

# PLANK.

Degree Project for Master of Fine Arts in Design, Leo Olsson

A locally  
made furniture  
with Swedish raw  
materials.



LUND  
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Plank - A locally made furniture with Swedish raw materials.

Leo Olsson

Degree Project for Master of Fine Arts in Design Main Field of Study: Industrial Design

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The objective of this project was to design a casual dinner chair for smaller cafes and restaurants that prioritize locally produced ingredients and want to reflect that in their interior design. The aim was to use locally sourced materials from southern Sweden, integrate design and construction to simplify the manufacturing process, and reduce material waste. Additionally, the distribution of the chair was intended to be easy to deliver and more environmentally friendly.

The chair was designed for casual dining and adapted for a maximum sitting time of 30-45 minutes. The chair is stackable to free up space and to facilitate easy cleaning of the cafes and restaurants. It was constructed using ash material that is easy to wipe off food residues. The target group for this chair is restaurant visitors who enjoy the food at the restaurant and the staff who maintain the restaurant environment.

Overall, this project aimed to create a chair that was functional, sustainable, and in line with the values of the cafes and restaurants that would use it. The final product met these objectives, using locally sourced materials, incorporating design and construction to simplify manufacturing and reduce waste, and making it easy to distribute.

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**Objective:**

The primary objective of this project was to design a chair suitable for use in smaller cafes and restaurants that prioritize the use of organic and locally produced ingredients in their food. The secondary objective was to create a chair that utilized local materials and integrated design and construction to simplify the manufacturing process, while also making the distribution of the chairs more environmentally friendly.

**Problem Formulation:**

The problem addressed in this project was how to design a chair that meets the needs of smaller cafes and restaurants that prioritize the use of organic and locally produced ingredients in their food, while also integrating design and construction to simplify the manufacturing process and make the distribution of the chairs more environmentally friendly. The project aimed to identify the key qualities required for a chair to work in this environment.

**Design Vision:**

I believe that design has the power to reflect the perspectives of users and stakeholders, and I strive to incorporate this idea into all of my design projects to create positive change in people's lives. My design approach prioritizes purposeful design elements and components and places a strong emphasis on usability principles. To achieve this, I conduct comprehensive research and continuous user testing and evaluation to gain a deep understanding of users' needs, while avoiding personal assumptions that may impact the design outcome.

Market analys

Interviews

Brainstorming

Ideation

CAD models

Mockups

Prototypes

**Initial research question**

What design features are necessary for a chair to function effectively in smaller cafes and restaurants?

How can the design of a chair reflect the values/brand of a cafe or restaurant?

What are the best methods for designing and constructing a chair that incorporates sustainable materials, a simplified and resource-saving manufacturing process, and efficient and environmentally sustainable distribution?

To start the project, I conducted a market analysis to get an overview of the existing dining chairs on the market. I visited numerous cafes and restaurants to understand which chairs they used and why. Based on my observations, I divided the cafes and restaurants into three categories: fast dining, casual dining, and fine dining. Each category had different target groups and required chairs with specific characteristics.

In the fast dining category, cafes and restaurants often used cheaper chairs made of plastic or with a steel frame and wood veneer seats and backrests. These chairs were designed for a shorter sitting time of about 20-30 minutes, and it was essential that they could be stacked to save space and cleaned easily. The chairs needed to have surfaces that were easy to wipe clean and scratch-resistant due to extensive use.

In the casual dining category, the chairs were more luxurious and made of finer wood materials. They were designed for a longer sitting time of approximately 30-45 minutes and needed to be stackable for space-saving and easy cleaning purposes. The wooden materials used on the chairs were easy to wipe clean, and the chairs also had scratch-resistant surfaces.

The fine dining category featured very comfortable chairs that were designed for a longer sitting time of between 45-60 minutes. The frame was typically made of wooden material, and the seating surface consisted of a padded upholstered seat. Sometimes, the chairs also had smaller armrests. These chairs were often not stackable due to the larger space of fine dining cafes and restaurants. Nonetheless, they had the same characteristics as the other categories, such as easy-to-clean surfaces and scratch-resistant materials for extensive use.



### **Fast Dining**

Purchases cheaper chairs made of plastic or with a steel frame and wood veneer for the seat and backrest.

The chairs are designed for active sitting of approximately 20-30 minutes to encourage customers to vacate their seats quickly and allow new customers to take their place.

It is crucial that the chairs are stackable to free up space in the environment and simplify cleaning at the end of the day.

