

SEPARATE FILE FOR
FRONT AND BACK COVER

MASTER THESIS

PERSONALIZED FOOTWEAR

Product design master thesis project.

Presented at Escola Superior de Artes e Design de Matosinhos.

In order to fulfil the requirements to obtain the product design master degree.

Developed under the supervision of José António Simões and Fernando Alçada.

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Synopsis.

This master thesis describes the development process of a personalized sandal. The sandal was developed for **Klaveness Technology**. This company has developed a foot scanner that enables them to produce orthotics by scanning patient feet. This thesis describes the process of developing a personalized sandal based on this technology. The main challenge was to create a final product which could be adjusted to all sorts of individual scans. The process started by researching three different customer segments that served as a basis for ideation. The **ideation process** resulted in three product suggestions based on the three customer segments. The final **refinement phase** concentrated on developing the segment, **leisure**. The final result is a sandal that is easy to produce despite of the personal deviation. **The expression of the design emphasise the concern on a sustainable approach of technology integrated with the richness of handcraft, techniques and values.**

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CHAPTER 1. INTRODUCTION

Company Presentation.

KLAVENESS AS

Klaveness is a Norwegian based footwear manufacturer founded by Dagfinn Klaveness in **1957**. Good lasts, top quality and perfect fit were Dagfinn's foundational values and these are still standing today.

1968

Klaveness bought the Swedish shoe brand Hasten. Through this brand and the ability to deliver quality footwear, Klaveness increased their export to Sweden.

1988

Klaveness established a factory in Portugal. The factory stands today as an effective, quality conscious and future-oriented production facility.

1992

Klaveness started the production of orthopaedic footwear, and has since then invested significantly in the development and marketing of this type of product. Through its active partnership with researchers, orthopaedic workshops and patients, Klaveness has developed a unique expertise in this type of footwear.

1996

Klaveness strengthened its sales and distribution network with the acquisition of the Swedish Ortholine AB company.

2002

Former Ortholine AB became known as Klaveness Medical AB. It is responsible for the sales and distribution of its Medical collection. At the same time a new Klaveness plant was ready to start production:

New state of the art unit was established in Elblag, Poland, to support international shoe production. By July 2002 Klaveness UK was established with headquarters in Leicester to support sales in the UK territory.

2003

Klaveness Technology was founded. This company produces foot orthotics and develops technology for the production of these.

Klaveness has now over 200 employees in six different countries. The company now provides a wide range of high quality footwear, including fashionable and comfortable high street shoes and shoes for medical and orthopaedic speciality solutions. Klaveness has always retained the original entrepreneurial idea from: developing **footwear that feet would choose** - footwear with perfect fit, good lasts and the highest construction quality and the finest materials.



KLAVENESS TECHNOLOGY

Klaveness Technology develops and produces orthopaedic shoe inserts also known as foot orthotics. It also provides technological tools/ solutions for preparation of foot orthotics. A shoe insert is a removable insole which accomplishes any of a number of purposes, including: Daily wear comfort; Foot and joint pain relief from arthritis, Overuse; Injuries and other causes; Orthopaedic correction; Smell reduction; Athletic performance, increase of the users height and discrepancies of correction in leg length. Corrective shoe inserts are often referred to as orthotics. These may contain built-in arch supports. There are various forms of orthopaedic inserts or orthotic insoles available - all the aim of correcting the lower limb. These orthotic insoles are designed to re-align the foot into its correct position to relive and discomfort.

There are many types of orthotics which target certain biomechanical conditions. These types of devices are usually named after the foot condition associated. Some of the more common types are: Arch support; Plantar fasciitis; Post tibial dysfunction and Achilles Tatius. Orthotics are traditionally produced by orthopaedic technicians through vacuum forming of the patients plaster mould (see attachments for deeper explanation). Klaveness Technology has created tools that enable this industry to use Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) technology in the orthotics manufacturing process. Klaveness Technology started by developing a low cost scanner technology and software (see appendix for explanation). Later on the company has developed modelling software to manipulate the orthotics. Klaveness technology also produces the orthotics that are designed through their computer systems.



Project Description.

Klaveness Technology is increasing its sales and wants to use more extensively the benefits of the scanner technology. The purpose of this project is to design footwear that is based on Klaveness Technology orthotics. The project will be divided into four stages. This report will follow the order of the process.

- The **research phase** is the beginning of the design process. It presents the results of the three different researched customer segments;
- The **ideation phase**, where the goal is to come up with ideas for the different customer segments. This will generate a diversity of concepts/ideas to choose from;
- The **refinement phase** in which the design process will start to narrow down the options. One option will be chosen and will be further refined until a satisfying solution is accomplished;
- The final phase is **documentation phase**. Which is the creation of this document.

SWOT Analysis.

Strengths

- Low production cost on scanners;
- Technology is developed inhouse;
- Production without lasts might lead to lower production costs,
- Product with unique selling point.

Weaknesses

- The shoe must be produced without lasts which is a great challenge to solve technically;
- Little funds to invest.

Opportunities

- The customer's scan is forever kept and they can re-order orthotics based on their scan;
- The scanner can eliminate the need for a retailer.

Threats

- The retailers might see this product as a threat;
- The customer will not get the product directly after buying it;
- The products are not sold in a traditional manner.

Project Plan.

Research

Tasks

- Define design challenge;
- Generate process plan;
- Project SWOT analysis;
- Define three possible customer groups;
- Develop mood boards, personas and competitors' analysis.

Goals

- Establish a general perception of target customers.

Time frame

November 2012.

Ideation

Tasks

- Initial idea generation;
- 3D drawing and rendering;
- Creation of one prototype.

Goals

- Generate a broad selection of samples which serve as a foundation for selection.

Time frame

January 2013.

Refinement

Tasks

- Detail improvements on one style: upper, seems, skin qualities, lining, laces, Velcro, colours.

Goals

- Present one final model ready for production.

Time frame

February 2013.

Documentation

Tasks

- Create report design processes and final product.
- Create movie documenting the production process

Goals

- Establish a clear perception of the design process and further work.

Time frame

September 2013.

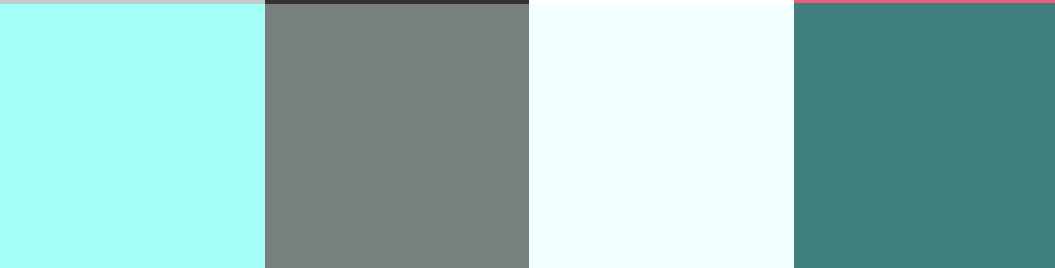
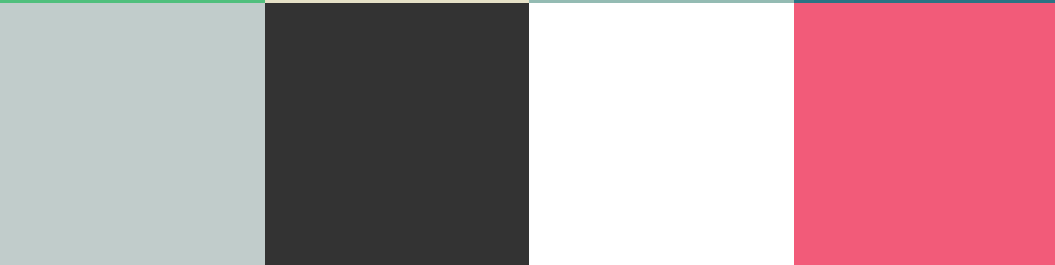
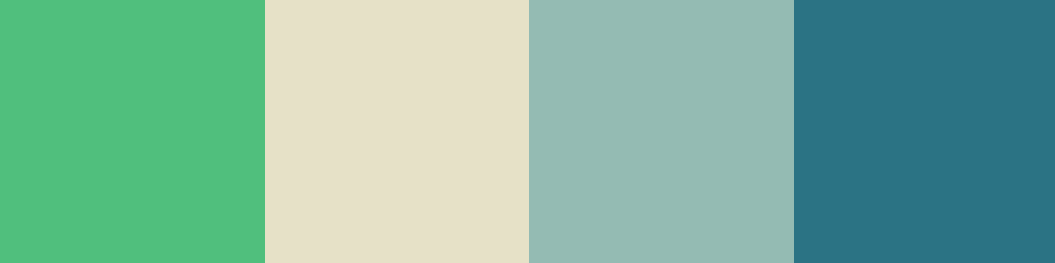
CHAPTER 2. RESEARCH

In this chapter, three possible customer segments selected for future investigation will be described. These three were the result of a brainstorming. The criteria for selection of target customers was that the segments were sufficiently large, within reach and estimated to be profitable.

The initial idea from Klaveness Technology was to create a concept aiming a **young surf culture**. Another is for the **active worker**, and the third chosen is called **leisure**, which is meant to use at home. The reason for choosing three different segments is that it will create a wide base of variety for the project.

Each segment has the following topics: **moodboard, personae** (fictive customers) and **competitors' analysis**. The moodboard is a collection of inspirational photos. The fictive customers are made up to establish an image of the perfect customer. And finally the competitors' analysis is made to create a foundation for differentiation. These will cover some of the companies history, products, pricing strategy, customer segments and online representation.

Segment 1. **Surf Life Style.**



PERSONAE.

Name: Darren Phillips

Age: 29

Sports: Surfing, Kite surfing, Skateboarding

From: California

Lives: Fort Lauderdale

**Work: Sales assistant in
Lauderdale board shop**

Darren lives by the coast in Florida. The warm weather allows him to wear slippers all year round, and that is just the way he likes it. He says that this kind of footwear is easy, specially because of "sand and stuff". Darren has been interested in board sports ever since he was a young kid. He started surfing when he was 10 and skateboarding at 14. Four years ago he took up kiting and loves it. He goes kiting whenever there is wind and when there is not, he surfs!

These days he doesn't skate that much but he doesn't mind spending a day at the local skate park with friends.

Darren lives alone in an apartment that he rents from an old couple. The older couple have come to like him and Mr. and Miss Gletcher invite Darren for dinner every now and then. His apartment is 100 meters away from the Gletcher's house so they are not disturbed when Darren throws a party.

During summer time Darren's brother, Alan, comes to visit. Alan is 10 years younger and still lives with their parents in California. Darren spends most of his money in the store that he works in. He is a gear freak and not afraid to admit it.



Name: Alexandra Rodrigues

Age: 24

Sports: Surfing, specially big waves

From: Rio de Janeiro

Lives: Hawaii

Work: Pro surfer

Alexandra or "Alex" may look innocent but she has the guts to paddle into bigger waves than most guys do. Alex has been surfing for as long as she can remember. She started in Rio de Janeiro, but today she lives and surfs in Hawaii. She likes surf's local breaks around the island, including Jaws. Since she is sponsored, she gets to travel around the world. She doesn't mind the travelling although some of the plane rides are too long. But it is usually worth it in the end, "specially when you arrive at places like Mentawai".

Her iPod is her best friend on these trips and there you can find artists like Jack Johnson, Donovan Frankenreiter and, of course, The Beach Boys.



Name: Phillip de Sousa

Age: 26

Sports: Surfing

From: Ciudad Lazaro Cardenas

Lives: Puerto Escondido

Work: Surf teacher at Puerto surf school

Phillip lives with three friends in a small apartment in Puerto Escondido. During day time he works as a surf teacher in the local surf school. He begins work at nine in the morning and loves this because it gives him the opportunity to go for a morning surf session. He is a good surfer (at least according to people that know him) and he is trying to get to a pro level. This is also why he always tries to push in a small session after work. It is usually not much time to improve his own surfing skills during work hours, but he enjoys passing on to other people his surfing knowledge.

Phillip's family lives in Ciudad Lazaro Cardenas. He grew up there but when he was 24 he met the two friends he is living with now, Pedro and Gabriel. They were both moving to Puerto Escondido and needed a third person to live with so he decided to tag along. Phillip tries to convey a cool careless image, but his clothes are always fresh and nice looking, preferably from the latest collection. It seems like he has a hidden interest for surf fashion.



COMPETITORS' ANALYSIS.

VANS

About.

On March 16th, 1966, at 704 E. Broadway, in Anaheim, California, brothers Paul Van Doren, James Van Doren, and three other partners opened up their first store. The Van Doren Rubber Company was unique in that it manufactured shoes and sold them directly to the public. On that first morning, 12 customers purchased the original Vans deck shoes, which are now known as Authentic. The shoes that were made earlier that day were ready for pick-up in the afternoon.

Vans is a creative company, launching new styles every season. All shoes seem to be based on their sticky rubber cup soles. Their formal expression is loose and connected to sports. Primarily and original Vans shoes were made for skate

boarding, although they have moved on to offer products for BMX, snowboarding and surfing.

Segment.

15-35 year-old men and women
with interest for board sports

Price.

Shoes 52\$, Sandals 17\$

Online.

Website, Facebook, Twitter, Blogs,
YouTube, Of the wall TV

Distribution.

Online: brand store, non-brand stores
Physical: non-brand stores



Men.



Women.



Web.

VANS.com | SKATE | SURF | SNOW | BMX | GIRLS | APPAREL | CLASSICS | OTW | OFFTHEWALL.TV | PRO-TEC | MOTO-X | WARPED TOUR | VAULT | KIDS

VANS Home Product Team Video Shop Find A Store Custom Boardshorts

CONGRATULATIONS
JOHN FLORENCE
**RIO PRO
WINNER!**

VANS
"OFF THE WALL"

CLASSIC STYLE.
MODERN COMFORT.



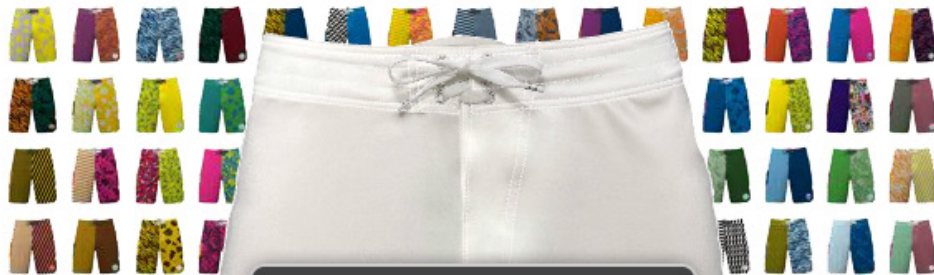
VANS | THE ERA CUSTOM

powered by  shortomatic.com



CREATE YOUR BOARDSHORTS | ARTISTS/LIMITED EDITIONS | THE ERA CUSTOM

MY CART (0) | LOG ON



CLICK HERE TO START
CUSTOMIZING 
USE THE VANS PALETTE TO DESIGN YOUR
COMPLETELY ORIGINAL BOARDSHORTS

FEATURED ARTIST



NEIL BLENDER

Born in 1963, I grew up in Anaheim, watched a lot of cartoons. Mom is an artist, older sister/brother both drew a lot too. When I was young I traced a dinosaur off a book and showed it to my mom and she called me out, she basically said tracing is for idiots. 7th through 9th, Drafting w/Mr Daniels. 10th - 12th, Ceramics w/ Mr. Ahlvers, Photography / G.Cleveland. Cypress College more photography, Art and Design. Was into BMX/Baseball through the 70's, brother had a skate laying around, didn't get into skating until 78'. Saw Duane Peters ride and that got me into skating parks/bowls a lot. Art influences: Picasso, Van Gogh, Monet, Escher. Contemporary artists: Hagop Najarian, John Sollom, Matt Dove, Pettibon, Mom. Shown work 4 times, group shows in Ca and Fla.

Vans surf home page has a minimalistic design approach. This makes it easy to get an overview of the content. In Vans website there is also a board shorts configurator, that allows the customers to create their own designs.

SANUK

About.

Sanuk, a division of Deckers Outdoor Corporation, is a footwear brand based in Southern California. Sanuk, the Thai word for fun, was founded by Southern California native Jeff Kelley when he started making sandals out of indoor-outdoor carpet. The first product created was green carpeted and entitled "Fur Real" after one shop owner asked if the novelty sandal was "For Real." The Fur Real first became a runaway hit through boutique stores and not the intended surf shops. The novelty act was followed up by a sandal wrapped in wire mesh, a leopard print version, and styles made out of a poncho material in a variety of colours. Sanuk has grown to include

style options for men, women and youth.

Segment.

15-35 year-old men and women

Price.

Shoes 52\$-64\$, Sandals 18\$-44\$

Online.

Website, Facebook, Twitter,
Tumblr, YouTube, Pinterest

Distribution.

Online: brand store, non-brand stores
Physical: non-brand stores



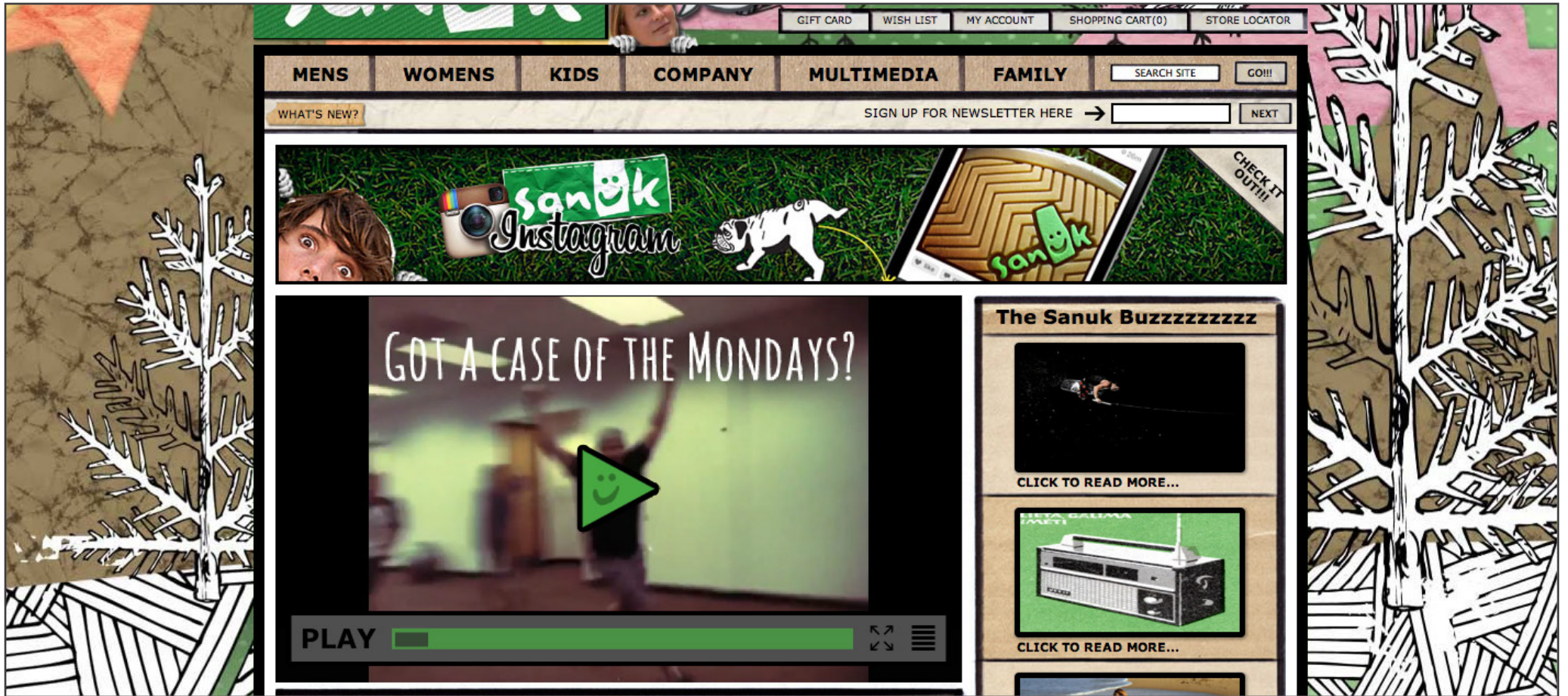
Men.



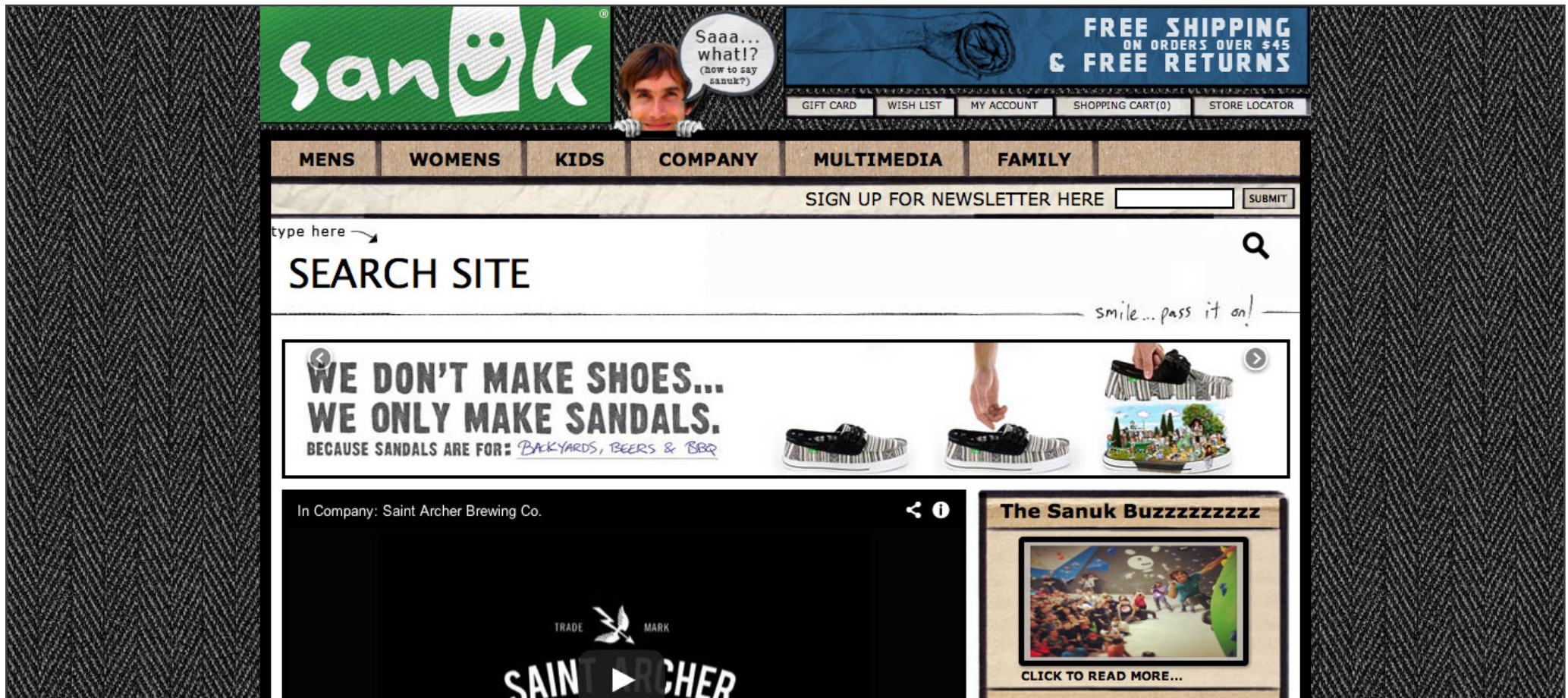
Women.



Web.



Sanuk's home page has many elements inspired by clip art. The site invites customers to contribute in the web content by publishing their uploaded photos. Viewers are also invited to play games, or obtain information about the company through interactive storytelling.



RIP CURL

About.

Rip Curl is a major Australian manufacturer and retailer of surfing sportswear (also known as board wear). The company was founded in 1969 by Doug Warbrick and Brian Singer in Torquay, Victoria, Australia and initially produced surfboards. In 1970, they decided to begin production of wet suits, with emphasis on transforming diving technology into a wet suit suitable for surfing.

Rip Curl has become one of the largest board wear brands in Australia, Europe and South America and is also active in North America and South Africa. Rip Curl remains a private company. François Payot is the Chief Executive Officer (CEO) of Rip Curl International.

Segment.

15-45 year-old men and women with interest for surfing

Price.

Shoes 77\$-97\$, Sandals 18\$-57\$

Online.

Website, Facebook, Twitter, YouTube

Distribution.

Online: brand store, non-brand stores
Physical: non-brand stores



Men.

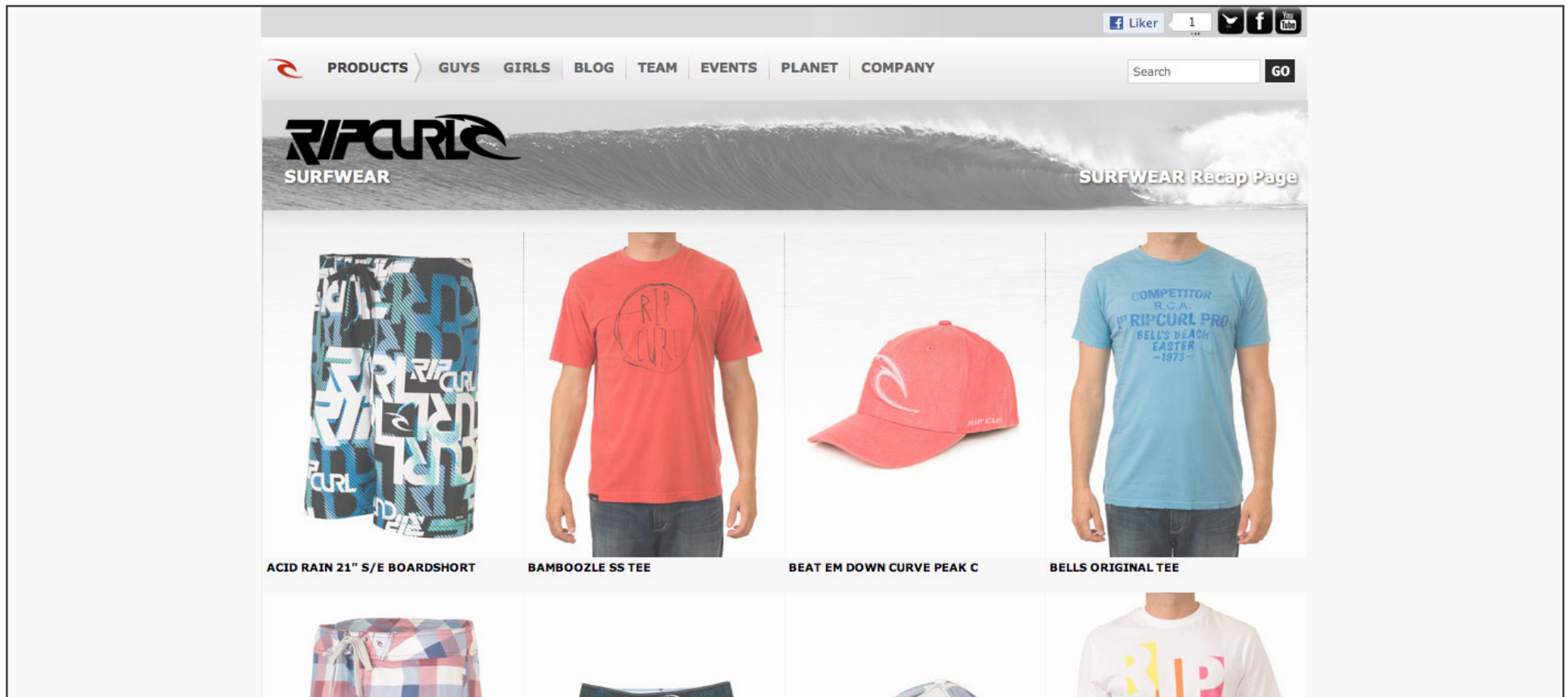


Women.



Web.

The Rip Curl site is fairly good. However, the immediate representation of their product category is static and not really integrated in the layout.



Their front page is more exciting with numerous updates on happenings in the surfing world.

The image shows a screenshot of the Rip Curl website homepage. At the top left is the logo **RIP CURL.COM** and at the top right is the tagline **THE ULTIMATE SURFING COMPANY.** The main content area features a large photograph of a surfer with long hair and a beard, wearing a white t-shirt with **QUIKSILVER** and **Coca-Cola** logos, celebrating with his arms raised. The text **YEAH WILKO!** is overlaid in large, bold, black letters. Below it, in smaller black text, is **CONGRATULATIONS ON WINNING THE QUIKSILVER SAQUAREMA PRIME**. A small **RIP CURL** logo is visible in the bottom left corner of the image. Below the main image is a horizontal navigation bar with the following links: **Australia**, **Asia**, **Europe**, **New Zealand**, **North America**, and **South America**. At the bottom of the page, there is a small line of text: **Use of the RIP CURL trademarks by Rip Curl Pty. Ltd. under license from Rip Curl International Pty. Ltd.**

REEF

About.

Reef's twenty-five year heritage traces back to two brothers from Argentina, Fernando and Santiago "Santi" Aguerre. Fuelled by their passion for surfing and armed with a unique entrepreneurial spirit, the brothers acted on an idea to create a high quality, comfortable, active life style sandal.

Attracted to the Southern California life style, Santi moved to California in the early 80's and would shortly be reunited with his brother. Fernando graduated from Law School, and headed to La Jolla to help cofound Reef. With \$4000 working capital, hard work, dedication and some savvy marketing ideas, the brothers built Reef into the #1 sandal brand.

Segment.

15-35 year-old men and women
with interest for surfing

Price.

Shoes 48\$-70\$, Sandals 26\$-70\$

Online.

Website, Facebook, Twitter, YouTube,
Flickr, RSS feed, news letter

Distribution.

Online: brand store, non-brand stores
Physical: non-brand stores



Men.

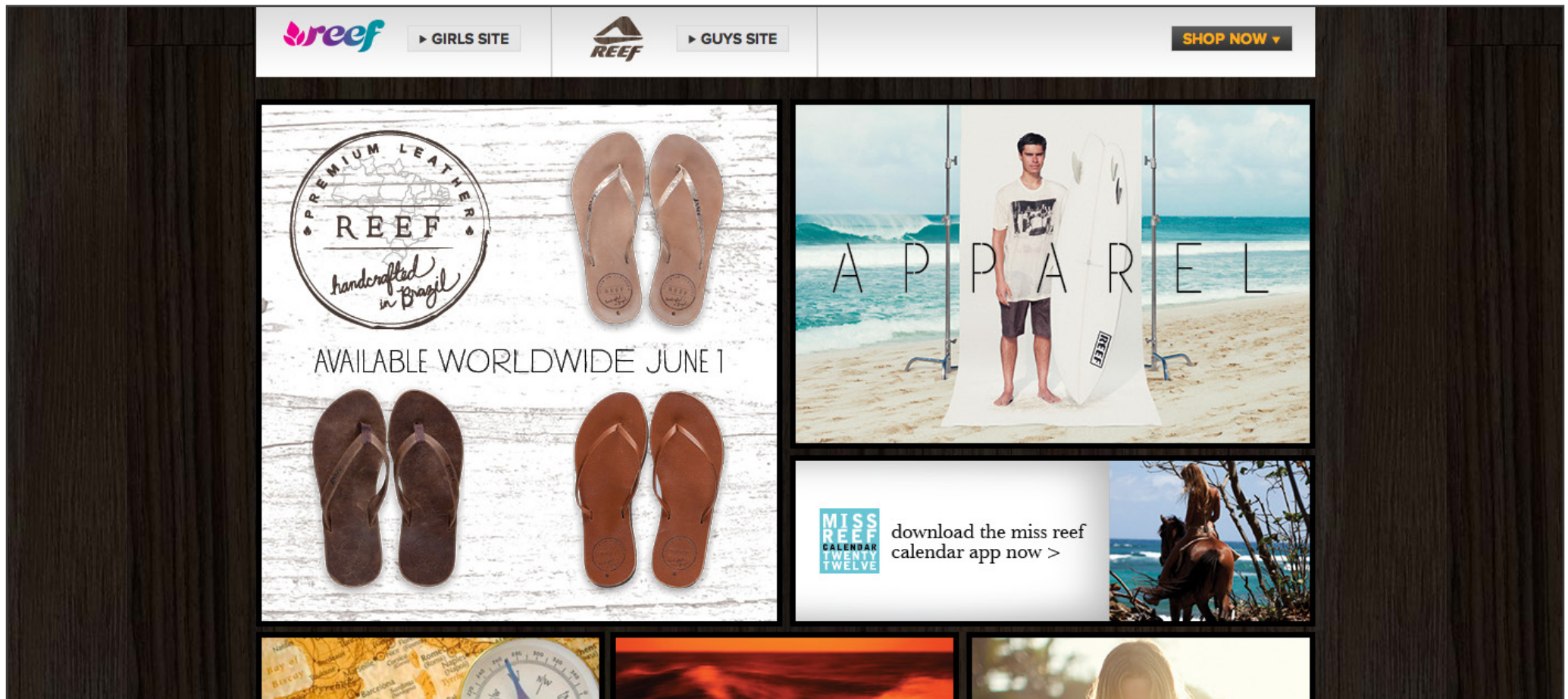


Women.



