

MOBILE HOME FOR INDIAN YOUTH

Project by: Prateek Pagore

Guidance by:

Prof. Sugandh Malhotra

Prof. Aseef Kadir

Approval Sheet

The Mobility and Vehicle Design project report entitled "MOBILE HOME FOR INDIAN YOUTH" by Prateek Pagore is approved in partial fulfillment of the requirement for Masters of Design degree in Mobility and Vehicle Design.

Project Guide: 

Chairperson: 

Internal Examiner: 

External Examiner: 

Date: 29th June 2023

IDC School of Design,

Indian Institute of Technology, Bombay.

Declaration

I hereby declare that this written report represents my own idea in my own words, and where others, ideas or words have been included, I have mentioned the original source. I also declare that I have adhered to all principles of academic honesty and integrity and have not falsified, misinterpreted, or fabricated any idea, data, facts, or source in my submission. I understand that any violation of the above will be cause for disciplinary action by the institute and can also penal action from the source from which proper permission has not been taken, or improperly cited.

Name: Prateek Pagore

Roll no: 216390005

Date: 29/06/2023

Acknowledgement

I would like to use this opportunity to express my gratitude to the IDC School of Design, the Head, the Course Coordinator, and our Professors, Prof. Nishant Sharma and Prof. Sugandh Malhotra, for supporting and enabling me to complete this M.Des Project 3. I want to express my gratitude to my mentor, Prof. Suagandh Sir, for his support and important advice during the project. Thanks to him, I was able to practice and understand Design Thinking and shatter the conventional wisdom of linear thought processes.

I want to express my gratitude to my guide, Prof. Aseef Kadir, for his steadfast advice, and active, and enthusiastic participation, as well as for facilitating my exposure to the practices of the automotive industry to deepen my understanding. He appreciated the right direction and let me know when I was veering off course. This time has given me invaluable experience and expertise that will help me become a skilled designer. Last but not least, I want to express my gratitude to my family and friends for continuing to encourage, help, and support me throughout the process.

Contents

Abstract	6	Technology Intergration	28
Experience of Van life	7	Skateboard Chassis	28
Global trends that Encourage Van Life	9	Transparent Solar Panels	29
Why Design a Mobile home for India ?	10	Smart Windows	30
Product Study	11	Layout Exploration	31
Honda N- Van Camper	12	Ideations	34
Mercedes Benz Concept EQT Marco Polo	13	Theme board	35
Ford Cross cabin (Ford Transit Conversion)	14	Physical Form of the product	35
Stella Vita	15	Form Exploration	36
Popular Vehicles used in India	16	Concept 1	37
User Study	17	Concept 2	38
User Interviews	17	Concept 3	39
User Daily Activities	20	Final Concept Development	40
User Insights	22	Concept use cases	41
DESIGN BRIEF	23	Packaging	45
Persona	24	Packaging	46
Mood Board	25	Final Design	47
Product Placement	26	Scenario Renders	56
Layout Planning	27	Reference	63

Abstract

Van life refers to a lifestyle where people live in converted vans or recreational vehicles (RVs) and travel full-time or part-time, often in search of adventure, freedom, and a simpler way of living. The history of van life dates back to the 1960s and 1970s when the counterculture movement gained popularity in the United States. During this time, many young people sought to break away from mainstream society and live a more alternative lifestyle. One way they did this was by converting vans and buses into mobile homes and traveling across the country. This was often referred to as "hippie van life" and was characterized by a sense of freedom, self-expression, and community.

As the years went by, van life continued to evolve and adapt to changing times. In the 1980s and 1990s, van life became popular among surfers, who used vans as a way to travel to different beaches and catch waves. During this time, there was also a growing interest in minimalism and sustainable living, which inspired many people to downsize their homes and live more simply.



image no.-1 : Vintage trailer and Camper vans



image no.-2 : early 2000s Camper vans

In the 2000s and 2010s, van life experienced a resurgence in popularity as social media platforms like Instagram and YouTube gave people a way to document and share their travels and experiences. This led to a new generation of van lifers who embraced technology and used it to connect with others in the community.

Today, van life is a global phenomenon, with people from all over the world embracing the lifestyle and sharing their experiences online. Van life has become a symbol of freedom, adventure, and simplicity, and continues to inspire people to live life on their own terms.

Experience of Van life

Whether it's a van, an RV, or another sort of habitation, travelling with a mobile home can have a significant impact on how we perceive people. Different facets of human behaviour and qualities are highlighted by living in a van. As people continually adjust to various locations, temperatures, and living conditions, it emphasises the value of flexibility. This promotes adaptability and the capacity to thrive in novel circumstances. As people come up with creative ways to make the most of their limited space and resources, van living also fosters creativity and encourages resourcefulness in other spheres of life. Aside from encouraging people to prioritise basics and embrace life's simplicity, living a minimalist lifestyle in a van also helps people to rely less on material belongings. A strong sense of personal autonomy is fostered by the independence that comes with van life, which enables folks to explore new locations, make connections, and build their own path.

In the end, travelling in a mobile home delivers life-changing experiences that improve self-awareness and emphasise the importance of flexibility, creativity, minimalism, and independence in our daily lives.



image no.-3,4,5 : People Enjoying van life - Relaxing in Hammock , camping , sight seeing

Van Life in India

Van life or mobile living is not a new concept in India. In fact, nomadic communities like the gypsies and the Banjaras have been living in mobile homes for centuries. However, the modern-day van life movement in India started to gain momentum in the early 2000s when a growing number of people started to embrace the lifestyle. One of the key drivers of the van life movement in India has been the rising cost of living and the desire for a simpler, more sustainable lifestyle. With the increasing popularity of minimalism, sustainable living, and conscious consumerism, many Indians have been looking for ways to reduce their environmental footprint and live more simply.

The van life movement in India has also been fueled by social media, with platforms like Instagram, YouTube, and Facebook providing a platform for van lifers to share their stories and connect with others in the community. This has helped to create a sense of community and support among van lifers in India and has encouraged more people to embrace the lifestyle. While van life in India is still in its early stages, it is growing rapidly, and many people are finding it to be a fulfilling and rewarding way of life. With its focus on simplicity, sustainability, and freedom, van life is likely to continue to gain popularity in India and around the world.



Image no.-6,7,8,9 : Camper Vans and camping set up in India



Global trends that Encourage Van Life

The connection between the tiny house movement and van life is also evident, as both movements revolve around downsizing, sustainable practices, flexibility, and a DIY ethos. The tiny house movement has influenced people to embrace the van life lifestyle by popularising the concept of living in small, mobile homes. Sustainability, a central focus of the tiny house movement, has also inspired eco-friendly practices within the van life community, such as utilising renewable energy sources and composting toilets. The inherent flexibility of both tiny houses and vans has promoted freedom and autonomy, enabling individuals to align their living arrangements with their values and aspirations.



image no.-12: Tiny House in a shipping Container



image no.-13,14 : Minimalism and Remote Working / Workation Culture

In recent years, several global trends have contributed to the rise of van life culture. one significant trend is the growing embrace of minimalism and downsizing, with people worldwide prioritizing experiences over material possessions. Van life perfectly aligns with this trend, as it allows individuals to live with fewer belongings while focusing on adventure and experiences.

The other trend is the rise of remote work, enabling people to work from anywhere, including their mobile homes. This newfound flexibility has provided opportunities for individuals to live and work on the road, combining travel and exploration with earning a living.

Why Design a Mobile home for India ?

In light of India's complex cultural, geographic, and economic backdrop, designing an Indian mobile home van would be of importance and relevance. I know how important it is to explore and travel as a person who loves to travel by himself, and a well-made mobile house van that is made for Indian conditions can be a game-changer. It gives you the freedom to travel to different parts of our amazing country, like the mesmerizing Himalayas, the tranquil beaches of Goa, and the captivating Rajasthani desserts. Furthermore, cost is a key issue for many of us, and a mobile home van enables us to embark on cost-effective excursions by removing the requirement for pricey hotel stays, making travel more accessible and inclusive for youngsters like myself. The ability to be customized and flexible is another important factor. A mobile home van that can accommodate our particular needs is required due to the different temperatures, landscapes, and cultural practices in India.

I think a mobile home van can offer the ideal mix between work and pleasure as an Indian youth who engages in remote employment and digital nomadism more and more. It might provide devoted workstations, quick internet access, and cozy living quarters so we can travel while still being productive. Last but not least, the core of our travel experience is community and cross-cultural exchange. People from many parts of India and even foreign visitors can come together in a well-designed van, developing deep connections, exchanging stories, and fostering unity. I can see the enormous value and promise in creating an Indian mobile house van as a Design student since it opens up a world of opportunities for discovery, affordability, sustainable tourism, work-life integration, and community involvement.



* travelling family needs better space management

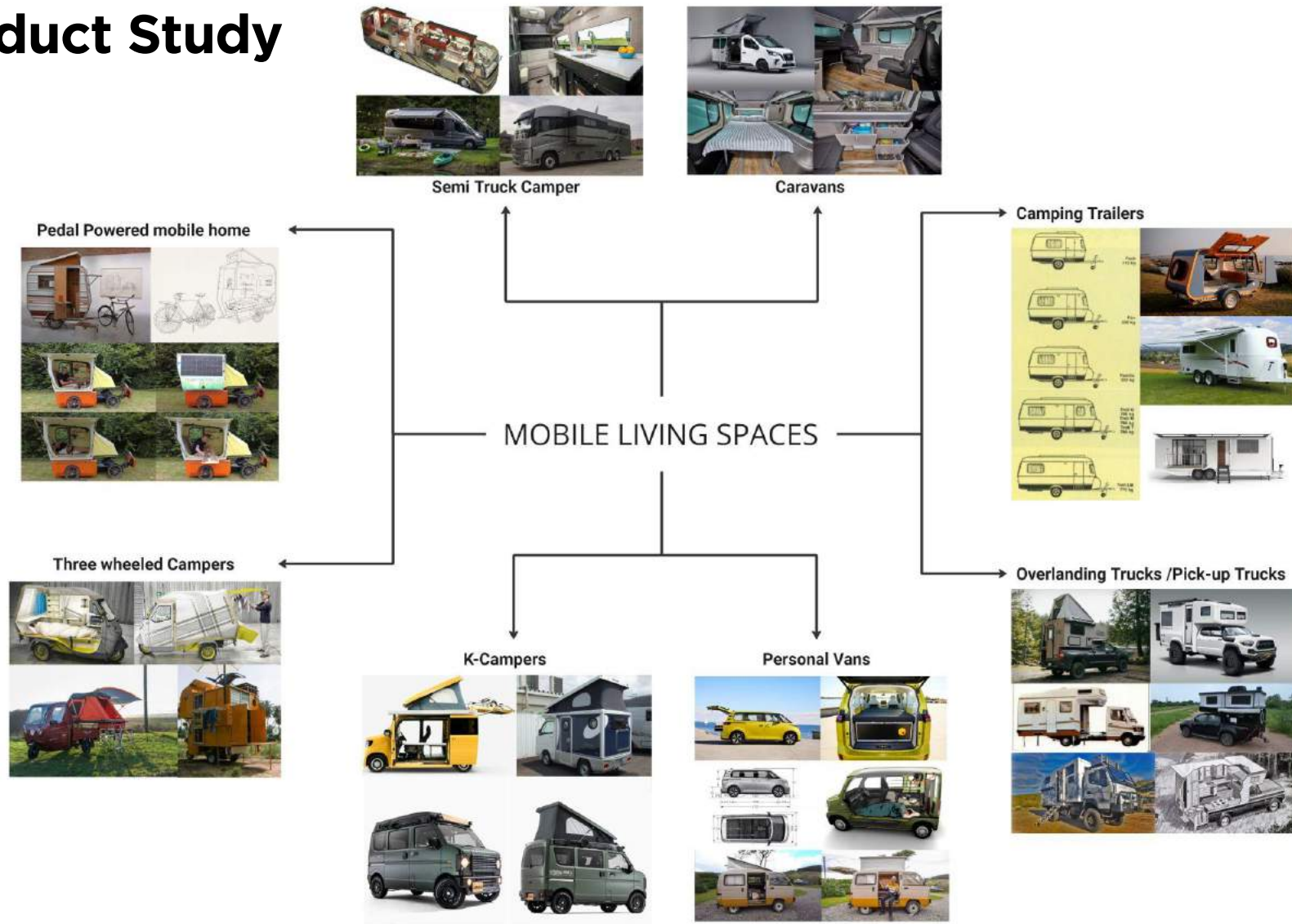


*Uncluttered and clean cooking space for community and individual cooking could be designed

image no. -10,11: Mobile Home van set up in India

Camper van conversions and van life have grown in popularity in India recently, with a lot of people and businesses doing their own DIY conversions or providing customers with tailored conversions. The Force Traveller, Tata Winger, and Mahindra Bolero are a few famous van makes in India that are converted. Overall, even though the camper van market in India is currently rather modest, it is anticipated to expand over the next few years as more individuals adopt the van life way of life and look for movable living options.