The chair surfaces must be easy to wipe clean and resistant to scratches since the chairs are used extensively.

Price: SEK 1000 - 2000/pc

### Casual Dining

Chairs made of finer wood material and with good quality, for a slightly more luxurious experience.

Designed for longer sitting periods, approximately 30-45 minutes, with a higher level of comfort.

Stackable to free up space in the environment and for easy cleaning at the end of the day.

Surfaces of the chair should be easy to wipe dirt away from the seat and backrest, as well as scratch-resistant due to extensive use.

Price: SEK 3500 - 6000/pc

### **Fine Dining**

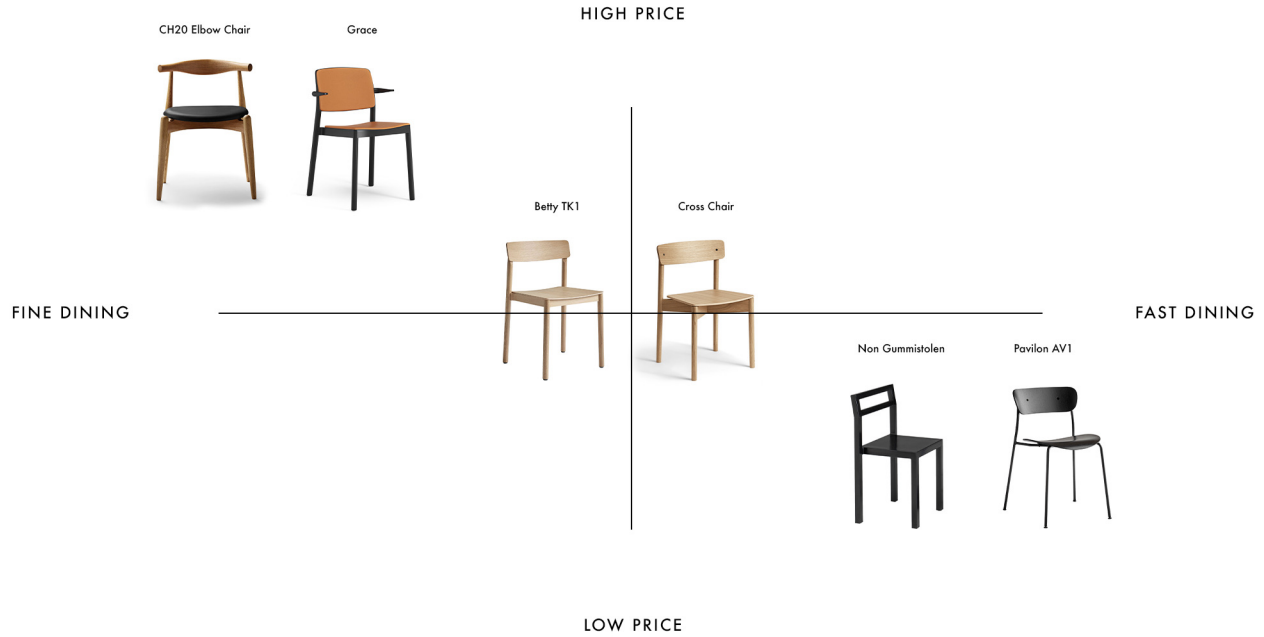
The chairs are made of wood and have a padded upholstered seat, as well as smaller armrests.

These chairs are very comfortable and designed for longer sitting periods, typically between 45-60 minutes.

The surfaces of the chair should be easy to clean and wipe dirt away from, and should be scratch resistant due to heavy usage.

These chairs are not stackable, as they are typically used in larger cafes and restaurants where space is not an issue.

Price: SEK 6000 - 10000/pc



Olsson, Leo. 2023. Market analys [Fotografi].

After collecting data, I analyzed two specific restaurants I visited - Poppel's City Brewery in Gothenburg and Bruket coffee shop in Helsingborg. One thing that distinguished these restaurants was their use of locally produced ingredients in their food.

While they also needed chairs that were comfortable, stackable, easy to clean, and scratch-resistant, they wanted their chairs to reflect their brand image through locally harvested/produced materials and sustainability in production. Based on this analysis, I decided to design a chair for smaller cafes and restaurants that prioritize organic and locally produced ingredients in their food. This chair needed to have locally harvested materials, local manufacturing, and sustainability in mind during production.

My target audience was casual diners who would sit for about 30-45 minutes. To facilitate cleaning and space management, the chair had to be stackable and have easy-to-wipe and scratch-resistant surfaces. In addition to using local materials, I wanted to simplify the manufacturing process to reduce material waste and make production more efficient. I also wanted to simplify the distribution process to reach end customers more easily.