Web.

From their beginning Reef has used the Miss Reef campaign as a tool in their marketing. Buy never reviling the face or identity of the model used in their campaign, Reef managed to get a substantial amount of attention in their first add. It is still used on their web today.



Bottle opener!

Reef's recently launched a sandal that has a built in bottle opener underneath.



VOLCOM

About.

Volcom was founded on a snowboarding trip in the winter of 1991 by Richard Woolcott and Tucker Hall. The Volcom idea would incorporate a major philosophy of the times: "Youth Against Establishment". This energy was an enlightened state to support young creative thinking. Volcom was (and still is) a family of people not willing to accept the suppression of the established ways. Volcom is a modern life style brand that embodies the creative spirit of youth culture. The company was founded on liberation, innovation and experimentation while remaining dedicated to the breakdown of established traditions. Volcom's avant-garde approach to clothing and branding has set it apart in the action sports industry and beyond.

The goal of Volcom is to provide clothing to people who share their passion for art, music, film, skateboarding, surfing, snowboarding and motocross. They are focused on supporting athletes, artists and musicians providing a means for creative individuals to come together and collectively express themselves.

Segment.

15-35 year old men and women with interest for surfing

Price.

Sandals 15\$-56\$

Online.

Website, Facebook, Twitter, YouTube

Distribution.

Online: brand store, non-brand stores

Physical: non-brand stores



Men.



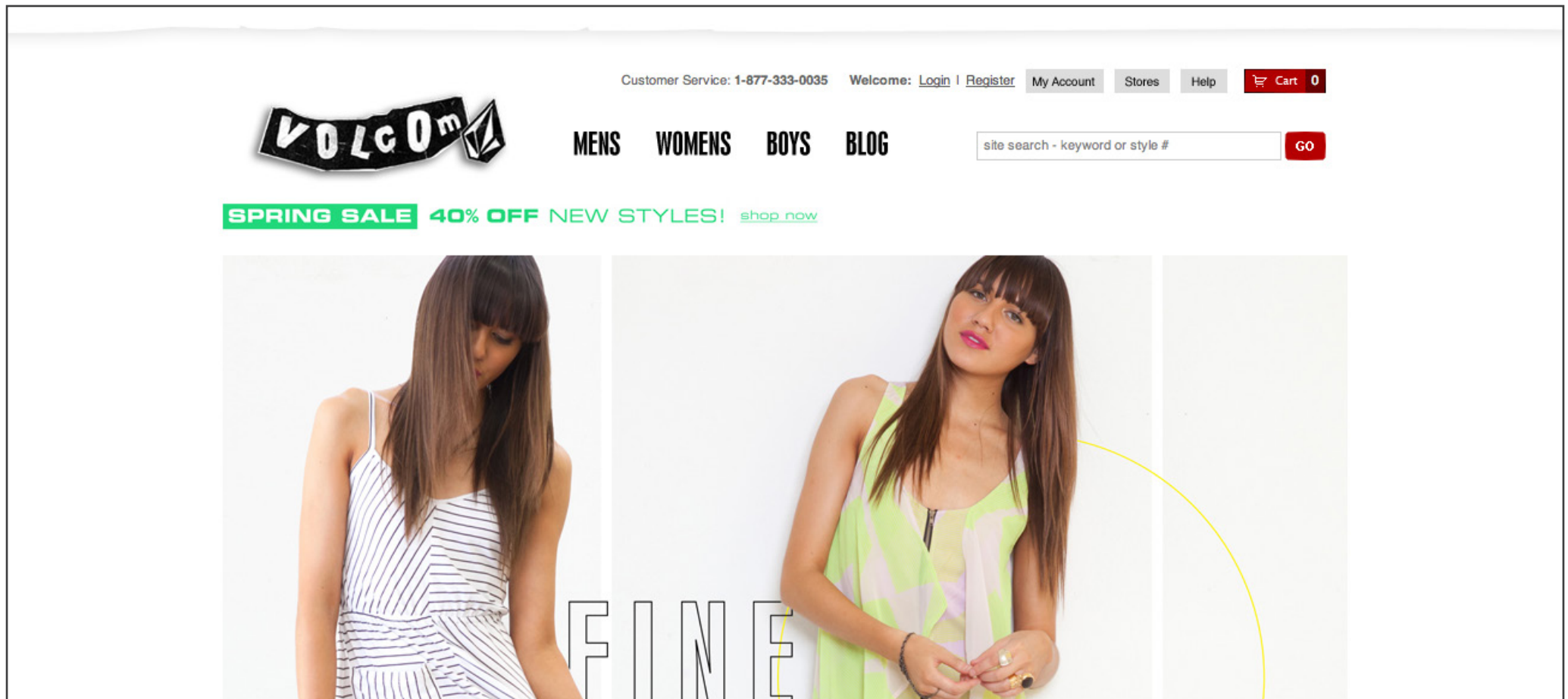
Women.



Web.

The screenshot shows the Volcom website's product page for men's shorts. At the top, the Volcom logo is on the left, and navigation links for 'MENS', 'WOMENS', 'BOYS', and 'BLOG' are in the center. To the right, there are links for 'Customer Service: 1-877-333-0035', 'Welcome: Login | Register', 'My Account', 'Stores', 'Help', and a shopping cart icon with '0' items. Below the navigation is a search bar with the placeholder text 'site search - keyword or style #' and a 'GO' button. A breadcrumb trail shows 'MENS'. On the left side, there is a sidebar with 'MENS' as the main category, and sub-categories: 'CLOTHING', 'ACCESSORIES', 'COLLECTIONS', and 'SALE'. Below these is a 'PRICE' filter with four checkboxes: '\$0 - \$20', '\$20 - \$50', '\$50 - \$100', and '\$100 - \$500'. The main content area features a pair of dark blue and grey patterned shorts. Five callout lines point to specific features: 'Back zip pocket' (top left), 'Volcom buckle button' (top center), 'Mesh pocket linings' (top right), 'Light weight, quick-drying 4-way stretch fabric' (bottom left), and 'Back cell pocket with snap' (bottom right). The shorts have 'H2chinos' and 'VOLCOM' branding on the waistband. A red triangle is visible at the bottom left corner of the product image, and a blue semi-circle is at the bottom right.

Volcom's website is designed on minimalistic principals. Depending on the segment chosen, their entry page shows relevant products for the actual segment. The viewer can also apply selection criteria to avoid irrelevant products.



O'NEILL

About.

In 1952 Jack O'Neill opened the first surf shop in a garage on the Great Highway in San Francisco, CA, a sand dune away from his favourite bodysurfing break. While Dale Velzy, Hobie Alter and others had shops down south, they only sold boards. There O'Neill sold his first wet suits, a few vests he made from gluing together pieces of closed cell foam. From the garage he expanded the average surfer's playground to include locations from Steamer Lane to J-Bay, and from Antarctica to reef breaks off the coast of Iceland. Since then, O'Neill has made countless improvements to the design and quality of the wet suit. From the introduction of the zigzag stitch to the names he originated which became generic, (i.e. spring suit, long john, short john, etc.).

O'Neill's son Pat was a pioneer in developing the leash, affectionately known as the "kook cord" back then. Using materials such as nylon lines, suction cups and surgical tubing, Pat found ways to prevent his board from crashing into the cliffs and breaking in half. While testing a leash, founder Jack O'Neill lost an eye and now has to wear an eye patch. The O'Neill brand now branches out to many products. Wet suits, surfboards, board bags, swimsuits, clothing, and shoes are some of the products on which O'Neill prints their logo.

Segment.

15-35 year-old men and women with interest for surfing, snowboarding and wake boarding

Price.

Sandals 12\$-49\$ shoes 32\$-56\$

Online.

Website, Facebook, Twitter, YouTube

Distribution.

Online: brand store, non-brand stores
Physical: brand store, non-brand stores



Men.



Women.

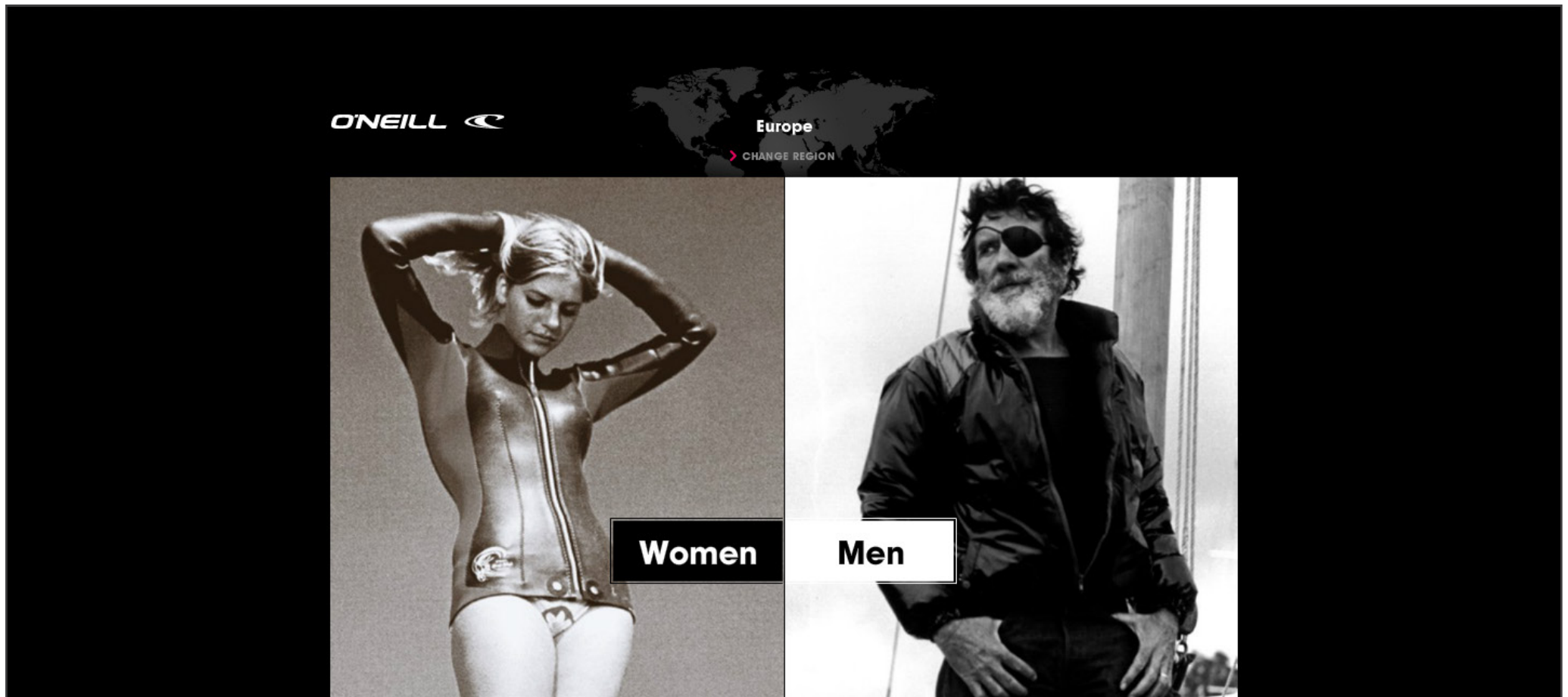


Web.

The image shows the O'Neill website homepage. At the top right, there are links for [MY ACCOUNT](#), [ORDER STATUS](#), [SIGN IN](#), and [CART 0 Item\(s\)](#). Below these are social media icons for Twitter, Facebook, and YouTube. The main navigation bar includes [MENS](#), [WOMENS](#), [BOYS](#), [GIRLS](#), [ACCESSORIES](#), [FOOTWEAR](#), [COMMUNITY](#), [TEAM](#), [VIDEOS](#), and [EVENTS](#). A search bar with the text "Search" and a "SEARCH" button is located on the right side of the navigation bar.

The main content area features two large banners. The left banner shows a woman in a long, flowing, patterned dress on a beach, with the text **SHOP WOMENS** in the bottom right corner. The right banner is a composite image with an underwater theme, showing a man and a woman walking on a pier next to a private jet. The text **O'NEILL Hybrid** is overlaid in a large, stylized font. In the bottom right corner of the right banner is a circular logo that reads "MADE IN THE USA" and "60 YEARS".

O'Neill's website is clear and easy to understand and navigate. The front page has pictures and related graphical art that changes from time to time.



QUIKSILVER & ROXY

About.

Quiksilver, Inc. (NYSE: ZQK), is an American company based in Huntington Beach, California, one of the world's largest manufacturers of surf wear and other boardsport-related equipment. Its logo, designed by the company founder Alan Green and John Law in Torquay, Victoria, Australia in 1969, inspired by Hokusai's woodcut The Great Wave off Kanagawa consists of a large wave with a mountain on a red background. The company also produces a line of apparel for young women, under the brand Roxy. Its logo consists of two copies of the Quiksilver logo, one reflected, forming a heart.

The company's DC and Hawk brands are also synonymous with the heritage and culture of surfing, skateboarding and snowboarding, and its beach and water-oriented swim wear brands include Raisins, Radio Fiji and Leilani. Quiksilver also carries a line of high-end apparel and accessories under its Quiksilver Edition brand.

Segment.

15-35 year-old men and women with interest for surfing, snowboarding and wake boarding

Price.

Sandals 12\$-49\$ shoes 32\$-56\$

Online.

Website, Facebook, Twitter, YouTube

Distribution.

Online: brand store, non-brand stores
Physical: brand store, non-brand stores

QUIKSILVER 

 **R O X Y**

Men.



Women.



Web.

The screenshot shows the Quiksilver website homepage. At the top left is the Quiksilver logo. The navigation menu includes: SHOP, MENS, WOMENS, CUSTOM, SURF, SKATE, SNOW, SALE, and BLOG. On the right, there are links for FIND A STORE, WISHLIST, ORDER STATUS, and MY ACCOUNT. Below these are social media icons for Facebook and Twitter, a shopping cart icon showing 0 items, and a product search bar. A banner across the top right states: ALWAYS FREE SHIPPING ON ALL ORDERS!* (US & CANADA). The main content area features a large graphic for 'the HOFFMAN collection' with the text 'ORIGINAL CREATIONS' and two call-to-action buttons: 'SHOP THE COLLECTION' and 'WATCH THE VIDEO'. To the right of the text is a large image of a person's hands on their hips wearing patterned shorts. Further right is a smaller image of stacked surfboards and a text block: 'WITH WALTER'S BLESSING, WE'RE NOT DUSTING OFF OLD TALES, WE'RE WRITING NEW ONES.' Below that is a small image of a person with a surfboard.

At the moment there are similarities between the Quiksilver and the Roxy websites. Both have similarities in the way that products are presented and in the structure of the website.

SEARCH STORE LOCATOR HELP MY ACCOUNT 00 ITEMS: \$000.00

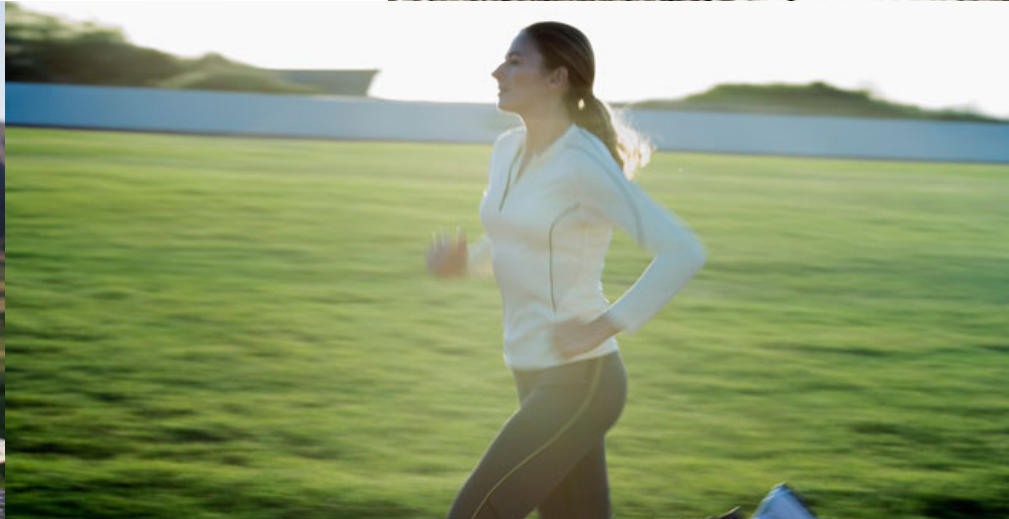
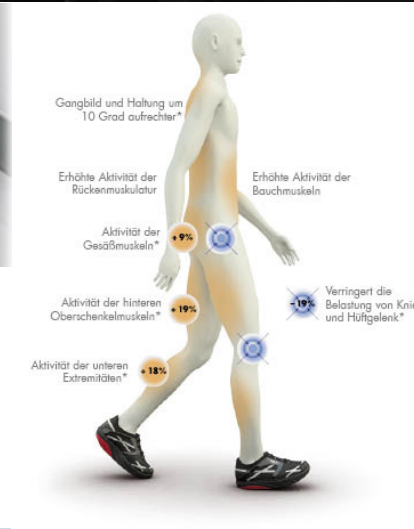
EVERYDAY FREE SHIPPING ON ALL ORDERS* (USA & CANADA)

NEW ARRIVALS CLOTHING SWIM ACCESSORIES SHOES KIDS SURF SNOW COLLECTIONS LOOKS BLOG SALE

ROXY WAIKIKI CLASSIC
JUNE 15-17, 2012 QUEENS BEACH WAIKIKI
FREE AMATEUR SURF CONTEST | LONGBOARD & SHORTBOARD DIVISIONS | ASP LONGBOARD PRIZES & GIVEAWAYS AT THE EVENT! REGISTER MAY 15
VISIT THE EVENTS PAGE

Segment 2. **Active Worker.**

MOODBOARD



PERSONAE

Name: Elsa Nordin

Age: 56

Hobbies: Walking, Scrap booking

From: Stockholm

Lives: Gothenburg

Work: Librarian

Elsa is a librarian and has been all here life. She works at Gothenburg's Library. At work she does everything from finding books for customers to replacing books that have been delivered back. Elsa has a pair of MBT shoes at work. She changes for these every morning at her locker.



Name: Axel Hennigsen

Age: 32

Sports: Downhill skiing and outdoor activities

From: Oslo

Lives: Oslo

Work: Nurse at Aker hospital

Axel Grew up and lives in Oslo. He loves going to the downhill ski centre near Oslo. He even goes there for night time riding after work. In the summer season he does any outdoor activity and he loves hiking. It doesn't matter where but he loves to reach any summit. He works shifts at Aker hospital, and loves his job. "I love my colleges, the place and off course all the people that I get to meet".

The days at the hospital can get pretty long and overtime is not uncommon. At the moment he wears green Nike Lunar Glide at work. He says "It can be pretty tough on the back if you don't have a pair of good shoes in this job". But he also remarks that he likes the sporty look of his shoes and that this was also a reason for buying them.



Name: Herman Franzen
Age: 42
Hobbies: Wife, kids and Work
From: Innsbruck
Lives: Salzburge
Work: Daily manager at Brundel sports

Herman is liked by all his colleagues and friends. He has a funny smile and people tend to be smiling in his company. "Herm", as his colleagues call him, likes to ski and spend time with Frederick and Tina, his two kids. Monday through Saturday he works in a sports store where he is the daily manager.



COMPETITORS' ANALYSIS

About.

Karl Toosbuy – the founder of ECCO – had a dream. He wanted to own a shoe factory and run his own business. Trained from an early age as a shoemaker, he gradually rose through the ranks and by his early 30s was managing a shoe factory in Copenhagen. The business, however, was not his. So one day, the family decided to give up the security of a regular job, sell their home and move to Bredebro on the west coast of Denmark, just north of the German border. Karl and Birte Toosbuy and their 5 year old daughter, Hanni, rented a small house and took over an empty factory built by the local community to help create jobs in what was a predominantly agricultural town.

Although the early days were difficult, Karl Toosbuy remained committed to his goal. A visionary, single-minded entrepreneur, he, along with a small team, developed a range of truly innovative products and introduced pioneering production methods. Karl Toosbuy, in fact, became the first shoemaker to realise that shoes had to be made to fit the foot, thereby breaking with centuries of shoemaking tradition. As a result, functional, comfortable ECCO shoes were launched in the 1970s and became an instant success.

Segment.

20-65 year-old men and women

Price.

Shoes 150\$-350\$

Online.

Website, Facebook, Twitter, YouTube

Distribution.

Online: brand store, non-brand stores

Physical: brand store, non-brand stores

ecco®

Men.



Women.



Web.

The screenshot shows the ECCO online shop homepage. At the top, there is a navigation bar with categories: WOMEN, MEN, KIDS, and OUTDOOR, each with a dropdown arrow. To the right of the navigation bar is a search bar with the placeholder text "Search here" and a magnifying glass icon.

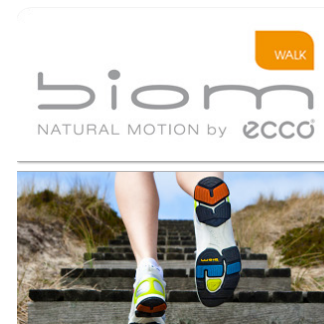
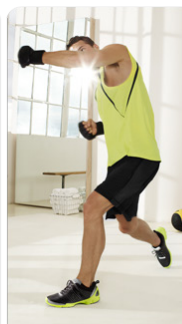
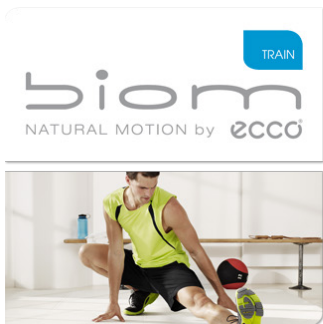
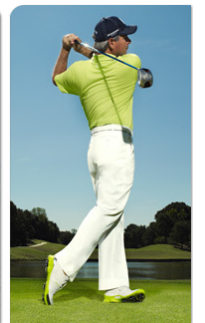
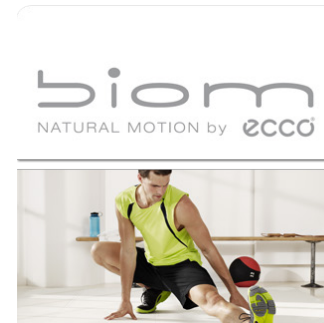
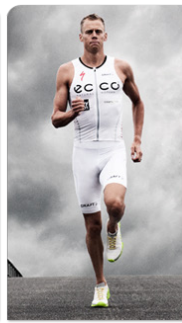
The main content area features a large banner for "ECCO ADORA" boots. The text "ECCO ADORA" is prominently displayed, followed by the tagline "Makes you stand out" and a red "SHOP NOW" button. The boots are shown in a close-up, side view, highlighting their tan color and laces. Below the main banner, there are two smaller thumbnail images of other boot styles, with left and right navigation arrows.

On the right side of the page, there is a sidebar titled "I'M LOOKING FOR...". It contains several filters: "Women's footwear" (dropdown), "Choose category:" (dropdown), and "Size:" (dropdown set to "All") with a "FIND" button. Below these filters, there are two product recommendations:

- WOMEN**: "This fall combine style with comfort" with a "SHOP NOW" button. The image shows a black, sleek, low-heeled boot.
- MEN**: "Fall footwear with a sleek design" with a "SHOP NOW" button. The image shows a black, high-top sneaker-style boot.

At the bottom of the page, a dark grey footer contains the text: "OFFICIAL ECCO ONLINE SHOP – with the widest collection online" and "FREE DELIVERY – on all orders".

In addition to presenting some of their newest styles Ecco's entry page allows the viewer to search for shoes depending on selection variables. BIOM is the latest sub-brand released by ECCO. This is a trainer style shoe that is divided in Walk, Run, Train and Golf.



MBT

About.

MBT was the first to commercialize the rolling sole. This type of sole had been used for years as an orthopaedic tool, but it was not until MBT brought it to market that it got commercialized. The company has recently gone bankrupt, but the brand seems to live on. This is their official history from their web page.

At MBT it is our philosophy to keep the body in motion. We believe motion is key to helping find and maintain the right balance in life. At MBT, we can help achieve this through our unique shoe design that combines a perfect balance of function with style.

MBT (Masai Barefoot Technology) was born in 1996 when we discovered that natural instability can have positive effects on the human body. We made this discovery by observing the wonderfully agile Masai people walking barefoot on natural, uneven ground. Seeing these people in action made us realize that the human body is simply not designed to walk or stand on the hard, flat surfaces of modern society. So we set out to develop a new kind of footwear, one that would mimic walking on soft, uneven ground. The results have been dramatic and revolutionary. MBTs are now sold in more than 55 countries around the world and many enthusiastic users enjoy wearing MBTs.

Segment.

30-65 year-old men and women

Price.

Shoes 138\$-305\$

Online.

Website, Facebook, Google+, Mailing list

Distribution.

Online: brand store, non-brand stores

Physical: brand store, non-brand stores



Men.



Women.



Web.

The screenshot displays the MBT website interface. At the top right, it indicates the user is in the **United Kingdom (English)** with a flag icon. The navigation bar is red and contains the MBT logo, links for **Benefits.**, **Collection.**, and **Stores.**, along with **News**, **User Testimonials**, and **Help**.

The main banner features a brown suede Chelsea boot on a wooden background with the text **FW12 COLLECTION** and a red button that says **EXPLORE IT HERE ▶**.

Below the banner are three promotional tiles:

- A tile for the **MBT UK Official Online Store NOW OPEN!** with a shopping bag icon and a **Find out more ▶** button.
- A video tile titled **Movement Through Instability** showing a person in a chair.
- A red tile with a white thumbs-up icon and faint numbers.

At the bottom left, there is a red button labeled **MBT Mailing list**.

MBT's website layout is made in an orderly fashion. The amount of information on their entry page is reduced to the most relevant. The company colour is used repeatedly through the whole website.



CROCS

About.

Celebrating its 10th anniversary in 2012, Crocs, Inc. is a world leader in innovative casual footwear for men, women and children. Crocs offers several distinct shoe collections with more than 300 four-season footwear styles. All Crocs™ shoes feature Croslite™ material, a proprietary, revolutionary technology that gives each pair of shoes the soft, comfortable, lightweight and odor-resistant qualities that Crocs fans know and love. Crocs fans “Get Crocs Inside” every pair of shoes, from the iconic clog to new sneakers, sandals, boots and heels. Since its inception in 2002, Crocs has sold more than 200 million pairs of shoes in more than 90 countries around the world. The brand celebrated reaching \$1 billion in annual sales in 2011.

Segment.

30-60 year-old men and women

Price.

Shoes 50\$-100\$

Online.

Website, Facebook, Twitter, YouTube

Distribution.

Online: brand store, non-brand stores

Physical: brand store, non-brand stores



Men.



Women.



Web.

 **crocs**[™] welcome to the world of crocs



Select your region
Seleccione su región
Sélectionnez votre région
Wählen Sie Ihre Region
Selecteer uw regio
Seleziona la tua regione
お住まいの地域を選択
Выберите Ваш регион

© 2013 Crocs Retail, Inc.

Crocs entry page lets you select the region of the world you are from. The next page does not have any shoes shown only promotional offers, and more selection criteria.

The screenshot shows the Crocs website homepage. At the top, there is a navigation bar with links for 'welcome, guest', 'login', 'wish list', 'e-mail sign up', 'store locator', and a dropdown menu for 'Great Britain'. The Crocs logo is prominently displayed on the left. A search bar is located on the right side of the header. Below the header, there are navigation tabs for 'women', 'men', 'girls', 'boys', 'accessories', and 'outlet'. A shopping cart icon shows 'view cart (0)' with a price of '£0.00' and a 'check out' button. A large promotional banner is the central focus, featuring a red diagonal banner that says 'on ALL items'. The main text on the banner reads 'HURRY, don't miss out'. Below this, it states 'offer valid from 5 October 2012' and 'Free shipping above £20 only'. A large green stamp-like graphic says 'free shipping' and includes a 'shop now >' button. The background of the banner features a collage of vintage postage stamps, including one with a cartoon crocodile character. At the bottom of the page, there is a blue bar with the text 'follow us on facebook' and the Facebook logo.

CALZURO

About.

Calzuro Clogs have been sold in the United States since 1987. In the Spring of 1987 Terry Wynne attended Inter hospital in Germany representing his medical equipment firm. There he met the owner of the Italian company which manufactures Calzuro. The Calzuro were introduced the following week at the Congress of the Association of Operating Room Nurses in Atlanta. Since that time the company has become the exclusive US importer of Calzuro clogs in the USA. It was true that America needed an exceptional product to equip American surgeons, operating room nurses and other clinicians: the nurses at the AORN voiced this opinion in 1987.

The result has been the sale of Calzuro Clogs in the USA ever since. Calzuro.com is managed by SMD Wynne Corporation, a family owned business, and specifically by Jennifer Wynne. It is a pleasure to learn of all the professionals wearing Calzuro over the years.

Segment.

Unisex 20-70

Price.

Shoes 68\$

Online.

Website, Facebook, YouTube

Distribution.

Online: brand store, non-brand stores

Physical: non-brand stores



Men. Women.



Web.

Facebook Like 111 Twitter Follow

CALZURO The Original Calzuro maximum comfort and durability for any professional

SHOP NOW HOME ABOUT TESTIMONIALS CONTACT US RETURNS FAQ

CALZURO.COM SHIPS 1-5 BUSINESS DAYS! EVERYWHERE IN THE U.S.

Medical Professionals! Calzuro can be disinfected in the autoclave (up to 300°F)

- Heel Strap Kits
- Without Upper Ventilation Holes
- With Upper Ventilation Holes
- Comfort Insoles

Calzuros can be customized to fit your level of comfortability and style

Calzuro's main page shows their shoes with different configurations and different colour options. They also inform about their shoes disinfection possibilities.

The image shows a screenshot of the Calzuro website. At the top, there is a blue header with the Calzuro logo and the tagline "The Original Calzuro maximum comfort and durability for any professional". Below the header is a navigation menu with links for SHOP NOW, HOME, ABOUT, TESTIMONIALS, CONTACT US, RETURNS, and FAQ. A yellow banner in the top right corner states "CALZURO.COM SHIPS EVERYWHERE IN THE U.S".

The main content area features a promotional banner with the text "FREE SHIPPING" and "On separate orders of Heel Strap Kits and Comfort Insoles". To the right of this banner is a "CLICK HERE" button. Below the banner is a large image showing a variety of colorful shoe inserts in different shapes and colors, including red, green, blue, yellow, orange, pink, and grey. Below the image, the text reads "Calzuros come in 17 different colors - choose the color that fits your style best!".

At the bottom of the page, there are two circular icons with text: "1 1/2 Inch Heel Aids with correct posture" and "Anti-Static".

NIKE

About.