Product Study



Product Study

Honda N- Van Camper

The Honda N camper van is a compact and versatile camper van based on the Honda N-Box microvan platform. It offers a comfortable and convenient way to explore the outdoors. With its agile design and well-utilized interior space, it provides ample room for sleeping, dining, and storage. The pop-up roof adds extra headroom and sleeping accommodations while allowing panoramic views. The camper van features a functional kitchenette for outdoor cooking and offers connectivity options for entertainment. Despite its compact size, the Honda N camper van prioritizes comfort and convenience, making it a practical choice for urban adventurers and outdoor enthusiasts.



image no.-15 to18 : Different modes of Honda N- Camper Van

Product Study

Mercedes Benz Concept EQT Marco Polo

The Concept EQT Marco Polo, which is based on the long-wheelbase EQT variant, showcases an upcoming fully-electric micro camper. This near-production concept vehicle offers a sneak peek into the features of the camper still under development. It includes a pop-up roof with a roof bed, easily raised at an inclined angle, providing enough standing room in the rear. The pop-up roof can be fully opened or transformed into a window form with a zip at the rear, enhancing the sense of freedom during camping. With a sleeping area measuring 1.97 meters by 0.97 meters, the roof bed ensures a comfortable rest with a point-elastic disc spring system.



image no. -19 to 22 : Interior and Exterior of Mercedes Benz Concept EQT Marco Polo

Product Study

Ford Cross cabin (Ford Transit Conversion)

The interior of the Cross Cabin, a camper conversion based on the Ford Transit, is a stunning display of sculptural artwork. Instead of traditional furniture, Alpine has adorned the 264-inch (670-cm) cabin with bamboo ribs, seamlessly merging functionality and aesthetics. The ribs cleverly conceal shelves, lighting, and audio equipment, blending them into the overall design. At the rear, the cabin features integrated vis-a-vis benches with precise contouring. These benches, along with a transformable central table, create a versatile four-person dinette. The table serves as a dining table or conference table, and it can also transform into a folding workstation with a 32-inch display and an integrated keyboard, resembling a laptop. The Cross Cabin truly elevates the camper experience with its unique and multifunctional design.



image no.-23 to 25 : Interior and Exterior of the concept Ford Cross Cabin



Product Study

Stella Vita

The Stella Vita, created by the Solar Team Eindhoven, is an incredibly impressive solar-powered vehicle. This innovative creation has recently completed an impressive 1,800+ mile journey from Eindhoven to Tarifa in Spain solely on solar power. The teardrop-shaped Stella Vita not only showcases aero-inspired design but also offers accommodation for two passengers. With an aluminum chassis and glass fiber panels, it weighs 1,700kg and measures 7.2m in length and 1.83m in height. What sets the Stella Vita apart is its ability to unfold, allowing the roof to pop up and provide standing room inside. Additionally, it features a vast 17.5m² area of solar panels, harnessing ample sunlight for power generation. The Stella Vita truly pushes the boundaries of solar-powered transportation with its remarkable features and achievements.



image no. -26 to 28 : Stella Vita created by the Solar Team Eindhoven



Product Study

Popular Vehicles used in India



image no.-29 : Force Traveller

Enclosed Camper Van Conversions

As there are no Camper Van readily available in Indian Market , people buy vans and convert it into a camper van themselves. These types of vehicles have following features :

- Drivers compartment is part of living space
- All living essentials are inside the vehicle , with the possibility of camping setup near vehicle.
- All time living space.
- Combined Power system for living and travelling.

Vehicles used - Force Traveller Series , Tata Winger

Pick up Truck Conversions

As there are no Camper Van readily available in Indian Market , people convert Pickup Trucks into a camper van themselves. These types of vehicles have following features :

- Drivers compartment is as separate space.
- The Attachment opens ups to make a living space.
- Takes time to set up living space seperately.
- Vehicle can be separated to run errands and reach more places.
- Vehicle does not have much space to lounge

Vehicles used - Mahindra Bolero , Isuzu D max.



image no.-30 : Mahindra Bolera with a Overlanding set up

User Study

User Interviews

Harish Shah & Falguni
(Avg. travel time : 2-3 months)

The couple took an early retirement from their jobs in the UK in order to pursue their passion for travel in India. They have always disliked staying inside four walls, especially during holidays, and have a strong desire to explore and experience new places. In the UK, they used to rent a car and travel to distant villages, enjoying the freedom of the open road. However, they felt that staying in hotels kept them away from the authentic experiences and true essence of travelling.

To overcome this, they made the decision to travel using an overlanding setup. They opted for a caravan-style setup, which allowed them to have their own mobile home while on the road. They chose this mode of travel is that not all places in India have hotels readily available by having their own home on wheels, they

can be self-sufficient and explore even the most remote locations. They don't burden their vehicle with excessive supplies before setting off on their journey; instead, they prefer to buy things they need along the way. This approach allows them to travel light and adapt to their needs as they go.

One of the couple's favorite aspects of their travel style is their desire to interact with locals. Once they reach a location, they make a point of engaging with the local community, seeking out their knowledge and insights about the area, by actively seeking connections with the locals, they enrich their travel experience and create lasting memories.

Vehicle Used : Isuzu D max
States Travelled : Uttarakhand, Himachal Pradesh, Rajasthan, Maharashtra, Gujrat, Madhya Pradesh, Haryana, Ladakh.



image no.-31 to 33 : Harish and Falguni with their Overlanding Setup

User Study

User Interviews

Vivek Sharma & Family

(Avg. travel time : 6-8 months)

After the COVID-19 pandemic, he and his family made a brave choice to embark on an overlanding adventure across India, escaping the confines of their daily lives. The vehicle, originally used for photography equipment, became our transportation and home during the journey, granting us the freedom to explore off-the-beaten-path locations overlooked by conventional tourism.

Shifting their priorities from mere financial gain, they sought professions aligned with our passions and beneficial to children. This change brought joy and purpose as they made a positive impact on younger generations. Their travels became more fulfilling.

Overlanding taught them to appreciate limited resources. Simplicity became their satisfaction, and sustainability guided their journey. Establishing positive relationships

with locals ensured smooth stays and fostered cultural exchange.

Self-sufficiency emerged as a key factor as they traversed through regions of India where traveler amenities were scarce. Equipping the vehicle with essential provisions such as water, food, and energy sources allowed them to venture into remote and awe-inspiring locations, fully immersing ourselves in the natural splendor of India's landscapes.

The post-pandemic decision to embrace overlanding transformed their lives. They broke free from conventional living, experienced diverse cultures, and found purpose. Responsible travel highlighted simplicity, authentic connections, and India's breathtaking beauty.

Vehicle Used :Conversion over Eicher Chasis
States Travelled : Uttarakhand, Himachal Pradesh, Rajasthan, Maharashtra, Gujrat, Madhya Pradesh, Haryana, Bihar, Uttar Pradesh, Jammu and Kashmir, Jharkhand.



image no.-34 to 36 : Vivek Sharma and Family with their Mobile Home

User Study

User Interviews

Deepak and Ruchi Pandey
(Avg. travel time : 1-2 months)

In their previous travels, they would rely on a car for transportation. However, the desire for the comforts of home wherever they ventured led them to construct a caravan. With their new setup, they now carry a seven-day supply of rations and replenish them along the journey.

Water, a valuable resource, is used sparingly, taking into consideration the number of individuals traveling with them. Their daily routines resemble those of living in a traditional home, encompassing morning walks and regular exercise to maintain a sense of normalcy. They firmly believe that nature provides solutions to all needs, and it only requires courage to seek them out. They have come to realize that it is possible to enjoy both comfort and adventure during their trips.

Their daily routine involves waking up, packing up their belongings, traveling to the next destination, setting up camp, cooking meals, and repeating the process. This structured approach allows them to maintain a sense of familiarity while immersing themselves in new and thrilling locations.

By creating a mobile home on wheels, they have found the perfect harmony between comfort and adventure. Embracing self-sufficiency and the marvels of nature, they have discovered fulfillment and tranquility in their nomadic way of life.

