



**DESIGNING | DISEÑANDO**  
**THE | EL**  
**FUTURE | FUTURO**  
**OF | DE LA**  
**THE | INDUSTRIA**  
**CARAVAN | DE LA**  
**INDUSTRY | CARAVANA**

*MARTA INCHAURRONDO*



*Grado en Ingeniería en Diseño Industrial y Desarrollo de Productos*

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## **INTRODUCTION**

The project that is going to be presented covers a caravan design. It tries to be a diary of the journey that was followed: from setting the briefing to the concept design phase.

There is a preliminary research in which this concept has been based. After the research some conclusions were used for the development of the briefing, which influenced the design that was refined week by week, until the actual product. Culture, ergonomics, and the future of caravans were important aspects in this current development.

All the graphics, from sketches to floor plans and 3D models to achieve the rendering, can be seen in the different chapters of this folio. One can see how the concept has changed: from the 5 options suggested in Assessment 2, until the caravan that was developed in the final stage.

The referencing, with the summary of the articles, web sites and previous researches that have been consulted to base the designing process are at the end of the folio.





## INDUSTRY CONTEXT

The caravan industry in Australia is one of the most powerful of the tourism sector. It injects \$20.46 billion to the Australian economy and creates 5000 jobs across the industry, with more than 59 million nights spent in caravan trips over 2018. It means a 7.1% increase on overnights from 2017 and a 3% of increase in the total amount of nights spent.

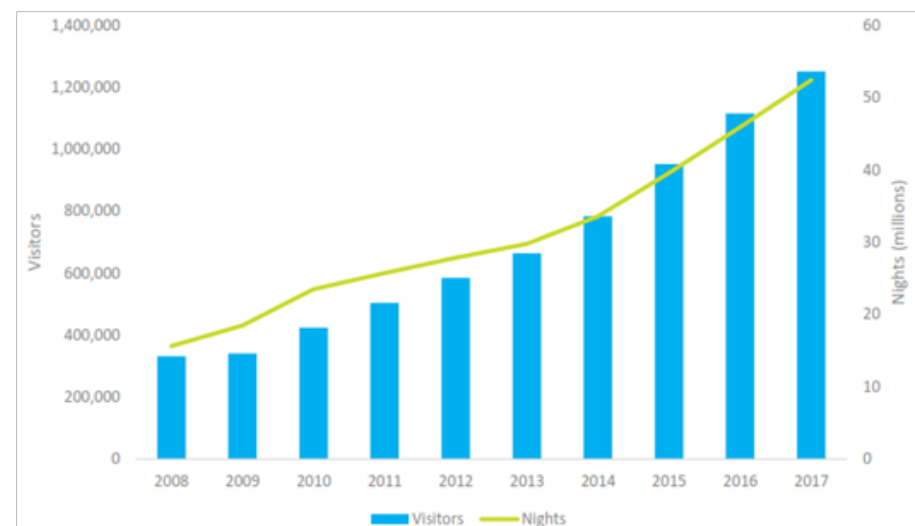
Tourism is the future of Australian economy. With the slowdown of the economy, it is good practice to rely in foreign money to activate it again. Australia's manufacturing sector has been affected by the loss of domestic car manufacturing, and vehicles built offshore. However, Australia's government is committed to push the industry of caravan manufacturing, assuring that jobs remain onshore.

As Australian territory is a very attractive country for every person seeking adventures, it is not a surprise that a big percentage of tourists choose a caravan trip. It is not only that the trip itself generates economic movement across the industry directly, but also it affects positively and indirectly to a lot of industries such as hospitality.

These data highlights the strength of the industry and the willingness to preserve traditional customers, but also embrace the constantly changing consumer demand.

A total of 370.000 visitors from other countries experienced caravan trip in Australia. Most visitors are from UK and Germany. Caravan trips have been usually common between Europeans and Americans, between 20 and 29 years old.

It is now when visitors coming from China are growing. These visitors are not use to caravan trips, but they come to Australia seeking the real experience that the country has to show. More than 1.3 million of visitors came in 2017, generating over 50 million nights spent. It is a big growth of 276% from 2008. It is also important to know that package tours have decline by 8.4% in the past two years.



Graphic 1: total increase of nights spent and number of Chinese visitors

Nowadays a Chinese visitor is 3.5 times more likely to choose a caravan holiday when coming to Australia, compared to the same period 5 years ago.

The Caravan Industry Association of Australia has written a report in which highlight the importance of this visitors that belong to the ninth largest growing international source market.

They propose improvements such as communications in Mandarin across caravan parks, "how to" guides to support the drivers and the creation of new services that specifically match the needs of these consumers. The research also suggests that Chinese visitors are seeking flexible experiences that allow them to experience the Aussie life while maintaining their traditional way of life from home. They finish by saying that the quickest these changes can be done, the more engaged the market will be to Australian caravan industry.

A surprising fact from the Caravan Industry Association Report's is that some of the visitors pay for roofed accommodation while they are on their caravan trip. The expenditure per person per night on average is almost \$50.

***After the research, this project will focus on create a caravan that meets the specifications of this report, to embrace Chinese tourists and that allows them to experience the full trip by being comfortable.***



## **TARGET MARKET**

Once the target market is set, it is important to get to know the people that will enjoy the product that it is being designed.

The typical Chinese traveller in Australia is aged between 30 and 54 years old. It usually is the first time for them in the country and they will spend between 11 and 15 days. 66% of the travellers come on a mixed group that can be family, friends or partner, usually 4 people or more. They come from all over China, mostly from big cities and coastal regions, where economy is growing faster.

As the caravan trip is very expensive in China and not very well prepared (caravan parks, infrastructure, caravan rent...) the majority of visitors that come to Australia for a caravan trip, are new in this kind of adventure.

### ***Dietary habits.***

Usually, in China is common to do three meals: breakfast, lunch and dinner.

For breakfast they usually like soy bean milk and deep-fried dough sticks, steamed buns, tofu pudding and wheat or rice noodles.

Lunch is from 12 to 2, usually quite rushed. It is common to have 3 main courses: rice or noodles, some meat and vegetables.

Dinner is the big meal when the family get together after the day. In China eating is a communal activity, food is generally ordered dish by dish to be shared by all people at the table. Each one has their own bowl and chopsticks, and share serving spoons. Instead of the western salt and pepper, there is soy sauce, vinegar and chilli paste. It is common to add fresh and dry spices.

Popular alcoholic drinks are light beer or rice wine, but drinking alcohol is usually a male practice.

Normal utilities for cooking are a wok, pans, rice cooker, and water boiler. The tableware is usually composed by rice bowl, plates, cups, chopsticks, a spoon, small dish for a dipping sauce, tea cup and a plate under the bowl.

Typical ingredients are rice, noodles, tofu, meat (pork, beef, chicken, duck, pigeon...), eggs, and vegetables (very important in their diet). They are very concern about food freshness, prefer not to eat frozen meat or fish.

### ***Important aspects of Chinese culture.***

The ancient culture of China has strong aspects that are very important to understand their consumer behaviour. They have traditional aspects that keep the culture very intense.

According to Hofstede insights, China is a country in which people believes that inequalities amongst people are acceptable; it is common to think that people should not have aspirations beyond their rank. It is a highly collectivist culture, where the interest of the group, such as family, comes first. The society is driven by success, it is very important to show what has been achieved to the world. Chinese are competitive since school, where the criteria are established to achieve success or not. It is a very pragmatic culture; they adapt traditions easily to different conditions. They don't put much emphasis on leisure time.

There is also a very strong family culture. They like to live close to each other, where the child is the core of the family. The life that adults can provide to the child in the first years will be linked to their future social class. There will be 6 adults (2 couples of grandparents and parents) that will focus all their efforts in giving the child everything they can. Grandparents have a big authority and influence over the unique child.

That is why for Chinese people it is very important to wear brands; it is a good way to show the capabilities. Usually Chinese consumers sympathize with national brands against international brands. Another aspect that is highlighted in the Caravan Industry Association's report is that Chinese people like to have their own space for shower and toilet. They don't like to share common areas in camping sites.

### ***Chinese contemporary interior design***

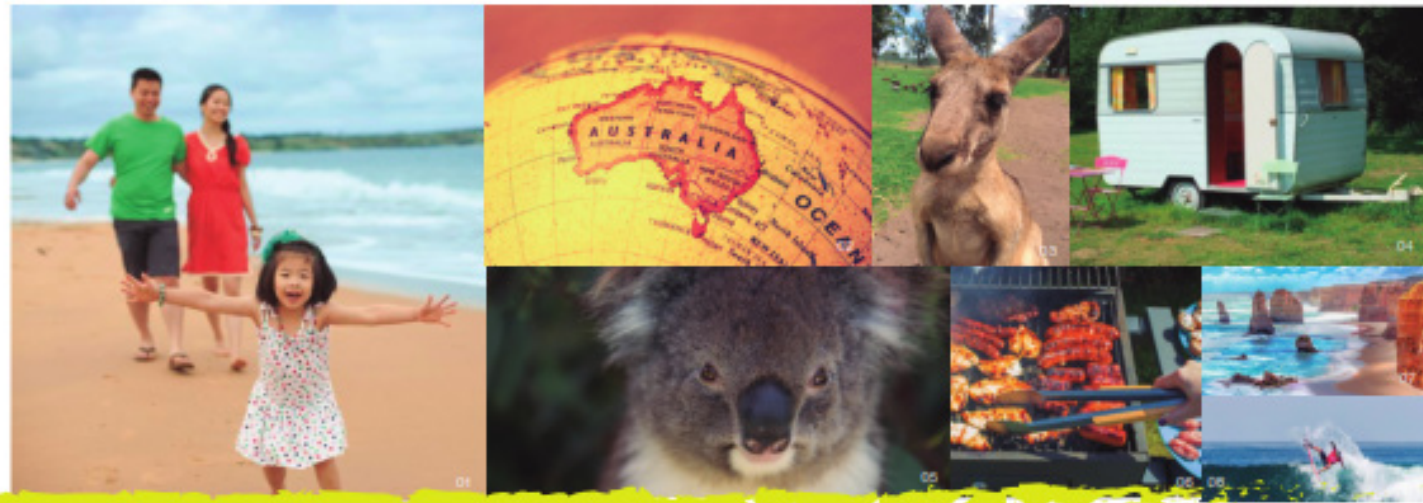
After researching the contemporary interior design style in China I can point out the following characteristics:

- Interior design use to focus on traditional Chinese architecture and style, but it is changing into a more westernized aesthetic
- Likely to use new materials and technologies
- Pay attention to native and local culture (city where the project is placed)
- Concern for human being through interior design
- Usual colours and textures are wood, red, shine and lacquering, straight lines mixed with organic lines, white and neutral tones
- Likely to have open plan spaces; penetrate the interior with the exterior by using glass walls
- Traditionally a round entrance means perfection
- The kitchen is the most important space for family while bedroom is the most important for privacy
- Bathrooms usually white and chrome with a splash of colour, also a lot of marble, translucent panels and mosaic tiles
- Curtains, blinds and screens – metal, wood, linen...



