



**MICHAEL MEIER**  
INDUSTRIAL DESIGN PORTFOLIO

## **Resume & Work February 2016**

**A visual collection of stories from my personal  
and professional life as a design student  
living a global education.**

Commitment to detail in sketches, prototypes,  
and concept exploration.

In Japan, books are traditionally read “backwards”.  
That is where I lived during fall 2013.

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Savonlinna

Finland (2007)

Vocational College  
Internship in Arts Department  
European Mobility Program • Jewelry and Metal Working • Rings • Tags • Blacksmith Work

Salzburg

Austria (2008–2011)

University of Applied Sciences  
Bachelor's Degree • Design & Product Management  
• Focus on Industrial Design and Marketing  
• Course Treasurer / Second Class Representative

Toronto

Canada (2009)

Global Village English Center  
Advanced Language Classes  
• ETS TOEFL Certificate  
• Art Gallery of Ontario

Shanghai

China (2010)

University of Applied Sciences Salzburg  
& Arkansas State University Field Trip  
• World Expo 2010 • Bao Steel  
• Pearl Tower • Harbor Boat Tour

Beijing

China (2010)

University of Applied Sciences Salzburg  
& Arkansas State University Field Trip  
• Hyundai Motors • Great Wall  
• Olympic Park • Forbidden City

Barcelona

Spain (2010)

Camino Language School  
Intensive Spanish Classes • A1–A2 European Level Certificate • Local Design • Roca Design Center • Parc Güell • Sagrada Familia

Munich

Germany (2011–2012)

BMW Group, Internship in Interface & Detail Design Department, FIZ  
• Graphics & Conception for iDrive Navigation  
• Entry Sills Project from Design to Production

New York

United States (2012–2015)

Pratt Institute, Brooklyn, NY  
Master's Degree • Industrial Design (MID)  
• Focus on Global Innovation Design  
• First Year • Aesthetics • Thesis Work

Tokyo

Japan (2013–2014)

Keio University, Yokohama  
Graduate School of Media Design (KMD)  
• Focus on Global Innovation Design  
• Media • Business • Technology

London

England (2014)

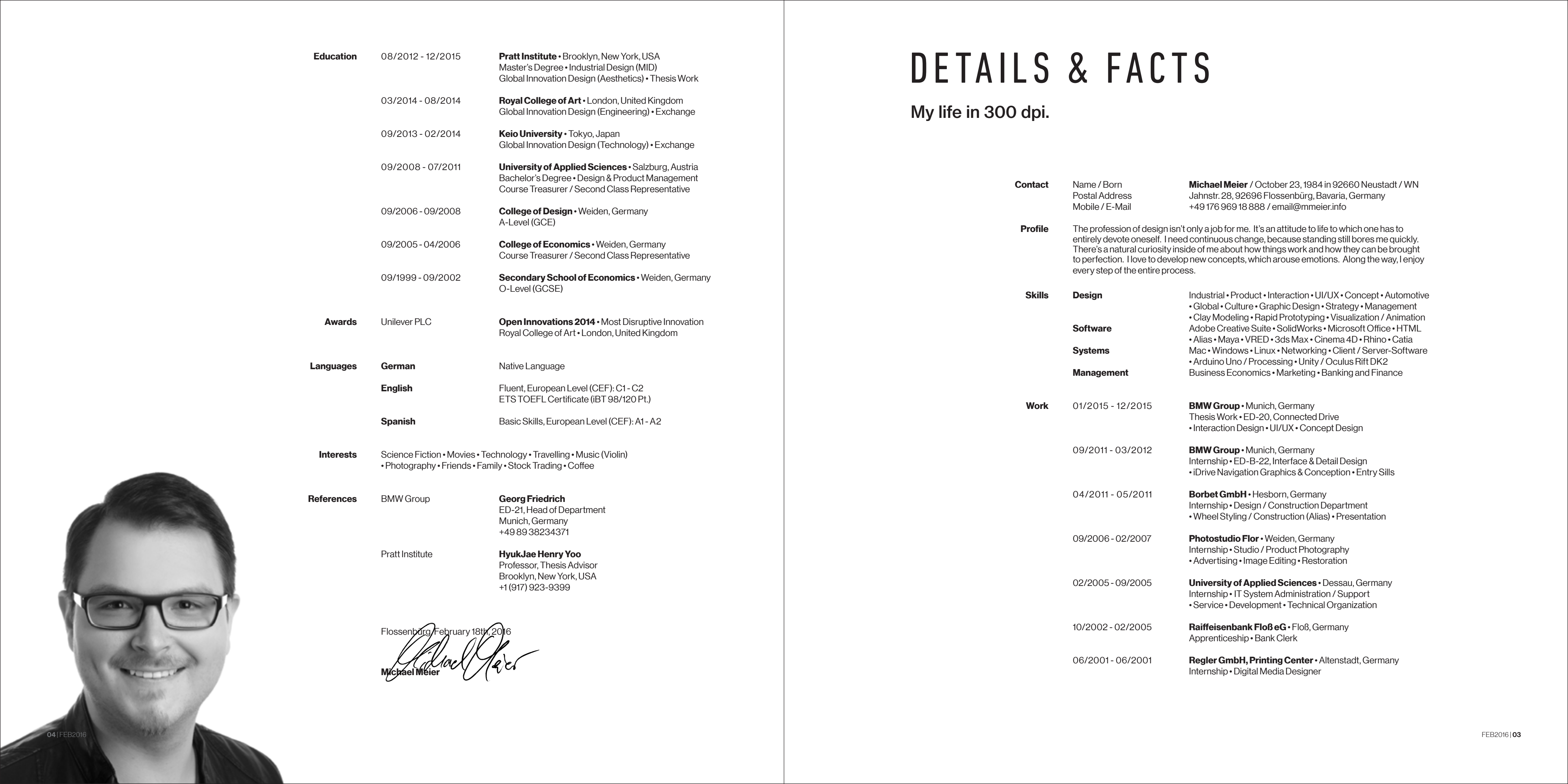
Royal College of Art & Imperial College  
Innovation Design Engineering (IDE)  
• Focus on Global Innovation Design  
• Engineering Science • Prototyping



FINAL DESTINATION

Countries, Culture & Inspiration





Education	08/2012 - 12/2015	<b>Pratt Institute</b> • Brooklyn, New York, USA Master's Degree • Industrial Design (MID) Global Innovation Design (Aesthetics) • Thesis Work
	03/2014 - 08/2014	<b>Royal College of Art</b> • London, United Kingdom Global Innovation Design (Engineering) • Exchange
	09/2013 - 02/2014	<b>Keio University</b> • Tokyo, Japan Global Innovation Design (Technology) • Exchange
	09/2008 - 07/2011	<b>University of Applied Sciences</b> • Salzburg, Austria Bachelor's Degree • Design & Product Management Course Treasurer / Second Class Representative
	09/2006 - 09/2008	<b>College of Design</b> • Weiden, Germany A-Level (GCE)
	09/2005 - 04/2006	<b>College of Economics</b> • Weiden, Germany Course Treasurer / Second Class Representative
Awards	09/1999 - 09/2002	<b>Secondary School of Economics</b> • Weiden, Germany O-Level (GCSE)
	Unilever PLC	<b>Open Innovations 2014</b> • Most Disruptive Innovation Royal College of Art • London, United Kingdom
Languages	<b>German</b>	Native Language
	<b>English</b>	Fluent, European Level (CEF): C1 - C2 ETS TOEFL Certificate (iBT 98/120 Pt.)
	<b>Spanish</b>	Basic Skills, European Level (CEF): A1 - A2
Interests	Science Fiction • Movies • Technology • Travelling • Music (Violin) • Photography • Friends • Family • Stock Trading • Coffee	
References	BMW Group	<b>Georg Friedrich</b> ED-21, Head of Department Munich, Germany +49 89 38234371
	Pratt Institute	<b>HyukJae Henry Yoo</b> Professor, Thesis Advisor Brooklyn, New York, USA +1 (917) 923-9399
Flossenbürg, February 18th, 2016		
 Michael Meier		

# DETAILS & FACTS

My life in 300 dpi.

Contact	Name / Born	<b>Michael Meier</b> / October 23, 1984 in 92660 Neustadt / WN
	Postal Address	Jahnstr. 28, 92696 Flossenbürg, Bavaria, Germany
Profile	Mobile / E-Mail	+49 176 969 18 888 / email@mmeyer.info
Skills	The profession of design isn't only a job for me. It's an attitude to life to which one has to entirely devote oneself. I need continuous change, because standing still bores me quickly. There's a natural curiosity inside of me about how things work and how they can be brought to perfection. I love to develop new concepts, which arouse emotions. Along the way, I enjoy every step of the entire process.	
	<b>Design</b>	Industrial • Product • Interaction • UI/UX • Concept • Automotive • Global • Culture • Graphic Design • Strategy • Management • Clay Modeling • Rapid Prototyping • Visualization / Animation
	<b>Software</b>	Adobe Creative Suite • SolidWorks • Microsoft Office • HTML • Alias • Maya • VRED • 3ds Max • Cinema 4D • Rhino • Catia
	<b>Systems</b>	Mac • Windows • Linux • Networking • Client / Server-Software • Arduino Uno / Processing • Unity / Oculus Rift DK2
Work	<b>Management</b>	Business Economics • Marketing • Banking and Finance
Work	01/2015 - 12/2015	<b>BMW Group</b> • Munich, Germany Thesis Work • ED-20, Connected Drive • Interaction Design • UI/UX • Concept Design
	09/2011 - 03/2012	<b>BMW Group</b> • Munich, Germany Internship • ED-B-22, Interface & Detail Design • iDrive Navigation Graphics & Conception • Entry Sills
	04/2011 - 05/2011	<b>Borbet GmbH</b> • Hesborn, Germany Internship • Design / Construction Department • Wheel Styling / Construction (Alias) • Presentation
	09/2006 - 02/2007	<b>Photostudio Flor</b> • Weiden, Germany Internship • Studio / Product Photography • Advertising • Image Editing • Restoration
	02/2005 - 09/2005	<b>University of Applied Sciences</b> • Dessau, Germany Internship • IT System Administration / Support • Service • Development • Technical Organization
	10/2002 - 02/2005	<b>Raiffeisenbank Floß eG</b> • Floß, Germany Apprenticeship • Bank Clerk
	06/2001 - 06/2001	<b>Regler GmbH, Printing Center</b> • Altenstadt, Germany Internship • Digital Media Designer

# STEPPING STONES

The timeline to the final thesis

## Year 2013

Semester 2–3

Second Semester (Spring)  
Pratt Institute, New York, USA

Third Semester (Fall)  
GID Program  
Keio University, Tokyo, JPN

Fourth Semester (Spring)  
GID Program  
Royal College Of Art, London, GBR

Fifth Semester (Fall)  
Thesis I, Research  
Pratt Institute, New York, USA

Semester 4–5

## Year 2014

## Year 2015

Semester 6–7

Sixt Semester (Spring)  
Thesis, Execution  
Germany

Seventh Semester (Fall)  
Thesis II, Finalization  
Pratt Institute, New York, USA

Possible timeframe  
to work on thesis

Semester 6

## January–August 2015





Our studio cat "Terminator" is as determined as we are.



Prof. Meri Bourgard-Rohrs providing feedback on color.

Ultimately, design is about human beings, individually and collectively, supplying propulsion to idealistic, aesthetic, and practical ideas, and the passion of creating, understanding, and sharing the work we do.

Pratt's Industrial Design program consistently ranked in the top 10 in the U.S. by *U.S. News*, *World Report* and *Design Intelligence*. It's open to candidates holding bachelor's degrees in any area, including science, humanities, engineering, business, architecture, fine arts, design, and liberal arts—with or without design experience. The result is a student body that represents a wide range of educational backgrounds. This rich tapestry of influences—coupled with grounding in traditional design skills, conceptualization, research, and design processes—prepares the graduate students to become leaders who question, explore, and expand the relevance and excitement of this discipline.

Pratt students are a select group who understand that creativity is a serious business. They come to Pratt ready to work hard, to prepare themselves for a field where the designer must be able to provide innovative professional solutions. They become leaders and entrepreneurs in industrial design as they confront the impact of technology and innovation, and explore the relationship of design ethics and sustainable strategies within contemporary culture.

The faculty is composed of practicing design professionals whose areas of expertise include furniture, lighting, architecture, exhibition, products, graphics, tabletop, video, automotive, medical equipment, packag-

ing, and surface design. While each faculty member within the program has his or her particular path, there is a growing understanding that disciplines often cross lines. The faculty's diversity, combined with that of the student body, creates a vibrant community of visual researchers redefining the role of industrial design in society.

At Pratt, Industrial Design students and faculty share a common goal: to encourage individual growth to its highest potential. The many courses offered enable students to fully develop their interests and talents. Students choose core studio courses—focusing on product, furniture, strategy, exhibition, and tabletop design—to develop a clear understanding of aesthetics, creating objects and experiences of enduring value and meaning that embody respect and sensitivity for people and their environment. Pratt's mission is to teach aesthetic value through abstraction and form development as well as pragmatism, focusing on the principles of accessibility, responsibility, and creativity.

Design projects and problems—including those that focus on social responsibility, universal accessibility, marketing, production, cultural heritage, and aesthetic content—represent the varied texture of Pratt's New York City location. Pratt also maintains strong ties to industry through corporate-supported programs. Fortune 500 companies are regular sponsors of Pratt ID com-

petitions and studios, offering subjects from rethinking the user experience to business strategy, bringing essential industry knowledge into the classroom. Internships in design consultancies and corporate offices are encouraged, and have proved to be valuable learning experiences that cannot be duplicated in a purely academic setting.

**Beginning in 2013, a select group of ID graduate students will be offered the opportunity to spend their entire second year abroad for full credit: the fall semester at Keio University in Tokyo and spring semester at the Royal College of Art in London, as part of the new Global Innovation Design (GID) program. This groundbreaking international partnership will also allow students from London and Tokyo to spend a semester at Pratt. At Keio, studies will be devoted to media design and culture, utilizing the school's advanced facilities, including prototyping and robotics. In London, the curriculum will focus on engineering and invention. The Pratt component will emphasize the core principles of industrial design. The Pratt students will then return to New York to complete their final two semesters of thesis work and required courses.**

**In addition to their local studies, students at each location will collaborate globally on a large-scale project. By capitalizing on the expertise of each participating school and the distinct cultures of the three locations, the GID program will give students a unique perspective on global design and entrepreneurship.**



I'm tremendously impressed and inspired by Pratt's multi-cultural environment and the interdisciplinary backgrounds of the students. At no time before have I felt this vibrant and close to the world's heartbeat, which I'm looking forward to using to gain further experience in life and design. Despite the hectic pace of

the sleepless city, the campus provides an oasis of calmness to concentrate on one's task to bring ideas to life. The international reputation and the high ranking of the program instantly attracted me to the variety of elective courses and convinced me of the support I can get from the extraordinary teachers.



## Exploration

### Pratt Studios (2013)

The Pratt approach on design is very much about exploration and experimentation. What I've learned during the workshops is to see this potential. It's about finding an interesting and inspiring quality, that needs to be connected with something unexpected and perhaps out of context. Good ideas are unusual.



Global Innovation Design establishes a trans-national education environment unparalleled in the world, bridging three major centers of design, culture and industry: Royal College of Art & Imperial College in London, Pratt Institute in New York, and Graduate School of Media Design, Keio University in Tokyo/Yokohama. These centers are recognized international leaders in creativity and innovation, offering complementary expertise in art, design, engineering, technology, and

business. The program operates at the Master's level, where a select group of students earn Master's degrees while studying at and traveling between all three program centers. This is not just a study abroad experience, but an integrated international program that represents a new model for higher education in the 21st century. GID educates global design leaders — creative catalysts for positive change in a globalized society. Global innovation is driven forward by businesses designing for the marketplace and universities designing at the cutting edge of technology. To promote this common creative pursuit, the GID program is partnering with innovative companies across industries and levels.

# GLOBAL INNOVATION DESIGN

Tokyo London New York

Three centers of culture and innovation. One program.  
Creative catalysts pushing the boundaries of design and technology.

[globalinnovationdesign.org](http://globalinnovationdesign.org)

# Multi-Sensory Communication

Tokyo, Fall 2013

A workshop based class to develop a group project that uses the latest technologies in the fields of virtual reality, 3D motion capturing, haptics, and multimodal interaction.

# Electronic Prototyping

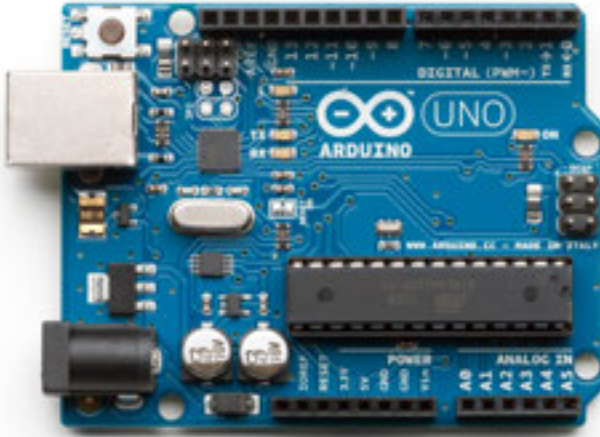
Tokyo, Fall 2013

Students acquire software (Processing) and hardware (Arduino) skills to design interactions through making quick prototypes in analogy with traditional pen and paper sketching.

# Kinect Programming

Tokyo, Fall 2013

Students create a program using Microsoft's Kinect technology and the Processing programming language. They will learn the basics of 3D measurement and human motion recognition.



# Gizmo

London, Spring 2014

A workshop where students work individually to explore the innovative use and application of engineering and technology principles. Students will be introduced to relevant accessible technologies and learn how to address technical problems and experience the benefits of practical prototyping and taking an idea to realization.

# I'll Take Nine

London, Spring 2014

A workshop that challenges students to work in teams and design and make a hand sized product in a production run of nine units. Designs and their implementation must be sympathetic to a given context and viewed holistically in terms of the relationship between technical function, materials and brand. Designs must be functional and show an intelligent use of materials and manufacturing, attention to engineering principles, and also show sensitivity to the nature of a brand and its core values.

The GID International Project is centred on the future of food with students working in groups to research and deliver design-inspired innovation in topics ranging from the production, supply, packaging, vending, storage, preparation, consumption, and disposal of food. This project is the epitome of the GID rationale and draws upon the unique nature and benefits specific to the tri-location partnership.

# A glimpse on future projects and classes

This page provides a short foresight about the upcoming GID projects and classes in Tokyo and London.

The international year starts in Tokyo, Fall 2013, and ends in London, Spring 2014.



# Food

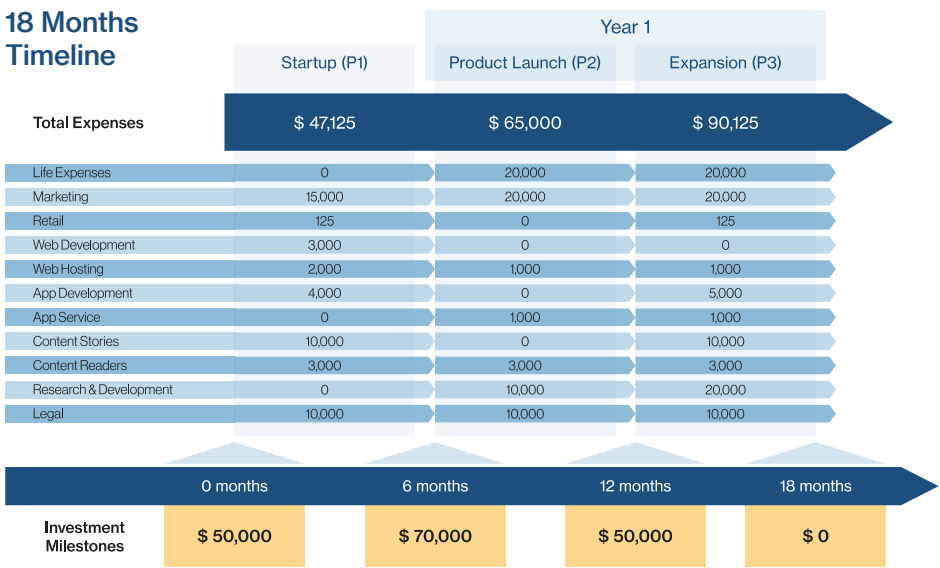
Tokyo–London–New York, Fall 2013–Spring 2014

This is the main, year-long international project between the three host locations. The given topic needs to be perceived on a global scale and worked on across several time zones.

It will suppose a 21st century, visionary approach to collaboration that considers how a design agenda fits into a global context and how it can contribute to and inform interna-

tional matters relating to food. Students are challenged to use principles of design and representation in combination with secondary research and active investigations in their host cities; London, New York, and Tokyo; with particular attention to neighborhoods that are undergoing rapid changes, to reveal trends, test hypotheses and develop design-led innovations that will inform the way we eat over the next five to fifty years.





## Finance

### Investment Milestones (2013)

Considering all the costs we probably have to face within the first 18 months of the business, we determined that we need three investment milestones to achieve.