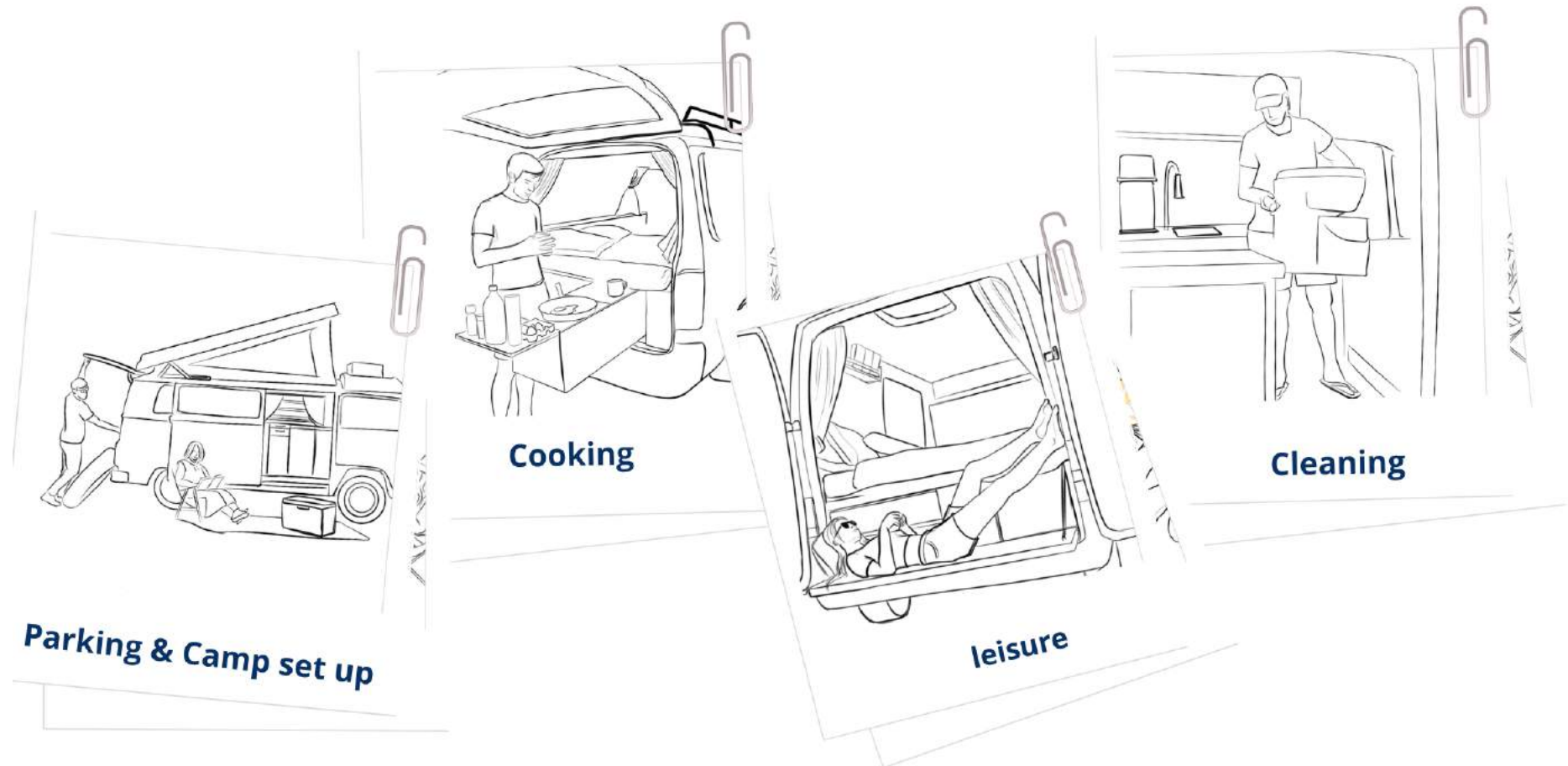
Vehicle Used: Force Traveller
States Travelled: Uttarakhand, Himachal Pradesh, Rajasthan, Maharashtra, Gujrat, Haryana, Bihar, Uttar Pradesh, Goa



image no.-37 to 39 : Deepak and Ruchi Pandey with their Camper Van

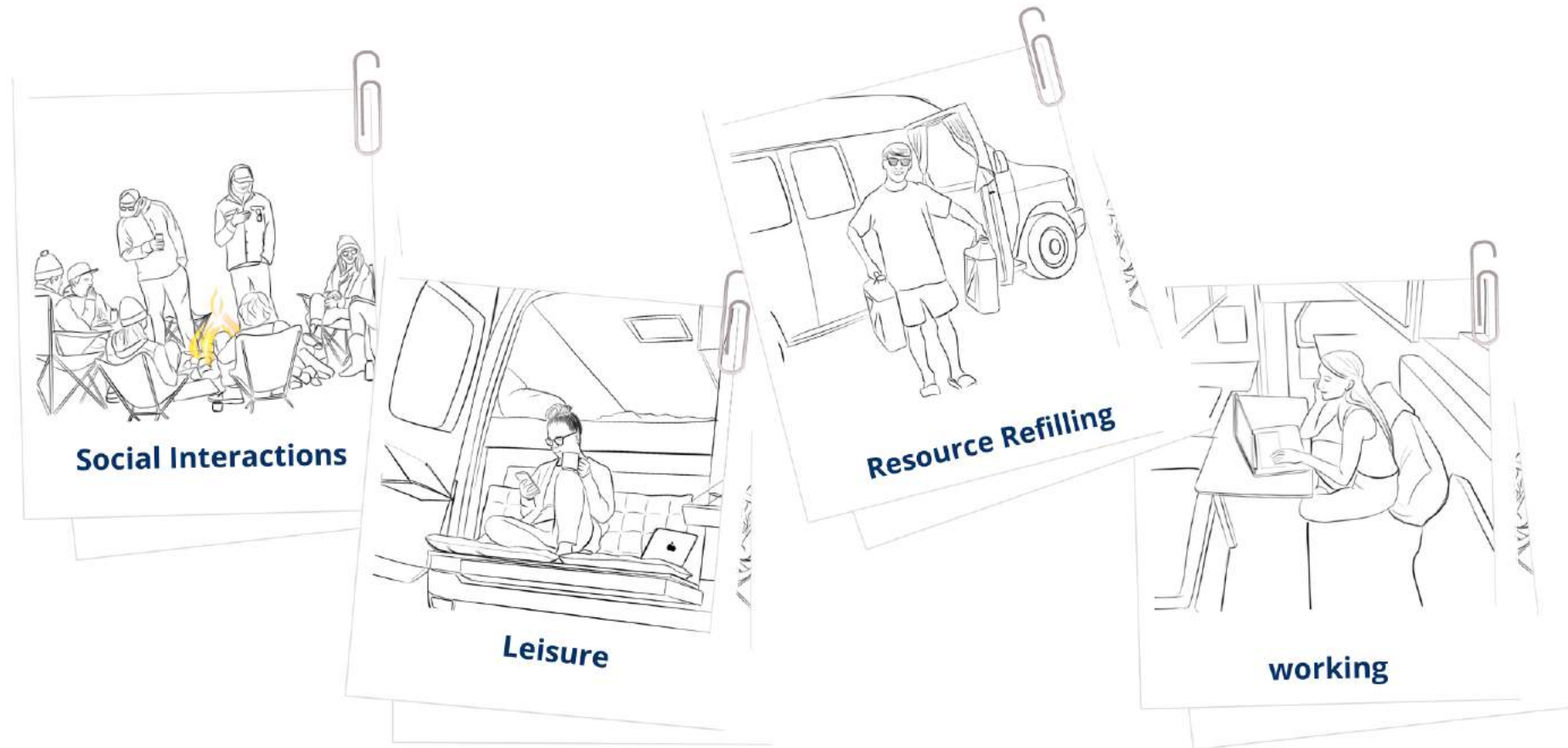
User Study

User Daily Activities



User Study

User Daily Activities



User Study

User Insights

Indian users value mobility and the ability to navigate through crowded streets and diverse terrains.

Vehicle should make the most of the available space inside by incorporating smart storage solutions, versatile furniture designs, and foldable or expandable elements. This enables users to optimize the interior space for sleeping, dining, and storing personal belongings.

Van should incorporate Sustainable energy solutions, this can include options like solar panels, efficient insulation, water-saving mechanisms, and environmentally friendly materials to reduce the ecological footprint.

Ensure easy access to essential amenities such as clean water, efficient waste management systems, and reliable power outlets for charging devices.

Prioritize safety features to instill confidence in users. This can include secure locks, reliable braking systems, robust structural integrity, and safety measures to protect both the occupants and the vehicle.

A key insight from my interviews is the desire to address the closed-off feeling of current camper vans, where users cannot fully experience the surrounding nature. To tackle this, designing a camper van with larger windows, skylights, and openable window options can offer better visibility and a closer connection to the outdoors. Innovative features like retractable or transparent roof sections can further enhance the sense of openness. By prioritizing these design elements, the camper van experience can provide users with panoramic views, natural light, and a greater appreciation of the beauty of nature within a compact and mobile living space.

Users also enjoy outdoor cooking on daily basis as well as along with fellow travellers. It allows users to embrace the joy of cooking and dining outdoors, enhancing their connection with the environment and creating unforgettable memories during their travels.



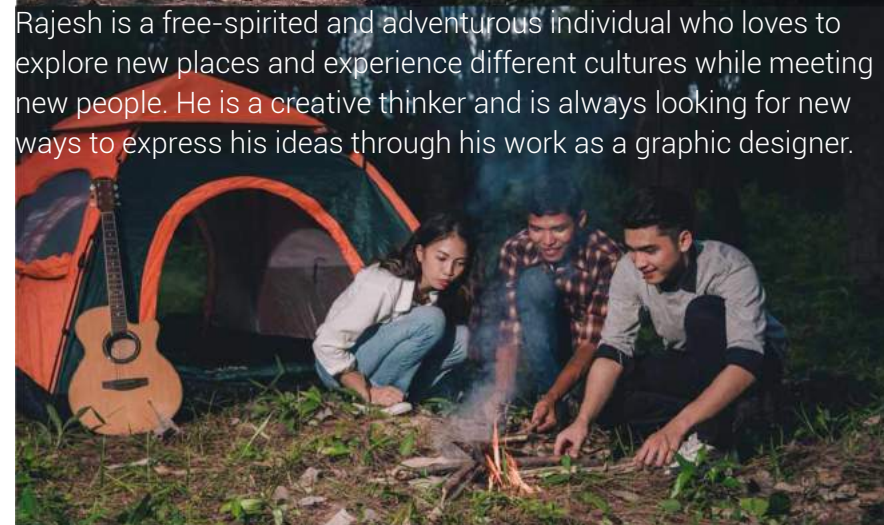
DESIGN BRIEF

To create a mobility solution for people who like to live on the go which gives them freedom to comfortably explore roads less travelled. The design should take into account elements like ease of setting up a camp within the vehicle, safety while camping, ability to handle different terrains. It ought to have space for two adults to sit, sleep and experience nature from within the vehicle, without creating a sense of confinement. The vehicle should be able to create an environment which makes the user feel one with nature.

- Dimension while on the move < L=5000mm, W=2000mm, H=1900mm
- Space for toilet and shower within the vehicle
- Larger windows and panoramic roof
- Kitchen to cook in the open
- Space for personal storage and Entertainment

