nutrima

Electrolux

DESIGN LAB

Janne Palovuori

Concept development process in the Electrolux Design Lab 2013 competition

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Abstract

The final project report opens the concept development process of the Nutrima concept in the Electrolux Design Lab 2013 competition. Nutrima was one of the eight finalist concepts from over 1,700 submissions from over 60 countries around the world.

Electrolux Design Lab is one of the biggest annual design competitions for individual industrial design students. The focus of the competition is to seek innovative ideas for electronic household appliances. Between March and October 2013, the competition was conducted in five stages: submitting an idea and a sketch, concept development, visual development, functionality development and the final event presentation.

The focus in this report is on presenting and analysing the concept from the usability point of view using visual mediums. The aim of the report is to work as a personal showcase, as well as a source of inspiration encouraging students to take part in international design competitions.

Nutrima is a concept that promotes consumer awareness and healthy eating. The concept consists of two parts: the device and an app. The device calculates the nutritional values, freshness and potential toxins of food. Before use, the device is charged by bending its body. The service part, the Nutrimapper app, allows users to share the results of analysis with each other in order to make better choices of purchase. The aim of the app is to change the food stock on a local level through focused purchase power.

The final project report describes the design process in a chronological order, each numbered chapter representing a different competition stage. The initial idea for the concept is presented in chapter one. Chapter two focuses on consumer insight and defining the concept framework. Product specifications, graphical user interface and the layout of the app are presented in detail in chapter three. The fourth chapter focuses on describing the technology of piezoelectric charging and its benefits from the functionality point of view. Stage five is about the final event.

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Ohjaajat: Mika Ihanus, Lehtori, Metropolia AMK;
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Avainsanat: Konseptimuotoilu, visuaalinen käytettävyys, kognitiivinen ergonomia, Nutrima, Electrolux Design Lab.

Tiivistelmä

Opinnäytetyö avaa Nutriman-konseptin kehitysprosessin Electrolux Design Lab 2013 -kilpailussa, jossa konsepti sijoittui finaalikahdeksikkoon yli 1700 osallistujan joukosta ympäri maailmaa.

Electrolux Design Lab on yksi maailman suurimmista vuosittain järjestettävistä kansainvälisistä kilpailuista. Se järjestetään yksittäisille teollisen muotoilun opiskelijoille, ja sen tavoitteena on etsiä uusia ideoita kodinelektroniikkaan. Vuoden 2013 maaliskuusta lokakuuhun kestänyt kilpailu oli viisivaiheinen: kilpailun ensimmäiseen vaiheeseen opiskelija osallistui idealla ja luonnoksella. Toinen vaihe keskittyi konseptin kehitykseen, kolmas visuaalisuuteen ja neljäs funktionaalisuuteen. Kilpailun viides vaihe oli konseptin presentointi finaalitapahtumassa.

Opinnäytetyön pääpaino on konseptin kehityksen esittelyssä ja analysoinnissa käytettävyyden kannalta visuaalisin keinoin. Työn tavoitteena on toimia henkilökohtaisena työnäytteenä, inspiraation lähteenä, sekä kannustaa muotoiluopiskelijoita osallistumaan kansainvälisiin muotoilukilpailuihin.

Konseptin tarkoitus on parantaa kuluttajatietoisuutta ja kannustaa kuluttajia terveellisiin ruokailutottumuksiin. Konsepti jakautuu kahteen osa-alueeseen: laitteeseen ja palveluaplikaatioon. Ennen käyttöä laite ladataan taivuttamalla, jonka jälkeen se analysoi ruoan ravintoarvosisällön ja tuoreuden, sekä varoittaa mahdollisista toksiineista. Palveluaplikaation avulla käyttäjät voivat jakaa analyysin tulokset keskenään, ja mahdollistaa siten tietoisemmat ostopäätökset. Keskittynyt ostovoima mahdollistaa paikalliseen tuotevalikoimaan vaikuttamisen.

Opinnäytetyö kuvaa konseptin kehitysprosessin aikajärjestyksessä, jakaen muotoiluprosessin viiteen numeroituun kappaleeseen, joista kukin edustaa kilpailun eri vaihetta. Lähtökohdat ja alkuperäinen idea esitellään ensimmäisessä kappaleessa. Toinen kappale keskittyy kuluttajaselvitykseen ja konseptin teoreettiseen viitekehykseen. Konseptin fyysisiä ominaisuuksia, graafista käyttöliittymää ja aplikaatiota esitellään yksityiskohtaisesti kappaleessa kolme. Neljäs kappale esittelee laitteen pietsosähköistä latausteknologiaa, sekä sen hyötyjä funktionaalisuuden näkökannasta. Kappale viisi käsittelee kilpailun finaalitapahtumaa.

"We need to produce nutritious food for all people today while also protecting the capacity of future generations to feed themselves. Nutrition must become one of the primary objectives of food system policies and interventions, ensuring a diverse, balanced and adequate combination of energy and nutrients."[1]

Helena Semedo
FAO Deputy Director-General

Contents

Introduction
to the project

In the final project report

The final project report opens the concept development process of the Nutrima concept in the Electrolux Design Lab 2013 competition. Nutrima was one of the eight finalists from over 1,700 submissions from over 60 countries around the world taking part in the competition[2].

The report focuses on describing the concept development process of Nutrima in each stage of the competition in a chronological order. The concept development process is presented throughout from the initial idea to the final outcome of the concept in the competition from the designer's perspective. In the report, the design process is divided into five numbered main chapters, each one representing a different stage of the competition. Each chapter begins with the appointed stage assignment, followed by the presentation of the development work done in the stage. Chapters end with the stage delivery and a comment received from a member of the jury.

The main focus of the report is on analysing and presenting the concept from the usability point of view, opening my thinking behind the visuals. The aim of the report is to work as a personal showcase, as well as a source of inspiration encouraging students to take part in international design competitions.

Concept summary

Nutrima is a concept of a portable device that calculates the nutritional values, possible toxins and freshness of your food and ingredients. Along with the Nutrimapper app, it aims to deliver a more aware and social user experience over healthy eating and lifestyle.

Based on most contemporary applications of piezoelectricity, the appliance is charged by bending its body before use, making it sustainable, safe to use, and easy to bring along.

With the Nutrimapper app, consumers are able to share their experiences of purchase, encouraging other consumers to buy their groceries from the most trusted shops and local sellers. The social aspect will give them the chance to make an impact on their local food stock — driving their food market structure to change for the better together as a community.

Terminology

Concept design: According to *Ulrich* and *Eppinger*, “a product concept is an approximate description of the technology, working principles, and form of the product.” In comparison to the rest of the product development phases, concept generation and development is a relatively inexpensive and quick way to test new and bold ideas without the fear of failure.[3]

Cognitive ergonomics: A discipline used to design effective human-computer interaction while minimising work stress and mental workload. Unlike physical ergonomics, Cognitive ergonomics focuses on human cognitive abilities and limitations: how humans perceive through senses, how data is processed and how decisions are made.[4]

GUI: *Graphical user interface* is a software working between a computer and the user. Instead of text, a GUI is operated with graphic elements, such as dialog boxes, icons and menus.[5]

OLED: *Organic light-emitting diode,* an organic compound-based display technology which emits light in response to electric current.[6]

Piezoelectric effect: A physical phenomenom in which applied mechanical strain generates electric charge, or vice versa, in a material.[7]

PZT: *lead zirconate titanate*, one of the world’s most used piezo ceramic materials with an 80% efficiency ratio.[8]

Delphi method

Developed by Olaf Helmer and Norman Dalkey in the 1950s, the *Delphi method* is a commonly used future forecasting tool used to gather insight about a specific, pre-defined topic or problem, for example technological or economical progress.[9]

The method is basically a multiphase questionnaire answered by a panel of often anonymous *experts*. After each phase, the *facilitator* sums up the answers and provides a reasoned judgement about the phase, before proceeding to the next stage. The panelists are encouraged to revise their insights based on the facilitator's feedback and answers provided by other experts in the panel. After a pre-defined number of phases, the process is stopped and a conclusion is formed.[9]

The development process method used in the competition was a modification of the Delphi method: the contestants were put in the role of experts making the forecasts, as Electrolux Design Lab competition jury acted as the facilitator giving feedback guiding the process between the stages of the competition. As a difference to the method, the 'experts' were not anonymous, but rather projected and encouraged to share their insights publicly. Also, to fit the competitive manner, contestants were eliminated between the competition phases based on the jury's judgement.[11]

Electrolux
Design Lab 2013

About Electrolux Design Lab 2013

The Electrolux Design Lab competition is one of the biggest annual worldwide competitions for industrial design students. The nature of the competition is to look for innovative, often futuristic ideas for consumer household electronics that could potentially benefit consumers and Electrolux in the future.[10]

Conducted for the 11th time this year, the competition was divided into five stages, held between March and October 2013; submitting an idea and a sketch, concept development, visual development, functionality development and the final event presentation in Stockholm, Sweden.[10]

The theme, Inspired Urban Living stems from the growing trend of urbanisation. In addition to the main brief, each participant would choose one of the subcategories: Social cooking, Natural Air or Effortless cleaning. In addition, for the first time in the competition's history, the brief was expanded beyond product design to include consumables, accessories and services.[10]

Peculiar to the year 2013 competition was the more social media focused approach. The participants were encouraged to write a blog about their design process, as well as share their efforts via social media to gain publicity. The online audience was enable to vote for their favourite concepts, and most voted concepts would automatically qualify for the next round.[11]

Each of the five stages had their own assignments which guided the design process forward. In each of the stages, submissions were evaluated and ranked by the jury of professionals from R&D, marketing and design departments of Electrolux. Those that made it to the next stage received a brief individual feedback from a member of the jury. The final event had its own jury members.[10]

The first prize was 5,000€, plus a six-month paid internship at Electrolux Design Centre in Milan. The second prize was 3,000€ and the third 2,000€. In addition, the People's Choice award worth 1,000€ was granted for the concept most favored by the online audience. [11]

Inspired Urban Living

"The direction for this year's Electrolux Design Lab competition stems from a growing driver in 'urbanisation', as an increasing number of the population shift from living in open rural locations into densely populated areas.