## Flashscreen

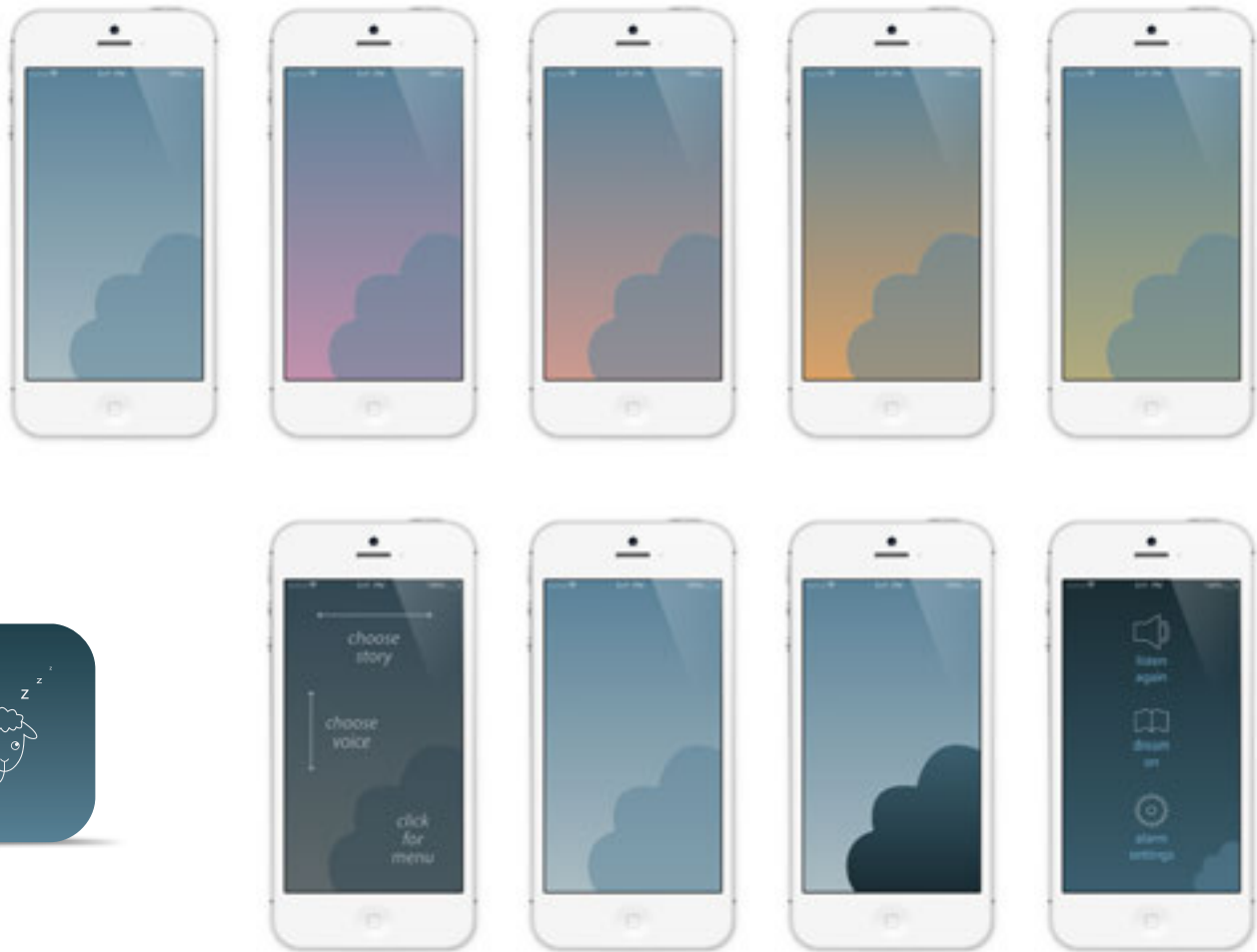
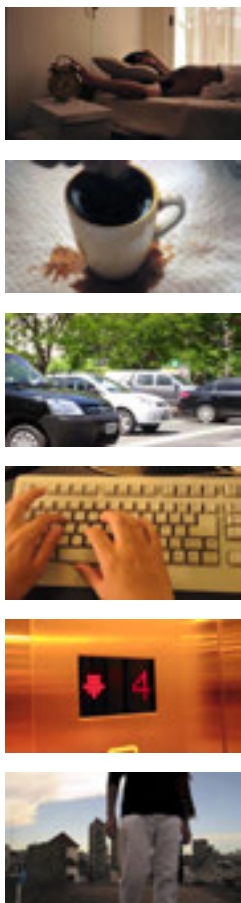
### App Startup (2013)

The screen during the loading phase of the App basically shows the Sheep Well logo. But the color scheme is somehow inverted to be more eye-friendly.

## User Interface

### Colored Sky (2013)

Also the colors of the Interface are held in dark tones, to be mildly to someone's stressed eyes. The sky will be colored according to the chosen mood of story.



## Stressful Day

### Scenario (2013)

It's not only our persona Daniel who has stressful days. 40 million people in the US suffer from a lack of sleep caused by stress. Just think about all the factors that make a horrible day. It all starts out with the alarm clock being way too loud. Then, you maybe spill your breakfast coffee. Don't forget about the traffic you need to face to get to the place you work. Finally there, you have to answer a thousand emails because it's a Monday. Of course you're working for a big company with lots of specialized departments. That means the elevator is your worst enemy.

The Interface of the Sheep Well storytelling App was particularly designed to be operated by a non-techie, stressed middle-aged person in a dark room. Therefore the color scheme utilizes dark hues and glowing effects to be as eye-friendly as possible. Also the menu structure is intentionally kept very simple and easy to use. Just slide your finger sideways to choose a different mood of story. The colored glow will change accordingly. Up and down adjusts the reader's voice pitch. Tap the cloud to open advanced settings.

# SHEEP WELL

## Lean Startup Business Model

Aldana Ferrer Garcia, Michael Meier

## Bedtime Stories

### Mother reads to her child (2013)

Reading bedtime stories to children improves their imagination and supports their language skills. Scientific studies also have shown, that it has a relaxing effect, as the observed brainwave patterns have changed during the ongoing listening process with closed eyes.



listen to short stories before you fall asleep,  
relax the way you did as a child



Have you met Daniel? The first photo on the left shows him on a good day. But recently, his life became more and more stressful. So what happens to him is that he's stressing out. Sadly, this is not the actual problem. It is only the cause. In the evening he goes to bed and tries to sleep. But he can't. His mind is still wandering around and he's worried about an important presentation next week. In fact, he is not alone with his problem.

We created a lean business model around an app, which is designed to help more than 40 million people with stressful lives through the day. Stress was identified to be one of the main causes for Insomnia. But patients don't want to take pills or other substances. According to our survey, they want to listen to stories before they go to sleep. Sheep Well helps to feel relaxed and safe, to focus on the bright sides of life again.

## Stress is the main cause for Insomnia

Our survey revealed that most people follow a story, either on TV or in a book before they actually go to sleep.

Listen to a short story before you fall asleep, to feel relaxed as a child.



## Wooden Stick

Sundial or Speedometer? (2013)

It's not just a wooden stick. It's a morphing object and the purpose changes according to the intentions and desired goals of the user. Formerly, it was used as a weapon or to reach fruits from a tree. Scientists recognized the shadow and built a sundial. Ultimately, it comes down to the context of use.



For good interface design, I think it's important to know about the users expectations. To fulfill them isn't enough though. They have to be exceeded. The positive surprise creates an emotional reaction and therefore a great product. My research method of choice is to listen to the needs and wants of the people. Every human being has very personal views and values in life. They are some kind of inner motor. They drive us forward. They are the reason we get up in the morning

and constantly strive to improve ourselves. I'm convinced that this is a key aspect for interface design. For example, while some people look at an object as a tool, other might actually see a toy. Behind each point of view is a unique set of wants and needs. They have to be addressed by the object's interface to ensure a proper fulfillment of expectations. This ultimately generates a great user experience that paves the way for a stronger bond between human and object.

# INTERFACE DESIGN

## The Context of Things



What at first glance appears to be a simple wooden stick can actually be various objects at the same time. It's morphing and the purpose is able to change according to the intentions and desired goals of the user. Some formerly used it as a weapon, others in a more constructive way to reach fruits from a tree. A scientist would even recognize the shadow and build a sundial. It all comes down to the context of use. Well, nowadays we don't rely on sticks

anymore. The world and our problems became more complex, yet the solutions to it smarter. How was that possible? I think that interface design plays a major role there. The functions of objects and therefore the context became less obvious, almost obscure over time as they were for wooden sticks. It's the design of user interfaces that communicates how things work and what they are for. The thought process and ultimately the experience of the user are now the core elements within the contemporary application of objects. Though, it's hardly about a fashion or taste. It's our underlying values that determine personal choices. At this point, great opportunity is given for branding objects and defining the context even further.



# iDrive Colorsets & Aluminum Entry Sills

Definition of colors for the new iDrive Professional Line Navigation System. Versions for seasons, day / night and Asia.

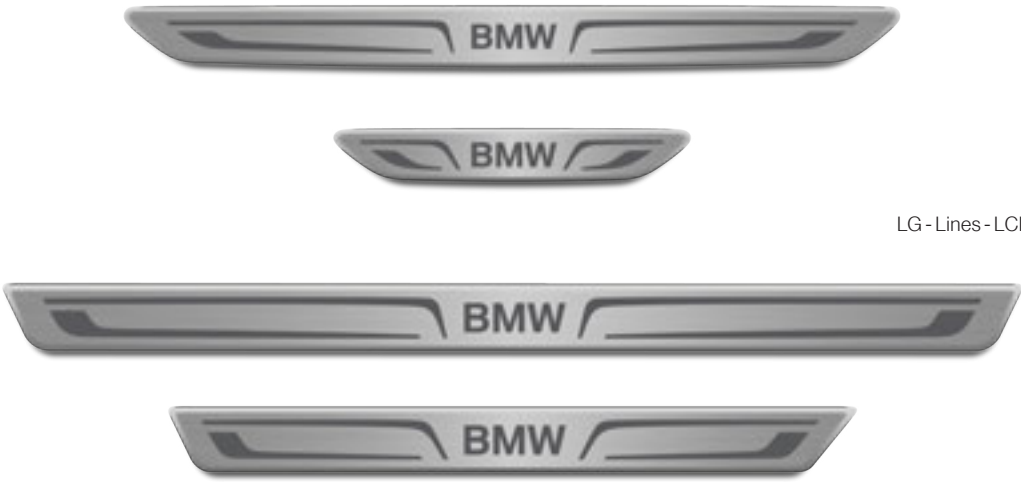
Graphics for aluminum made, optional Lines equipment entry sills.

One of the essential topics during my internship at BMW was the development of new colorsets for the new generation of the iDrive Professional Line Navigation System. I had the unique chance to accompany the project from the first draft until the serial production. The goal was to achieve differentiable sets for seasons, day / night and Asia. Part of it was prototyping, refinement and an international workshop.

Another topic was about the development of new entry sills graphics within the scope of the BMW Lines optional equipment lifecycle improvement. The goal was to combine the Modern and Luxury graphics on one aluminum made carrier. I was responsible from the first draft until the final artwork and refinement from 2D vectors to 3D geometry on several vehicle derivatives, in cooperation with the CAS department.

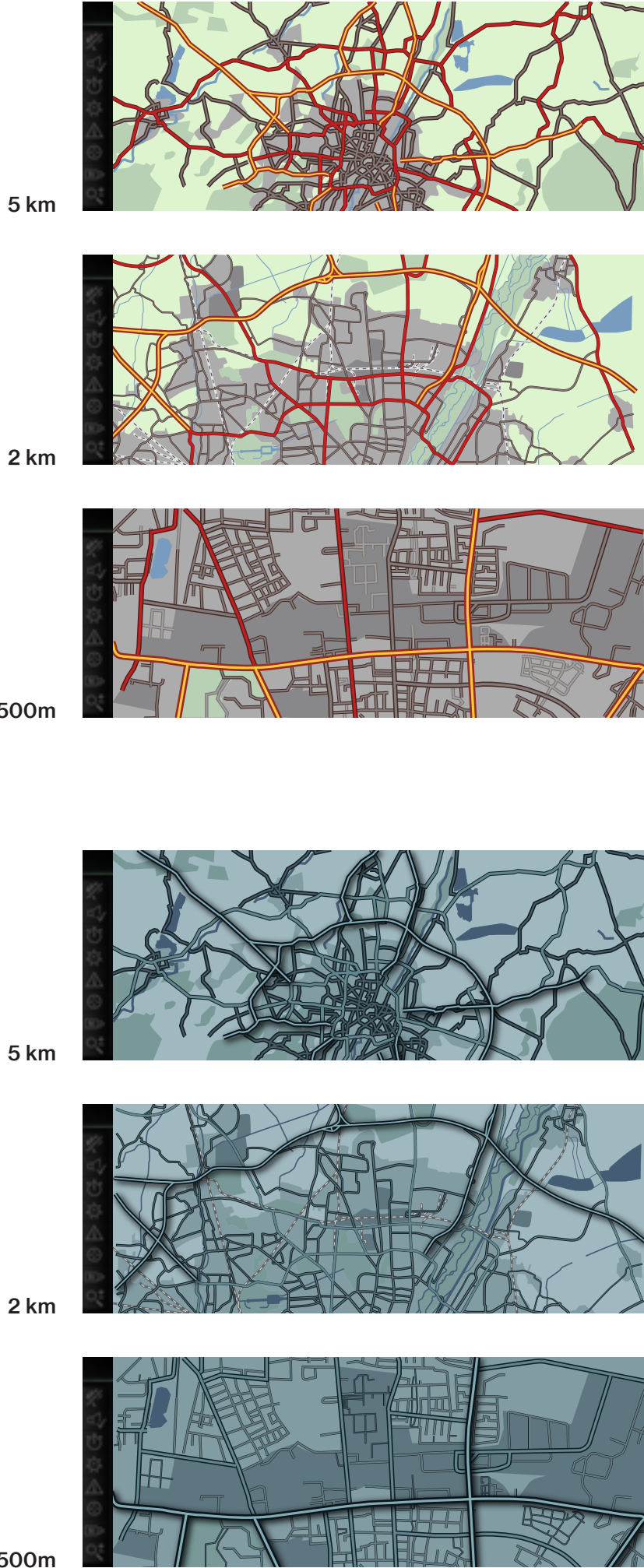


BMW AG is an automobile, motorcycle and engine manufacturing company founded in 1916. They are headquartered in Munich, Bavaria, Germany and belong to the three best-selling luxury automakers in the world. It owns and produces Mini cars, and is the parent company of Rolls-Royce Motor Cars.



LG - Lines - LCI - F15

LG - Lines - LCI - F18



5 km

2 km

500m

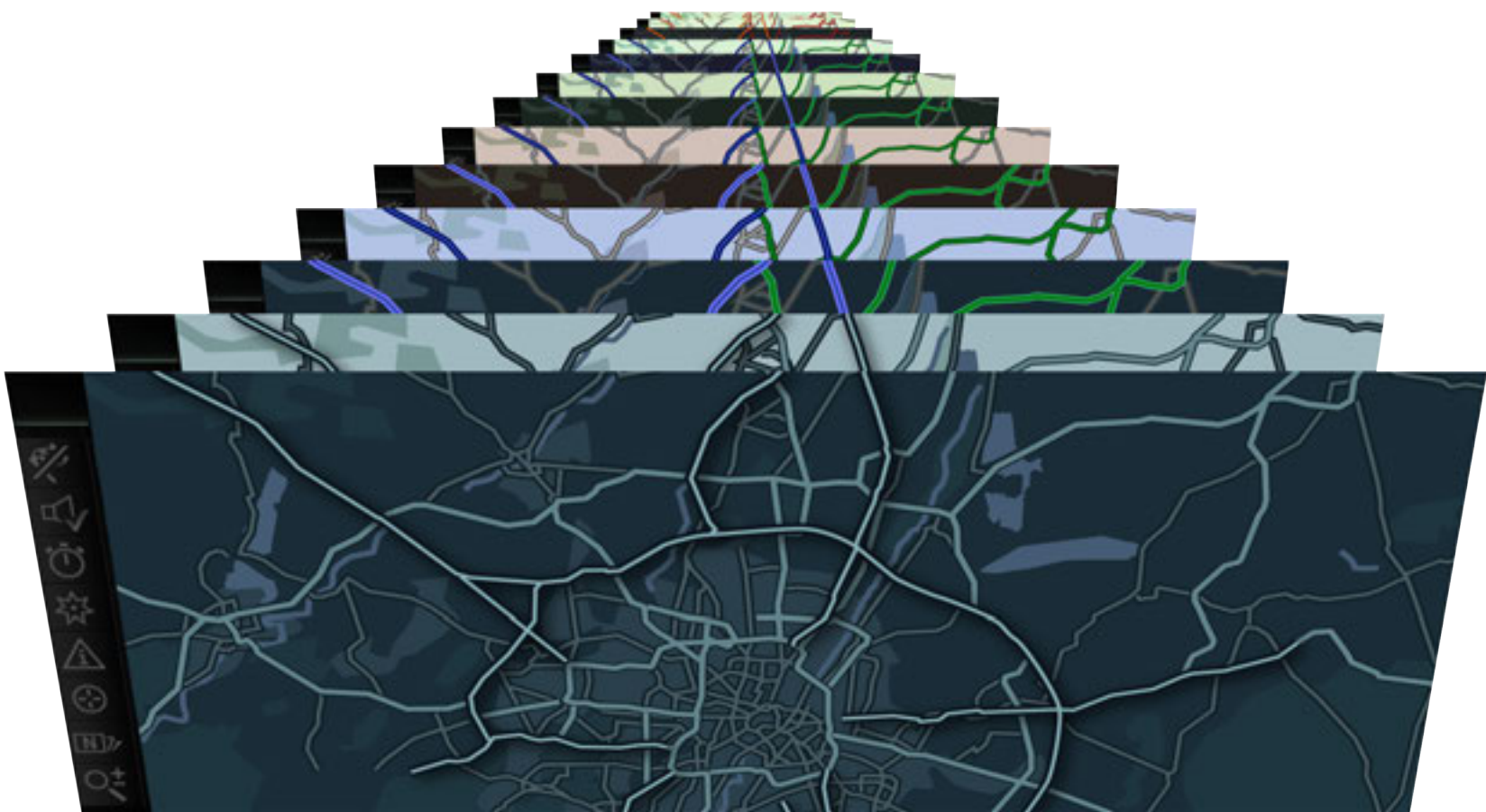
5 km

2 km

500m

# INTERNSHIP BMW

## Interface & Detail Design



### Color & Aluminum

#### Navigation, Entry Sills (2012)

The essential topics during the internship at BMW were graphics and interface within the context of the car. The colorsets on top of the page were developed for the new generation of the BMW iDrive Navigation System. The entry sills graphics below are conceived for the BMW Lines optional equipment (F10).





**Original BMW Lines graphics for Modern and Luxury equipment package entry sills.**

The image on the left shows the original BMW Lines graphics on the aluminum entry sills carrier. The goal was to combine both within the scope of the ongoing lifecycle improvement.

**First drafts of the combined LCI graphics with centered BMW word mark.**

The words Modern and Luxury had to be eliminated. Instead, the word mark BMW was centered on the carrier. The vector lines appear to be three-dimensional and frame the logo.



**Refinement and pre-final 2D vector artwork on front carrier of the F10 derivative.**

Detailed work and refinement of the vector splines and curvature as well as radii. Model-like proposal of the pre-final graphics on 3D geometry and original size paper printouts.

**Adaption to rear carrier and other BMW models like the F07, F10, F15 and F18.**

Application to the rear aluminum entry sills and interdepartmental finalization of the graphics for several car derivatives within Adobe Illustrator and Autodesk Alias (CAS).



Adobe Illustrator was the tool of choice to create the colorsets for the navigation system as well as vector lines for the aluminum entry sills. For the colorsets, I started out with defining the topography and street classes. Thereafter, hues for urban and natural areas were selected. New graphics on the entry sills were developed from the centered BMW word mark to the outside of the carrier.

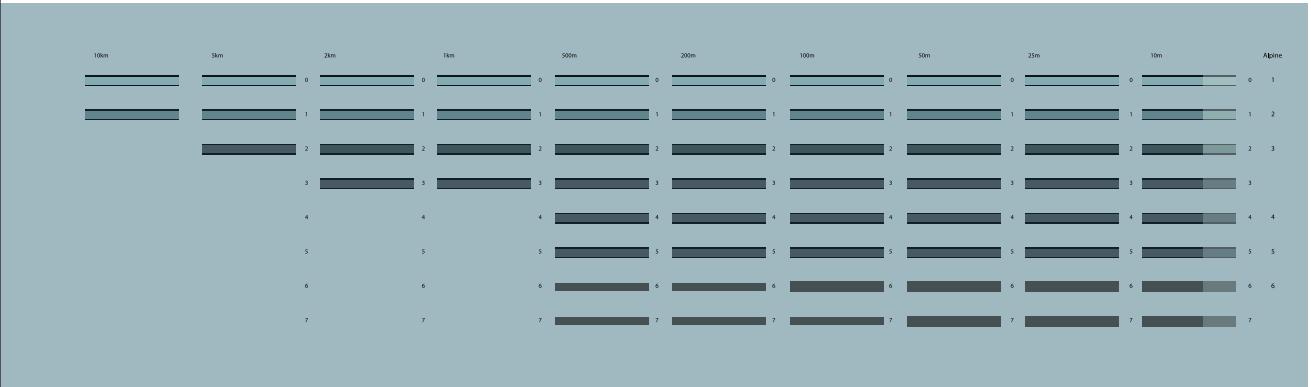
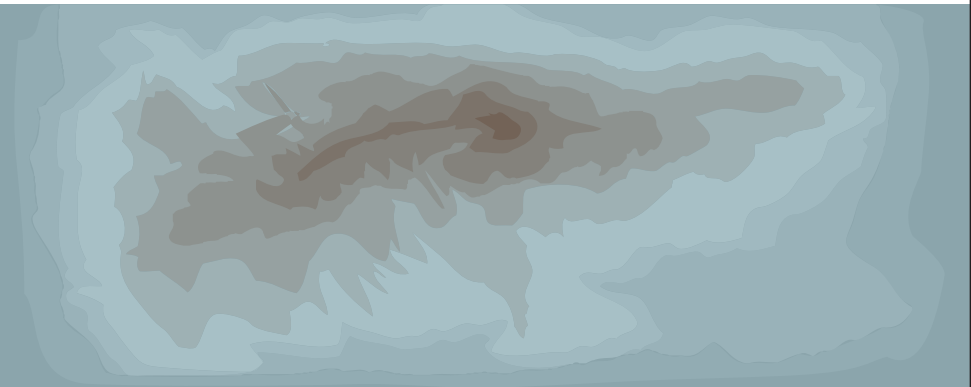
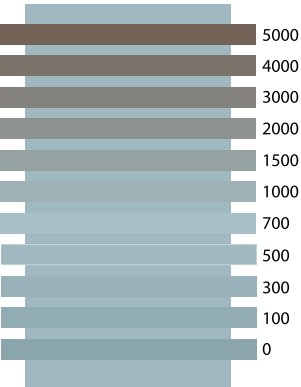
**From the first draft to serial production**

Definition of topography, areas and street types according to seasons, time of day and countries. Graphics on aluminum sills.