Nike, originally known as Blue Ribbon Sports (BRS), was founded by University of Oregon track athlete Philip Knight and his coach Bill Bowerman in January 1964. The company initially operated as a distributor for Japanese shoe maker Onitsuka Tiger (now ASICS), making most sales at track meets out of Knight's automobile. In 1966, BRS opened its first retail store, located at 3107 Pico Boulevard in Santa Monica, California. By 1971, the relationship between BRS and Onitsuka Tiger was nearing an end. BRS prepared to launch its own line of footwear, which would bear the Swoosh newly designed by Carolyn Davidson. The Swoosh was first used by Nike on June 18, 1971, and was registered with the US Patent and Trademark Office on January 22, 1974.

By 1980, Nike had attained a 50% market share in the US athletic shoe market, and the company went public in December of that year. It was agency cofounder Dan Wieden who coined the now-famous slogan "Just Do It" for a 1988 Nike ad campaign, which was chosen by Advertising Age as one of the top five ad slogans of the 20th century and enshrined in the Smithsonian Institution.

Segment.

10-70 year-old boys and girls, men and women

Price.

Shoes 100\$-400\$

Online.

Website, Facebook, Twitter, YouTube

Distribution.

Online: brand store, non-brand stores

Physical: brand store, non-brand stores



Men.



Women.



Web.

The screenshot shows the Nike website homepage. At the top, there is a navigation bar with the Nike logo on the left, followed by menu items: SHOP, SPORTS, NIKEiD, and NIKE+. A search bar in the center contains the text "WHAT ARE YOU LOOKING FOR?". On the right side of the navigation bar are icons for a shopping cart, "JOIN", and "LOG IN".

The main content area features a large image of a woman wearing a dark, quilted puffer jacket with a fur-lined hood. To the right of the image, the text "BRING IT" is displayed in large, bold, blue letters. Below this, a smaller line of text reads: "The Nike Women's Holiday Collection is engineered to keep you warm in cold weather." A blue button with the text "VIEW THE COLLECTION" is positioned below the text.

At the bottom of the main content area, the text "GET THE LATEST FROM NIKE" is centered. To the right of this text, there is a "Follow Nike" section with social media icons for Twitter (Follow) and Facebook (Like), and a counter showing "10m".

Below the main content area, there is a horizontal strip of four small, partially visible images: a person in a white jacket, a red and white patterned surface, a close-up of a blue and white shoe, and a green and blue textured surface.

Nike uses big photographs in their site. It is best seen through a full screen browser. Nike allows their customers to personalize products on their web. The users can interactively change the colours and see the results immediately.

The screenshot shows the Nike website's main navigation bar with the Nike logo, menu items (SHOP, SPORTS, NIKEiD, NIKE+), a search bar (WHAT ARE YOU LOOKING FOR?), and utility links (JOIN, LOG IN). The main content area features a large image of a black and orange Hypervenom football boot. To the right of the boot, the text reads: **HYPERVERNOM**, **A NEW BREED OF ATTACK**, and a sub-headline: "The game has evolved. A new breed of fast, agile, and deceptive attacker is taking over." Below this text are two buttons: "PRE-ORDER HYPERVERNOM" and "LEARN MORE". A small video player icon is positioned below the buttons. At the bottom of the page, the text "GET THE LATEST FROM NIKE" is displayed, along with social media links for "Follow Nike" (Twitter, Facebook) and a "14m" notification.

Segment 3. **Leisure.**

MOODBOARD



PERSONAE

Name: Leila Adams

Age: 68

Hobbies: Gardening

From: Liverpool

Lives: Essex

Work: Retired

Leila lives in an old farm outside Essex, in Britain. She was left with the farm 6 years ago, after her husband died. Leila has a daughter and a grand daughter. The farm has a big garden and this is where Leila spends most of her free time. She loves flowers and taking care of her garden.



Name: Audrey Flynn

Age: 75

Hobbies: Gardening

From: Brisbane

Lives: Brisbane

Work: Retired

Audrey lives in a small brick house close to Brisbane, Australia. She has two daughters that come to visit here often. They are both married to two "lovely men". Her house has a small garden and a wooden floor inside. Audrey loves to tend to her garden. This gives her fresh air and keeps her mind busy. During winter her house can get cold and she always wears indoor slippers. She even takes them outside to get the mail.



Name: Trevor Wright

Age: 63

Hobbies: Iggy and grandchildren

From: New York

Lives: New England

Work: Retired

Trevor lives outside New England. He used to run his own transportation company, but has now sold it and is enjoying retirement. He has two grandchildren and one dog. Iggy the dog is as old as him and they spend most of their time around the house, making repairs.



COMPETITORS' ANALYSIS

Some of the competitors shown in the previous segment - Active Worker can be applied to this segment as well. Especially clogs are a type of shoe that also suits this segment.

BIRKENSTOCK

About.

The Birkenstock brand traces its roots to a German by the name of Johann Adam Birkenstock. Birkenstock was registered in 1774 as a “subject and shoemaker” in local church archives. In 1897 it was Johann’s grandson, Konrad Birkenstock, who developed the first contoured insole to be used by shoemakers in the production of custom footwear. The year 1902 saw another first in shoemaking by Konrad, when he developed the first flexible arch support to be inserted in factory-made shoes. In 1964, these inserts were developed further into a shoe by Karl Birkenstock, and what would become the Birkenstock sandal was created.

Since 1967, these shoes have been sold in the USA. American Margot Fraser “discovered” Birkenstock sandals while on a holiday in Germany. She gained relief from a foot condition, and founded a trading company called Birkenstock Footprint Sandals, Inc., in Novato, California, based on her enthusiasm for the sandals. Renamed Birkenstock Distribution USA, Inc., in 2005, it remains the exclusive importer and distributor of Birkenstock name-brand products in the United States.

Segment.

30-70 year-old men and women

Price.

Shoes 100\$-120\$

Online.

Website, Facebook, Twitter, YouTube

Distribution.

Online: brand store, non-brand stores

Physical: brand store, non-brand stores

BIRKENSTOCK®


Men.



Women.





Web.

[Our Licensee](#) [Sitemap](#) [Imprint](#) 

BIRKENSTOCK
Made in Germany • Tradition seit 1774

[Collection](#) [Tradition Since 1774](#) [Service](#) [Gratis Catalogue](#) [Contact](#) [Press Releases](#)





Comfort
at every step

Birkenstock as a world wide entry page where the viewer selects their language. The american version of their page tends to be updated more frequently than the others.



BIRKENSTOCK
Made in Germany • Tradition seit 1774

[Kollektion](#) [Tradition seit 1774](#) [Service](#) [Gratiskatalog](#) [Kontakt](#) [Presse](#) [Händlersuche](#)

ZU HAUSE WOHLFÜHLEN

The image shows the top section of the Birkenstock website. It features a blue header with the Birkenstock logo and tagline 'Made in Germany • Tradition seit 1774'. Below the logo is a navigation menu with links for 'Kollektion', 'Tradition seit 1774', 'Service', 'Gratiskatalog', 'Kontakt', 'Presse', and 'Händlersuche'. The main content area is a large banner with a central image of a woman sitting by a window, wearing Birkenstock shoes. The text 'ZU HAUSE WOHLFÜHLEN' is overlaid on the banner. There are four smaller inset images: a woman reading on a sofa, a man sitting on a bench, a woman holding a mug, and a man sitting by a fireplace.

DR SCHOLL

About.

William Scholl was an inventor and entrepreneur who created products to comfort feet. In the 60's, he designed a simple wood sandal with a brightly coloured strap inspired by a vintage clog he found on his travels. He set out to make a shoe that was good for one's health and ended up creating an enduring fashion icon.

Today, we share his same passion and approach. Our vision is to create innovative footwear with uncomplicated, playful style for a healthier life. We obsess as much about how shoes feel when you slip them on, as how your feet feel at the end of the day. We strive to make active feel at ease. With the belief that function and fashion should always be in perfect harmony, we design for your everyday life in the real world.

We're inspired by natural beauty that is timeless and relaxed. We love effortless style no matter the season, the authentic heritage of American design, and fashion that's simple, yet full of surprises. Our heritage is one where well-being and fashion meet unexpectedly and it's in the unlikely union where we find inspiration and discover endless possibilities.

Segment.

30-60 year-old men and women

Price.

Sandals: 50-70\$

Online.

Website, Facebook, pinterest

Distribution.

Online: brand store, non-brand stores

Physical: brand store, non-brand stores



Men.



Women.



Web.

Dr. Scholl's uses a range of background colours with the same hue trough out their page. Their pictures shows their shoes in setting.

HOME MY ACCOUNT MY ORDER STATUS MY WISHLIST MY SHOPPING CART

DrScholl's SHOES WOMEN MEN

new arrivals • view all • boots • sandals • casuals • athletics • sale **DrScholl's** WORK

THE FRIENDLY
a fun flat made to play

Our spring collection features modern classics for effortless on-the-go style

LEGENDARY COMFORT

new arrivals
don't miss our new spring collection

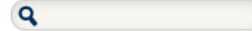
Inspired by
[meet Mark, shoe designer](#)

e-mail sign up
join our email club and get in-the-know



WOMEN MEN

Introducing **FREE Standard Ground Shipping**
on Orders Over \$75



New Arrivals View All Boots Sandals Casuals Athletics Work Sale *Original Collection*



SOLE

New Arrivals
don't miss our new

Inspired By
meet Katie

E-mail Sign Up
join our email club and get in-the-know

WEINBRENNER

About.

Weinbrenner was founded in 1892 by Albert Weinbrenner and Joseph Peffer, in Milwaukee, Wisconsin, to manufacture logging, safety and work boots designed to protect workers in harsh environmental conditions.

At the forefront of innovation for over a century, we have created sturdy footwear for both adventuring and leisure time, no matter whether you are hiking across mountains, forests, deserts or rambling through concrete jungles.

Weinbrenner, rugged and cool shoes for lovers of the great outdoors.

Ref: <http://www.weinbrennershoes.com/europe/about.php>
17.02.2013

Segment.

20-50 year-old men and women

Price.

Shoes: 30-70\$

Online.

Website

Distribution.

Online: non-brand stores

Physical: brand store, non-brand stores

THINK OUTDOORS
WEINBRENNER[®]
• SINCE 1892 •

Men.



Women.



Web.

WEINBRENNER WORLD

THINK OUTDOORS
W
SINCE 1892

THINK OUTDOORS
WEINBRENNER[®]
• SINCE 1892 •

01 WEINBRENNER Who we are	02 COLLECTION Fall Winter 2012/13	03 JOURNAL News that really matters	04 BACKSTAGE The making of	05 RESELLERS Where you can find us	06 WEBSHOP Our collections online
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WEINBRENNER FALL WINTER 2012/13
OUTDOOR EXPERIENCE
DISCOVER THE STYLE OF OUR FALL/WINTER COLLECTION

Weinbrenner's web uses pictures that creates a good frame for their rugged brand. Weinbrenner offers their costumers to buy shoes online. However this is done trough Bata's site.

WEINBRENNER WORLD

THINK OUTDOORS
WEINBRENNER[®]
• SINCE 1892 •

01 WEINBRENNER
Who we are

02 COLLECTION
Spring Summer 2013

03 JOURNAL
News that really matters

05 RESELLERS
Where you can find us

06 WEBSHOP
Our collections online

THE ROUTE IS HOME

OUTDOOR EXPERIENCE

The banner features a lush forest background. On the left, a hiker with a backpack and hat is seen from behind, walking on a path. On the right, a framed photograph shows a young man and woman sitting on a log, smiling at each other. The text is overlaid on the image in various fonts and colors, including orange and white.

CHAPTER 3. IDEATION

This chapter is divided into four sub chapters. The first subchapter describes a general development process that will be applied to all concepts. The other three sub chapters are based on the three customer groups investigated in the research chapter. In each of these sub chapters some general assumptions and conclusions for each of the segments will be presented. The assumptions and conclusions are based on what was learned during the **research phase** and will be used as a foundation for idea generation. Each subchapter will also present a selection of sketches that describes the development of each concept. And, finally, a poster presenting a product suggestion for each segment.

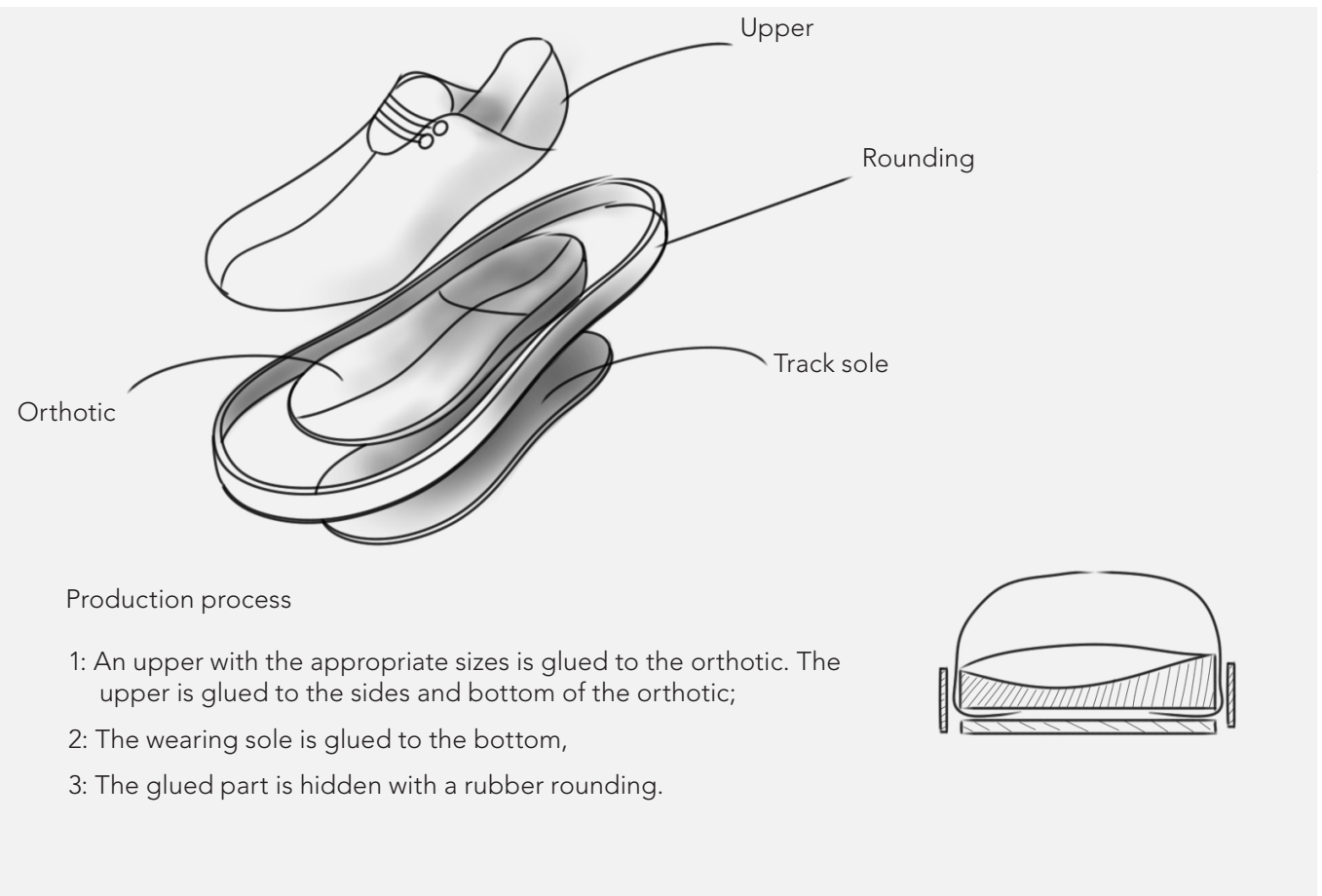
General Development.

DIVERSITY

The three different concepts chosen in this **ideation process** are achieved by intent. The reason for choosing three is that this gives Klaveness options to choose from, without creating a too big time frame for the project. A result of this is that some of the concepts or parts of them may seem like they are incoherent with Klaveness's current image. The decision to create concepts that intently break with Klaveness's current image is based not only on diversity but also on the request from Klaveness to create a concept directed at a **surf life style** segment.

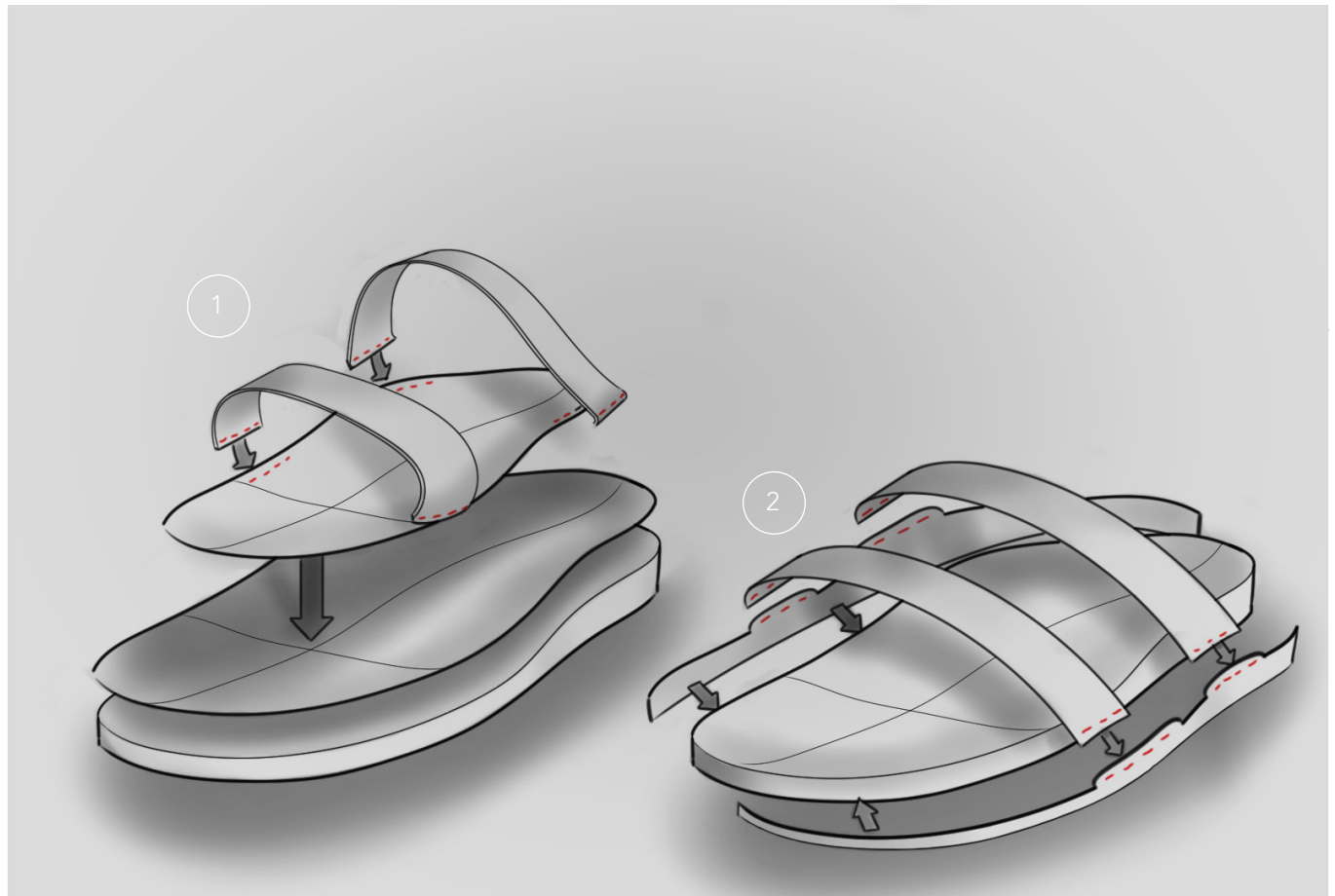
SHOE CONSTRUCTION

Parallel to the initial sketching process, the possibilities in shoe construction were thoroughly investigated. Initially it was tested the possibility to produce a shoe out of this concept. This however proved to be difficult to combine with a personalized insole/sole. Creating a shoe out of this concept would require individually made lasts for each pair. This would raise the price of the shoes and the production process would be intricate. However this was not known in the beginning of the process and therefore it is only sandal concepts that are taken to the end of the creative phase (see attachments for shoe sketches). Sandals have an upper that can be produced without last and are therefore the perfect solution for this product.



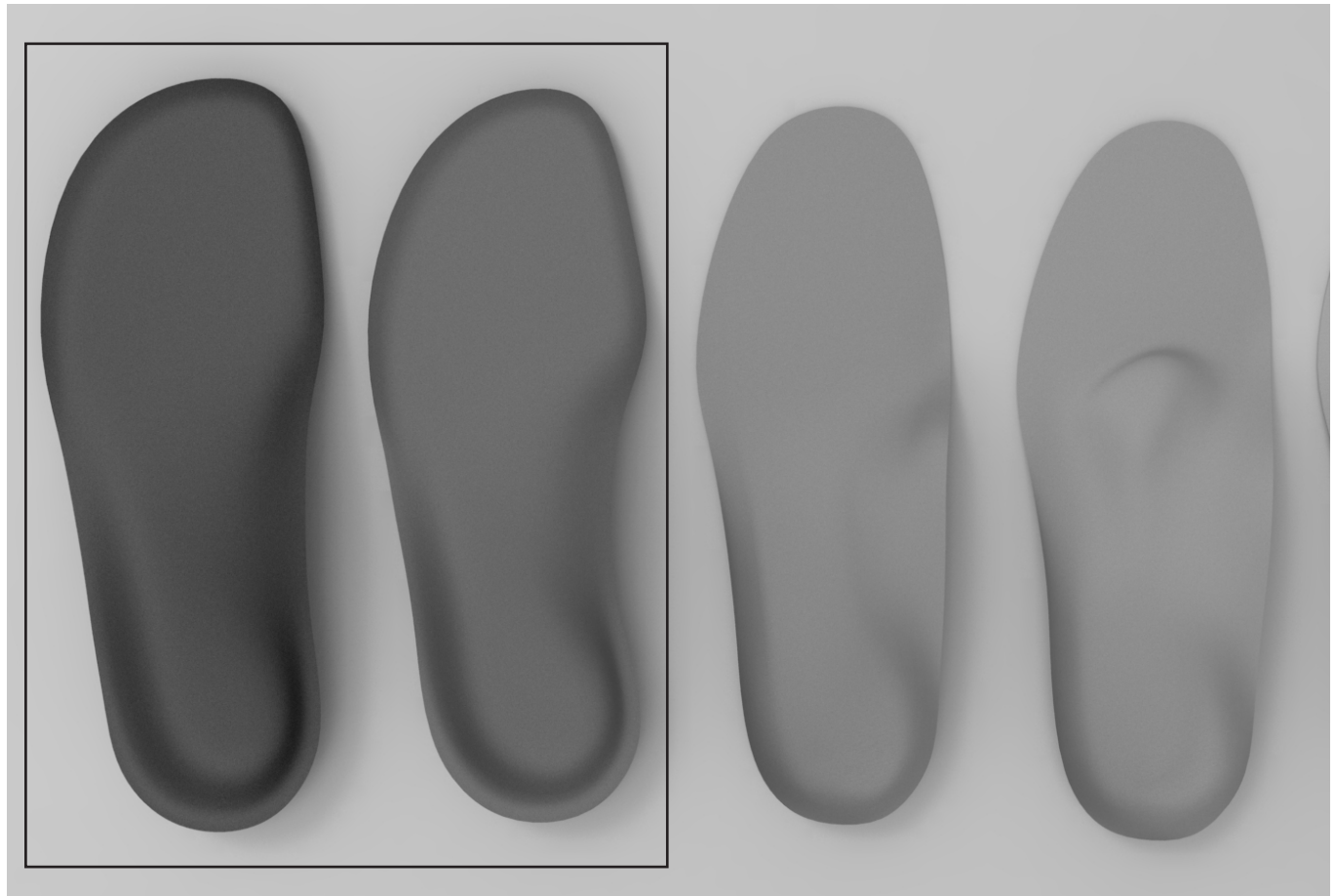
SANDAL CONSTRUCTION

A general ideation for construction was carried out to keep the concepts based in reality. Two main options emerged after ideation for construction. In option number one the upper is attached to a foot-formed leather piece that is glued to the top surface of the core. The other option has the upper attached to a leather rounding. The first two concepts, **surf life style** and **active worker** are based on construction number one and the last concept is based on construction number two.



OUTLINE

The outline of a shoe insert is different from a sandal. The outlines represented on the right are similar to a shoe insert. In a shoe the foot is compressed to a smaller size than in a sandal. This is why the outline of a sandal needs to be wider. Sandal outlines are the ones on the right.



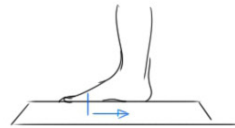
Segment 1. Surf Life Style.

The **surf life style** segment is an interesting segment with lots of creativity. The younger user group gives room for more radical designs. There are many competitors and they are all creating good-looking products. The competitors' products present wide colour ranges and the customers that have adopted these styles seem to value colourful products. Flip flops seem to be the most popular product type and this is also the most frequently represented product type amongst the competitors. This is because the footwear is continuously exposed to sand and salty water. Flip flops also provides good ventilation for warm days.

THOUGHTS

With the personae in mind, some general situations of these people's life were created. This helped develop some of the criteria for the product. The shoe must, for example, be easy to wash, due to sand. It should dry fast because of water exposure, and it should be easy to put on...

Custom Scann



2 ways to use the shoe...

1. Loose → 5 min



Home

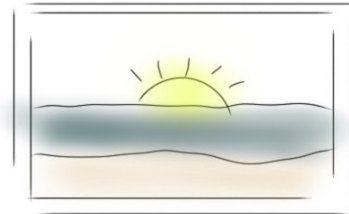
→ Beach/shore/friend/
surf/kite/sun/...

2. longer usage → 20 min → 1. day

Tourist walk around town / race with a friend /

Beach Sand / salt

- Washability
- Synthetic



Young generation

- Colors
- Speed/direction



Woods criteria

- step in funktion

long use criteria

- Hot strap to tighten
- adjustment via feet

CRITERIA

Washability:

The materials used need to have the ability to handle high temperature washing.

Durability:

Materials with the ability to withstand salt, sand and sun.

Unisex:

Unisex design with colour variations.
Simplifies production.

Usability:

The sandal is an every day shoe made for beach life style.

Construction:

The sandal is constructed to be an easy slip on. But can also be firmly attached for a faster walking pace.

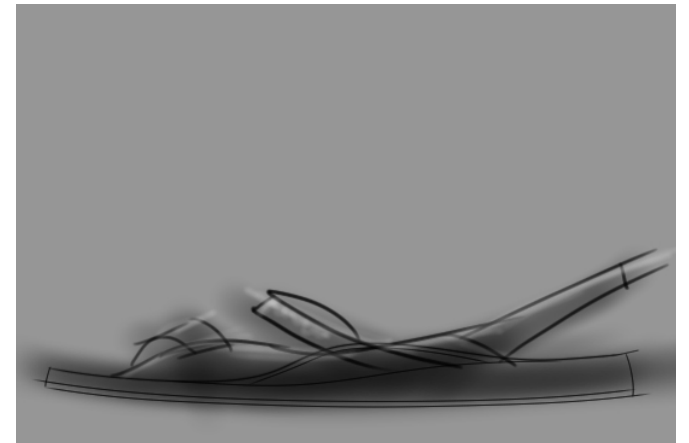
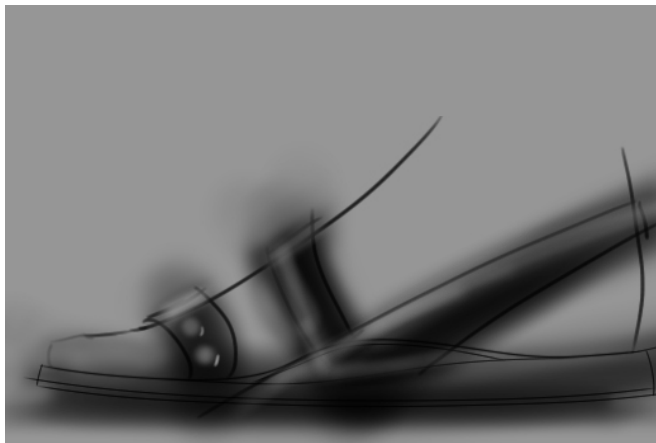
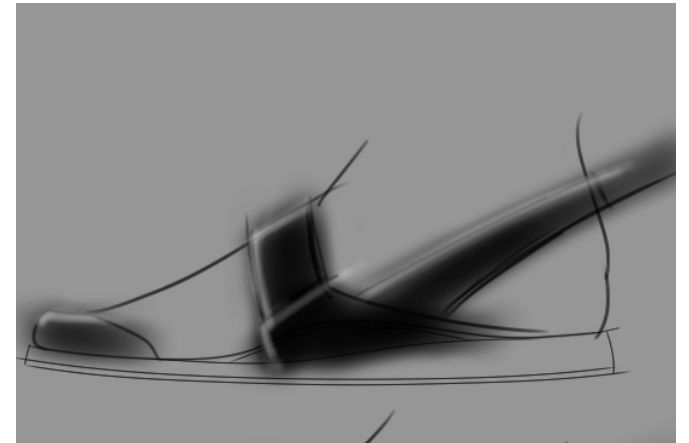
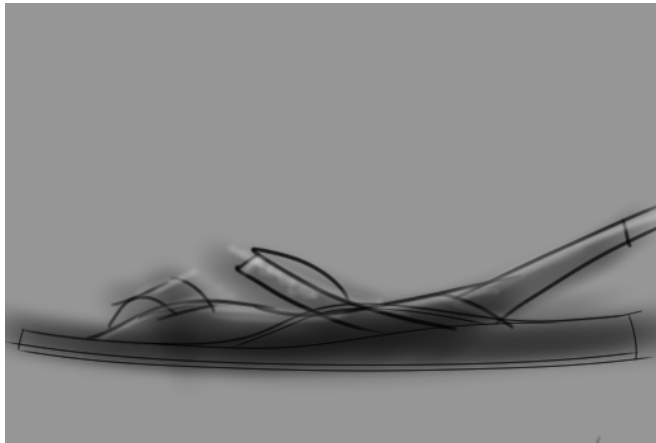
SKETCHES

Every concept begun through creating thumbnail sketches. These are fairly quick and easy to come up with easily get the imagination going. The purpose of this stage is to create a lot of different ideas to serve as a foundation for further refinement.