Persona

Rajesh Kumar
Age: 28
Freelance graphic designer
Location: Mumbai

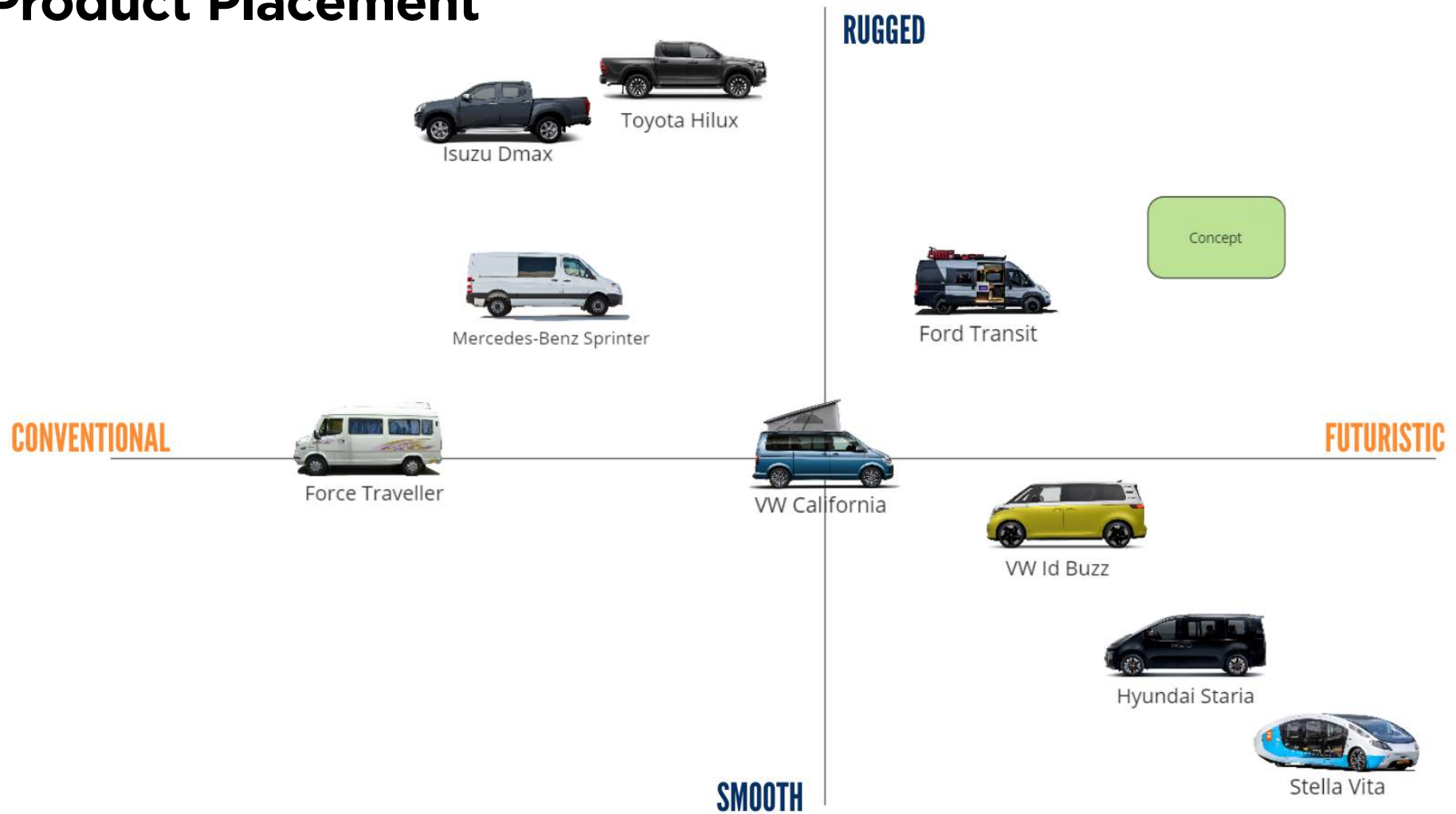


Mood Board

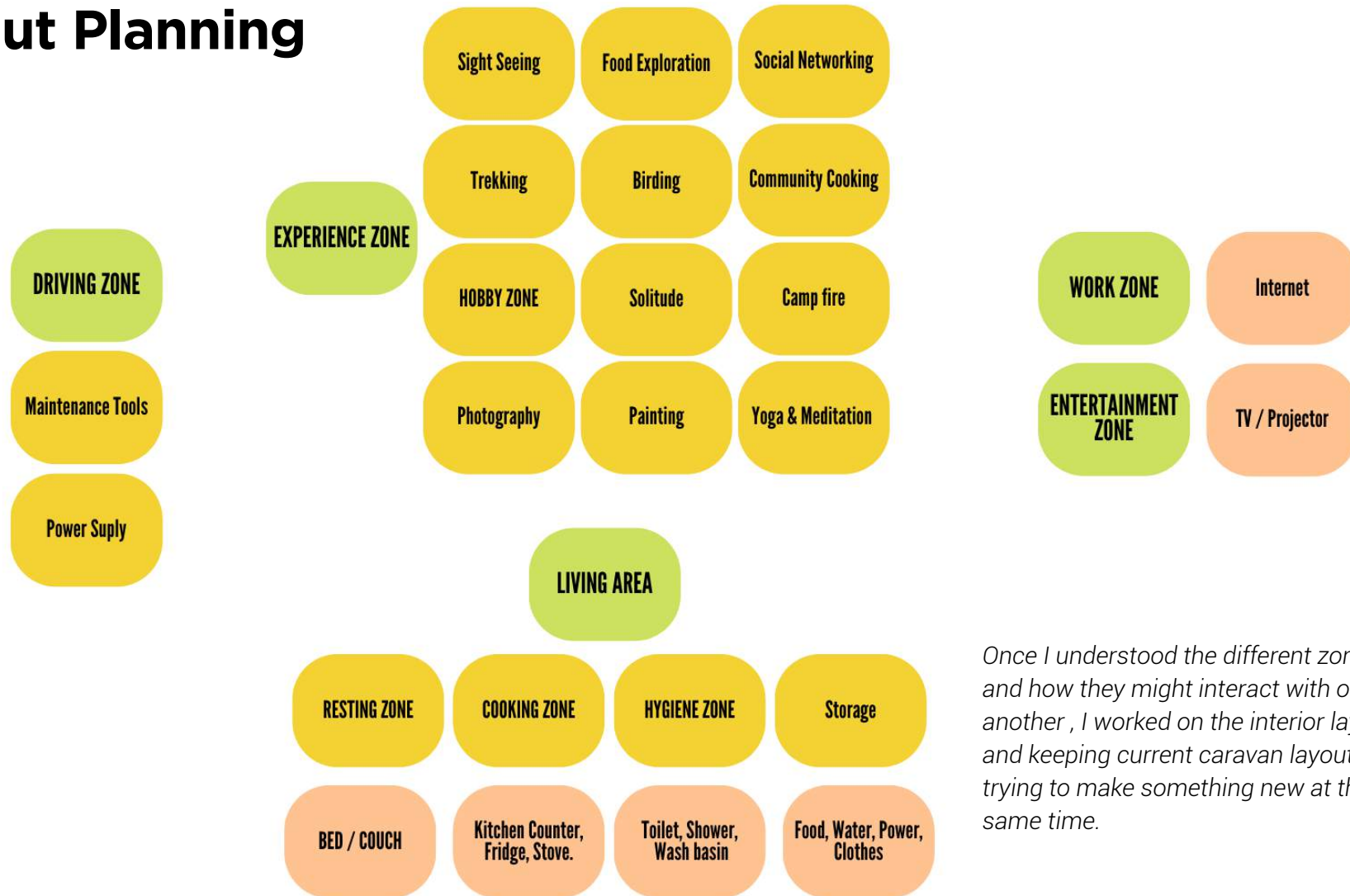
Spirit of the product



Product Placement



Layout Planning



Once I understood the different zones and how they might interact with one another, I worked on the interior layout and keeping current caravan layouts and trying to make something new at the same time.

Technology Integration

Skateboard Chassis

As there is no significant engine compartment, the skateboard chassis has more interior space for passengers and luggage. They have a flat platform on which important components such as the electric motor and batteries are housed. The low centre of gravity increases handling and stability, and the platform is easily adaptable to varied body forms and designs. The advantages of the skateboard chassis, such as improved handling, diverse design options, expanded room, and adaptability, make it a good choice for campervans, providing manoeuvrability, lightness, and customization. Its compact size and tiny turning radius make it ideal for city driving, while the integrated suspension system promotes comfort, particularly on rocky terrain. Hence the Skateboard Chassis is selected for the Solution.



image no.-40 - Skateboard Chassis

Technology Integration

Transparent Solar Panels

The idea is to integrate the transparent solar panels into the camper van. They can replace traditional windows and skylights, allowing natural light to enter while generating electricity. Installing panels on the roof maximizes solar power generation and can charge the van's batteries. Incorporating panels into awnings or the exterior of the van provides dual functionality, offering shade and protection while harnessing solar energy. By utilizing transparent solar panels, camper van owners can enjoy renewable energy generation without compromising visibility or the aesthetic appeal of their vehicles.

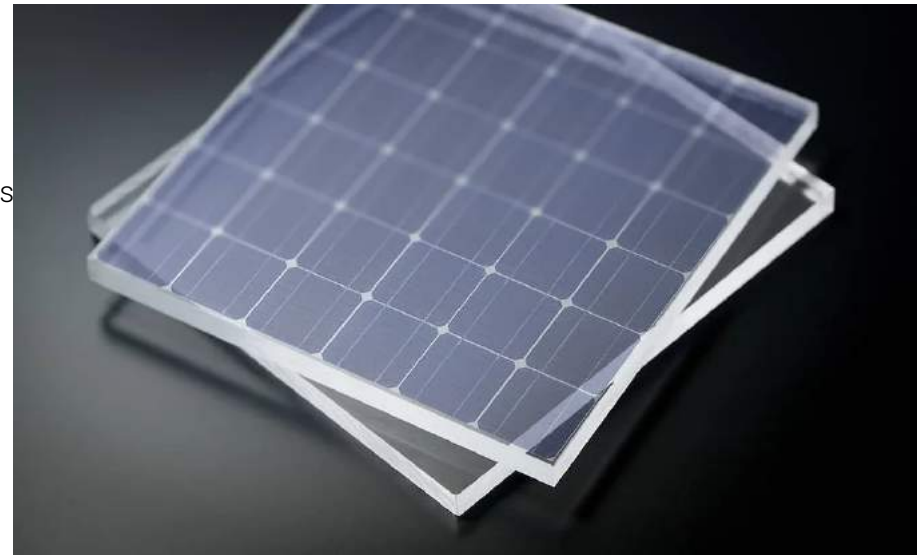


image no.-41 - Small piece of Transparent Solar Panels

Technology Integration

Smart Windows

Switchable glass, also known as smart glass or electrochromic glass, is a type of glass that can change its transparency or opacity with the application of an electrical voltage. The combination of transparent solar panels and switchable glass in the same window would offer several benefits. It will allow for the generation of solar power while maintaining control over privacy, light transmission, and glare reduction. This dual-functionality would enhance the energy efficiency and user experience of the window.