Reconception and lifecycle improvement of BMW Lines equipment.

**Color definition for the topography scale within the BMW iDrive Navigation System.**

The terrain determined the main palette of colors for one set. The example on the right shows the monochromatic Traffic Info Day. The hues create a three-dimensional impression.



**Distinction of street types with colors according to countries, scale and class.**

Drivers need to tell the difference between highways, federal streets as well as dirt roads at first glance. Therefore, a clearly developed colorset for street classes is a must have.

**Palette based environment creation determined by existing objects and zones.**

The chosen colors need to work in urban and natural environments. Objects and zones have to be distinguishable within every scale of the topography and fit the overall look.







The existing entry sills graphics from the Modern and Luxury Lines had to be combined in a newly developed, yet still recognizable manner. The framing appearance and adaptability to different car derivatives was preserved.

Main concept of the new horizon-driven graphics is the centered BMW word mark without the addition of Modern or Luxury. The variation in line weight and curvature creates a dynamic, almost three-dimensional impression.

The new graphics can easily be changed to fit future carrier geometries by adjusting the horizontal length as well as the angle of the frame on left and right hand sides. The backside offers enough space for optional illumination.



## Traffic Info Night

(Drive Navigation (2012))

The dark monochromatic colorset Traffic Info Night focuses on the display of traffic-based information in a reduced manner. According to the situation, traffic jams or construction sites are shown in red or yellow. Thanks to this, the driver can make decisions about the route based on system-proposed alternatives.

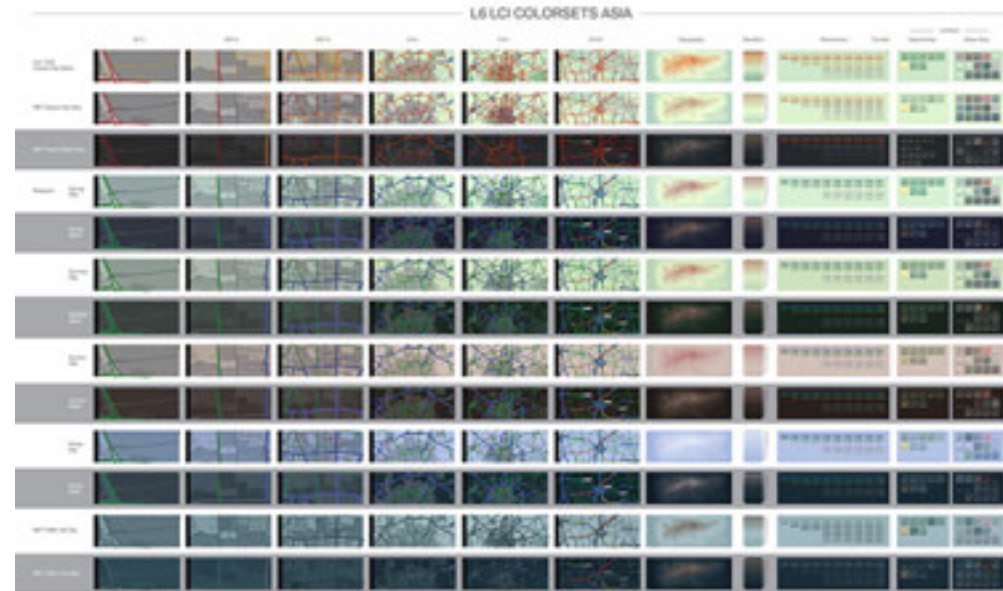
The hues are kept in a dark greenish, yet easy to read appearance. Depending on the time, the system changes to a different daytime set. Of course there's always the choice of applying more colorful versions. In Asia, customers can choose between colorsets for specific seasons (spring, summer, fall, winter).

The new generation of the iDrive Professional Line Navigation System incorporates newly developed colorsets for specific purposes. Main goal was to improve the readability of road classes within distinctive sets for day and nighttime, traffic situations as well as seasonal changes. The colors got fresher and have a clearer appearance. Versions for Asia were included.

## The new generation of colorsets & graphics

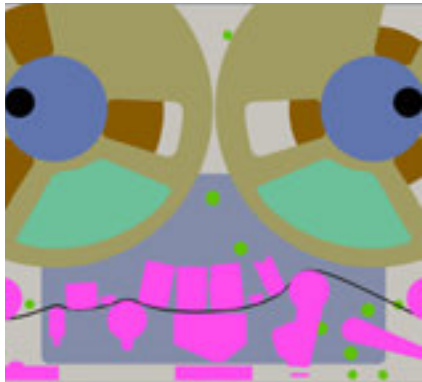
Graphics and concept for the screen-based user interface of the new generation iDrive Professional Navigation System.

A new look for the Lines equipment aluminum entry sills graphics.



The left shows seasonal colors (spring, winter) for Asia. An overview of all colorsets is next to it.





At first, I create the basic shapes, which define the objects. Strong colors help to distinguish.



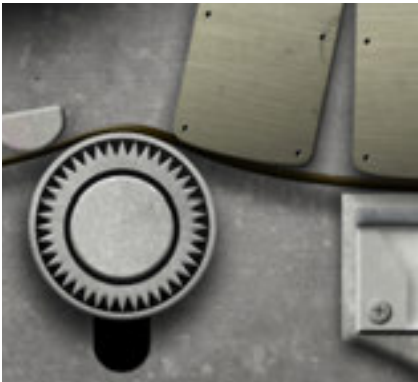
The second step is about finding or making textures that reproduce the object's materiality.



Finally, details as well as light and shadow get adjusted to achieve a coherent overall picture.



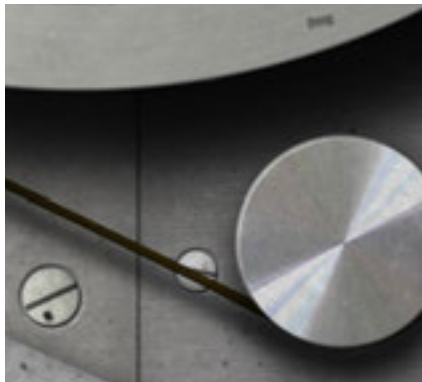
The tape once was a vinyl record. Experimentation with soil, water and paper let to the smudges.



Photoshop's built in tools were used to create tiny details like gears and the heads of the screws.



The thoughtfully applied shadows evoke a sense of depth and create the desired realism.



Some objects reflect light differently than others. This allows to read the surface and material.



The tape recorder equals the main menu to browse projects. Sub-level menus were created too.



In the project menu you could read a description, watch the slideshow or go back to the main menu.

## Connect to people, with music and stories!

### Process

#### Portfolio DVD (2010)

Adobe Encore was used to create the interactive DVD menu from the final Photoshop rendering of the tape recorder. Also sub-level menus were designed to watch a slideshow belonging to the chosen project from the top-level.

The tape recorder was chosen because I love music. It also tells stories. People could always easily connect to both. As I was looking for a theme for my portfolio back in 2010, those aspects were a good foundation to tell the stories of my projects to others. But there's not only the philosophical point of view. Tape recorders simply have a certain design quality to me. Maybe it's nostalgia, but the sound, the smell, and visual feedback from the tape make you feel close to the device. Nonetheless, it's fascinating to use technology to create something new like a portfolio DVD with a tape recorder as the main menu.



### Inspiration

#### Google Images (2010)

The image to the left was found while I was looking for a theme for my portfolio back in 2010. I always loved music and figured, that audio recordings are also called albums. That's basically because they're intended to tell a story. A portfolio has the same objective to me. What's interesting about the image is that the devices are connected to each other. I wanted to connect with others too.





## Backside Views

Rotation Photos (2010)

The lower areas show a smooth bass-line. The centric part equals warm and defined middles. High tones urge upwards and build a sharp and clear counterweight.

## Preliminary Studies

Ideation Sketches (2010)

Below, one can see some of the most promising studies, which formed the basis for subsequent designs. Some elements can still be found in the final sculpture.

## Front Views

Rotation Photos (2010)

The similarity to an ear conch is clearly recognizable at the lower parts. The upper area embodies feelings like enthusiasm and brightness due to its ascending flow.



## Development

Refinements (2010)

The extensive research and exploration of shapes to express distinctive feelings brought more than two hundred thumbnail sketches to paper. Interesting aspects, similarities or contrasts were detected and further developed. By combining the most promising aspects of the preceding drafts, a first raw design of the final sculpture was acquired. While the basic idea with its main features can be seen on the upper left, further work on development, including changes and refinements regarding the three dimensional composition, had to be done.

The topic of the sculpture inspired by the shape of a human ear conch was "Speaker". Its keywords are enthusiasm, melody and brightness. The model wasn't built to become an actual product, but to portray the possibilities of shape experimentation on an emotional heading, like music. This way, an almost artistic sculpture could be created. By concentrating oneself on shaping, the techniques and feel for the material nearly came incidentally. The expression and absorption of feelings was the targeted value.

# TAPE RENDERING & CLAY MODELLING

The sticky parts of design



To begin with, I looked up a side-view image of the Citroen Lacoste concept car on the Internet. Knowing an approximate value of the center-distance and wheel size, an up-scaled version was transferred onto a working foil-layer on the wall of our studio. After that, I started to work on the most essential lines like the roof and the waist. Finally, a second layer of foil was added to achieve a tri-color look for light and shadow.



During my undergrad studies in Salzburg, Austria, I decided to go for the focus module of industrial design. The classes about tape rendering and clay modeling where part of that chosen path. Despite the process itself, it was very interesting to me to see how scale can make a huge difference in the perception of curves and proportions. Also I started to realize, that surfaces are actually easier to understand in physical presence.

## Essential skills in automotive design

Both projects where done in Salzburg, Austria, during my undergrad studies. Teachers where professionals from BMW.

The classes where part of my chosen focus on industrial design.

## Citroen Concept

Lacoste (2011)

Stylishly minimalist and elegantly laid-back, the Citroen Lacoste boasts an off-beat sporty silhouette with a high waistline, bulging, textured wings, minimum overhang, and golf ball-style rims on wheels placed in the furthest corners of the invitingly looking body.



# Sustainable actually means cool and quality

The design objective of this particular wheel styling was to push the coolness of sustainability in aluminum tuning rims.

Optimized aerodynamics, reduced CO2 emissions, and tuning in symbiosis.

Various auto manufacturers started some time ago to apply plastic shields to the wheels of concept cars. Their purpose is to minimize air turbulences caused by the wheel's spokes. Apart from extreme lightweight construction, they are a good chance to optimize the automobiles fuel consumption by improving its aerodynamics. That ultimately reduces the CO2 emissions and protects the environment.

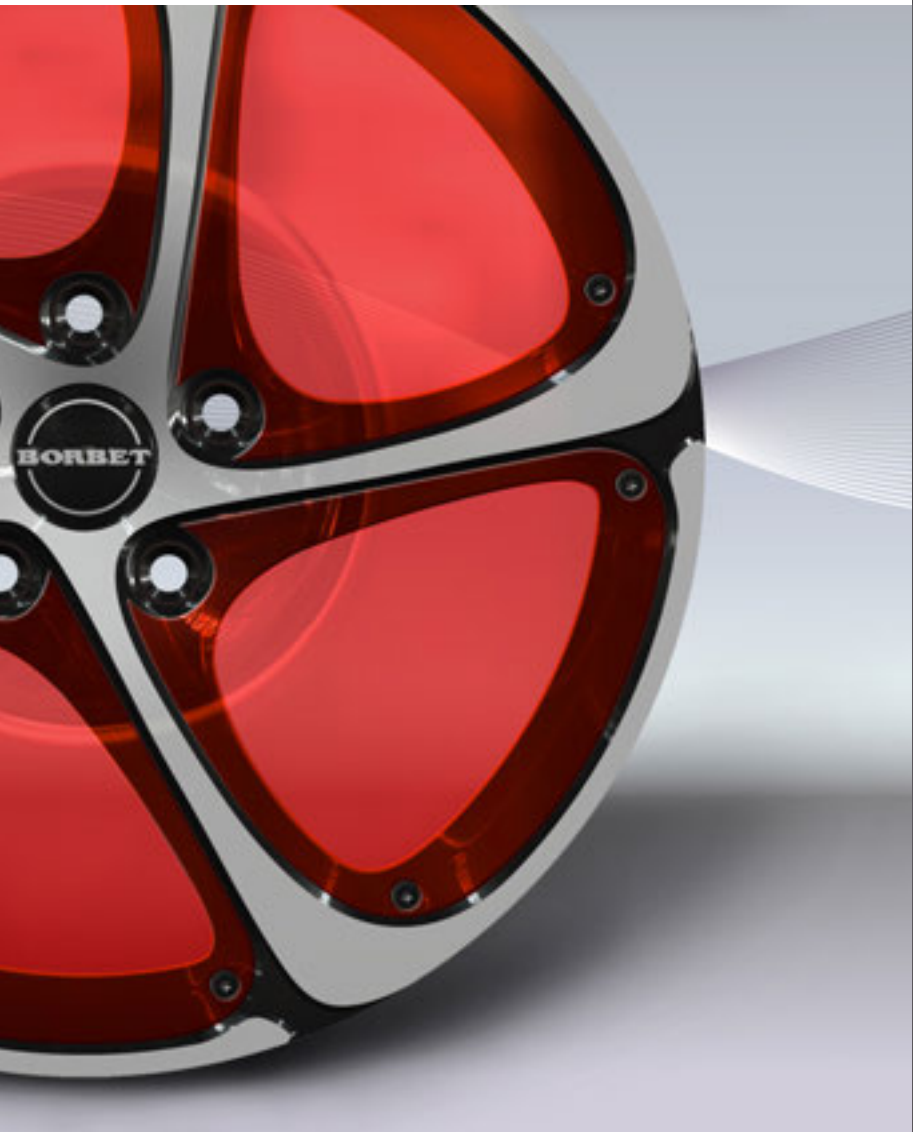
The idea behind this particular wheel styling is, to give sustainability a "cool" and sophisticated touch. Therefore I decided to go for the tuning market, because obviously, the appearance of the 18-inch rim is very expressive. It is also recommended to use such a kind of design only during summer time, as salt and grit might damage the transparent, high-gloss varnish above the burnished surface areas.



Borbet is listed as one of the most successful aluminum wheel manufacturers in the world, and supplies a multitude of automobile companies. About 3.700 employees work in Hallenberg-Hesborn and the other production facilities in Medebach, Solingen, Bad Langensalza, Neuching, and abroad.



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi non odio pretium, eleifend libero cursus, lobortis nulla.



# INTERNSHIP BORBET

## Aerodynamic Aluminum Tuning Wheel



### Alias Rendering

Digital Prototype (2011)

Autodesk's Alias was used to create the rendering displayed on this page. I never worked with that CAD program before the internship at Borbet. So I had to learn everything from the ground up. The design includes a classic five-spoke wheel, casted of aluminum to be especially sustainable for the environment.





**Alias was used to develop the final surfaces. I had to learn the program from ground up.**

It was a great experience to learn about the details of surface modeling and the precision necessary to achieve a good result. One spoke was drawn, but the others are rotated copies.

This page shows significant steps I took to create the final styling of the wheel. As every design process, it started out with research and initial sketches. Thereafter, I found a more refined direction in bionics, nature and technology. A couple of design iterations later, Photoshop renderings helped to get a better idea of the aspired look. Finally, Autodesk Alias was used to create a 3D model.

# The step-by-step evolution of the wheel

**This project wasn't about reinventing the wheel. But instead, to refine and optimize chosen aspects of it.**

Better aerodynamics and a cool look where the desired design objectives.

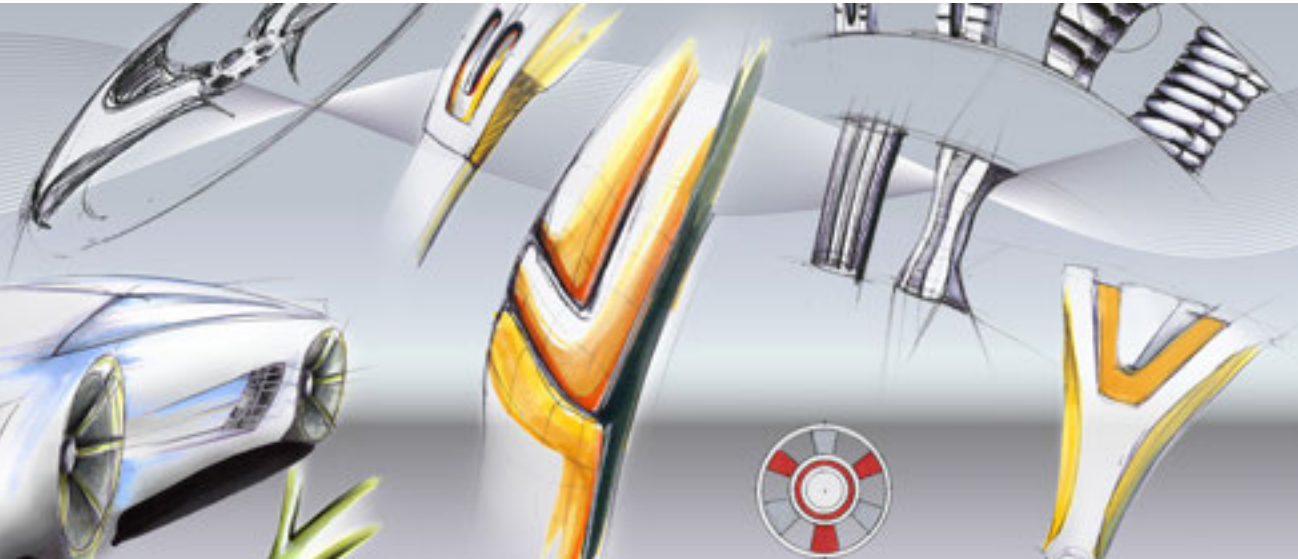
**After the surfaces, several renderings from different perspectives were done.**

The challenge was to set up the right materials and colors for the wheel according to the light sources of the rendering. The background was removed and replaced with Borbet imagery.



**I started out with research on existing tuning wheels and sketched initial ideas.**

To get inspired, I looked up images about interesting topics like bionic, nature, technology, artificial materials, and of course current trends from tuning exhibitions and concept cars.



**Colored plastic shields cover up the spaces in between the spokes and look futuristic.**

The final rendering shows the wheel with the plastic shields on. Isn't it somehow hard to believe that something that looks so cool is actually a contribution to our environment?

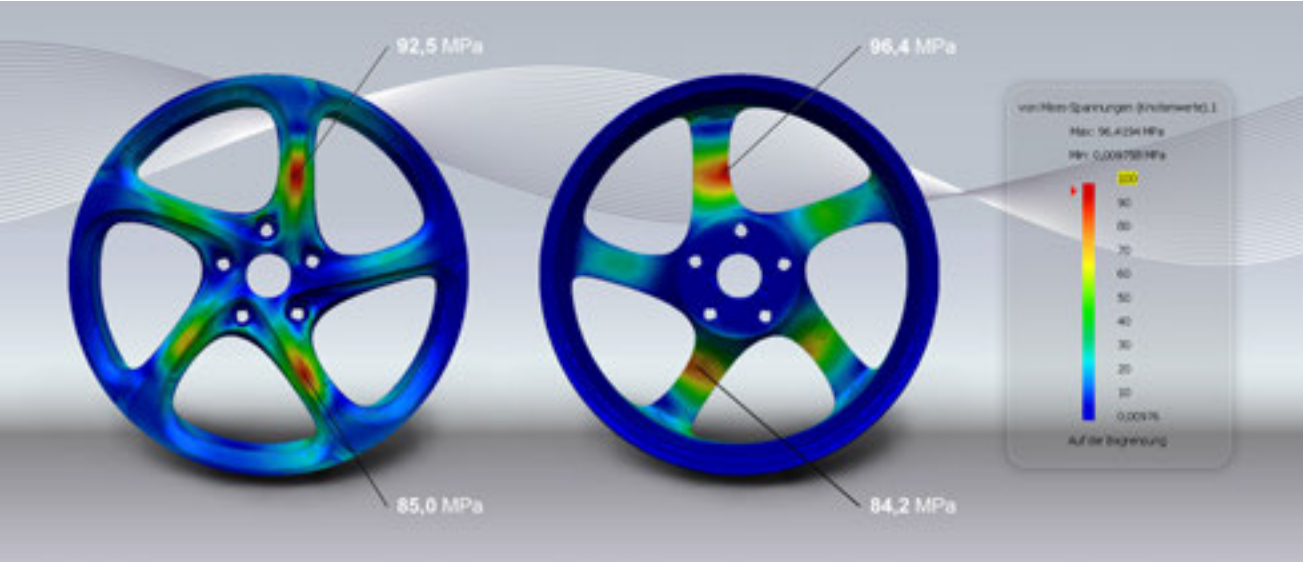


**In the next step, I switched to a digital workflow and explored styling directions.**

The concept sketches on the left show various design iterations about wheel stylings inspired by bacteria, bones, flowers, and technology. Promising ones where refined or combined.

