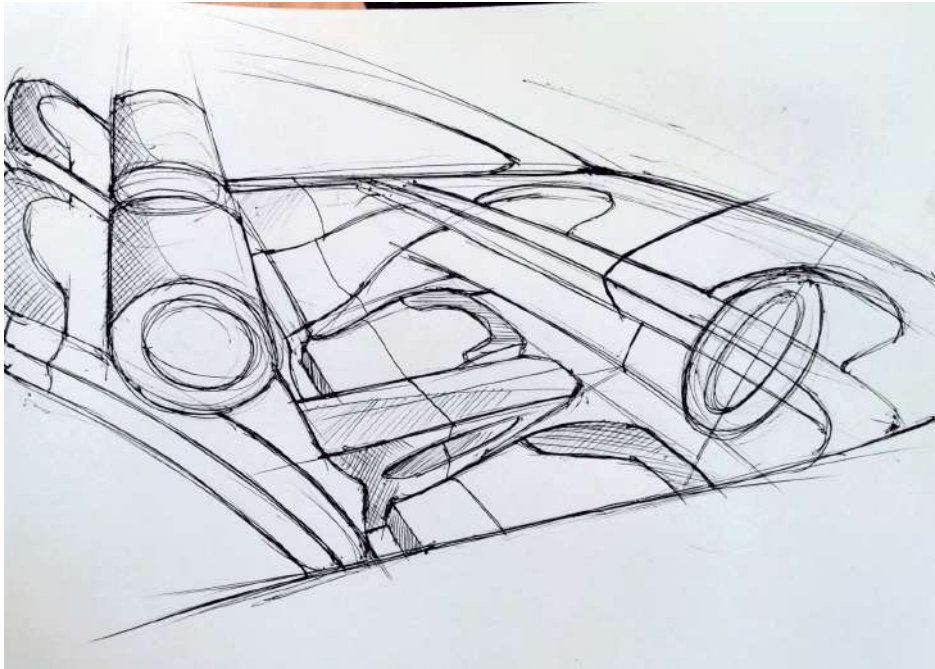
18. Ideation sketches



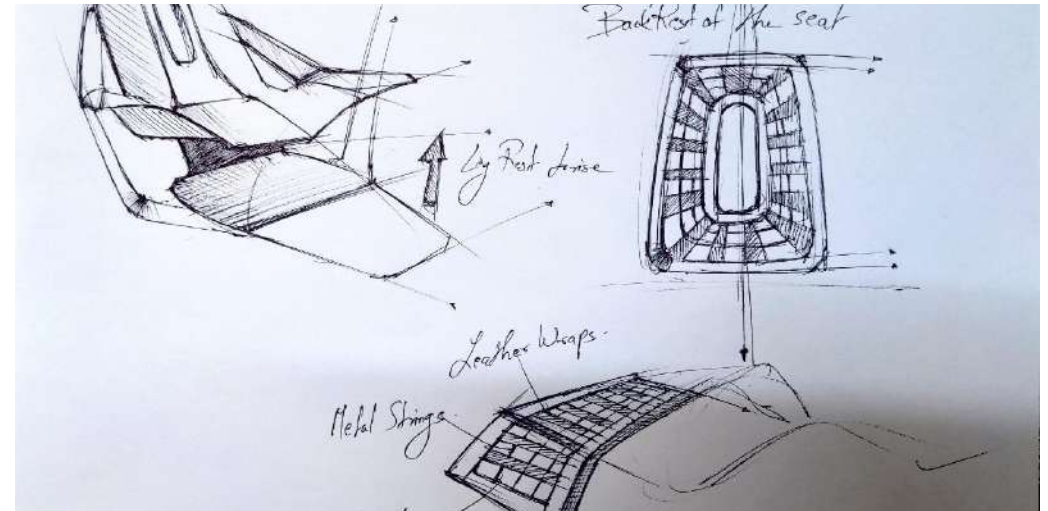
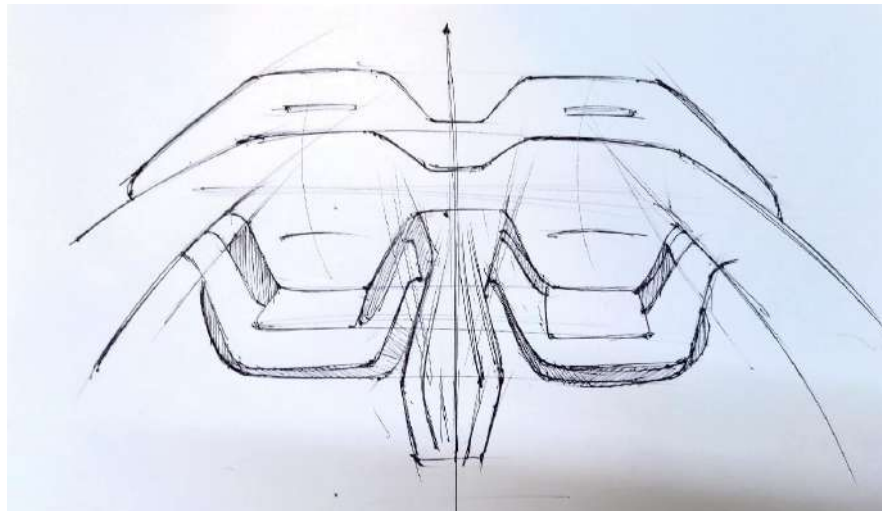
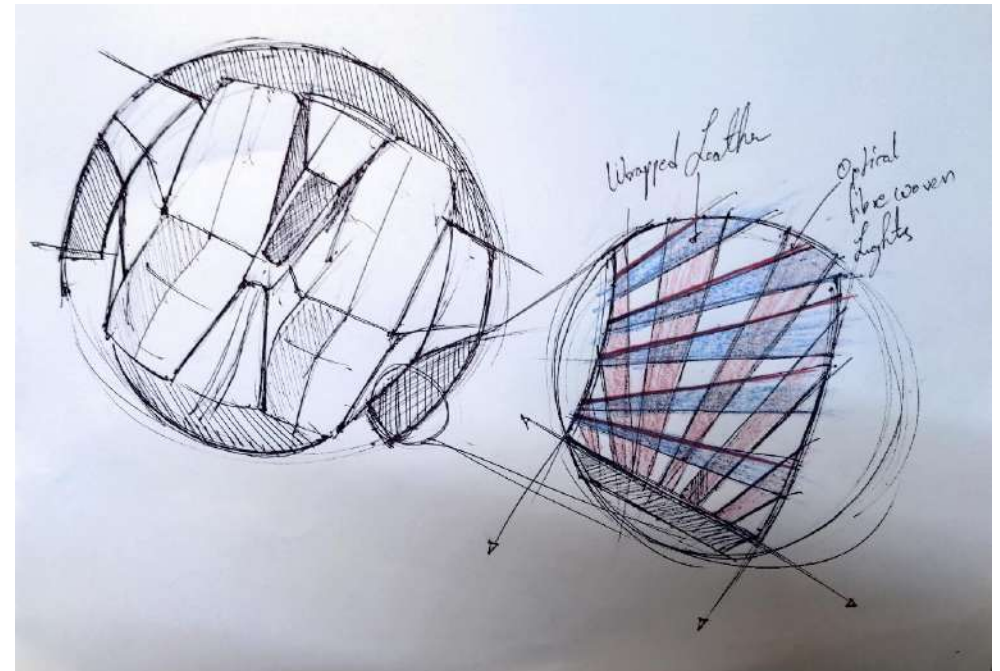
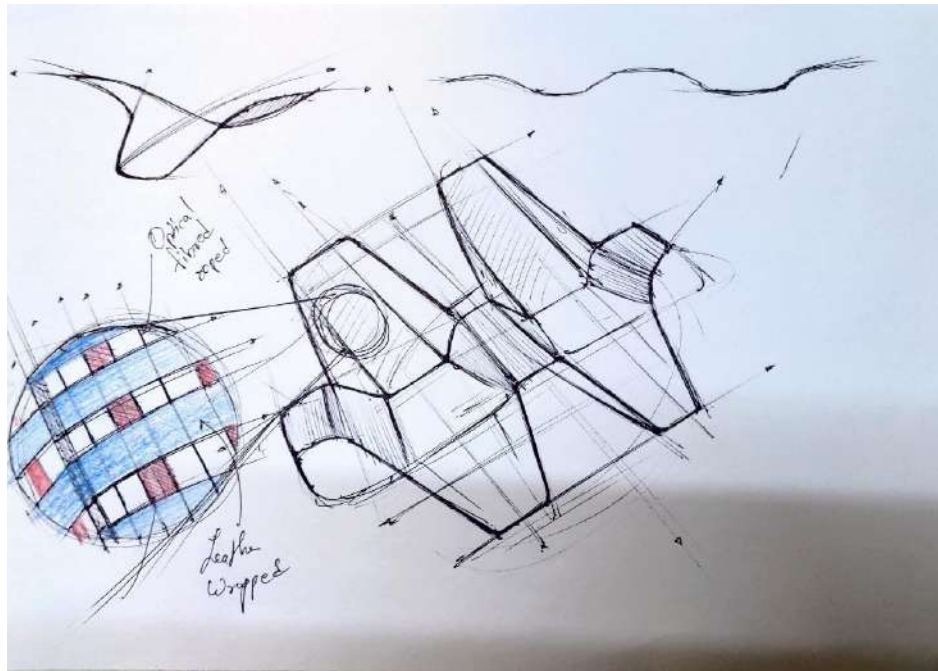
18. Ideation sketches