# ARCHETYPE

## SEEKING FOR THE AUSSIE EXPERIENCE



# COMMUNITY



# TOUCHPOINTS



# ENVIRONMENT



# ARCHITECTURE



Image 1: moodboards



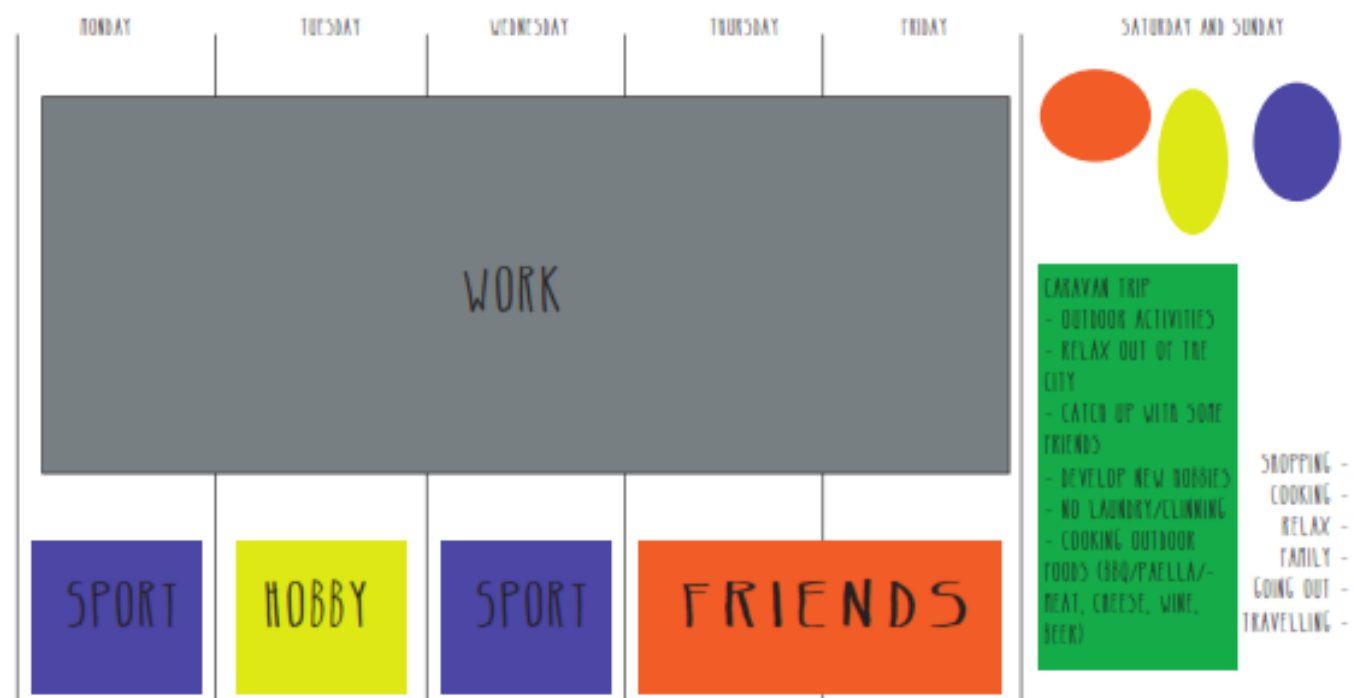
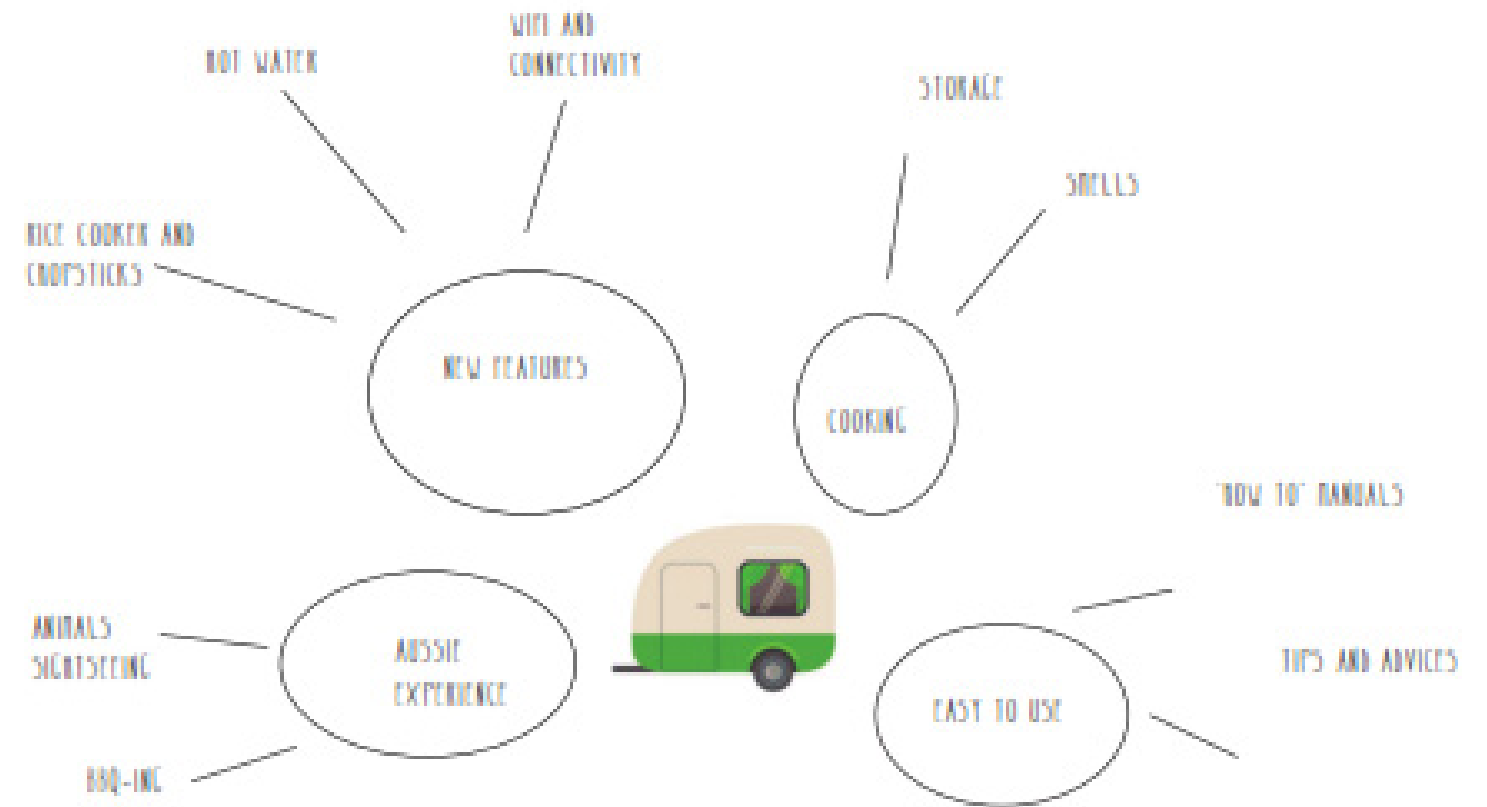
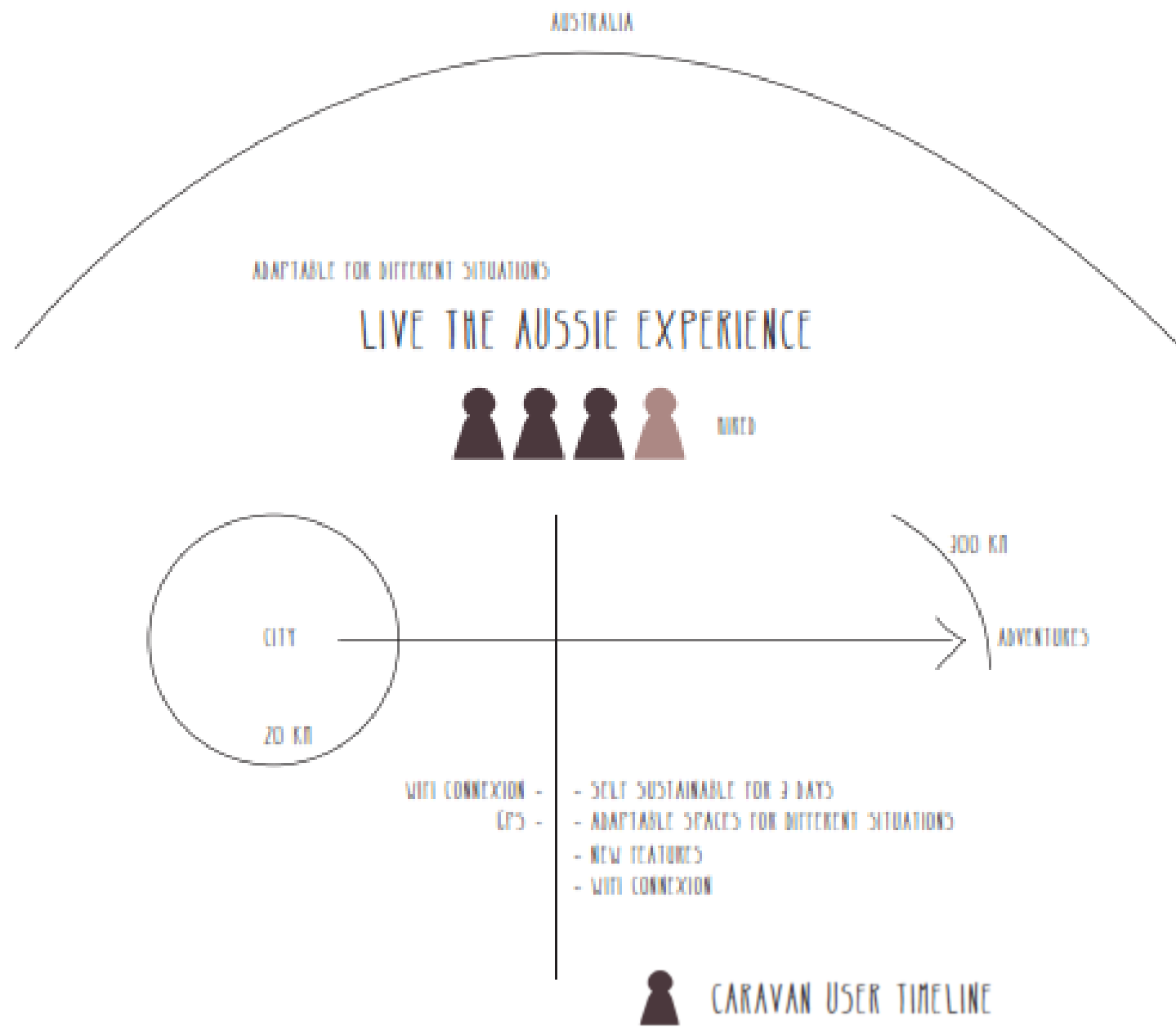







Image 2: moodboards II



## BENCHMARKING

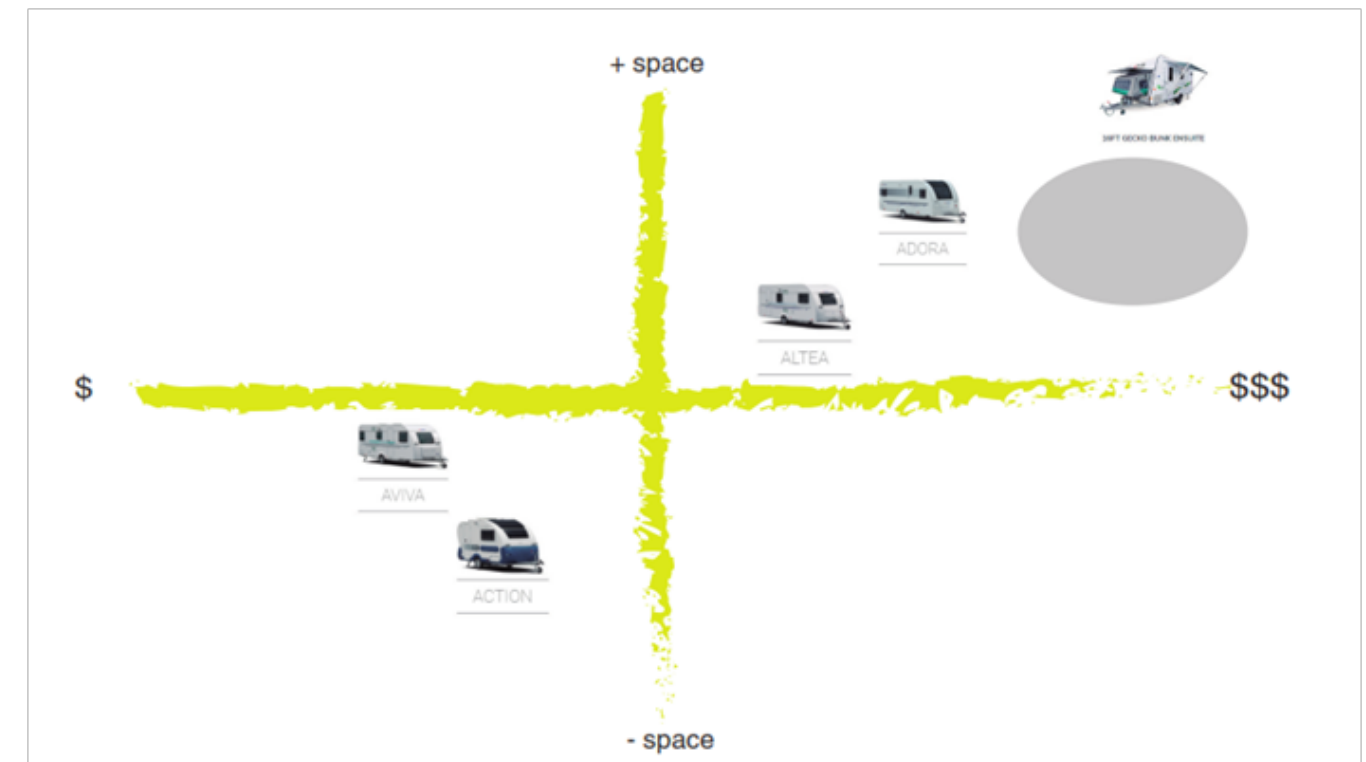
Before setting the target market the caravan industry itself was researched. We have looked at caravans that sleep 4 and that have just one axel. The most common brands in the market for this particular size are Jayco, Gecko and Adria Movil, being these last two the most helpful for the research.

Caravans that met our prerequisites (room for four people and one single axel) were compared to each other in the next graphic.

	PRICE	DIMENSIONS (mm)	CUSTOMIZABLE WIFI	ASIAN FEATURES*	(1)	(2)	CEILING WINDOW
 ADORA	\$ 54.900	L 5302 / 6752 W 2296 / 2450	YES	NO	NO	YES	YES
 ACTION	\$ 40.990	L 4310 W 2196	YES	NO	NO	YES	YES
 ALTEA	\$ 51.290	L 4637 / 6020 W 2296	YES	NO	NO	YES	YES
 AVIVA	\$ 39.990	L 4492 / 4872 W 2090 / 2300	YES	NO	NO	YES	YES
 JAYCO	\$ 65.797	L 6852 W 2500	NO	NO	NO	YES	NO

Graphic 2: comparison of caravans in the market

After seeing the overall characteristics, another graphic was created comparing the room and the price.



Graphic 3: bandwidth

After these two comparisons, there are two conclusions:

- The caravan that is being designed need to be in the gray area of Graphic 3. Maximum space possible for one single axel and good materials and features. A big central space will be important to eat. Also if visitors are not used to be on a caravan for a lot of days, it is good to count with bigger spaces.

- As we are going to target wealthy customers, we need good equipment, quality and great materials. The most luxurious will be seen, the better.

As a design limitation, caravans in Australia cannot be bigger than 2.5m wide and 2.5m tall.



## FIRST STEPS

### Briefing.

Using the recent research from Chapter 1, the final briefing applied to the target market will be as follows:

The caravan will be designed for Chinese visitors that come to Australia in order to experience the real Aussie life, but without renounce to their habits.

These visitors are young families of 4 members, adults between 30 and 54. Wealthy people that can go on vacations during their holidays and that don't care about how much things cost. As they come from overseas, they would need to hire a vehicle to move on the road.

This caravan needs to fulfil the requisites that are shown in the Caravan Industry Association, that are:

- Appliances for the kitchen: space for chopsticks, water boiler and rice cooker
- Comfortable beds: enhance the sleeping experience
- Easy to use, as they are not use to go on caravan trips

Also, from my individual research, I would add some more requisites such as:

- It needs to seem luxurious as Chinese people like to show how they can spend a caravan trip without being cheap
- Create a big space where they can eat all together
- Have a bathroom

After setting the briefing, the first step was to start developing ideas that we could test and improve, to select 5 of them and after that, select the one that has more potential.

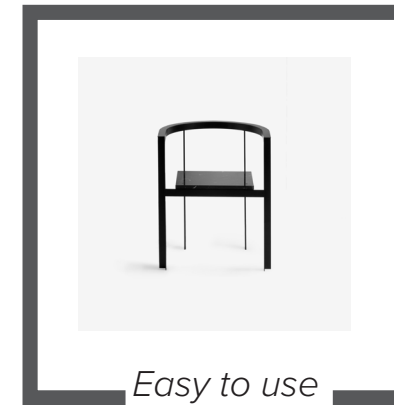
### First sketches and developments.

After this research, the core values of the design were set as:

– FUNCTIONAL– Organized: As our target audience is new to the caravan trip, the caravan needs to be organized, to assure the better experience. It is difficult to live in tiny spaces and it can be annoying in some circumstances if the caravan is not organized. The space is full of cupboards and little spaces to get a better storage of the things that one moves when travelling.

– EMOTIONAL– Aussie Experience: Chinese culture is very traditional, but more and more westernized. If Chinese visitors want to live the real Australian experience, the caravan needs to have both Chinese and Australian features.

– OTHER– Easy to use: As our customers are new to this experience, everything in the caravan needs to be easy to use. Always a “how to use” guide, a stick next to the water storage, the WC or the cooking stove.