The city of tomorrow is short on space, busy and compact. Living areas are smaller; there is less storage but the home still needs to be the epicentre of entertaining and culinary enjoyment. As such we need to have the necessary tools available to adapt our daily lives, so we can comfortably live and fit within this new model. Therefore, this year we would like you to explore one of the following three areas and design an innovative product, accessory, consumable or service that would be seen as a break through within the sector:

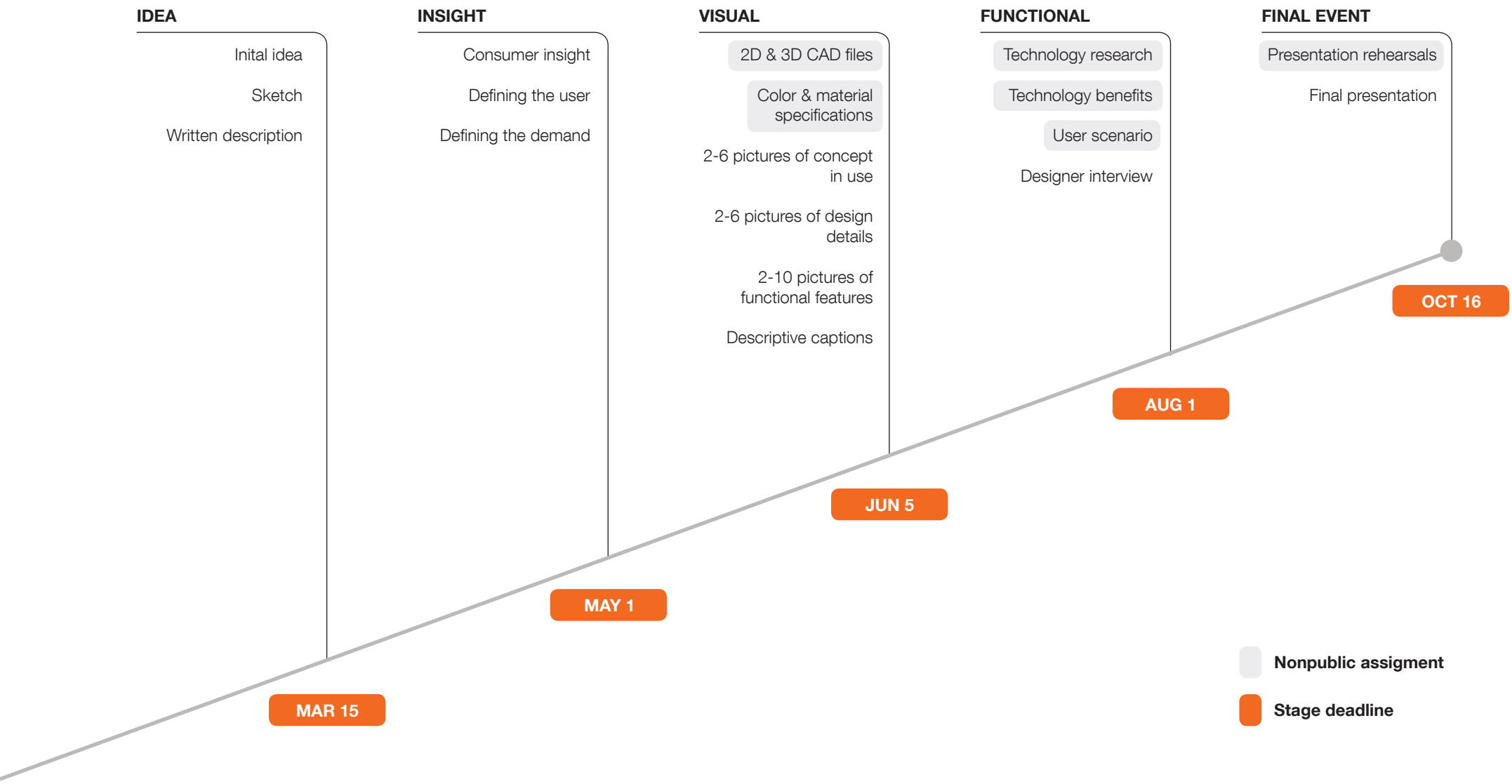
Social Cooking / Natural Air / Effortless Cleaning"[10]

Social cooking

"Entertaining within the home is a popular way to spend time with our friends and family. The rise in cooking as a pastime offers self expression for many living in urban spaces, and projects towards a true culinary experience. We look to create deeper, shared and more social culinary experiences, whilst bringing enjoyment to friends and family members and eating healthier, high quality food.

With tightening schedules and challenging lifestyles, how can design overcome problems with shortage of entertaining space and preparation time, whilst allowing us to live a healthier lifestyle?"[10]

Scope of work



The jury

Thomas Johansson
Design
Electrolux

Mats Ekblad
R&D
Electrolux

Julia Lilliehöök
Marketing
Electrolux

Judging criteria

"Does the design truly answer the brief?

Does it encompass intuitive design?

Is it innovative?

Has it been based on consumer insight?

Is the concept aesthetically pleasing?"[11]

"Additionally, and in keeping with the heritage of Electrolux, your concept should reflect Scandinavian design values by being sensitive to the environment, meaningful and relevant, whilst providing intuitive ease of use."[11]

1

The idea
Know your food

The idea for Nutrima stems from personal interest towards food and the will to know how it affects the human body. For me, it is important to know the food I eat is pure, fresh and wholesome. Unfortunately, I face the same challenge as the majority of consumers: the food I want to eat is not the food I can afford or obtain.

1700 submissions worldwide

Inspiration

The inspiration for the concept came when I was grocery shopping at a supermarket in my neighbourhood. As usual, I was checking the product label for the use-by-date and nutritional values of a pack of unnaturally red coloured minced meat. The experience left me feeling frustrated as I could not determine the real quality of the food I was going to buy.

As I headed home and started preparing the food, I remember thinking, if only there was a way for consumers such as myself to determine the wholesomeness of what we are eating without being reliant on image advertising and information printed on product packaging. After all, I certainly was not the only one experiencing the frustration: people want to spend their money on high quality, but in many cases, the true quality of the food remains unknown to us normal consumers.

Even though a potential demand already existed, I realised there was nothing in the market at the moment that could offer this information to consumers. When the Electrolux Design Lab competition brief was published, I decided to give it a shot and see how far the idea would carry in the competition.

My original submission to the competition was an idea of a thin and flexible kitchen scale that could measure weight, nutritional values, toxins and freshness of the food analysed. In order to enhance the concept's novelty and sustainable values, I decided to use a green technology having no consumer applications yet as the power source of the concept — piezoelectricity. In theory, the technology would allow the device to be charged kinetically by bending.

Meeting Electrolux portfolio

As the device was going to be in direct contact with food, the requirements were going to be the same kitchen appliances had in general. In order to meet these requirements and the brand, I started studying Electrolux's European portfolio of domestic kitchen appliances, identifying recurrent styles, materials, functional features and moods. It was no surprise that most of the appliances — including their user interfaces — were based on clean geometric shapes, favouring rectangles and circular patterns due to hygiene, safety, usability issues, standards, and architectural matters in the kitchen.

Due to this example set by the brand, I saw no reason to act otherwise: Nutrima was to become a glossy, rounded rectangle. This was, however, not the only reason of the form, as it also had a strategic advantage: even though the function of the device was something totally new, the device itself would seem approachable and credible to consumers and the competition jury. The basic form would associate with familiar kitchenware, like cutting boards and induction hobs. It would also resemble touch screen operated electronics like tablet computers and smart phones, emphasising the contemporary content-first approach seen in today's portable smart devices.

On the other hand, there was the risk that the minimalistic appearance was not going to be visually intriguing enough. But I was confident that emphasising the functional matters of the product was more important than focusing on plain aesthetic appeal. After all, Nutrima was never intended to be a device to entertain, but a specialised cooking instrument like other kitchen equipment by Electrolux in general.


