Portfolio | Industrial Design

Michel Boot
About me

I am an industrial design student from the Netherlands and currently studying at the Delft University of Technology. I have a great passion for design.

After high school I started my study Industrial Design at the Technical University in Eindhoven and completed my first year’s degree in 2010. Although I learned a lot and liked what I did, I found it difficult to express my work and myself as a designer towards others due to the educational system. Thereafter I continued my study Industrial Design at Delft.

As a designer I like to work visual: sketching, creating scenarios, models and making 3D renderings. I am not only interested in visual work, but my interests are in the complete design process from beginning until the end.

In my spare time I like to compete in design competitions and gain more experience in the field of design and develop myself as designer further. By doing design competitions I have won several awards and some of them are featured in this portfolio. Next to the competitions I also work on my own projects for clients, varying from graphic, websites to industrial design. More information can be found on my personal (portfolio) website: www.mixeldesign.com.

Besides my interests in the field of design I also like art, skate longboarding, snowboarding, surfing, photography, cooking and travelling.

My vision on design

I believe that the visual aspect of a design is an important factor, because it can help to attract people and let them be attached to the product. The form can help the user operating the product, so I agree with the statement form follows function. The visual language of a product can show the identity and vision of the designer and/or company which can be related to a certain experience.

It is important that products are designed with the user central during the design process. A user should have a positive mood when using a product, which can be achieved when the user can easily operate a product without errors. The design should adjust itself to the user instead of the other way around, so the design is more user-focused but still available to different kinds of users.

Sustainability is an important aspect these days. It is important to be eco-effective during the whole design process. I really like the idea behind cradle-to-cradle where a product, parts or materials can be reused after usage without down cycling them.
School Project | PO2, Concept Design

“Design a cart for elderly people to transport an object in a specific context.”

The design objective was to design a cart that helps elderly people transport an object that weights more than 10kg in a specific context.

I defined the elderly baker in the bakery as my context to design for.

With the help of user-research I was able to analyse the problems that are encountered and can be solved with the product I am designing.
I created multiple sketches of ideas that will solve the problem. Three concept directions were formed from the ideation sketches.
The three concept directions were rated on all kinds of aspects related to a product design specification. I chose for a Harris Profile because it quickly visualise the results as can been seen in the image.

Finally the concept with the slide was choosen as best option. The user can slide the bags from the table on to the cart as is visualised in the image.
User testing

New concept development

A 1:1 model of the concept was made to do a user test. I wanted to test the slide option of the concept.

The results of the user test showed points of improvement, because the user placed the bags on the cart instead of sliding them on it. The concept was developed further so it is more easy to place bags on the cart right from the table. I came up with a system that could lift the tray of the cart in a horizontal position to place the bags on it from the table. The tray can be put under an angle so it is more easy to remove the bags from the front of the cart.
Final design
School Project | PO4, Optimisation

“Design a docking station for a cocktail stirrer.”

We started this project as a team in which we designed a concept for the stirring of cocktails based upon an old patent.

Each team member had to design a part of the designed concept individually. My objective was to design the docking station for the stirrer.

The mood board functions as a guideline for the visual character of the products. I created the mood board from a couple of keywords we had assigned to our visual character.
I used sketches to define the functions of the docking station. As a team we decided to make the glass, in which the cocktail is served, part of the docking station.

The storyboard helped to analyse the functions of the docking station.
One of the functions of the docking station is to draw attention. This is done with a light effect. I used electronics to mimic this feature and test which colour works best and fit the mood board.

I made sketches to define the shape of the docking station so it matches the glass of the cocktail perfectly. I chose for a pentagonal shape of the glass that continuous into a spherical shape. The same spherical shape is coming back in the design of the stirrer that is designed by another team member.
For this project it was important to make your concept viable and producible. I chose a production process, in this case thermoforming, that could make the shape. With the chosen production process I could define the geometry, tolerances, material and production costs.

I created the technical drawings from my Solidworks 3D model.

I used the program CES EduPack to select the material that was suitable for thermoforming of the shape, was aesthetically pleasing and has a low price. In CES Edupack I was able to plot several graphs which helped me to select a material that fulfilled the set requirements.
I made a mock-up model of the complete concept including the parts of other team members. The model helped to interact tangibly with the concept. I adjusted the dimensions of the docking station as it was a bit out of proportions.

An aesthetic pleasing docking station that fits the brand and the design of the glass. The docking station draws attention with the help of an LED that light the docking station up.
Project | Knappe Kop

“Design and visualize a cup with an integrated handle.”

The design objective was to design and visualize a cup with an integrated handle in the cup for Knappe Koppen SC.

I started with sketching multiple different ideas.

One concept was chosen with the feedback of the client. I made a 3D model of the cup in Solidworks and create the renders in Keyshot.
I made the technical drawings of the concept that were needed by the producer to make the concept produceable. Finally the design was produced in a large quantity and mainly sold to companies.
Project | Air Flow

“Design an attractive object for the Mini Design Rides.”

This concept was chosen as the best of a design contest. The challenge was to design an attractive object that can be placed on one of the Mini Design Rides during the Dutch Design Week 2011.

I wanted to do something with the air flow that is created when the car is moving. I started with sketching different abstract ideas.

I developed the idea of a visible abstract airflow further with a 3D model in Rhinoceros. I made a presentation render with Keyshot and Photoshop.

Presentation render

Ideation sketches
After my design was chosen as the winning design I built the final product myself. The final product was used during the Dutch Design Week 2011.
Project | Ceramic Heater

"Design a new heat source that involves ceramic material."

This concept was chosen as the best of a design contest. The challenge was to design a heater that involves ceramic material.

I started with sketching different kinds of shapes and decided to chose the radiator that is close to a classic radiator, but also can be used on the wall.

I translated the sketch to a 3D model in Rhinoceros and used VRay and Photoshop to create the renders of the concept.
Scenario renders

The final design is still close to the shape of a classic radiator. This design involves ceramic material in combination with wood standard to stand on the ground, but can also be hang on the wall like a flat screen TV. The design is minimal and modern with a reference to the classic shapes.
3D Models and Rendering

Here are a couple of renderings I made from my own 3D models. I used Rhinoceros and Solidworks to create the 3D models. I learned myself to use Rhinoceros when I was studying at Eindhoven and learned to use Solidworks at my current university. I used Keyshot to render the 3D models, which I learned during my internship at Studio Mango. Some of the renderings are enhanced in Photoshop by adding the contrast or add an interface or a flower.

Radio design for the brand 4711

Bottle design for the brand 4711

A table design for Glass House Collection ‘13
Sketches

Here are a couple of my sketches showing my current skills. I made these sketches on paper with fine-liners, markers and pastel. I used Photoshop on some sketches to enhance them by adding more contrast, textures and background.

Vacuum cleaner presentation sketch

Suitcase sketches

Heatgun sketches