Easy to use



Organized



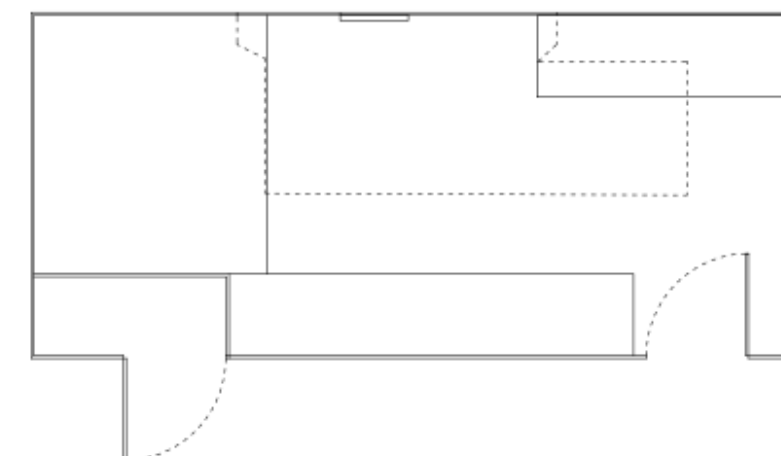
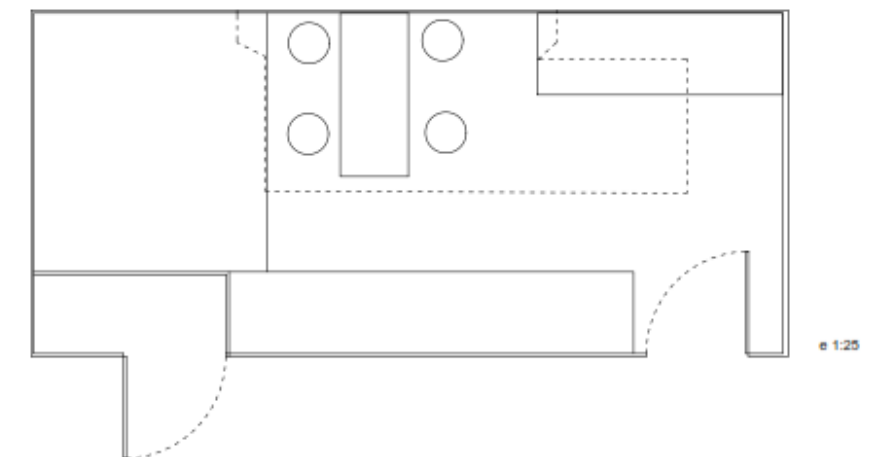
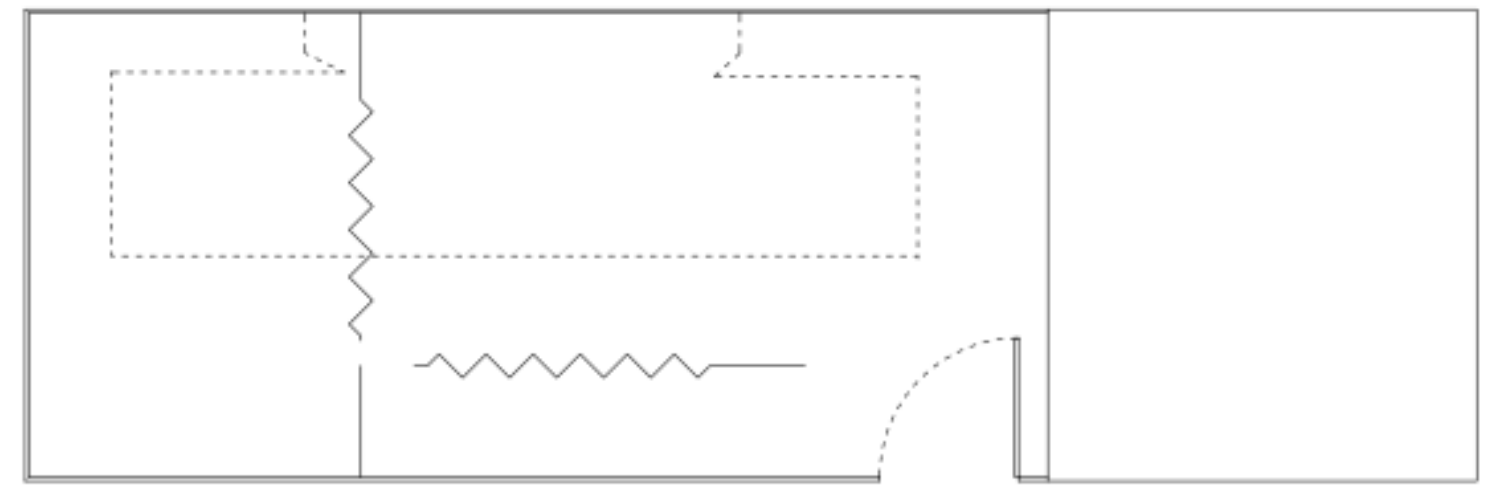
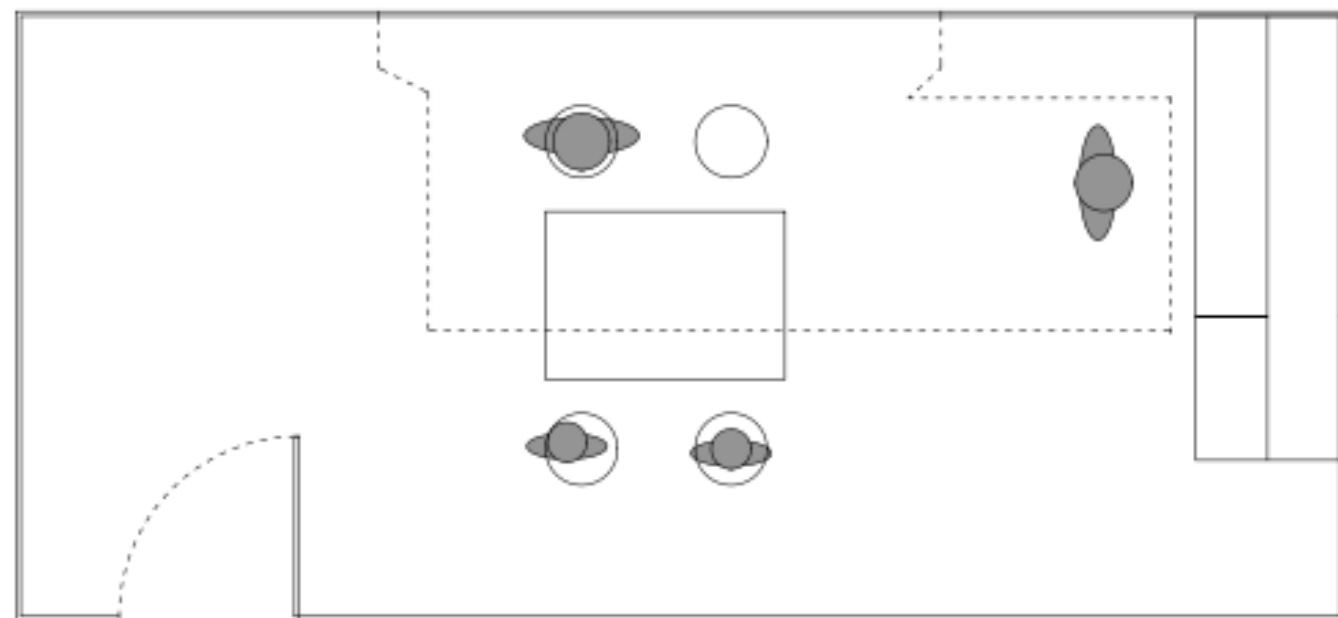
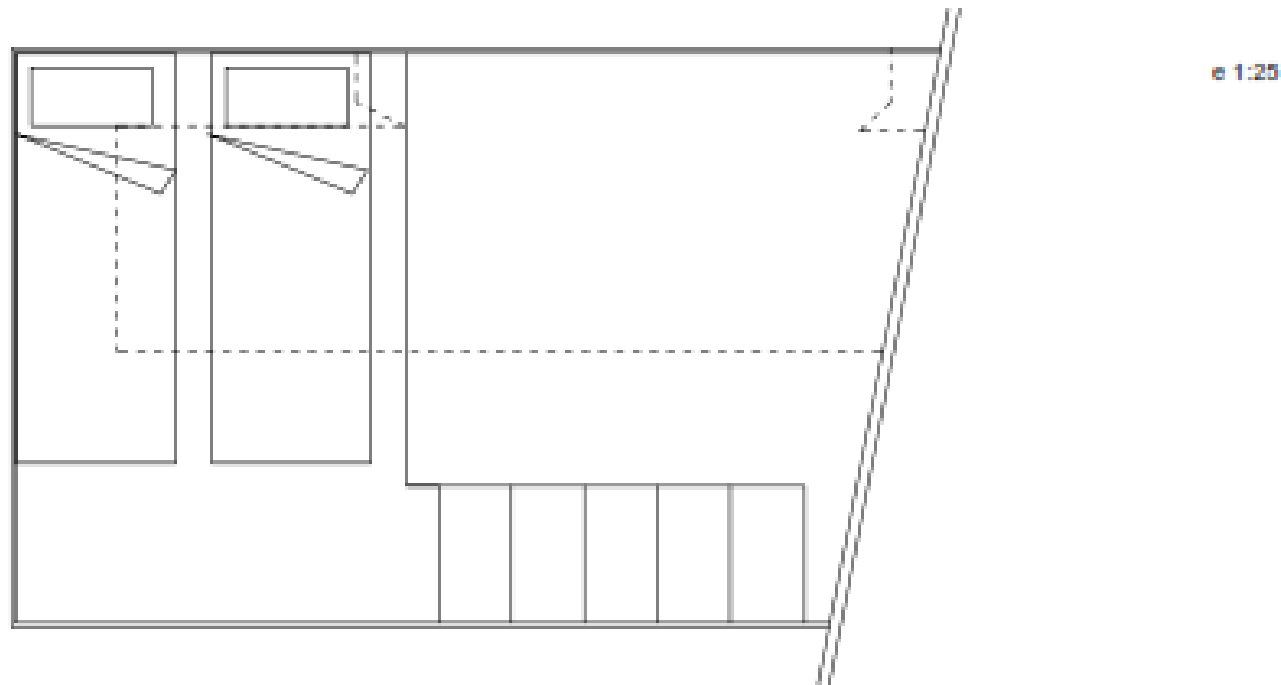
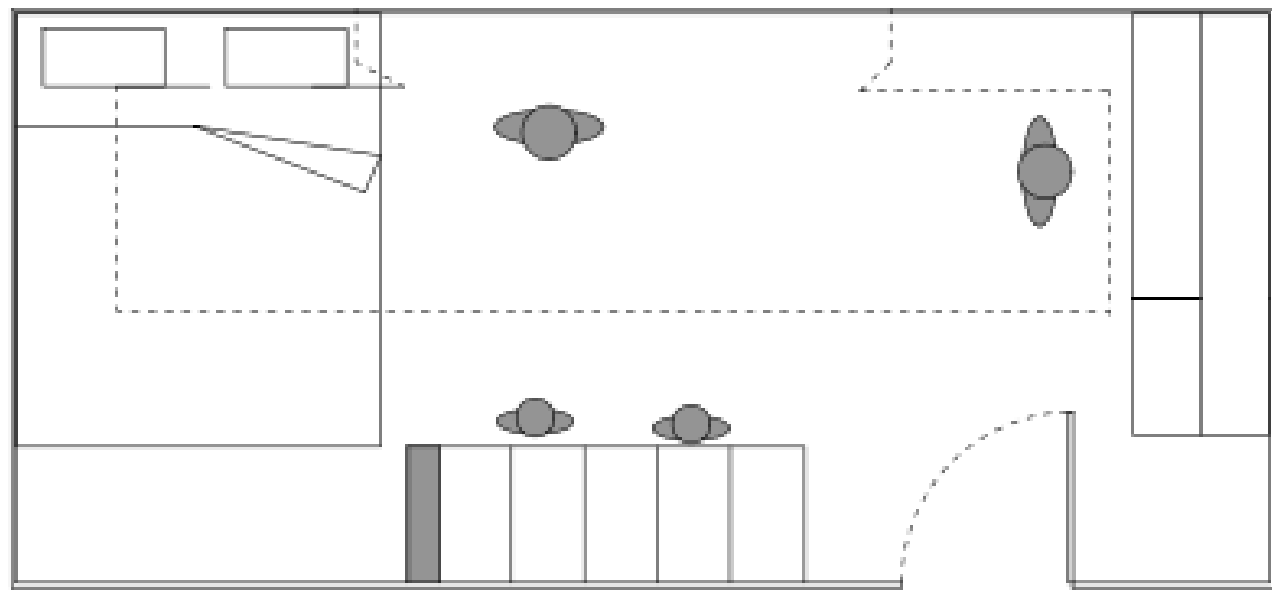
Aussie  
experience

### Selecting the five better ideas.

We were proposed to design one caravan for five different scenarios in which the centre of the design is one action that is important for the target market or their purposes. We could include everything we would like to from the first sketches, but focusing on one action as the main activity that is going to occur inside the caravan for each scenario.

After seeing the best ideas coming from the first sketches, I had an idea of the shape and the dimensions. The main five actions are presented in the next pages, as well as the first sketches.





## FIVE POSSIBLE SCENARIOS

Here the five concept scenarios are going to be presented, one by one, showing the render that helps to understand the explanation.

### First scenario - Food experience.

The first scenario was developed around the idea of sharing food all together. It is very important for the Chinese culture to share food in family, mostly dinner.

In this concept, there is a big kitchen with lots of space for storage. The sleeping area, that consists on one bunk of beds and a double bed, turns into a couch and a bench. A foldable table comes from the wall. So the main area can be shared between sleeping and eating but with a very big kitchen in which the family could cook plenty of food.

This concept counts with a bathroom fully equipped. Dimensions are 3.9m long per 2.4m wide per 2.5m tall.

The problem with this scenario was that the customers would need to be changing the space every time they want to go from a day to a night area.

