

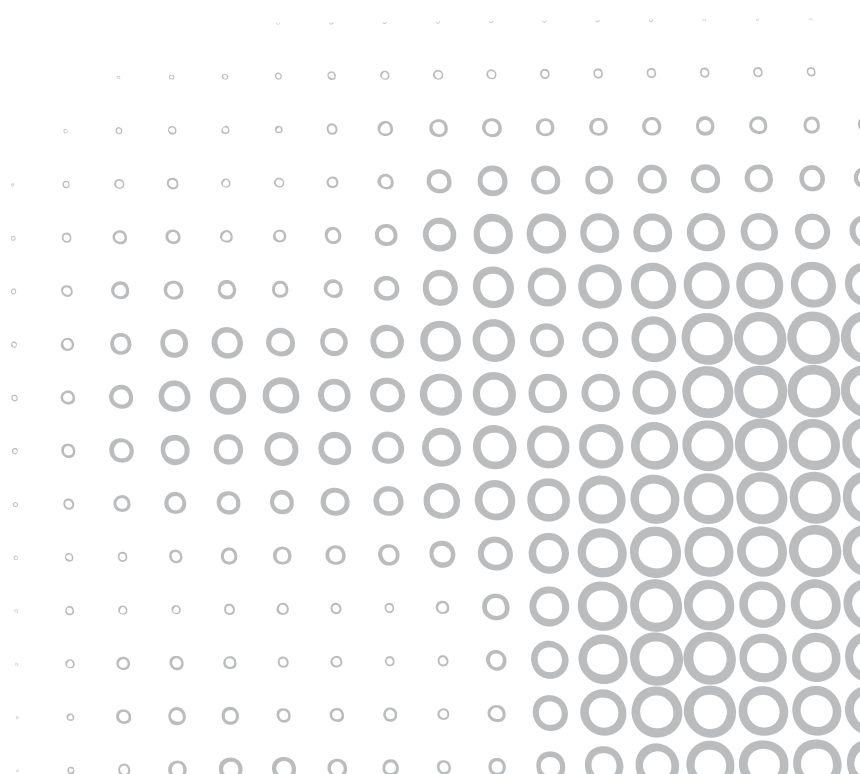
home | heroes

Designing Tomorrow's
Home Appliances for Profilo



MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF INDUSTRIAL DESIGN

PROFiLO
dayanıklı ev aletleri





METU Introduction

Fall 2011-12

ID401 Industrial Design V

Home Heroes:

Designing Tomorrow's Home Appliances for Profilo

In our current domestic lives, we rely on white goods and electrical appliances to help us achieve all kinds of tasks and objectives, e.g. providing us with clean clothes, keeping our perishable food cool and protected, maintaining a clean and healthy environment, assisting us in food preparation, and supplying us with fresh boiling water. Products that save us huge amounts of time, effort and inconvenience for daily tasks, delighting us in their function and aesthetics of interaction, may be called 'home heroes.' Their impact is made obvious if we ask a question such as: What would our lives be like now, if these products did not exist?

This project required students to define new home heroes for the coming decades, opening possible future product development routes for Profilo, the Turkish regional brand of BSH (Bosch und Siemens Hausgeräte GmbH). How will life change compared with now? What new needs and desires will people have? The emphasis in the project was on conceptual design allied to technological plausibility. Students were not required to detail their product proposals for manufacture, but equally their proposals were not permitted to be in the realm of fantasy.

A Brief Appraisal of the Design Proposals

Students worked across product sectors: food storage, preparation and cooking; laundry, dishes and household cleaning; and even ventured into products for increased well-being. In total, twenty individual product concepts were finalized. Some of the concepts can be recognized as generational improvements on existing products, adding new features or new standards of operation in response to foreseen needs. A common theme can be seen as the integration of cutting edge or yet-to-be commercialized technologies. Other concepts offer new types of product that are currently not represented in the marketplace. For example, some concepts provide automation or functionality for today's manual tasks in the Turkish kitchen. Others present novel product solutions for social, hygiene and nutritional problems predicted to be prevalent in future daily life. Five selected concepts were chosen to represent the Profilo brand at the BSH Home Heroes exhibition, as part of Munich Creative Business Week, 7-12 February 2012. When taken together, these five concepts build an intriguing vision of the variety of appliances we may find within our future homes.

We would like to extend our thanks to colleagues and students in the third year (ID301) studio, for their valuable involvement at the project negotiation stages and for providing an excellent foundation of future scenarios, on which we could frame and build our project. We also extend our sincerest gratitude to all staff at BSH and Profilo, not only for choosing METU Department of Industrial Design for such a highly challenging and stimulating project, but also for their generosity in time and advice. Their enthusiasm and commitment undoubtedly drove our students to achieve the outstanding results that are evident throughout this catalogue.