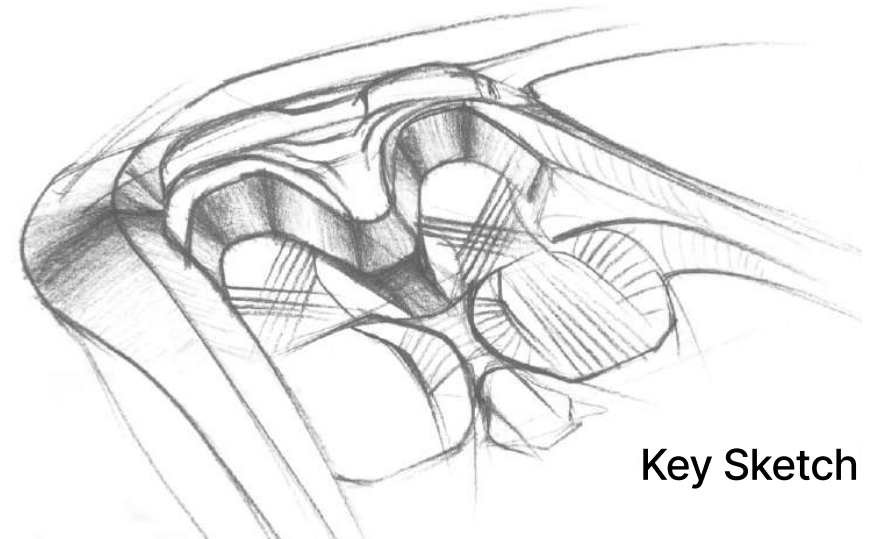
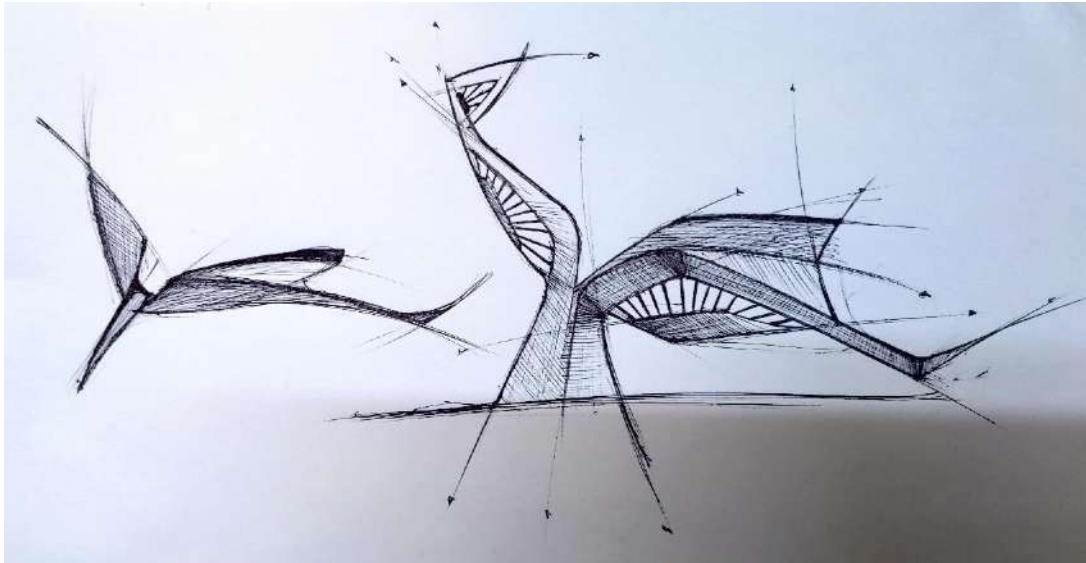
18. Ideation sketches



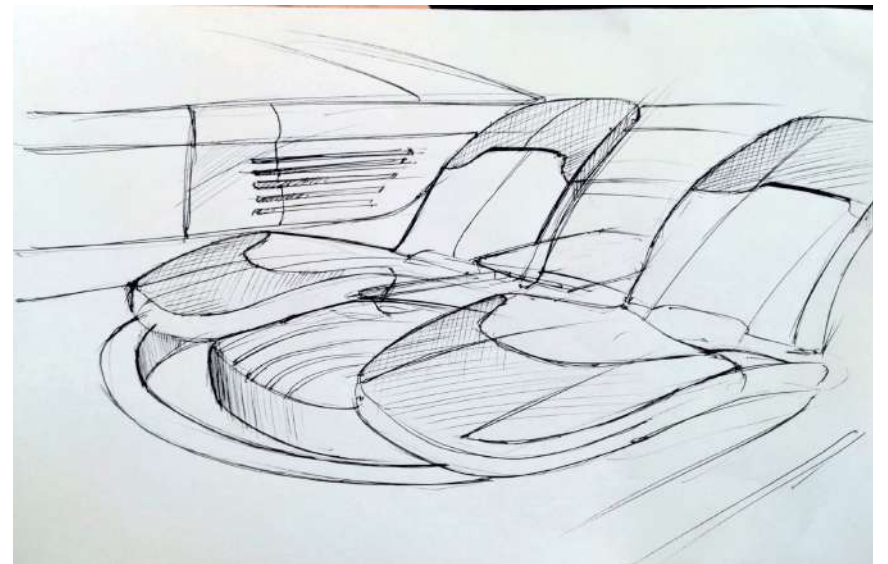
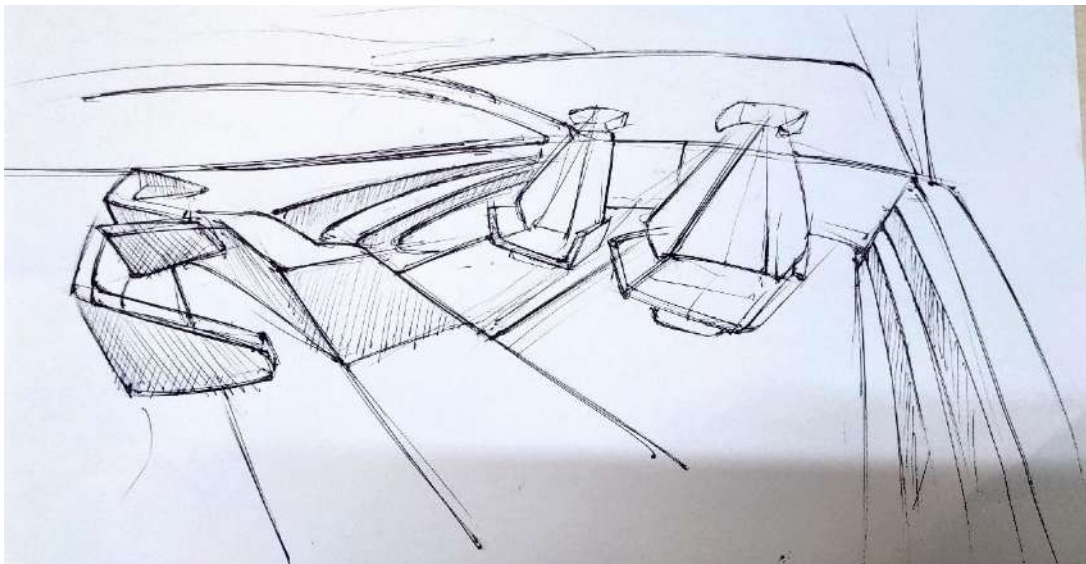
18. Ideation Sketches



18. Ideation sketches



Key Sketch



18. Interior Ambience and concept



The design concept focuses on creating a luxurious yet homely living room that showcases the lightweight elegance of cane furniture.

Cane strips are meticulously woven to converge at a single point, emphasizing craftsmanship.

Lightweight Elegance

- Utilizing cane furniture to emphasize lightness and airiness.
- Select pieces with intricate weaving that converge at a single point, highlighting craftsmanship.

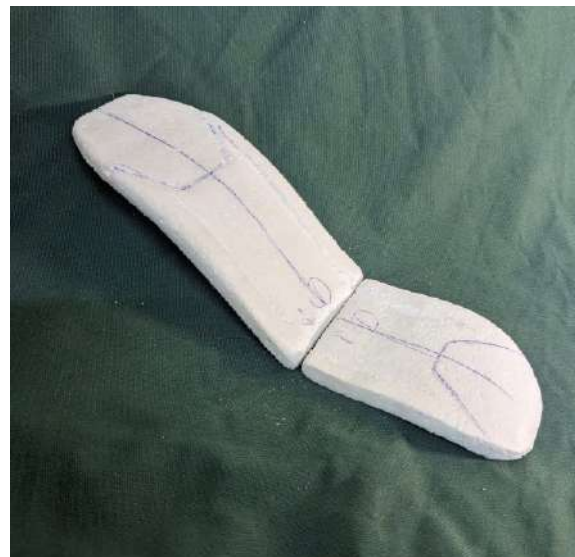
Natural Textures

- Incorporating the natural texture of cane to create an organic and earthy feel.

Craftsmanship

- Highlighting on the intricate weaving patterns of the cane furniture as a central design element.