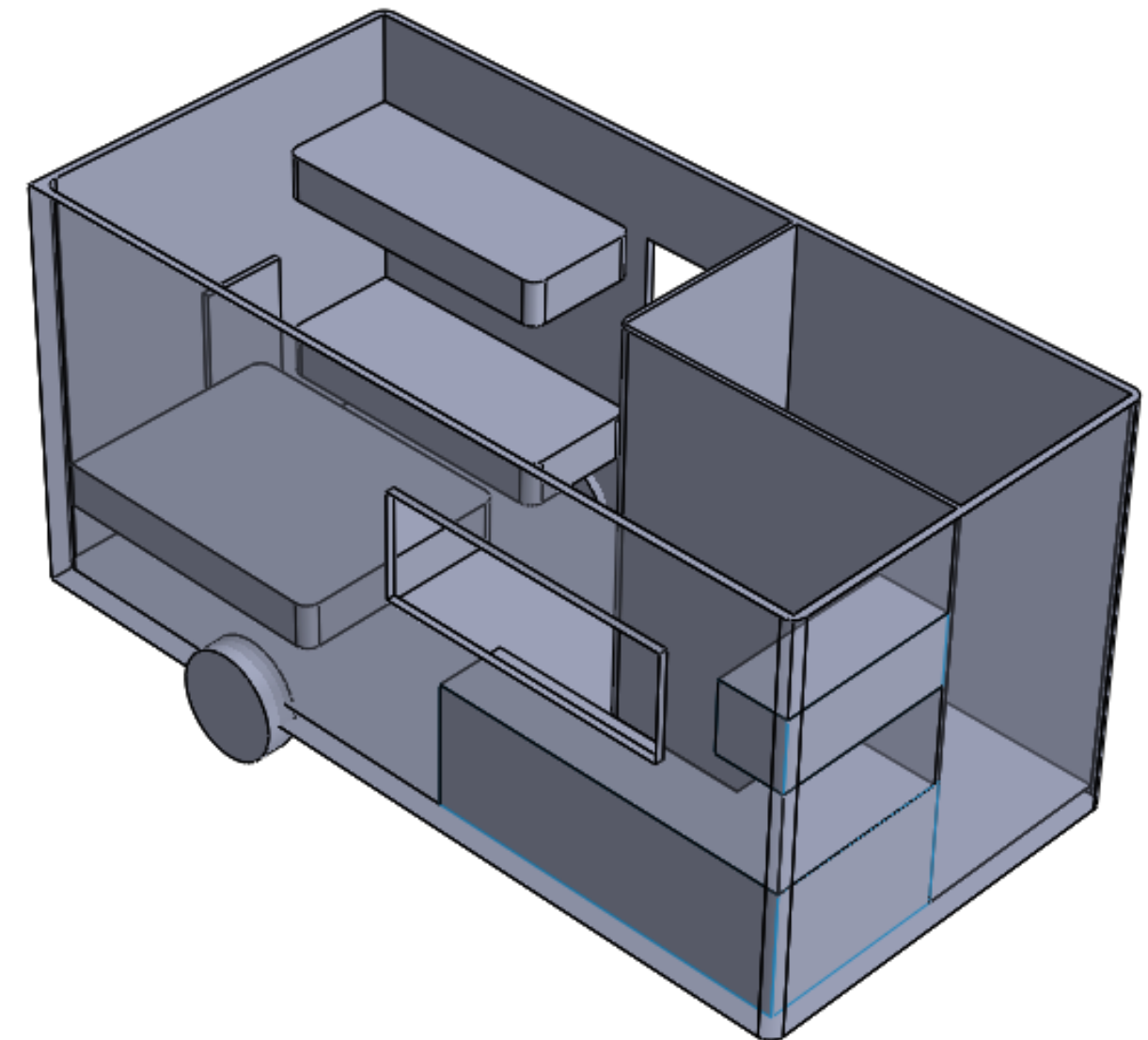


Image 5: food experience

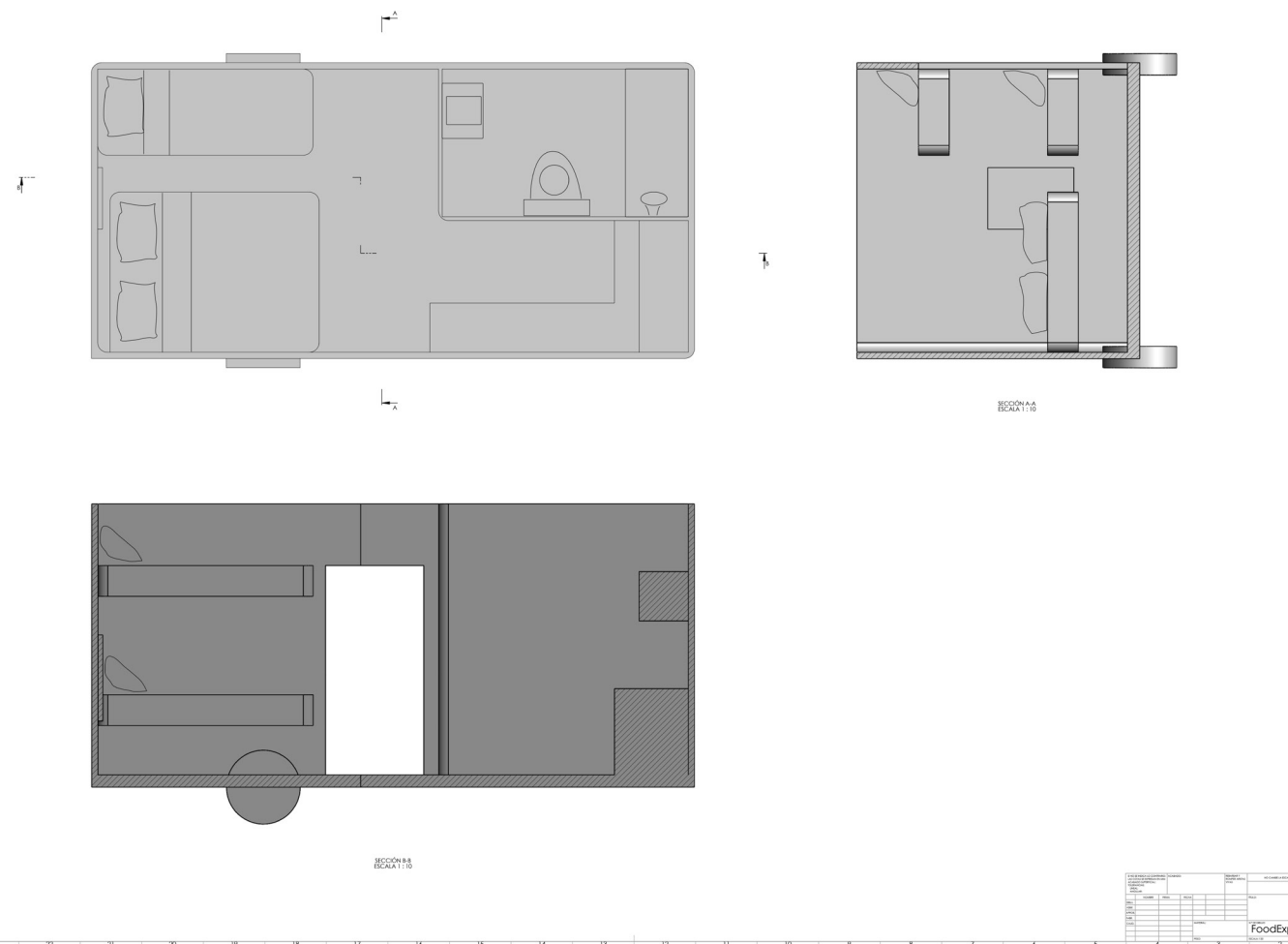


Image 4: floorplans food experience

**Second scenario - Sun and sand.**

As part of the real Australian experience, every tourist should visit a beach. Some activities that could be done in Australian coasts are surfing, snorkelling or walking down the beach.

This concept has a bathroom accessible from the outside, as well as storage. When coming from the beach there is always a lot of sand. It is usually very annoying to have the inside of the caravan full of sand. With this caravan, tourists can have a shower and storage all equipment coming from the beach before entering the living space.

Also, this caravan counts with two levels that allow the space to be open. The table is foldable and the stools can be used during the day as well, inside or outside the caravan.

Main dimensions in this concept are 5.52m long per 2.5m wide per 2.5m tall. One of the inconvenience here, is that the second level hasn't got much space above the beds, which would make waking up and sleeping very uncomfortable.

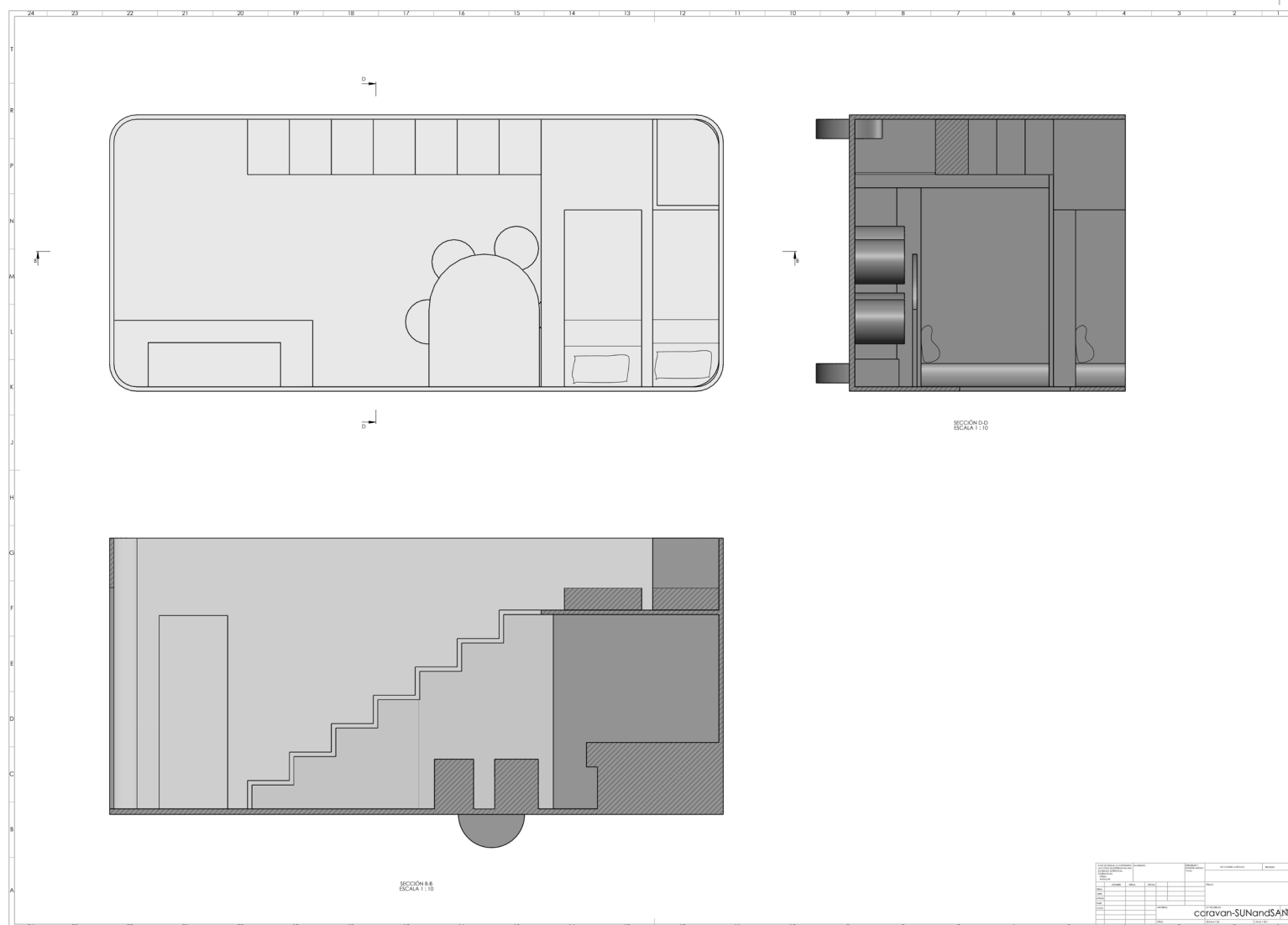


Image 6: floorplans sun and sand

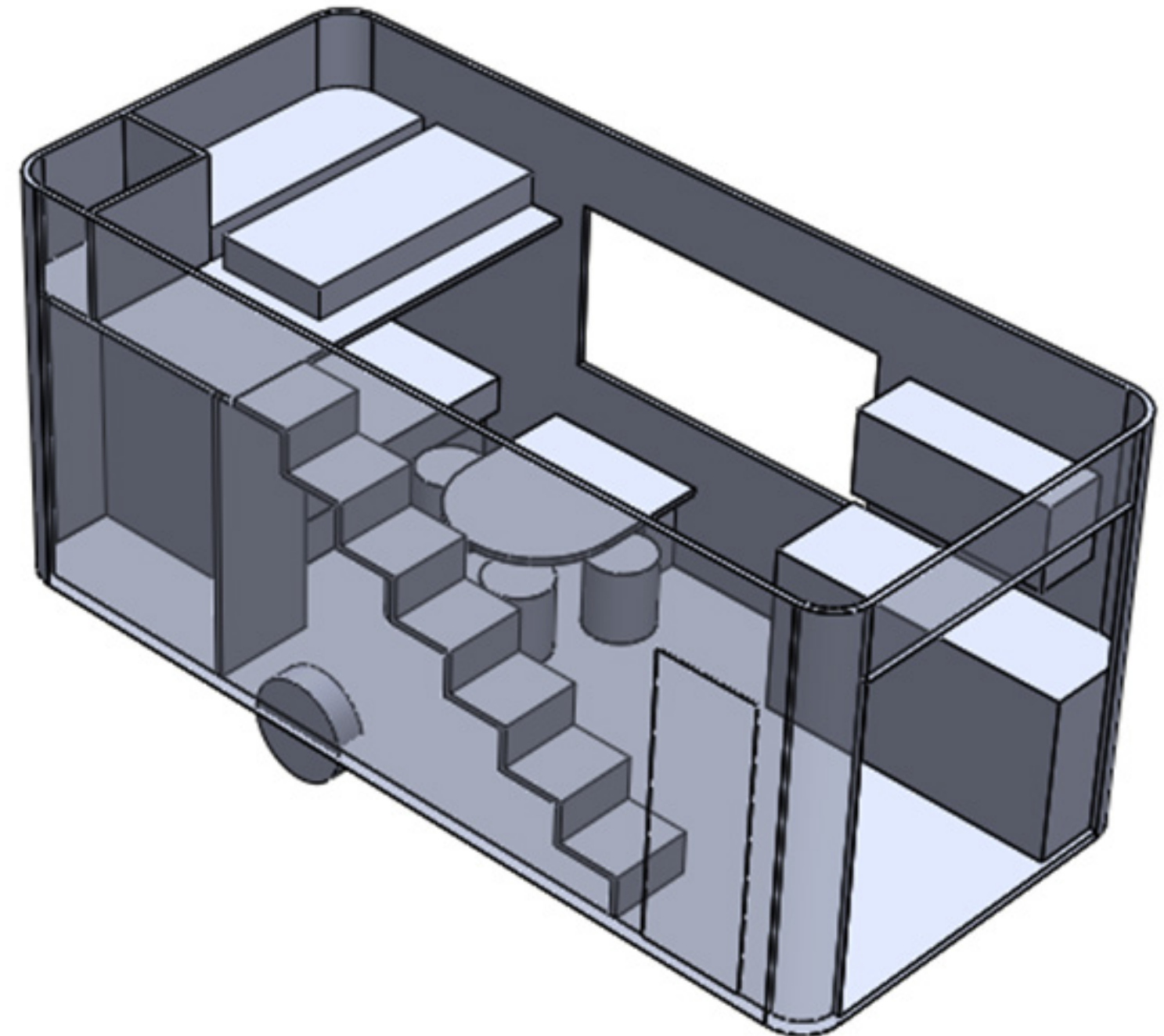


Image 7: sun and sand



### Third scenario - sleeping under the stars.

This scenario tries to enhance the sleeping experience. A surprising fact from the Caravan Industry Association was that Chinese visitors spend over \$60 per night per person when going on a caravan trip. These visitors say that it is not comfortable to sleep inside the caravan.

With this concept, the experience is improved by having a glass top. This top allows tourists to sleep while seeing the stars, which is also an important activity when going to a camping park, but doing it on a more comfortable way. The beds would need to be high quality with one double bed and two single beds in a bunk.

The caravan has a bathroom accessible from the outside and a separated area with kitchen and dining. Three doors would separate every area from the other to create different spaces.

While the bathroom and the sleeping areas are good distributed, the kitchen and dining area are smaller than in other concepts. The overall measurements of the caravan are 5.09m long per 2.5m wide per 2.5m tall.