INDUCTION
INDUCTION


OK
Ofenfunktionen
Sous Vide Garen
Koch-Assistent


Electrolux


Electrolux

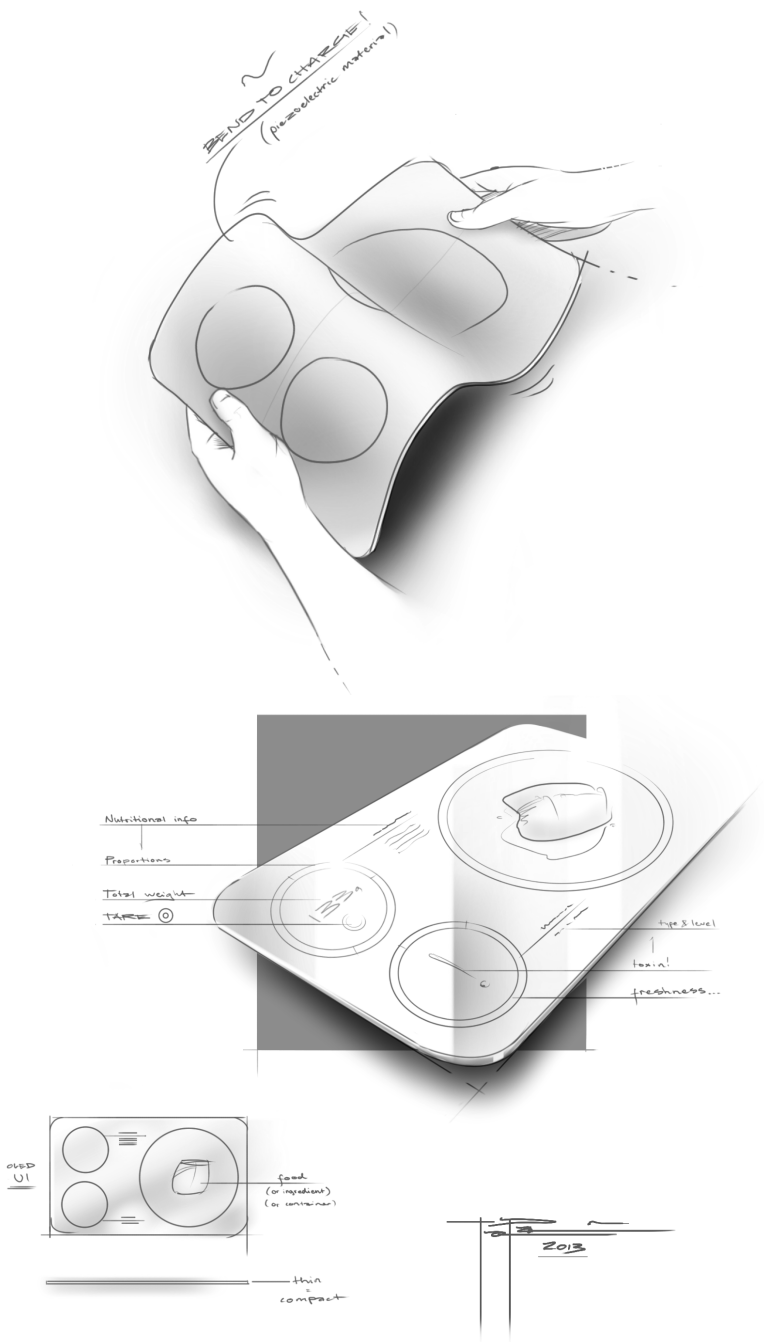
Stage 1 Submission

“The Nutrima Kitchen Scale concept combines piezoelectricity with smart and flexible technologies, making consumers more aware of food and its quality.

In the urbanising world, we cannot take fresh, pure and healthy food as granted. Nowadays fresh and healthy ingredients are highly appreciated and the trend of cooking together is growing rapidly, yet even the most aware consumers cannot always tell whether the food they eat is fresh, healthy, or pure from toxins. This is a real concern especially for those with limited food supplies, funds, strict special diets or little children. Nutrima allows consumers to choose between alternatives by their actual qualities, allowing them to prepare the healthiest meal possible.

Before use, Nutrima is charged by bending repetitiously, creating enough electric charge for the scale to operate for the time needed.

Along with weight, it analyzes the food’s or ingredient’s weight, basic nutritional information (energy, protein, carbohydrates and fat content), freshness level, and cautions the user of high levels of the most common toxins, such as mercury. Nutrima can also be used as a traditional kitchen scale when measuring ingredients in a bowl.”[12]



Expert feedback

"Clever and thoughtful concept giving you an insight in what you are eating. When developing your incept further, we are interested in hearing more about the consumer use in context and how the concept can be developed further in the brief of social cooking."[12]

Thomas Johansson
Electrolux Design Director

2

Consumer insight

The second stage of the competition was about research on defining the framework. For the 100+ contestants, this meant specifying the idea behing the concept and describing the use from the consumer's viewpoint.

100+ contestants remaining

Stage 2 assignment and notes[13]

Thinking of you
Electrolux

Stage 2 is now open for entries!

Submit your entry for stage two of the competition from April 24 00:00 CET until May 1, 23:59 CET.

Congratulations! We have seen hundreds of great articles and blogs about your Design Lab concepts including MSN Tech, YankoDesign who have also featured a selection of the Design Lab 2013 development blogs, other articles includes Popular Science, and Compulenta as well as over 360 tweets!

What will happen next?
Now you have one week time to login and submit the further development of the ideas behind your concept. Please focus on the comments made by the Electrolux professionals and their feedback on your concept. In addition, have a special focus on the follow factors:

- **Consumer insight and research:** What consumer insights is the concept based on and how would a consumer interact with concept? Develop the functionality from a consumer point of view.
- **The brief:** develop the concept to fit the brief Inspired Urban Living within the focus area you have chosen; Social Cooking, N Air or Effortless Cleaning.
- **Visuals in context:** develop the design of your concept basing on the consumer insight and concept development and als context of use. Write a short description how the design supports the visuals.

Find more information about the brief on our website http://electroluxdesignlab.com/en/what-happens-in-stage-2/

What to submit
To be able to express the thinking behind the concept more thoroughly, you can answer to the requirements with a brief of the development stage **150 characters**, a **longer text** with **3000 characters** (including spaces) and **two images**, of the images focusing entirely on the concept (one computer rendered image of the concept) and a second picture sh concept in use of **context**. We advice you not to include too much text in the images. You can also tell more about yo development blog.

NB! The concepts will be placed online directly when they are submitted, so please be sure to proof read your text b since it cannot be updated.

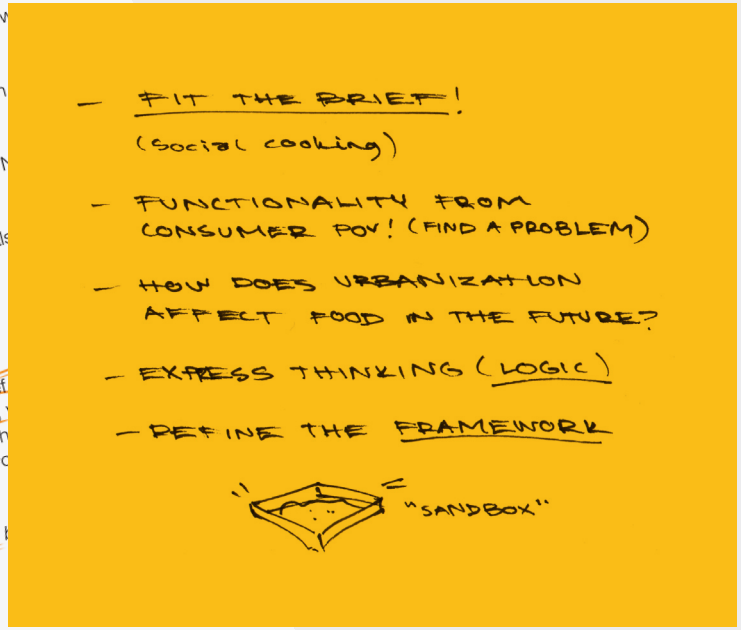
Deadline
The stage 2 **submission opens on April 24, 00:00.**
The deadline for the concept development stage is **May 1, 23:59 CET**.

How to make it to the next stage
After the deadline the Electrolux **professionals** will choose their favorites to the next round and the results will be made **live May 15th.**

The public can also vote for their favorite concepts. The public voting is open now and will be open until May 12, 23:59 CET. **The five most popular submissions in the voting rank will make it directly to the next round.**

Good luck in the competition! We look forward to receive your entries!

best,
Design Lab Team



Urbanisation and food

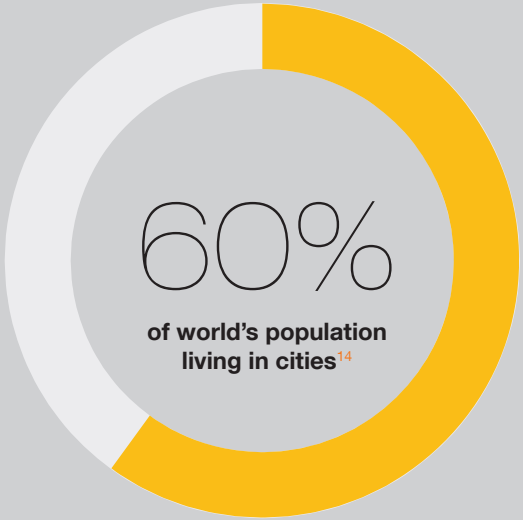
In order to get into the core of the problem I was solving with the concept, I needed deeper insight about the consumer of tomorrow. The competition main brief in mind, I started seeking information about food in relation with urbanisation and world economy.

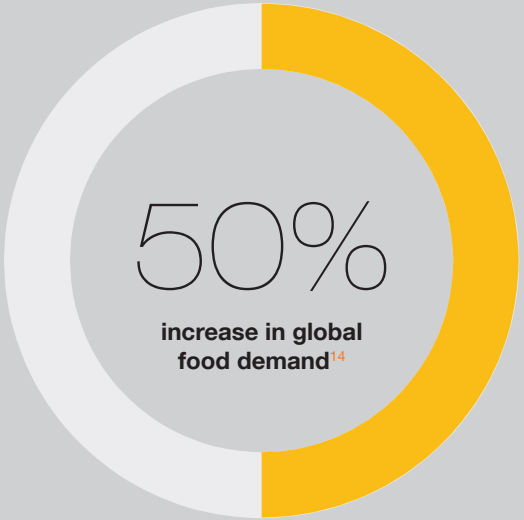
Already today, the subject of Nutrima is highly timely as it addresses many trends and issues concerning food and healthy living. When it comes to the urbanising world in the future, these are issues that are about to grow.[1] Many food trends come and go, but the basics remain the same: the human body will continue to need nutritious food to function.

With 70% of the world's 9.6 billion people expected to live in cities by the year 2050[19], urbanisation will have a major impact in the way we live and consume food. Although the variety of food is wider, it does not mean nutritional quality of food is any superior. On the contrary, with the cost of processed and fast food constantly decreasing and the food supply chains lengthening, fewer consumers are able to maintain a healthy eating habit and lifestyle in the future.[1, 15]

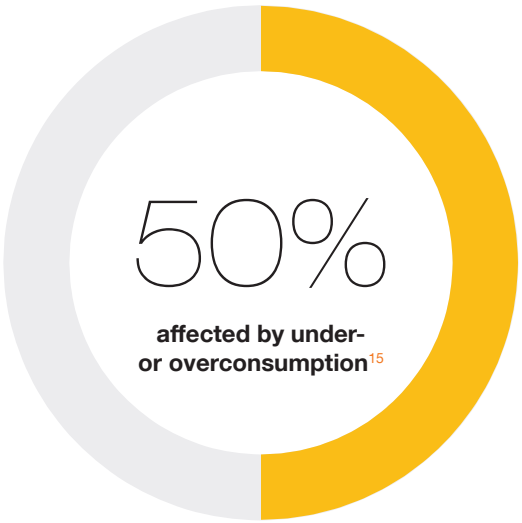
Although today consumer awareness on healthy food is at peak due to nutritional education and media[14], none of us can really be sure of the origin and quality of the food we eat, as true quality of the food is often hid behind appealing packagings, inadequate labeling and image advertising.