To gather inspiration, I looked at other companies and their solutions to some of these features. The first company was &tradition's Betty chair, which is a good example of a casual dining chair in wooden material with comfortable seating angles. The second company, Verk, manufactures all its furniture using local materials from Sweden. The third company, Takt, specializes in flat-pack furniture, making distribution easier. With these qualities in mind, I aimed to combine them and create a chair that met all of these prerequisites.



Nordiskagalleriet. 2023. &tradition Betty tk1 [Fotografi].



Taktph. 2023. Takt cross chair [Fotografi].



Verk. 2023. Verk stol v.de.01 [Fotografi].

### Nyhamns Säg & Båtbyggeri

During my study visit to Nyhamns Säg & Båtbyggeri, I had the opportunity to interview Martin and Mathias Ravanis to learn about wood materials and their properties. Initially, my plan was to select a large tree from the forest, cut it down, and make wood from it. However, I quickly learned from the Ravanis brothers that felled trees must air dry outdoors for about 3-8 months, or even longer depending on the heat and humidity, before the material can be used.

Raw wood contains a high amount of water, and after sawing the wood, it must air dry until it reaches a moisture content of 20%. During air drying, the moisture is first removed, and then the cell walls in the wood material begin to dry. When the fiber saturation point is exceeded, the wood becomes directly affected. This can lead to changes in properties such as strength, hardness, and elasticity, as well as slight shrinkage in the wood material.

To achieve the ideal moisture content of 6% to 8% for furniture manufacturing, the drying process can be done through air drying or oven drying. Air drying is the most traditional and natural method, which involves stacking wood in a well-ventilated area and exposing it to air and sunlight. However, this process takes a long time, and it can take up to a year or more, depending on the type of wood, its thickness, and the climate, to obtain dry wood for furniture.

After my interview with the Ravanis brothers, I realized that I didn't have the time to cut and dry my own wood. Therefore, my new plan was to find locally cut wood from other sources, which had already been dried and was suitable for furniture production.

### Skättilljunga Sägverk AB

After a long search, I finally found Skättilljunga Sägverk AB, a sawmill in Tollarp, Skåne that could offer me locally harvested ash material from southern Sweden, which was exactly what I needed for my furniture project. To further my knowledge about working with wooden materials, I interviewed Rolf Svensson, who helped me understand the process of furniture making. We discussed how long a tree needs to grow before it is suitable for furniture manufacturing, which is about 70-80 years. The number of annual rings in the stump indicates the age of the tree, while the width of the annual rings shows how fast it has grown. The growth rate of the tree and annual ring width depend on factors such as genetic predisposition, soil fertility, and the local climate.

We also talked about the importance of forest management, which includes the number of clearings and thinnings, as this has a decisive influence on the width of the annual ring. Trees with denser annual rings make the material stronger and more stable, which is crucial for furniture manufacturing. Another crucial aspect of our conversation was the process of splitting or sawing wood for furniture making. We discussed how quarter sawing is preferred for furniture manufacturing, as it results in more formstable planks.

Quarter sawing involves first splitting the log into two perpendicular cuts through the pith, and then sawing in cuts at a 45° angle to the first cut surfaces. Although quarter sawing is relatively expensive, it is mainly used for nobler types of wood or when aiming for cut surfaces where the annual rings run perpendicular to the flat side of the board. The reason why quarter sawn timber is preferred is because the annual rings run perpendicular to the flat side of the board. This ensures that when many wooden planks are glued together, they become more stable, reducing the likelihood of bending or warping. This is essential in furniture manufacturing, where high tolerances are required to ensure that everything fits perfectly. Thanks to Rolf at Skättilljunga Sägverk AB, I was able to acquire locally produced material for my furniture project.

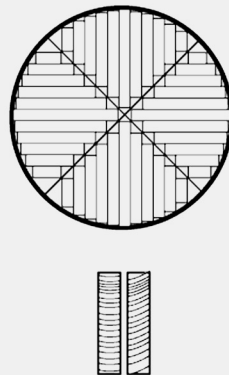




Olsson, Leo. 2023. Sågverk [Fotografi].



Olsson, Leo. 2023. Torkamaterial [Fotografi].



Olsson, Leo. 2023. Kvartersågat [Fotografi].