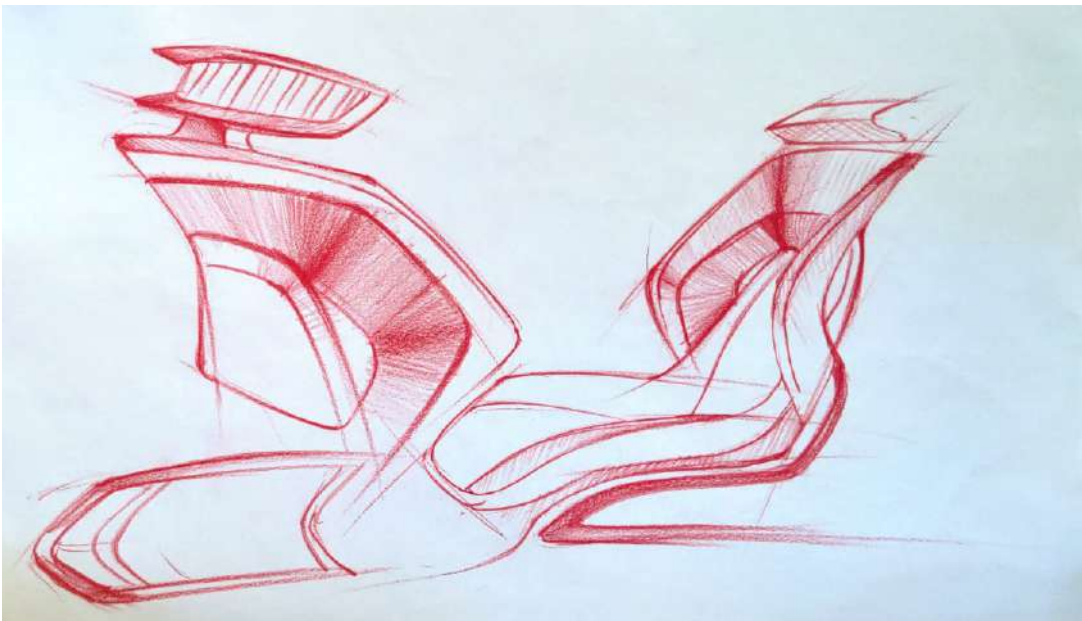
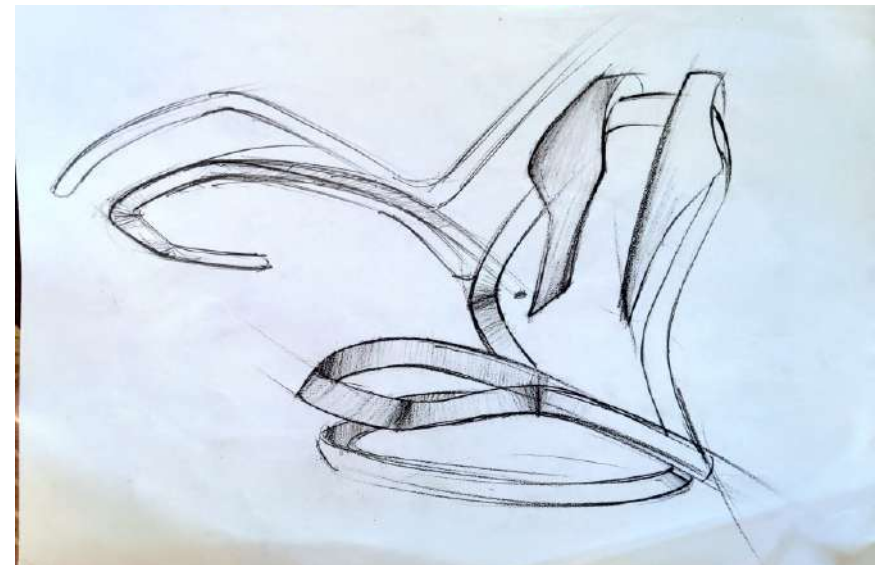
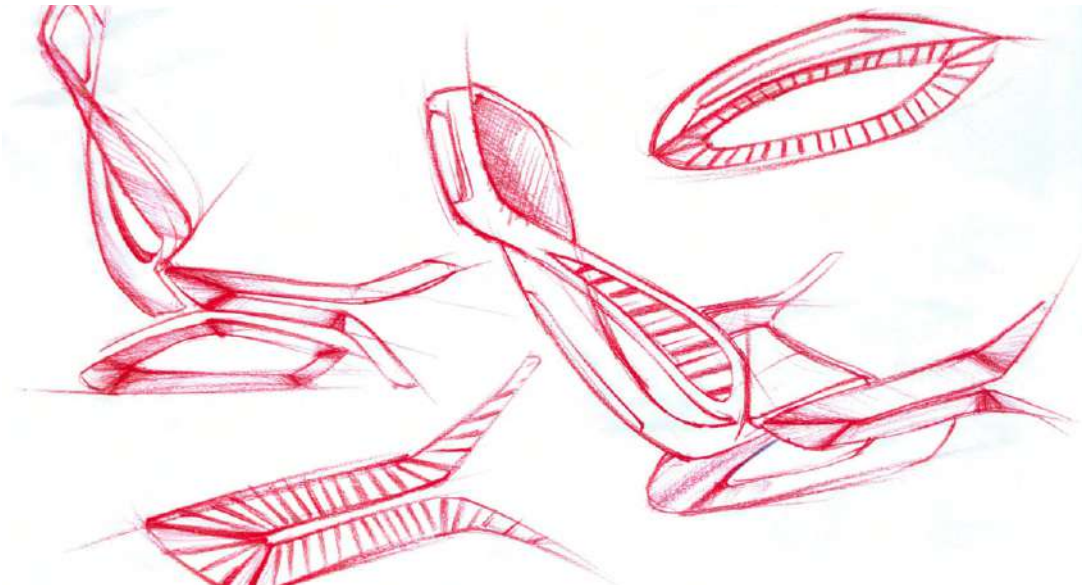
19. Seat mockups



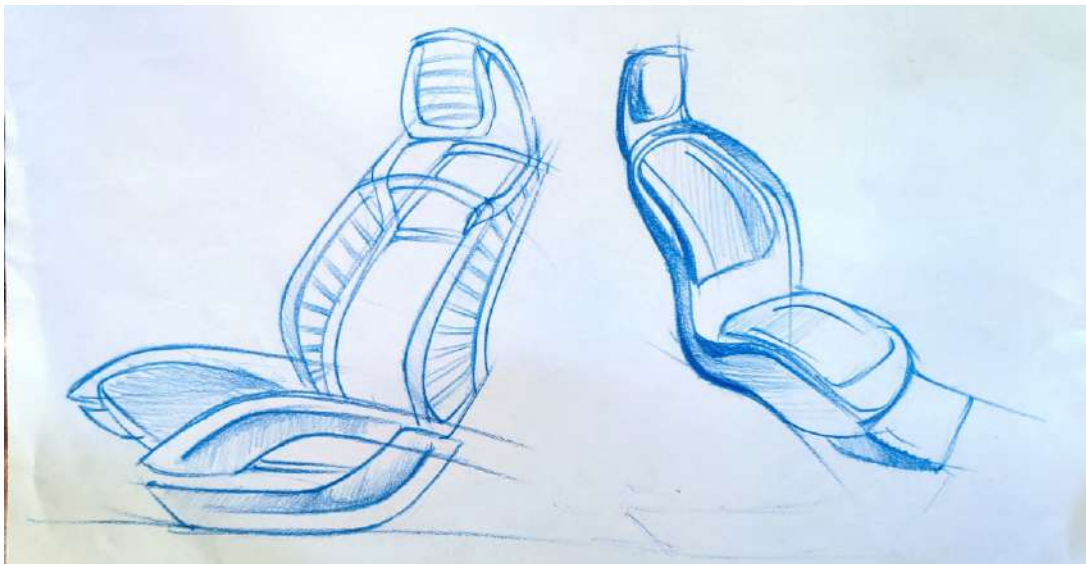
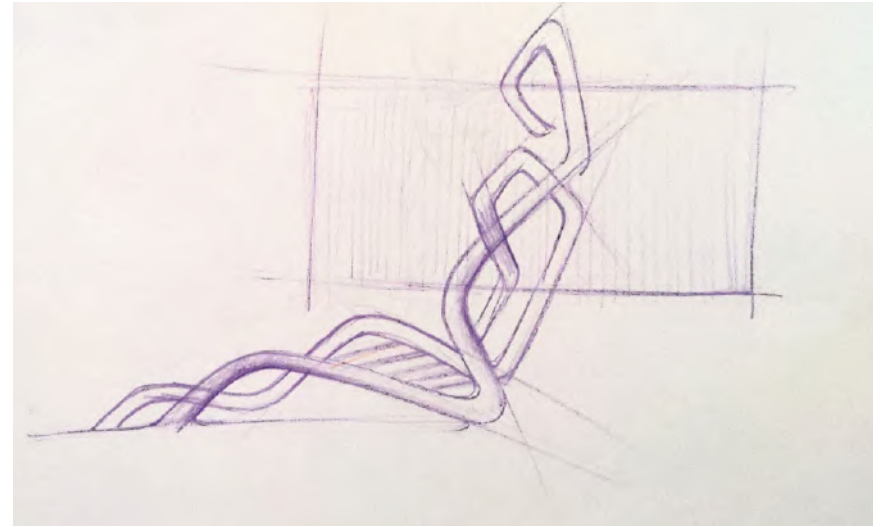
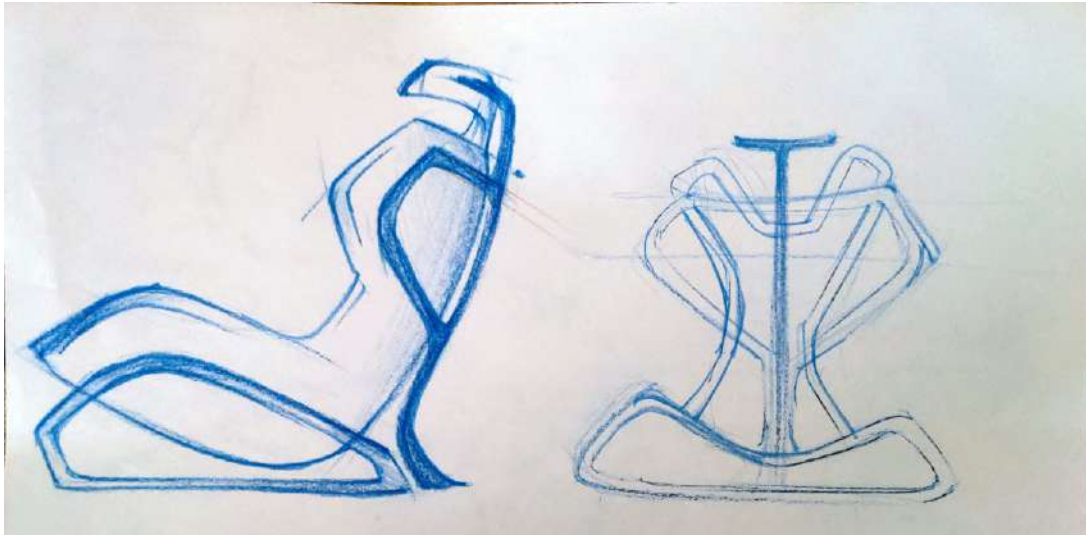
19. Seat mockups