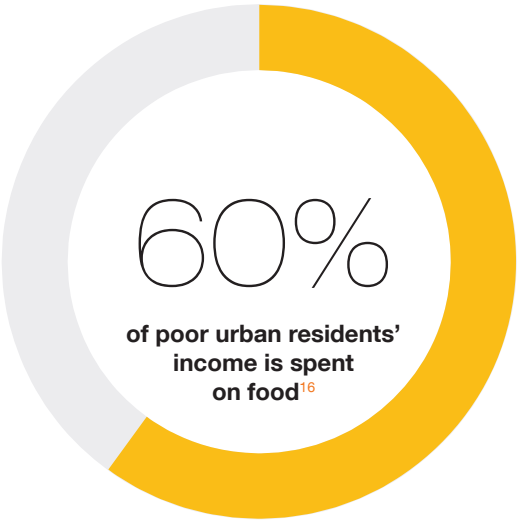
IN 2030



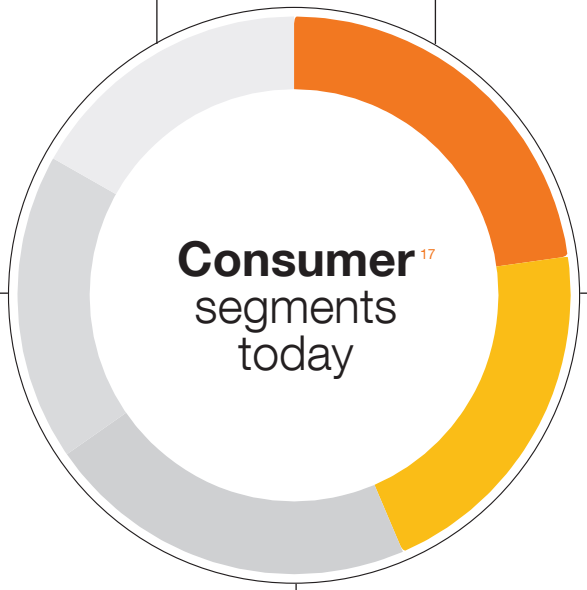


TODAY





Consumer[17] segments today



17% HEDONISTS

30% age 18-34
Understand nutritional concerns
Cook at home
Satisfied with current brands
Culinary enjoyment prior to health
Taste-focused

23% HEALTH ENTHUSIASTS

37% age 18-34
Aggressive approach to healthy lifestyle
Want to feel and look young & fit
Impulsive & prone to switch brands
Quality prior to price
Personal health-focused

18% CONVENIENCE FIRST

42% age 18-34
Stressed and busy lifestyle
Often have young children
Don't actively pursuit health
Unable to change eating habits
Price and convenience-focused

21% FAMILY HEALTH FIRST

42% age 18-34
Read labels and eat healthy
Research-backed decisions
Willing to pay more for healthy alternatives
Prone to share knowledge
Family health-focused

22% OLDER CONSUMERS

52% age 55+
Listen to doctor's advice
Traditional health advice
Satisfied with current eating habits
Price-focused

#1 target segment

#2 target segment

From personal experience to community-wide impact

After the first stage Nutrima was just a product. The brief of social cooking, however, required a social aspect. To meet the category brief, I concentrated in developing the framework behind the concept by applying the insight I had gathered.

After studying the global food market structure, I started looking at the term *social* in a broader context. It seemed relevant to focus on the core problem from the consumers' perspective: individuals have little choice or power over the profit-driven food market dominated by a few massive corporations[1]. Offering a solution for this problem was an intriguing goal: Nutrima could be the first consumer electronic device specifically designed to enable consmers to change the market structure *itself* beside their personal eating habits.

By using Nutrima as a tool to gather and share information about their surroundings, consumers would form local clusters with a mutual goal. In densely populated areas, these clusters would have enough purchase power to change the food stock on a local level. This was a bold idea that not only gave the whole concept a deeper reason to exist, but also acted as a rhetorical leverage — by taking the side of small consumers and suppliers, I gave the concept a hint of rebellious spirit.

By expanding the whole framework of the design, the concept now met the brief of social cooking subcategory — but in a surprising, less obvious way. In addition, from the strategic point of view, the approach suited the social media-driven style of the competition. I was certain that the consumer-driven approach would gather the jury's attention by being different from other contestants in the social cooking category.

This idea is also what the Nutrima logo stands for: from personal experience to community-wide impact.

By using Nutrima as a tool to gather and share information about their surroundings, consumers form clusters. In densely populated areas these clusters would have enough purchase power to change the food stock on a local level.

Defining the social aspect

The framework of the concept's social aspect was now clear, but I still was uncertain how to *implement* it in the best possible way. After all, in order to bring real value that could benefit the users as a whole, the social aspect should be something practical to benefit the whole *community* of users. I wanted the social aspect of the concept to be seen more as a key feature of the product, not as a mediocre bundle that comes on the bargain. I had defined a variety of requirements, which had accordingly set the bar high.

With the jury's judging criteria in mind, I did not want to temper with the actual idea of the product too much, as drastic changes could easily make the otherwise simple concept seem uncomprehencible and potentially less usable. Moreover, some specifications of the concept had already been fixed in the first stage of the competition, making Nutrima more of a lifestyle device of an *individual* user.

Because of this, it seemed reasonable to design a separate service, instead of trying to change the whole concept by packing too many features into the product itself. This was not an easy decision, but it made it possible for me to explore ideas beyond the product, and therefore broaden the variety of potential outcomes. At this point it became clear that the service would be an app for tablets and smart phones. An app would emphasise the portability of the product and solve many issues concerning usability. Also, keeping in mind the futuristic nature of the competition, an app would not be strictly bound to a certain year or platform.

I came up with the idea of a map-based platform that could help the user to shop high quality ingredients within their own shopping region, as well discover new shopping locations outside of it. At this point, the app had no detailed visual appearance. As the stage was more about the research work, I took the risk not to present the app visually in detail; instead, I described the bigger idea of the social aspect in words, leaving as many loose ends as possible for the layout to be developed in the next stage of the competition, if reached.

I decided to give the service a descriptive name that would differ it from the product, highlighting the fact that the app would be useful even on its own. This name was Nutrimapper.

What is the deepest social impact the app enables?

Why would a user want to share the experience?

How to make sharing desirable, effective and effortless?

What kind of information is useful for the community of users?

Self-sufficient: Can be used independently without the product

Adds value: Is an important part of the user experience when used together with the product

Encouraging: User is motivated to make wiser choices and to contribute

Committing: User gains benefit and enjoyment from the use

Rewarding: Gives the user the feeling of achievement within the community

Expressive: Enables community-wide dialogue between users

Consistent: Is in line with the first stage concept description of Nutrima

Credible: Doesn't seem awkwardly attached with the product and reflects the brand and values of Electrolux


ANALYZE
LEARN
SHARE
DISCOVER
SHOP
Five steps
of Nutrima user
experience

Stage 2 delivery

“In this stage, I’ve given much thought on the possibilities beyond the product itself, expanding on the idea behind the concept. As a result, Nutrima has evolved into a lifestyle tool, for the user not only to be more aware of quality of food or ingredient, but to share experiences, both good and bad, with the people in the region.

Along with the new feature, Nutrimapper mobile app, the concept delivers a more social and holistic user experience to consumers with the chance of making an impact on their local food market by encouraging them to buy their groceries from trusted shops and local sellers.

Insight

Due to rising awareness and changing life values, demand for local, ethical, organically grown and sustainably produced food is growing rapidly. Unfortunately, the food market development is obstructed by massive food manufacturers: in the supermarkets the competition is controlled by the biggest by dumbing prices, leaving no place for small or new players. Naturally, the profit-driven market has a negative effect on the quality of food as well.

This distortion leaves consumers facing a tough choice: pay more for pure, organic and ethically manufactured products, or settle for less expensive, poor quality. Sadly, for the majority of us this choice is made by our wallets. With the price of food constantly increasing, consumers are more and more bound to major brands. The brands that we are forced to support are not the ones we trust. The food we are forced to buy is not the food we want to eat. The dissatisfaction is surfacing among consumers.

As a result, people longing for healthier, pure lifestyle have evoked call for locally produced, wholesome food.

Now is the time to change the competition for lowest prices into a competition for best quality. Let’s help the small local suppliers stay on the market and new ones to emerge - region by region!

Context & Function

Whether you buy your groceries from the supermarket or at your local farmer’s market, Nutrima will tell you exactly what you’re eating. Check the nutritional levels and freshness of your home prepared, ready meal, or take the device with you to the local street market, and analyze ingredients before buying. Going mushrooming or fishing? Grab Nutrima with you and check your catch for toxins on the spot.

Found the best place to shop groceries in the city? Or did the sensors find something alarming in the salmon bought from the market? Tip your neighbors by sharing the info and coordinates to the regions map via the Nutrimapper app, giving them the chance to support the right place and to avoid the disreputable ones within their shopping range. They will see your post as a pin on their map with their smart device.

Make the most of the app when heading out of town for the weekend; check the map for the best places to get the freshest ingredients in the neighborhood rated by local Nutrima users.

Charge. Analyze. Affect.” [12]

Expert feedback

"The social cooking aspect development is quite clever and it is good that the concept wants to have a real affect, both to the consumer's lives and the society. In the visual development stage you could further visualize the usage of the product on the go (mobility) and the interaction flow of the app and the technology of bending."[12]

Thomas Johansson
Electrolux Design Director

3

Visual development

The third stage of the competition consisted of two parts, public and nonpublic, requiring detailed specifications. 3D & 2D CAD models, colour and material specifications and visualisations of both the product and the service were all included in this stage.