**Bruket Coffee shop**

In order to better understand the environment and target group for my chair, I visited Bruket coffee bar in Helsingborg. This café emphasizes the use of organic and locally produced ingredients in their food to reduce their carbon footprint, and they believe that quality raw materials/ingredients are essential. They serve breakfast, coffee, and lunch to their visitors.

During my visit, I interviewed the staff to learn more about their criteria when selecting chairs for the café. Based on my findings, it is important for visitors to have access to a sturdy and durable chair that is also comfortable to sit in for up to 30-45 minutes. The chair's design, construction, and materials should reflect the café's commitment to sustainability, while also being visually appealing to visitors.

On the other hand, for the café staff, it is important that the chair is lightweight and easy to move around, with the ability to be stacked to save space when not in use. Material choices are also critical since spills are common in restaurants and cafes. Therefore, the chair's surface should be easy to wipe clean, making it easier for staff to maintain a clean and tidy environment.

With the information gathered from my visit to Bruket kaffebar, I have developed a set of guidelines to ensure that my chair meets the needs and requirements of the target group.

### Poppels City Brewery

To gain further insight into my target group, I paid a visit to Poppels City Brewery in central Gothenburg. Poppels City Brewery is a restaurant, brewery and bakery that works with local ingredients and producers, focusing on sustainable and organic brewing and cooking. They also prioritize using renewable energy, climate-smart packaging, and residual products. The circular mindset is evident in their kitchen, with a predominantly green menu.

During my interview at Poppels City Brewery, I discovered that similar to Bruket Kaffe, the function of the chair was important, with a focus on comfort for 30-45 minutes of sitting time and the ability to stack the chairs to save space. Furthermore, it was essential that the chair was easy to clean and made from a material that would allow for easy wiping of food residues.

We also discussed the importance of having chairs that are easy to move and have ample space beneath them, to make cleaning the premises a more straightforward and streamlined process. However, what we discussed most was the significance of designing the interior and brand to reflect each other. Poppels City Brewery's use of local raw materials and producers meant that they wanted their chairs, tables, and interior design to reflect this ethos, creating a more credible concept and brand.

This was a valuable lesson that I took away from my visit and wanted to incorporate into the design of my chair, as it was a crucial factor for my target group.

### Staffan Holm Studio

In my quest to design the perfect chair, I reached out to a designer named Staffan Holm, who operates the Staffan Holm studio in Majorna, Gothenburg. He is a furniture and interior design specialist and a cabinetmaker, making him a valuable asset to my project. Our discussions have been insightful and enlightening, covering several aspects of chair design, such as seat angles, ergonomics, and comfort levels based on the expected sitting duration.

Staffan emphasized the importance of creating a chair design that reflects the intended duration of use. For instance, if the chair is intended for fine dining, it should be comfortable enough for guests to sit for 45-60 minutes, while a faster dining chair should be comfortable for only 20-30 minutes. This way, customers won't overstay their welcome, and new customers can have a chance to sit down.

Additionally, Staffan provided me with valuable tips on constructing a chair that is both comfortable and durable. His suggestion was to create a frame that holds the entire construction together, including the legs, seat, and backrest. While this type of construction is strong and stable, it would require the chair to be fully assembled before delivery, which could be a drawback. However, Staffan recommended using a cross construction, which allows for a simpler chair design and a flat-pack delivery while maintaining stability, especially if crafted from sturdy materials such as ash or oak.

Overall, my discussions with Staffan have been instrumental in guiding my design process and ensuring that the chair I create is suitable for its intended purpose.

## Target Group

To gain a better understanding of the target group and their interactions with the chair, I have visited various cafes and restaurants to observe the environment and the people who will be using the chair. The chair is intended for smaller cafes and restaurants that prioritize the use of organic and locally sourced ingredients in their food.

The target group consists of both the staff who work in the cafes and restaurants, as well as the visitors. For instance, I visited Bruket Kaffebar, which is a cafe in Helsingborg that serves breakfast, coffee, and lunch using organic and locally sourced ingredients to minimize their environmental impact. The visitors to this cafe are typically individuals who value sustainable and eco-friendly practices in their lifestyle, and carefully select high-quality cafes and restaurants to visit.

The chair should cater to the needs of both target groups. For visitors, the chair must be robust, comfortable, and durable enough to sustain 30-45 minutes of sitting time, which is the average length of time that most visitors spend at Bruket Kaffebar. In terms of design, the chair should reflect the sustainable and eco-friendly values of the target group, and the aesthetics should be appealing.