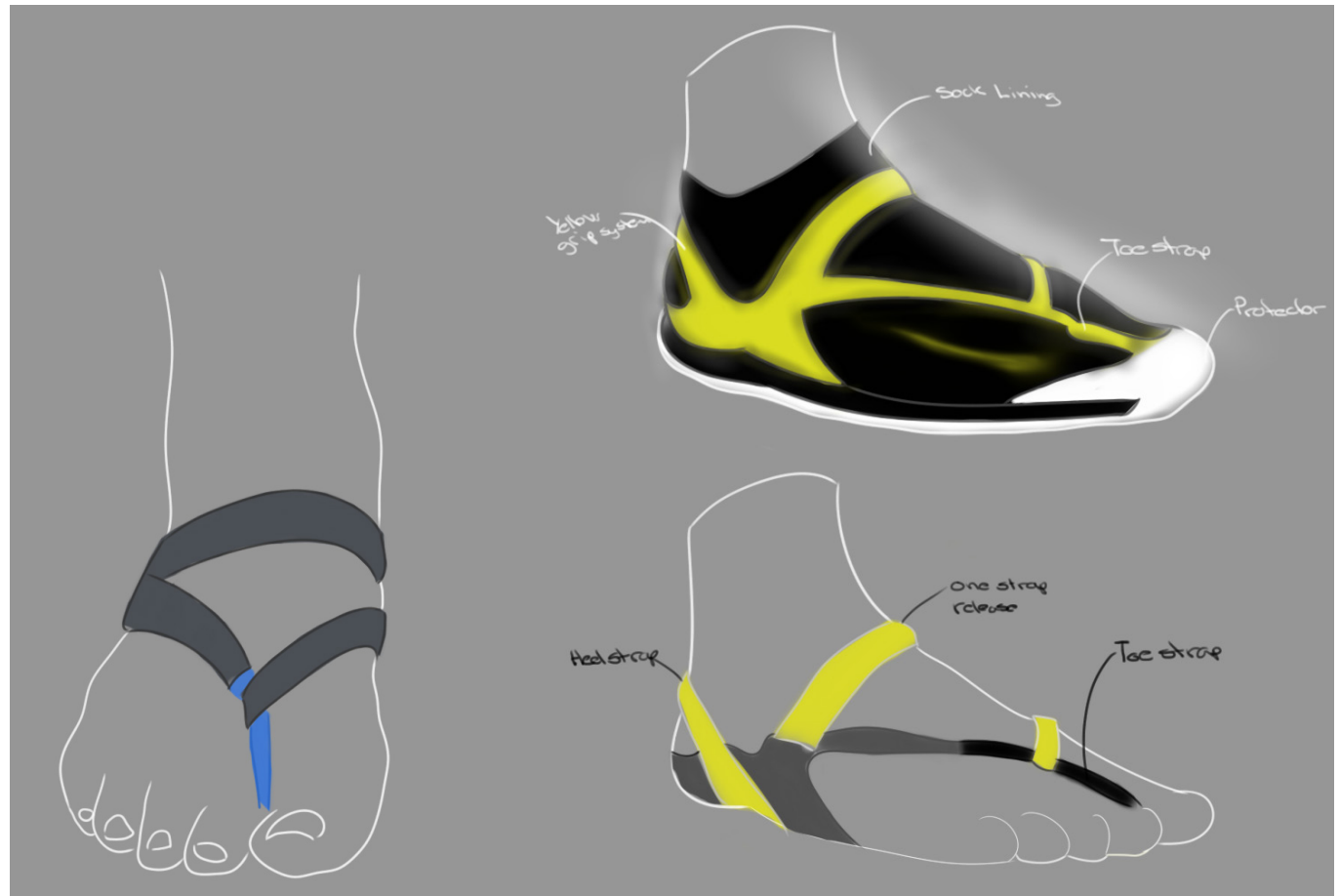
SCALING UP

After generating many ideas some of them were chosen to be scaled up. This highlighted problematic areas and pushed the concepts further.



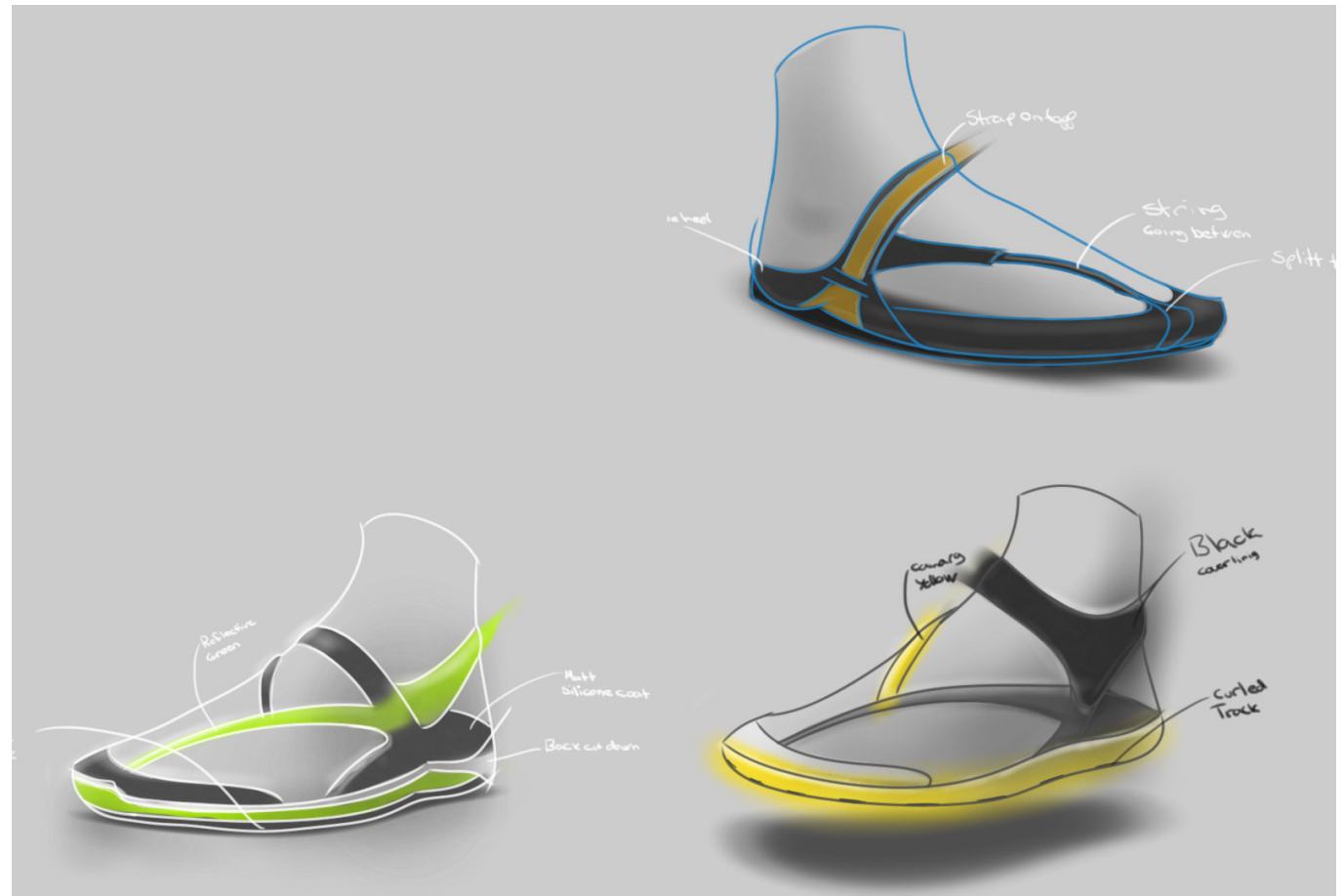
EXPLORATION

The initial sketches are very loose and even though they might represent a good idea it was important to explore these concepts deeper. Here we also started looking at the sandal from other angles. This created both difficulties and new ideas.



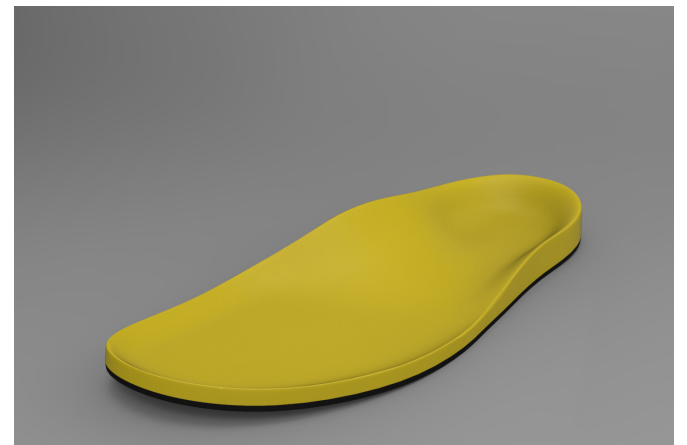
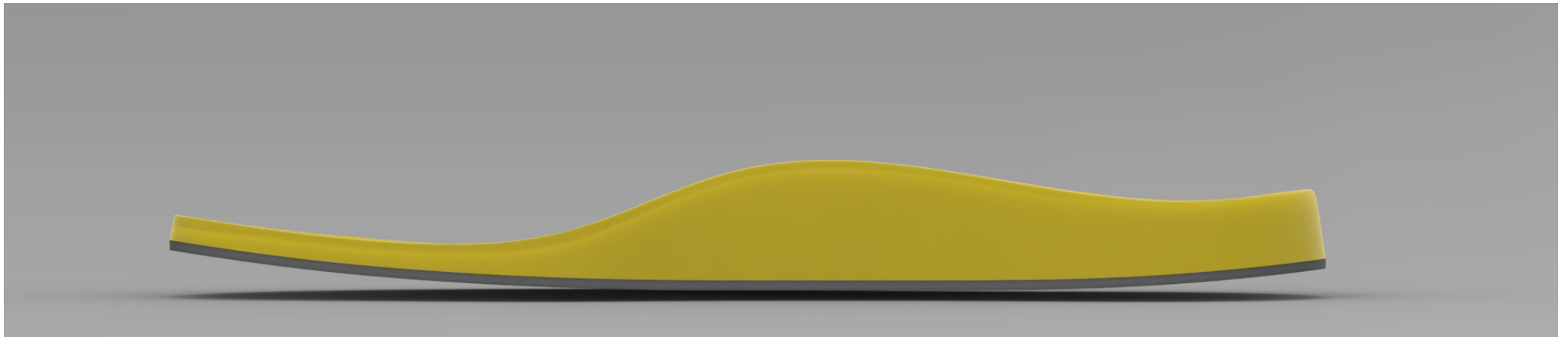
FOCUS ON CRITERIA

The idea for this sandal was that it is supposed to be firmly attached to the foot for situations like running or slow jogging. However the sandal should also have the ability to be slipped on in a hurry and stay on the foot like a loose flip flop. Therefore, these mid-level sketches all have a toe strap to slip in and also a heel strap that can be put on when needed.



RENDERING

Another aid in this process is to create renderings. In general it is quite difficult and time consuming to create shoes in 3D. This is because of the curvature in the surfaces and also due to the lack of symmetry. It is however easier to create renderings of a sole. This is created from scans and gives a good foundation for sketching by hand and digitally (see a selection of hand sketches in attachments).

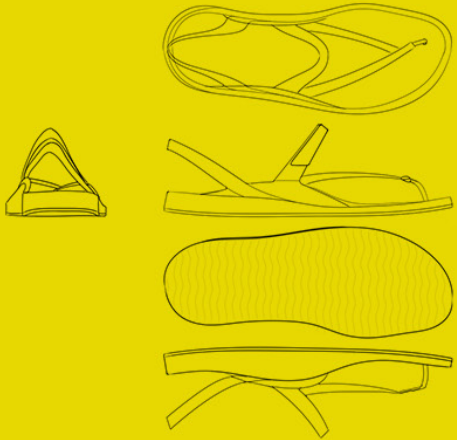


POSTER PRESENTATION

This poster does not contain any written content. It therefore requires a bit of explanation when presented. The materials in this sandal are all synthetic, which make the sandal more resistant and durable. The colour variation is put into the milled core. This allows an easy gender adaption in production. The toe strap is used to give the user the easy slip on effect, and the heel strap can be firmly tightened when needed. All the straps are really thin to create a light product that enhances the feeling of freedom.

Concept 1 Surf lifestyle

SUMMER SLIPPER



By
Kristian Klaveness

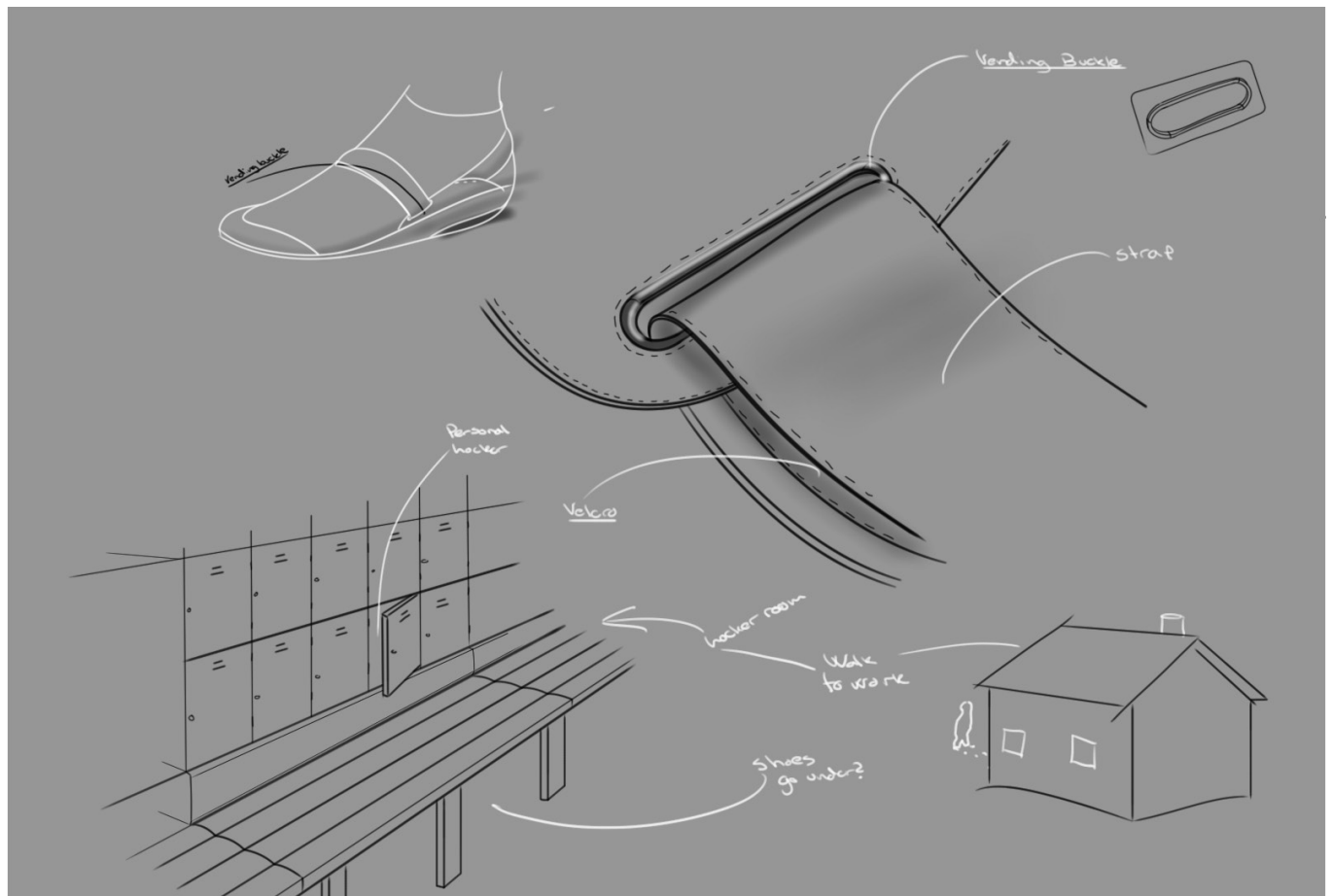


Segment 2. Active Worker.

The initial research shows that sporty shoes are popular in this segment. Hospital workers for example often have special requirements for washing their footwear and in that particular segment the Clog is a popular style. In other jobs like porters and storage workers the sports shoes also seemed like a very popular choice. Many of the people working in this segment seem to have a special pair of shoes just for work. These are often stored in a locker and are also often putted on in a hurry. So, they need to be fitted easily and to be comfortable for a full day at work.

THOUGHTS

As with the other segment an imaginary day was created to see areas of possible improvements. For this sandal it was important to have a firm grip that could be put on in a hurry. People do not want to spend time fiddling with laces or other complicated locking systems. This led in to an exploration of return buckles and Velcro.



CRITERIA

Washability:

Materials with the ability to handle high washing temperatures.

Adjustable:

The sandal should be easily adjusted and provide a firm fit.

Unisex:

Unisex design with colour variations. Creates easier production.

Comfort:

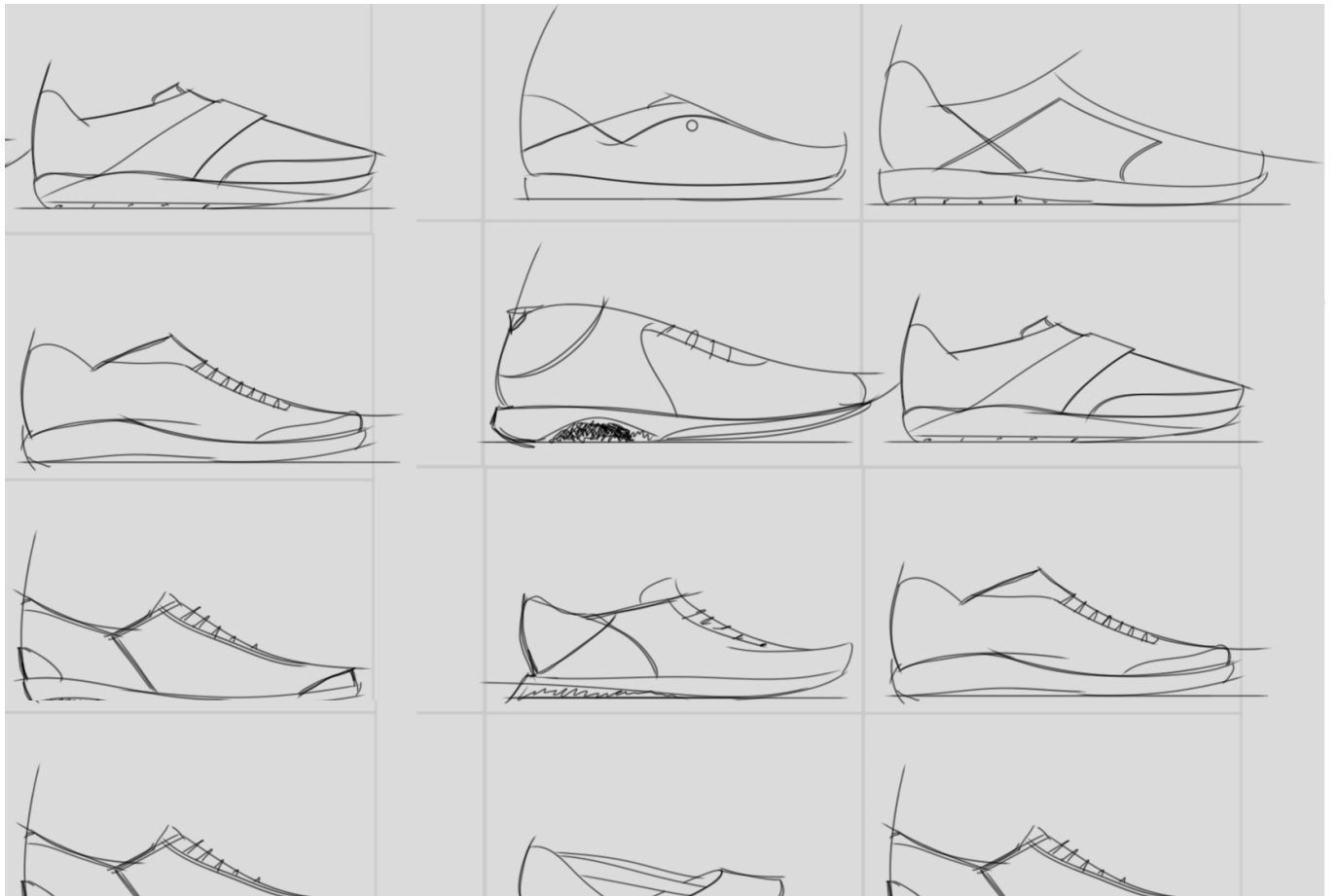
The sandal should be comfortable in long term use.

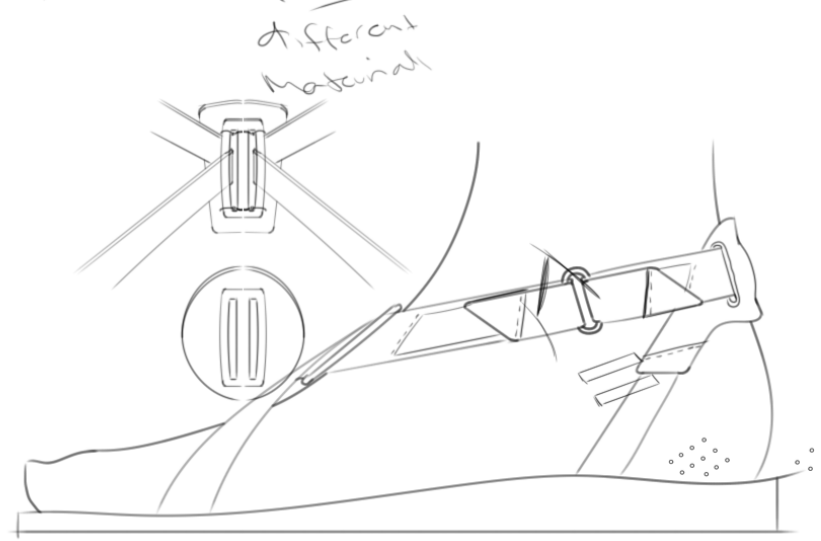
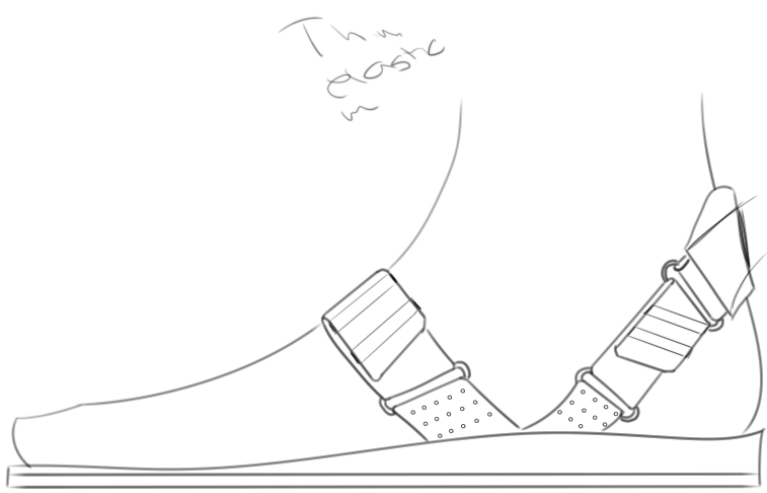
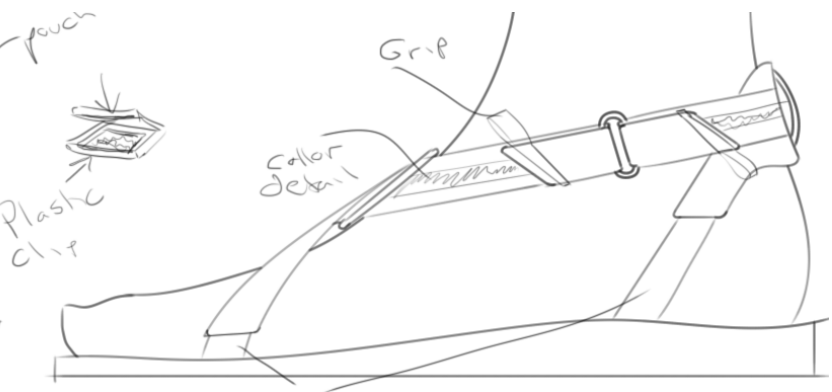
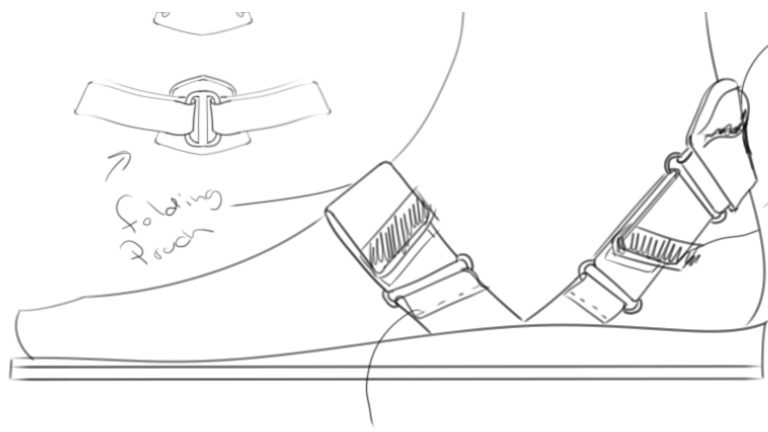
Style:

The sandal should have a sporty expression. The interviews from the hospital confirm that people prefer this kind of style.

SKETCHES

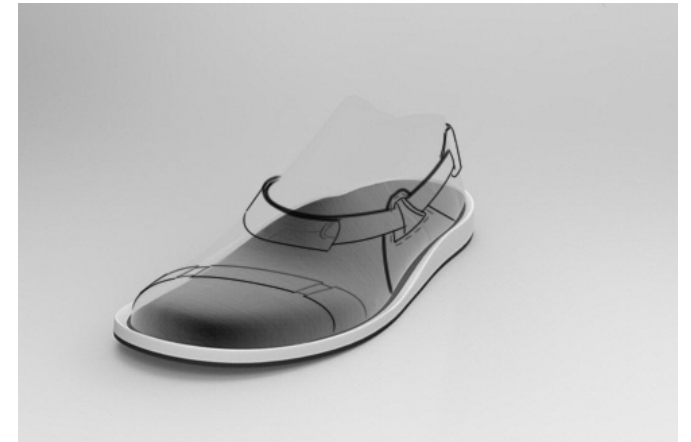
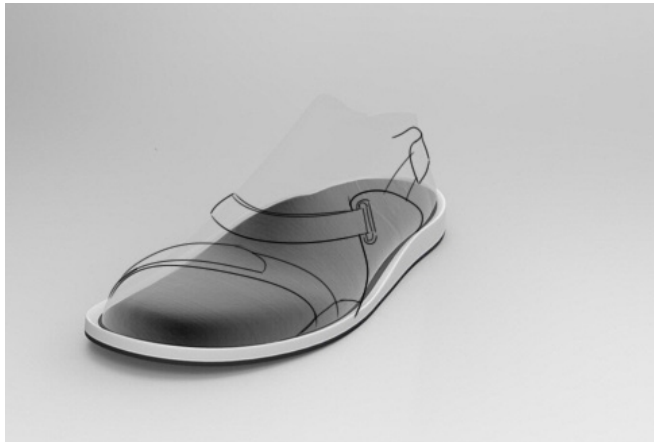
As with the other segment, this work also started with the generation of thumbnail sketches.

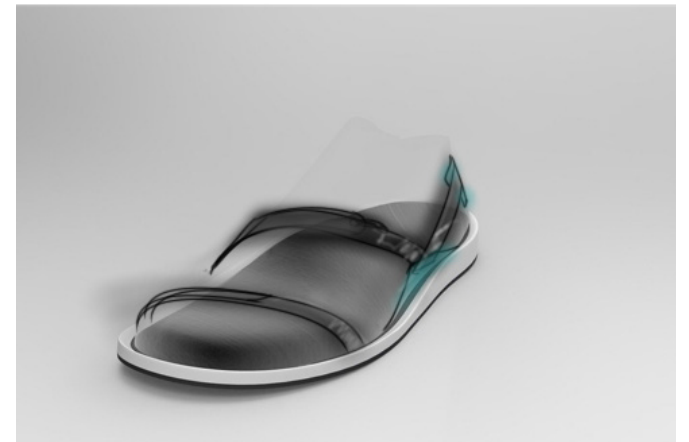
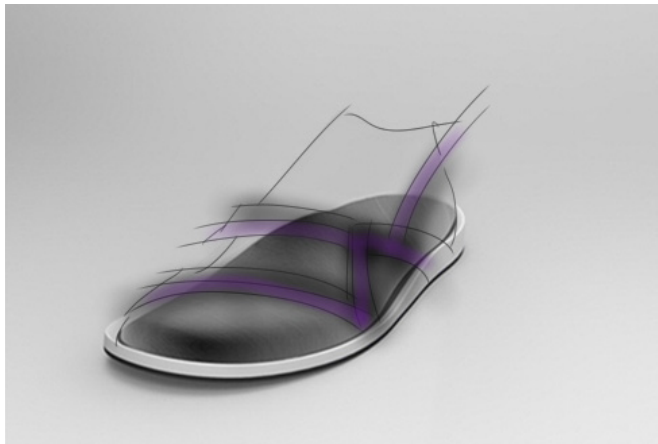


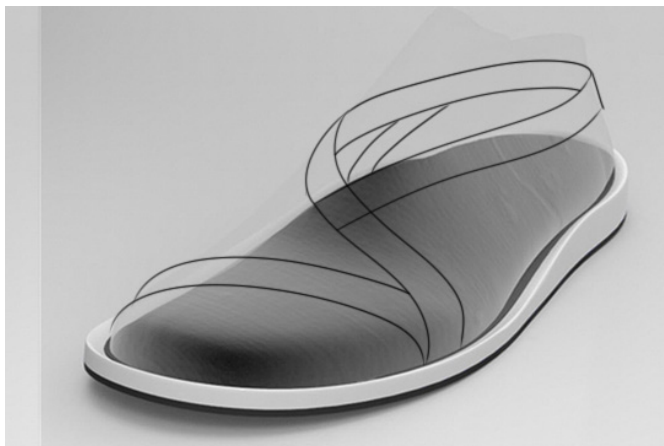
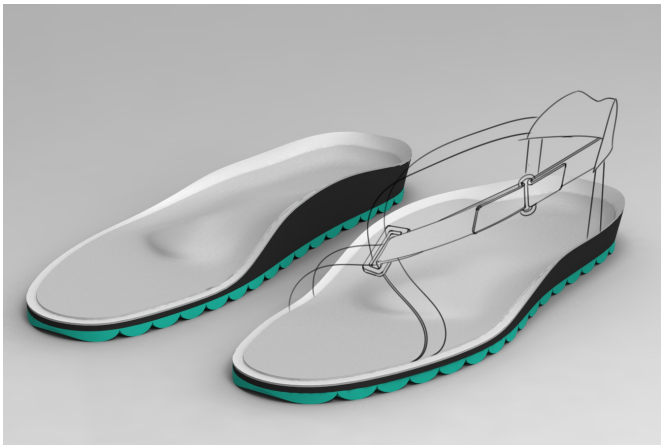
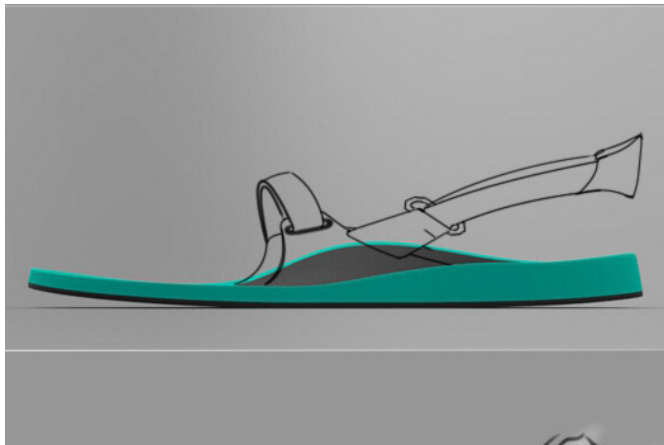


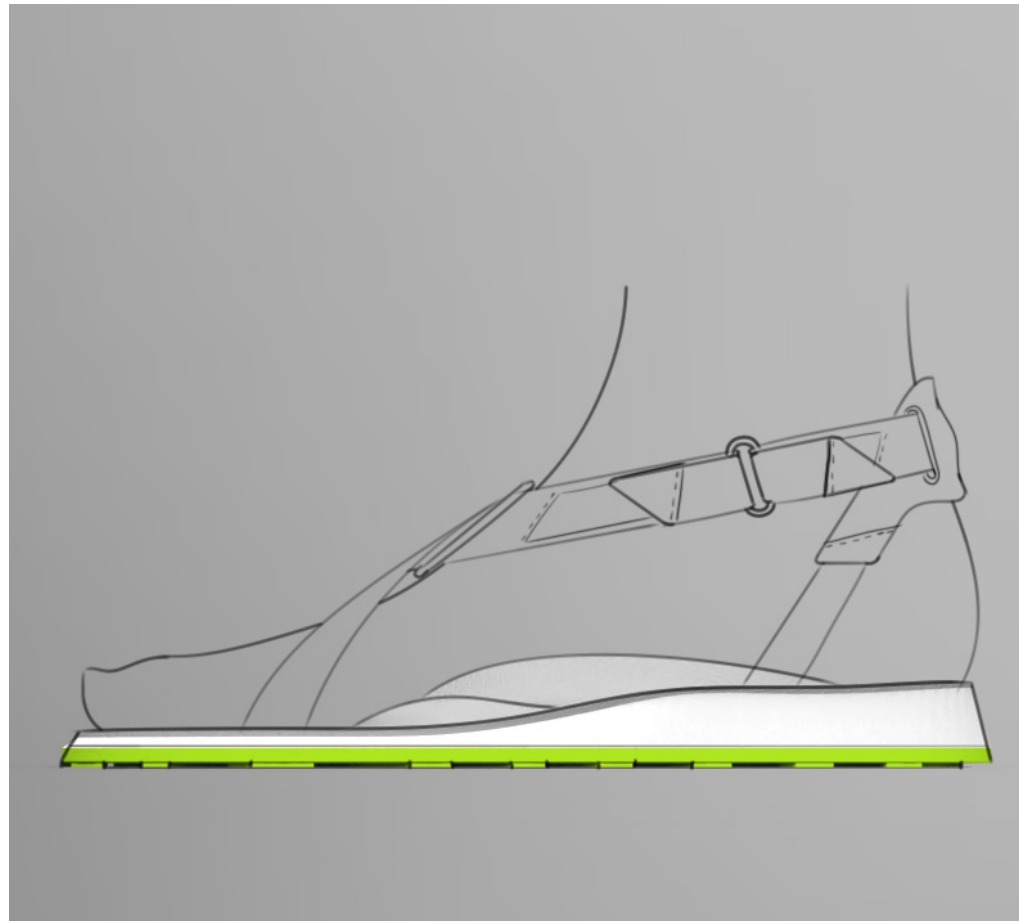
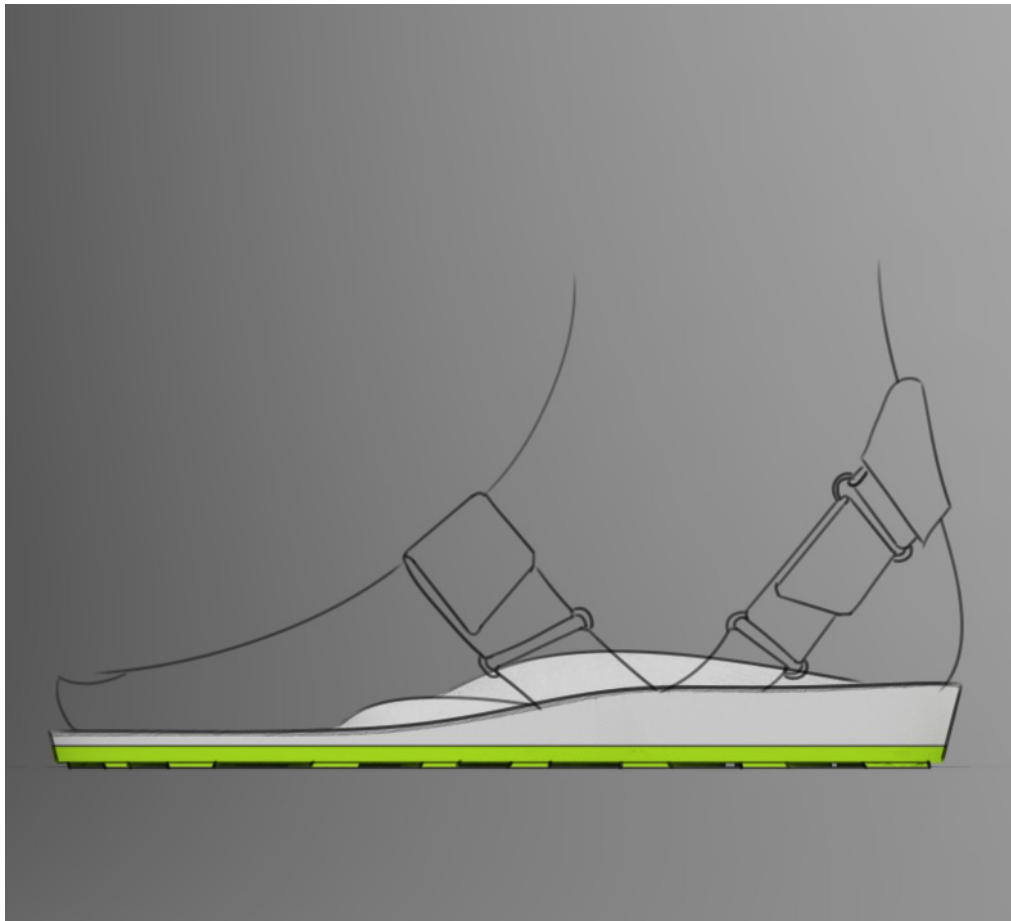
SKETCHING ON RENDERING

Using a render as an underlay creates a good foundation, that improves the focus on proportions.