image no.-42- Smart Windows used in office space

Layout Exploration 1



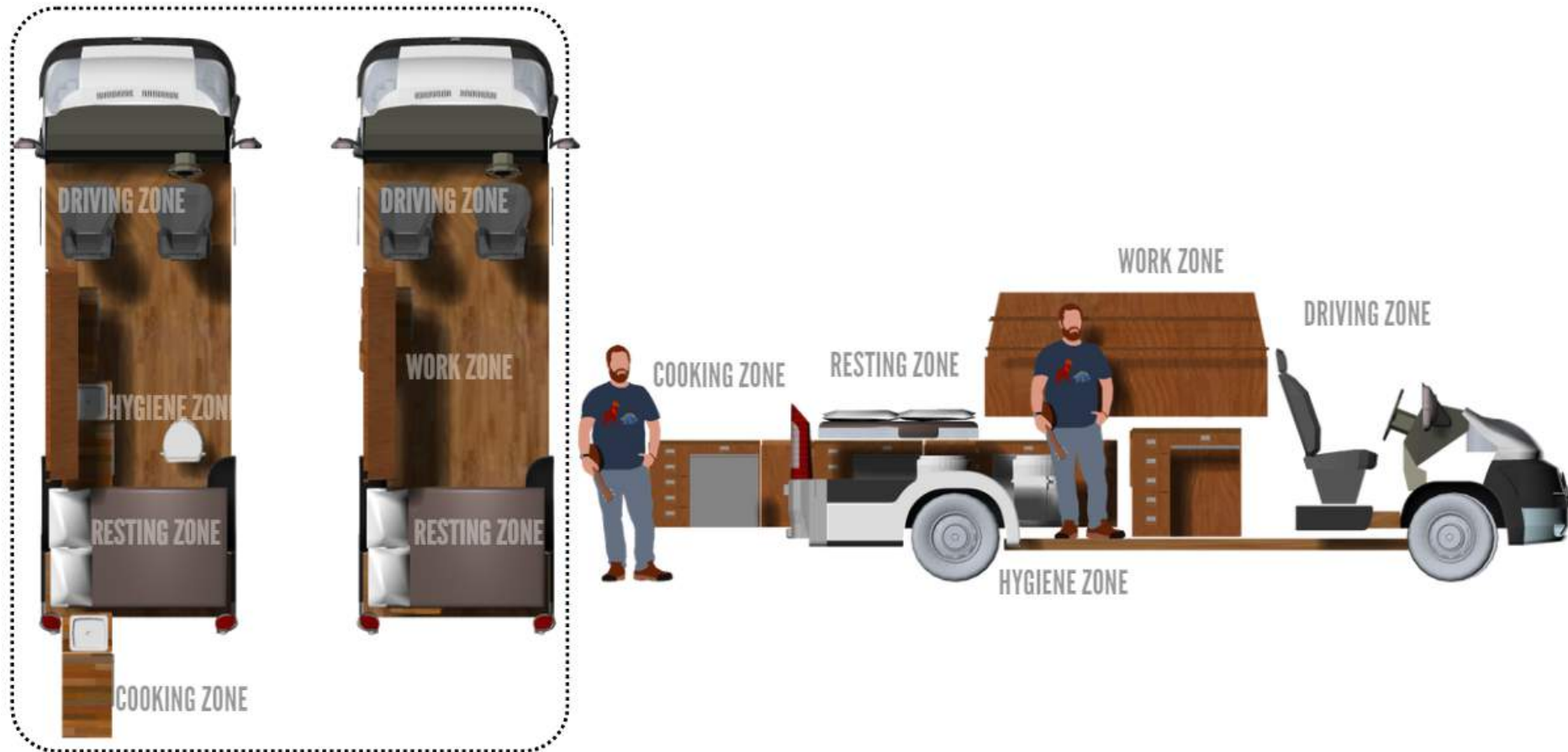
This layout tries to keep the cooking as well as the hygiene zone inside the vehicle, a closed space and permanent position, the space is dedicated and cannot be changed if the user wants to. The space used for the hygiene zone can be reduced as the user would be more accustomed to the first bag lifestyle and use the space scarcely.

Layout Exploration 2



This Layout brings the cooking zone outside the vehicle and combines the resting zone and driving zone into one, there is ample amount of space for the work zone. The hygiene zone remains fixed and at the back of the vehicle. This layout feels to be more work centric as the amount of space for work is too much, which is not always necessary.

Layout Exploration 3



This Layout brings the cooking zone outside the vehicle and hides the hygiene zone inside the resting zone , so that it can be used only when need be. The Driving zone can be converted to a work zone. Some free space is left for the user's personalization. *This Layout was chosen and improved upon further ideations and Concept development.*

IDC School of Design
अभिकल्प विद्यालय

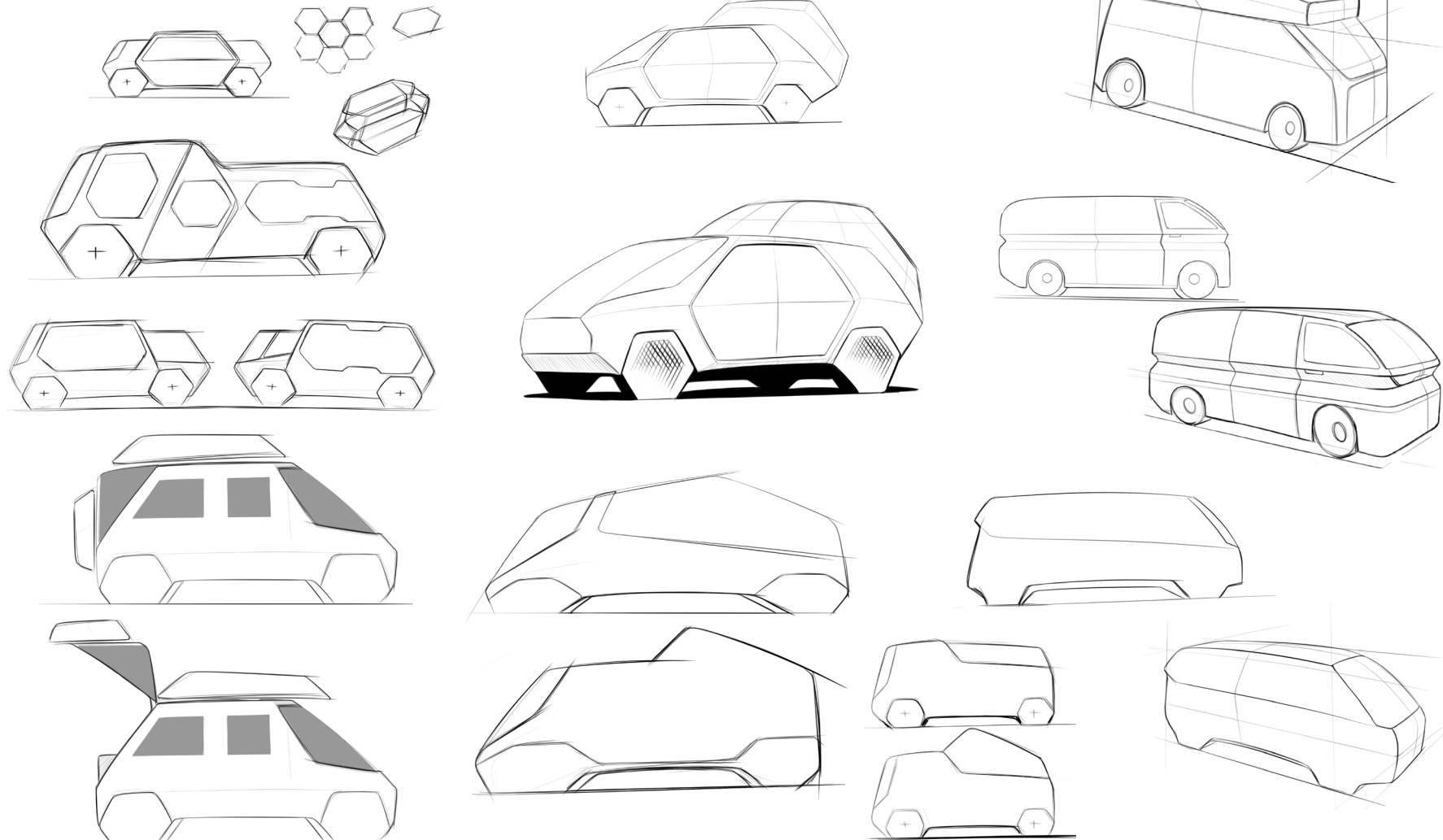


Theme board

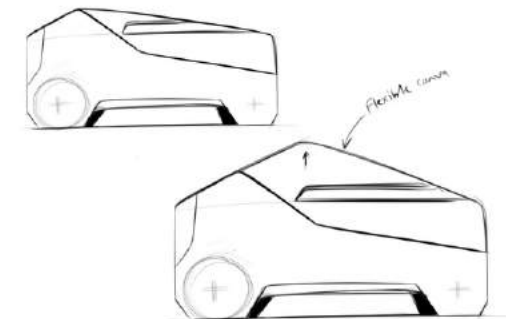
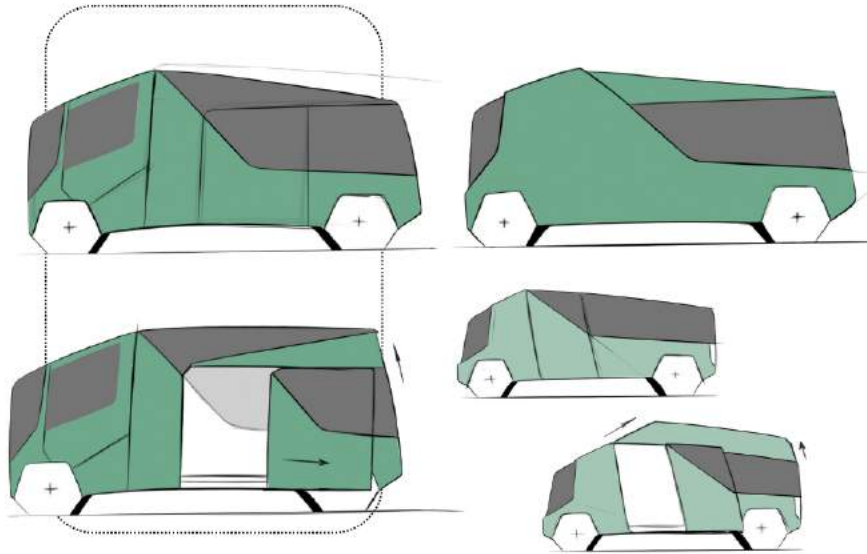
Physical Form of the product