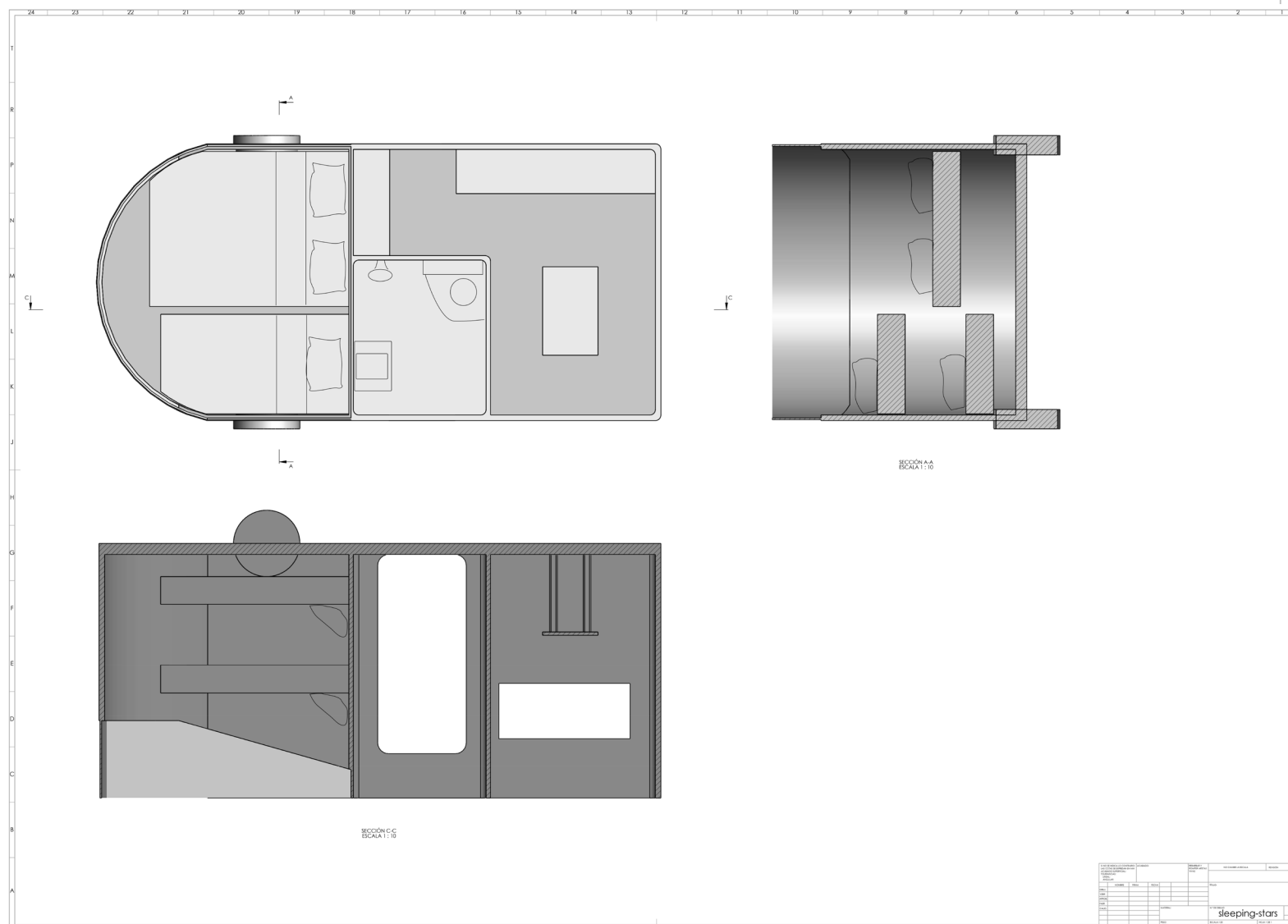


Image 8: floorplans sleeping under the stars

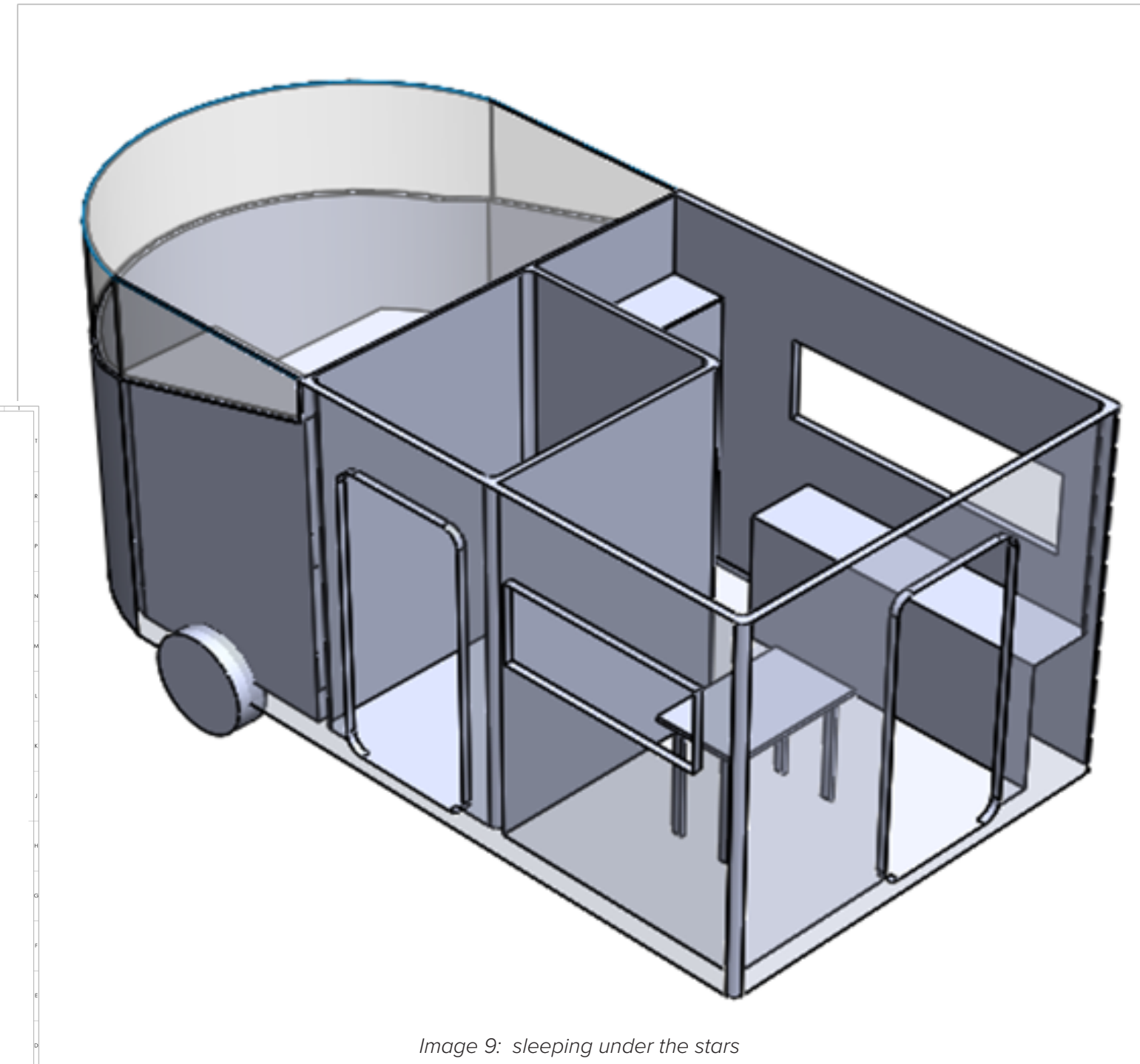


Image 9: sleeping under the stars

**Fourth scenario - BBQ experience.**

As part as the Australian experience it is a must to do an outdoor BBQ. Even if Chinese are a very traditional culture, they are getting more influence from the west now. They like to try new food and Australia is the master of barbeques.

In this concept, there is a small kitchen inside to store dry food and a fridge, but the main activity of cooking occurs outside. This way, the space inside is distributed between the bathroom and the sleeping area.

A main door fulfils the whole wall and can be fully opened to integrate nature and the environment with the inside of the caravan. This caravan is 4m long per 2.4m wide per 2.5m tall.

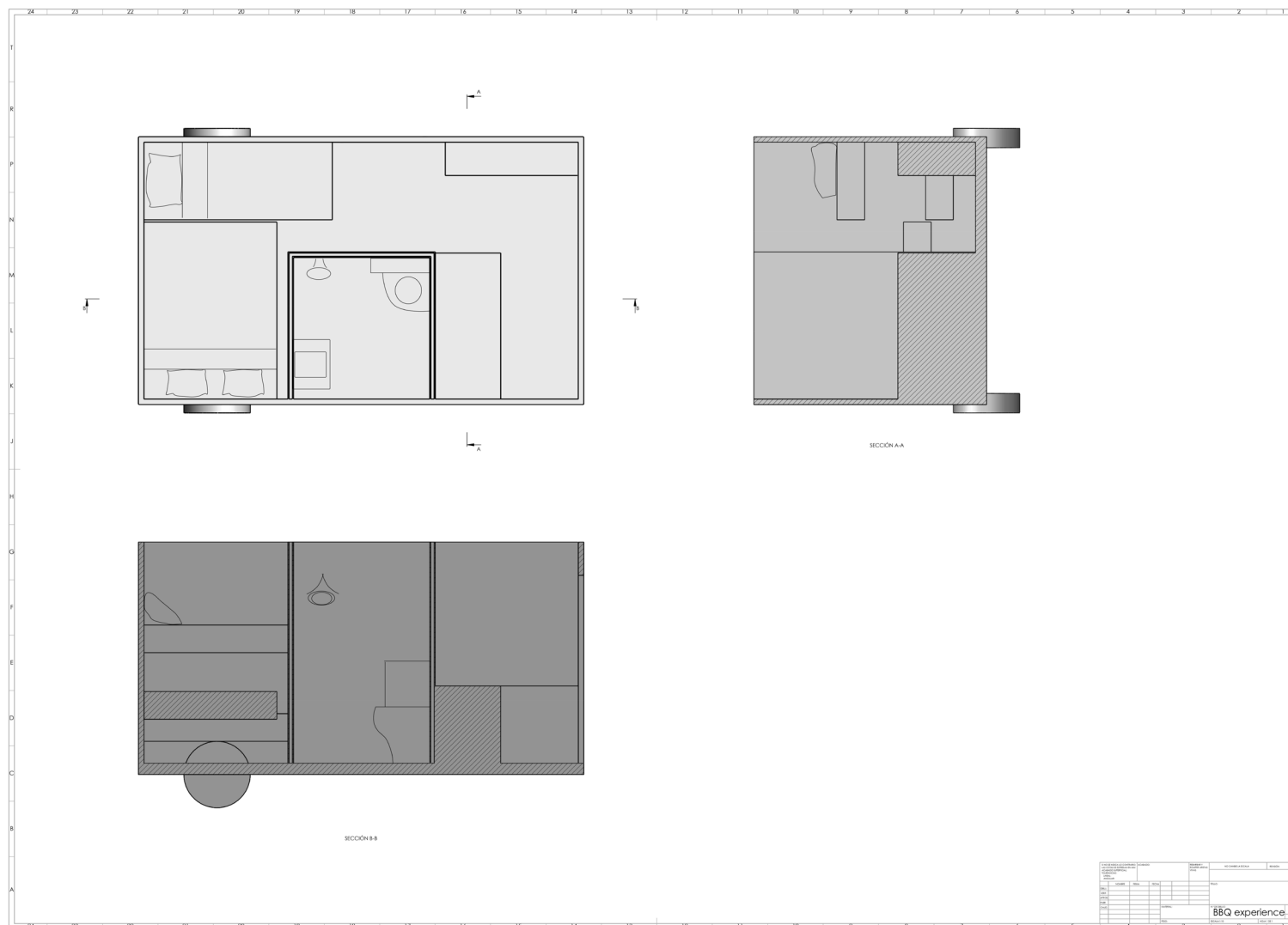


Image 10: floorplans BBQ experience

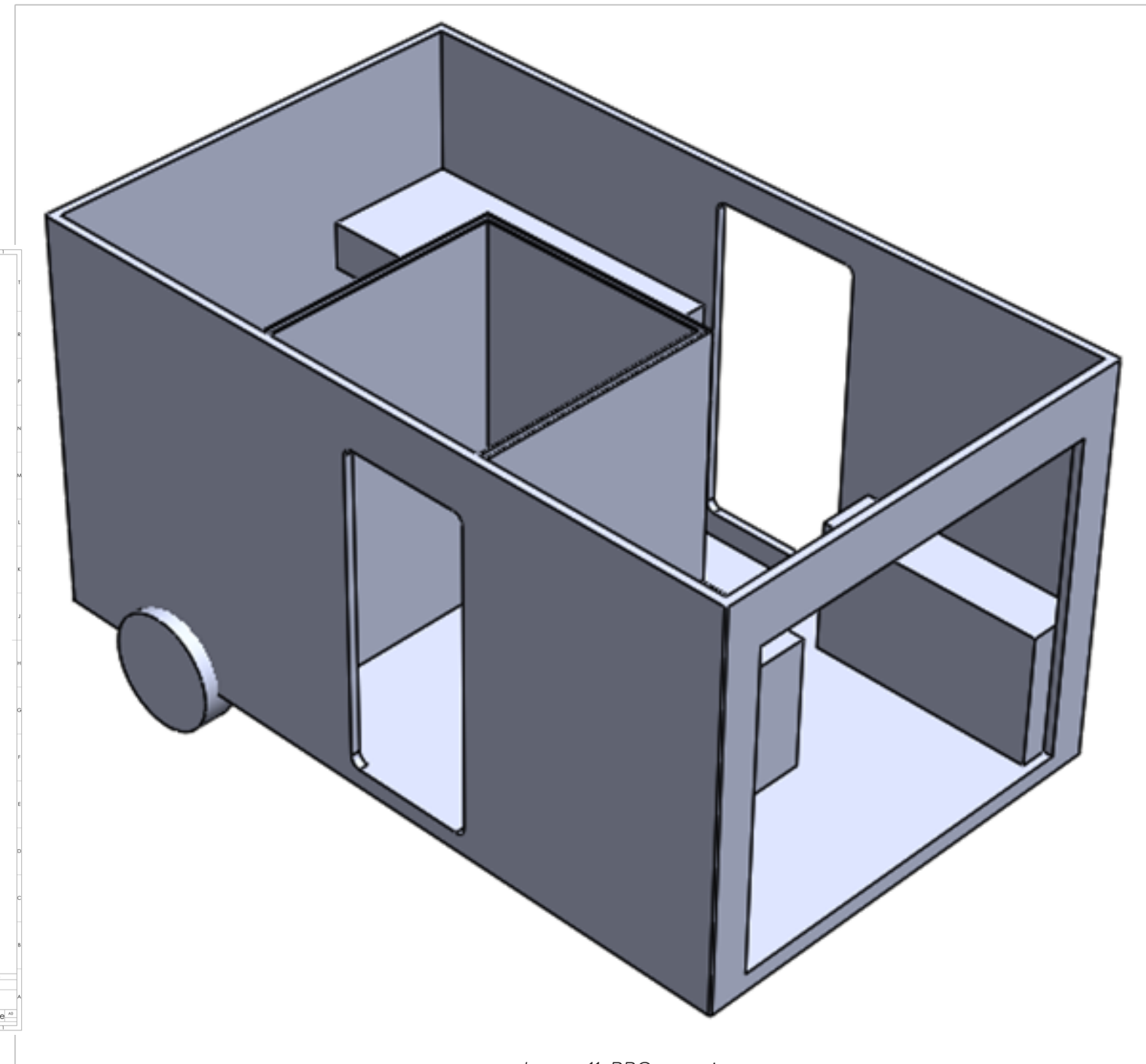


Image 11: BBQ experience

**Fifth scenario - Relaxing in the day space.**

The final scenario was based on the idea that when someone is on holidays usually is to relax. A caravan trip can be exhausting and this idea focus its efforts in create a big space in which the visitors could relax.

This scenario has separated areas for night space and day space. The day space has a window in the bottom of the wall. This window tries to reproduce the experience when looking at the fire in a chimney. If you go outside for a BBQ, it is possible to admire the fire from the inside after it.

This scenario doesn't have a bathroom. Measurements are 5.1m long per 2.5m wide per 2.5m tall.