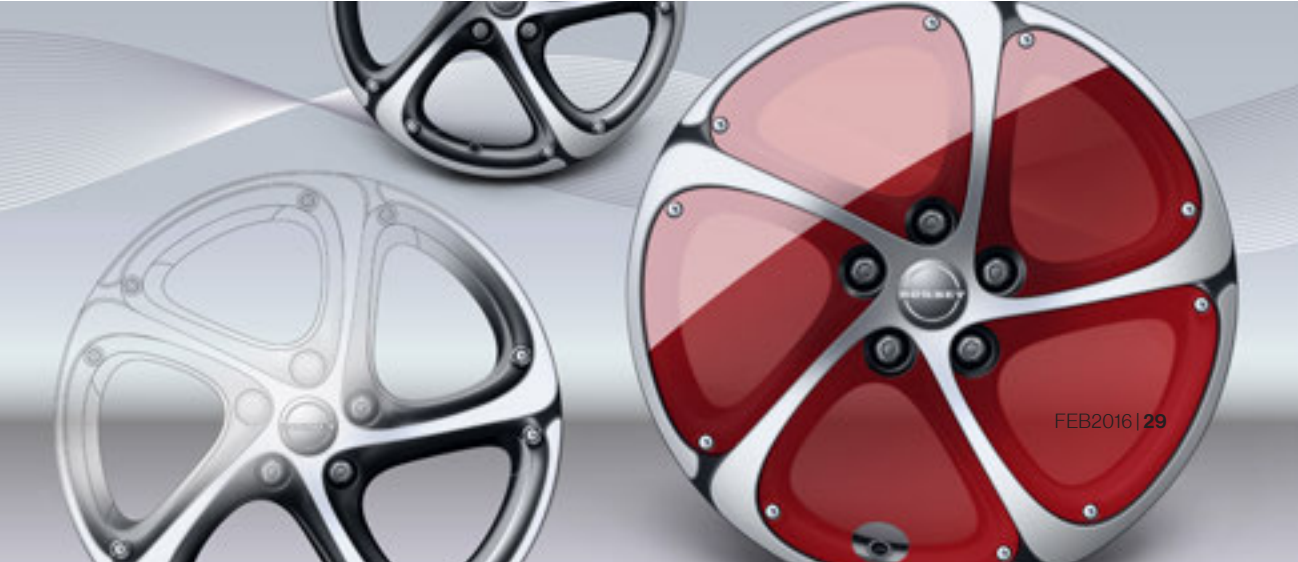
**The feasibility test done in Catia proved that the wheel was actually castable.**

Indeed, I had help from Borbet engineers for the feasibility test in Catia V5, as it requires complicated formulas to simulate the physical stress on the wheel. Values below 100 MPa are fine.



**A Photoshop rendering was made to get a better idea of the look of the final styling.**

The basic 2D vector spline line work was done with Autodesk Sketchbook Designer. Thereafter, Adobe Photoshop was used to create surfaces, color gradients, as well as lights and shadows.







## Final Styling

### Scenario VW Golf GTI (2011)

The tuning market isn't known to especially environmentally friendly. Most of the time, it's just about horsepower, top speed and maximum torque. This wheel goes a different way. It was designed to fit the needs of the market and be responsible at the same time. Nonetheless, it doesn't lack coolness and style.

Tuning fans love huge wheels and so I decided to go for 18 inches to keep it compatible with most cars. End users are able to buy the plastic shields in the color they desire. They also can choose different ones to achieve a vastly expressionistic look. That gives them a unique chance to personalize the car even more.

Usually, the tuning market is just about adding coolness as well as personality to our cars. Everything that counts is more horsepower, top speed and maximum torque. This aluminum wheel's design was aimed to express nothing less.

Lately, sustainability gained more and more public interest and attention. It even became a marketing instrument to be environmentally friendly. Companies as well as car owners want to express their set of mind according to this trend.

Tuning fans will be able to express their own personality and values by applying this set of rims to their car. On the one hand, that's because of the cool look, but also due to the possibilities of styling one's wheels according to your daily mood.

The styling of the 18-inch lightweight aluminum wheel has a classical 5-spoke look. It is slightly twisted, which makes it seem to be moving. The burnished, high-gloss finish reminds one of the rotating blades of a wind power plant. Natural and technical objects served as inspiration for the design that saves fuel and reduces CO2 emissions due to optimized aerodynamics.

## Tune your car in a greener direction

**The scenario of the final styling on a VW Golf GTI shows, that it's absolutely possible to be green and cool at the same time.**

The plastic shields are available in the color of your car or any other one you think is fashionable.





# Imagine to drive wherever you like

Developed for every kind of road and terrain.  
Customers can choose between wheels and  
chain drive.

The sustainable hybrid technology is efficient and  
forward-thinking.

The Steinbock is an all-terrain off-road vehicle and was  
designed primarily for restaurants on mountains, material  
transport and alpine rescue. Therefore, the vehicle needs a  
closed and heated passenger cabin, suitable for material and  
personnel transport. It will fill the gap between snowmobiles  
and snowcats. The aim of the project was to design an exterior  
that shows tool-like functionality, quality, and reliability.

The concept is mainly expressed by the prominent A-pillars  
in front of the two windshields. They hold the rear mirrors and  
protect in case of a roll over. Another characteristic feature is  
the lower part of the passenger cabin, called “Work-Area”. It’s  
distinguished from the rest of the vehicle by a non-sensitive  
material with a darker color, thus visually lowers the actual  
height and also includes maintenance openings.



Mattro Mobility Revolutions is located in Schwaz,  
Austria. They address themselves since 2006 to the  
development of environmentally friendly, electronic  
mobility concepts for a sustainable future. For them,  
the economical handling of resources starts already  
in the development phase.



The rendering shows A-pillars and rear mirrors, the driver's door with stirrups and the all-terrain chain drive.



durable | progressive | functional | offensive | trustful

# STEINBOCK HX-1

## Bachelor's Thesis – Part One

Jan Dornig, Hanna König, Michael Meier, Elisabeth Morawetz,  
Michael Pögl, Bernhard Strömich

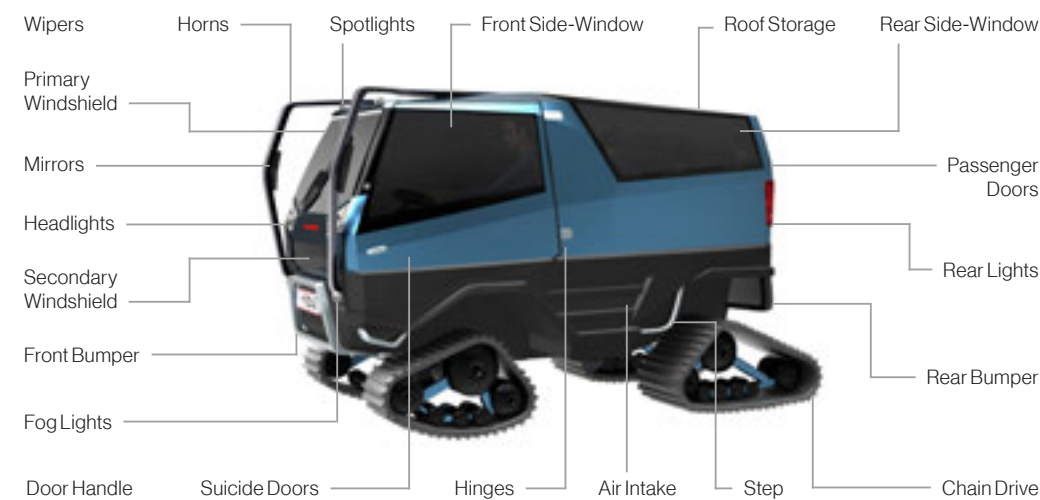
Alpine Steinbock  
(lat. Capra ibex)

## The Codename

Utility Vehicle (2011)

The prominent A-pillars coined the name  
Steinbock during the development of the  
reduced design. Unnecessarily complex  
surface appearances were intentionally  
avoided to achieve a consumer percep-  
tion of a reliable and functional utility  
vehicle. The keywords on top of this  
page describe briefly what the  
design intends to express.



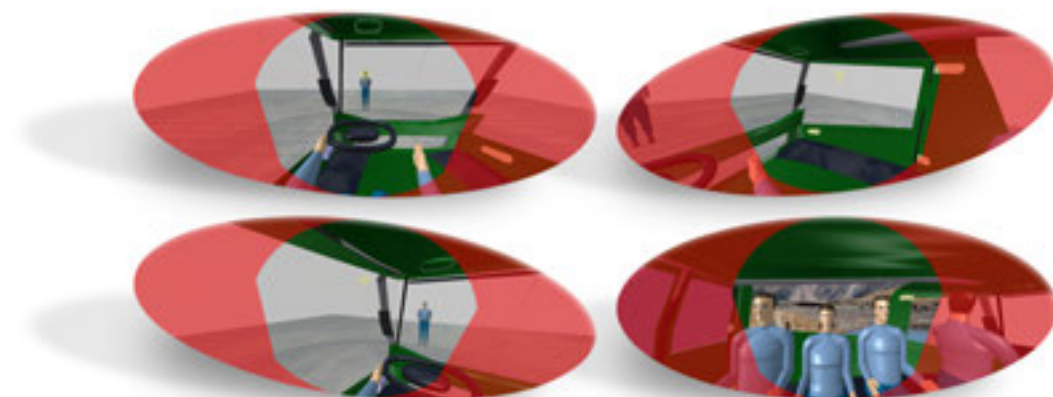


**The illustration on the left shows some of the important elements of the vehicle.**

Extremely durable and scratch-resistant plastic is the material of the so-called "Work-Area". Therefore the driver doesn't need to worry about damaging the varnish in shrubby terrain.

**Catia V5 offers to analyze the driver's and passenger's sight from their personal viewpoint.**

With the help of the sight analysis we were able to get valuable insights on what it feels like to be inside the car. Also, it provided precious hints on the maneuverability of the vehicle.



**The key images on the right provided the inspiration for the final design of the vehicle.**

Within a multitude of research images, the ones on the right were chosen to define the vehicle. Predominant themes are durability, progression, function, and an offensive but trustful appearance.

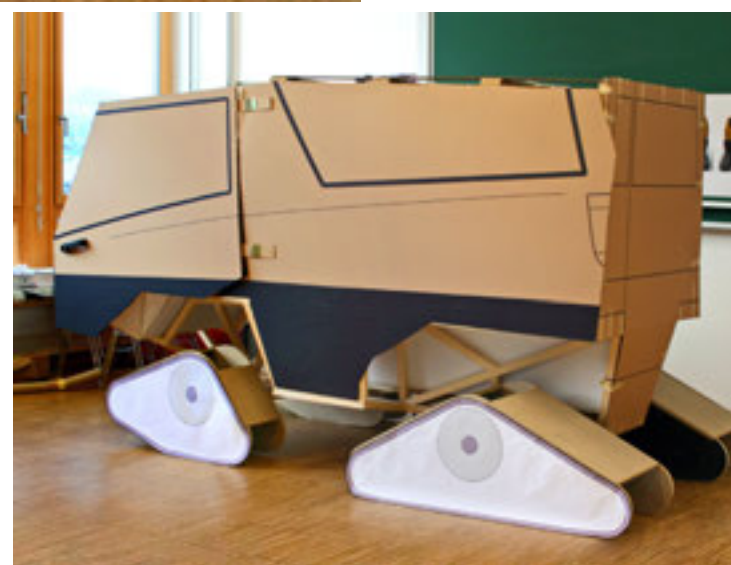


**A vast amount of ideation sketches led to core elements of the desired character.**

The depicted key sketch on the left already shows some of the defining character elements like the externalized A-pillar and durable "Work-Area", as well as the high positioned shoulder.

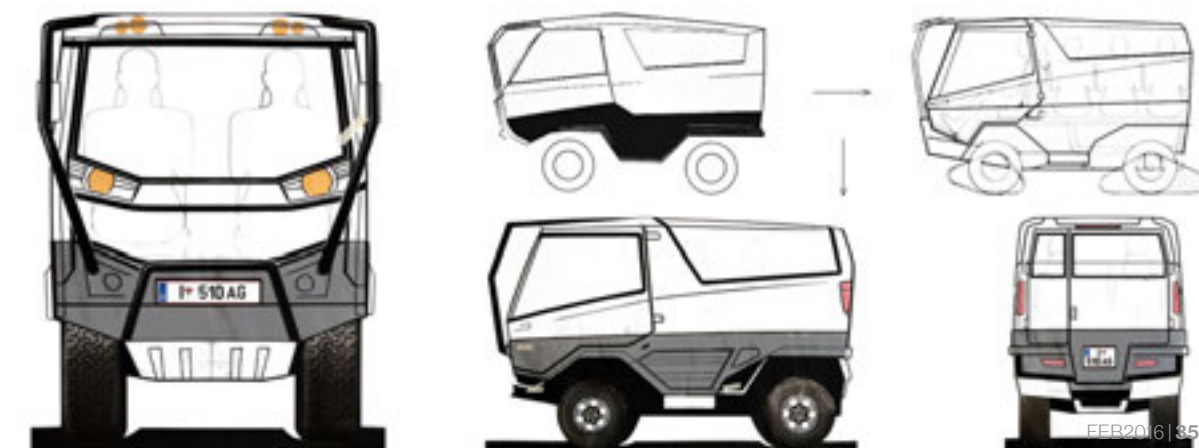
**Indoors, the vehicle seemed to be quite big. Nonetheless it's comparatively compact.**

Judging the Steinbock's actual size indoors was pretty unusual for us at first. So we decided to take one of the doors outside and compare it with parking automobiles in front of the school.



**Numerous tape renderings helped in the development of proportions and details.**

Designing the vehicle became very much an ongoing process. And so it was fascinating to see the tape rendering constantly changing. The images on the right show three steps of it.







The photos series above actually shows stills from the first test-drive movie, published by Mattro some time ago. A Steinbock HX-1 prototype was released to the public during an official event in November 2011, Innsbruck, Austria.

A change in materiality and color sets the “Work-Area” apart from the rest of the vehicle. It focuses on durability and functional access of several maintenance openings like the engine valve, ventilation, fossil fuel tank, and tow hooks.

Excellent climbing skills (100% or 45 degrees gradient) are achieved by lightweight construction and a low gravity center. It isn't a problem to drive down a small river or overcome up to 30 cm boulders, thanks to the high ground clearance.



The vehicle's design isn't about fashionable trends. Instead, it's intended for rough terrain use during all seasons. Hereby the concept gains on character, independence and sustainability. For the potential buyer it's a noticeable differentiation. The minimal and functional design allows a carefree handling and results in a long lasting product life that is demanded for this segment.



## Hybrid all-terrain utility vehicle

The Steinbock HX-1 all-terrain utility vehicle was designed to bravely withstand even the most extreme off-road conditions.

A hybrid powered chain drive allows doing that in an environmentally friendly way.





# No second chance to make a first impression

The first object someone touches on a car is the door handle. So how can the experience of this initial contact be improved?

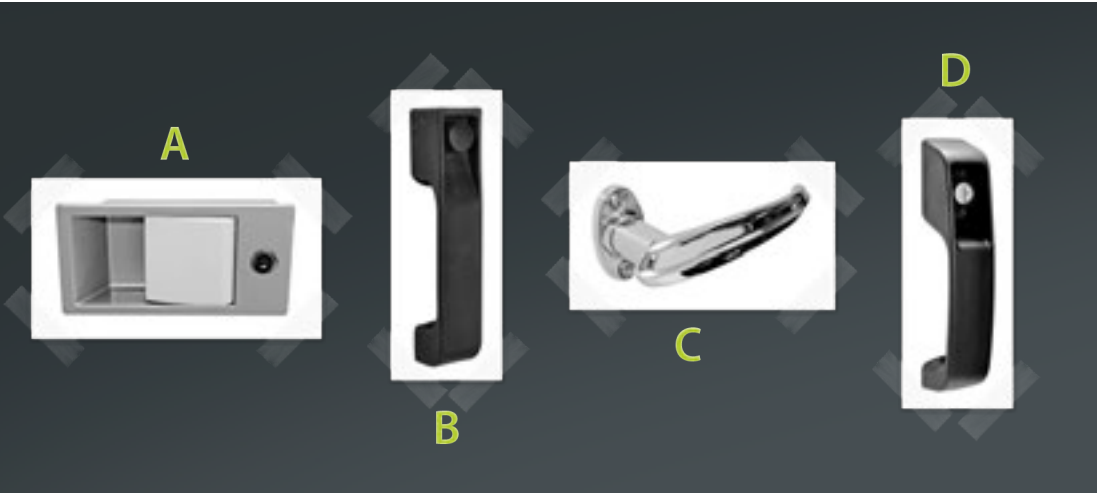
Could it even be fun to use door handles and which role play our eyes?

Today, product users are looking for experiences, enabled by added emotions. The desired goal of User Experience is to exploit customer perceptions before, during and after the use of a product and finally makes them tangible. Results of this thesis cannot only be used to improve the tactile impressions and joy of operation of door handles, but also to address the perceived quality of transport vehicles as a whole.

Designers can positively affect the User Experience by giving sufficient attention to the perceived quality of products. For example, the first physical contact when using an automobile happens when touching its door handle. Impressions in this moment are compared with expectations of the use and either confirm, or disappoint regarding the perceived quality, which gets subsequently projected onto the entire vehicle.



Mattro Mobility Revolutions is located in Schwaz, Austria. They address themselves since 2006 to the development of environmentally friendly, electronic mobility concepts for a sustainable future. For them, the economical handling of resources starts already in the development phase.



All tested products had different surface qualities. They are door handles, used on common transport vehicles.

TACTILE  
DESIGN  
NEURO  
PHYSIO  
LOGY  
PSYCHO  
LOGY



RECOM  
MENDA  
TIONS  
FOR  
IMPROVE  
MENTS



# DOOR HANDLES & USER EXPERIENCE

Bachelor's Thesis – Part Two

Touch Me  
Empirical Study (2011)

This study combines the theoretical research with a statistical analysis. The objective was to work on the emotional side of the Steinbock HX-1's door handles. Usually, they are the first part a user gets into physical contact with using a car. But can they also mean fun and a pleasurable experience?





- 1 **Products can be seen as „tools“ or „toys“.**  
That depends on the mode the user is in.
- 2 **The more „toy“, the more „fun“.**  
Stimulating the user leads to a stronger emotional connection.
- 3 **Tactile Design and User Experience are extremely subjective.**  
Designers have to know the needs of their target group very well.



## How are existing products perceived and which role play our eyes?

The hypothesis of this empirical study was, that our eyes will have a significant effect on tactile perceptions and may even outweigh them. Blindfolded and seeing results were expected to differ.

The name of the applied method to evaluate the collected empirical data is AttrakDiff. It was developed by one of the leading scientists in the field of User Experience - Marc Hassenzahl from the TU Darmstadt. AttrakDiff basically measures the attraction or how desired a product is. To assess that, it makes use of a semantic differential in form of a relatively short questionnaire.

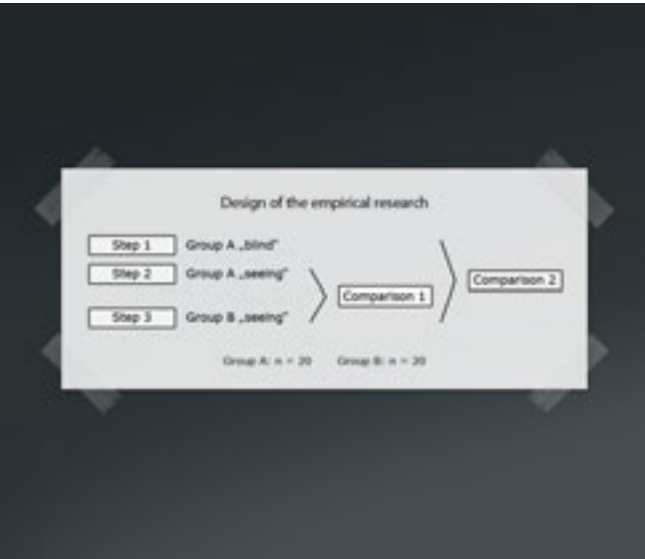
## Research to create positive emotions

The following pages illustrate the research process to address peoples expectations as well as emotions in the best possible way.

One thing is for sure. People will always remember how you made them feel.

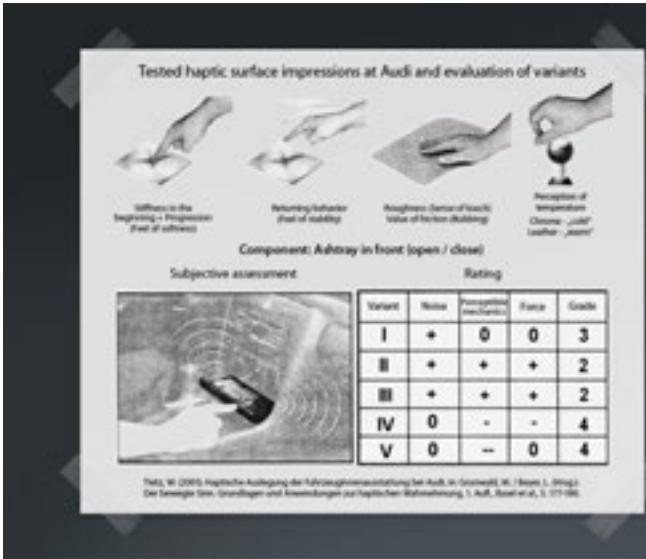
## Two groups and four different door handles form the setup of the empirical study.

Is the tactile perception going to change when the user is actually able to see? The tested door handles consist of different surface qualities and materials like matte, shiny, metal, and plastic.



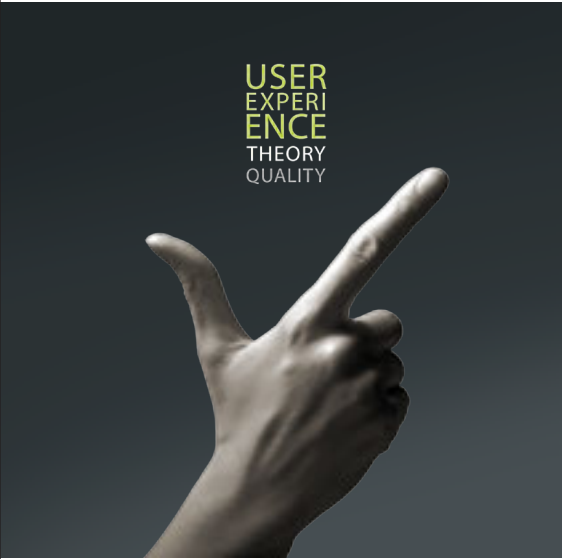
## The first step was about how objects are perceived physically and psychologically.