20. Seat design ideations sketches



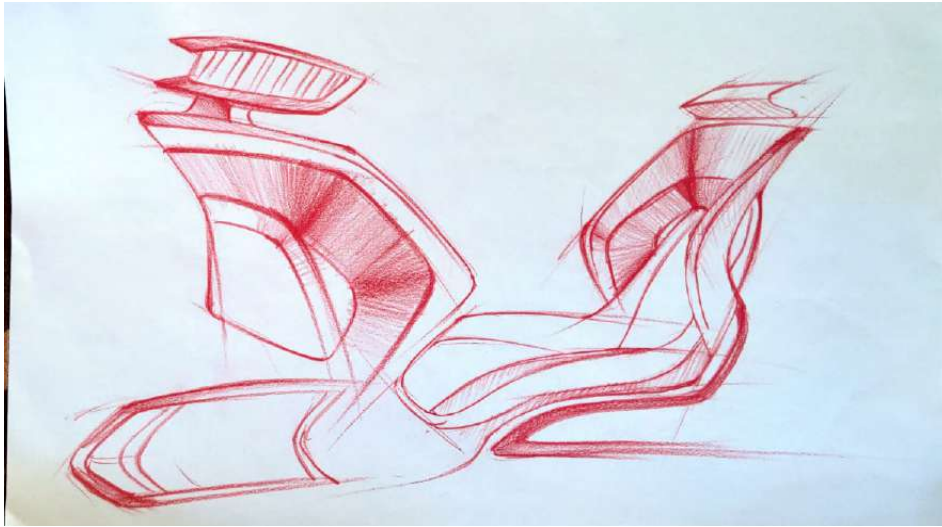
20. Seat design ideations sketches



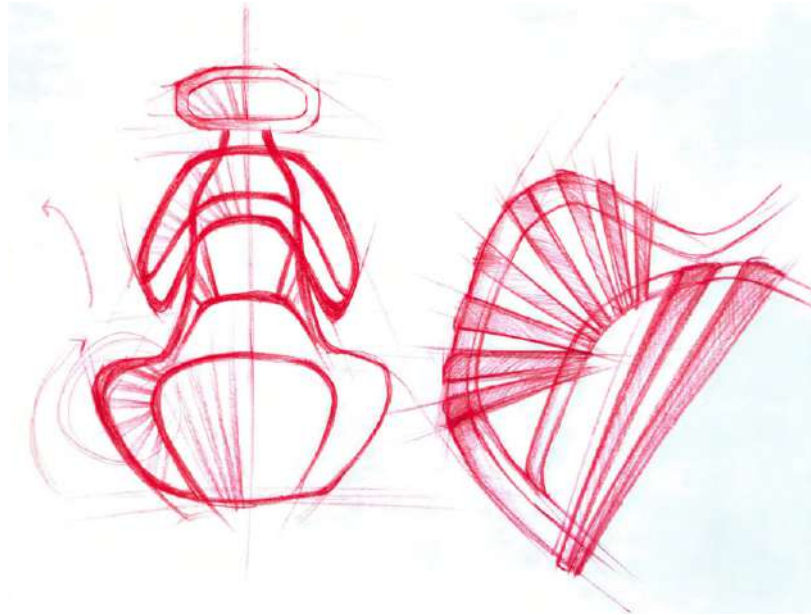
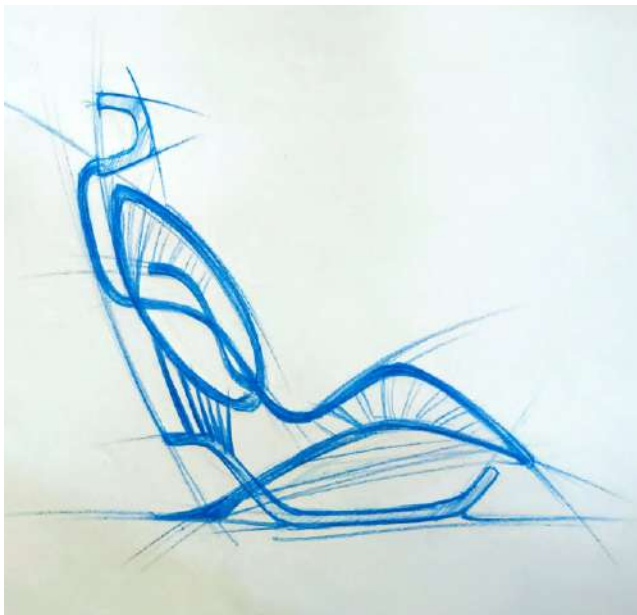
21. Seat Design concept 1 **Rendering**



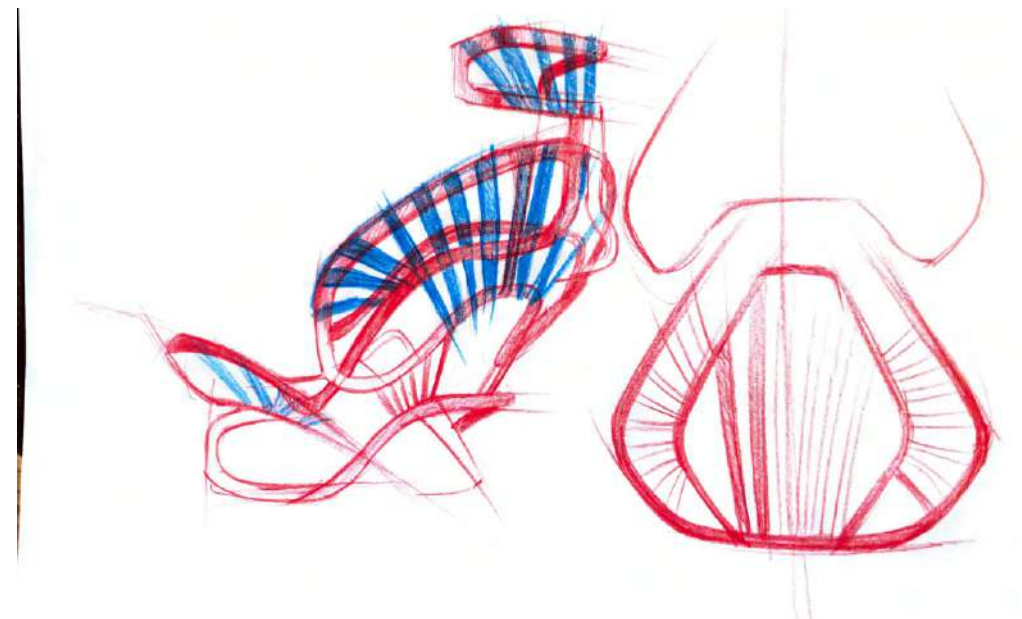
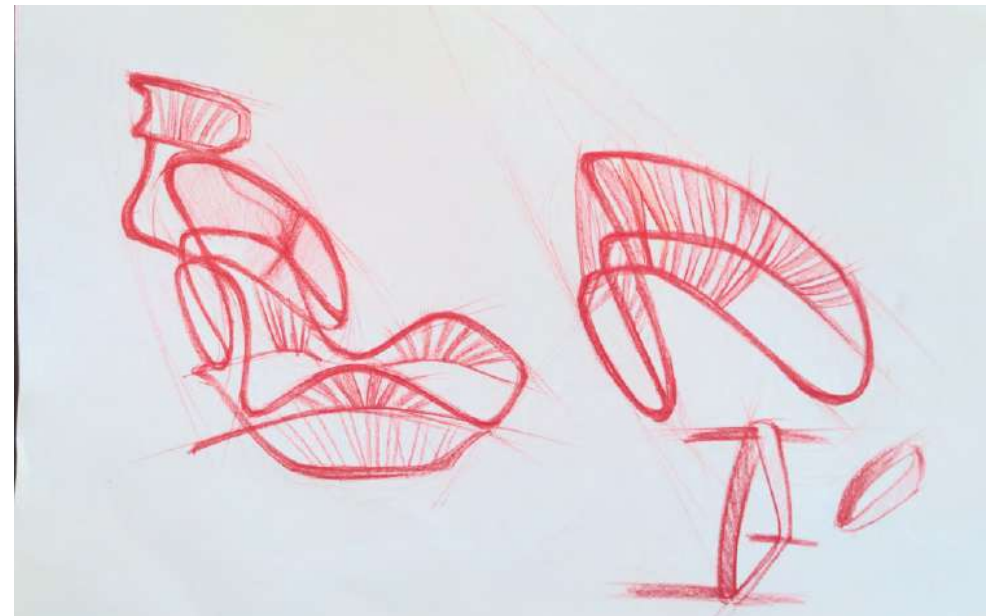
22. Seat design ideations sketches



Key Sketch



22. Seat design ideations sketches



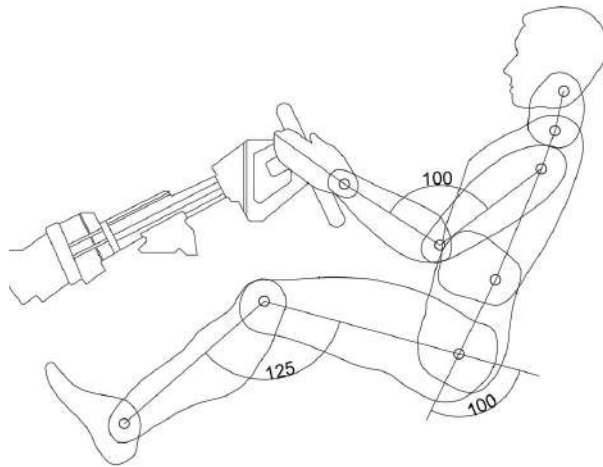
22.1. Seat Design concept 2 **Rendering**



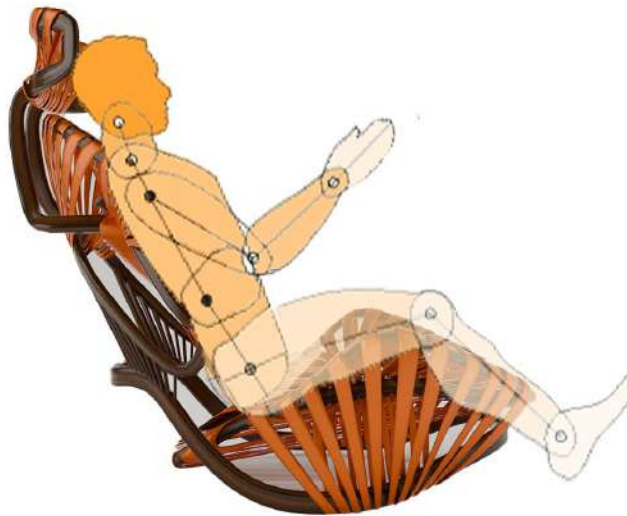
22.1. Seat Design concept 2 **Rendering**



23 Seat Design **Ergonomics**



Optimal seating position of a human in car



Designed vehicle seat ergonomics

When designing a car seat with handicrafts, it's essential to incorporate key ergonomic considerations to ensure optimal seating comfort and safety. Here are my key considerations:

Backrest Angle: The backrest should be set to an angle of about 100-110 degrees. This helps maintain the spine's natural curvature and reduces back strain.