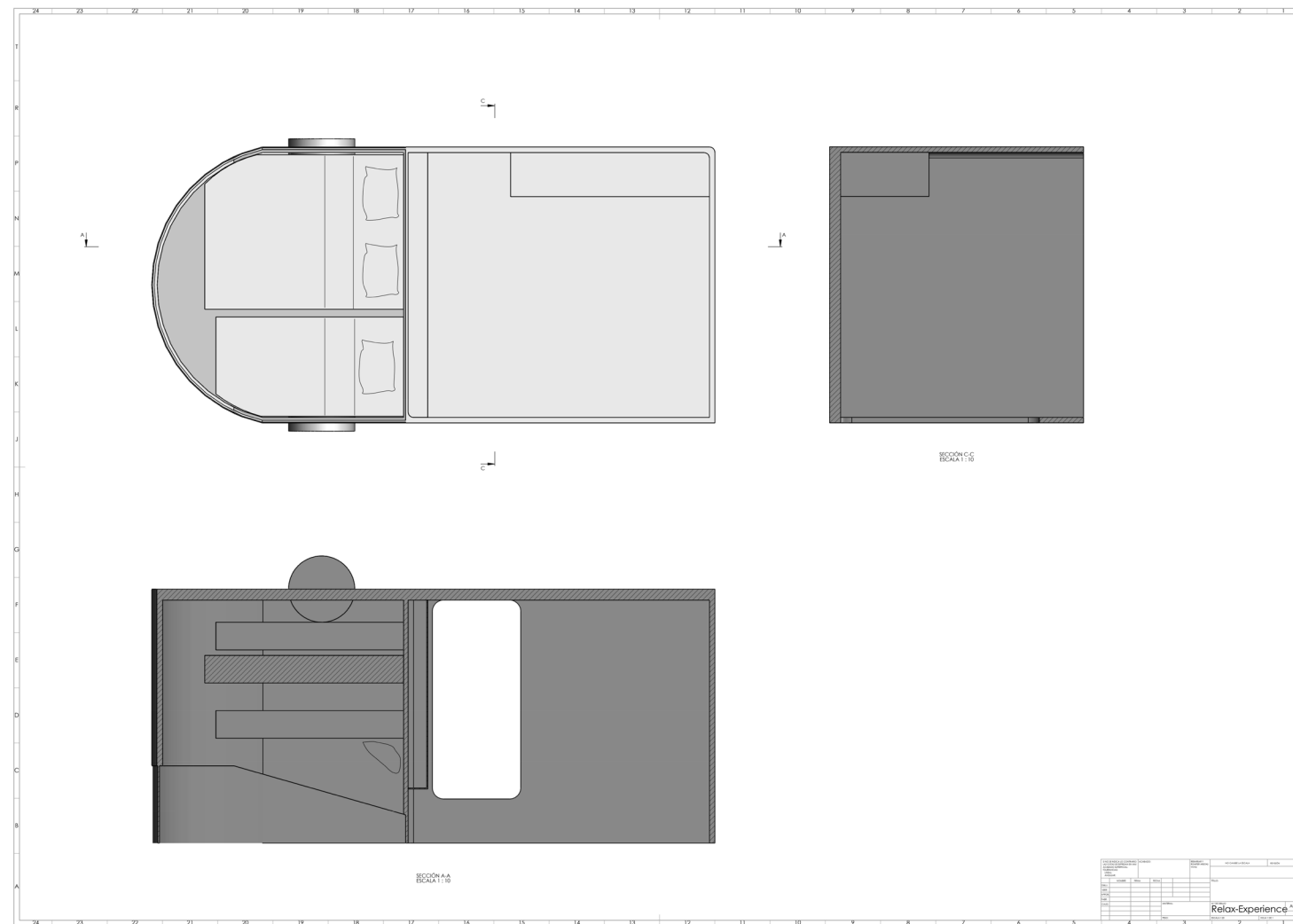


Image 12: floorplans relaxing in the day space

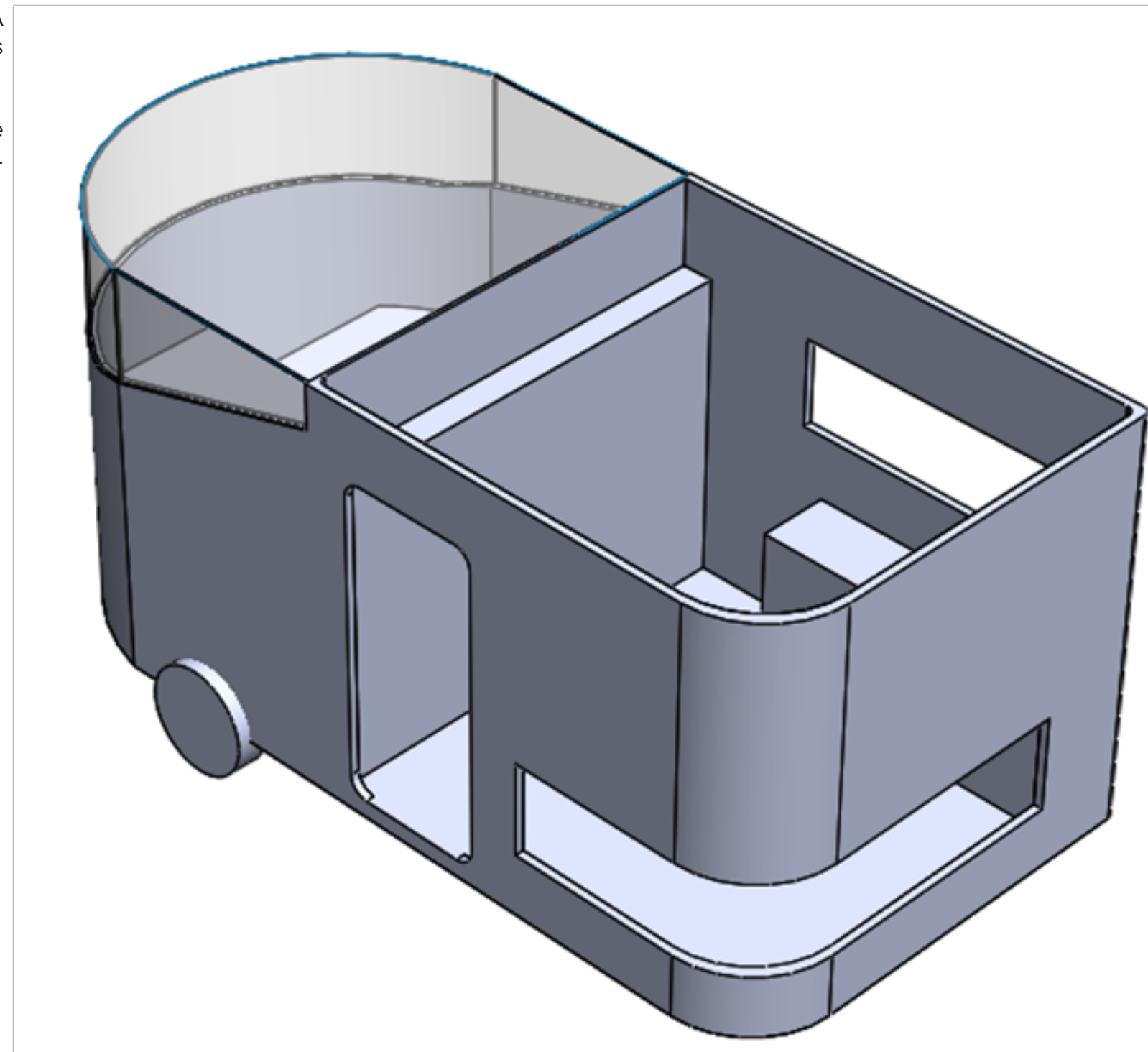


Image 13: relaxing in the day space







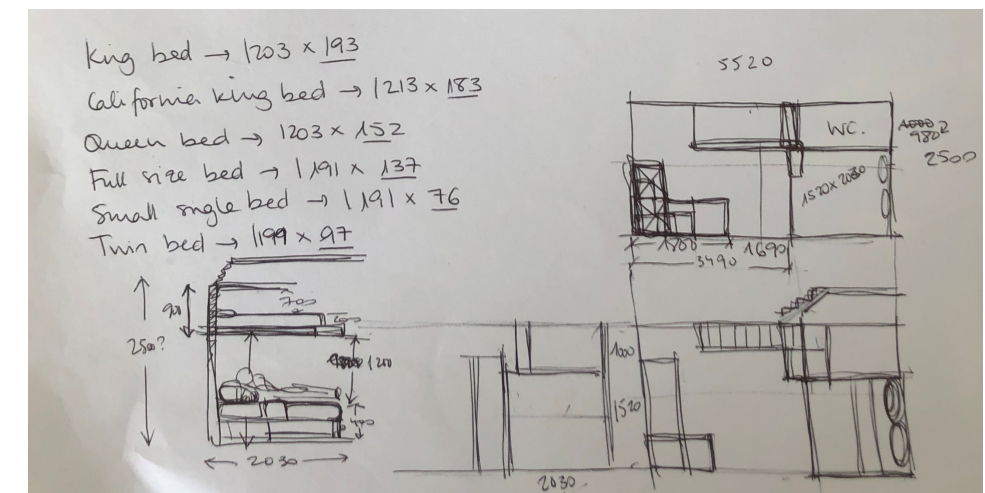
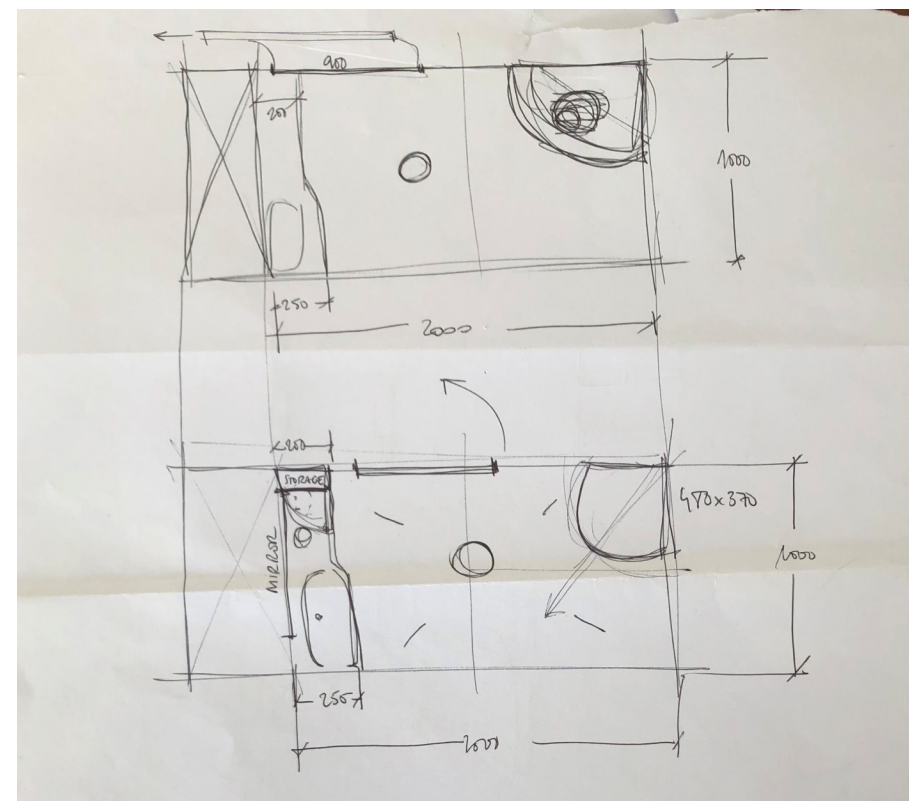
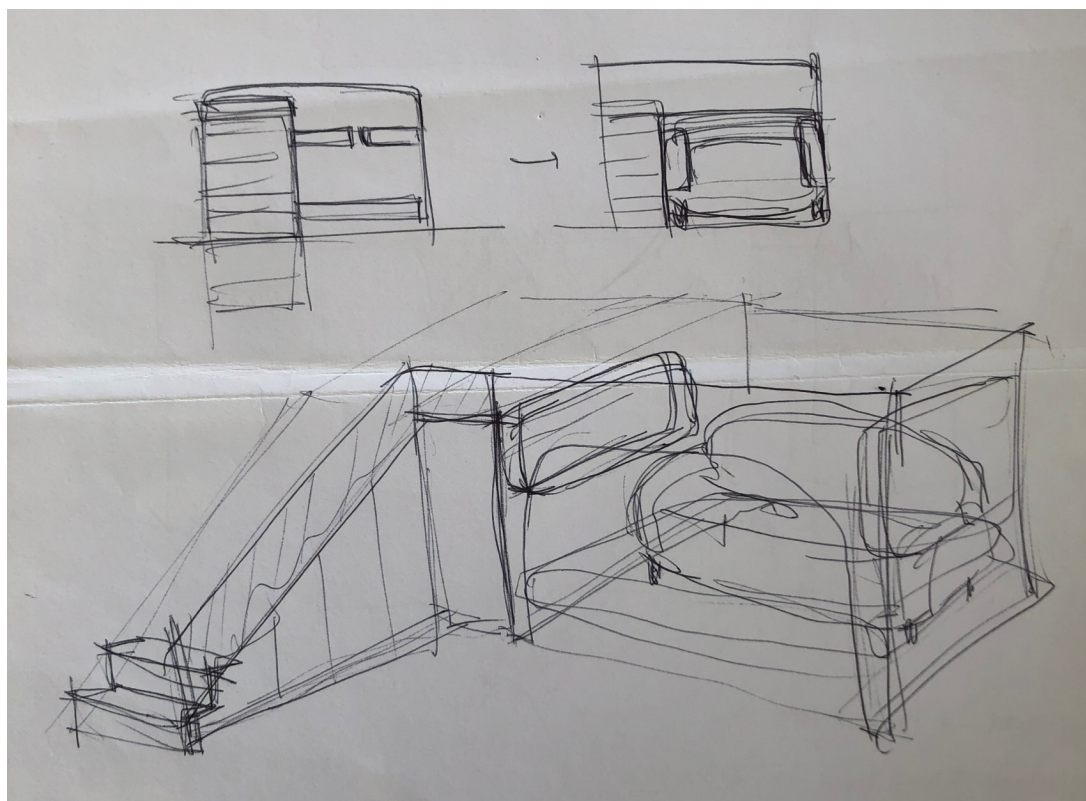
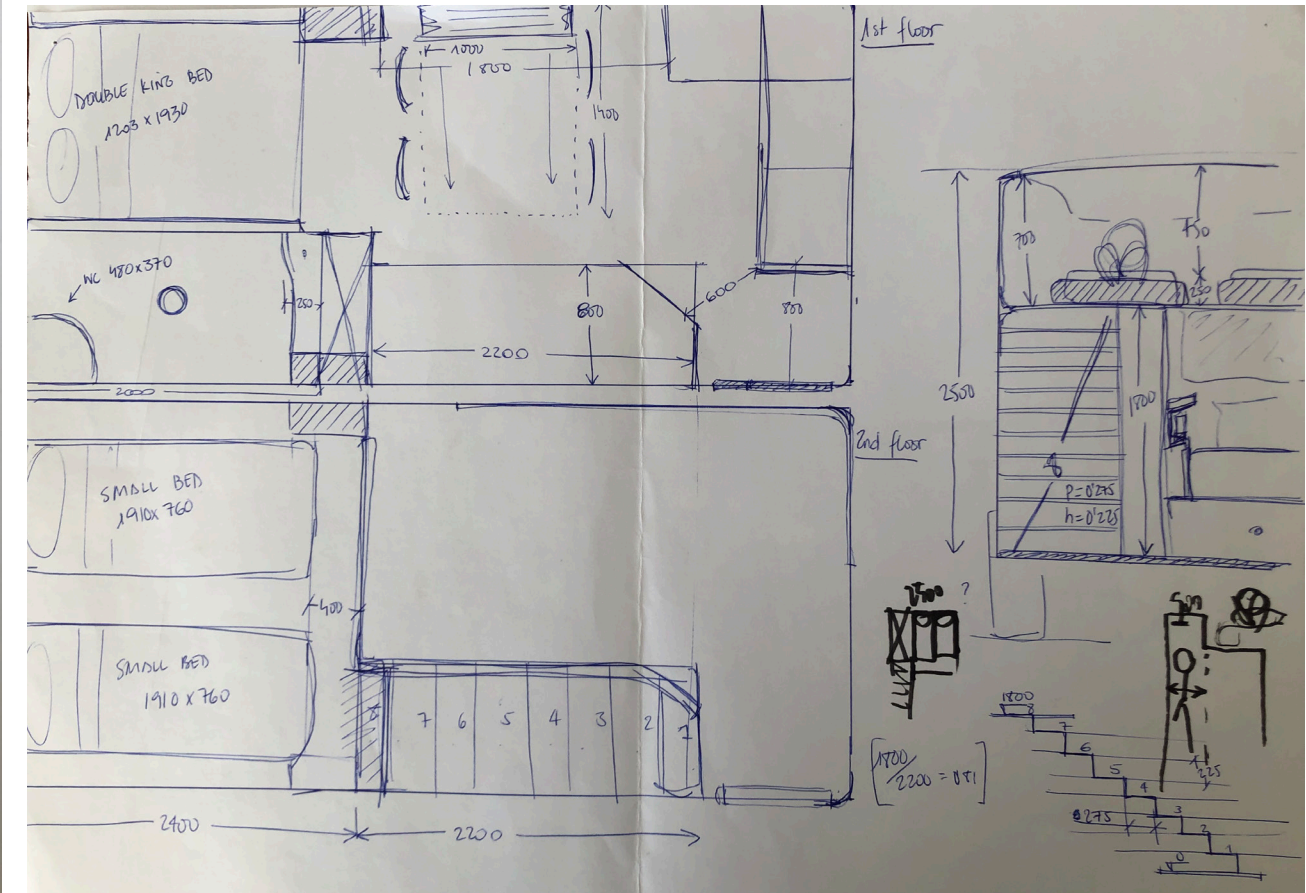
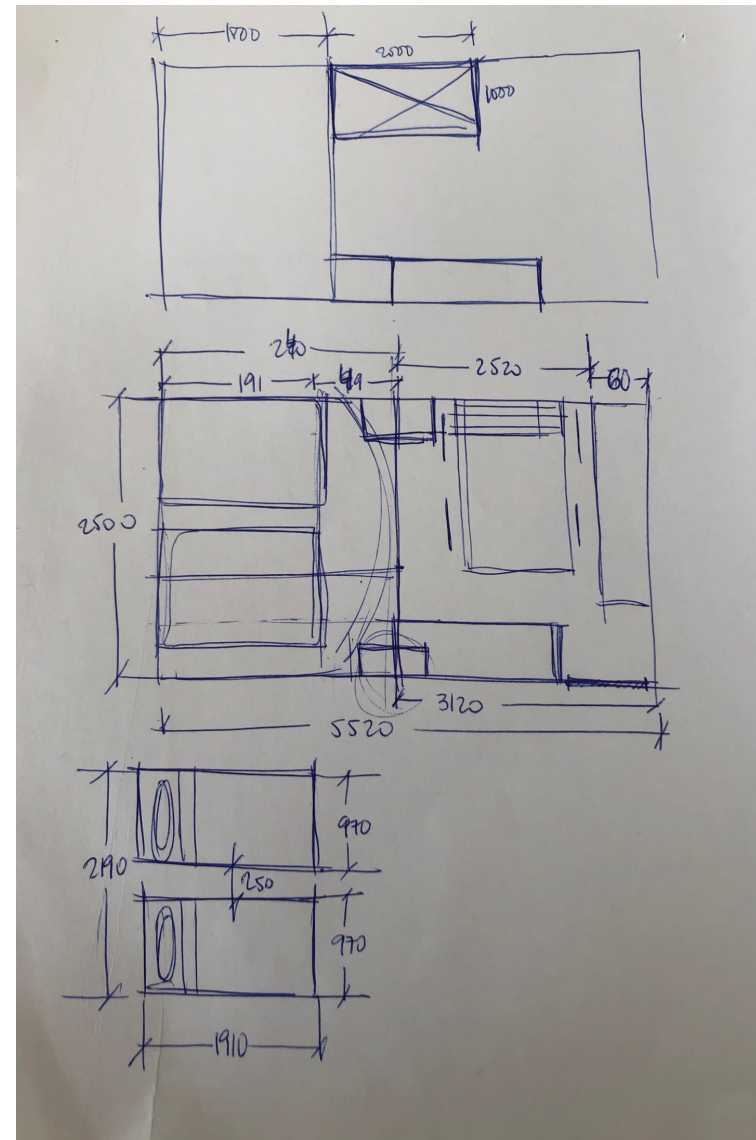