How is it possible to feel objects and surface structures with our hands? What kind of nerve cells do we have and what are they capable of? Finally, which psychological aspects influence us?



## Actually seeing the products doesn't influence the mostly tool-like character.

Important statistical significances could not be met between the blindfolded and seeing groups. Furthermore, the tested products lack on hedonic qualities and are therefore perceived as tools.



## What is User Experience and how can it be used to affect emotions positively?

Optimizing the User Experience of a product ultimately means to design the user's process in a holistic way. But do designers and manufacturers actually address emotions?

## What can designers and manufacturers do to finally improve the situation?

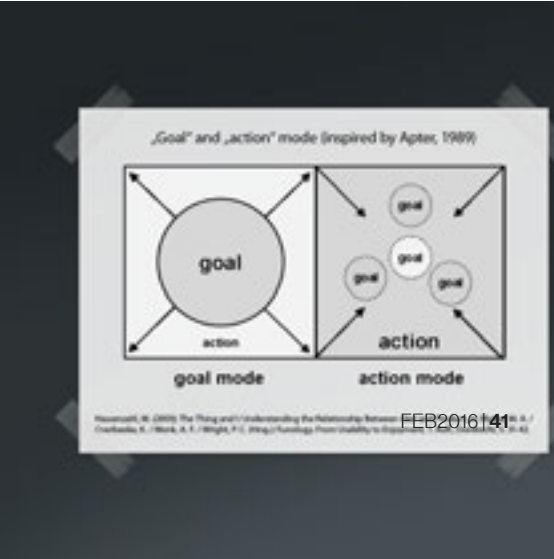
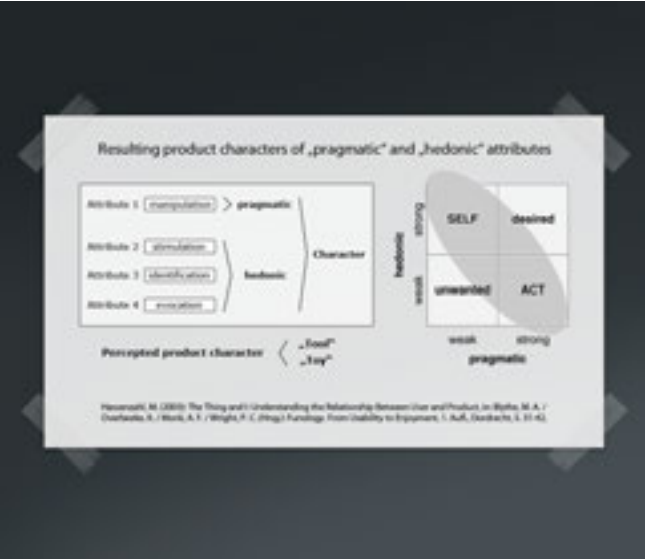
The picture on the right shows three simple instructions, which were worked out to improve the User Experience of products in both tactile and emotional points of view.



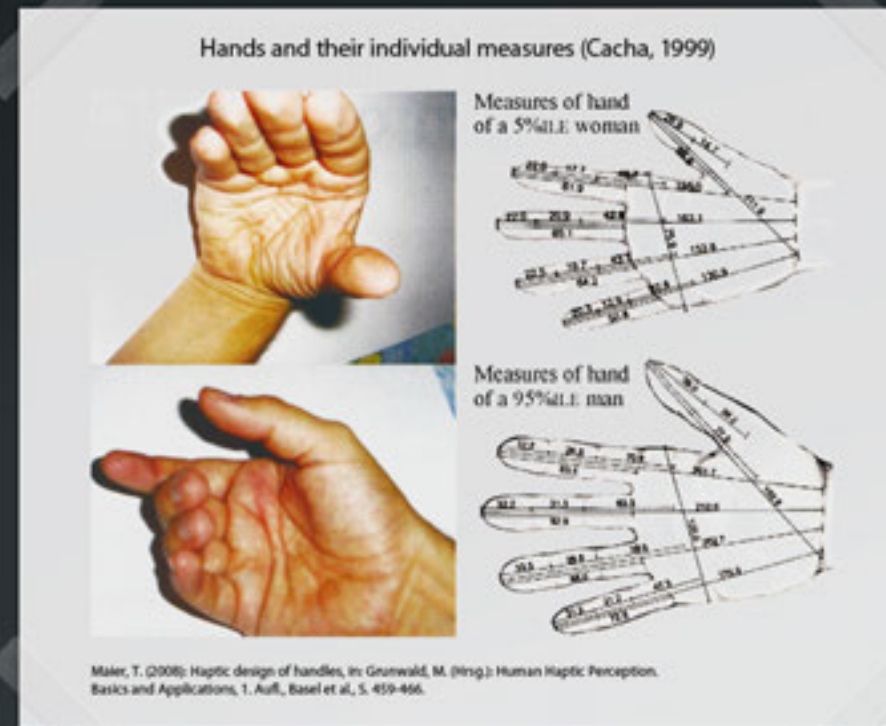
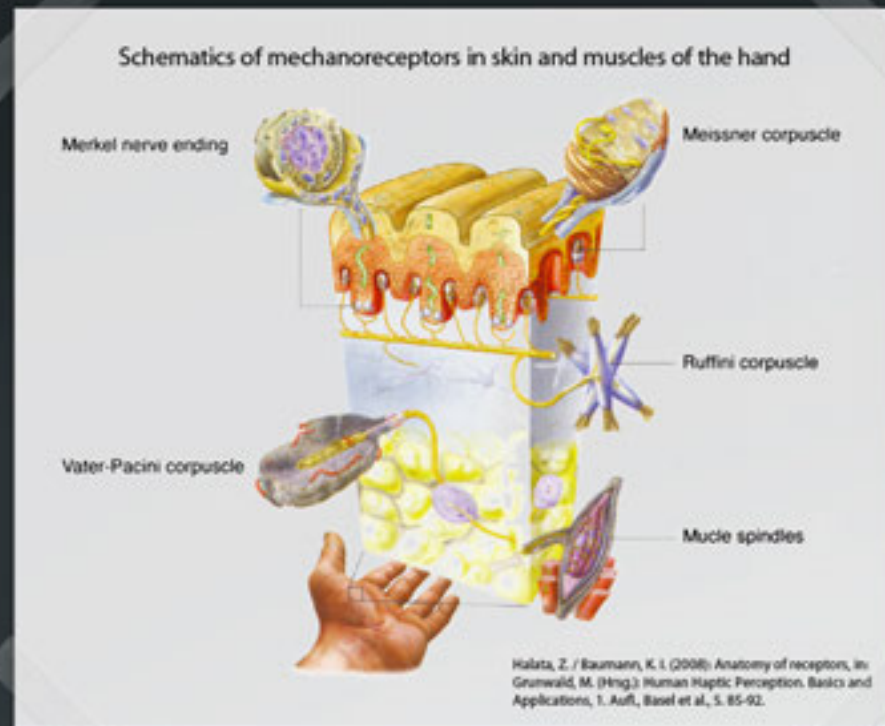
- 1 **Know your target group.**  
User perceptions are very subjective.
- 2 **Concentrate on the hedonic qualities.**  
This creates a stronger emotional bond and intensifies the use of the product.
- 3 **Put more effort into the development of tactile design.**  
„Beauty in touch“ arouses pleasure and therefore positive emotions.

## Products can have character attributes that make them either tools or toys.

It depends on the user's set of mind, if a product is perceived to be either hedonic or pragmatic. Mindsets are determined by the user's intention to solve a problem or to explore.







## USER EXPERIENCE THEORY QUALITY

- 1 **Products can be seen as „tools“ or „toys“.**  
That depends on the mode the user is in.
- 2 **The more „toy“, the more „fun“.**  
Stimulating the user leads to a stronger emotional connection.
- 3 **Tactile Design and User Experience are extremely subjective.**  
Designers have to know the needs of their target group very well.

Every product can be perceived either as “tool” or “toy”. That very much depends on the mode the user is in. Either he wants to solve a specific problem like opening the car’s door to improve its own mobility, or he wants to discover

possibilities, which means to play with the object. Therefore one can say, that door handles are mostly used as tools. If designers are able to improve the hedonic attributes, the user’s emotional connection could be improved and ultimately

transferred to the car as a whole. As this isn’t one of the easiest tasks, because tactile impressions and perceptions are extremely subjective, designers should ask the target group they’re designing for and conduct empirical studies.

The results show that the visual impression has a negligible influence or effect on our haptic sensations. From this it can be interpreted, that “bad” tactile design can hardly be compensated for in a visual way. Thus, the results of this empirical study underline the importance of an “appealing” tactile design regarding a positive user experience of the product.

## A brief summary of the results

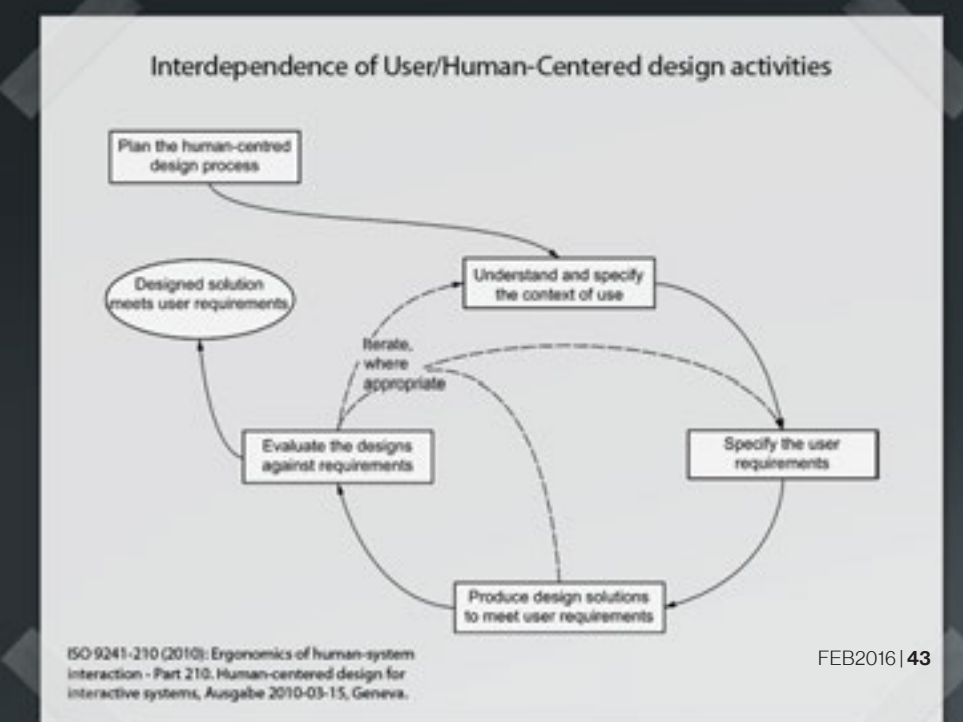
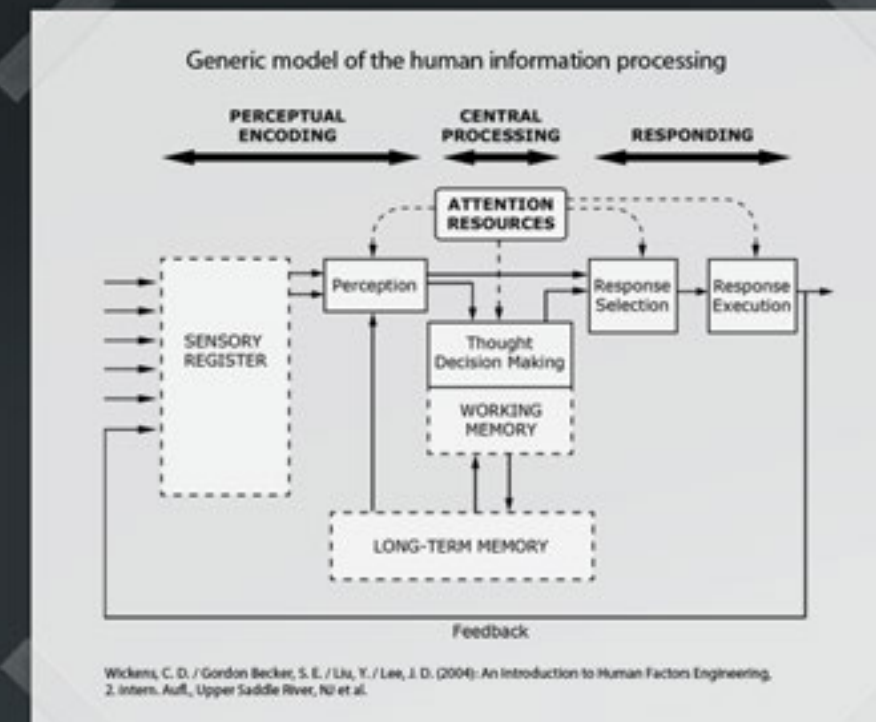
The conducted empirical research suggests, that tactile impressions can’t be improved directly through visual information.

The tested products actually lack of hedonic qualities.



## RECOMMENDATIONS FOR IMPROVEMENTS

- 1 **Know your target group.**  
User perceptions are very subjective.
- 2 **Concentrate on the hedonic qualities.**  
This creates a stronger emotional bond and intensifies the use of the product.
- 3 **Put more effort into the development of tactile design.**  
„Beauty in touch“ arouses pleasure and therefore positive emotions.





# Develop an eye for the beauty of coincidence

Inspiration and beauty is out there. Almost everywhere. The goal of this project was to learn how to see.

Exercises in color composition helped to discover small treasures.

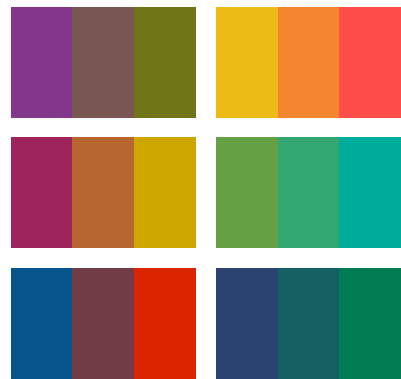
Before you can actually start to discover beautiful things in the world, you have to learn how to see them. Therefore, various exercises in advanced color perception and composition had to be completed first. A truly harmonious or interesting impression can only be achieved, if the colors are well combined. The middle mixtures below show how two or even three colors were blended at the same time.

To perform the exercise below, you simply take two Color-aid sheets and try to find the missing one in between. If you are successful, the result will look like the colors on the left and right are blended together and become semi-transparent. But this is only a blend of two colors. The triangle on the right takes the exercise one step further and combines the three boundary colors of every side at once.

Pratt



Color-aid is a type of textured, heavy paper used by graphic illustrators, architects, fashion designers, interior designers, photographers, artists and other creative professionals. It is commonly used in art and design classes to teach color theory and for arts and crafts applications.



Middle mixtures above show overlapping, transparent colors. Fields within the triangle are influenced by three colors.



# COLORFUL INSPIRATION

Color Book & Advanced Color Perception



## Unintended

Photography (2012)

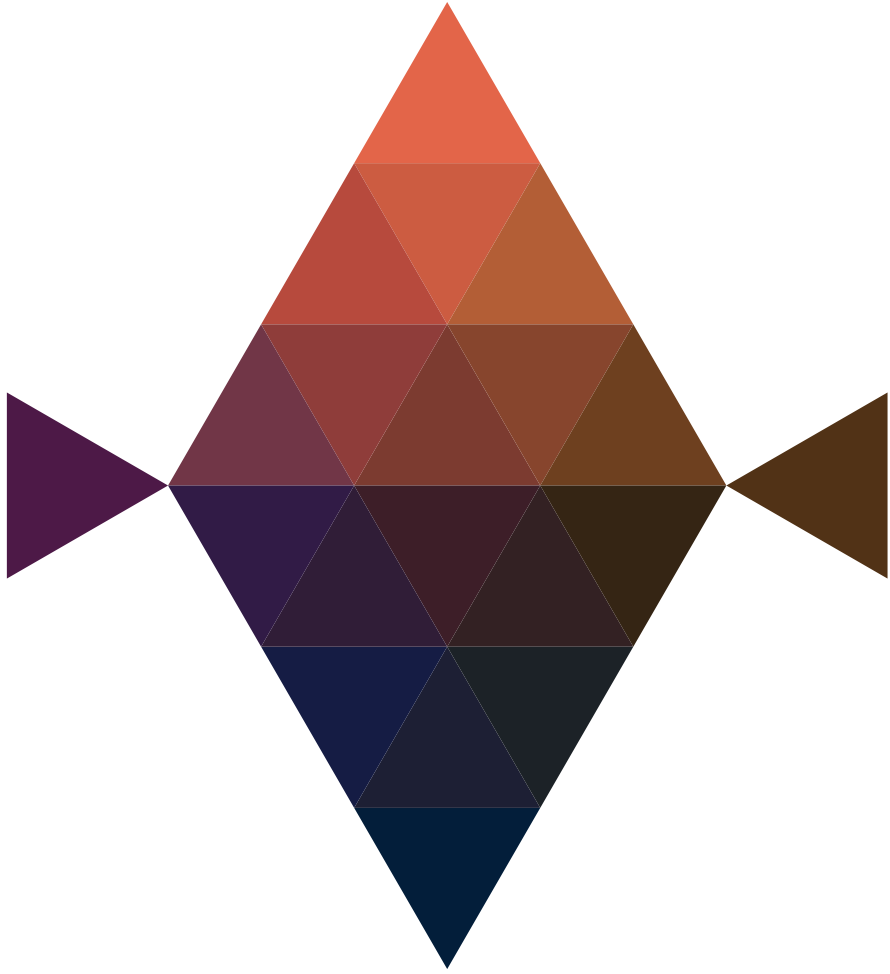
Sometimes, beauty can be found where we wouldn't expect to. We just have to develop an eye for it. The photos were taken inside an industrial factory. They either show marks on the wall, casting molds or simply the floor everybody walks on. On the following pages, seeing plays an important role.



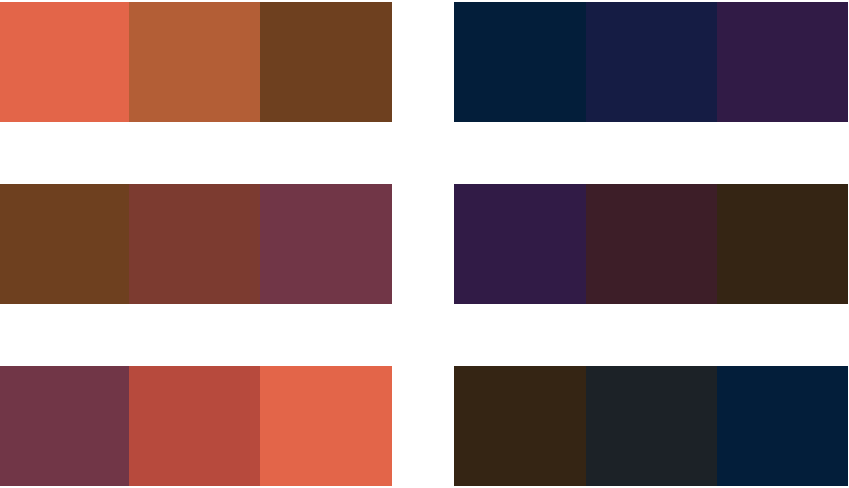
The depicted diamond on the right consists of two colored triangles, which are influenced by four poles. On the sides, one can see purple and a greenish brown. The top and bottom represent the two poles of colored light and shadow.

Semi-transparent middle mixtures are the basis of this exercise and have to be created step by step. Every triangle's side is composed of three colors that subsequently get blended together. Some of the results work better than others.

I'm proud to say that this exercise really changed me and helped to develop a more nuanced perception of color and light. After a while, you actually beginn to see blends throughout your day and discover a never known dimension of joy.



The photographs on this page show examples of my work to create a so-called Color Book. That is basically a collection or library of experiments on color, materials, gestures and composition. A broad variety of techniques like painting, printing, stamping, rubbing and even gluing got explored. Finally, some were selected and applied on dresses as fashionable patterns.



# A systematic approach on experimentation

The main idea of the Color Book is basically to create a collection of personal works to push ideas on color applications further.