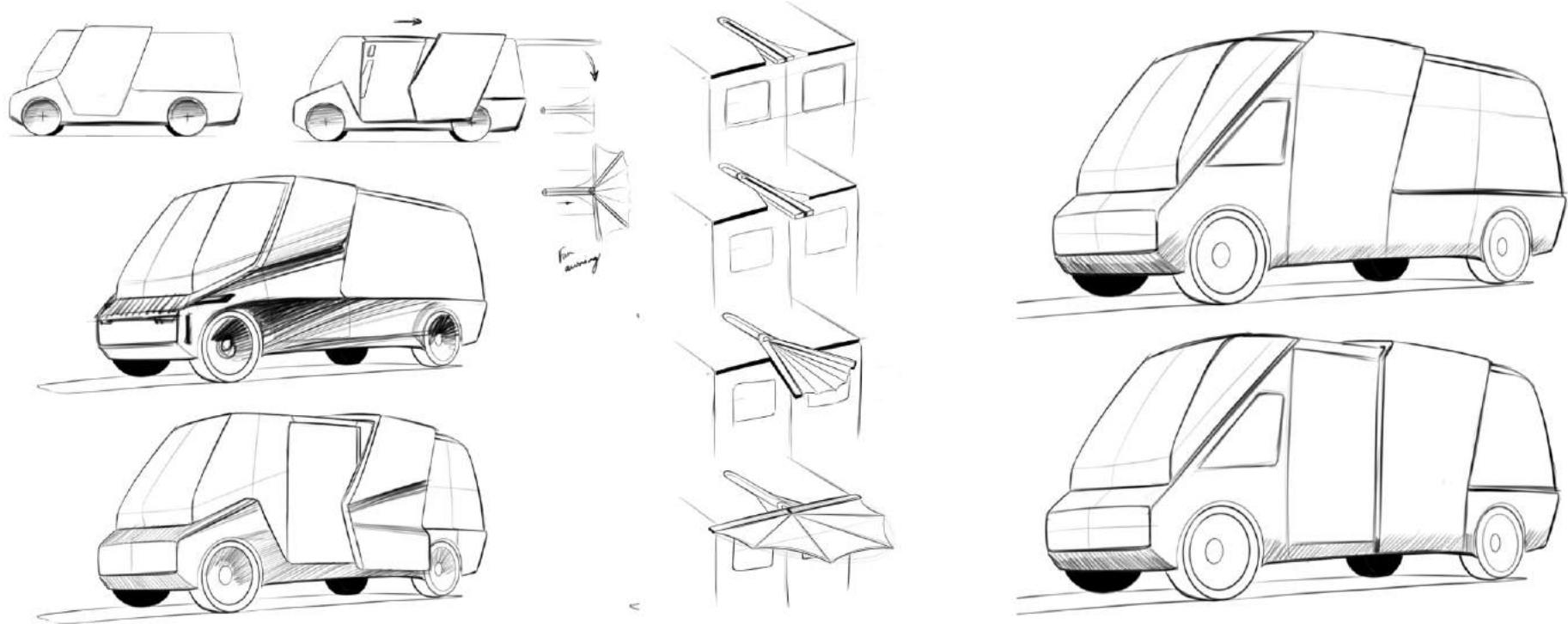


Form Exploration

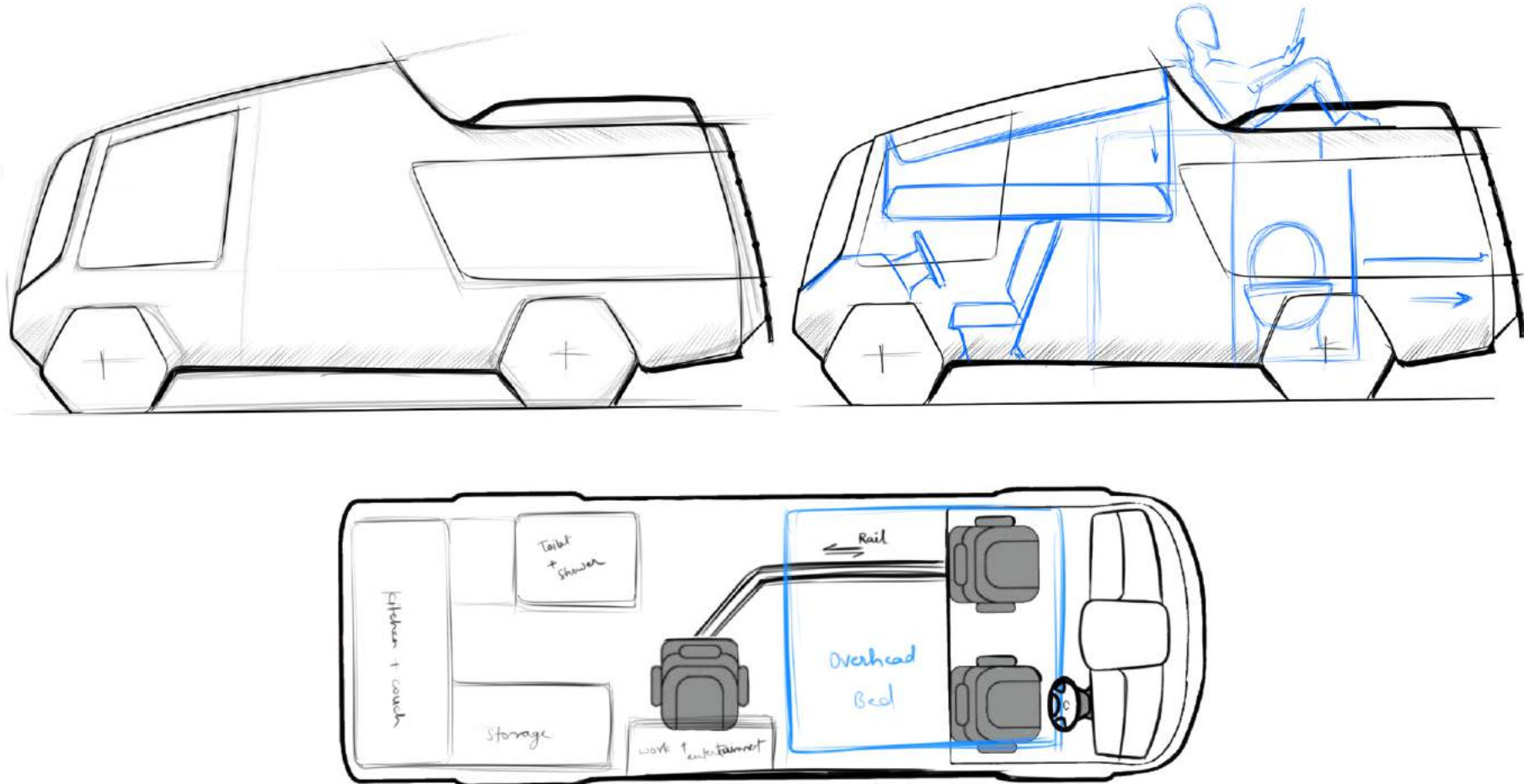


Concept 1

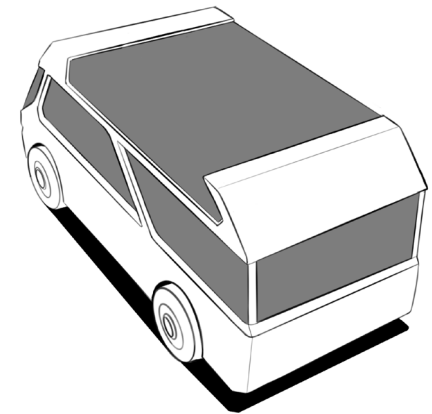
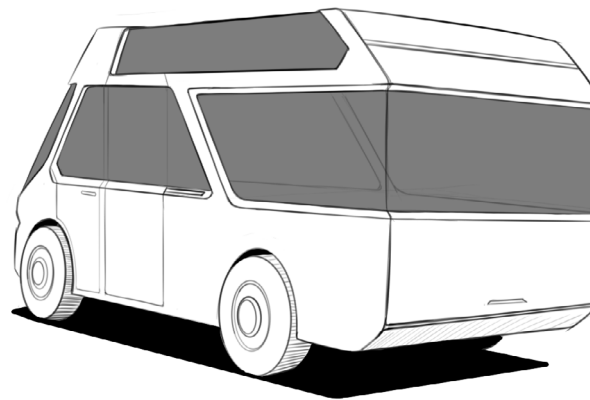
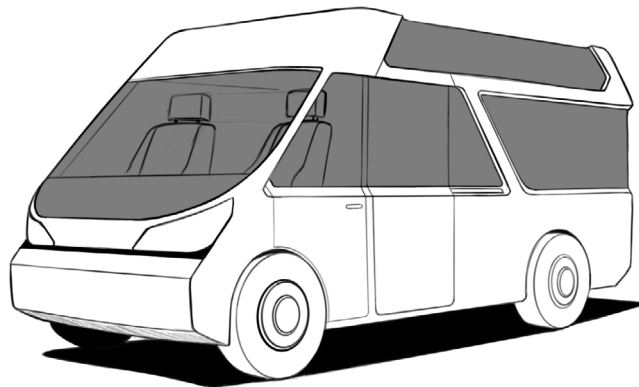
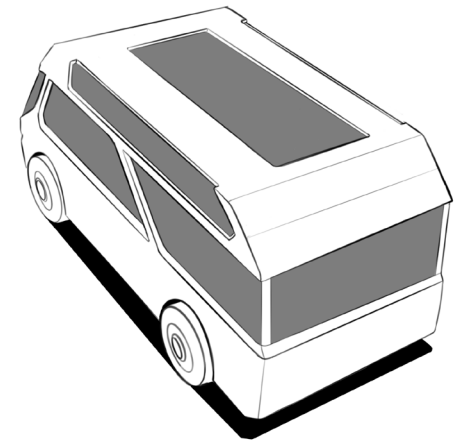
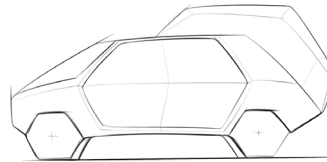
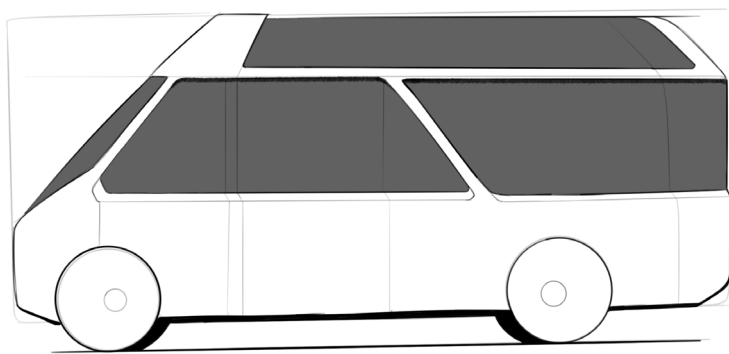




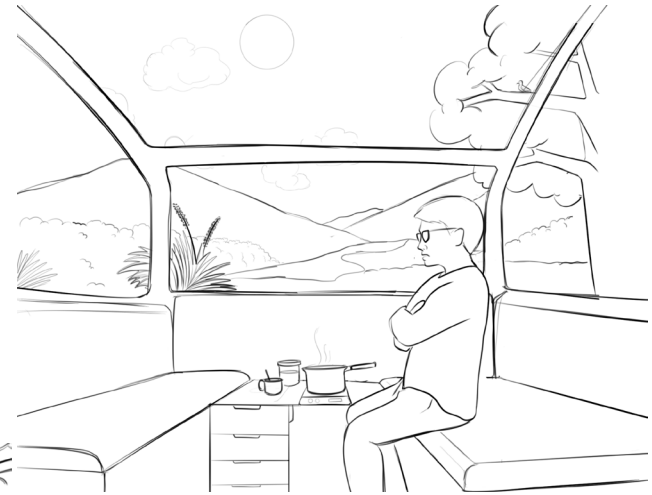
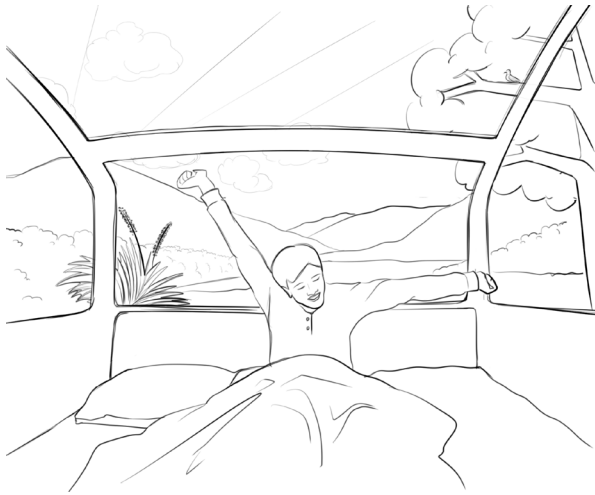
Concept 3