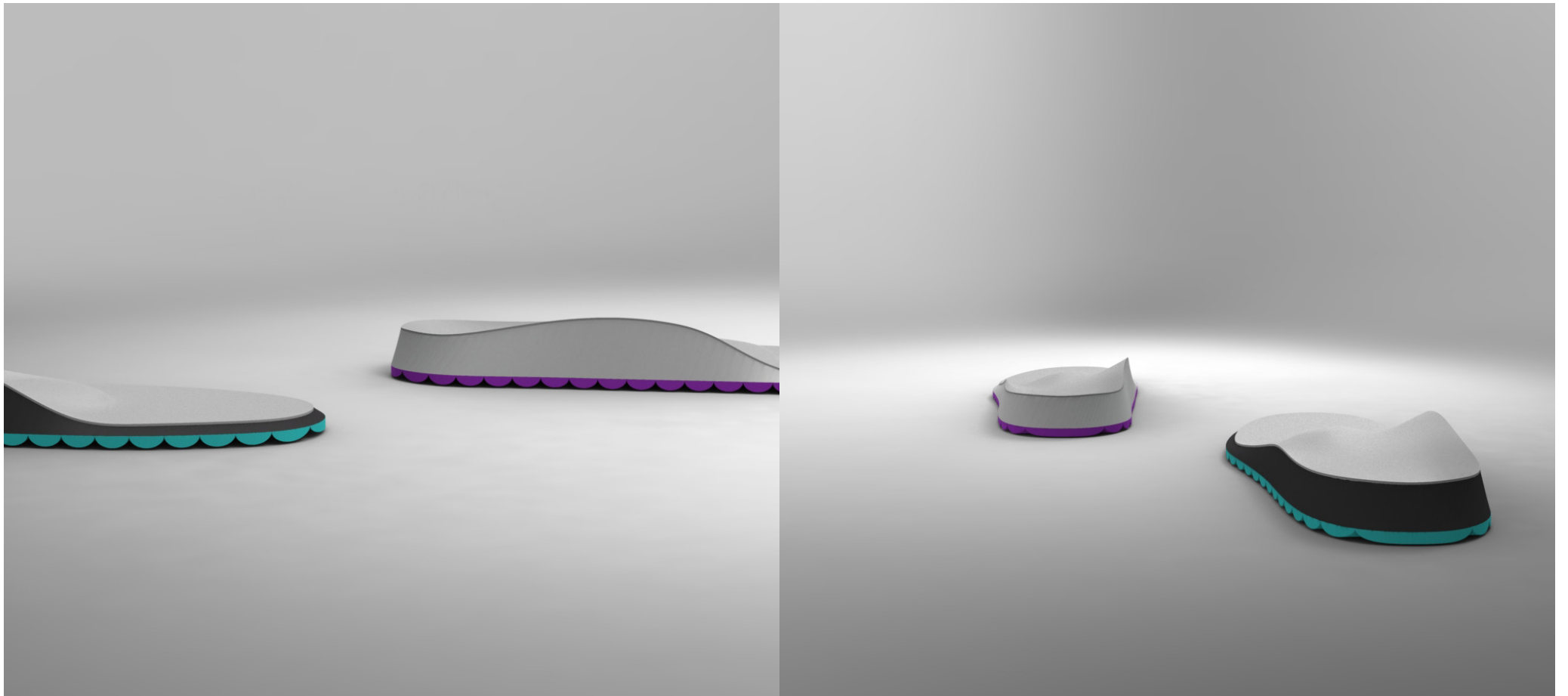


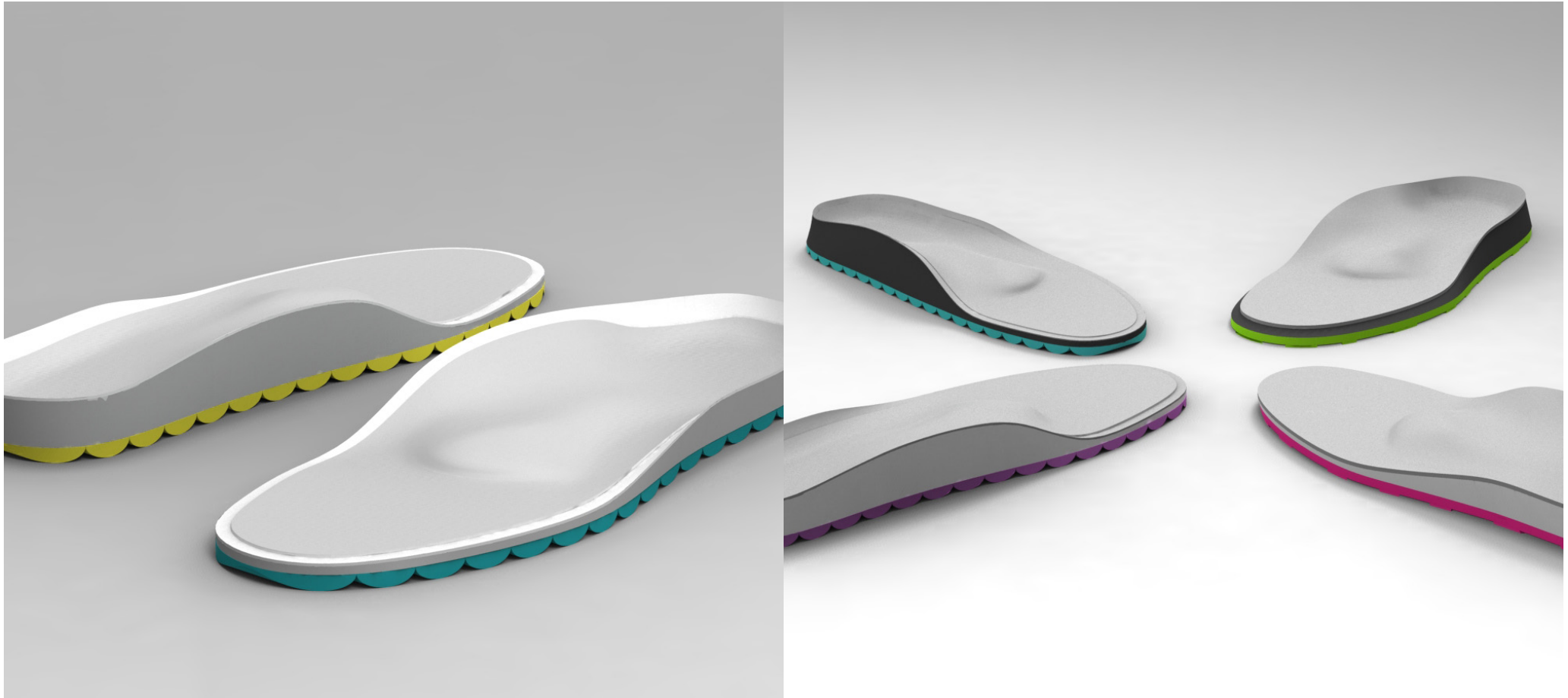
EXPLORING STRAPS

This model was used to come up with new ideas for sandal straps. It is created with a few nails, folding buckles and strips of leather.

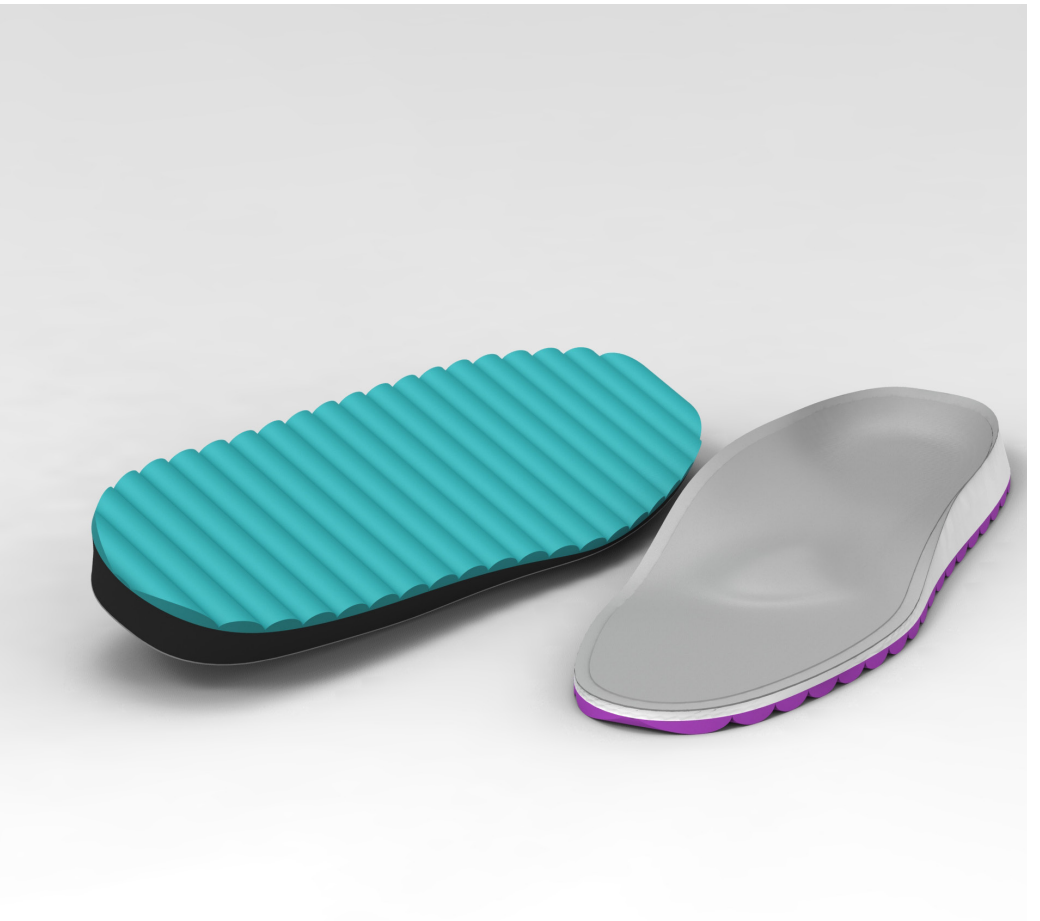
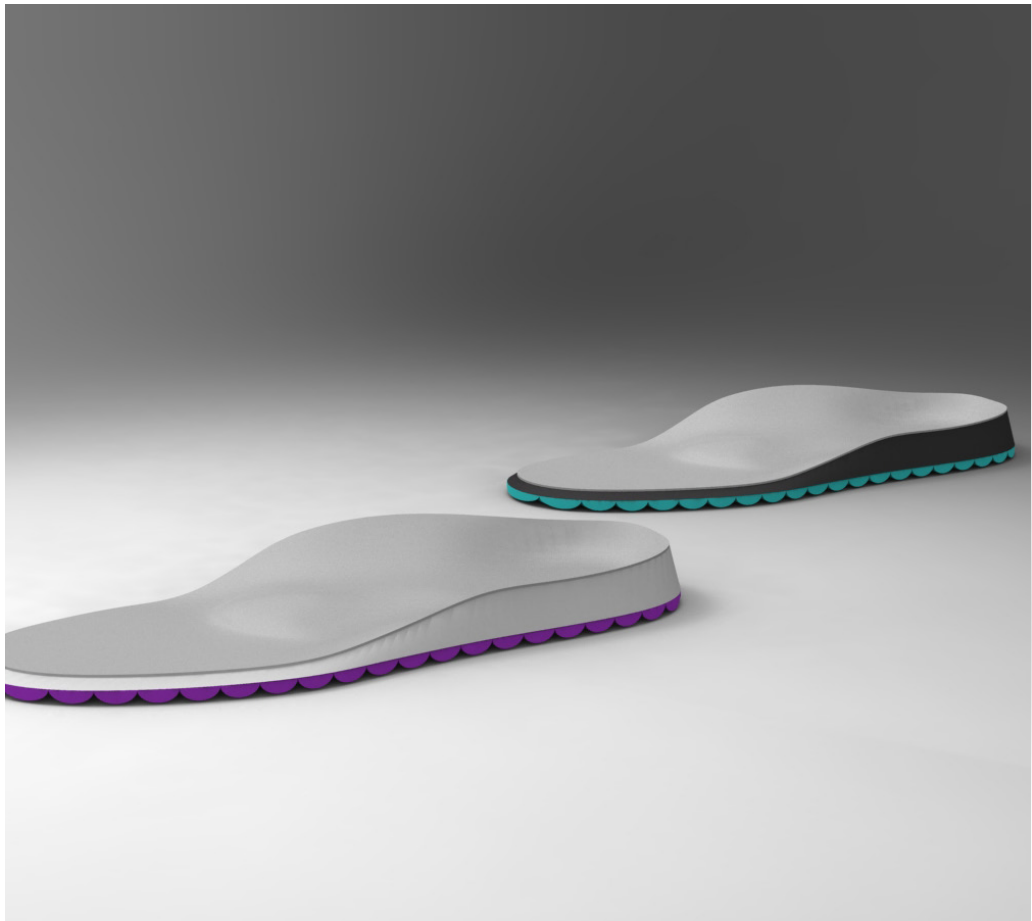


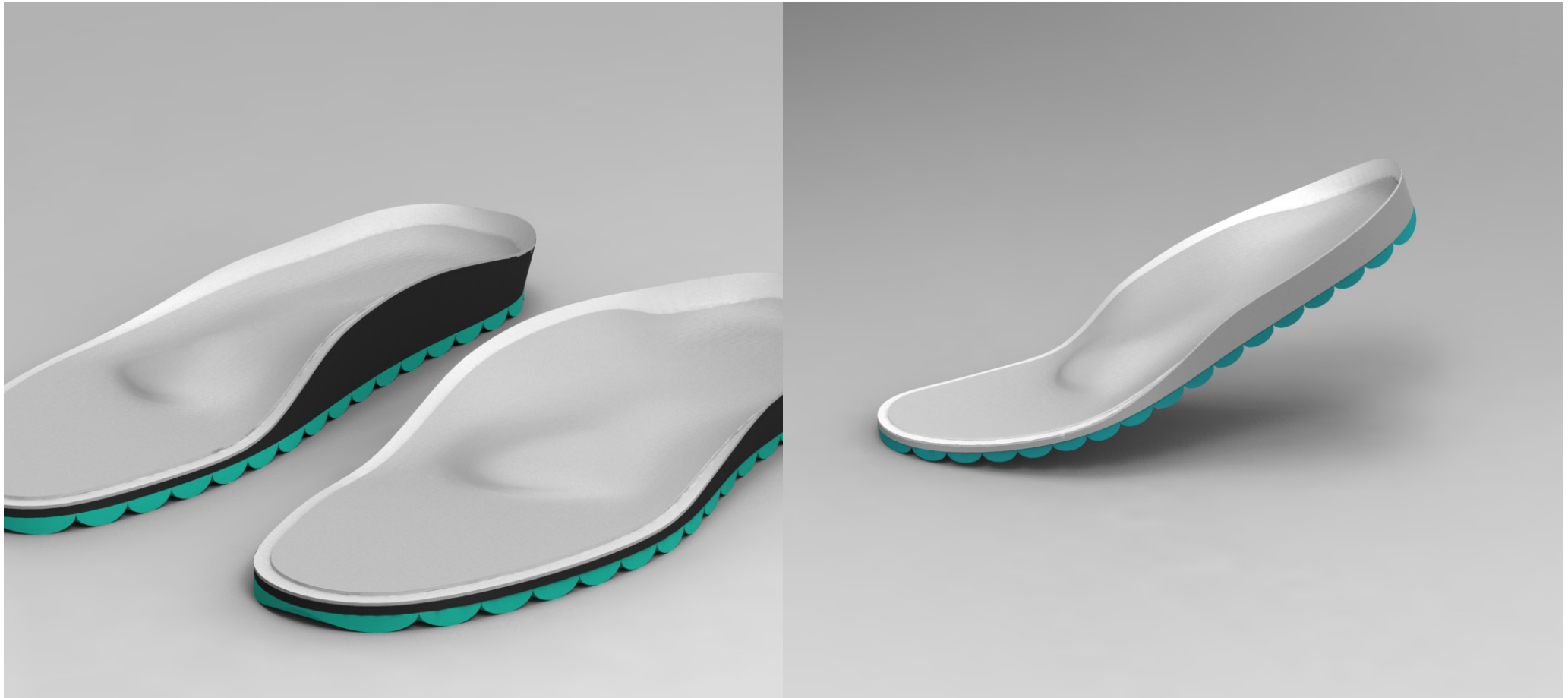
RENDERING

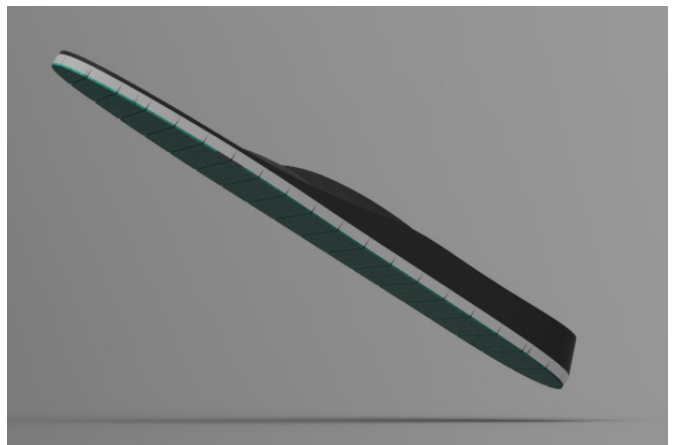
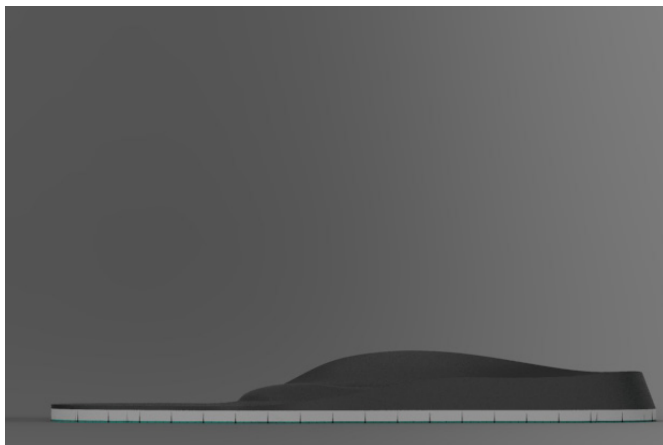
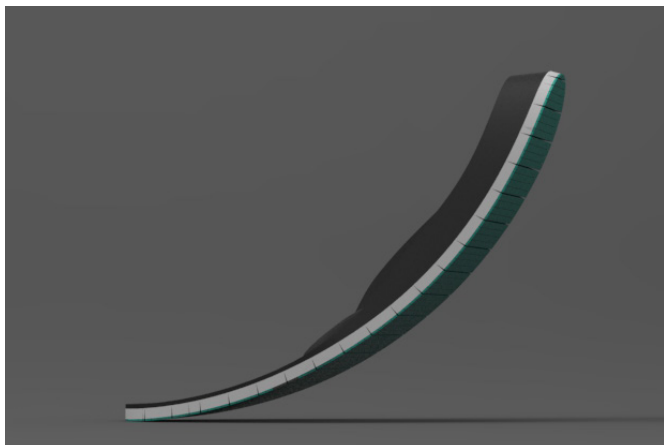
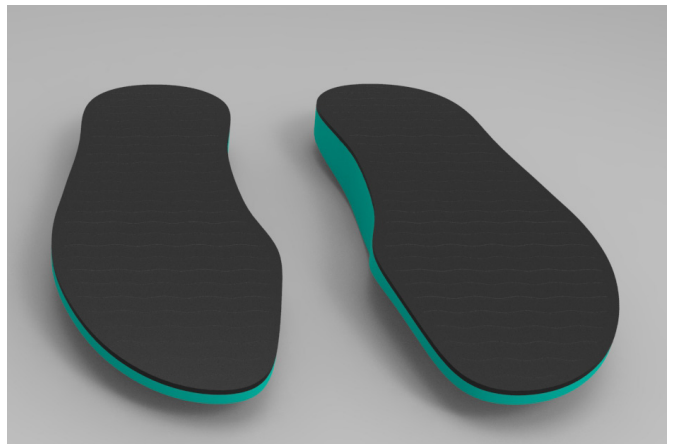
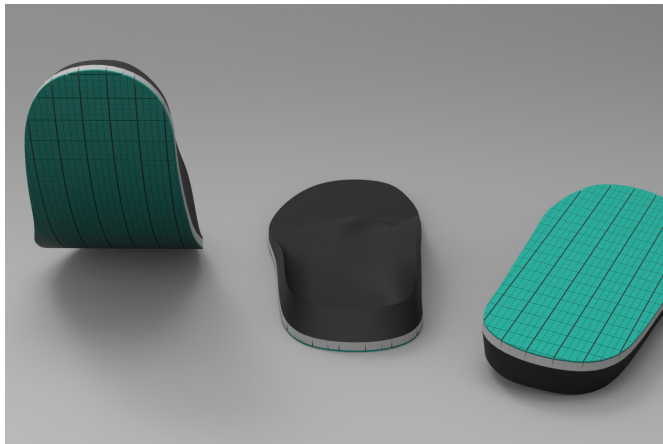
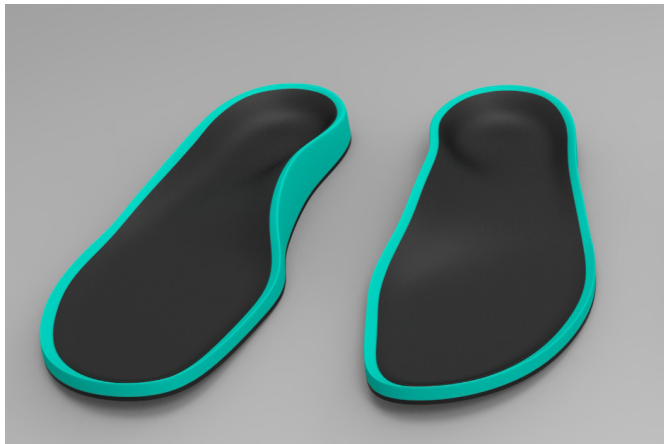


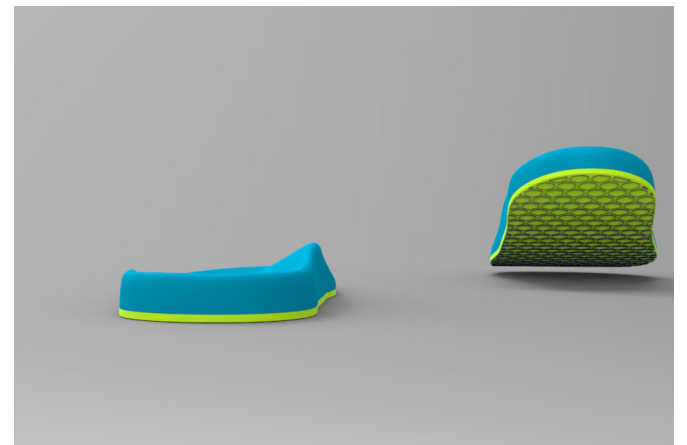
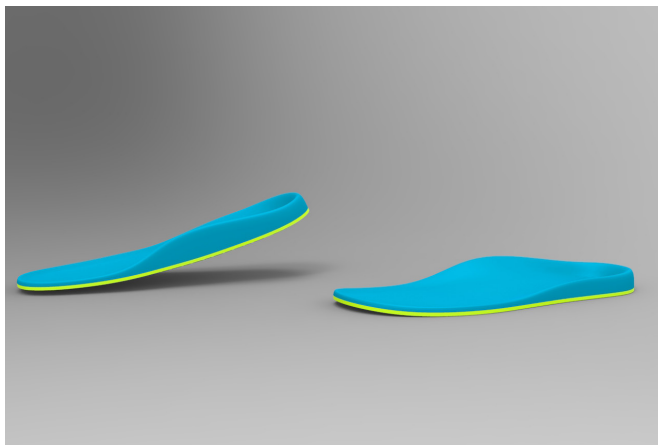
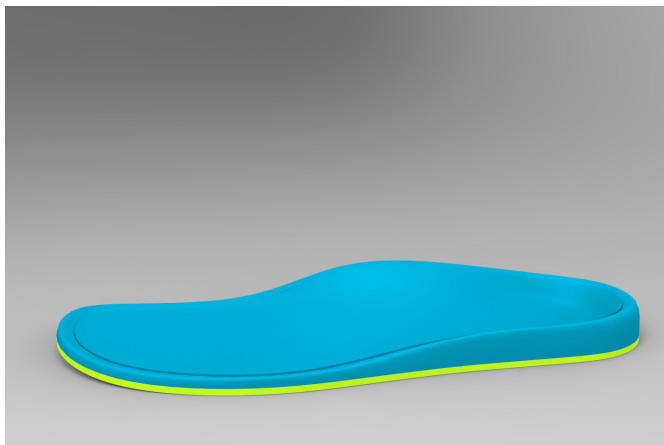
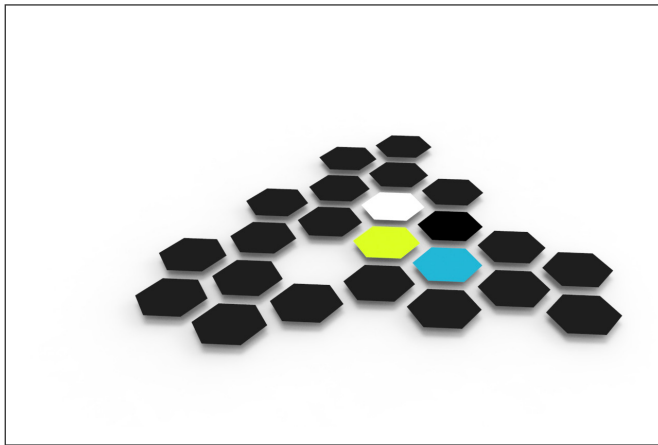
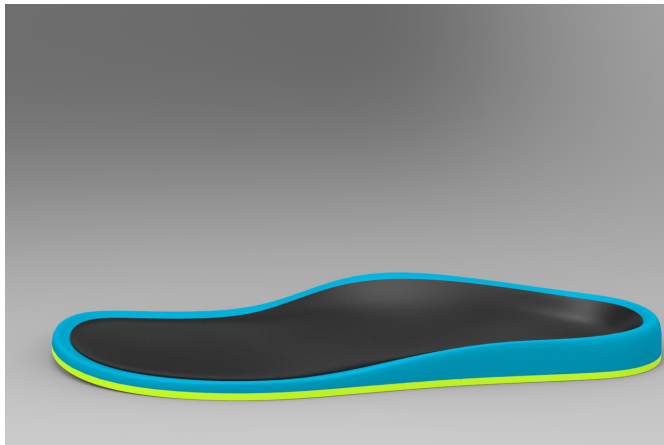


RENDERING









POSTER PRESENTATION

BIOWALK

WORK FOOTWEAR

FEATURES:

A personalized footwear made from scan. The footwear has a snug fit adjusted by a single strap. The straps have cushioned polsters. The track is inspired by a honeycomb pattern. This gives the user a firm grip for a long day at work.