Height and Distance: The headrest has been designed to be adjustable so that its top aligns with the top of the user's head and is as close to the back of the head as possible. This positioning helps protect the neck from whiplash injuries.

Height and Distance: The headrest has been designed to be adjustable so that its top aligns with the top of the user's head and is as close to the back of the head as possible. This positioning helps protect the neck from whiplash injuries.

24. Centre console Design Renders



24. Centre console Design Renders



25. Design Theme

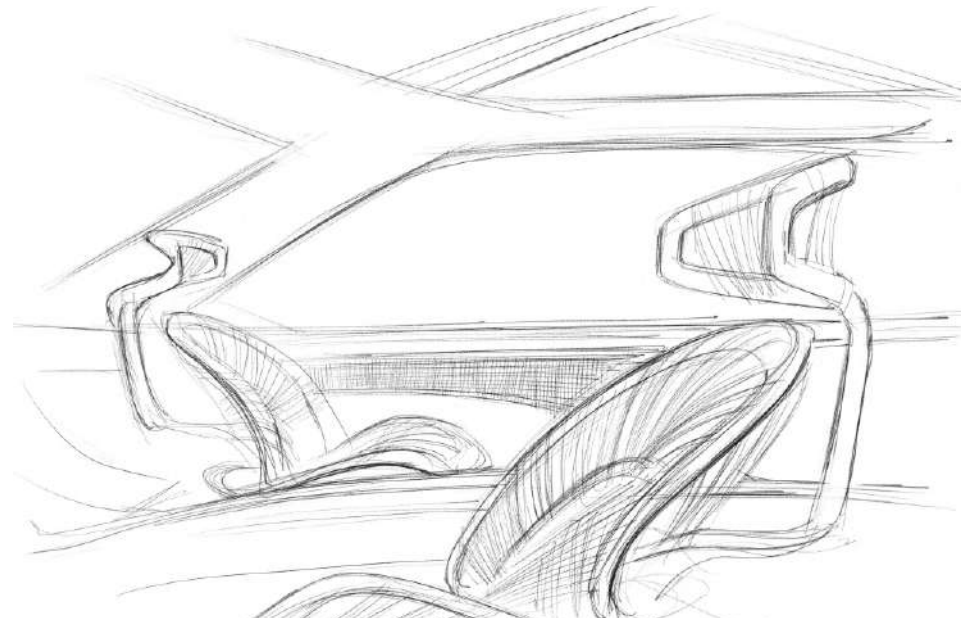
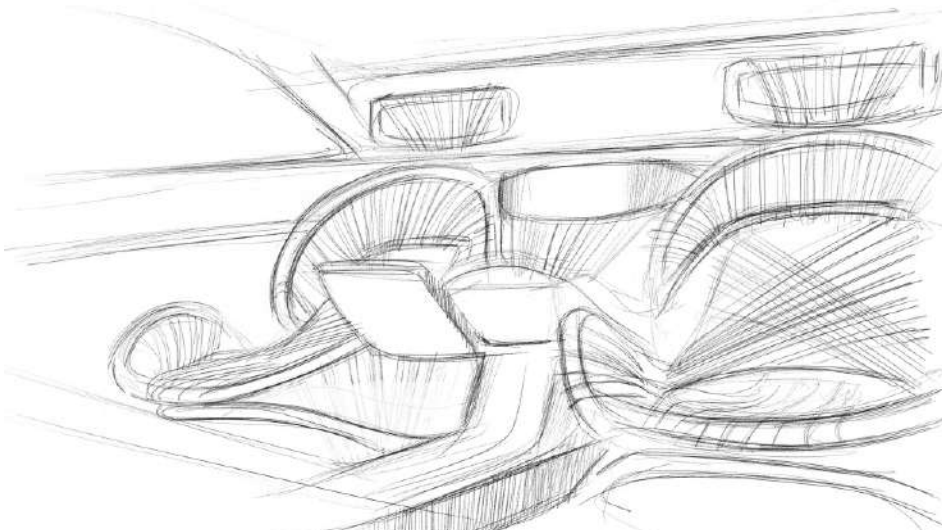
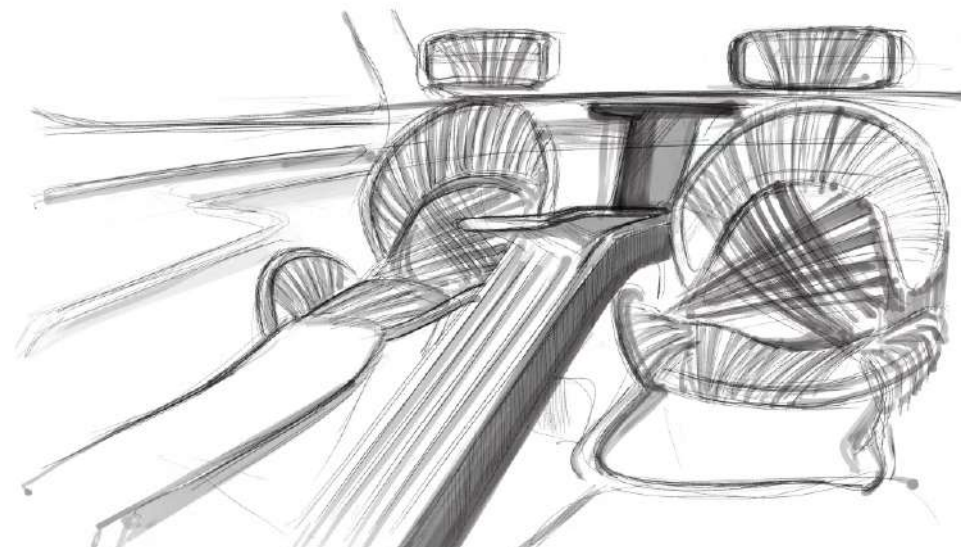
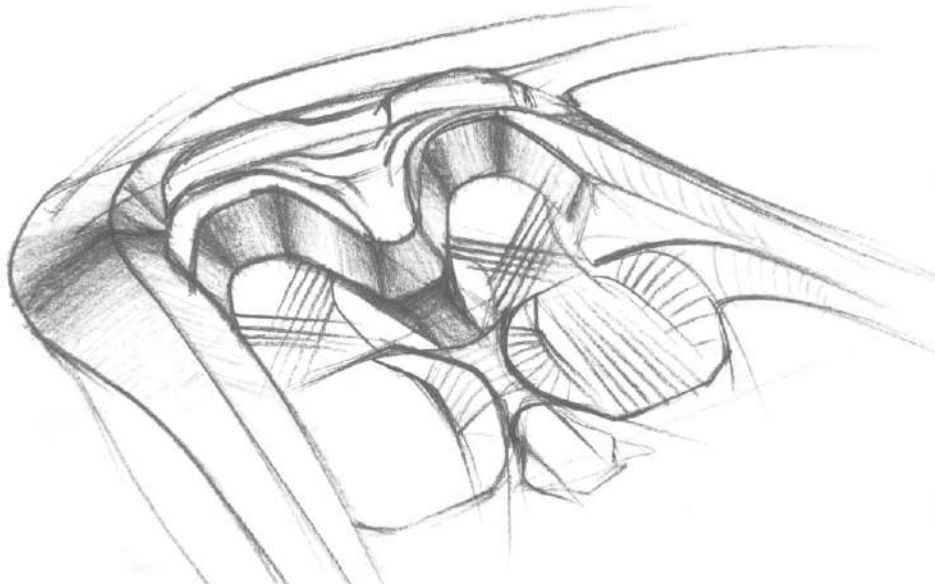


The design concept for a luxury living room revolves around sophisticated elegance and a harmonious color palette.