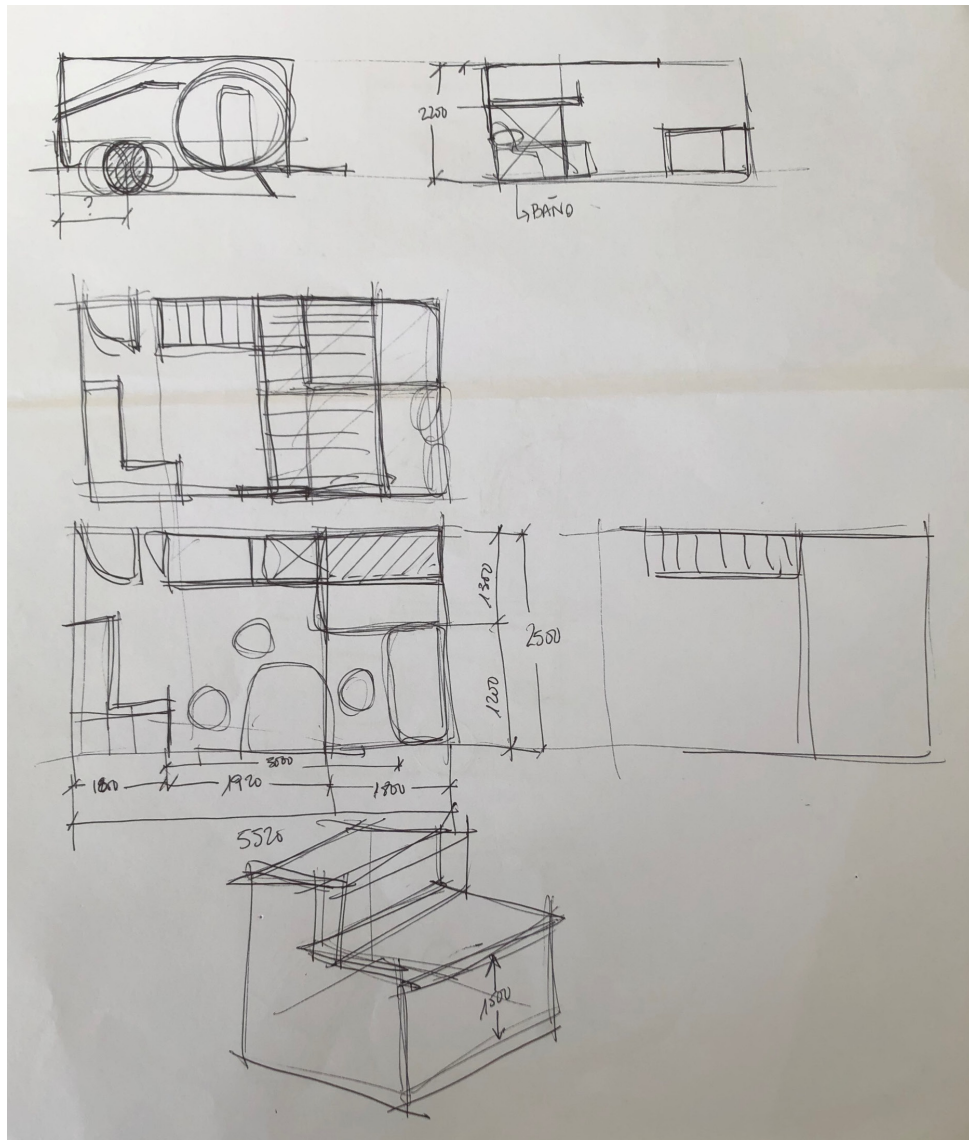


Image 15: final idea sketching



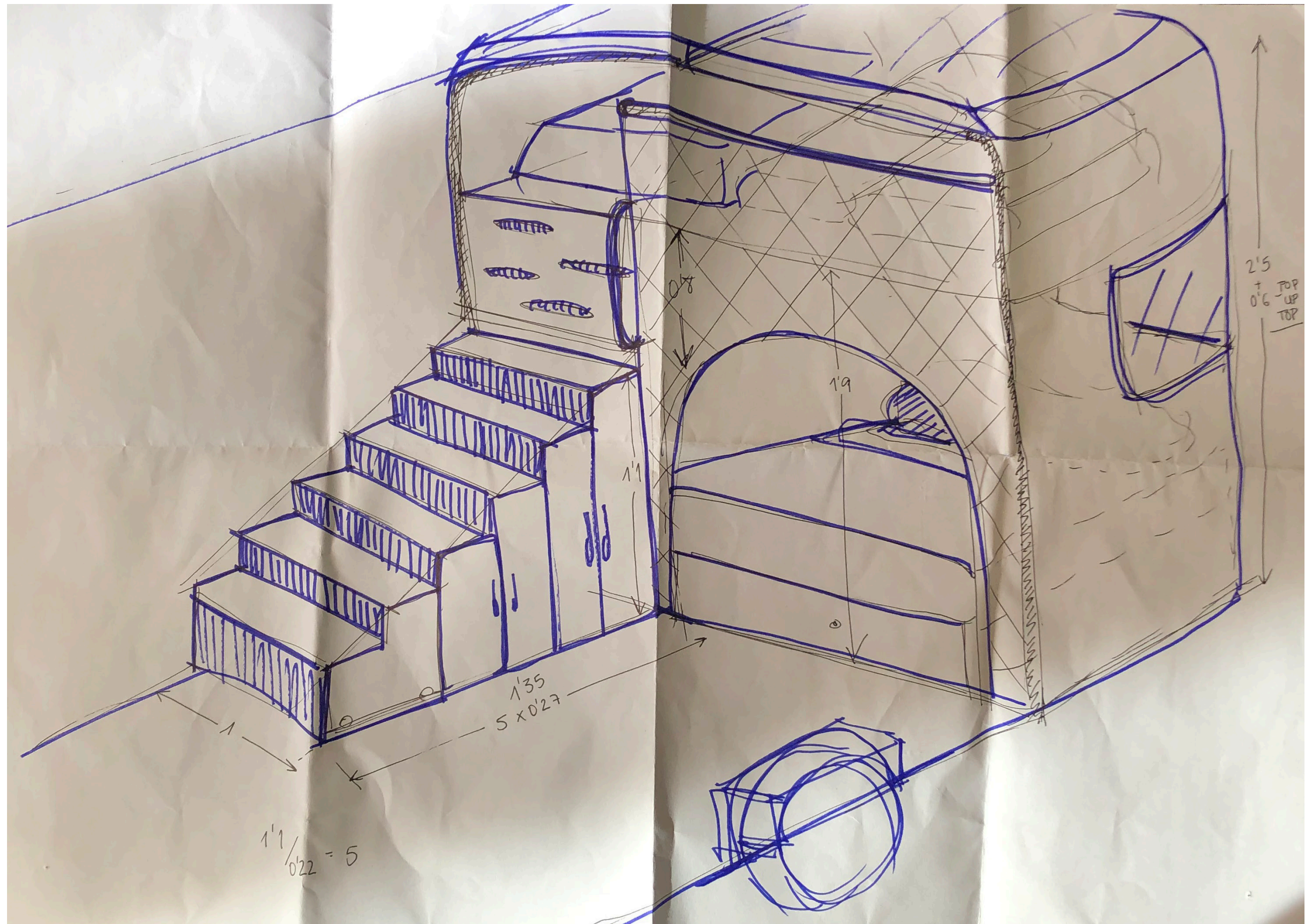


Image 16: final idea sketching II



## The caravan.

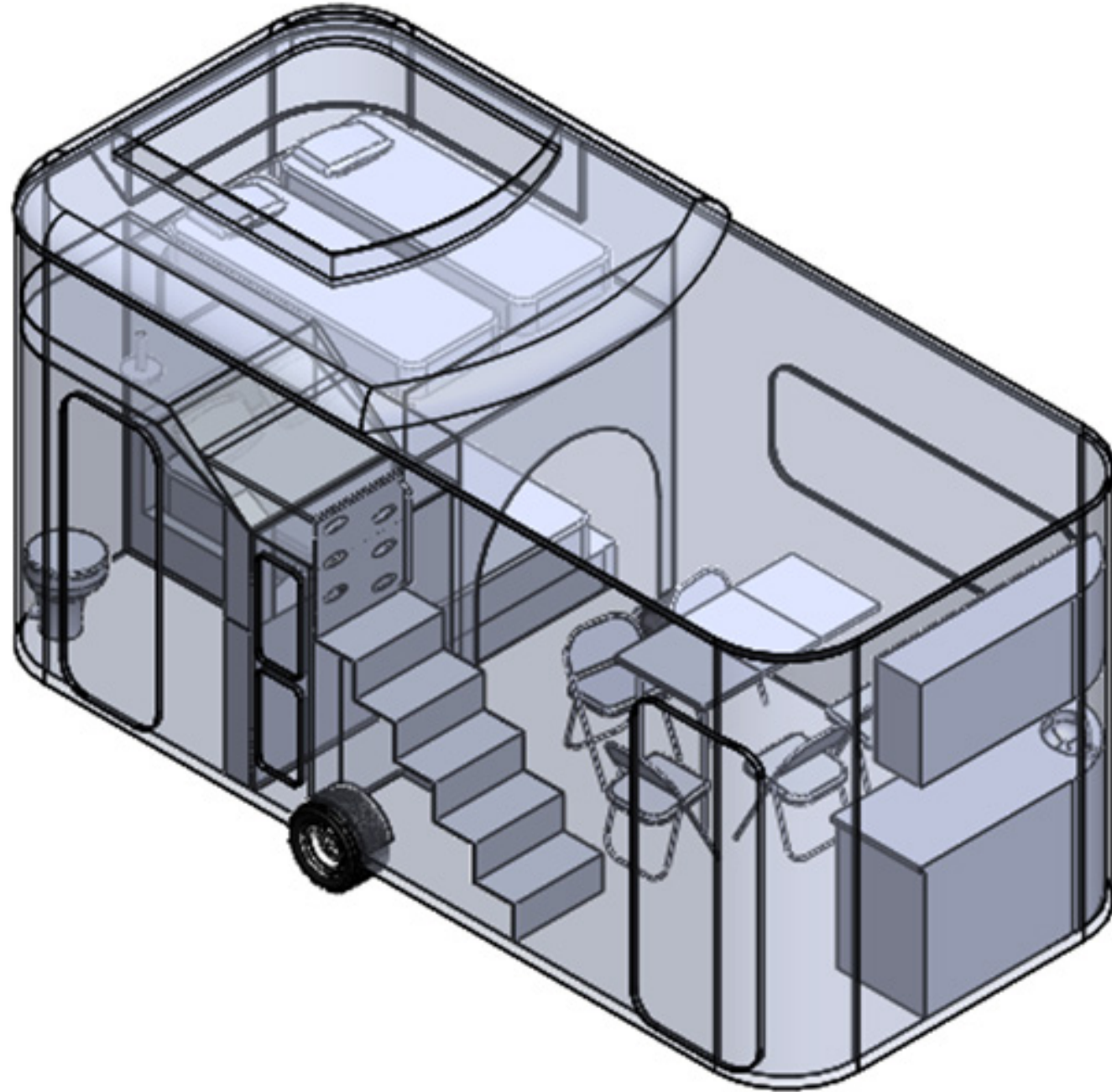


Image 17: final idea sketching II

The final caravan is a mix between options 2 and 3. This final concept has two levels that connect by the staircase.