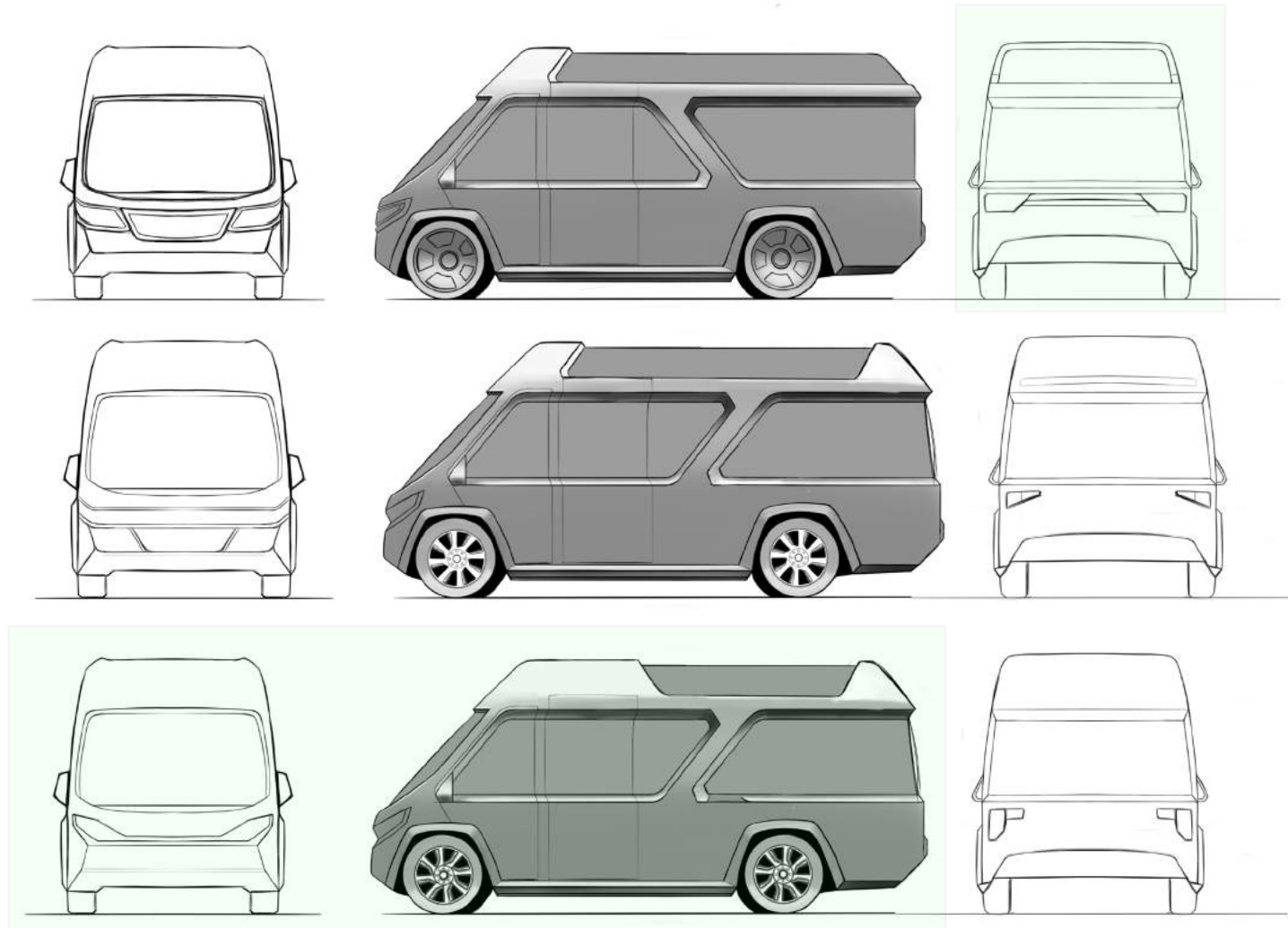


Final Concept Development

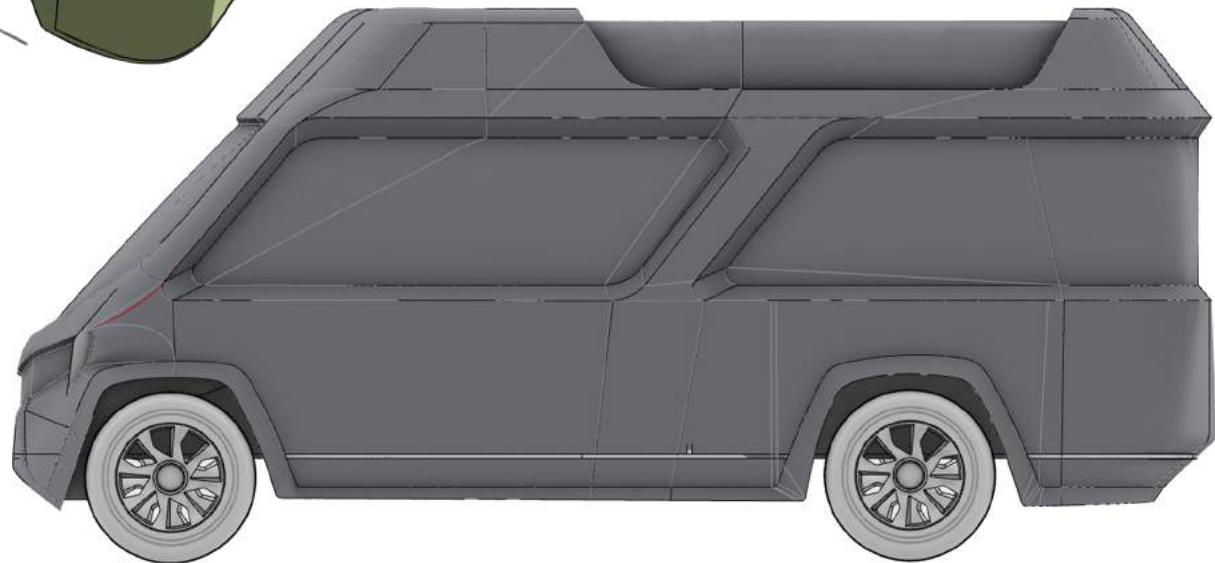
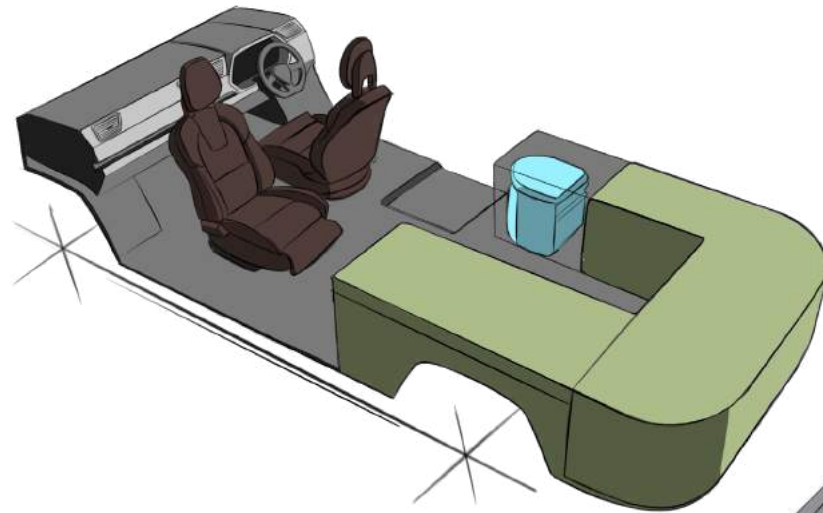


Concept use cases





Slight variations were tried and the highlighted were taken forward for further development into 3d Model

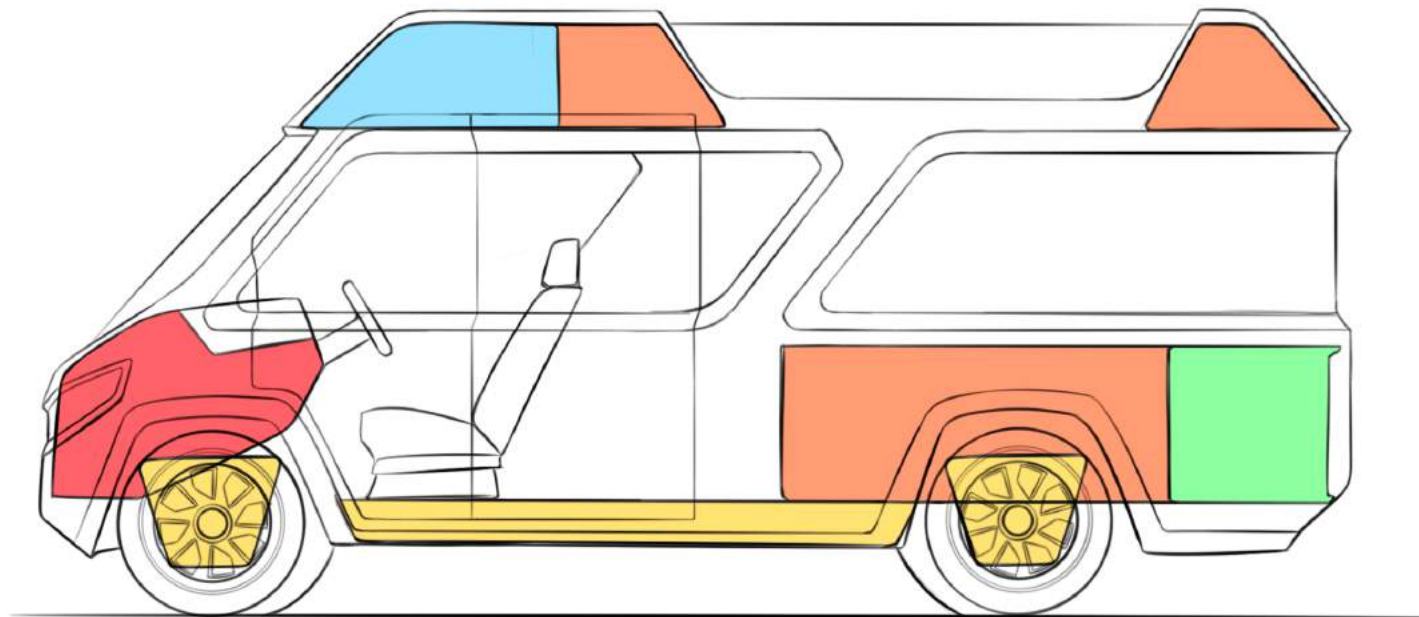


Concept use cases



Packaging

- Personal storage
- Kitchen storage
- Reserve water tank
- Electrical and maintenance
- Battery and motors