HEXAGONAL
TRACK



ADJUSTABLE



PERSONALIZED

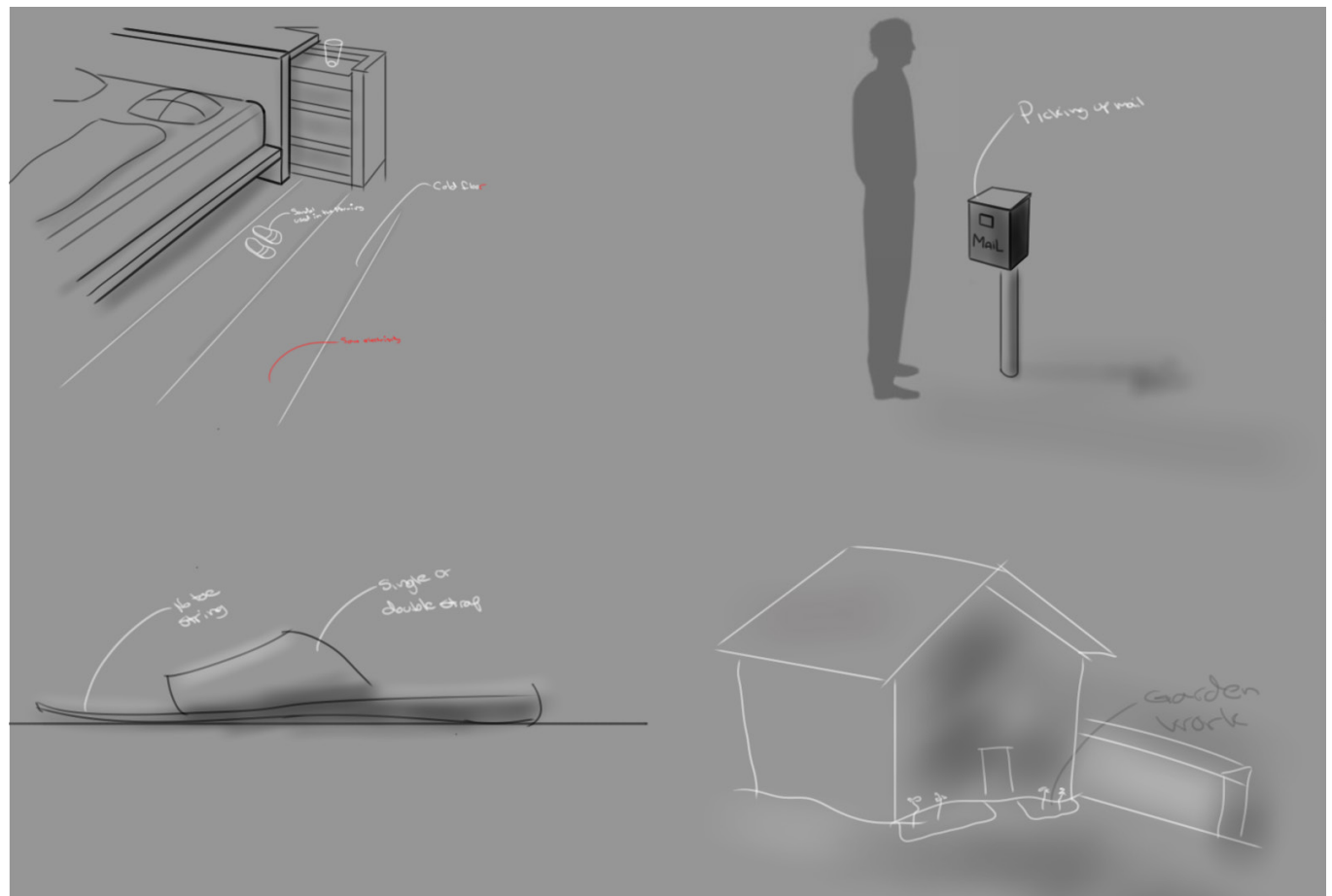


Segment 3. Leisure.

The **leisure** segment is quite different from the two other segments. The **ideation process** for this segment focuses more on material than in the other segments. The purpose of this concept is to develop a personalized product that emphasises the values that the used materials represent. As it is hard to imitate these values through rendering and sketching it was therefore decided to present a prototype for this concept rather than a drawing.

THOUGHTS

- Some of the situations that this sandal will be used in may be:
- Out of the bed in the morning
 - Getting the mail
 - Garden work



CRITERIA

Track.

The track should be anti-slip.

Personalized sole.

The sandal must be constructed around the minimum volume subtracted from a customer's scan.

Production.

The sandal should be based on a strap construction that is easy for production.

Cost.

The materials are the main focus of this design. Therefore some of the materials chosen for this design will be more expensive. However the construction should be made with as little waste as possible.

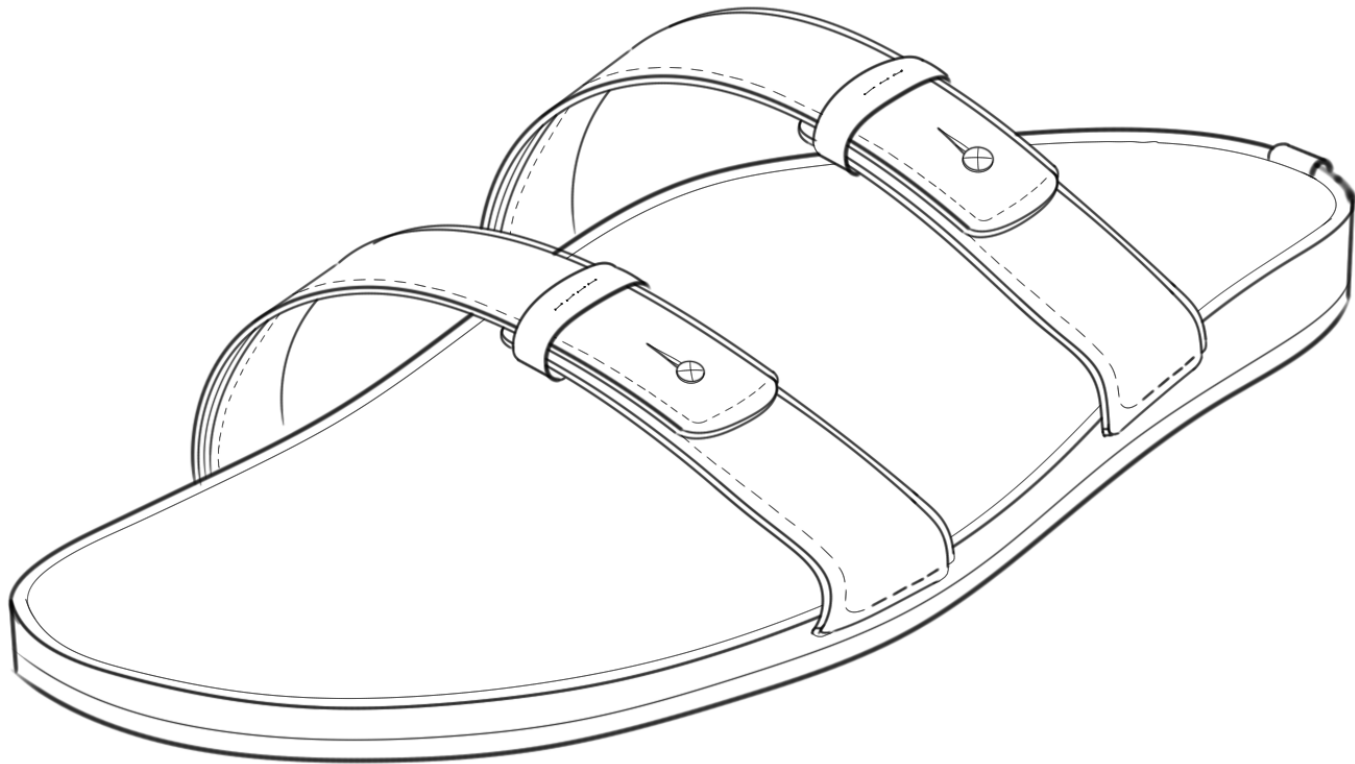
Slip on.

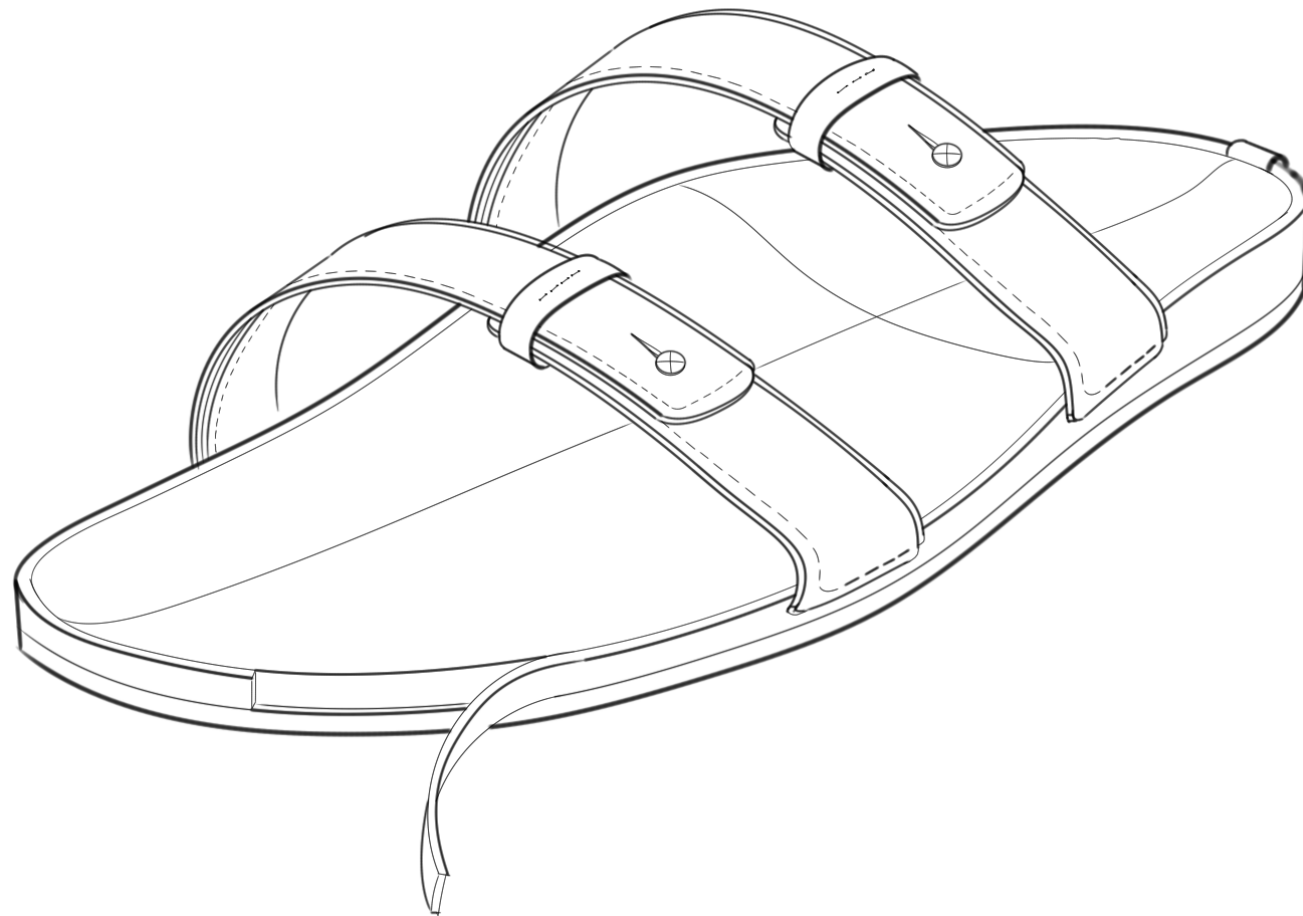
This sandal should be easy to use and should therefore have a step in construction. The sandal should have adjustable straps for varying arch heights. The user will have to adjust this the first time.

Tactility.

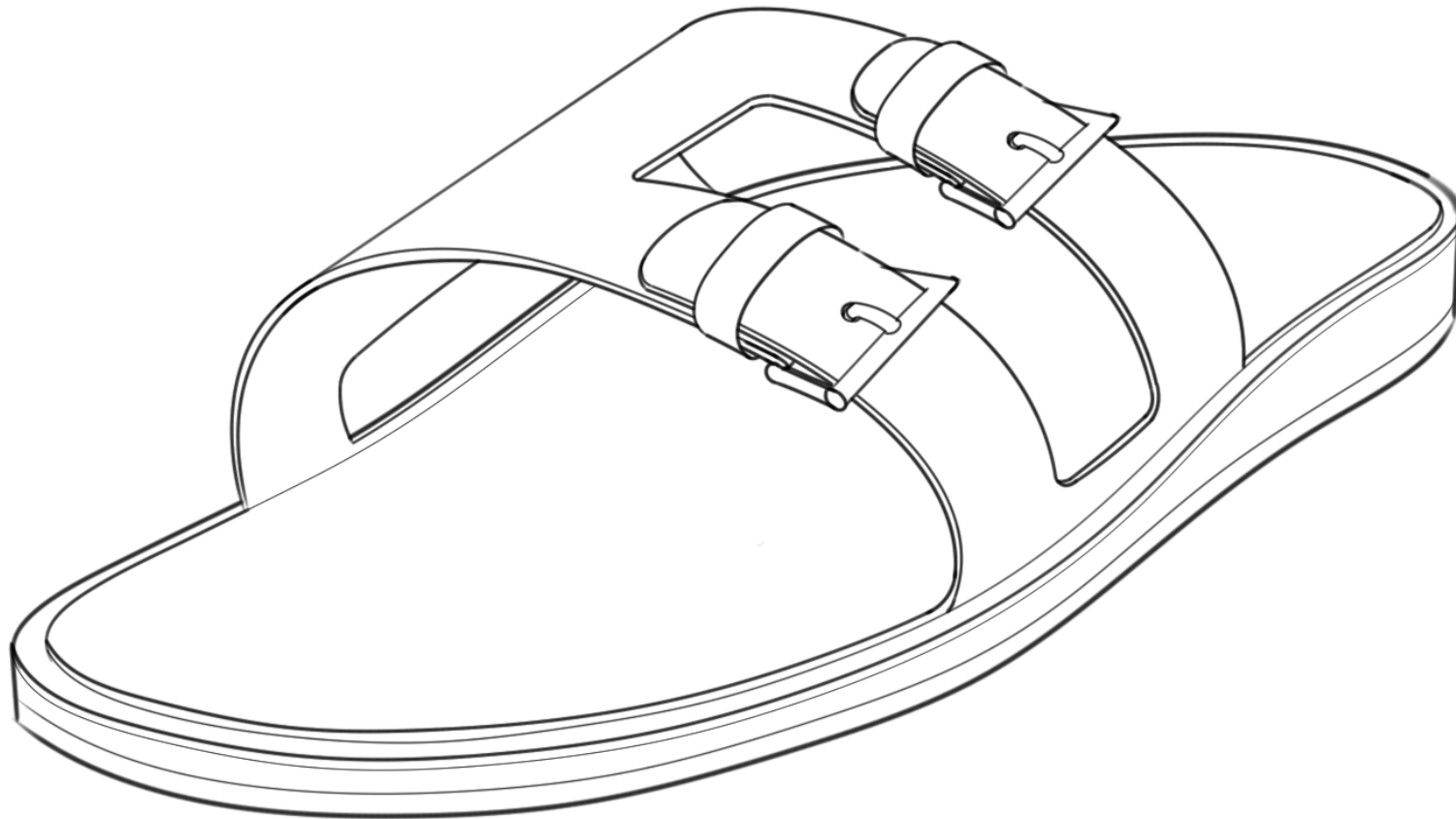
The sandal should feel comfortable against the foot.

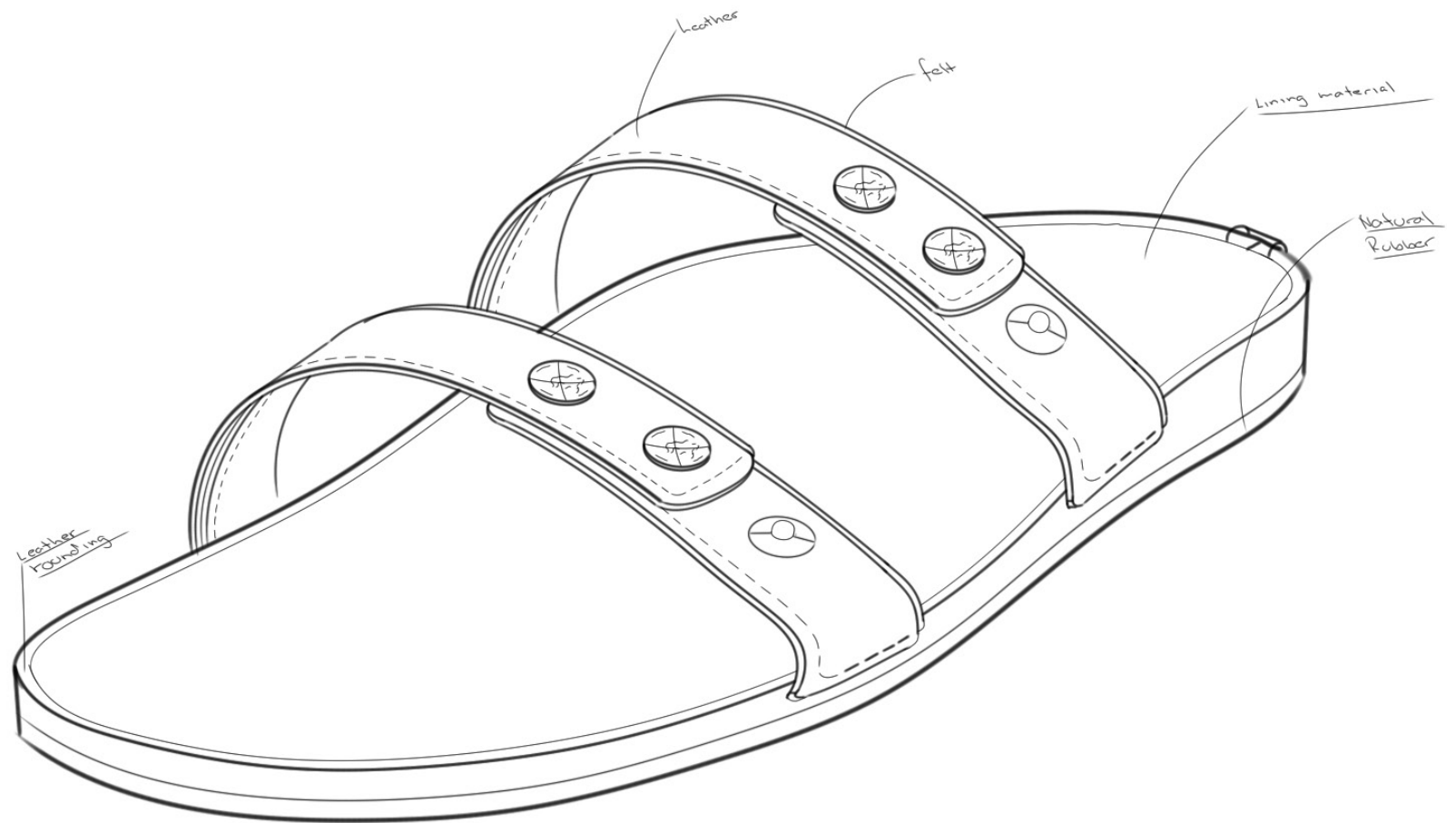
SKETCHES



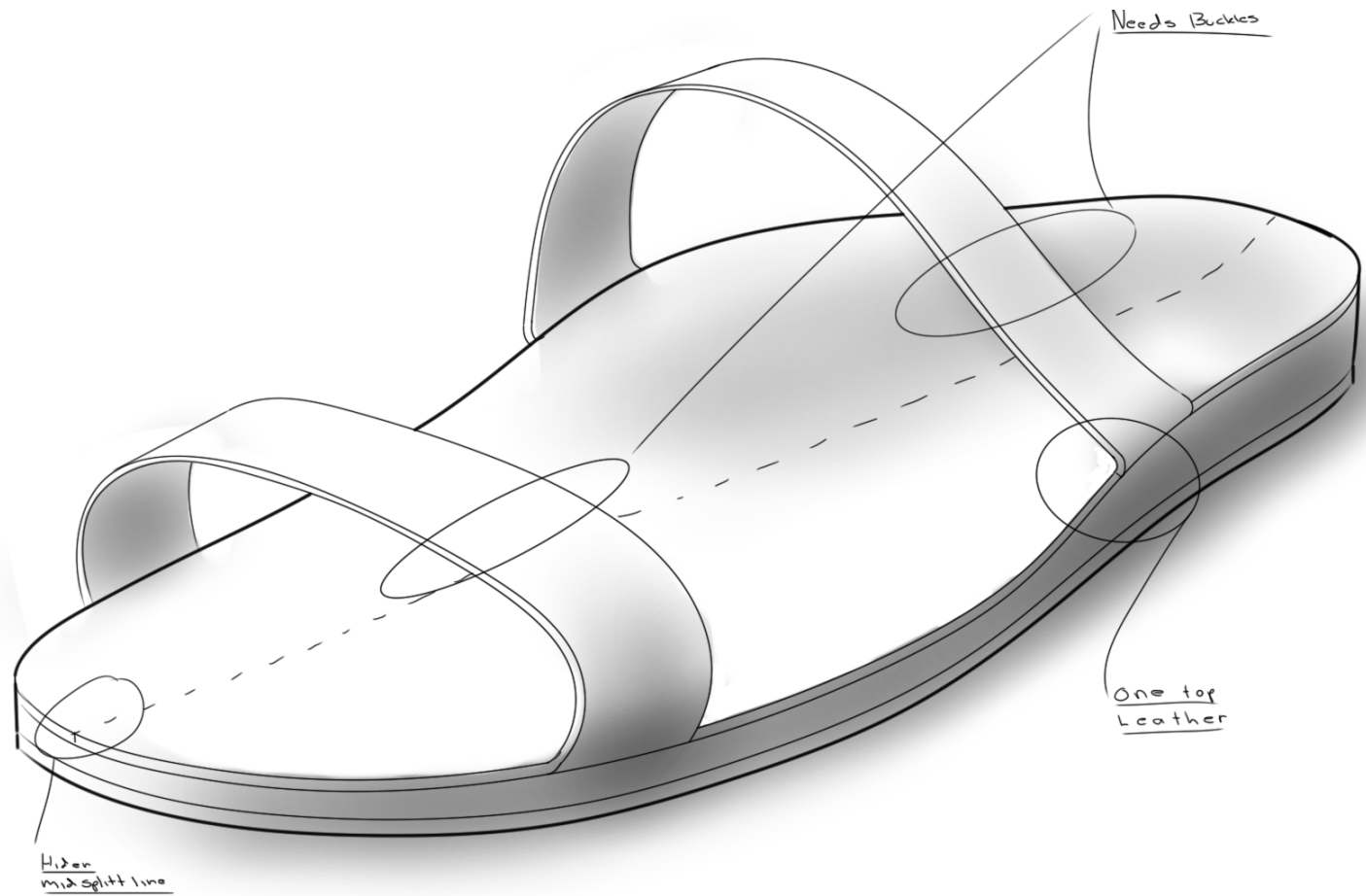


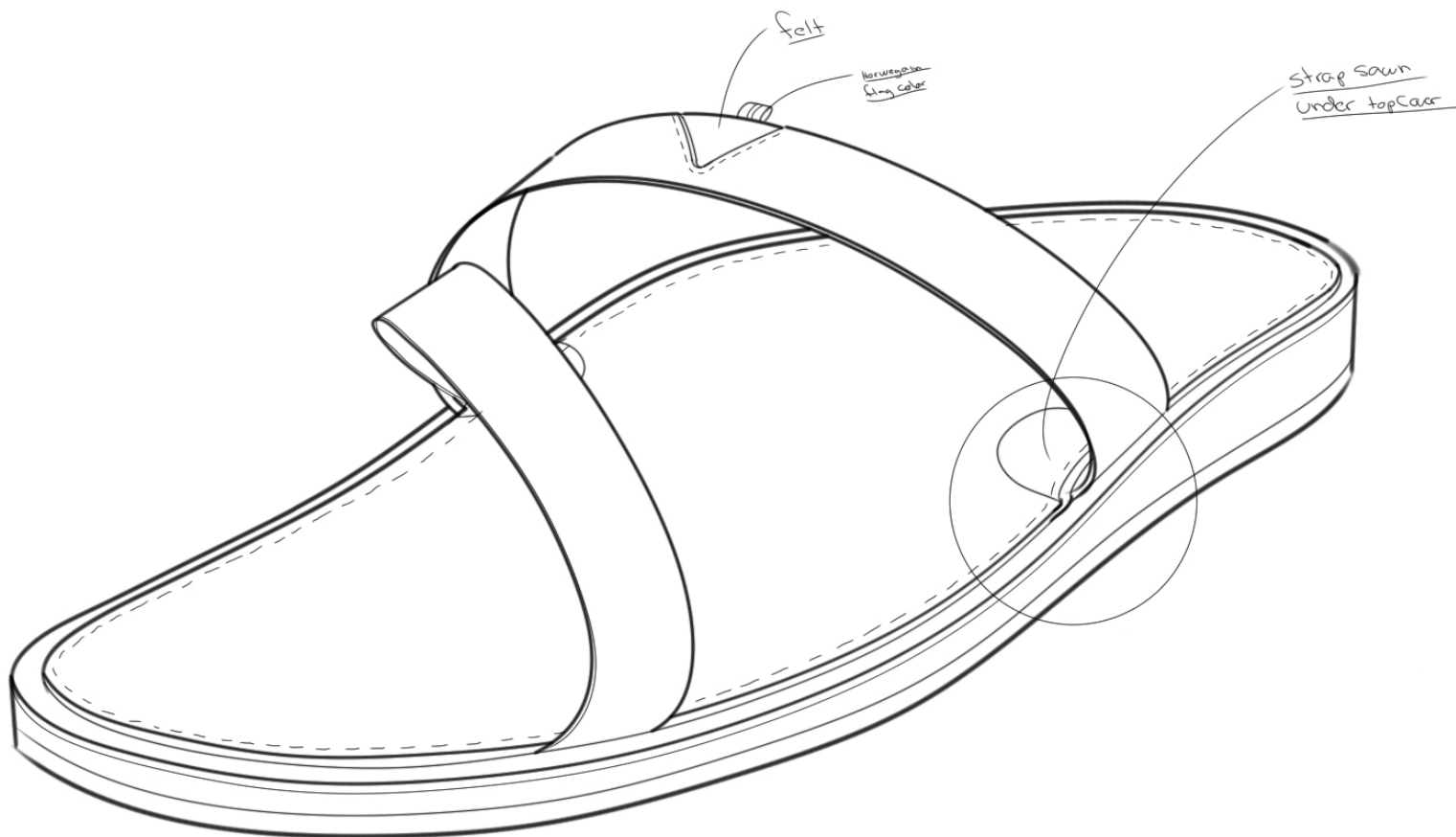
SKETCHES





SKETCHES





LEATHER SANDAL

This sandal is made for use at home indoor and outdoor. The main segment is people at the age 65+. The core of the shoe is made from EVA and comes in different densities. The core is milled from the costumers scan.

The main focus during the development of this sandal is material. By choosing materials with natural values the need for "styling" becomes less evident. Therefore it is more rational to take this concept one step further and develop one prototype. This gives a better impression of materials than any drawing ore rendering can.



POSTER PRESENTATION.



Klaveness Heritage sandal is built on hand-craft values. We believe in the natural materials we use. The handpicked leather that we use changes with time and gives the user a more personal relationship to their sandals.

The foundation of the construction comes from a personal scan of the user. This ensures us that the sandal is made exactly for the users foot.



CHAPTER 4. REFINEMENT

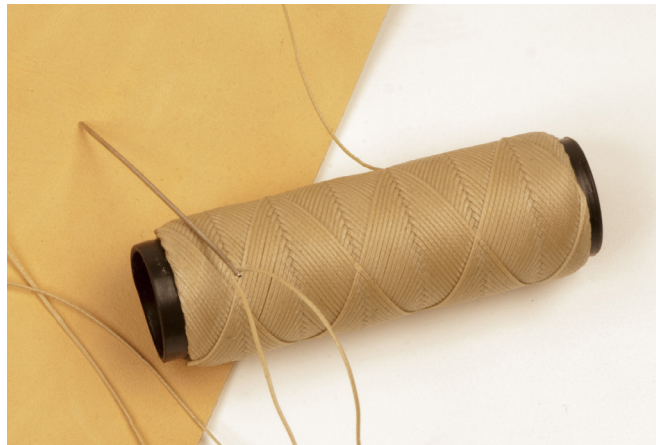
The **leisure** concept was chosen for further development. Klaveness chose this for several reasons. The main reason being that it resembles their already established brand values. As the concept was discussed it developed into a new product line under the name **Klaveness Heritage**.

General Refinement.

Parallel to the process of making prototype iterations there was a continuous search for ways to add value. This search was time consuming and has affected the results along the way.

LEATHER

One of the most challenging parts of this project is materials. This is the most essential part of this project, since the materials communicate this product's core values. As a result of this, the leather chosen was a natural vegetable tanned leather. This leather is made from the top layer of the hide. The tannery that produces these leathers use natural oak extract to impregnate the leather. This gives the leather a great natural surface on its own but also serves as a great foundation for colouring with other pigments. The threads used are also hand picked. It is a synthetic tendon that is run through a wax. This makes the thread more durable and easier to use. Natural oak extract was used to impregnate the leather.



SUPPLEMENTS

To give added value to the final product there was also time spent on finding supplemental products. Examples of these are bee wax which is used to treat the leather and protect it from staining. The wax for the thread ensures that it does not spread and gives it extra strength and colour. The leather dye gives us the opportunity to colour the natural leather.

Thread wax



Bee wax



Leather dye

CORE

The original orthotic is made from EVA(Ethylene-vinyl acetate). This material is inexpensive and comes in different densities. **Klaveness Technology** uses 45, 50 and 55 shore. This can give the customer the option to choose from a soft sandal to a harder version that can give extra support. After a meeting with one of Klaveness` suppliers a mix of cork and polyurethane (PU) was also suggested. This is a fairly soft and durable material. The cork also makes it more environmentally friendly. The cork is recycled from left over pieces that are ground and added to the PU as a powder. This makes the PU/cork a recycled material.



WIDTH

After the first few upper prototypes it was clear that a construction made from leather stripes was the easiest for production and also the most flexible in terms of personal deviation. It was therefore interesting to make a study of different widths and how these relate to each other.

10



20



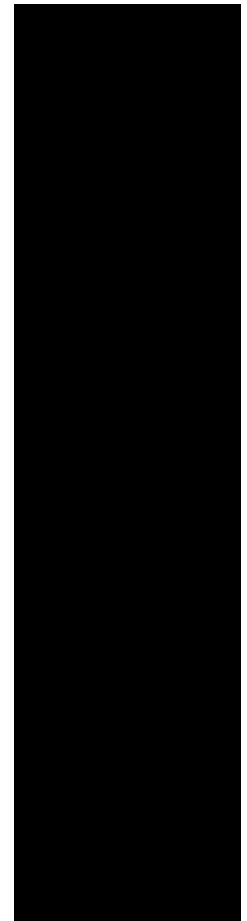
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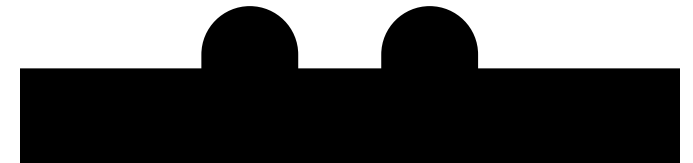


35



ROUNDING

To be able to use the leather in an efficient manner it was necessary to split the top strap from the side part. This however meant that the two parts needed to be stitched together. This led to an investigation of what shape would be the most functional in production and also the most aesthetically pleasing.



ENDING

There is an infinite amount of ways to end a leather strap. Depending on the construction different endings are needed on the same strap. However a study like this makes one realise the endless possibilities (see attachments for more examples).