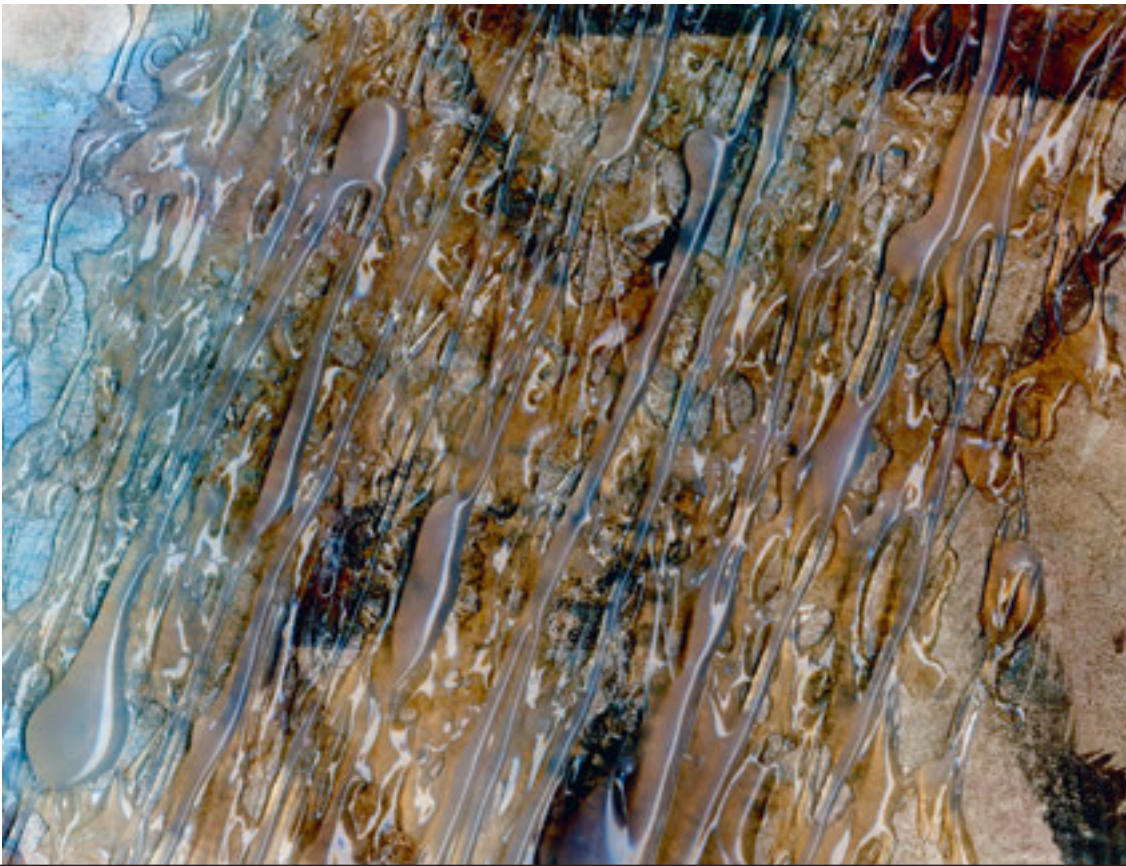
Below, two pages of experiments were applied as patterns for dresses.

## Color Diamond

Blended Color-aid Sheets (2012)

The Color Diamond is basically a combination of two Color Triangles. It obviously makes use of the idea of middle mixtures, which consist of two blended Color-aid sheets per triangle side. The main difference is, that it incorporates not only two poles of color, but also colored light and shadow.

This exercise was the epitome of the first years advanced color class at Pratt. The main difficulty was to blend every color evenly, without destroying the visual relationships between the other arrays every field of color is ultimately part of. Also the amounts of light and shadow had to be matched.





Soft & Well Fitting Collar



Fancy Shoulder-Pads



Love For Details



## Adjustable

### Soft Collar (2013)

The yellow collar is made out of soft and slightly stretchable fabric. That allows many different users to achieve a perfect fit. It also makes the poncho fall in a nicer way.

## Statement

### Shoulder Pads (2013)

Clearly, the purple and shiny shoulder pads are a very quirky detail. But as the wearer of the poncho wants to make a fashion statement, it provides a purpose.

## Applied Details

### Webbing (2013)

Lovely details like the webbing between the beige and green parts of the poncho provide a sophisticated look and show a skillful use of the sewing machine.

Pistachio Look

Equal Front & Back

Flexible End For Bike Or Car Use

Two-Part Look

Flexible Shield

Breathable

Water Repellant

Stretchable Fit



## Pistachio Look

### Cap & Poncho (2013)

The overall look of the cap and poncho was obviously inspired by pistachios nuts. Colors and materials were selected, to mimic the visual appearance of the natural object as closely as possible. New York City offers great resources of fabric stores in Manhattan's famous fashion district. The costly, but also valuable and natural materials were thoroughly selected to match the developed color palette of the inspirational photograph on the right side of this page. As to the amount of sewing, I had to learn how to make patterns and use of the machine.

Personally, I love caps and hats from Kangol. The British company is well known for their great designs. Therefore, I decided to create my own version of a cap as this project's topic was presented to me. It was a less-than-easy job to figure out the necessary steps to sew such a piece of clothing without any prior knowledge of the matter and the machine itself. Nonetheless, it was great fun and therefore I chose to make an additional poncho that fits the style of the cap. Both pieces together provide a unified and somehow quirky look.

# PRÊT-À-PISTACHIO

## Wear & Carry – Color Sewing Project

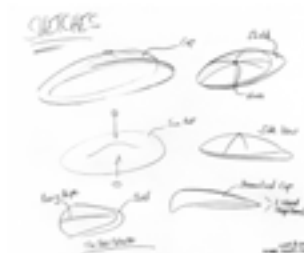


## Inspiration

### Pistachio Nuts (2013)

Interesting aspects of pistachios are the concepts of protection, hard vs. soft and empty vs. filled. Harmonious hues as well as values are most striking. Achromatic characteristics like the gentle and silky reflections of the shell seem to be contradictory to the actual feel of touch.

The design process started off first with sketches for the cap. Several concepts were explored and a certain style selected. Thereafter, the inspirational image of the pistachios got cut into pieces and the colors separated. That also allowed to create a bar graph to get a better idea of the amounts of specific colors inside the image. Six of the most important colors of the graph were chosen to form the desired color scheme.



Made to be a strong “fashion” statement, the almost superhero like cap and poncho were inspired by a photograph of pistachio nuts. The goal of this project was mainly about to learn how to develop a personalized color palette as well as pattern making and machine-supported sewing of fabrics. All chosen materials are a hundred percent natural, yet partially laminated with plastic foil to provide shelter from the rain and wind.

## Not really meant to be taken seriously

Inspired by pistachios, this project was about applying a natural color scheme to a quirky, machine-sewn piece of “fashion”.

It all started with an idea for the cap but soon went really “nuts” with the poncho.





## Patterns

### Variations (2012)

Two rug patterns were worked out. Each of them focuses a different feeling. The one on the left goes for the rocks. The second one catches the fog and open space.

## Color Palette

### Harmonious Hues (2012)

Both rugs are based on one common color palette. They look different as the right one addresses the painting in a whole, whereas the other only the foreground.

## Styling

### Exciting Abstraction (2012)

The abstract yet exciting rug styles fit nicely into the living room. They act as real eye catcher, especially in modern, reduced, and simplified environments.



## Fog, Rocks & Romantic

### The original oil painting (1818)

The painting is composed of various elements from the mountains of the Elbsandsteingebirge in Saxony and Bohemia, sketched in the field but in accordance with his usual practice, rearranged by Friedrich himself in the studio for the painting. In the background to the right is the Zirkelstein. The mountain in the background to the left could be either the Rosenberg or the Kaltenberg. The group of rocks in front of it represent the Gamrig near Rathen. The rocks on which the traveller stands are a group on the Kaiserkrone.

In modern and reduced environments like the living rooms above, the rugs styles are true eye catchers. The one on the left mimics the feeling of the rocks in the foreground of the painting. On the right, the vast and open impression, as well as the mist and fog are the topics. The dividing bar in between the photoshopped images shows a printout of the oil painting, cut in small pieces and rearranged according to their colors. Of course, the size of the rugs could be varied to make them fit for smaller rooms or seamless application.

# RUG DESIGNS

## Wander above the Sea of Fog

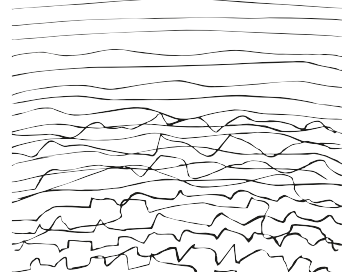
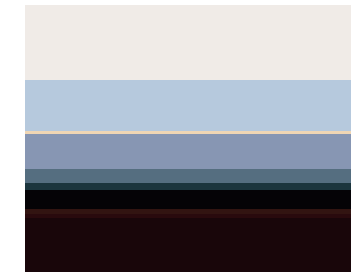
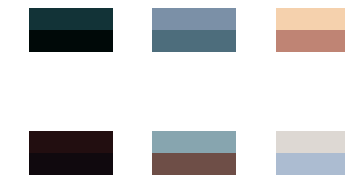
## Inspiration

### Romantic Painting (2012)

The project's focus was mainly to get inspired from a painting of choice and extrapolate the essence of its feeling into a design subsequently. I love the subtle color palette of Friedrich's painting and figured I could use it to wander on the sea of fog on my own.



The first step was to cut a printout of the painting in small pieces. The parts were arranged according to their color, which allowed creating a bar graph and an adjacency palette. I started sketching to catch the feeling of the painting. The black and white drawing on the right was the final result. It got scanned and vectorized via Illustrator. Finally, I started to experiment with Photoshop to get the desired impressions right.



The idea behind this project was to wander on the sea of fog, as the man in the famous painting does. Personally, I love Caspar David Friedrich's romantic scenery. Therefore, it was an easy decision to study the feeling of it and reinterpret the color palette into a rug design. Both versions go for different parts. The left one is about the foreground, whereas the other deals with the entire painting and the feeling of open space.

## Caspar David Friedrich got reinterpreted

Adopt the feeling, visual rhythm, and color palette from a beautifully romantic painting and apply it to a rug design.

With this accessory, everyone's living room will become the sea of fog.

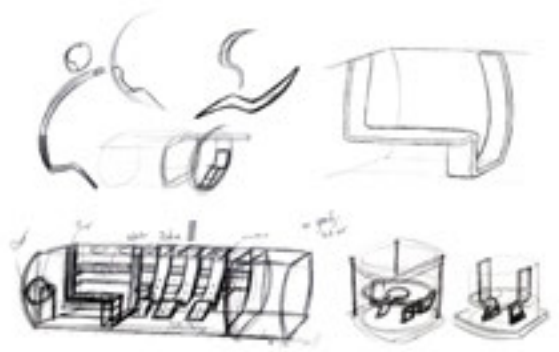




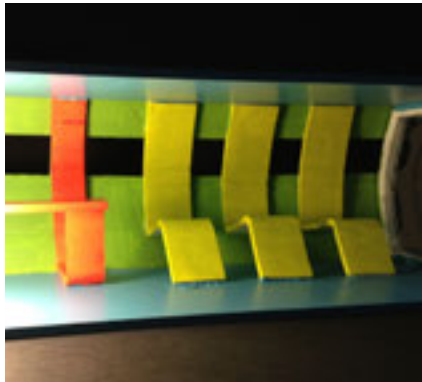
The International Space Station ISS. It could definitely use some color and more variety.



Synesthesia inspired Red Bull colors. They were applied to a poster-like collage and cut out.



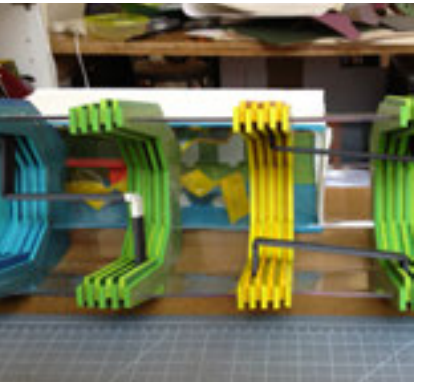
Rough sketches helped to visualize the initial ideas and developed the details of the interior further.



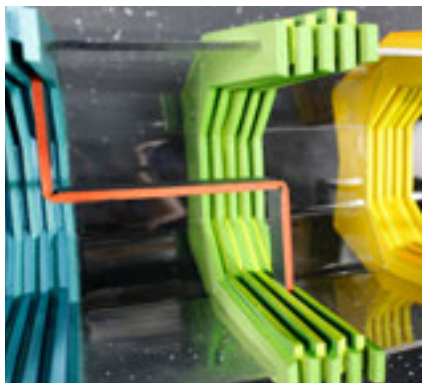
Light studies were conducted to see how the hues change according to the position of the sun.



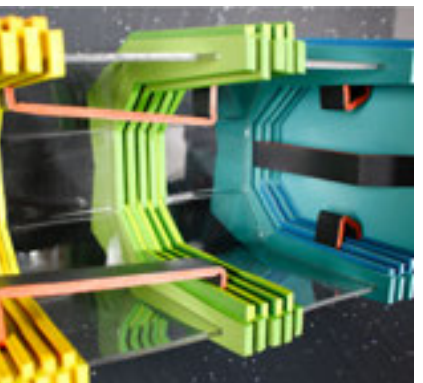
I took the initial concept apart to develop a version that allowed a better sight down to earth.



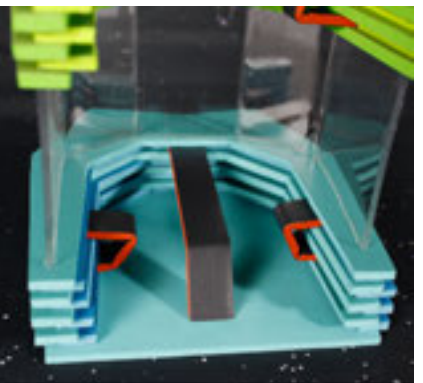
Huge windows made out of frostable glass allow a unique view and offer an open space feeling.



The furniture is designed to be used in zero gravity. Therefore, the orientation doesn't play a role.



One of the lounge chairs is even mounted on the "ceiling". 720° of freedom of movement are fun.



In the dining area, the astronauts enjoy their meal and a panoramic view down to earth or into space.

## The taste of Red Bull inspired the colors

### Sections

#### Container Space (2013)

The container space concept is divided into three main sections. In the bar area, the astronauts enjoy a cooled Red Bull energy drink. The middle of the container offers lounge chairs to relax. In the dining area, they celebrate a meal.

The mixture of acidic base tones connected with a steep and accelerated, sweet-sour head note doesn't only help students through the night. The brand is known for its involvement in Formula One racing and stunning airplane shows. Recently, new world records were set by the stratosphere base-jump of Felix Baumgartner within the Red Bull Strato project. So what will be next? This is where my container space project steps in. It's actually a detachable module for the International Space Station ISS and illustrates a science fiction like dream of how astronauts could life, relax, and enjoy in the future.



#### Bar Area

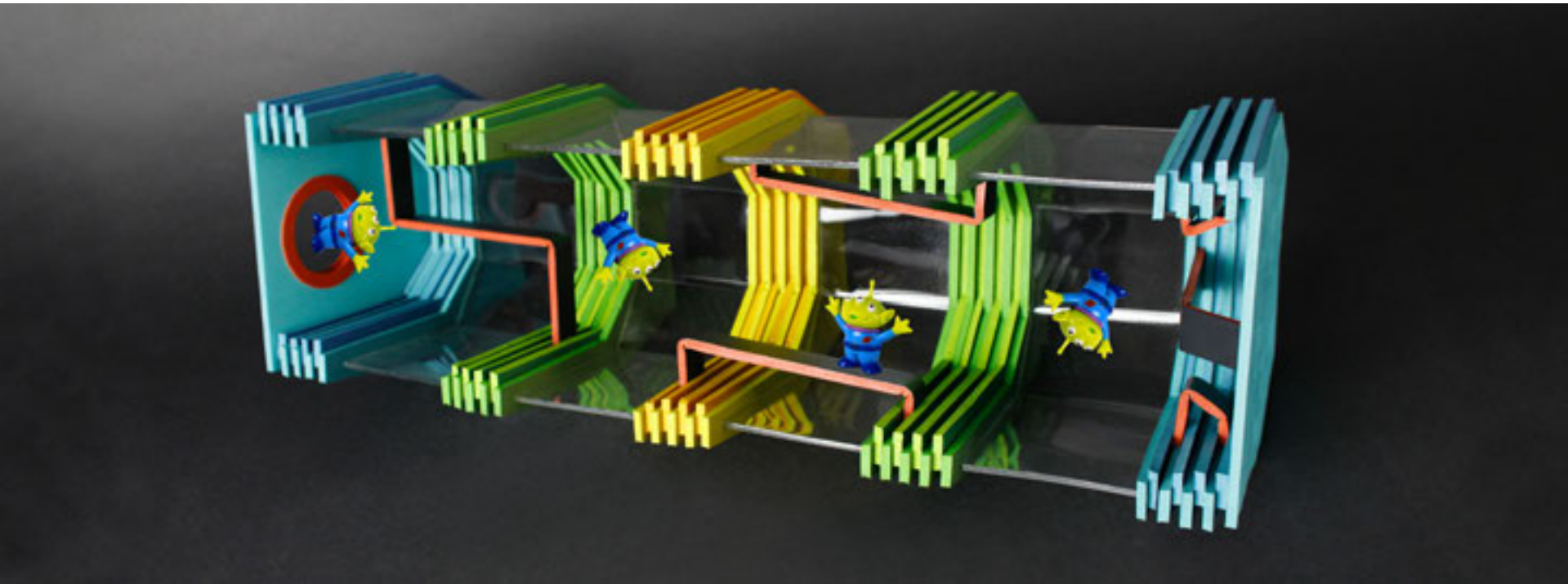
Enjoy Red Bull Energy Drink with colleagues in a levitated environment.

#### Lounge Area

Take a nap or simply relax on the gravity-simulating lounge chairs.

#### Dining Corner

Prepare for the 360° space view while you're having a delicious meal from earth.



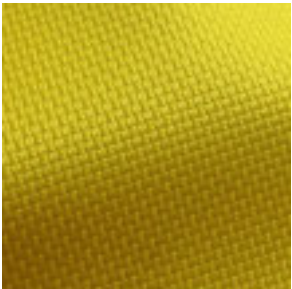
**Cyan Carpet**  
Light Texture



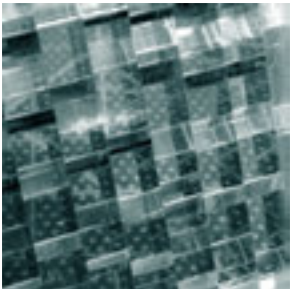
**Green Carpet**  
Heavy Texture



**Yellow Carpet**  
Medium Texture



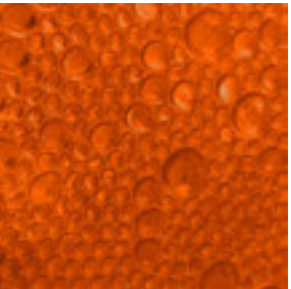
**Frostable Glass**  
Private Parties



**Genuine Leather**  
Finest Quality



**Red-Orange Foam**  
Slightly Flexible





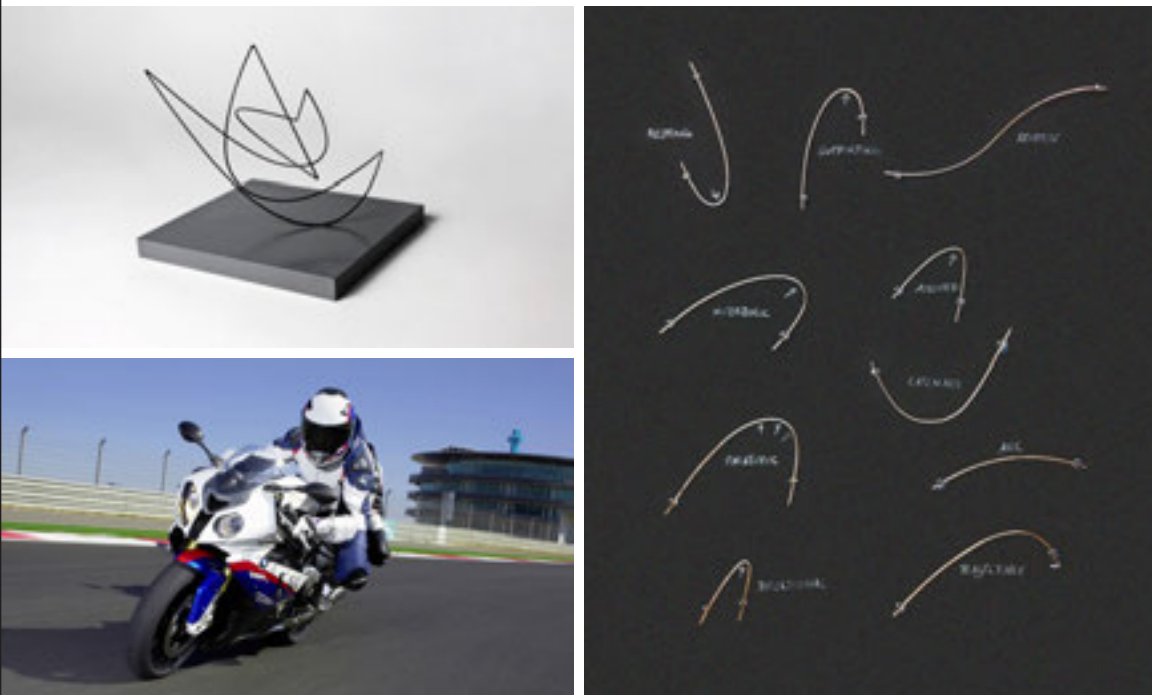
## Objects and space influence each other

Projects on the following pages are studies on objects and gestures within a mutually influenced space.

Splines, full body objects as well as fragments were carefully examined.

Basically, this class was about developing ones recognition of abstract elements. At some point, objects, gestures, and movements resonate in space and start to look right. The trinomial concept of visual elements can be applied to almost every aspect of design. The goal was to become so familiar with the principles of abstraction that one automatically thinks of a visual problem in terms of organized relationships.

Objects have their own entity in the space they're placed in. It's a mutual relationship, as the space seems to influence the impression too. The following pages deal exactly with that relationship. Positive and negative space, as well as gestures and implied movements are the ingredients that make something interesting. The dominant, subdominant and subordinate elements provide a hierarchical visual structure within.