The second level has two single beds. The pop-up top is a double layer of glass that allows ventilation with small holes in the edges, between both layers of glass. Also, the pop-up top made of glass, enhances the sleeping experience by allowing customers to see the stars while they are going to sleep.

First level has a separated bathroom accessible from the outside, with a shower in the top, WC and a small lavatory with cupboards and a mirror. This bathroom was designed by filling the smallest space possible but being enough comfortable.

The main space has the kitchen and an open space. This open space has a foldable table in the wall that can be open to create a dining area. Chairs are also foldable and can be placed in cupboards when they are not being used. This way we have a bigger space in case the kids want to play inside.

In the first level, we have also the main bed, hidden behind a metal sheet that gives privacy and separates spaces. There is a big space under the bed that serves as storage for suitcases.

I had the idea of putting a bed that turns into a couch, so the space could turn into a small living room, in case the family want to have a cup of tea or rest. But this kind of bed is usually not too comfortable, and the main purpose is to make the sleeping experience as best as it can be.

The kitchen is equipped with fridge, camping stove, water boiler, rice cooker, storage space, chopsticks, bowls and pans.

The stairs were just a normal stair case at the beginning. I realised that the space above stairs was too short for an adult going up. I considered putting a ladder that allows crawling into a small space when going up, just like in playing parks for kids. This way, I was taking out the space below stairs that I think was one of the interesting things from the concept. I finally decided to go for an mixed solution in which the caravan will keep less storage under the stairs but having the ladder just at the end.

This way we create a playing space as well, as the second level is thought for the kids, but allowing adults to go upstairs in a more comfortable way.

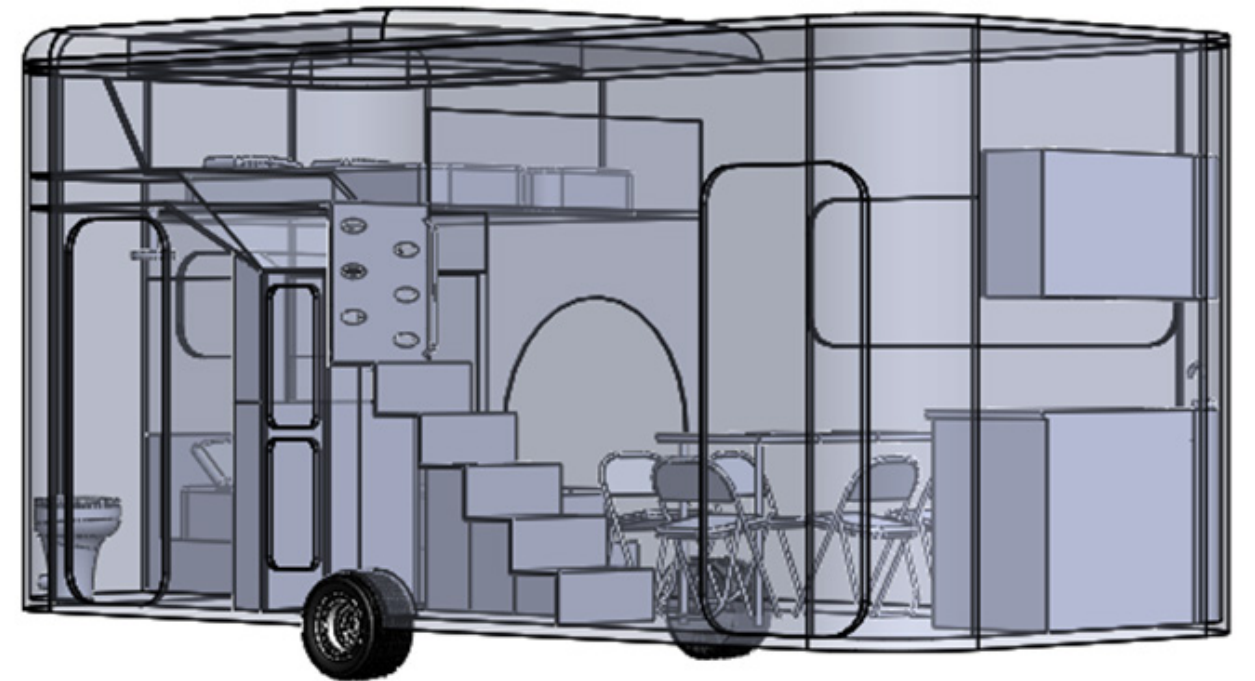


Image 18: final idea sketching II



**Features.**

Stairs are one of the iconic items of this concept. At the beginning it started as a simple stair case, but then it turned into a more important item that has storage and can lead to a playing space.

There are 5 doors that create 3 spaces. These spaces can be filled by chairs or luggage. Also, the upper part of the stairs is a ladder whit holes for the feet. This ladder tries to be part of a playing space for the kids.

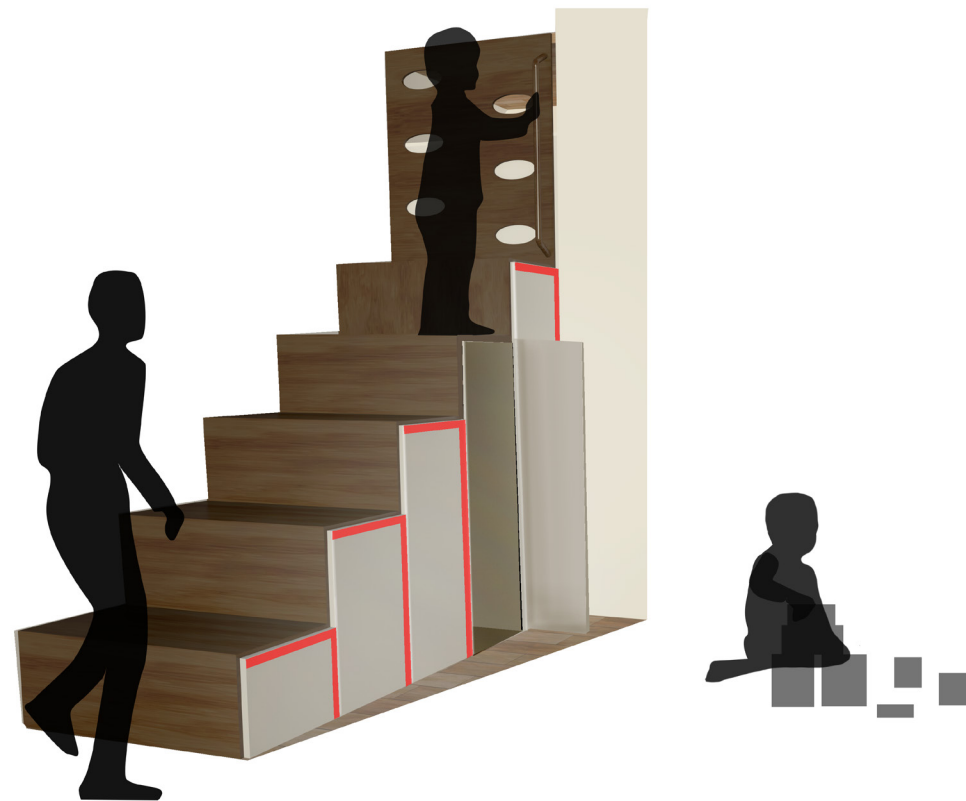


Image 19: staircase

All doors have a push system. The door will remain closed until you push the surface on the edge.

This system will prevent doors opening when customers are driving the vehicle and consequently, will prevent falling of things.

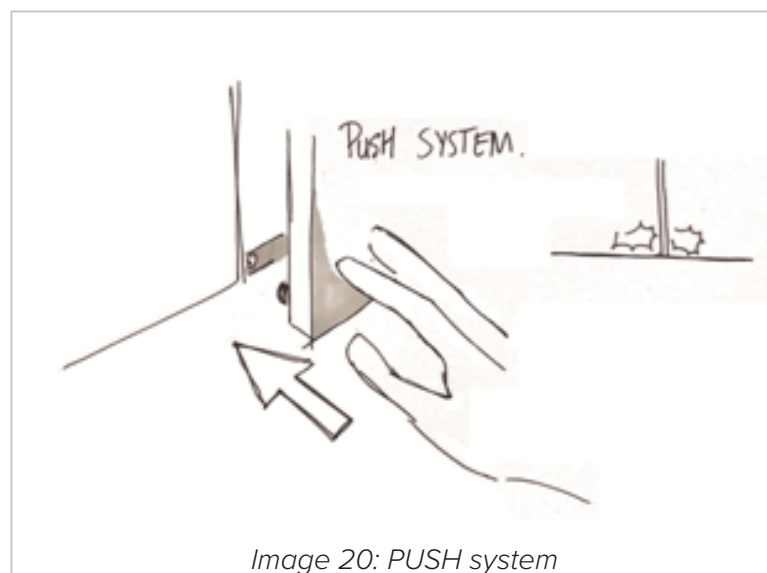


Image 20: PUSH system

In the kitchen the storage cupboards are at the top. Those spaces would be available to storage dry food and the main appliances such as the water boiler and rice cooker would be there. Also, the tableware with bowls, plates, small dishes for dipping and glassware.

The drawers under the bench would have chopsticks and cutlery, as well as a wok, pans and a pot. The fridge and another cupboard are at de right side of the bench. The top bench is a mosaic of marble, which I think gives the image of a luxurious kitchen.



Image 21: kitchen view

The cabinet of the bathroom is smaller and simpler. Just with one side of storage for the smallest things. There is also a plug inside the cupboard for the use of a hair dryer or similar.



Image 22: bathroom cupboard

## Materials.

After the research of the interior design trends in China's houses, I decided to keep some materials such as wood and lacquered colours, but trying to westernize the style. I used neutral colours mixed with wood, steel, and some fabrics. I added red lacquered lines in the stairs and some points of red colour over the caravan. Red means luck in Chinese culture.

With this mix, I tried to give the luxurious appearance of a modern apartment. Wood can be found in the floor and the staircase. Cabinets and table are lacquered in white or grey colours with some details in red, to give a impression of luminous. Sinks, taps and fridge are designed in steel. Beds were covered by a colour blanket, nude for the couple and blue for the kids floor, giving more colour and brightness to the play area. Chairs have a mix of wood and black plastic, which make them modern but classic at the same time. Finally for the outside, I choose clear glass on the windows and two colours of aluminium: silver and gold.

Even if the first idea was a black caravan, I thought that it was going to attract the heat of the sunny coast of Australia. I kept the aluminium because it gives a better effect with the luxurious idea, than plastic or just a white surface.



Image 23: foldable table and chairs





## CONCLUSIONS

After this report, I can say that the concept met the briefing.

The caravan counts with big spaces, separated bathroom and a kitchen with all the space necessary for the equipment needed. Also, materials and brands have that luxurious appearance that the customer is looking for.

The sleeping experience has been enhanced by the glass pop up top and with very comfortable beds, what I think will impact in happier customers that can stay for longer, helping the caravan industry and maintaining numbers for Australian economy.

As one thing that can be improved and that I would like to keep studying with more time is all brochures and quick guides to make the caravan trip easier. Also, the storage space could be more, by adding some spaces in the second level and in the space of the main bed. I think that now it can be small for a family of 4 coming from China with big luggage.

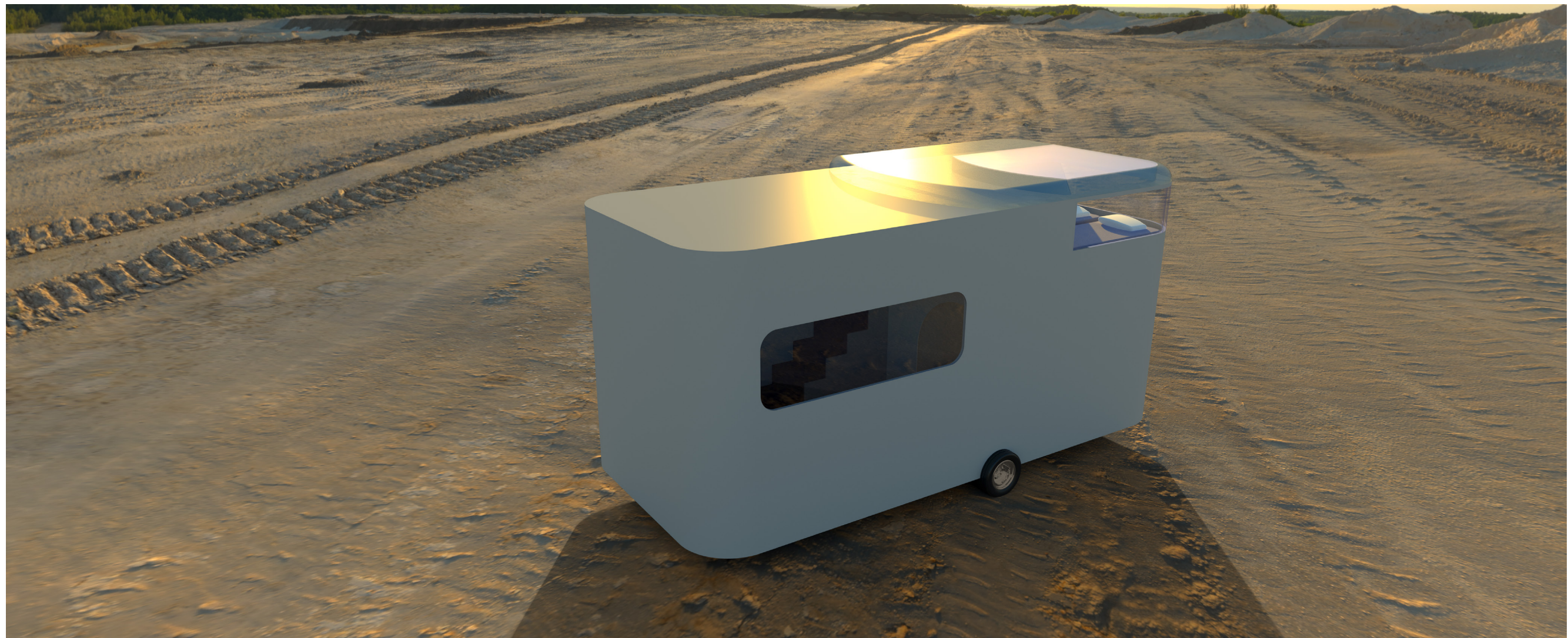


Image 24: the caravan



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