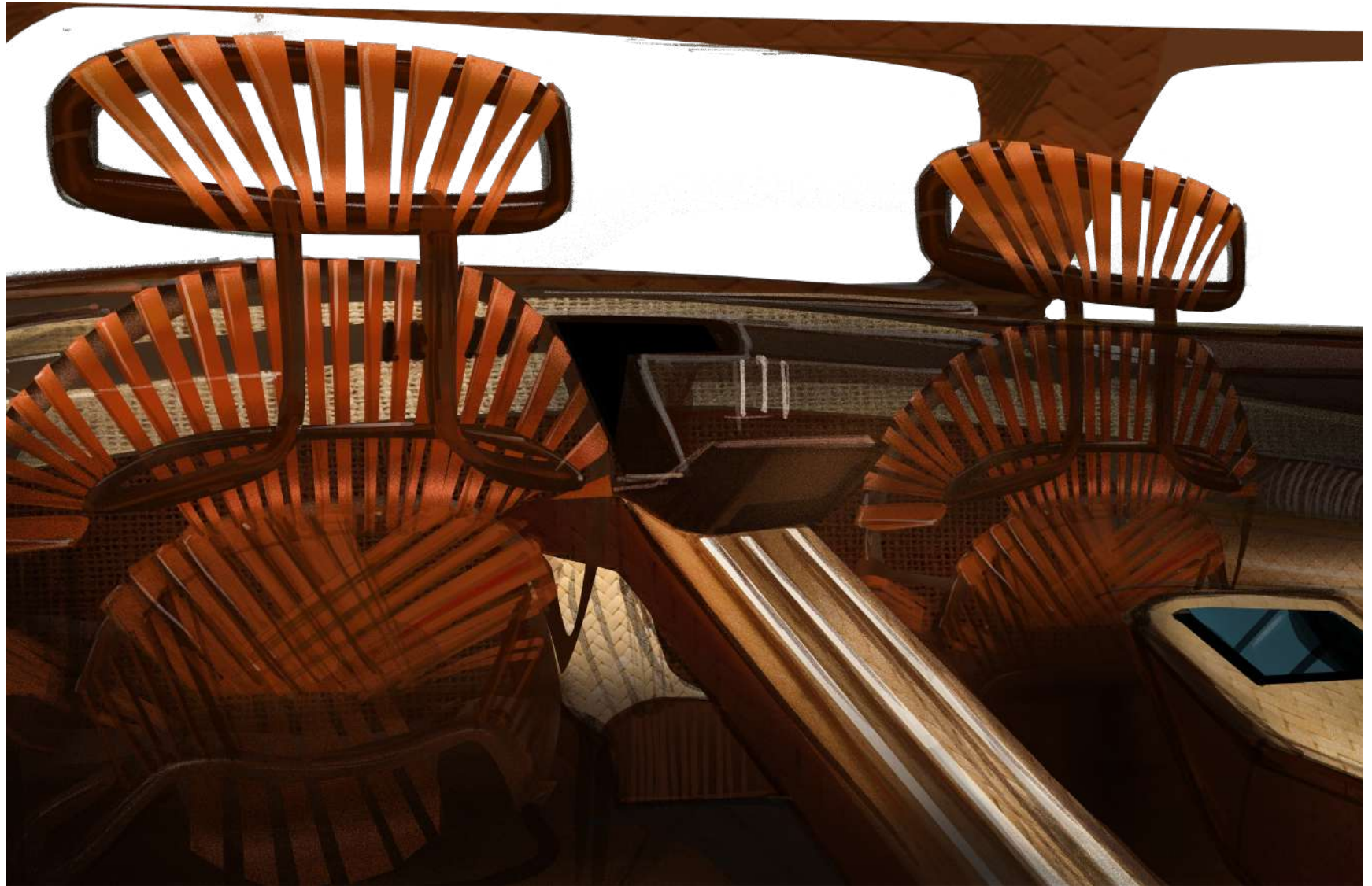
The seating acts like curated art pieces add to the opulence, while the central console integrates like a designed table.