20 mm elliptical



15 mm arrow

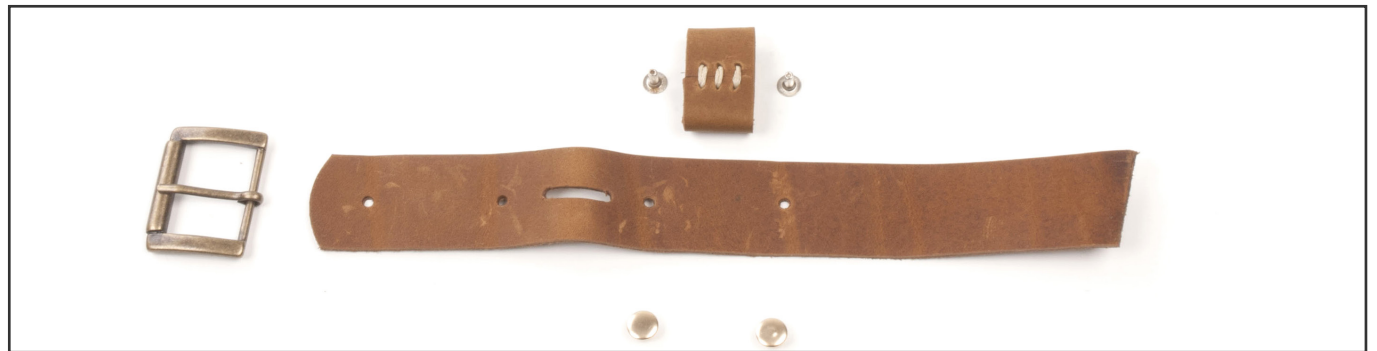


20 mm arrow



BUCKLES

Buckles are an important option that was evaluated. Buckles however determine the widths of the straps. It is also more costly to create a custom buckle compared to choosing an already existing design.



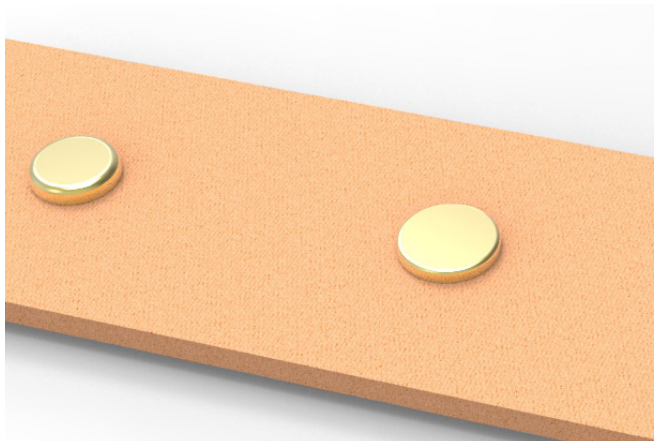
RIVETS/PRESS BUTTONS

Press buttons were also tested and they function much in a same way as a button studs. However they do have more parts and require special tools in production. Rivets were tested to attach the straps to the rounding. However a hand stitch holds two pieces of leather tighter together and they have no lose ends.



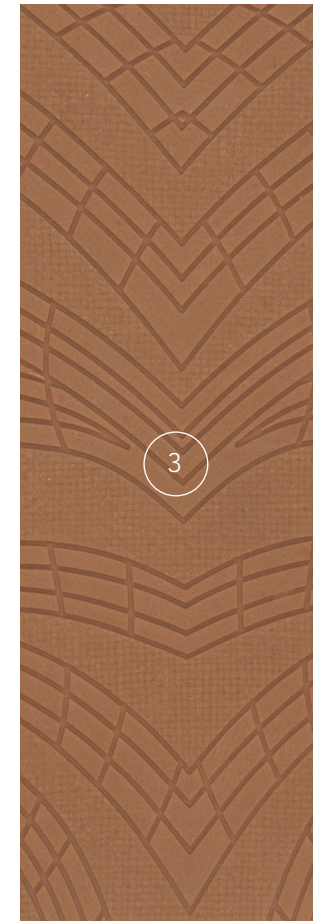
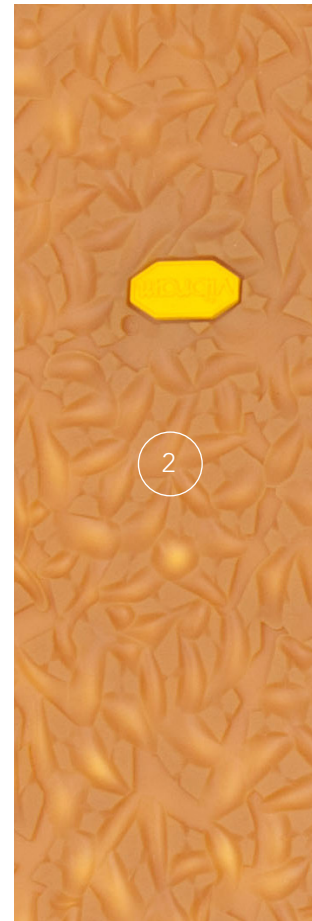
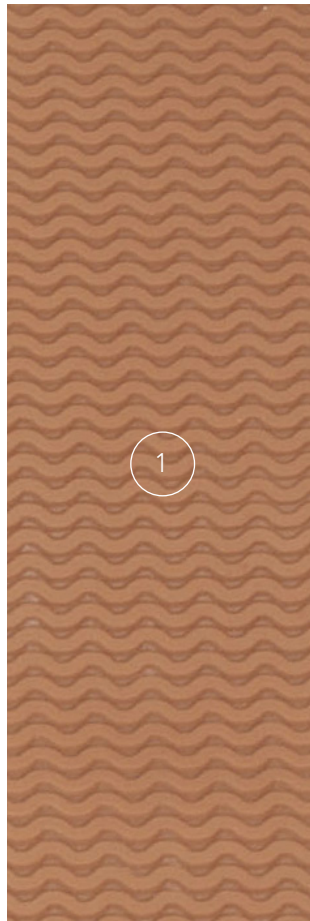
BUTTON STUDS

Button studs were the easiest and most flexible solution of all the regulation methods tested. It is also a flexible choice when it comes to customising. Three suggestions were made for this project using a lathe machine. The one in the upper right corner is the one used in the final prototype.



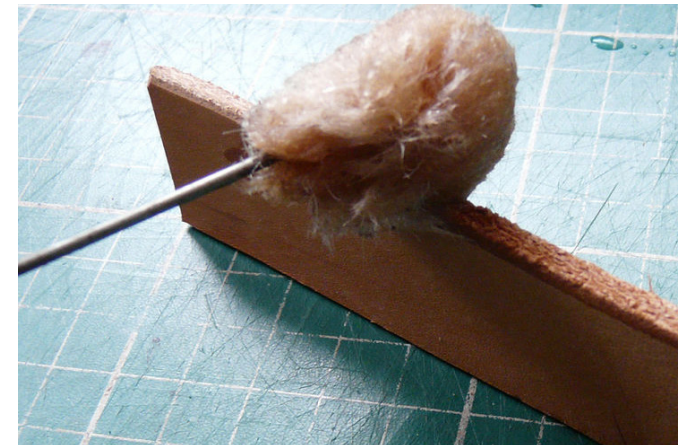
TRACK

The bottom track can come in any thinkable form. However, it is cheaper to choose a track that already exists. This means less cost for creating moulds that can be very costly depending on their intricacy. Number 1-3 were all tested in various prototypes however number 4 was the one used in the final prototype.



EDGE

As this product is built on material values, any of the added value impressions come from attention to detail. The leather for this sandal needs to be thick enough to keep its shape. As a cause of this the edges are very hard, impossible to fold. Another and better looking option is to wax and polish the edges. A lot of research was put into finding the right substance for edge treatment. The one finally chosen is called Gum Tragacanth. By first skiving the edges and then applying this substance, the edge becomes formable. This makes it possible to round the edge with a tool that has the desired profile.



UPPER STUDY

To get an understanding of upper construction it is a good idea to cut apart an old sandal (brown upper). Creating easy mock-up uppers purely for the purpose of construction is a way to gain experience on different constructions. In this particular upper we tested a Velcro construction (black upper). The Velcro is nice in terms of adjustability, but it does not reflect the values that we are trying to communicate through this product. This black mock-up also showed that the adjustment straps should be separated. This is because of the varying height of the arch. There will be an excess of leather in cases with high arch height and it will spread the distance between the straps in the opposite case.



Making Prototypes.

The process of creating the prototype follows the principals set by construction. To be able to describe this process a movie was made (<http://www.youtube.com/watch?v=jhxfYsWpRac>).

The movie describes the following chapters:

- Creating the core;
- Creating the upper;
- Assembly,
- Finishing.

Prototype Iterations.

To improve this concept an iterative approach was adapted. By finding likes and dislikes about the current prototype a new one was produced. The next iteration was also used to explore new ideas that were not already tested and being refined. This subchapter will explain pros and cons about each iteration.

PROTOTYPE 00.

Klaveness already had one prototype made. This prototype is based on the construction type where the upper is glued to the top surface. The leather is also pulled all the way around the core. This means that the core needs bottom finishing after milling. This construction also applies restrictions to the leathers used, because it requires elasticity to cover the whole core. The leather glued to the top will also require many templates because of length and width variations.



MOCK-UP.

One of the first questions asked was if the sandal should have adjustments or not and whether this should be a buckle or a button stud. The cover leather where the sole meets the foot is also a top leather. This could be a split which is rougher and cheaper.



PROTOTYPE 01.

- +** 1: The inner lining is made of a top sheet of leather;
- 2: The track is milled at the edge to create a rounded profile;
- 3: The button stud offers good adjust ability and it's flexible;
- 4: The rounding is stitched together in front and back, to reinforce the construction and give a nice visual detail.
- 5: The leather side pieces are too thin to keep their shape when the sandal is not used;
- 6: The straps are stitched to the outside of the rounding, which gives a floppy ending.



PROTOTYPE 02.

- +** 1: The top cover is a cheaper pig lining, and it gives more friction than the leather;
 - 2: The leather used for straps and rounding is a pull-up, which makes the leather less susceptible to staining and scratches,
 - 3: The straps are attached to the inside of the rounding, which gives a cleaner impression.
 - 4: The buckles are too big, not aligned and too far towards the medial side;
 - 5: The bottom track is a leather sole, which is slippery,
-
- 6: The side pieces is not cut-off between the attachment points, which makes the excess leather to curl when walking.



PROTOTYPE 03.

- ⊕ 1: Double folded straps give extra strength and keep the shape when the sandal is not used;
- 2: The buckles have an extra leather detail;
- 3: The straps are attached to both sides of the rounding, which enforces the construction.

- ⊖ 4: The buckles are too big;
- 5: The leather has an undefined red tone in it;
- 6: The the top treatment of the leather makes it look synthetic,
- 7: The rounding is not cut between the straps.



PROTOTYPE 04.



- 1: The top cover is the back side of a very soft leather;
- 2: The place holder is connected, which creates a nice detail and helps the sandal keep the shape;
- 3: The core is made of a recycled material (PU/cork).



- 4: The straps are made of a leather which is too thin;
- 5: The straps are stitched straight down to the top, which gives floppy endings;
- 6: Three straps is one more than strictly needed,
- 7: The PU/cork is not rigid enough.



PROTOTYPE 05.

- +
- 1: The double straps reinforce the construction;
- 2: The straps are attached on the inside of the rounding,
- 3: The sandal is made of a cheap solid sole leather.

-
- 4: The leather is too rigid and twists the core;
- 5: The edge pice is pulled over the edge of the track, which wears the edge pice,
- 6: The double strap system is less flexible in terms of adjustability and requires a more centred placement.



PROTOTYPE 06.



- 1: The connected straps give the sandal a good grip on the foot;
- 2: The straps are attached to both sides of the rounding, which enforces the construction.



- 3: It is harder to standardize the attachment points when the upper is connected to the top sole;
- 4: The leather is a stiff rigid sole material;
- 5: The colour needs to be dipped;
- 6: The side leather is susceptible to staining,
- 7: It is hard to create nice connections between the different materials in this construction.



PROTOTYPE 07.



- 1: The stitches on the straps give a nice visual impression,
- 2: The sandal has a higher and more rigid leather front piece to provide toe protection.



- 3: The connection between the two rounding materials is badly placed, because the sole bends at that point;
- 4: The double leather gets too thick and rigid;
- 5: The straps are attached to the outside and creates a bulky impression,
- 6: The buckles set constraints for the strap width.



PROTOTYPE 08.

- +** 1: The strap construction requires no placeholders, which gives a cleaner expression and saves material;
 - 2: The straps are cut in a rounded shape, which gives them more character;
 - 3: The straps flow all the way to the track and the track follows their shape, which creates a more complete form;
 - 4: The straps are 40 mm wide, which creates a better grip on the foot.
-
- 5: The button studs are not aligned and too big;
 - 6: The front and back protectors are not needed;
 - 7: The pig lining has too much contrast,
 - 8: The ends tend to fall out of the sliced holes.



PROTOTYPE 09.



- 1: The custom-made button stud has an edge that locks better;
- 2: The end of the straps are squared, which makes them stay in the sliced holes;
- 3: The straps are, as in the former sandal, stitched to the outside of the rounding. On the medial side they are stitched opposite, which creates less friction and a more flowing form;
- 4: The leather is treated with bee wax, which protects and prevents it from staining.



- 5: The top cover has a to light tone;
- 6: The positioning of the straps forces the strap forward when the foot is slipped in.



PROTOTYPE 10.



- 1: The straps in this construction are rounded. However they are turned around and attached further back. This provides a good angle on the arch;
- 2: The core is shaped with a toe protection edge;
- 3: The top cover is made from leftover material from the upper and rounding;
- 4: The stitching on the straps flow around the edge of the strap.



- 5: The track has too much contrast;
- 6: The core is too thick in the front and back, which makes the sandal look "boat shaped";
- 7: Straps are too far apart.



PROTOTYPE 10.



- 1: The lining is made from the split of the upper;
- 2: The angle of the strap is set to fit as many arch shapes as possible.;
- 3: The top of the button studs are sized to create a optimum ratio between locking and ability to open,
- 4: The stitching on the straps flow around the edge of the strap.



- 5: The edge of the leather straps creates a need for meticulous grinding on the lateral sides,
- 6: The tracks rubber tends to get hairy in the edges, and needs to be polished after use;



COLOUR VARIATIONS

Cognac brown



Chocolate brown



Corporate Identity.

The last two **Klaveness** logo versions consisted on the representation of a reindeer. These logos were both inspiration to create the new version that represents the **Klaveness Heritage** brand.

BRAND CREATION.

Inspiration.

The last two **Klaveness** logo versions consisted on the representation of a reindeer. These logos were both inspiration to create the new version that represents the **Klaveness Heritage** brand.



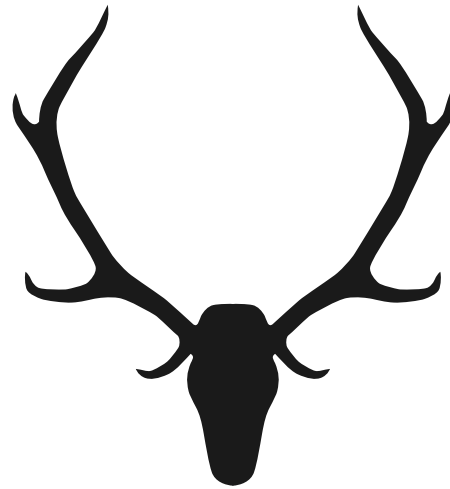
Iterations.

To the right are some of the different proposals that were evaluated and tested. Again the iterative process of completely finishing proposals, taking each to the last instance. Always creating valid solutions that would properly represent the chosen values for the new brand.



Final logo

The logo on the next page is the main logo. The text element and the graphical element can be used independently of each other, respecting always the carefully developed visual identity manual.

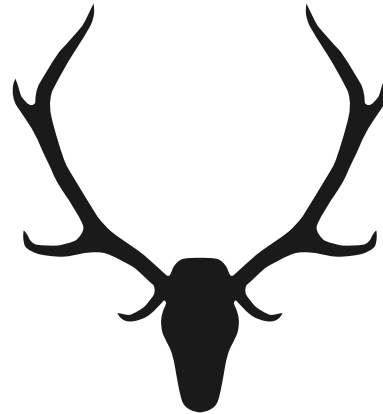


KLAVENESS HERITAGE

HANDCRAFTED SINCE 1957

VISUAL IDENTITY MANUAL.

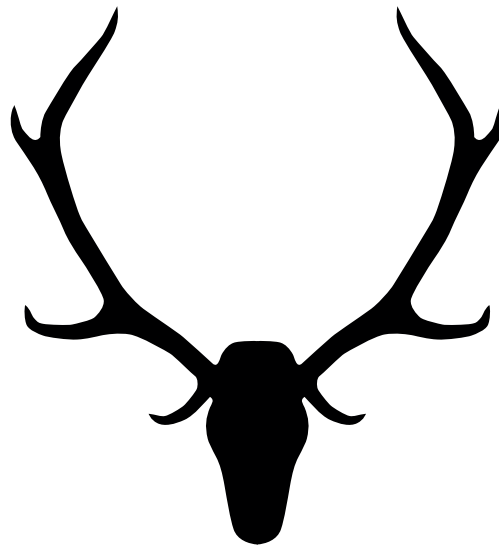
Independent versions



KLAVENESS HERITAGE

HANDCRAFTED SINCE 1957

White background



KLAVENESS HERITAGE

HANDCRAFTED SINCE 1957

Black background



KLAVENESS HERITAGE

HANDCRAFTED SINCE 1957

Small version

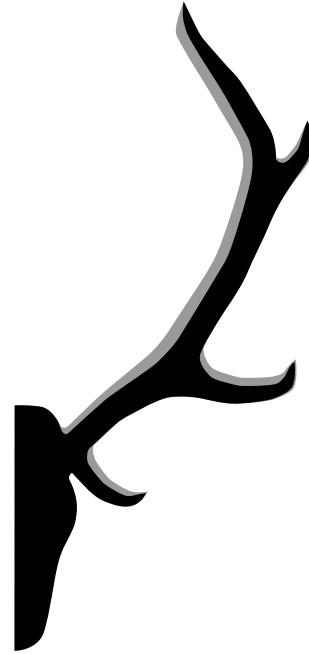
A special version was carefully developed to be stamped in small sizes and “unfriendly” material, without losing legibility.

KLAVENESS HERITAGE

HANDCRAFTED SINCE 1957

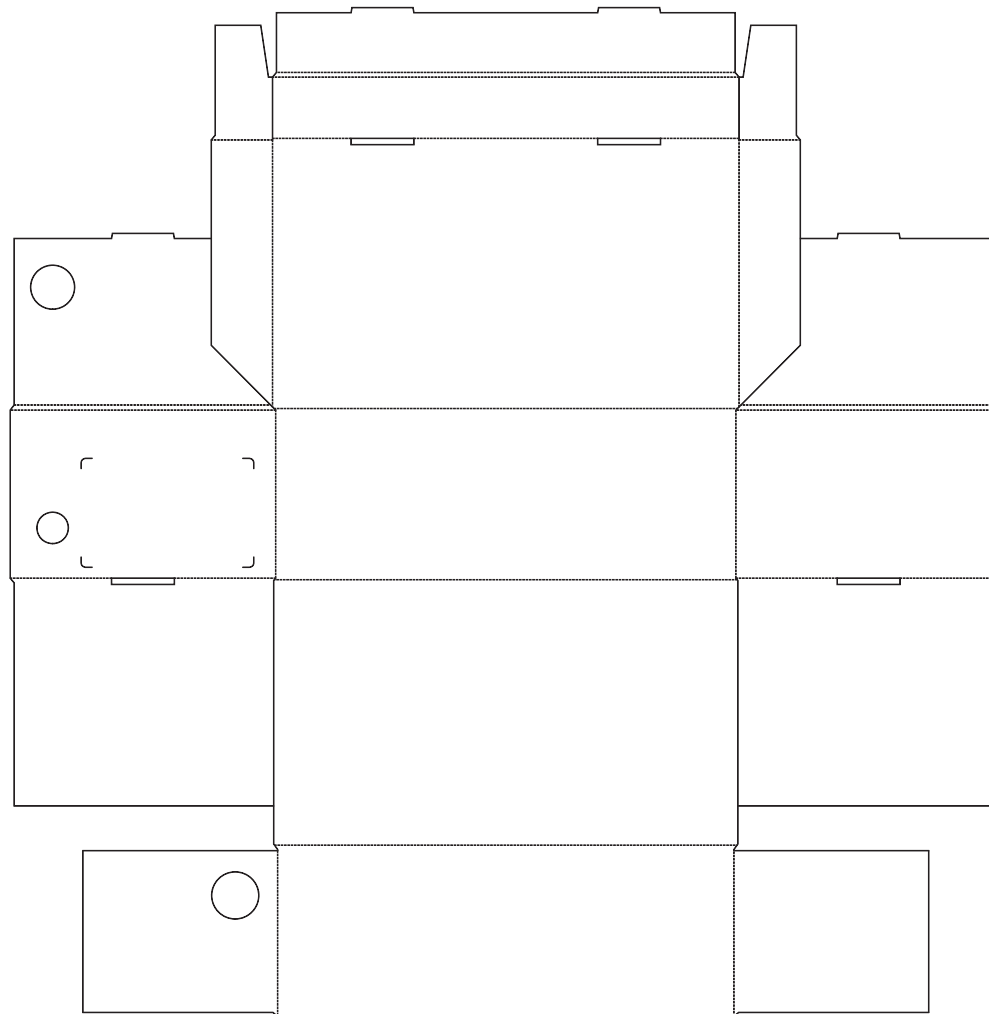
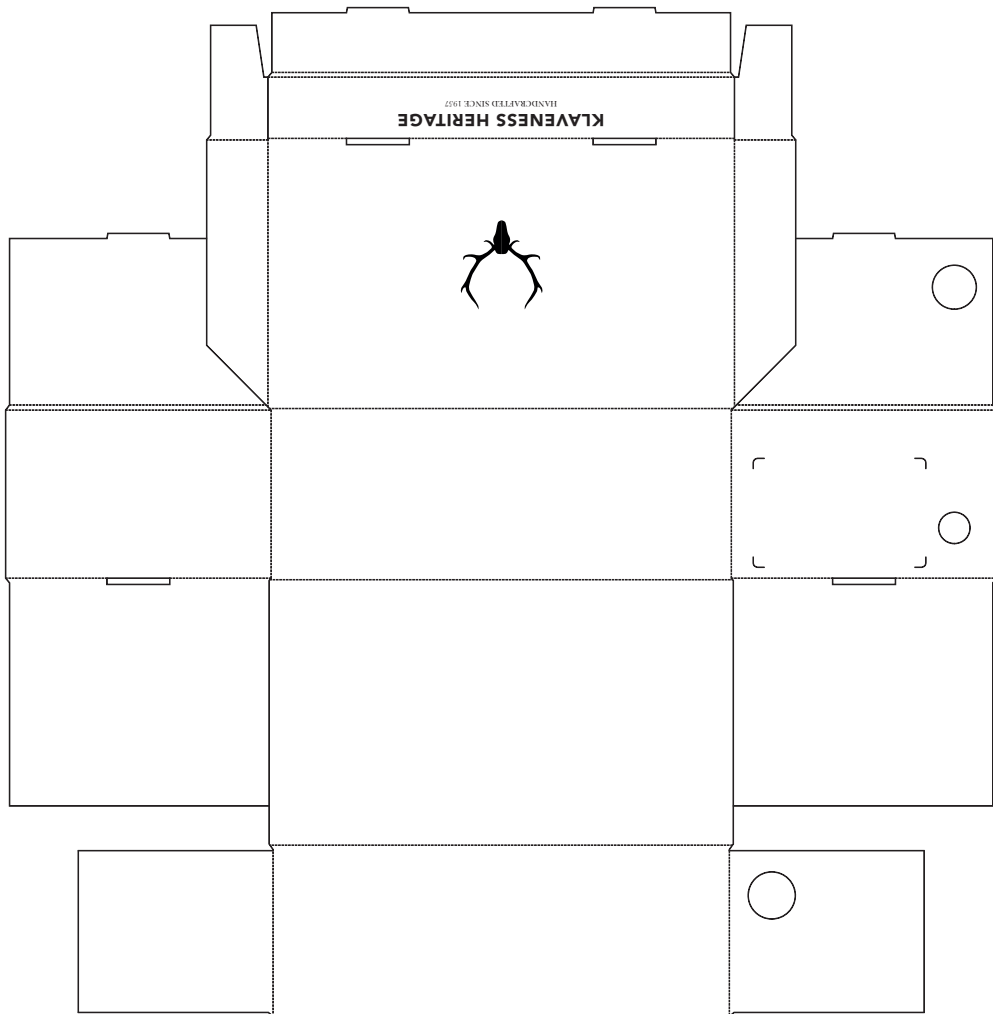
KLAVENESS HERITAGE

HANDCRAFTED SINCE 1957



Packaging. Shoe Box.

Klaveness already uses a recycled cardboard for their boxes. This material is coherent with the **Klaveness Heritage** image. This collection only needs one stamp on top. The already existing boxes come in three different sizes.



Final Result.

The final result has the straps attached further back than before. They are also angled forward, and curved according to the wrist. The front strap has two adjustment possibilities and the top has three. The top cover is a naturally tanned split, that is chrome free. The upper is made of the same leather but the top sheet.



KLAVENESS HERITAGE

HANDCRAFTED SINCE 1967





Production Description.

Core

To illustrate this process a [video](http://www.youtube.com/watch?v=jhxfYsWpRac) (<http://www.youtube.com/watch?v=jhxfYsWpRac>) has been created.

1. The edges of the scan must be altered to create a smooth transition between the top leather and the side rounding;
2. Mark toe point for milling;
3. Milling core;
4. Cutting out the core from excess EVA;
5. Grinding edges of core to 90 degrees;
6. Gluing lining to top surface of the core,
7. Smoothing the side of the core by grinding.

Upper

1. Cutting the leather;
2. Polishing edges;
3. Making holes for stitches and stud buttons;
4. Gluing rounding parts to the side of the core;
5. Removing of excess leather in front, back and bottom;
6. Stitching straps to rounding;
7. Making holes and stitching rounding in back and front.

Track

1. Grinding backside of track to create better connection;
2. Applying glue to bottom of sandal and track
3. Drying glue. Then warm up and stick the two pieces together;
4. Cutting of excess material on track;
5. Grinding off the side of the track to create a smooth transition between rounding and track,
6. Polishing edge of track.

Finish

1. Applying wax to straps and rounding;
2. Screwing on button studs and place strap;
3. Wrapping in silk paper,
4. Placing in box.

Final Conclusion.

Klaveness Technology's scanner system was the origin of this master thesis. The company aimed to increase the possible utility of their scanner system. As a result the idea of creating a sandal was born. The design process started by identifying three different customer segments that could serve as a basis for three different possible product options. The three different segments chosen was given the following working description; **surf life style, active worker** and **leisure**. The second step in the design process was to generate ideas connected to the three different segments. At the end of this process one final concept relating to each of the three segments was presented. At this stage **Klaveness** chose to go on with the **leisure** segment. This segment was chosen because of the resemblance to Klaveness' already established image. The foundation for the concept presented in this segment was based on handcraft values. The final part of this thesis was to refine the concept generated in the **ideation process** phase. This process lead through 10 different iterations where different constructions, tracks and materials was tested. The final product is particularly affected by the personalization aspect. The need for a construction method without lasts sett many demands for the final product. Material consumption and ease of production was also restraining factors.

The final product in this thesis is only one possibility that is a result of the design process conducted. A variety of other possibilities and other solutions exists and these may be explored further if more time is set a side to this process.

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ATTACHMENTS.

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Interviews with Hospital Personnel.

Name: Astrid

Age: 61

Profession: Hospital receptionist

Shoes: ECCO Sandals

Why did you choose to use the shoes you are wearing?

I saw them in a store and I liked them and when I tried them on they felt really comfortable.

Do you feel clammy in your sandals?

We always have to wear socks in our sandals. After a long day I always feel clammy under the rims of my shoes.

Name: Lisa

Age: 24

Profession: Specialized Nurse

Shoes: Nike Lunar glide

Why did you choose to use the shoes you are wearing?

I think they look fresh and colourful. I like that. Everything else around here is white.

Do you feel clammy in your shoes?

Sometimes and especially after long days, but for me that is usually not a big problem. I use shoes that keep me from getting tired in my legs and back.

Name: Margaret

Age: Closer to 50 than 40

Profession: Specialized Nurse

Shoes: Asics training shoes

Why did you choose to use the shoes you are wearing?

I find trainers to be very comfortable shoes. Sometimes my feet get clammy but that is usually impossible to avoid. In the beginning I felt very pink, but now I got used to it.

Have you ever had problems with your feet?

As every other woman I like to wear heels, and off course I have sometimes suffered from that. But we usually keep this to ourselves around here. If not you will be sent down to the orthopaedic technician and you will come back with some really bulky shoes.

Traditional Orthotics Production.

Orthotics are traditionally made by making an imprint of the patient's foot in foam. This foam is then used as a plaster mould. When it is necessary to alter the patient's orthotics, the orthotist may alter the orthotics in three ways:

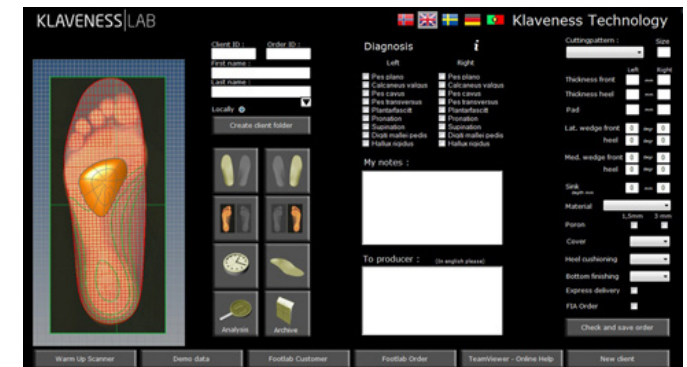
- By altering the foot during the imprint;
- By altering the foam after the imprint,
- Or by altering the plaster.

The plaster mould is a positive copy of the patient's foot. A heated EVA plate is vacuum formed over the plaster mould. Finally the orthotic is top covered and sanded.

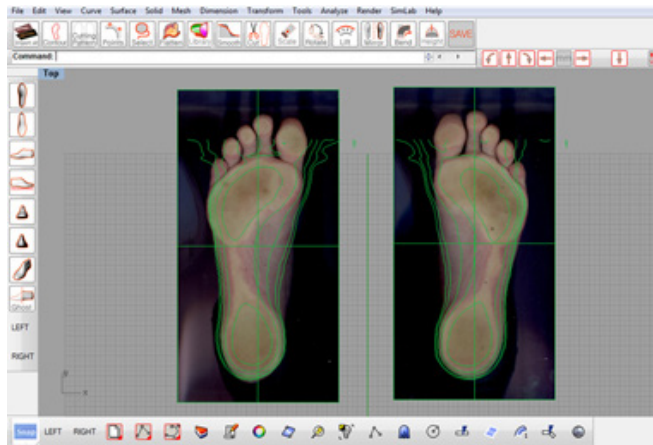


Klaveness Scanner Technology.