50 contestants remaining

Stage 3 assignment and notes [18]

Thinking of you
Electrolux

On the last brief, the Functionality Development, we ask you to draw back to the key consumer insight of your concept, describe how this can be seen in the concept interaction with the consumer, choose the key functionality to the consumer (you do not have to explain all functionalities of the concept) of the concept and describe that in more detail.
You may develop your concept further in these regards or simply clarify these aspects more.

In addition to answering to this brief, we ask you to take into consideration the personal feedback from the professionals you will receive on your submission site and a feedback you may receive regarding your CAD-file by email. You will receive both feedbacks by Tuesday June 25.

The deadline for delivering for this stage is August 1st 23:59 CET. Please submit the content in word format and jpg images via mail to designlab@electrolux.se

Where as you may want to present your ideas on your development blog, this stage of the competition will not be placed online nor will the content be subjected to a public voting. This stage is evaluated solely by the Electrolux professionals.

The brief:
1) Consumer insight:

User experience in connection to the consumer insight of your concept
What is the key consumer insight and how is this seen in the concept design and user experience with the concept. How does the key functionality contribute to the consumer insight. What happens when the consumer uses the concept? As an example you can read the description of the Ergorapido Brushrollclean at the end of the brief*.

- Max 1 500 characters with spaces (TIME?)
- You may refer to earlier images or also develop further images to support the text, 1-2. Developing new images is not compulsory

2) Functionality details:

Highlight the key functionality and technology:
Please describe your solutions key functionality and, if relevant, give references to any new technology that is involved and what th
solution is based on. For example existing products with similar technology or research articles referring to the technology in scop
With this part we encourage you to engage in conversation and see advice and information from experts or relevant studies, basing the functionality on non feasib
you may refer to. This will enable you to focus on solutions which a
inspiration which might have been e.g. produced fictional film simu

- Max 1 500 characters with spaces (COMPRESS!)
- You may refer to earlier images or also develop further image

STRUCTURE: WHAT IS THE PROBLEM? WHAT IS WRONG?

*** Consumer Insight Example**: This is an example of an existin
concept. How ever this description gives you a reference of hov

The Ergorapido® 2in1 with BRUSHROLLCLEAN™ TECHNOLO
brush cleaning function fibers and entwined hairs are removed
time-consuming and annoying task of cleaning the brush roll.

Electrolux' consumer studies show that people find it annoyin
they unpleasant to remove, they also reduce the cleaning pe
TECHNOLOGY, one simply uses the foot to press the pedal
seconds,. It's easy, hygienic and keeps the vacuum perform

1 | 2 | 3
SUMMARY OF BENEFITS

PICS

- OVERALL CONCEPT : 2-6 (
- DETAILS : 2-6 (CLOSEUPS?)
- FUNC : 2-10
  - CHECK EXAMPLES
  ! NO TEXT IN PICTURES!
- INCLUDE USER IN PICS
  → IS A HAND ENOUGH?
- 300 PPI

Thinking of you
Electrolux

Dear Designer,

As a part of the visual form development of your concept, in addition to the pictures submitted on the website, we ask you to submit a rendered CAD-file of your concept with a logo. Please find below the specifications for your CAD-files.

3D Data
*CAD files should be Rhino, CATIA, Alias wire, IGES or STEP format.
*All inclusive parts should be separated either by layer or colour, or each part saved in a separate file.
*The complete 3D geometry must be described and have a common axis system.
*The cad model must be in 1:1 scale.
*GAP tolerance between surfaces should not be more than 0,05mm.

Materials and Finishes
*The colour of the model should be described in RAL and the gloss defined. (HI-GLOSS)
*Materials must be clearly specified (eg glass, wood, ceramics etc). (POLYMER..?)

Product graphics
*Graphics must be in EPS or ai (illustrator file) format.
*The EPS/ai files can be black and white, but if colours are desired they should be separated by layer and named in spot colour mode (not CMYK).
*Colour must be described in Pantone (pms) or RAL and the gloss in either High gloss or Semi gloss.
*Graphics should be in 1:1 scale and match the shape of the physical model or on smart phone/tablet/laptop (etc) that the interface will be displayed on (FIND IPAD SCREEN DIMS) (MORE SPACE)

Placement of Logotype
*Please download the Electrolux logotypes and the guidelines for placement of the logotype from:
*http://electrolux.qbank.se/v2.6/mb.php?h=1d046fb3c48a4a07b5f118f9938386eb
PIN code: 1234

CAD programs
More information and free trial can be downloaded from e.g:
Rhino: http://www.Rhino3d.com
CATIA: http:// www.Software112.com
Alias wire: http://www. autodesk.com
Iges: http://www. iges.blueprograms.com
STEP: http://www.solidworks.com

MISSION OF CAD-FILES via email:
e send in your files **before June 5, 2013** to designlab@e
ect: Cad files + your concept name

nore information about the brief on our website http://elec

n also tell more about your thoughts during this stage in y

you very much in advance and looking forward to hearing

est,
ctrolux Design Lab Team

CAD JUNE 5th

- RHINO 3DM
  → LAYERS
- CHOOSE RAL COLOURS & GLOSS FINISH
- AI FILES FOR GRAPHICS
  → 1:1 SCALE (APP)

Material requirements

Nutrima's physical form was a rounded rectangle, so it would not have specific grip points for handling. Keeping in mind that the use of the device would start from holding and charging the product, the physical requirements should be based on ergonomics and safety. Ultimately this was a question of defining the right materials. These usage-related specifications were to be made now, as the resulting visuals were going to be the final visualisations showing the concept in use.

Flexible: smart properties and portability

Antibacterial: suitability for analysing raw ingredients

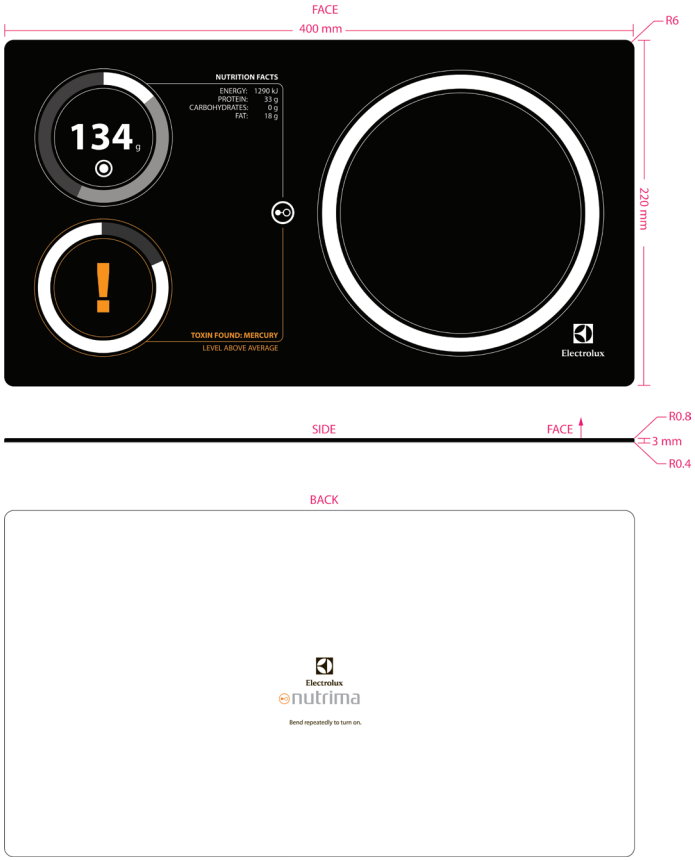
Non-slip: hand grip and behaviour on surface

Machine washable: effortless cleaning

Ease of use: GUI visual usability

Associations: Familiar from kitchen environment

Desirability: credibility and feel of value



Before use, the device is charged by bending. The material harvests user's kinetic energy and converts it to electricity.

Cognitive ergonomics of materials and colours

Ease of use was one of the things listed in the judging criteria of the competition. But how could a buttonless and automated electronic device be made easily comprehensible, whilst feeling familiar and natural to the user? I approached the question from the perspective of how people associate with materials, shapes and colours.

If information is not relevant to the user, it should not be shown. Hence, the ideal scenario was that the black face of the product would remain blank until charged and ready for use. This was also an aesthetic detail, emphasising the simplicity of the device. But all the more so, the device should be designed so that the user would comprehend how to switch on and use the device, even when doing so for the first time.[20,21]

In order to create a functional and visual contrast with the glossy black polymer face of the product, I decided to use food grade silicone on the back. Food grade silicone was ideal, as it met the usability requirement by being hygienic, flexible, non-slip and durable. Because of these characteristics, the material has become more commonly used in kitchenware such as baking pans, cake moulds, and spatulas. Hence, to the consumer, the material was already familiar from the kitchen environment and would associate with food.[22]

To highlight this contrast, I figured to use pure white as the colour of the backside: the material choice itself would gently assist the user without compromising the aesthetic purity of the device: it would be easy for the user to tell where to grab and which side of the device is supposed to face up during use[23]. White colour would also act as a base for mandatory product markings, such as logos, instructions, and serial numbers.

These material specifications were necessary in order to develop the 3D model of the concept and finalise the structure of the device required by the stage assignment. All of these functional details, however, were not required, which is why I decided to leave some of them out of the description: not revealing everything at once could potentially help me in the upcoming functional development stage of the competition, if reached.

RAL 9010 Pure white **RAL 9005 Jet black** **RAL 2008 Bright orange**

All information is visible at once when analysis is done. Share the data to your smart device by touching the Nutrima icon in the middle of the screen.

Graphical user interface and visual usability

I now had the characteristics of the physical form and a preliminary model of the product, but the final graphical user interface (GUI) was yet to be designed for both the device and the app. Eventually, the dimensions of the 3D CAD model and the GUI were developed simultaneously to match each other.

I had figured that a flexible OLED (Organic Light-Emitting Diode) screen with touch sensitive properties would be the best candidate for the concept. The OLED technology is low on power consumption and enables luminance fluctuation required by the concept.[6] Flexible OLED screens are currently developed by many corporations, like *LG* and *Samsung*, and at the time of writing, the very first commercial applications have already hit the market.[24]

Because of the futuristic nature of the concept, specifying the technology of the interface was something the jury did not require in the competition. For me, however, it was important to justify my own decisions, and to ensure the technology would be based on a technology in scope. The knowledge would also aid me create more realistic visualisations of the interface.