26. Interior Sketches



26. Interior Sketches Photoshop render



27. Renders



27. Renders



Birds eye view



27. Renders



Birds eye view



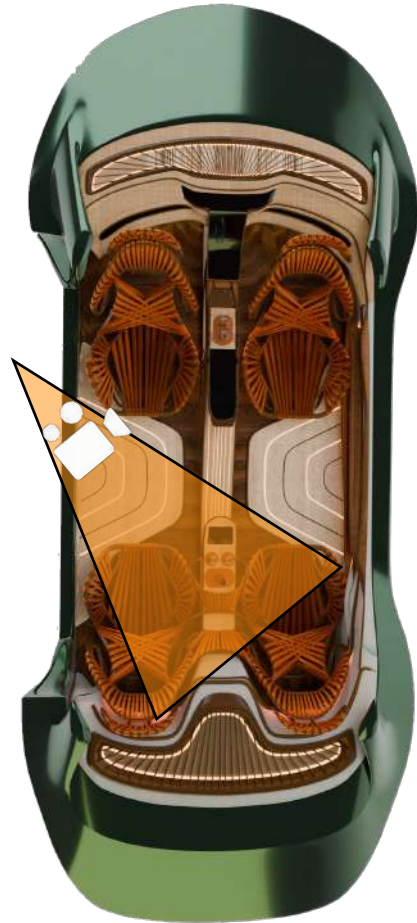
27. Renders



Birds eye view



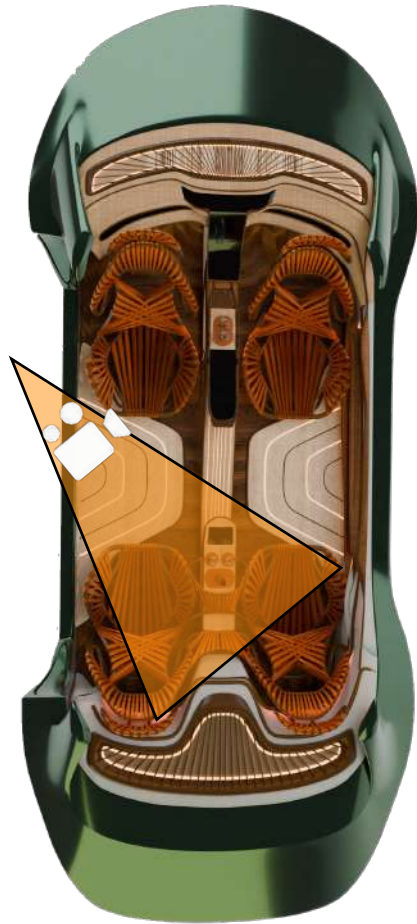
27. Renders



Birds eye view



27. Renders



Birds eye view



27. Renders



Birds eye view



27. Renders



Birds eye view



27. Renders



Birds eye view



27. Renders



Birds eye view



27. Renders



27. Renders



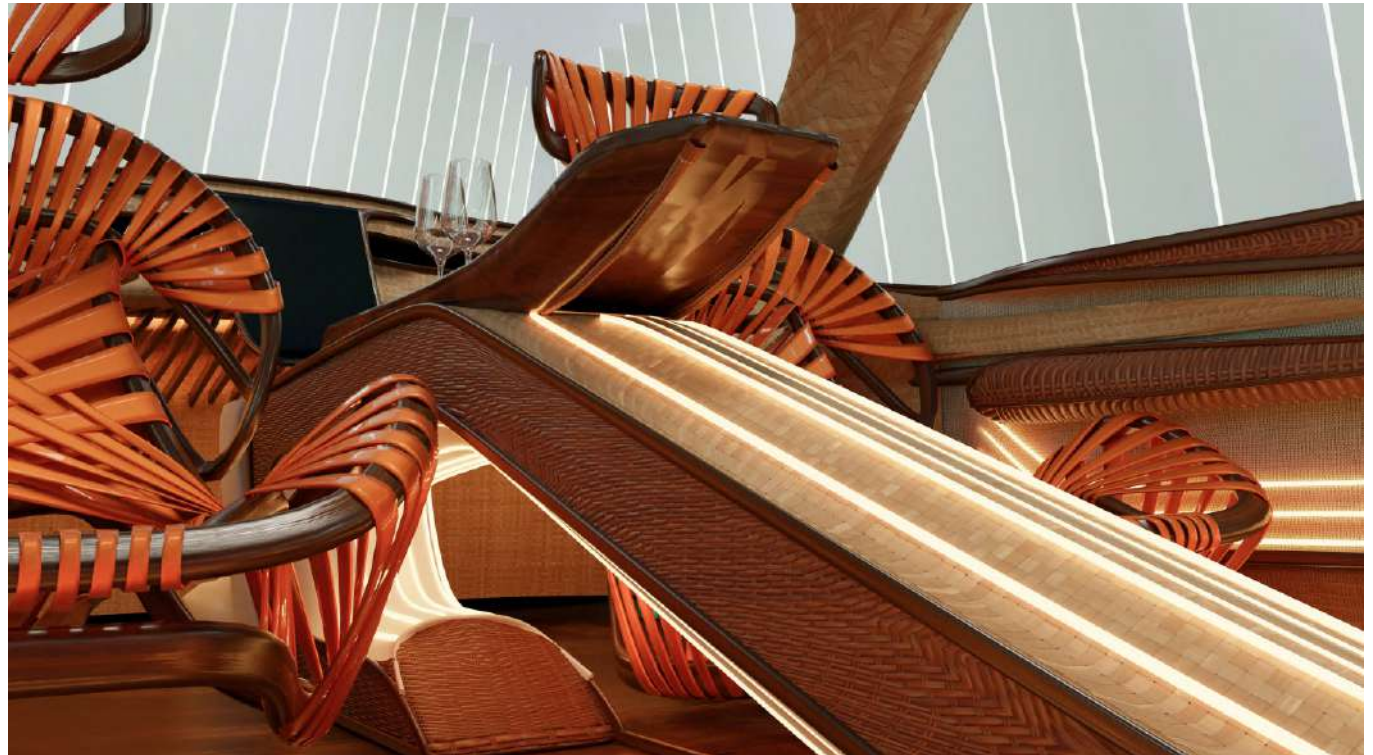
Birds eye view



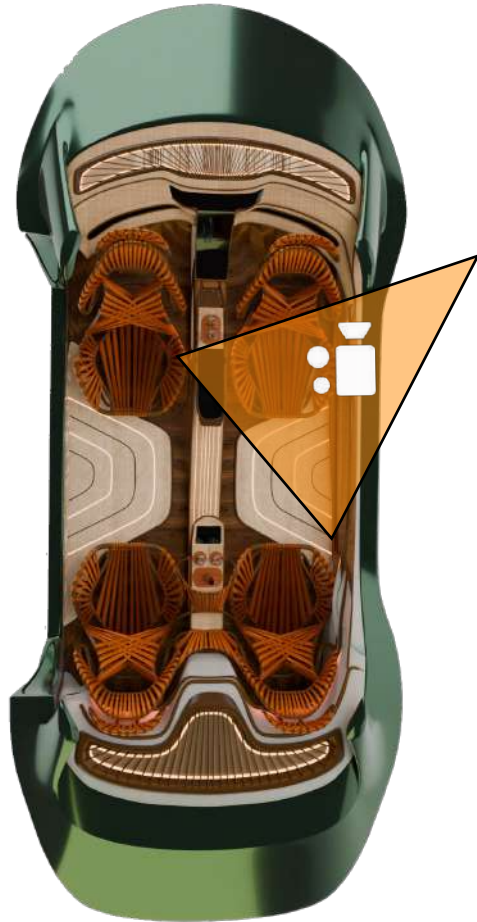
27. Renders



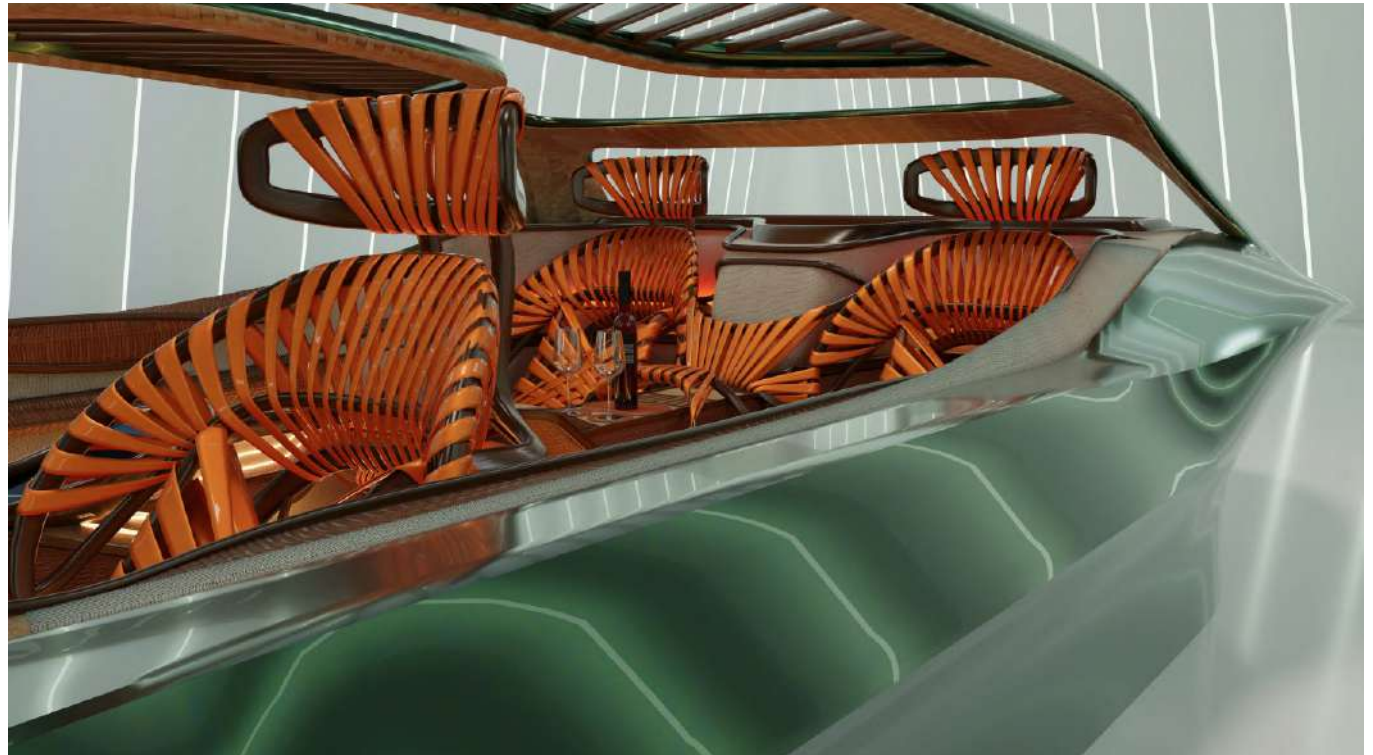