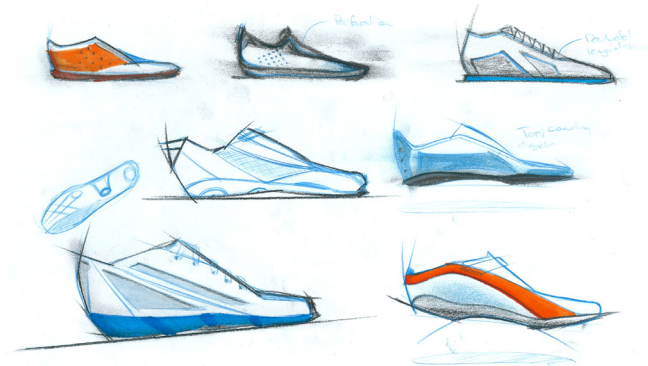
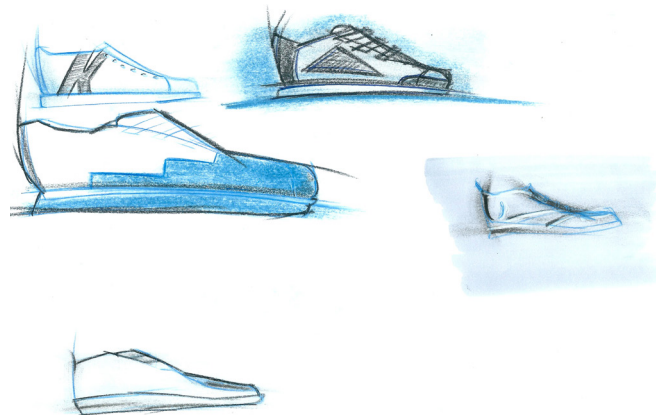
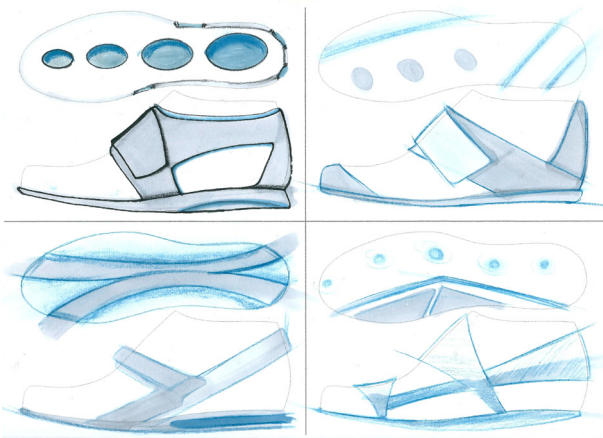
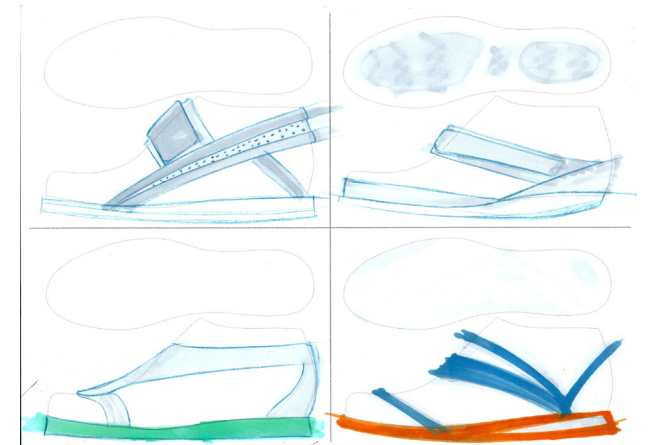
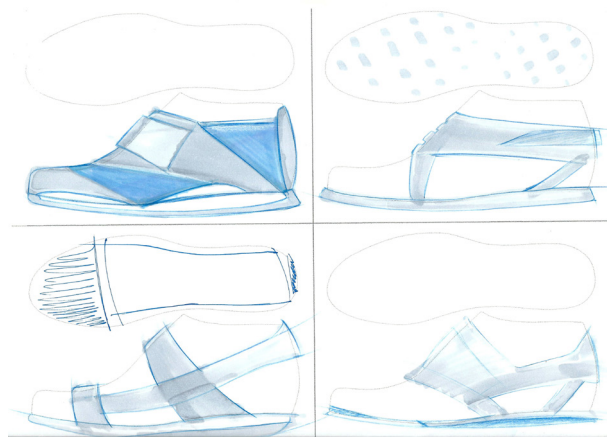
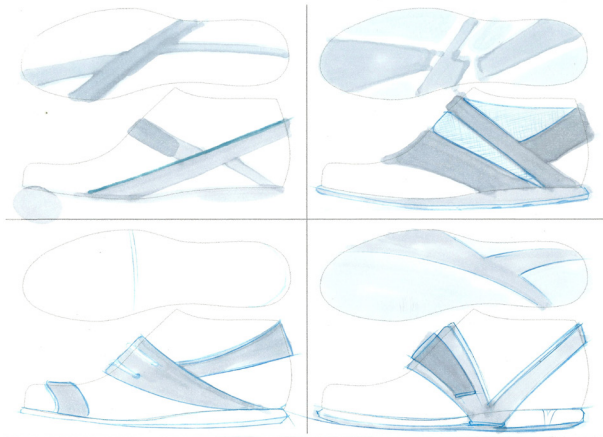
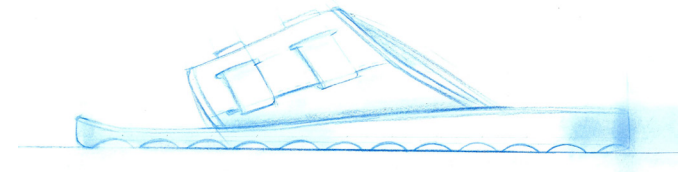
Klaveness Technology scanner is produced by using a Normal 2D scanner. On top of the 2D scanner there is a chamber of oil. This chamber has a glass plate in the bottom and a silicone membrane on top. When a foot is placed on top of the membrane it produces a scannable topographic image on the bottom. After this, a normal photo is also taken. This is a good aid in the modelling process.

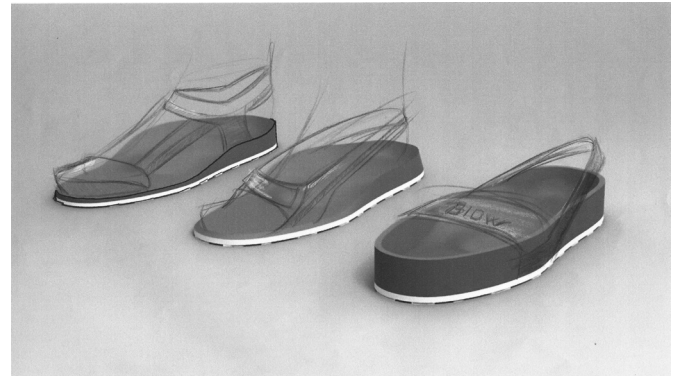
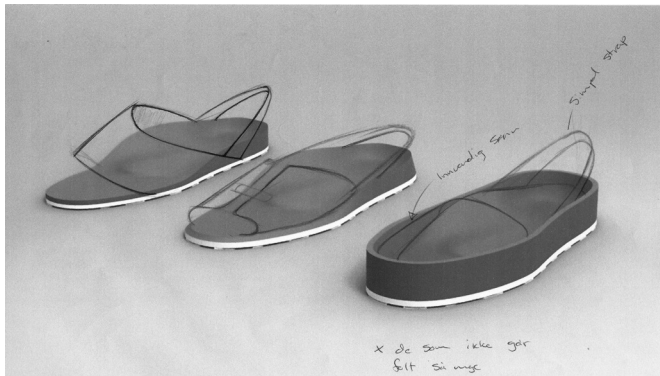
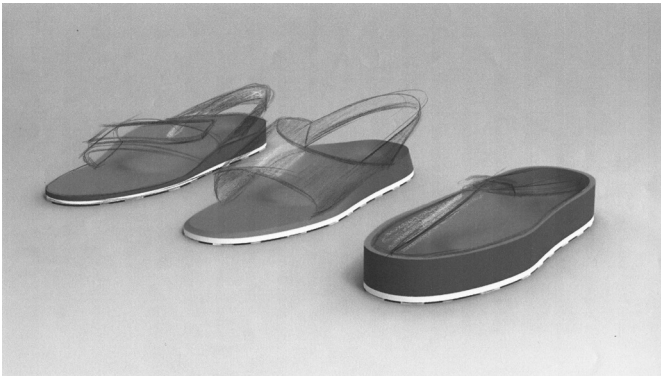
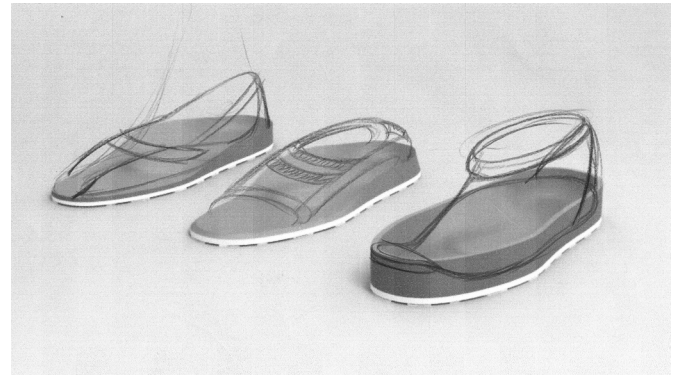
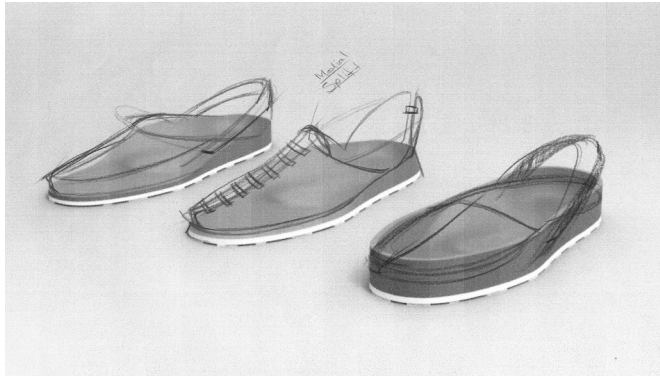
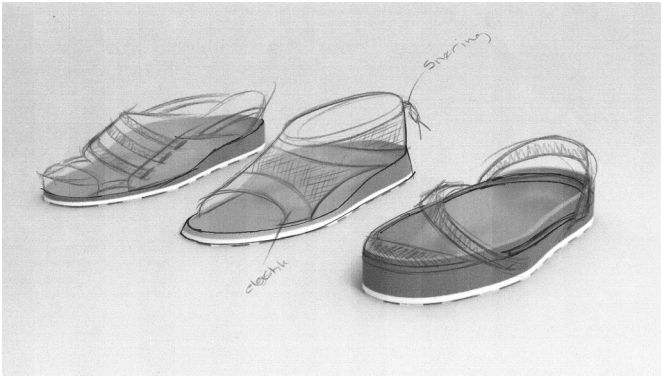
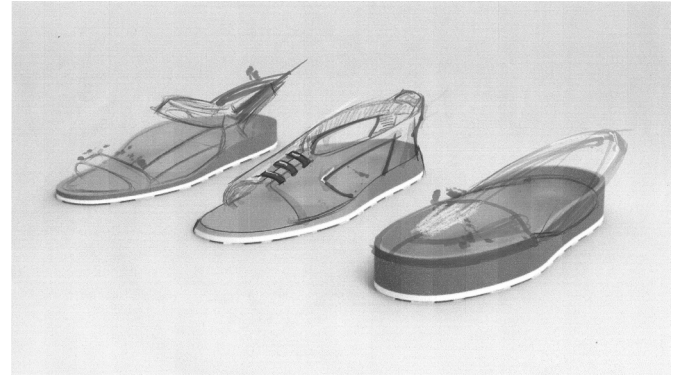
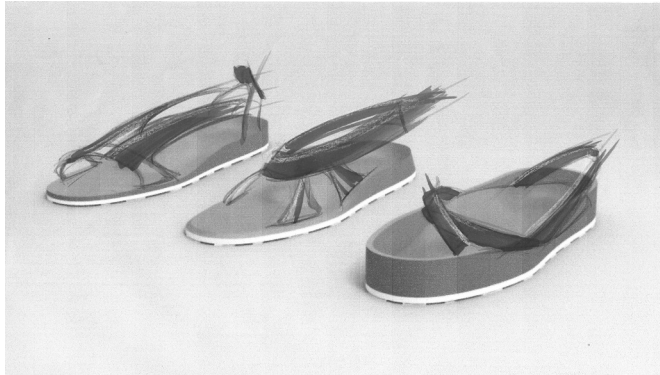
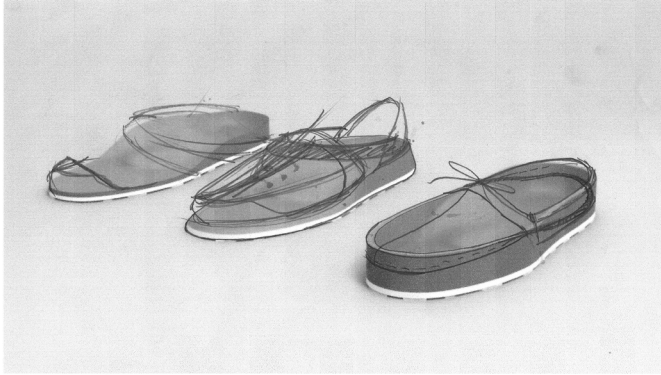


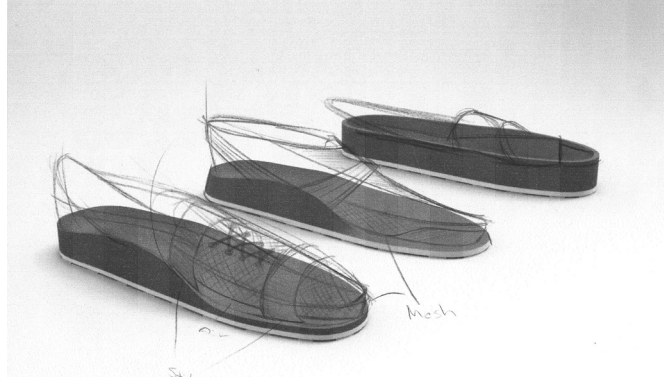
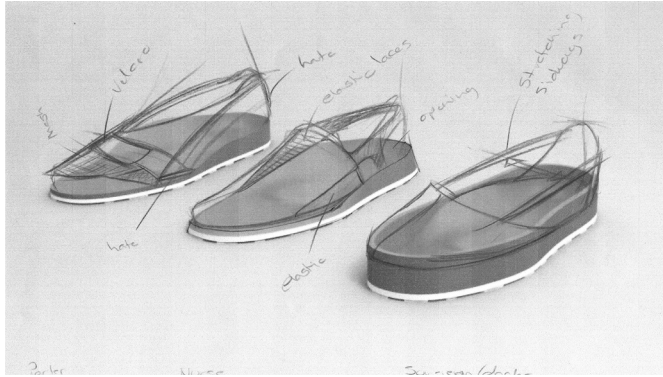
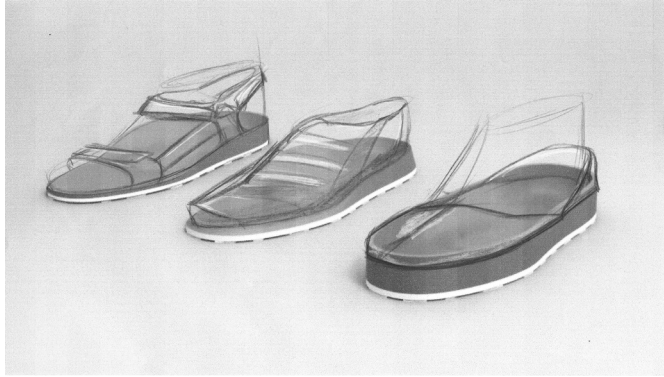
After the scanning the patients foot print is imported in to Rhino. Here the orthotist can edit the surface according to the diagnosis. The next step is to produce the orthotics. This is done through milling and sanding. The upper face and outline is milled out of an EVA plate. The surface is covered with skin or whatever material the orthotist has prescribed. The bottom is sanded to fit the shoe. Finally, the product is packed and sent to the orthotist or end customer.



Selection of Hand Sketches.





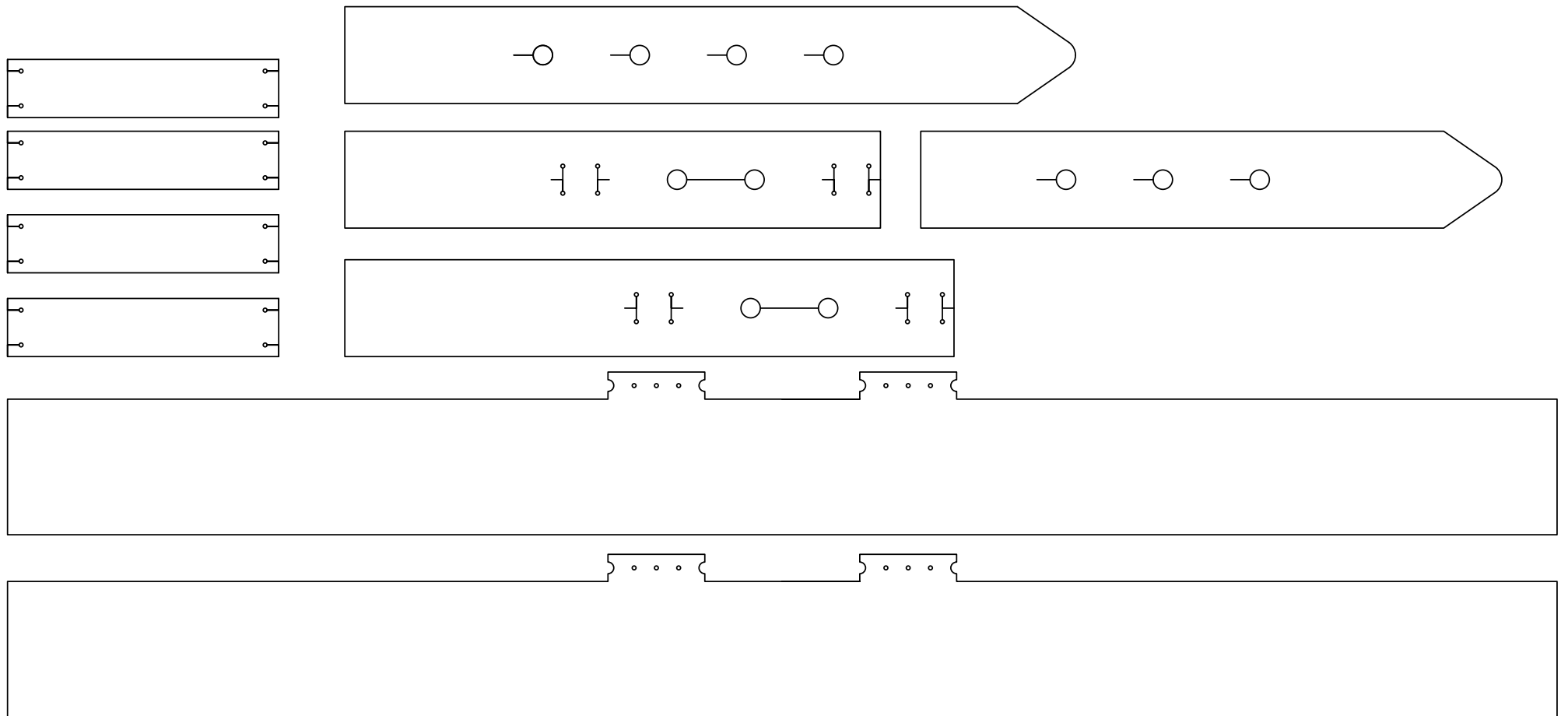


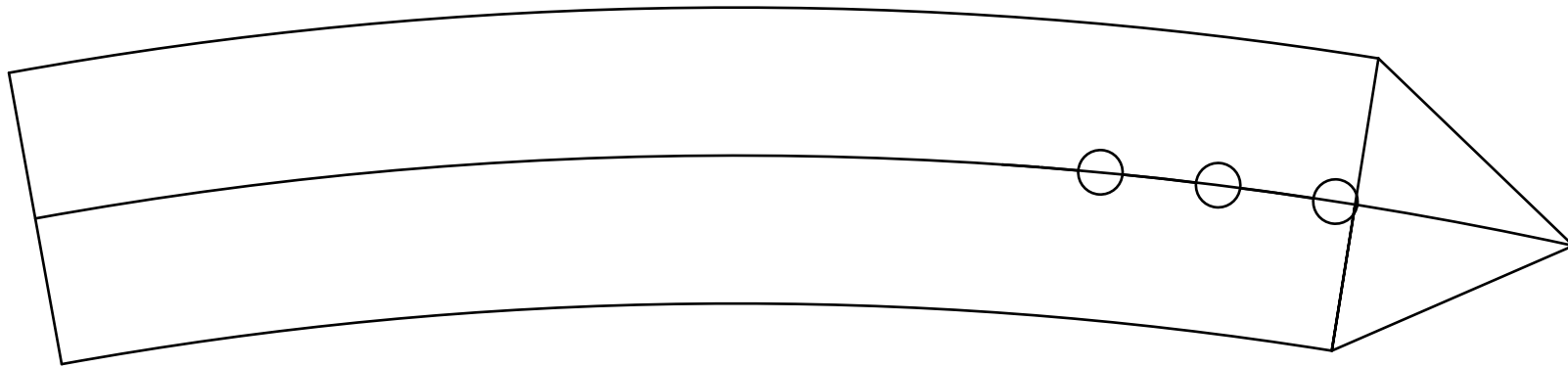
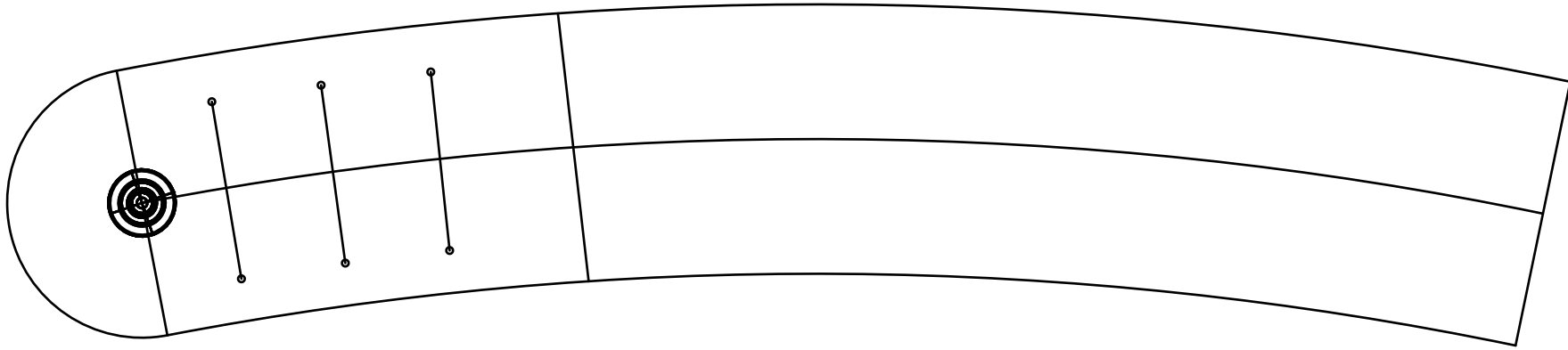
Shoe Sketches.

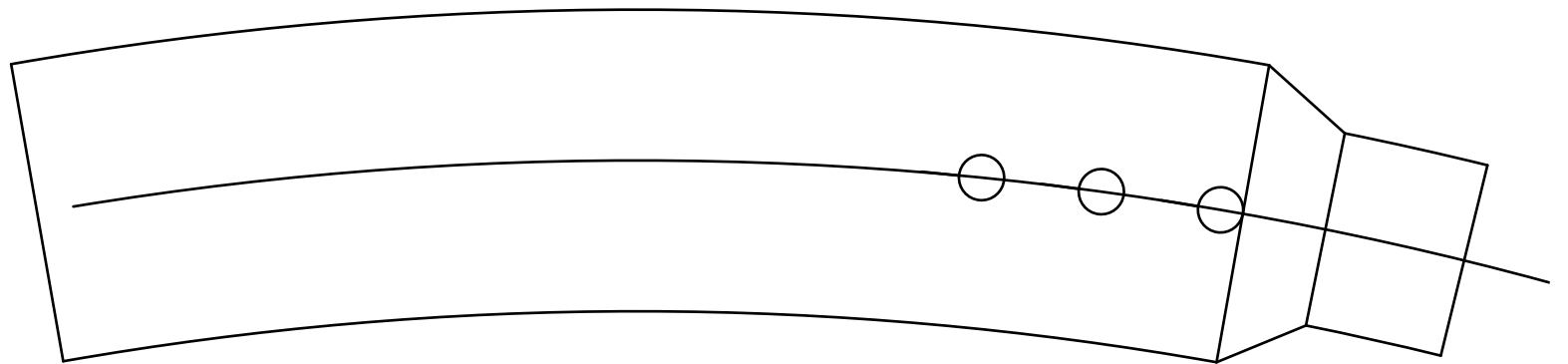
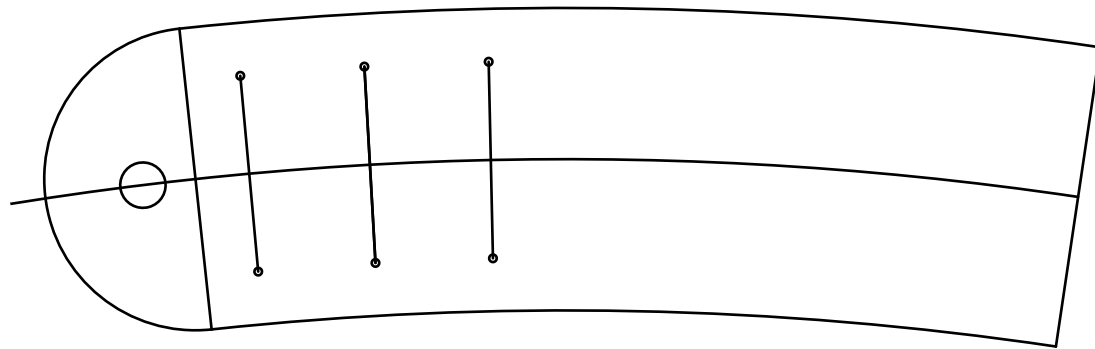
These shoe concepts were rejected after construction research.

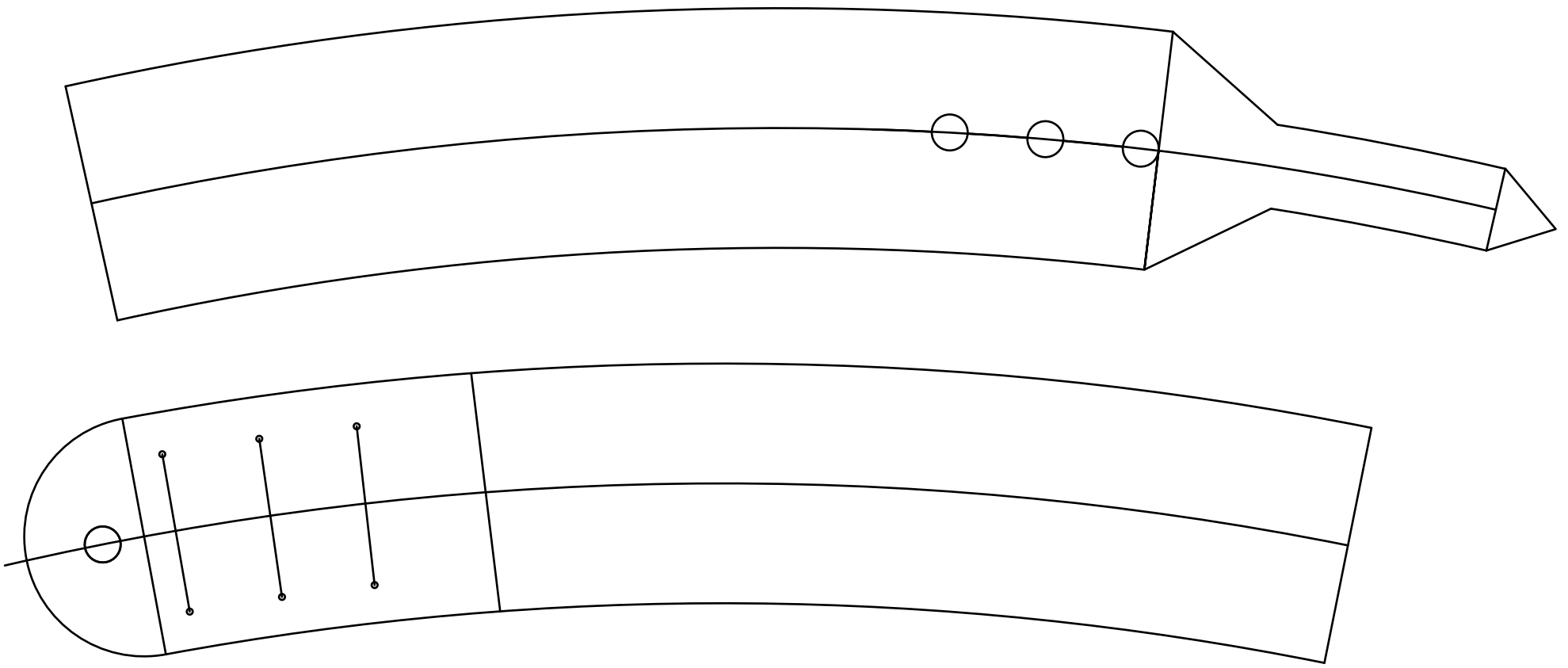


Rhino Templates.

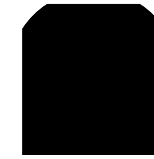
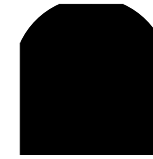
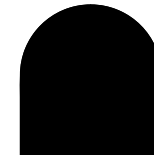








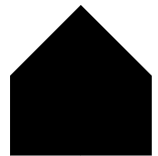
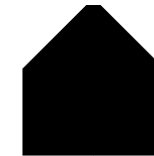
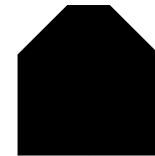
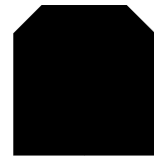
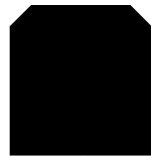
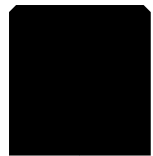
Examples of Strap Endings.



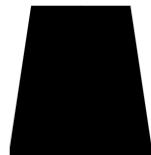
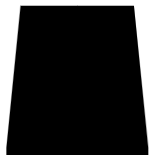
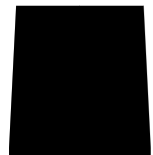
Circular



10 mm arrow

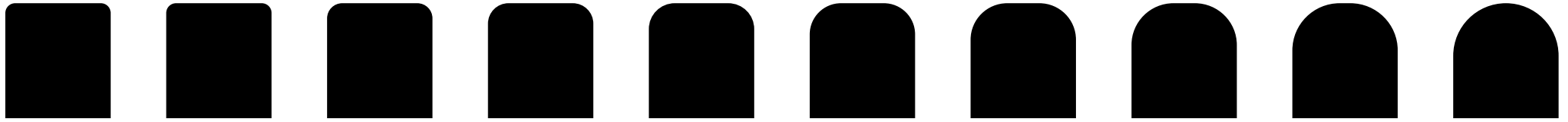


Chamfer

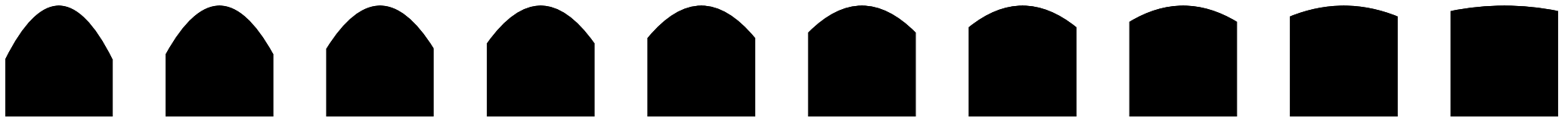


Chamfer

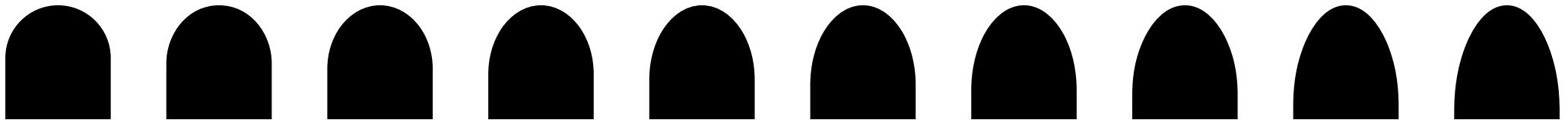
Rounded corners



Curve 20 mm - 1 mm



10 mm elliptical



20 mm elliptical



A great thanks to everyone that contributed to this master thesis, and thank you for reading.