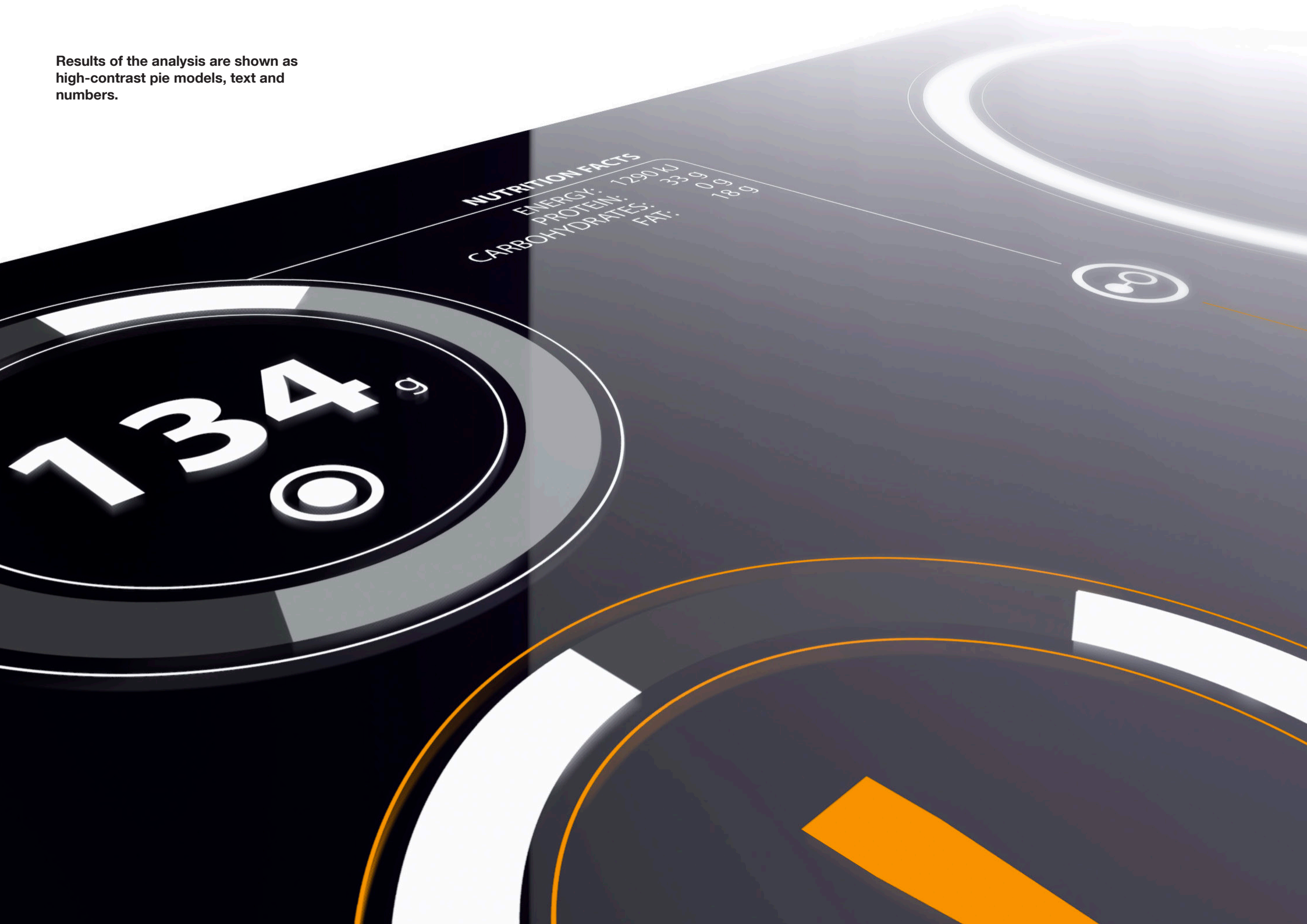
Most Electrolux induction hobs have touch sensitive, high-contrast black & white user interfaces. In order to enhance readability, it was convenient to follow this pattern and use white as the colour of the lit parts of the interface.[26] In addition, with the fundamentals of the technology in mind, the interface needed to be as low on power as possible. This meant cutting down all unnecessary functions and minimising the amount of lit pixels of the display.

Nutrima's user interface includes three main areas: one showing nutritional proportions and total weight, one indicating the freshness and toxins, and the sensor area indicating where the food is placed during analysis. The analysis of the device being mainly automated, the interface would only need two touch buttons for the user to interact with: *tare* and *send data to Nutrimapper*.

Placement of the elements controls the information hierarchy. To the user, the results of the analysis are shown as "analog" pie model indicators displaying the nutritional proportions and freshness of the analysed food. Nutritions (protein, carbohydrates, fat, and energy) and toxins have no commonly identified symbols, which is why this information is shown as clear, capitalised *sans serif* text and digits.[27] Compared to pie models, numbers show the information more precisely, which, from the user's point of view, was desirable.[21, 25]

The most important thing the interface shows is the alert of the found toxins. This information was a priority and needed to stand out from the otherwise monochromatic interface. Hence, I decided to use orange as the colour of alert. If toxins are found, the alert is also emphasised by an exclamation mark[26, 28]. Same orange can also be seen in the Nutrima and Nutrimapper logo.

Results of the analysis are shown as high-contrast pie models, text and numbers.



Designing Nutrimapper

In addition to the visualisations, the stage assignment required submitting the original vector graphics. Unlike in composite concept visualisations where many details could be brushed aside, there now was nothing to be left out of the account. At that time, it was not clarified, *if* or *how* these files would be evaluated by the jury. Because of this, time should be reserved for designing each detail of the interface. Later on it was clarified that these files were used to produce physical models and videos of each finalist concept for the final event.

The layout of the app was to be consistent with Nutrima and its interface. Functional features, icons and screens were to match Nutrima and the ideology, sticking by the style of Electrolux kitchen appliances' interfaces as well as Nutrima GUI. This would mean an easily understandable and lightweight layout without unnecessary features, as too many features would only make the app seem overwhelming to the user[25]. Just like Nutrima did as a product, I wanted the app to feel natural and familiar to the user, even though the objective itself was something new.

How to make users understand what the app is about with a single glance?

How does the app help you locate places of purchase?

How to make the app easy and efficient to use?

How can users customise the app to match their preferences?

How to match Nutrima and the Electrolux brand visually?

Automated data flow between the product and the service makes the app effortless and fast to use. This lowers the threshold of sharing data to other users.

Communicating with colours and icons

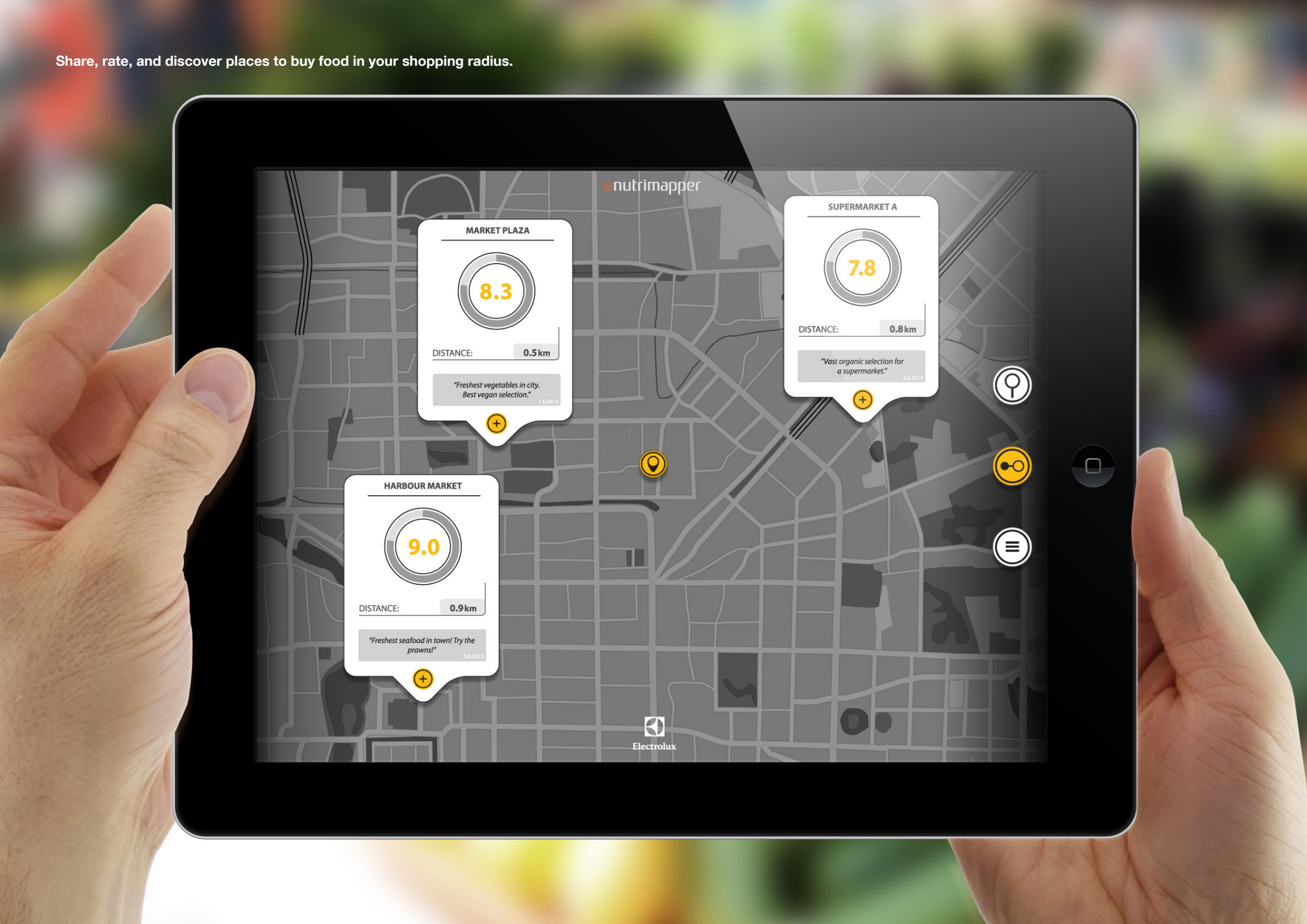
By using informative colours with common elements, icons and tags, the app would be informative and easy to use, yet remain consistent with Nutrima's interface. As I had already created the Nutrima GUI, I could now implement the same decisions, graphics and style into the app, making the two feel alike from the start.