On the other hand, for staff, the chair should be lightweight, easy to move, stackable to save space, and easy to clean. Material choices must be able to withstand spills and stains, and the surfaces should be easy to wipe clean, making it simpler for staff to maintain cleanliness in the cafe or restaurant.

## Conclusions

The primary aim of my research was to gain a comprehensive understanding of the chair market and identify areas for improvement. Through conducting interviews and market research, I have gained valuable insights into the specific characteristics that my chair needs to have in order to meet the requirements of my target group, which are small cafes and restaurants that prioritize using organic and locally sourced ingredients.

Based on my findings, the perfect chair should be made of locally sourced wood materials and manufactured using production methods that reflect the brand identity of the cafes and restaurants. It should also be stackable, which would not only free up space but also make cleaning more manageable. Additionally, it should have surfaces that are easy to wipe clean, withstand frequent use experiences together with regular wear/tear and over time acquire a beautiful patina.

Furthermore, my research has provided me with vital knowledge about designing and constructing the chair to ensure its functionality. I have also gained valuable insights into the distribution process of the chair to the end customer. Armed with this information, I am confident that I could create a chair that meets the needs and expectations of my target group and the broader market.

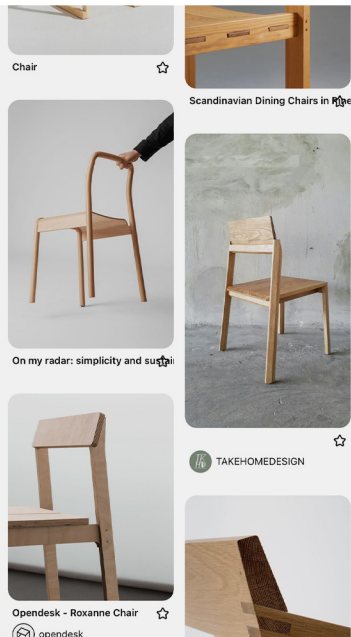
## Ideation

During my research, I also began collecting inspiration for the project. At the beginning of any project, I typically don't limit myself to specific sources of inspiration. Instead, I gather ideas from everything around me. For instance, if I see something interesting in a shop window while walking through the city, I follow that impulse and see where it leads me.

Additionally, I searched the web for different kinds of chairs to gain a better understanding of the market and to be inspired by different shapes and colors. I also visited Studio L6 in Gothenburg, a meeting place for designers that has a vast collection of chairs in various segments that I drew inspiration from.

Lastly, I looked for different construction solutions to ensure that the chair could be built in the best possible way. After this inspiration phase, I realized that the chair should be made from locally harvested wood material to reflect the target group's desire to use organic and locally sourced ingredients in their food. Using pure natural wood materials in the design would also help convey their brand image.

Moreover, I aimed to highlight the construction in the design, not only for the chair's appearance but also to simplify the manufacturing process during production.



Olsson, Leo. 2023. Pinterest [Fotografi].



Olsson, Leo. 2023. Studio L6 [Fotografi].



designboom. 2023. ARKIPELAGO KVBP10 [Fotografi].



**I've designed the chair, according to my initial research questions:**

What design features are necessary for a chair to function effectively in smaller cafes and restaurants?

How can the design of a chair reflect the values/brand of a cafe or restaurant?

What are the best methods for designing and constructing a chair that incorporates sustainable materials, a simplified and resource-saving manufacturing process, and efficient and environmentally sustainable distribution?

**When I designed the chair. I tried to combine different properties to get a chair that fits the intended target group, those characteristics have been:**

The chair should be made using locally sourced materials and with a focus on sustainability during the production process, because cafes and restaurants with organic and locally produced ingredients in their food finds this important to reflect what the their brand/identity stands for.

Integrated design and construction to simplify the manufacturing process and avoid unnecessary material waste.

Make the distribution of the chair easy to deliver and more environmentally friendly.

Made of finer wood material and with good quality.

The chair should be made for a sitting of approximately 30-45 minutes.

Stackable in order to free up space in the environment and to ease the cleaning of the room in the evenings when the guests go home.

Surfaces of the chair should be easy to wipe clean, withstand frequent use experiences together with regular wear/tear and over time acquire a beautiful patina.

During the design phase, I worked closely with the workshop team to ensure the chair's stability and construction could be optimized for manufacturing and production. Balancing their input with my vision was crucial to maintain the design's integrity.

Initially, I created chair CAD models using round rods. However, this design felt uninspired and lacked originality as round rods are commonly used in chair design. Therefore, I explored alternative design options.