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BSH-Profilo Staff

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Fall 2011-12

ID301 Industrial Design III

Future Sustainability Scenarios Focusing on 'Home Heroes' for the Profilo Brand

The third year industrial design studio participated in the scenario-building phase of the 'home heroes' project which covered a period of five weeks from September 27 to November 1, 2011. Forty-two junior year students in eight teams explored the project theme and developed diverse future scenarios. The focus of the project was on co-developing and envisioning future 'home heroes' scenarios that enabled and empowered domestic life activities within the areas of self-care, childcare, service/hosting, cleaning, cooking, entertainment, etc. Potential user groups included students, bachelor and single parent households, elderly people living alone, households with children and extended families. The main objective of the project was to rethink and re-contextualize domestic life and activities through future sustainability scenarios developed by and for household members. The project explored the following approaches for the design process:

Scenario building: Developing inspirational and locally relevant future domestic life scenarios focusing on the 'home heroes' theme.

Participatory design: Understanding local values, needs and preferences, and co-developing ideas, visions and dreams with the involvement of various potential user groups.

Enabling and empowering design: Favouring locally oriented solutions and scenarios which leverage household members' skills and knowledge, and incorporate cultural considerations.

Integrative design: Exploring design solutions and scenarios which bridge the gap between natural and domestic environments.

The Project Phases

1. **Witnessing domestic lives and gaining insights, and literature search:** Before developing alternative and diverse design solutions and scenarios, the student teams conducted field studies at various homes, conducted interviews with household members, collected visual and verbal data, and documented the ideas and insights shared by the household members. After presenting the outcomes of the field study, each student team studied and explored a specific topic related to the project context for the literature search.
2. **Analysis of the collected data:** The visual and verbal data from the first phase were analyzed, and the project dimensions and themes/sub-themes were developed.
3. **Participatory scenario-building workshops and participatory evaluation sessions:** Through participatory workshops with the household members, the student teams explored project dimensions and themes, developed and presented alternative initial scenarios to focus on further, and received feedback through additional participatory evaluation sessions with METU campus community members.
4. **Finalizing the scenarios:** The teams refined and finalized the scenarios based on the feedback they received through studio evaluation and participatory evaluation sessions.
5. **Final presentation and evaluation:** The teams presented their finalized scenarios, and received feedback from the tutors, experts and stakeholders.

The collective workshops and evaluation sessions involved the participation of many off-campus volunteers from diverse backgrounds and the METU campus community members including students, workers, and administrative and academic staff; we are grateful to them for sharing their dream domestic life and providing generous feedback. We owe many thanks to Robert, Sedef, Andreas and Ralph for their unfailing support throughout the project; our partnership has been based on mutual trust and a shared passion for locally inspired design solutions.

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BSH-Profilo Staff

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PROFILO

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BSH-Profilo Introduction

BSH is one of the leading global manufacturers of household appliances. Our brands stand for innovative technology, high energy efficiency, top quality, maximum convenience, and outstanding design. Our design portfolio also takes care of regional demands and cultural aspects, especially in Turkey with the brand Profilo. For this project, we decided to take sponsorship of students of Middle East Technical University (METU) in Ankara.

METU is a well-known and reliable partner in the international design network of BSH's Regional Brands Design Department in Munich. With the aid of Profilo's marketing expertise, demographic and social changes in the context of advanced urbanization have been reflected in the students' work. Their concepts give insights into regional cultural values and needs, and show potential developments for the local Turkish market as well as for international markets - our tomorrow's 'Home Heroes'.

Robert Gotschy

Head of Brand Design Regional Brands (MDR)

Profilo is the local brand of the global giant BSH in Turkey. This fact creates for the brand certain responsibilities, both regarding the society we are living in and also for the company we are part of. Profilo tries with its vision to make the best out of this special and unique position. First, by evolving its public relation strength from being the local brand of an important global player and second, by being the brand to reflect local needs in specific products.

For many people, Profilo symbolizes familiarity, family and a new feeling of shared identity. Profilo respects established structures and satisfies ethnic requirements while also taking social changes into account. The brand thus becomes a link between Turkish Culture and contemporary lifestyles. That is why dependability and consistency, and also the courage to pursue new paths, are essential elements of home appliance design: balancing tradition with the future, in an appealing manner.

Brands having global backing and paying attention to local requirements obtain strong positive benefits in their existing markets. Therefore, as the marketing management of Profilo, it is particularly productive for generating brand value to combine global strategies with the satisfaction of local target group interests. This of course requires a differentiated sense for the brand, the product and last but not least, for the product design that must focus on a local point of view.