In Nutrima GUI, orange was in the role of alert, yet in the app, there were no functions requiring acute attention from the user. Hence, orange could not be the main "functional colour" as continuous use of orange would only confuse the person using both Nutrima and the app in a row[25, 27].

Instead of orange, I chose warm yellow to act as the "active" colour to be combined with the icons. In contrast with light grey, yellow would also indicate the positive value when changing something. The warm yellow also seemed to fit the otherwise neutral grey appearance of the map, creating a clear contrast without seeming too intrusive. Orange is only used when data is pending to be shared onto the map, or if there is something alerting to be seen.[26, 27, 28]

Apart from the Nutrima icon, all icons are based on those commonly used online and in apps. The use of common icons would make the use easy from the start, as the user wasn not required to learn new meanings.[27]

Share, rate, and discover places to buy food in your shopping radius.



Expert feedback

"Great development work throughout the competition and in this visual development phase, good luck at the next stage! Your explanations are clear and logical and the concept has become more and more interesting throughout the process. From a technological point of view we suggest you go a bit more into details and concentrate in explaining what happens in the charging process of the appliance." [12]

Thomas Johansson
Electrolux Design Director

4

Functional development

The functional stage of the competition was the second research focused stage of the competition; only this time, it was conducted privately between the contestants and the jury. The main focus was on testing the concept's feasibility and functionality from the user's perspective. For the remaining 20 contestants, this meant searching for potential technologies and explaining functional features.

20 contestants remaining

Stage 4 assignment and notes [29]

Thinking of you
Electrolux

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User experience in connection to the consumer insight of your concept
What is the key consumer insight and how is this seen in the concept design and user experience with the conc
functionality contribute to the consumer insight. What happens when the consumer uses the concept? As an e
description of the Ergorapido Brushrollclean at the end of the brief*.

- Max 1 500 characters with spaces
- You may refer to earlier images or also develop further images to support the text, 1-2. Developing new

2) Functionality details:

Highlight the key functionality and technology.
Please describe your solutions key functionality and, if relevant, give references to any new technology th
solution is based on. For example existing products with similar technology or research articles referring
With this part we encourage you to engage in conversation and seek for advice and information from ex
you may refer to. This will enable you to focus on solutions which are feasible and to avoid basing the f
inspiration which might have been e.g. produced fictional film simulations that can be found online.

COMPRESS!

- Max 1 500 characters with spaces
- You may refer to earlier images or also develop further images to support the text, 1-2. Developing new images is not compulsory

* **Consumer Insight Example**: This is an example of an existing prduct which as such is not applicable to the context of a future concept. How ever this description gives you a reference of how you can connect consumer insight to a solution in user experience:

The Ergorapido® 2in1 with BRUSHROLLCLEAN™ TECHNOLOGY addresses a problem found through consumer research. With a brush cleaning function fibers and entwined hairs are removed by a blade and sucked into the dust cup. This saves consumers the consuming and annoying task of cleaning the brush roll.

ADDRESS THE PROBLEM

show that people find it annoying when hair and fibers get stuck in the brush roll. Not only are
duce the cleaning performance. With the Ergorapido® 2in1 with BRUSHROLLCLEAN™
the pedal on top of the nozzle and all entwined hairs and fibers are removed in just
nce high.

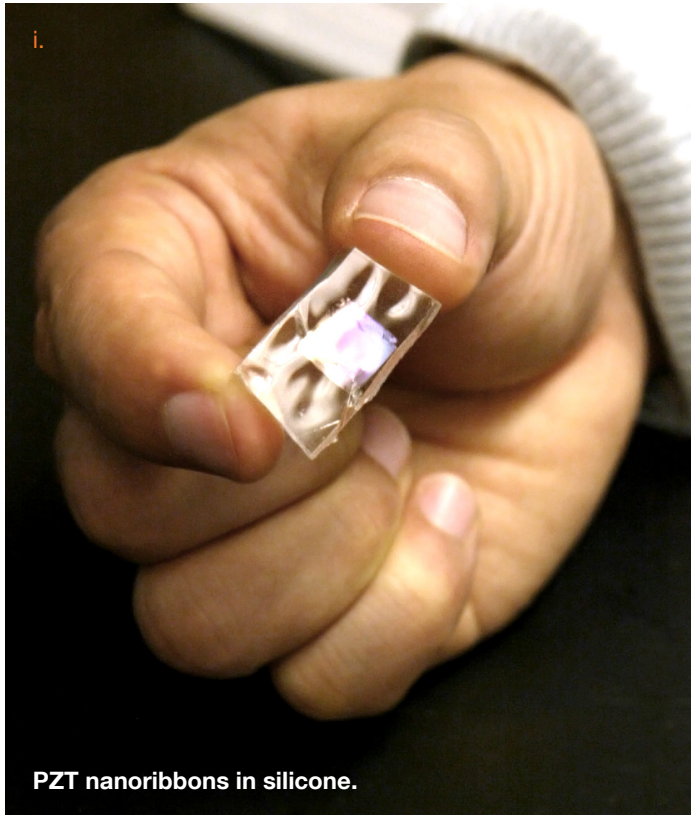
- FIND BEST TECH!
- EXPLAIN CHARGING (WHAT ARE THE BENEFITS??)
- UX FOCUS
- CONSUMER INSIGHT
- DESCRIBE UX PATH

Technology of piezoelectricity

All the functional features of the concept had set the bar high for the technology. I had known *of* piezoelectricity before the whole project, but it was not until now I really had to study the technology behind the term in order to justify my design to the jury and prove the concept plausible.

Finding a feasible material for Nutrima's charging was not an easy task. I started reading scientific articles and columns about the most contemporary applications of the technology, fearing that the technology might not be as evolved or promising I had thought it would be. After all, the piezomaterial formed the spine of the whole concept — quite literally. Even though piezoelectricity is widely known and used in many modern applications, it has remained a fragile ceramic, meaning it breaks like glass when bent. Luckily, with just two weeks to the stage deadline, I came across with PZT nanoribbons, a promising, flexible piezomaterial.[29, 31] Astonishingly the technology seemed to meet all of the requirements I had set for the concept.

In Nutrima's case, the jury was more interested in the piezoelectric charging. For me, this was convenient: developing the functional features based on the technology was something I had done from the very start of the whole competition. The fact that the stage was held without an audience granted me the opportunity to open my logic more profoundly, in a more *"from a designer to another"* kind of way. In fact, now that I had found the right technology to base the concept on, I faced an embarrassment of riches: the delivery text was to be compressed down into total length of 3000 characters including spaces. I did not want to rule out any of the concept's functional features made possible by the use of piezoelectricity, yet I had to keep the text easy on the eyes.



PZT nanoribbons in silicone.

Stage 4 delivery

“Key consumer insight: charging as part of user experience

Today’s consumers are reliant on digital gadgets, but frustrated with cords and chargers. Especially when on the go, power outlets are rarely available and when overseas, chargers might not even match the wall sockets. All consumer electronics still remain more or less bound to the power grid, which is — especially in the kitchen — a limiting factor for electronics.

Nutrima is based on a different approach: unlike plug-in devices, it uses an energy source that is safe, sustainable and always available when needed — the user.

Before use, the device is charged by bending its flexible body repeatedly, thus harvesting electric charge from the user’s own muscle movement. The charging process feels natural to the user, making it a seamless part of the user experience.

The principle allows Nutrima’s sleek, continuous design that is not only aesthetic, but has many functional advantages concerning hygiene and safety. The enclosed, gapless structure makes the device antibacterial, water and dishwasher proof in its entirety, and with no exposed connectors, the user doesn’t need to be concerned about mixing water with electricity. On the backside, the soft-touch, non-slip silicone surface offers a solid handgrip for charging and keeps Nutrima stable on worktop during analysis.

As a truly self-sufficient and highly portable one-piece device, Nutrima can be easily slipped in the bag, kitchen drawer or cabinet when not in use, remaining ready for next use whenever needed.

Functionality details: piezoelectricity

Piezoelectricity (discovered by Jacques and Pierre Curie in 1880) means electricity resulting from pressure. In response to applied mechanical strain, electric current is generated, and vice versa. For decades, the principle has been widely applied in sensor manufacturing and used in products such as quartz clocks, lighters and cell phones.

First developed in 1952, lead zirconate titanate, PZT, is the most energy efficient and used piezo ceramic to date with an 80% efficiency ratio. Today, PZT is used in many modern precision devices – such as accelerometers, ultrasonic cleaners and touch screens.

Within the past few years, research groups have come up with new, flexible piezopolymeric applications with outstanding properties, showing great potential towards novel, self-powered devices – of which Nutrima could be among the first.

One of the researchers, Prof. Michael McAlpine and his team at Princeton University have been developing printable PZT nanoribbons, a technology aiming for medical equipment that not only harness power from movement, but detect harmful materials and pass on information wirelessly[29, 31]. One of which, a bacteria sensing thin film tooth sensor, was introduced in 2012[32].