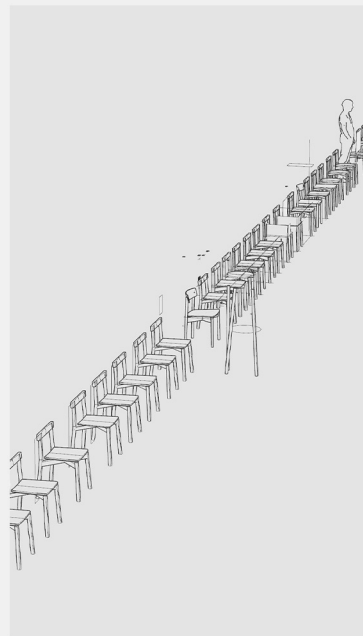
I began by building the chair's legs and frame using square profiles, which allowed me to experiment with new expressions and construction techniques. Through this process, I discovered a design that met my requirements and vision.



Olsson, Leo. 2023. Rundstav [Fotografi].



Olsson, Leo. 2023. Fyrkant [Fotografi].



Olsson, Leo. 2023. Sketch [Fotografi].

In the process of designing the chair, my main goal was to create a piece of furniture that would be suitable for use in smaller cafes and restaurants that prioritize the use of organic, locally-sourced ingredients in their food.

I also considered three other key factors during the design process. Firstly, I wanted to use locally-sourced materials from southern Sweden to reflect the brand image of the cafes and restaurants that would be using the chairs. Secondly, I aimed to create a design that was easy to manufacture and produce, which led me to use the same wooden profile for the front leg, back leg, and middle cross, enabling me to use one long plank for all parts of the chair.

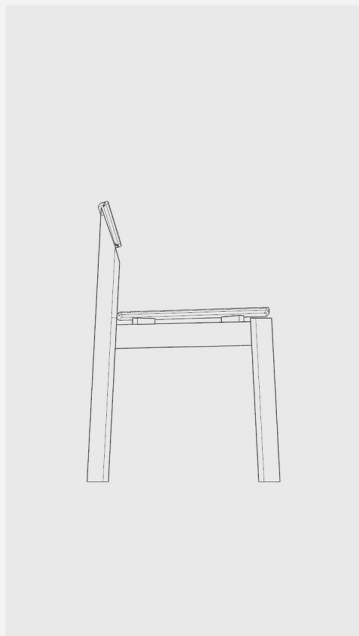
Thirdly, I needed the chair to be shipped in a flatpack and designed it with an easy-to-assemble cross construction that could be split in half for ease of assembly. Considering the chair would be shipped unassembled, I put extra thought into the distribution process, building a flatpack for the end customer to assemble the chair themselves.

Lastly, I wanted to ensure the chair's proportions were visually appealing. To achieve this, I utilized a template of the golden ratio to help me determine the ideal proportions of the chair. Overall, I carefully considered each element of the design to create a well-rounded piece of furniture that satisfies both practical and aesthetic considerations.

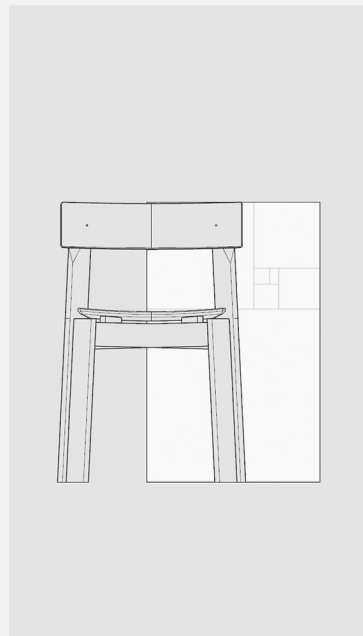
The golden ratio is a mathematical ratio that appears frequently in nature and is believed to create aesthetically pleasing proportions. It is approximately 1.618 and is often represented by the Greek letter phi. The ratio is created by dividing a line into two segments so that the longer segment divided by the smaller segment is equal to the whole length divided by the longer segment. This ratio has been used in art, architecture, and design for centuries to create visually appealing compositions. It is believed that adhering to the golden ratio in design creates a sense of harmony and balance.



Olsson, Leo. 2023. Chair [Fotografi].



Olsson, Leo. 2023. Profil [Fotografi].



Olsson, Leo. 2023. Golden ratio [Fotografi].

The next step in the design process involved building simple mockups to help determine the chair's proportions. Initially, I considered using hard cardboard and the laser cutter as I had prioritized sustainability in the project. However, I found that working with hard cardboard was too difficult. Making even minor adjustments required going back into the CAD model and cutting a new piece.