Since the industrial design function is adopting a more prominent position in modern product development processes, as a means to create successful business, the close cooperation with universities has a number of advantages for both BSH and the concerned universities. A wider base of shared competencies means that it is possible to deal with a range of topics that are relevant to our economy and society. The personnel at BSH are prepared to work on challenges given by local business and global science sectors. The theoretical foundations provided by universities are combined with practical implementation at BSH facilities.

At this point I would like to thank everybody making this vision become real in the form of the current Munich Creative Business Week project. My special thanks are extended to Mr Robert Gotschy, who leads our MDR department, and to Mrs Sedef Aksoy Abbasoğlu, who is our brand representative in the MDR department. We also pass our thanks to the academicians and students who contributed to this project.

Bahriye Bayraklı Tavukçuoğlu, Profilo Brand Manager

Future Home Heroes: Profilo Perspective

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What will change in our daily lives in the future? Rather than the effects of space-age technology, the real change that will influence the life of ordinary people is expected to be in the sizes of houses. Because of the increasing world population and limited space availability, homes of the future will be smaller. There will be no more living and dining rooms, but instead larger kitchens having enough space for living and dining. Rooms will merge with one and other to create greater open space and will flow towards the kitchen as a focal point, reducing the number of doors and barriers. The decrease in the space availability, alongside changing life styles, will force household appliance manufacturers to design and produce more compact products both in size and content. This new challenge will also allow for more creative design, more amenities and better work flow in the kitchen. New trends in life styles will also create an opportunity to deliver enhanced functionality in a single appliance, creating an exciting challenge for industrial designers.

When we say 'functionality', one should not understand it by its definition of today. 'Functionality at home' in the near future can take multiple forms, such as: completing the room design with aesthetic household appliances; possessing features including saving water, energy and time; and mixing two or more appliances into one, to result in products that are beyond our imagination for today's marketplace. In the future, appliances that save energy and water will be increasingly important, but the crucial point will be savings related to time. The compact machines of the future will have to fulfil the needs of time management and help to make life easier and happier for consumers. People in the future will ask for more time, both for themselves and for their families. Manufactures able to deliver on this demand, by supplying optimally designed and equipped appliance solutions, will gain advantage in the marketplace.

The new generation of appliances will definitely be the future heroes at home, helping everyone to contribute to the effective use of natural resources and to manage his/her time more efficiently. They will free people to become socialized and spend more quality time with their loved ones.

At Profilo, our main intention is to be one of the most important players on these fields, especially since pro-activity is one of our ultimate values. The support of METU Department of Industrial Design on this project has helped us to see initial ideas of new home concepts of the future.

Profilo, as the local BSH brand in Turkey, has always sought a local touch in its products, such as flexible shelves for dishwashers that allow placement of Turkish tea or coffee glasses without turning over, and specific accessories for special Turkish pots. Our main target is not only to maintain the unique position of our brand in the future, but to improve upon it by constantly questioning the needs of today and tomorrow.

What are the habits and attitudes of Turkish consumers? How can these attitudes be implemented into an appliance designed for the future? Will consumers prefer organic materials in their households? Will they ask for more touch screens on their appliances? Will they prefer different colours to black, white and stainless steel? In addition to the answers to these questions, we are certainly likely to see more convenience, more interactivity, and more automation.

All of these thoughts and ideas that can conceivably be integrated and interacted into new Profilo appliances were waiting as a design challenge. Now it was time for METU ID students to create and design the houses of the future, starting from the appliances; the heroes of our future homes. Today, appliances are assistants of the real home heroes: the 'mothers' of the household. But in the future, 'mothers' will require more time for themselves and their families, which is why the mission of future appliances will be different than today. We hope that Profilo appliances will be the real 'home heroes' in the upcoming years. Thank you very much for sharing this historical experience with us.

Bahriye Bayraklı Tavukçuoğlu, Profilo Brand Manager

Robert Gotschy, Head of Brand Design Regional Brands (MDR)

Sedef Aksoy Abbasoğlu, Profilo Representative, Brand Design Regional Brands (MDR)

This catalogue is divided into three sections.

Part I: Product concepts selected for exhibition at Munich Creative Business Week (ID401)

Part II: Further product concepts (ID401)

Part III: Further future scenarios (ID301)

Project Conduct and Management

METU Department of Industrial Design regularly carries out educational projects in collaboration with firms from industry. For the ID401 Industrial Design V course, it is usual for us to implement a considerably structured approach to teaching and learning. This way, students experience first hand how a variety of creativity techniques, idea generation methods and concept evaluation procedures can be combined in the journey towards a final product proposal. Our belief is that this experience lays a good foundation for students to better manage their own design processes during the ID402 Graduation Project conducted in the following semester.

The Home Heroes project was managed across four broad phases: (i) initial project exploration, including the attributes of heroes and the state of being heroic; (ii) articulating what the near and middle futures will (might) be like; (iii) developing credible scenarios for domestic life in the coming decades, as a basis for finding new design challenges/opportunities; and (iv) the longest phase: responding to the design challenges/opportunities with innovative, exciting and comprehensively conceived design concepts. In total, fourteen individual steps were covered for the project.