Based on these studies, Nutrima’s self-sufficiency – if not most of its smart properties – could be solved with a PZT-based thin film spine. As Nutrima’s required standby time is relatively short – just a few minutes – and the printed components can power themselves, no additional battery is needed.” [12]


Final
event
5
8 finalists
remaining

Stage 5 event schedule[33]

Thinking of you
Electrolux

DEADLINES FOR POWERPOINT PRESENTATION (4h)
10:00 Germain Verbrackel (3F)
15:00 Wei Kiat Law (OZ1)
17:00 Luiza Silva (Atomium)
20:00 Jeabyun Yeon (Breathing Wall)

MEALS
07:00 -10:00 Breakfast buffet served at the hotel (covered by Electrolux)
12:00 -13: 00 Lunch for the finalists at Electrolux HQ (covered by Electrolux)
20:00 Dinner for the finalists at Restaurangakademin (Rökerigatan 4, Johanneshov) where several other employees at Electrolux will join.

ARRIVALS EUROPEAN FLIGHTS
17:15 Francisco Barboza Grasa, Spain

A taxi will pick you up at the airport and take you to Story hotel where My Morinder will meet and brief you.

Tuesday October 15

ARRIVALS EUROPEAN FLIGHTS
07:00, Terminal 5, Norwegian; DY4280 from Helsinki: Janne Palovuori, Finland
Janne: a taxi will pick you up at the airport and take you to Story hotel where My Morinder will meet and brief you.

10:50, Terminal 4, Norwegian; DY4285 from Umeå: Dawid Dawod, Sweden
Dawid: *a taxi will pick you up at the airport and take you to Electrolux where Emalee Mandl will meet and brief you.*

PRESENTATION REHEARSAL WITH EMALEE MANDL
Location: Conference room at Electrolux HQ.

08:00-10:00 Francisco Barboza Grasa (Kitchen Hub)
10:00-12:00 Janne Palovuori (Nutrima)
12:00-13:00 LUNCH
13:00-15:00 Dawid Dawod (Global Chef)

DEADLINES FOR POWERPOINT PRESENTATION (4h)
11:00 Adrian Perez Zapata (MAB)
15:00 Francisco Barboza Grasa (Kitchen Hub)
17:00 Janne Palovuori (Nutrima)
20:00 Dawid Dawod (Global Chef)

MEALS
07:00 -10:00 Breakfast buffet served at the hotel (covered by Electrolux)
12:00 -13: 00 Lunch for the finalists at Electrolux HQ (covered by Electrolux)
20:00 Dinner for the finalists at a restaurant O'Leary's where several other employees at Electr

Thinking of you
Electrolux

Wednesday October 16

07:00 -10:00 Breakfast buffet served at the hotel (covered by Electrolux)

FINAL EVENT DAY @ FOTOGRAFISKA MUSÉET
11:00-12:00 Venue rehearsal
Please feel free to wear whatever you'd like but please note that the gala dinner will be a formal event.

DESIGN LAB INSPIRATION AFTERNOON
12:00-13:00 Cooking show and lunch
13:15-13:40 Design talk – panel discussion (jury and finalists in place by 13.05)
13.40-15:30 Jury presentations (10 mins plus 5 mins Q&A)

15:45 -16:45 Roundtable
16:45- 17:15 Rehearsal

DESIGN LAB GALA
17:15 Doors open for the evening event
17:30 Welcome and introduction speech by CDO Electrolux Stefano Marzano
17:50 Interviews, 5 on stage
18:00 Finalists interviews – short overview
18:30 Awards ceremony (5 min on stage)
19:00 Drinks and possibility for interviews
20:00 Event ends (help with interviews)

20:00 Dinner upstairs together with other guests from the event

Thursday October 17

07:00 -10:00 Breakfast buffet served at the hotel (covered by Electrolux)

CHECK OUT FROM THE HOTEL
My Morinder will help you check out from the hotel. A taxi will pick you up at the hotel and take you to the airport. Electrolux taking the cost for the taxi.

DEPARTURES
10:00, Terminal 5, Lufthansa; LH801 to Frankfurt: Adrian Perez Zapata, Colombia
13:00, Terminal 2, Air France; AF1263 to Paris: Germain Verbrackel, France
13:35, Terminal 5, Norwegian; DY4285 to Helsinki: Janne Palovuori, Finland
15:25, Terminal 4, Norwegian; DY4013 to Umeå: Dawid Dawod, Sweden
15:50, Terminal 5, Qatar; QR90 to Doha Jeabyun Yeon, South Korea
17:25, Terminal 5, Turkish; TK1796 to Istanbul: Wei Kiat Law, Singapore
Francisco Barboza Grasa, Spain

LATE DEPARTURES
Sunday October 20: 15:50, Terminal 5, Qatar; QR90 to Doha Luiza Silva, Brazil.

The final jury

Stefano Marzano
Chief Design Officer
Electrolux

Hidechi Hamaguchi
Design Strategist
Yanko Design

Pio Barone Lumaga
Editor-in-Chief
LOFT Bookazine

The 10-minute final presentation held for the final jury and invited quests was followed by a questioning from the jury.

Conclusion
about the experience

The Electrolux Design Lab 2013 competition has been a rare opportunity for me to test my skills in front of a global audience.

Working strategy in the competition

In the competition, I chose a more realistic, content-first approach, that focuses on the benefit and idea instead of being reliant on "*wow-factor*" or physical form. The concept is backed by real demand, consumer insight and research, and most importantly, it answers to the competition brief and the *social cooking* subcategory. This was, after all, what the competition jury was looking for.

Even though Nutrima was designed for a specific client, the working method differed from the "standard" client-driven concept development process I was experiencing at work at the time. At work, the habitual procedure was that the client contributed to the process proactively by choosing between alternative propositions, guiding the process towards the desired goal. In the competition's case, however, I alone as the designer made all the decisions based on my own deduction, and then delivered the proposition without knowing if the outcome had truly met the client's requirements. This put me in the challenging position of being both the open-minded designer presenting the wildest of ideas and the worst critic questioning them. After all, as a designer, I only want to present the best results. I am trustful this ambition can be seen in the concept.

Even though participants were encouraged to write a public development blog about their concepts, it was voluntary and was said not to affect the results of the competition. I made the decision to keep a low profile and not to write the blog, as it would have meant excess work in an already laborious competition. I also deliberately avoided reading blog posts of other contestants, as knowing too much about their ideas could have distracted my own thinking subconsciously, and therefore altered the outcome of my own concept. This decision allowed me to focus on developing the concept without having to worry about disadvantageous motives and strain set by other contestants.

Thoughts about the competition

I was positively surprised how well the competition was planned and managed. Even though the competition lasted for nearly eight months and had various focus points along the way, the structure was surprisingly straightforward, showing that people behind the competition truly understand the nature of concept generation and development. At all times, it was clear what was going on, and I do not remember having experienced the feeling of being lost at any point. Contestants were promptly informed of any changes and even reminded of deadlines. If there ever were questions, they were answered right away.

Although the amount of work the contestants were required to do was enormous, it was all made worthwhile. Everything was taken care of: final presentations were rehearsed with professionals, and expenses from flights, hotels and dinners were all covered by Electrolux. In the final event, the Design Lab team had made a huge effort to make the designers feel respected, comfortable and as relaxed as possible in the stressful situation. Even though the eight finalists were there to compete, the atmosphere among us all was friendly and supportive.

It is clear that Electrolux Design Lab is an important event for the brand, yet the publicity was used in the finalists favor. The competition never felt like Electrolux was using the contestants' talent just to their own advantage. The spotlight was truly directed at the finalists: press releases, interviews, introductive videos of the concepts, and even full scale physical models, were all part of the plan to highlight the designers' ideas rather than the event itself.

Once the competition was over, I had a conversation about the whole project with some of the finalists. All of us were very pleased of the way the competition was executed, except for one thing — the way the winners were selected. The jury in the first four stages of the competition had ranked the concepts based on the public judging criteria, yet in the final event the jury consisted of completely different members — of which only one represented Electrolux directly. The final jury had their own, unspoken criteria, which in return likely altered the focus of the decision. In addition, the final jury was not given much time to get to know each concept before the decision, so naturally, they could not have known the concepts the way the original jury did. Because of this, it felt like I was selling the concept to a whole different client it was originally designed for. To me, it would have made a lot more sense to let the same jury decide the outcome of the competition, as they had already developed a deeper understanding of each concept by contributing to the development from the start. In my opinion, this is the one thing Electrolux should reconsider in the future of Design Lab competitions.

Self-evaluation

At the time of writing, it has been about a year from reading the theme of the competition for the first time. Now, when I think back, there is so much I have learned about concept generation and development during the competition. The various stage assignments from consumer insight to technology research and visualizing have put my professional skills, logic and self-discipline to a serious test. Taking part and succeeding in the competition has definitely been the highlight of my studies and a kickstart for my career.

The most rewarding part of the project was to realise, that even though some of the assignments felt impossible at first, later on they would seem like challenges to overcome. Naturally, there were times I felt like there were no good options left, yet in the long run, all of the decisions made sense and worked together beautifully.

I have managed to create a concept that feels *valuable*, and for me, that is what matters the most. To that end, I am very satisfied with the outcome.

In the end, the project has helped me define my future role as a designer, as it has offered an overview over the values and skills expected of a professional in the field of design.

Since the competition, Nutrima has been featured in many international magazines, websites and articles. I have had a lot of positive feedback and inquiries from all around the world, from students to individual cooking and wellness enthusiasts and companies. I know I am not the only one hoping for the concept to become reality one day.

Aspect	Grade	Went well	Need to develop
Research & Background	9	Defining the framework Studying the client Research of technology Identifying target segments	Identifying relevant information Source criticism
Development process	8	Meeting the brief Idea development User-centered approach Reasoning & evaluation	Time management Decision making Task priorisation
Visual delivery	9	Credible & informative Involving the user Reflecting the brand	Delivery speed
Text delivery	8	Jury & audience friendly Rhetorical Logical & descriptive Solution centered	Vocabulary Emotional Rhetorics
Oral delivery (presentation & interviews)	7	Rhetorical Logical Solution centered	Fluency (by practise) Technique Stage appeal
Concept outcome	9	Self-discipline Consistent delivery quality System thinking Look & feel	Receiving feedback

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Electrolux

DESIGN LAB

nutrima

Concept development processin the Electrolux Design Lab 2013 competition

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