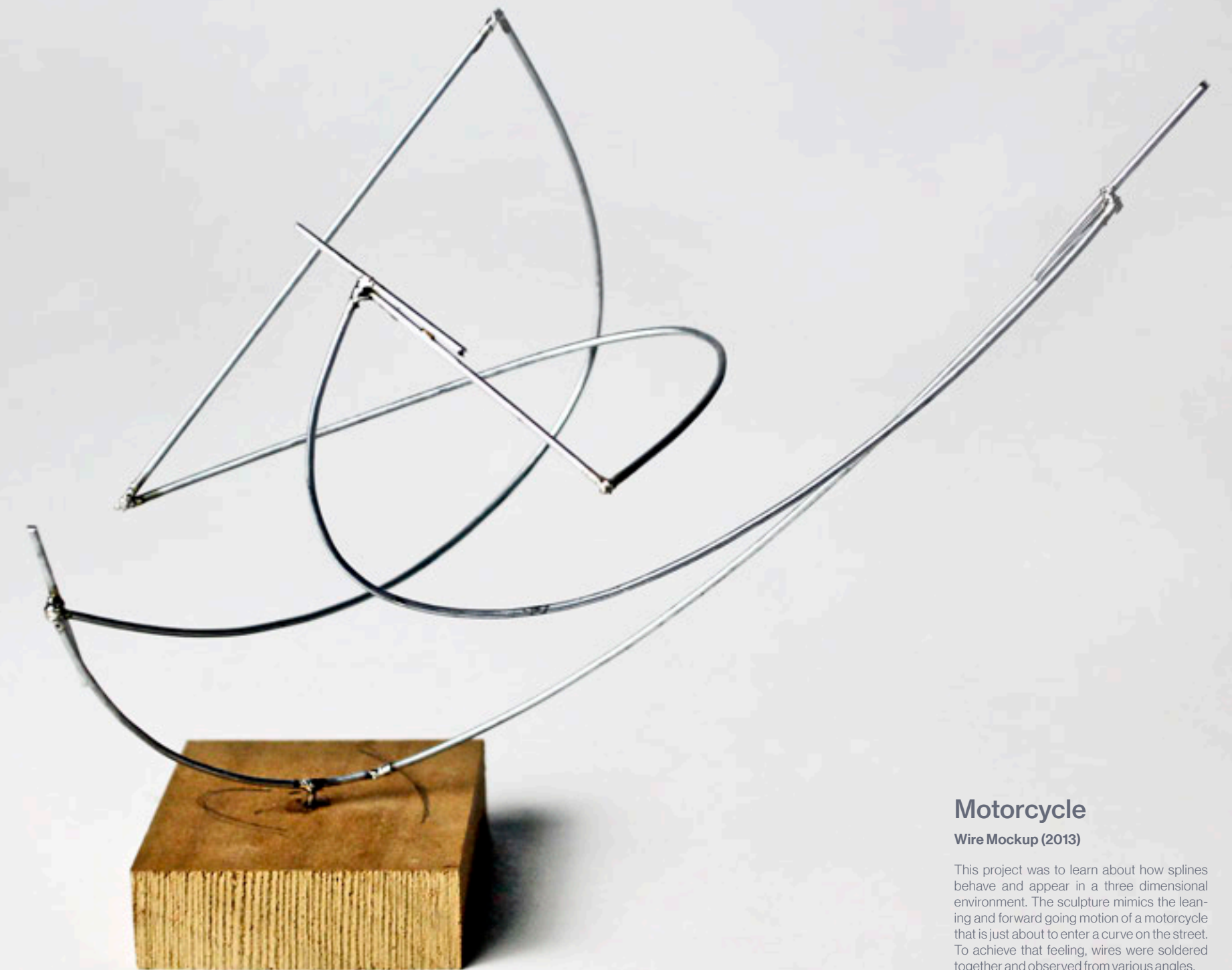


A library of multiple splines and curves was collected and used to mimic the visual gesture of a turning motorcycle.



## THIRD DIMENSION

## Spatial Gesture Studies



## Motorcycle

### Wire Mockup (2013)

This project was to learn about how splines behave and appear in a three dimensional environment. The sculpture mimics the leaning and forward going motion of a motorcycle that is just about to enter a curve on the street. To achieve that feeling, wires were soldered together and observed from various angles.



You achieved a good result when all visual relationships within the arrangement are organized in such an exquisite and dependent way that every element supports and strengthens each other's balance and tension holistically.

The course augments innate talent through practicing the principles of visual relationships. A somehow objective science of visual dependence and series of exercises connect the intellectual understanding with eyes and hands.

The range of exercises varied in extent and level of difficulty. They started out with rectangular forms in space. Then curved volumes were added. Fragments of plutonic forms and curved lines in space complete the class.



## Moving Objects

### Spatial Directions (2012)

Take advantage of the way an object "reads". Most people have an easier time reading the symbolic signs and literal messages but don't consciously perceive the abstract relationships of forms, colors, and textures. They pose the meaning and structure of the communication and convey real sensual feelings.

After a while, you began to study more remote aspects of the problem, or confer with classmates. The teachers encouraged the students to visually cross boundaries and suggested new forms, materials or techniques. We were told to be more detached and scientific about design, instead of invoking traditional rules or personal taste.



There are only a couple of rules. Symmetry should be avoided in the exercises because the solutions are too easy. Good three dimensional design objects read equally from every angle. The compositions are based on organizing the relationships as well as implied axis between the dominant, subdominant, and subordinate parts to achieve a feeling for direction and balance.

## Direction and balance in spatial arrangements

**Objects can be headed to a certain direction or express a sense of balance in positive and negative space.**

Organized relationships show a feeling for their spatial environment.





# Enjoy your coffee like never before

Utilized stimulation of senses to improve the mobile coffee experience. Smell and taste as the core elements of beverages.

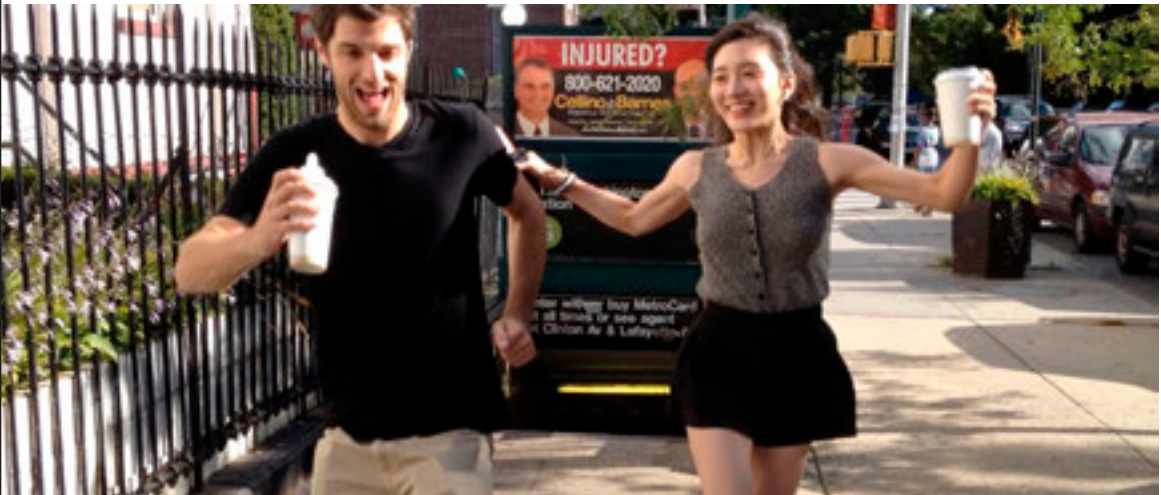
Quirky and eccentric coffe cup lids, designed for a mobile lifestyle.

Our extensive research on the existing coffee cup lids has shown several disadvantages in various aspects. Either they were uncomfortable, inconvenient for a mobile use or simply didn't feel good in between the lips. Moreover, we found that stimulating the sense of smell can influence the perceived flavor of beverages. In fact, the scents of certain perfumes could even limit your brain to work in a purely visual way.

Insights from the research were used to generate ideas. The best ideation sketches were selected and digitally built with SolidWorks. Rapid prototyping models served as the molds for the vacuum formed polystyrene. The selected colors of the Joie logo represent the values of the created coffee lids. Blue stands for freshness, coolness, and inspiration. Brown is the symbol for coffee, chocolate and other great deserts.



The philosophy behind the invented company Joie is to make our world much more colorful. Humor and fun are the utilized methods of choice to create a mobile coffee experience unlike everything before. In the future, a monotonous, black and white lifestyle will become a distant memory.



The scenario above illustrates how much fun and mobile your life can be, if you use one of the Joie coffee cup lids.



# COFFEE CUP LIDS

Sean Fogarty, Olivia Kim, Michael Meier



## Sensual Pleasure

Smell, Suck & Play (2012)

The coffee lids project was all about adding and intensifying the sensual pleasures we get from drinking coffee. One lid is about the smell of hot beans filled into the lid. Others are about gamification and provide a crossword puzzle. The by far funniest lid however, mimics the oral pleasures babies get from a pacifier.

Joie [ʒwa]  
French, nom féminin  
1. [bonheur] joy, delight  
2. [plaisir] pleasure







## SolidWorks models helped to figure out the details and a perfect fit on common cups.

To achieve a tight fit on the cup, a SolidWorks model was created. It also incorporated the shrinkage of the polystyrene material during the vacuum forming process.

The development process was a lot of fun and so are the final coffee lids. That was due to the crazy nature of the ideas and the experimentation during the refinement. Within only five days, we had to figure out the details of the manufacturing, vacuum forming abilities of the polystyrene, and shoot an advertisement video. The latter illustrates the making process as well as scenarios of use.

## Development process of polystyrene coffee lids

From research to ideation sketches and Solid Works models. Resulting 3D prints led to the molds for the final prototypes.

Exploration of techniques and material to achieve the best possible result.

## Renderings and explosion drawings illustrate the final look of the lids on the cup.

Before we actually went on into the manufacturing process, the state of the project was discussed based on SolidWorks renderings and explosion drawings.



## Several ideation sketches to address the disadvantages of existing coffee cup lids.

Our inspiration came from natural objects, the pros and cons of existing coffee cup lids, as well as mobile aspects and the goal to address our senses in an exciting, pleasurable way.



## 3D prints were used as molds for the final vacuum forming of the polystyrene sheets.

It was decided to use 3D prints as the molds for the vacuum formable polystyrene sheets, as they're relatively cheap but foremost precise and really fast to produce.



## One of the lids was inspired by a pacifier and designed to feel good in between the lips.

Babies love their milk and cacao, but adults would definitely go for coffee and tea. The idea of the pacifier lid is that grown-ups feel the same relaxation as children again.

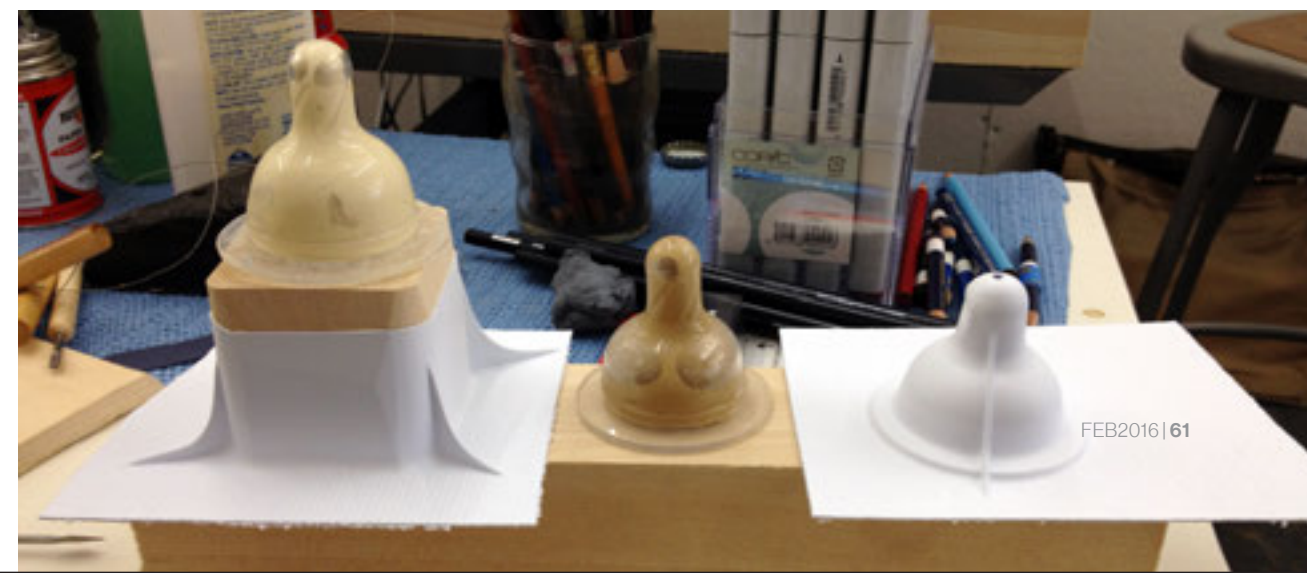
## Exploration of mockups, 3D printed molds, and final prototypes of polystyrene lids.

The whole manufacturing process worked out really well and the resulting coffee cup lids look very professional. The next step was a field test, photos and to produce a video.



## To achieve good results, the polystyrene was tested for its vacuum forming capabilities.

We were not sure if the polystyrene had the abilities to stretch all the way necessary to make it look like a pacifier. Several vacuum forming test proved the feasibility and process.







## Beans on top

### Aroma Coffee Cup Lid (2012)

According to our research, the sense of smell has the power to influence the flavor of beverages. Therefore we decided to implement that idea into a coffee lid, to intensify the experience and enjoyment. Moreover, we addressed the spillage problem for mobile use. The final smell lid has a flip-over / pull-off latch.

The video snapshot on the left shows that the nose is exactly above the openings of the lid, which acts as a vent to stimulate the olfactory senses. The coffee lid is actually a small container that contains hot, freshly roasted coffee beans. The steam of the hot coffee inside the cup will transport the smell upwards.

The values of the Joie coffee cup lids will please different types of adults. All of them live a mobile lifestyle and find great joy in drinking coffee and tea beverages. The lids stand for freshness, coolness and will inspire the consumers.

Get in contact with other people, relax and enjoy your coffee with the pacifier lid. It was designed to feel good in between your lips and provide enough space for foam-topped coffee beverages. It's an eye-catcher wherever you go.

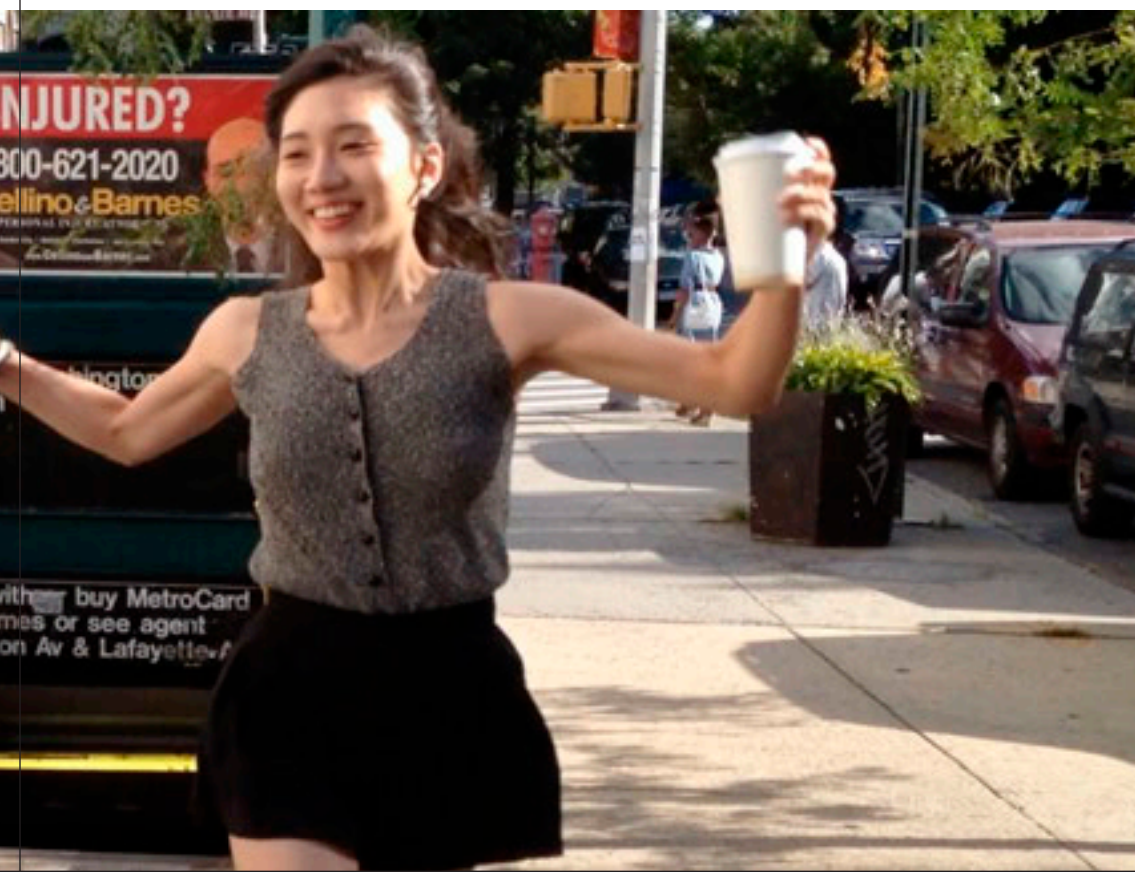
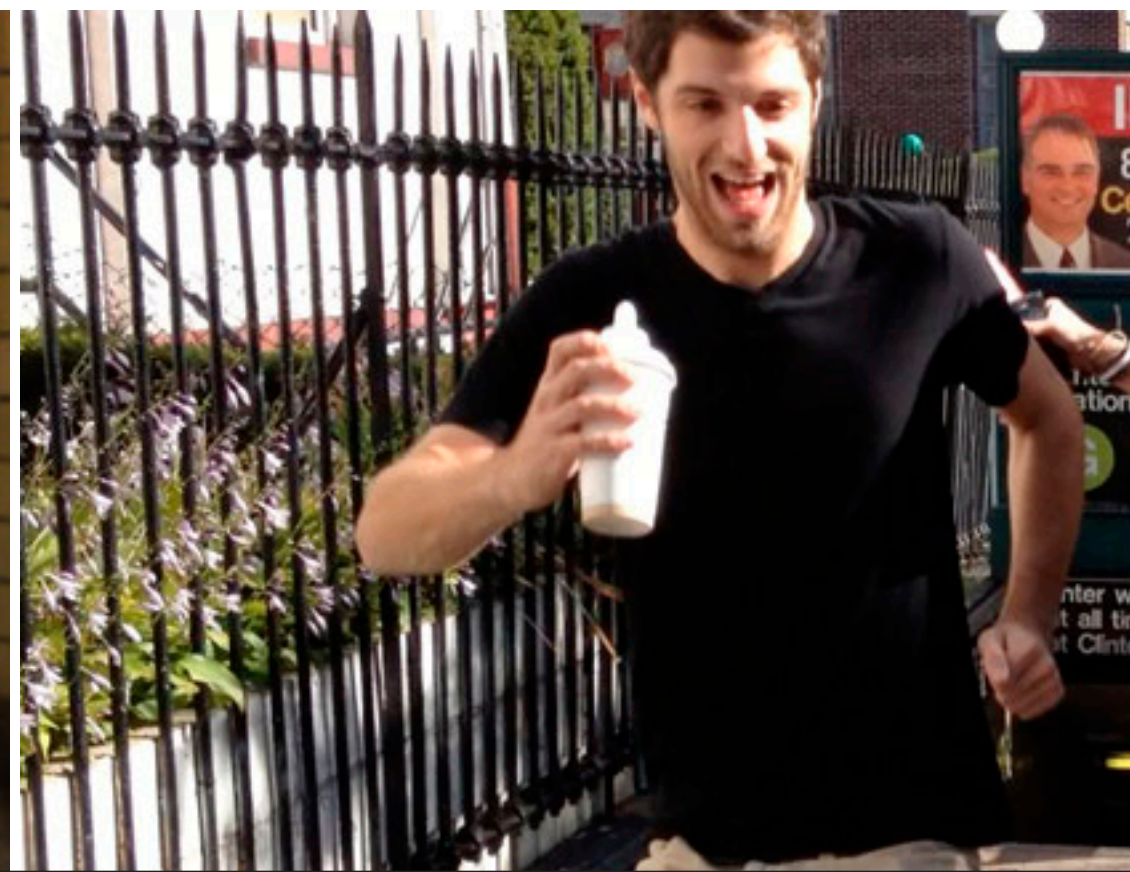
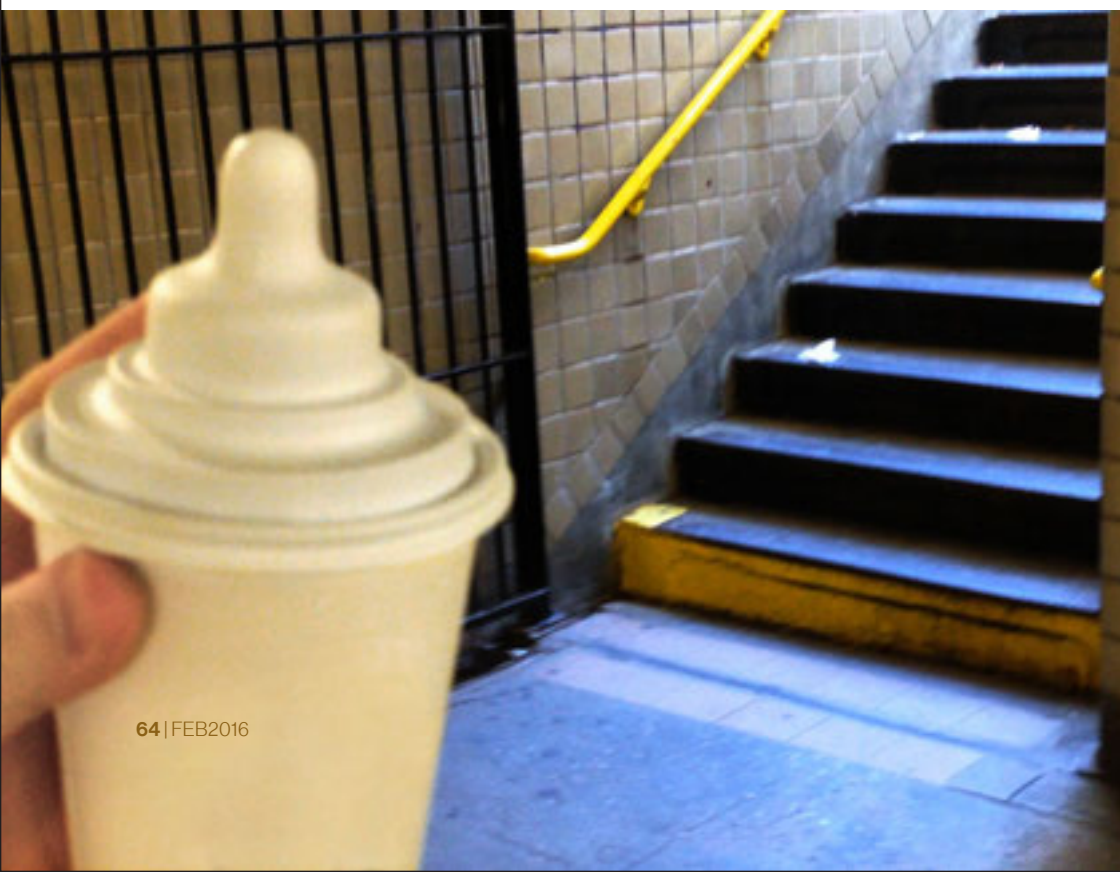
The aroma lid intensifies the taste of your favorite coffee and or tea. It works like a vent for the hot steam of the beverage and transports the smell of the roasted beans or fresh tea leaves inside of the lid-container directly into your nose.