Birds eye view



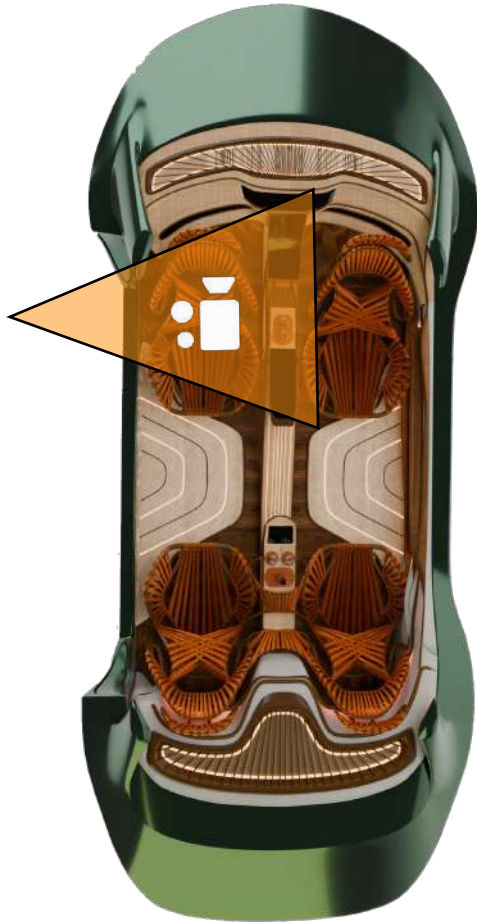
27. Renders



Birds eye view



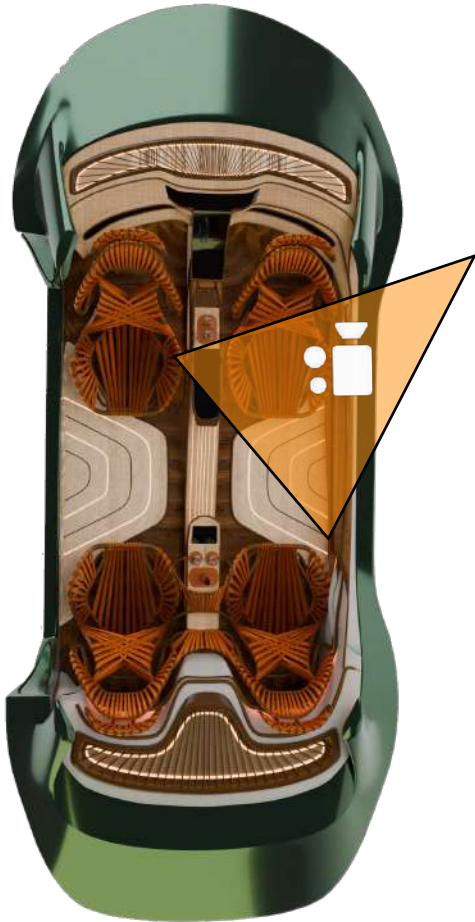
27. Renders



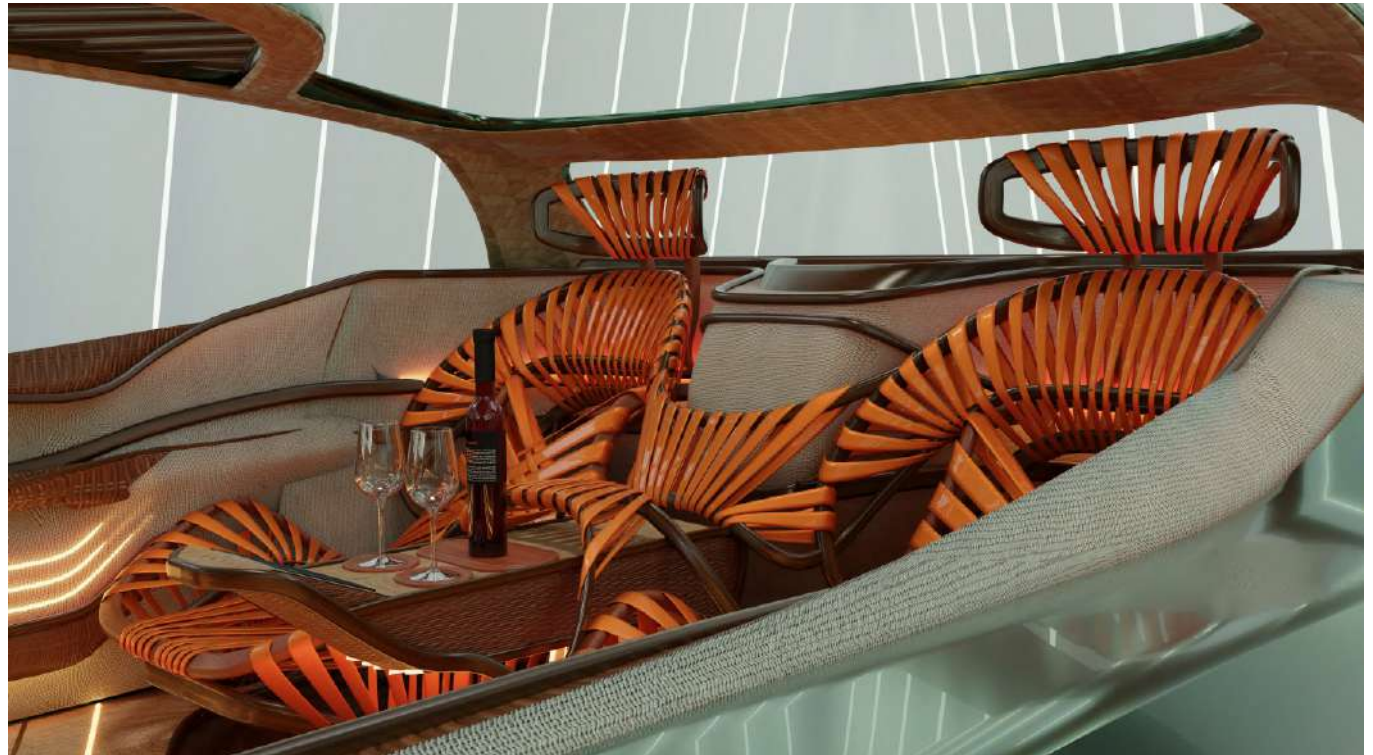
Birds eye view



27. Renders



Birds eye view



27. Renders



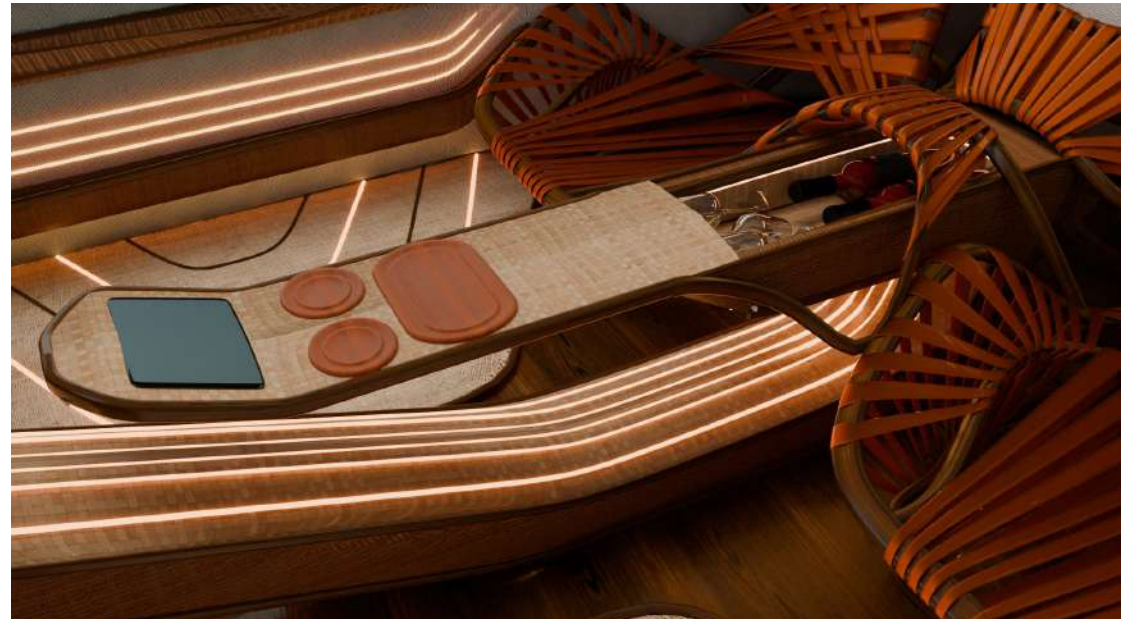
Birds eye view



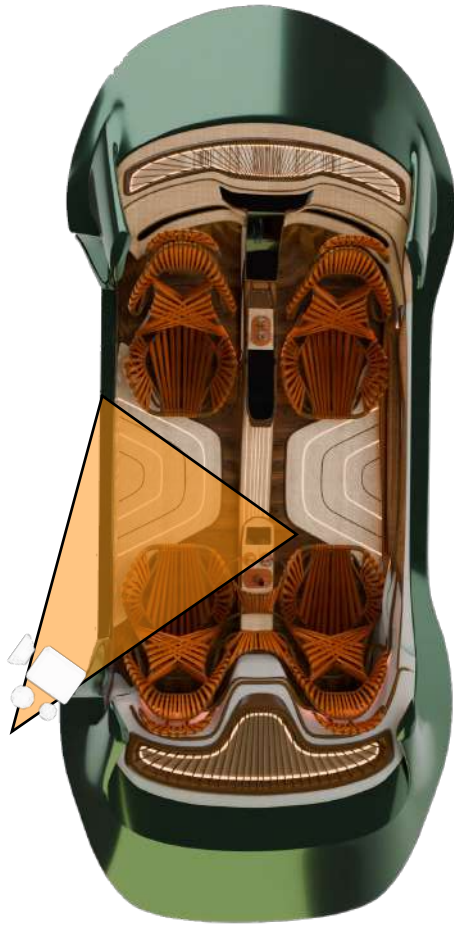
27. Renders



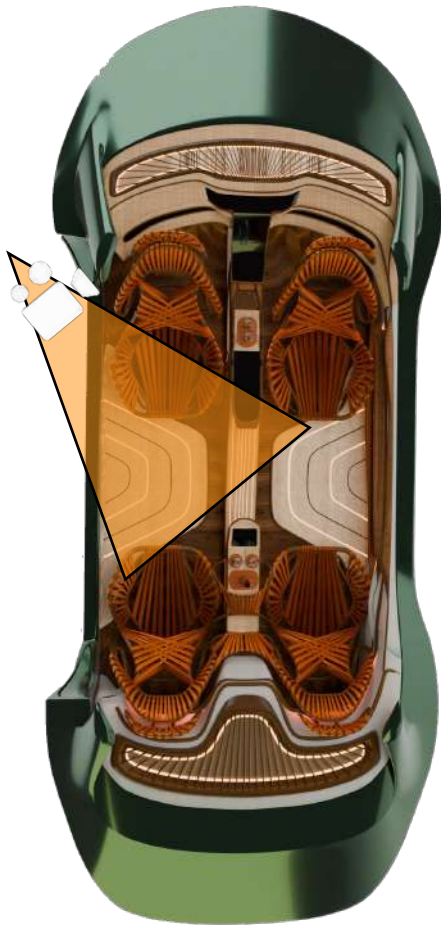
Birds eye view



27. Renders



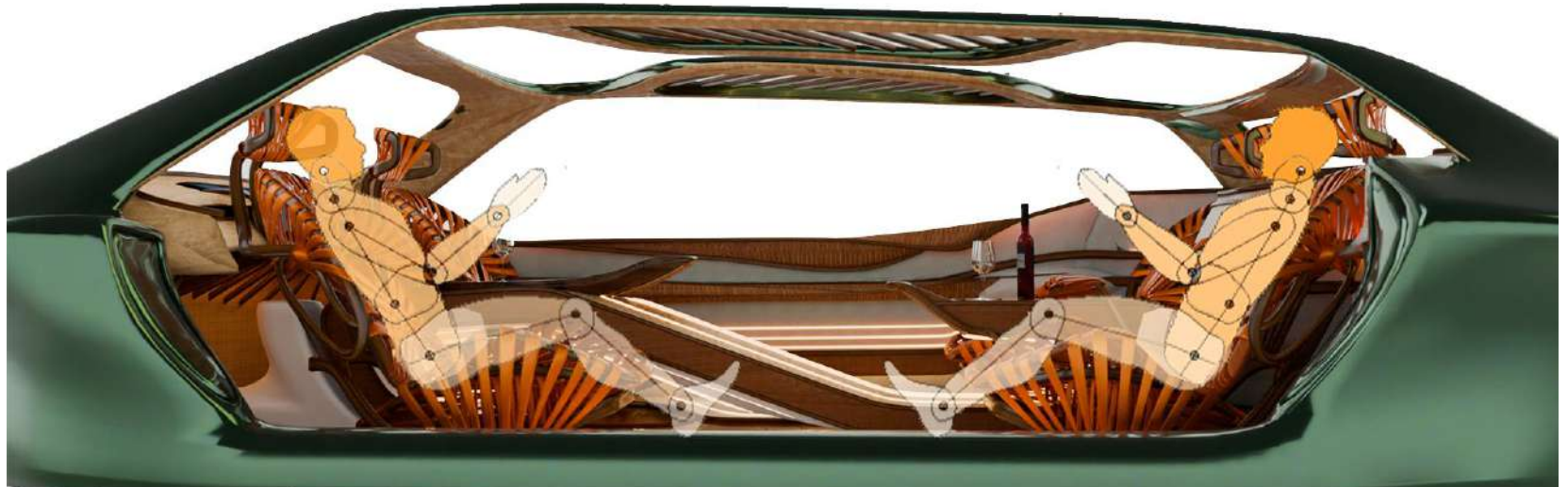
27. Renders



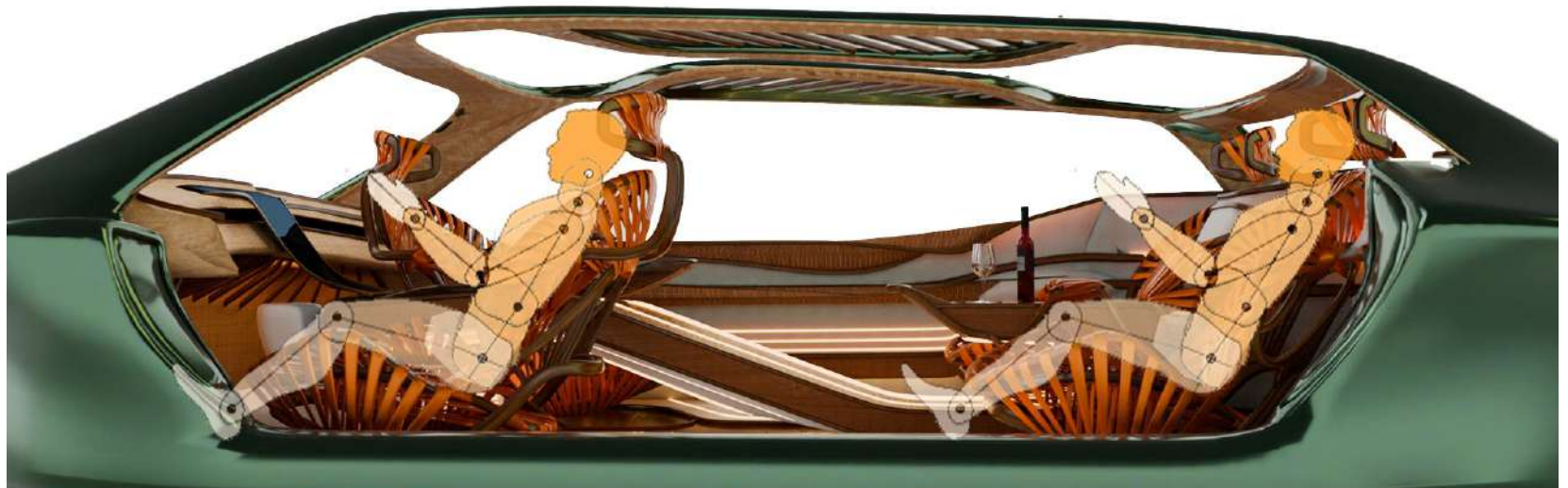
27. Renders



15.1 Seat Design **Ergonomics**



Face to Face seating layout



Traditional seating layout