Packaging

● Normal use water

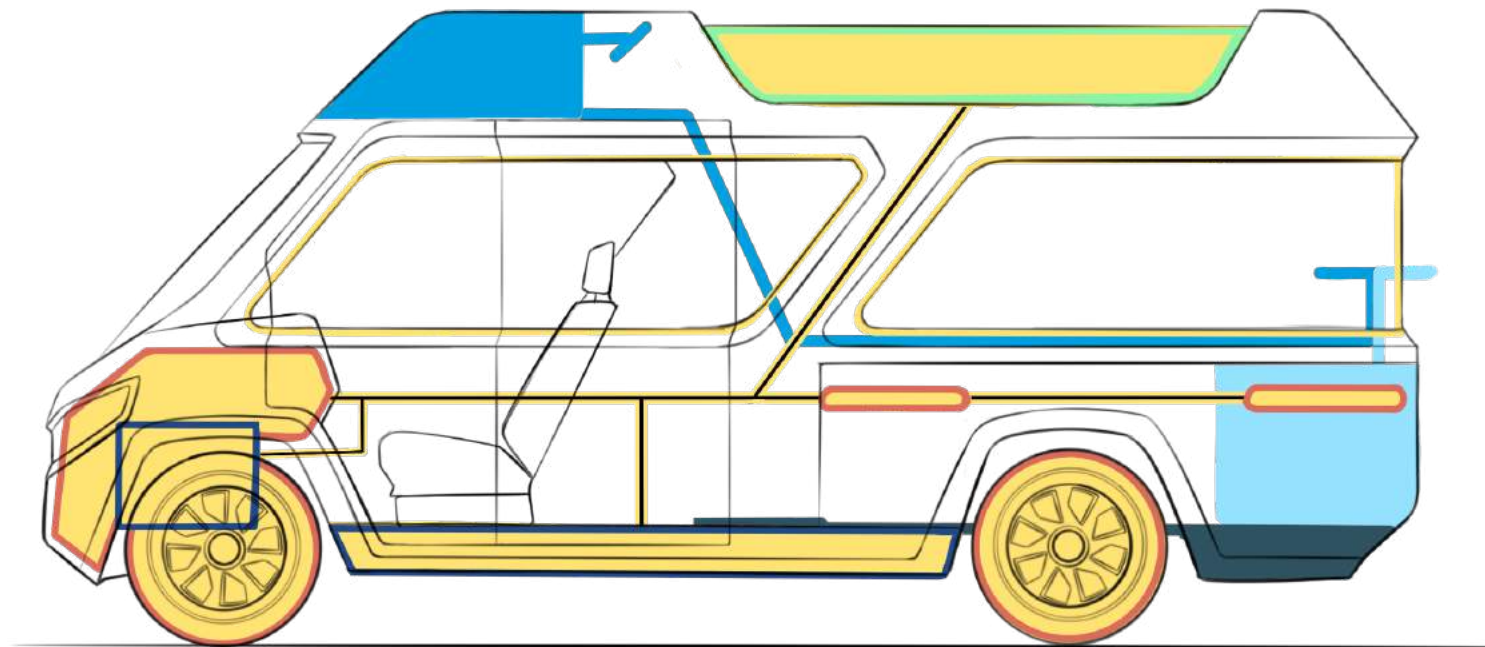
● Drinking water

● Grey water

● Battery input , solar panel and
charging point

● Battery and Power Backup

● Electricity output - kitchen, motors, .
electrical outlets , dashboard system



Final Design



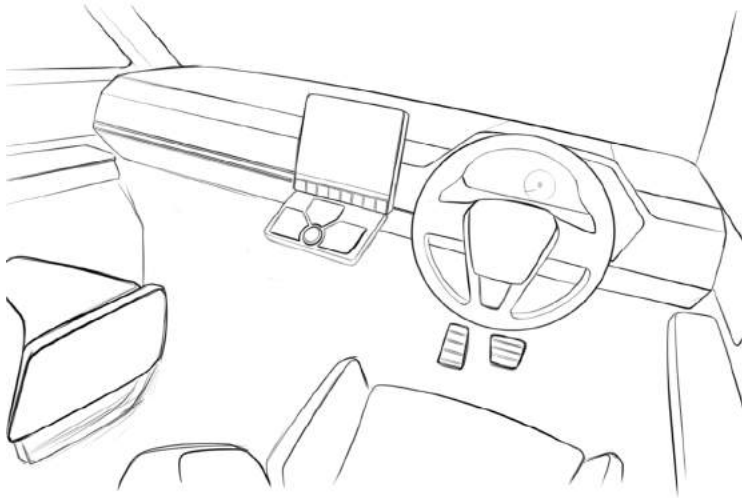






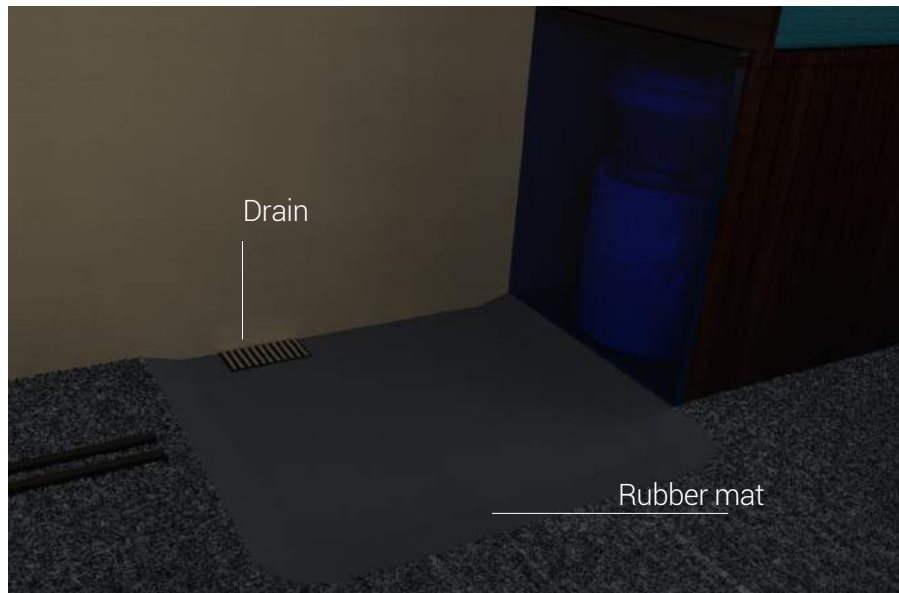


Using the smart windows , the windows can be turned opaque to have privacy in urban areas.



The Dash board has a sliding display panel which allows the the driver as well as the co-passenger to operate the infotainment and navigation system. Other system of the van are control from this same point - example - the smart windows , power management and power back up system

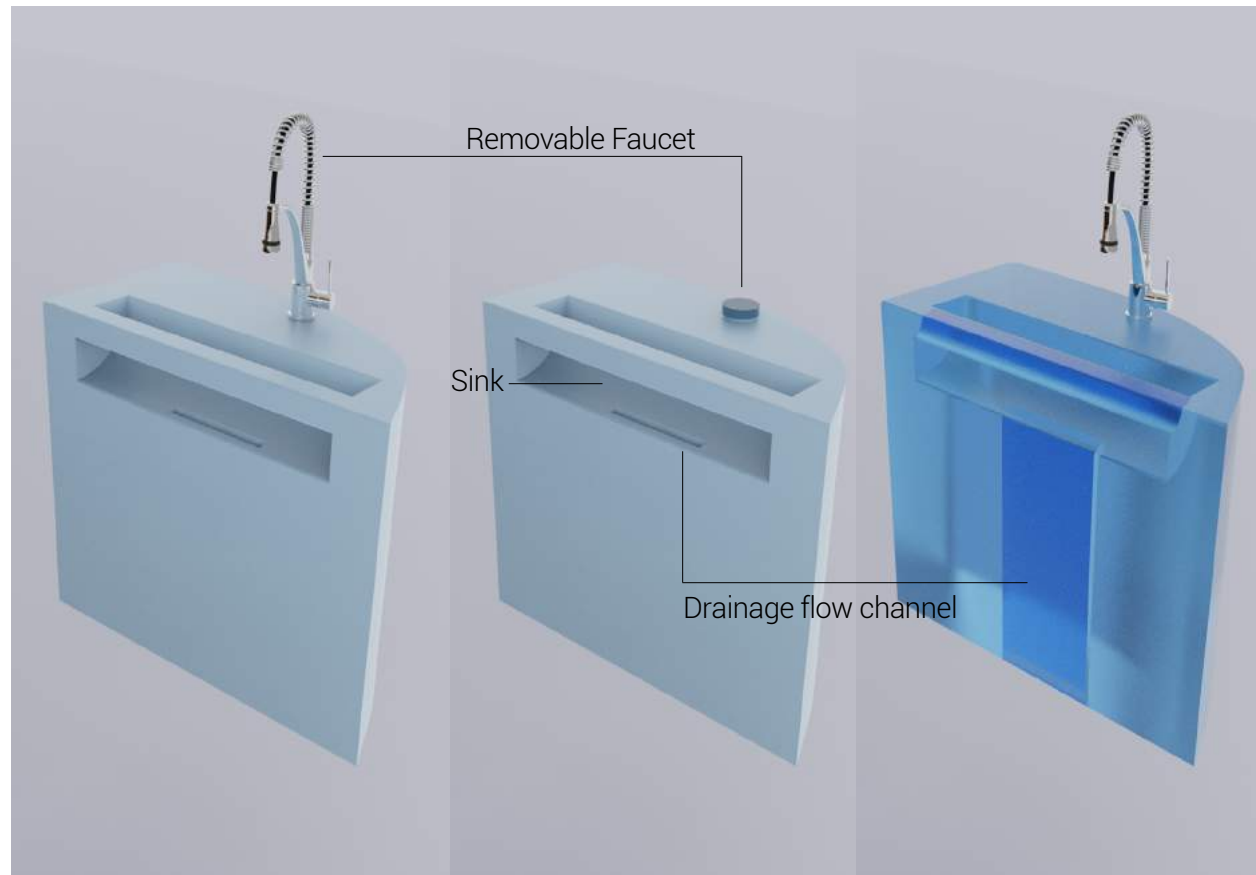




the shower section has a rubber mat and drain installed to avoid spillage of water in the van

A small space is provided to keep a mini cooler just below the bed , near the main door.





The water tank at the bank has a removable faucet , and integrated sink , the grey water would flow down into the grey water tank , the tank can be removed and filled seperately .



the chairs can swivel around 360 degrees to allow for two people to sit and work whenever required.

the kitchen box can be accessed on the inside by opening 3 layered lids , these lids can be placed on the couch to use as a table.



Scenario Renders



User can enjoy cooking near natural resources and under open skys



The small integrated table at the side of the vehicle allows two people to sit outside and enjoy the meal comfortably



Spacious interiors allow user to sit comfortably over bed and have a dose of daily entertainment over a projector screen , hidden in the rear upper compartment.



Users can stargaze every night through the panoramic roof.



User relaxing and enjoying the view



User relaxing and enjoying the view



Working inside the van

Reference

1. www.messynessychic.com/2022/05/10/this-is-a-formal-request-for-wes-anderson-to-make-his-next-film-about-vintage-caravan-culture/
2. www.caravanningwithkids.com.au/9-top-tips-for-campervanning-with-a-toddler-achtung-campers/
3. www.telegraph.co.uk/cars/features/classic-t3-vw-camper-van-could-ultimate-lockdown-antidote/
4. <https://www.youtube.com/@caravanbharat483>
5. <https://www.youtube.com/@vanlifeindiancouple>
6. <https://www.youtube.com/@FalharNomads>
7. <https://www.designboom.com/design/cornelius-comanns-bufalino/>
8. <https://www.designboom.com/technology/solar-powered-rv-gocamp-golo-bike-10-19-2022/>
9. <https://timesofindia.indiatimes.com/city/chennai/tamil-nadu-youth-develops-portable-house-on-the-back-of-an-auto/articleshow/73039991.cms>
10. <https://www.theverge.com/23735554/vw-id-buzz-review-ququq-camper-e-vanlife>
11. <https://www.greenlancer.com/post/transparent-solar-panels>
12. <https://smartglassvip.com/what-is-electrochromic-glass-2021/>
13. <https://www.canoo.com/sustainability>
14. <https://www.financialexpress.com/auto/car-news/vanlife-future-of-travel-in-india-how-to-convert-van-into-motorhome-force-vantraveller/2019813/>
15. <https://www.india-briefing.com/news/electric-vehicle-industry-in-india-why-foreign-investors-should-pay-attention-21872.html/>

IDC School of Design
अभिकल्प विद्यालय



IIT Bombay