Imagine the aromatic flavor of your favorite coffee or tea. You either have it in the morning, your way to work, or even on a relaxed afternoon during the summer. Get it at your local coffee shop or brew it at home. It doesn't matter. The taste will always be an enjoyment. In case you're stressed, use the pacifier lid. It will cheer you up and help to relax the way you did as a child.

## Scenarios from the advertisement video

Happy people use the coffee cup lids in parks, the subway or on their daily walk to work. They enjoy their life to the fullest.

Playful grown-ups jump around and have no more worries, thanks to Joie.





# Making use of an unexpected material

Common socks made out of cotton can be used to replace the outer hull of a Motorola barcode scanner.

A Foot Locker branding matches the function with the visual appearance.

This project's goal was to design a hand-held barcode scanner for Motorola. My idea was to replace the plastic body with an unexpected material to change the experience of the device entirely. I got inspired during a field trip to one of the companies design studios in New York. Some of their scanners looked like human feet and so I figured that one could use conventional cotton socks as the outside material.

The use of a cotton-based material has several pros and cons. For example, the haptic feeling of the object changes almost entirely. It suddenly becomes softer and lighter than plastic based scanners. Moreover, the possibilities for product branding increase. A disadvantage is that the sock might look worn out after some time of use. Yet, this disadvantage combined with branding could offer nice chances for an aftermarket.



Motorola Solutions, Inc. is an American data communications and telecommunications equipment provider that succeeded Motorola Inc. following the spin-off of the mobile phones division into Motorola Mobility in 2011. The company is headquartered in Schaumburg, Illinois, a Chicago suburb.



The sketches above were done on a Wacom Pad and show the frame as well as the desired final look of the scanner.



## Abused Purpose

Sock Marketing (2012)

Instead of applying an expected plastic shell to checkout barcode scanners, this project makes use of conventional socks. They are simply slipped over a shape giving skeleton that ultimately makes the scanner look like a real foot. It can be used either as hand-held device or in an upright standing position.



# SOCK SCANNER

Barcodes, Motorola & Foot Locker





**The SolidWorks models show which parts of a real foot are necessary to form the fabric.**

I started with an organically formed foot and subtracted material until the result on the right was achieved. The goal was to use as less plastic for the structure as possible.

The development process of this project was de facto quite interesting to me. On the one hand, I had to figure out how the fabric of the sock behaves on top of a provided plastic structure. On the other hand, I wanted to use as less material as possible. Moreover, it was fascinating to see how far you can actually push an allegedly crazy idea like this if you try hard enough to make it happen.

## A somewhat crazy idea takes shape

**From initial drawings to mockups and finally 3D printouts. It's not that simple to form the sock like a real foot.**

Experiments on structure to achieve a realistic foot-like appearance.

**Logos of Foot Locker and Motorola were applied to the final scanner prototype.**

A conventional masking technique was used to get the logos onto the sock. The official colors of Foot Locker and Motorola were mixed and applied with common acrylic paint.



**The first mockup with an old worn out sock doesn't look good, yet shows potential.**

Initially, a quick mockup was built to get a better idea about how the fabric behaves on top of a provided structure. The photo on the right shows, that the handle was too short at fist.



**The barcode scanner can be used either in an upright or hand held position.**

According to the situation at the checkout, the hand held scanner can be used in two different positions. The upright standing orientation is perfect for slide-over scanning.



**Wacom Pad sketches of the inner plastic structure and the desired final look.**

The renderings were done to catch the desired feeling of the plastic structure as well as the final sock-covered prototype of the scanner. In the next step, a 3D model was created.

**A stage was built to produce an advertisement video for Motorola and Foot Locker.**

The diorama-like backdrop was built to stage a sock puppet advertisement video. For that purpose, I also had to prepare funny looking puppets and write a short story for them.



**One of the more advanced structure mockups next to the final 3D printout.**

Later structure models also needed fine-tuning in SolidWorks. From the resulting 3D data, a full-scale printout was done. Quite some time was necessary to get rid of the supporting material.







## On Location

Foot Locker, Brooklyn (2012)

The Foot Locker store in Downtown Brooklyn actually allowed me to take some photos. A little bit of discussion was necessary, but finally I could convince the manager that there isn't any commercial interest in what I was about to do. Nonetheless, I was restricted to show the scanner only on the checkout desk.

One can see that the scanner fits perfectly in the Foot Locker atmosphere. It is just a great eye-catcher and the employees told me, that it actually feels better than a regular barcode scanner made out of plastic. A possibility for the future could be to assign every cashier a personal sock sleeve with a different color.

The stage for the sock puppet play was built like a diorama and shows shoe shelves inside a Foot Locker store to create a certain amount of perspective. Some space was behind the curtains to actually hold up the puppets, made of real socks.

After both sock puppets left the stage of the TV ad, two speaking hands show up and explain why socks usually don't stay in a Foot Locker store for a long time. They perform some funny gestures and recommend a website.

Within the TV ad, two sock puppets called Moto and Rola talk to each other about the fact that suddenly all other socks seem to disappear. Moto didn't know that Rola was indeed a scanner too and so Rola checked Moto out - BEEP.

The photos show the Motorola barcode scanner in its natural environment. They were taken in the Foot Locker store in Brooklyn. After a little discussion with the manager of the branch, I was allowed to take the two pictures one can see on top of this page. Clearly, one can see that the scanner is an eye-catcher at the checkout desk. It perfectly fits the funny US-Foot Locker TV ads.

## Natural habitat and advertisement video

The photos show the barcode scanner inside its natural environment as well as snapshots from the sock puppet play.

Puppets talk to each other about why all socks suddenly disappear.





## The importance of location

Sticky notes are great to place thoughts in various places. This project was about the accessibility of our notes.

The best note pad is useless if it's out of sight, reach, or simply not ready.

No one can tell how many good ideas actually get lost, just because there was no note pad around. Imagine you could take notes faster and easier than ever before. That's the core idea of this project. It focuses on the key aspect of location to provide a smarter note taking experience. No matter if you're in a meeting, on the phone, or simply need a reminder for an appointment. Your daily office routine will change.

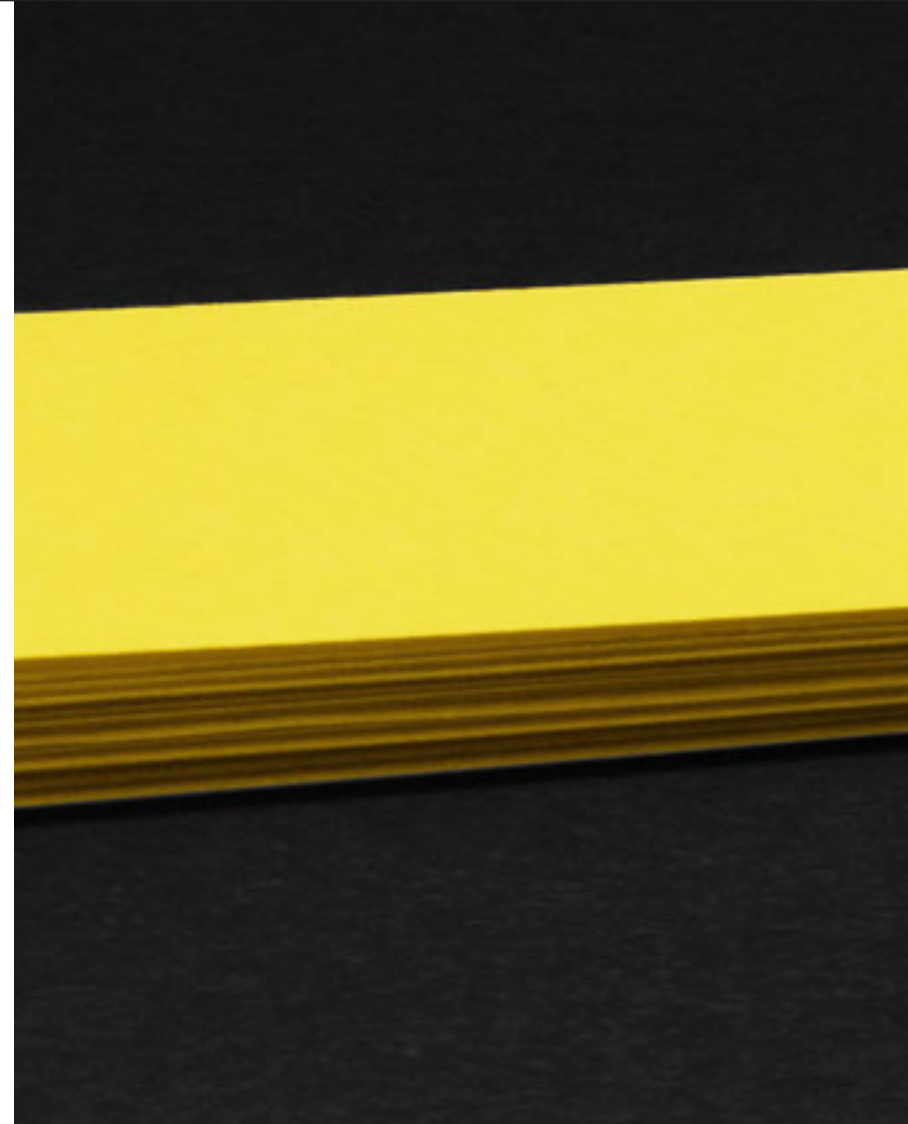
The note pads are made of regular paper, just like common Post-it notes. They're manufactured with a process called shearing or die cutting. That's basically what you get when scissors are combined with an office stamp. In fact, the office is the targeted environment for the note pad series. It will help employees to make better use of their time by providing easy accessible solutions and memory supporting aids.



In 1980, Post-it notes were invented by 3M's Arthur Fry, using an adhesive created earlier by Spencer Silver. Until the 1990s, they were produced only in the 3M plant in Cynthiana, Kentucky. Although other companies now produce sticky notes, most of the world's notes are still made in Cynthiana.



Three prototypes next to each other. The yellow color gives a uniform appearance and communicates attention.



## Tie-Catcher

Note Pad Project (2013)

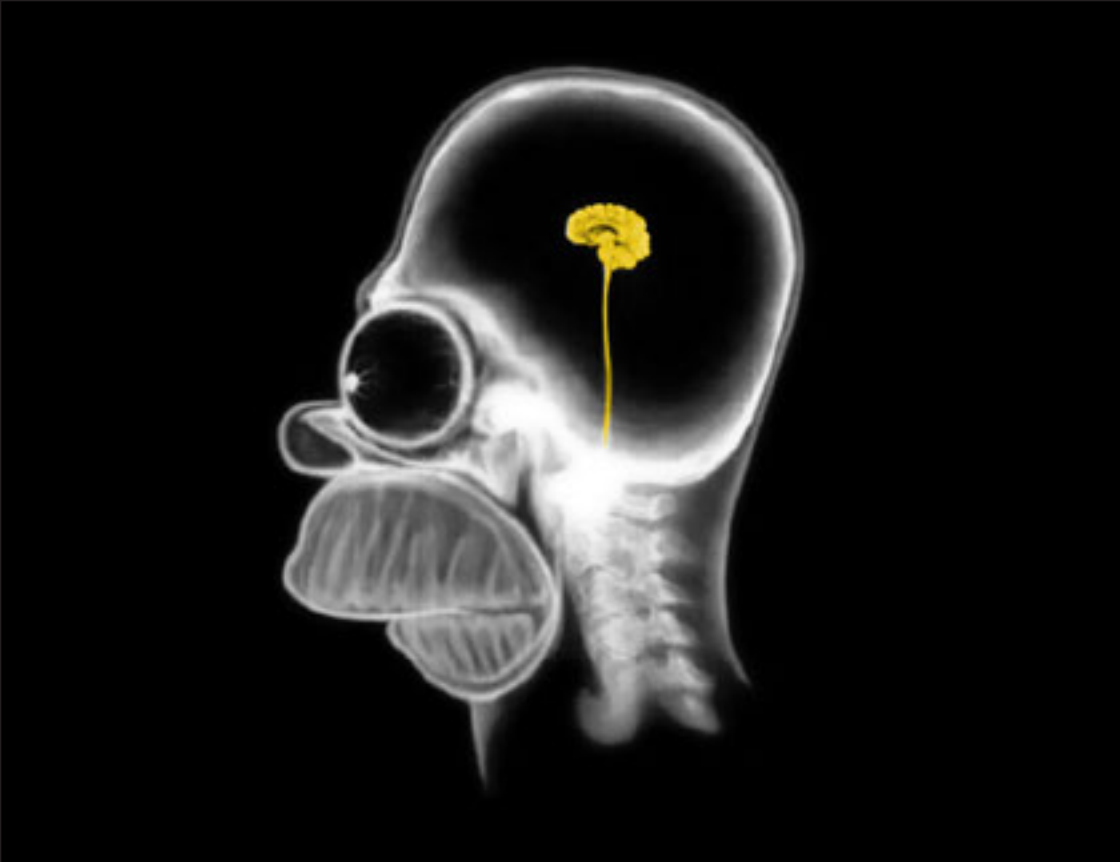
The tie-pad was designed to keep your notes in a prominent place. No more lacking of a notepad. Make sure you get the attention you actually deserve. Moreover, your notes will create a fashionable pattern. No note-taking day will ever be the same again. Try the fun of adding a real purpose to your tie!

# NOTE PADS

Tie, Wrist & iPhone







## What time is it?

Wrist Note Pad (2013)

The reminding wrist note pad was designed to keep your appointments in a familiar place. People used to wear watches some time ago. However, that changed since the introduction of the mobile phone. The particular spot got freed up but the habit of checking the time on the wrist, even without actually wearing a watch, can still be observed.

Wear your notes around the neck and be ready wherever you are. The Tie-Pad is really a fun object. Not just because it's a little goofy, but also due to the experience of use. Take notes in a prominent as well as pattern creating way.

Watches were replaced by mobile phones. Now it's the time to wear a wrist pad instead. It comfortably keeps your schedule in a familiar spot and supports the common gesture of checking the time. No more note taking on your palms.

Lock screens of smartphones are major barriers for an effective note taking. Until you entered your pass-code and opened up the app, the situation or the thought might be already gone. Write on your phone and protect it at the same time.

The pace of our working life is speeding up. People are stressed and confused. Everything needs to be done as fast as possible to be ahead of the competition. The problem is that stressed employees tend to forget about important facts. They have to take notes to compensate. However, note taking apps and other solutions are hard to access or simply not intuitive enough.

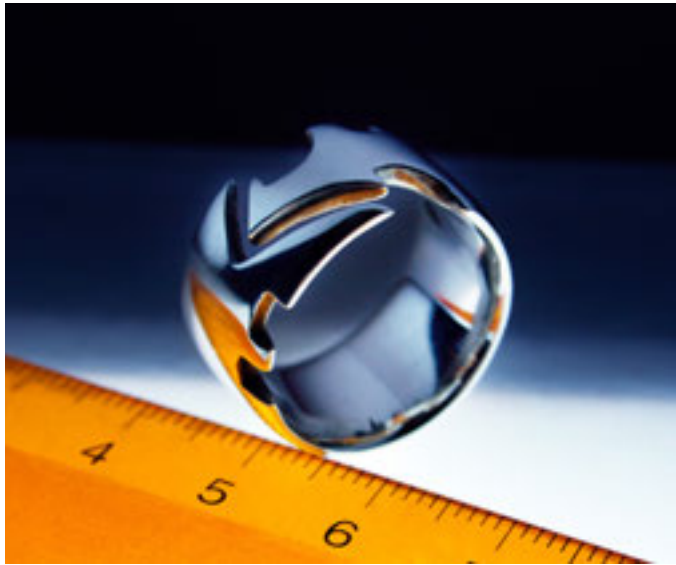
## Simply access your notes faster

Everything has to be done quickly. Therefore it's essential to work with smart solutions that support your memory.

Stressed people tend to forget things if they don't keep a record.







## Zodiac Ring

**Casted Silver (2007)**

Two notches on the left, and three on the right, represent my day of birth. A stylized libra was cut out with a file. The gap in the middle ensures size adjustments.

## Violin Tag

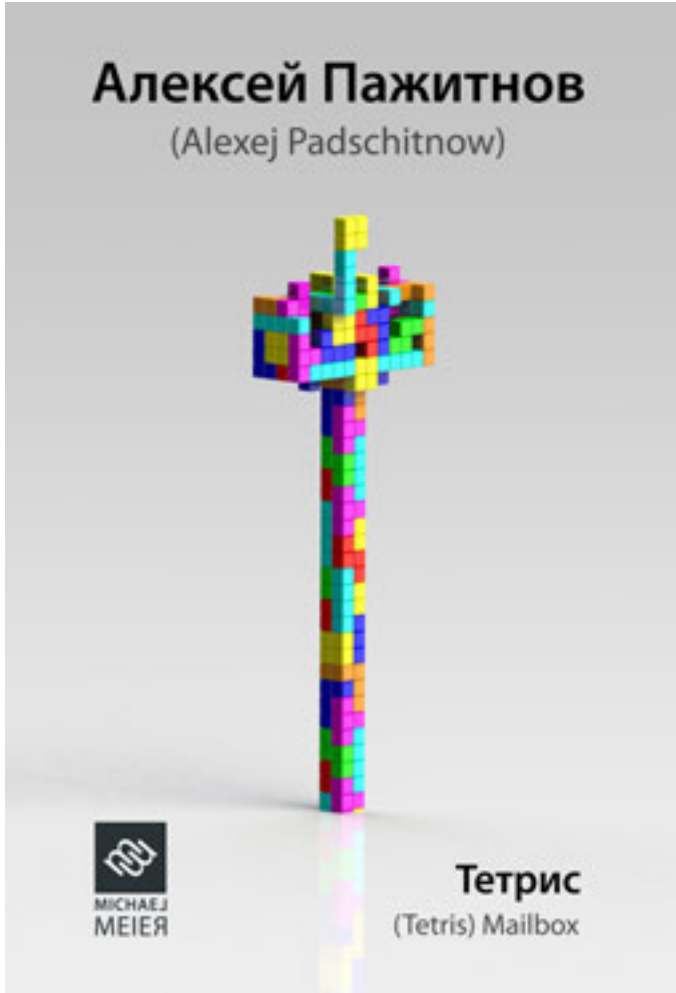
**Soldered Silver (2007)**

The sides show soldered elements, taken from a real violin and stylized to achieve the illusion of three dimensions. Finally, the surface was given a brushed finish.

## Parabola Bowl

**Carved Basswood (2007)**

As the material forms a synonym to nature, the shape, in contrast, is inspired from a mathematical parabola. Carved basswood, dark-stained and polished.



## Tetris Mailbox

**SolidWorks Assembly (2012)**

The Tetris Mailbox originated from a special assignment within the Industrial Design Technology class at Pratt. The objective was to create a mailbox that embodies the public personality of a famous person of choice. First, I had no idea what to do. But then I played Tetris on my iPhone on the subway. In that moment I figured, that it would be really funny to create a mailbox shaped like the puzzle's parts. So I started out with creating the game's blocks in SolidWorks. Thereafter, an assembly group was used to build the mailbox actually piece by piece from the ground up.

Casting and soldering processes were used to design jewelry. The ring was made by creating a wooden blank first. It was placed in a sand-oil-filled mold to ensure space for the casting compound. Liquid silver was filled in thereafter. The tag was made by cutting a basic violin shape. Details were soldered onto that base subsequently. Finally, everything got polished. The bowl was designed to hold pens. Carved basswood, dark-stained and polished. Only carving knives were used to explore the basic conditions of woodworking.



# JEWELRY & ALIKE

## Knife, Ring, Tag, Mailbox, Bowl



## Finnish Knife

**Blacksmith Work (2007)**

The blade of the traditional Finnish fish-ing knife is made out of the steel from an old workshop file. I made it myself by heating it up until it glows, which is called annealing. The next step is to use a massive hammer to fold the steel using lots of muscle power and patience.

The blade is shaped like a fish. It seamlessly joins the handle at the golden collar. The material in the front is Finnish birch. The back is made out of precious mahogany. Its ergonomic form allows fitting any hand. Finally, oiling brings out the wood's natural grain. The workmanship and quality materials guarantee a rugged and durable result. Pressure and two-component glue holds the blade and the parts of the handle in place.



The knife consists of a folded steel blade and a Finnish birch and mahogany handle. It is based on the traditional Finnish fishing knives. Made 2007 in Savonlinna, Finland at the arts department of the local vocational college. There I had the unique chance of gathering experience and tremendous practical insights into the work of a blacksmith. It has been a great honor to work on such a traditional object.

## Beautiful objects and fascinating materials

Since I started to study design, I used a broad range of materials. But wood, metal, and 3D are still my favorites.

3D takes a special role, as it's morphing and only virtually existing.