As an alternative, I chose to use XPS plastic. This material was easier to work with and allowed me to make adjustments quickly and easily. Using XPS plastic allowed me to create accurate mockups that accurately reflected the proportions of the final chair design.



Olsson, Leo. 2023. Mockup ram [Fotografi].



Olsson, Leo. 2023. Mockup klar [Fotografi].



Olsson, Leo. 2023. Delar [Fotografi].



Now it was time to build the first prototype to be able to test whether the cross construction of the chair would hold and to set all the seating angles to know that everything will work.

I built the first prototype in pine because it is a cheap material and to see if it would last, I know that the chair will also work in oak or ash as it is a stronger material. Additionally, various individuals tested the chair to assess its durability and comfort.

To ensure that the chair was comfortable, the seat angles were set at 2 degrees of incline while the backrest was set at a 17-degree angle. These angles produced a comfortable seating experience that was well-suited for casual dining.



Olsson, Leo. 2023. Justeringar [Fotografi].



Olsson, Leo. 2023. Färdig [Fotografi].



Olsson, Leo. 2023. Sitvinklar [Fotografi].

After verifying the chair's stability, the next step was to choose the material for the final product. I had to decide between oak and ash, both of which are robust and durable materials with high strength. Ultimately, I chose ash because it was just as sturdy as oak but more cost-effective, and its grain matched the chair's desired appearance.

One of the significant benefits of using ash wood is its durability, making it ideal for furniture pieces that endure daily use. Moreover, ash wood is a sustainable material that grows in Sweden, making it an eco-friendly choice. Additionally, ash wood furniture is easy to maintain and clean, making it a practical choice for busy cafes and restaurants. Overall, designing furniture with ash wood provides a reliable, customizable, and environmentally friendly option for those looking for quality furniture.

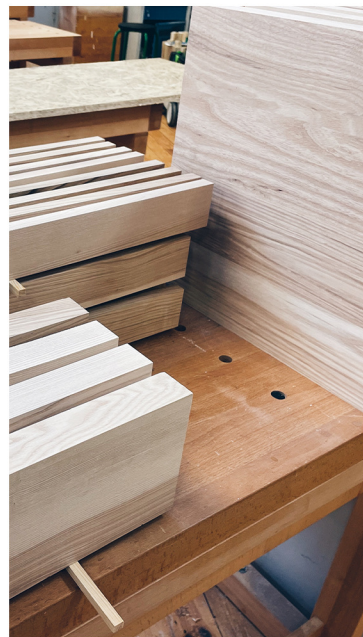
To obtain the ash material, I returned to Rolf at Skättilljunga Sågverk and purchased it. Then, I processed the material using a bandsaw and a planer to obtain the desired dimensions.



Olsson, Leo. 2023. sköttilljunga sågverk [Fotografi].



Olsson, Leo. 2023. Dimensioner [Fotografi].



Olsson, Leo. 2023. Staplat [Fotografi].

During the manufacturing process of the chair, my main focus has been to design the chair in a way that would make the manufacturing process as easy and efficient as possible, while also minimizing material waste. To achieve this, I designed the chair frame parts to be sawed out from a long plank, allowing for the front/back legs and the middle cross to be obtained from a single plank, thus reducing material waste.

To further optimize the design process, I researched the standard depth of planks available in stores, which is usually around 2 inches or 50mm in depth. Based on this information, I chose to make the front/back legs and the middle cross with a depth of 20mm, enabling me to obtain two pieces from a single plank in depth.

For the seat and backrest parts, I cut them out from the same dimension of one plank and glued together four pieces to form the seat, while the backrest consisted of one single piece. To ensure accuracy and precision, I utilized a CNC machine to mill the pieces to the correct dimensions. In designing the seat and backrest, I minimized the material spillage that occurred during milling by shaping the seat and backrest as minimally as possible.

Another way would be to use hot pressing veneer for the seat and backrest and that would provide a faster and more cost-effective solution. However, this approach would sacrifice the aesthetic appeal of solid wood, which is highly valued for its visual impact.

Overall, my design process was centered on making functional and appealing furniture with the added consideration of minimizing material waste and simplifying the manufacturing process. The pricing for my chair in the Casual dining segment is determined by considering factors such as materials, manufacturing processes, and labor costs. Based on my calculations, the estimated cost per chair falls within the range of SEK 3,500 to 4,500.



Olsson, Leo. 2023. CNC [Fotografi].



Olsson, Leo. 2023. Montering [Fotografi].



Olsson, Leo. 2023. Stapelbart [Fotografi].

In designing the chair, I prioritized the idea that it should come in a flat packet. Flatpack furniture has several advantages, including lower carbon footprint, reduced packaging material, and easier transportation. When more chairs can be loaded at the same time, then more chair can be transported in a single shipment, resulting in fewer trips needed to transport the same amount of furniture.

Another advantage is that by using flatpacks, you can reduce chairs breaking during transport, as it is a common problem when stacking 5-6 chairs on top of each other that often results in the bottom one breaking.

Flatpack furniture design also has cost and convenience benefits. The compact packaging reduces manufacturing and shipping costs, which translates to lower prices for consumers. Furthermore, because the furniture is designed to be assembled by the customer, it eliminates the need for expensive labor costs. This also makes it easier to transport, as the flatpack can be moved easily and assembled on-site.

Finally, flatpack furniture design is environmentally friendly. With compact packaging, it reduces the carbon footprint associated with shipping and transportation. The furniture can also be disassembled and repacked easily, making it a more sustainable option in terms of disposal.

In conclusion, flatpack furniture design offers numerous benefits, including convenience, ease of assembly, affordability, and sustainability. It has become a popular choice for consumers who value practicality, affordability, and environmental consciousness. When designing the chair, I made a conscious decision to incorporate these advantages into the design, prioritizing both functionality and sustainability.



Olsson, Leo. 2023. Mall [Fotografi].



Olsson, Leo. 2023. Bära [Fotografi].



Olsson, Leo. 2023. Paket [Fotografi].



I have chosen to offer different color options to accommodate the varying interior design themes of cafes and restaurants. One chair will be in natural untreated ash material, while the other three will come in colors of burgundy, mustard yellow, and indigo blue. To achieve these colors, I have opted for Otto's linseed oil paint due to its eco-friendliness and numerous benefits.

Linseed oil paint is a natural and eco-friendly paint option that is free from harmful chemicals, natural resins, and pigments. It is durable and resistant to water, weather, and UV radiation, making it ideal for surfaces that require resistance. Moreover, the paint has a thick consistency that allows for easy application and a smooth and even finish. It is also self-leveling, which means it can fill in small imperfections on the surface.

One of the most significant advantages of linseed oil paint is its environmental sustainability. It is biodegradable and made from renewable resources, making it a responsible and sustainable option for those who prioritize their impact on the planet.

Additionally, linseed oil paint enhances the natural grain and texture of wood, offering unique and beautiful finishes that can create a variety of decorative effects like distressing, antiquing, and glazing.

In conclusion, I have chosen Otto's linseed oil paint for my chair design due to its eco-friendliness, durability, and unique finishes. By offering different color options and utilizing this type of paint, I can accommodate various interior design themes while also contributing to environmental sustainability. It also withstand frequent use experiences together with regular wear/tear and over time acquire a beautiful patina.



Olsson, Leo. 2023. Färgprov [Fotografi].



Olsson, Leo. 2023. Torka [Fotografi].



Olsson, Leo. 2023. Måladstol [Fotografi].

RESULT. 39-46



Olsson, Leo. 2023. Chair [Fotografi].



Olsson, Leo. 2023. Chair 2 [Fotografi].



Olsson, Leo. 2023. Närbild [Fotografi].



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**Reflection**

This project has been a fulfilling and enlightening experience for me. Through every step of the process, from harvesting the wood material to producing the final product, I have gained valuable knowledge and expertise. Being involved in the project's entire lifecycle has provided me with a comprehensive understanding of the preparation and considerations necessary for a successful project.

Although I am satisfied with the outcome, there are several areas that I would improve if I had more time. Firstly, I would spend more time on the construction and opt for a wooden joint instead of using dominoes to bind the entire construction together. This would provide better stability for the attachment points in the chair frame.

Secondly, I would use a sponge instead of a brush to apply Otto's linseed oil paint to the chair. This would prevent the accumulation of paint in certain areas and ensure a consistent layer throughout.

Thirdly, I would allocate more time to develop the chair's packaging to ensure that the contents fit snugly and securely in each package.

If I were to continue this project, I would conduct further testing on the chair's usage, durability, and strength. This would include wear tests, strength tests, and assessments of the chair's ability to withstand impact and the test of time.

Overall, while there are areas for improvement, I am content with the final outcome of the project and proud of what I have accomplished in the six-month duration.

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