Step	Description	Completion
1	Third year studio: Problem-based future scenarios for home hero products	1/11/2011
2	Fourth year studio: Identifying heroic characters and defining their attributes; identifying a 'home hero' product that exhibits heroic attributes	11/11/2011
3	Research into history and vision of activities related to household products; trends, technologies and lifestyles in the coming decades; Turkish habits, rituals and regional food practices	15/11/2011
4	Hero analysis: Further classification of heroic attributes and their relation to the design of household products	18/11/2011
5	Building a main scenario capturing a vision for domestic living in the coming decades	25/11/2011
6	Critical evaluation of third year studio problem-based future scenarios	25/11/2011
7	Mind map of potential 'problems' that could exist in domestic life in the coming decades	29/11/2011
8	Building new problem-based scenarios	2/12/2011
9	Matrix exercise: Defining dimensions about 'heroic attributes' and the 'overall scenario' that can direct idea generation; creating ideas considering each scenario with reference to each dimension	6/12/2011
10	Developing ideas by evaluating their technical feasibility and enhancing user experience	9/12/2011
11	Preliminary Jury: Presentation of visions of the future and product ideas, with CAD visualisations and user-product interaction scenarios	16/12/2011
12	Utility map: deconstructing design concept(s) into a hierarchy of functions	20/12/2011
13	Final Jury: Presentation of rendered product ideas within their usage contexts and usage scenarios, together with operational and technical details	9/1/2012
14	Refinement and finalization of design concepts and presentations for Munich Creative Business Week exhibition and catalogue	25/1/2012

Part I

Product Concepts
Selected for Exhibition
at Munich Creative
Business Week

ID401

home | heroes

Project Description

In our current domestic lives, we rely on white goods and electrical appliances to help us achieve all kinds of tasks and objectives, e.g. providing us with clean clothes, keeping our perishable food cool and protected, maintaining a clean and healthy environment, assisting us in food preparation, supplying us with fresh boiling water. Products that save us huge amounts of time, effort and inconvenience for daily tasks, delighting us in their function and aesthetics of interaction, may be called 'home heroes'. Their impact is made obvious if we ask a question such as, what would our lives be like now, if these products did not exist?

This project required students to define new home heroes for the coming decades, opening possible future product development routes for Profilo, the Turkish regional brand of BSH. How will life change compared with now? What new needs and desires will people have? The emphasis in the project was on conceptual design allied to technological plausibility. Students were not required to detail their product proposals for manufacture, but equally their proposals were not permitted to be in the realm of fantasy.

Future Scenario for Domestic Life In the Coming Decades

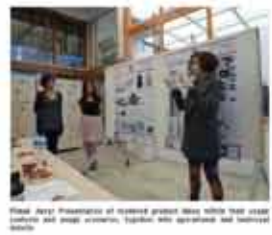
The new generation of appliances will definitely be the future heroes at home, helping everyone to contribute to the effective use of natural resources and to manage his/her time more efficiently. They will free people to become socialized and spend more quality time with their loved ones. We are likely to see more convenience, more interactivity, and more automation.



Bahadır İnan, Burak Kaşar, Fatma Akay, Zeynep Güllü

Project Phases

The project was managed across four phases: (i) initial project exploration, including the attributes of heroes and the state of being heroic; (ii) articulating what the near- and mid-futures will (might) be like; (iii) developing credible scenarios for domestic life in the coming decades, as a basis for finding new design challenges/opportunities; and (iv) the longest phase: responding to the design challenges/opportunities with innovative, exciting and comprehensively conceived design concepts.



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Profilo Durable Home Appliances

Profilo symbolizes familiarity, family and a new feeling of shared identity for many people. Profilo respects established structures and satisfies ethnic requirements while also taking social changes into account. The brand thus becomes a link between Turkish culture and contemporary lifestyles. That is why dependability and consistency, and also the courage to pursue new paths are essential elements of home appliance design: Balancing tradition with the future, in an appealing manner.



For generating brand value, the combination of global strategies with the satisfaction of local target group interests is particularly effective for Profilo. This of course requires a differentiated sense for the brand, the product, and last but not least, for the product design that must focus on a local point of view.





Göktağ Duman, Selen Akgül, İtr Güngör, Koray Benli

In the future, finding healthier food will be very difficult. Therefore, people will look for ways to prepare their own food themselves. Accordry has two functions. One is food dehydration which is the oldest and healthiest food storage method for Turkish people. The other is steam cooking, which is one of the most healthy cooking methods.

'Accordry'
Food Dehydrator and Steam Cooker

accordry supersteam dryer
healthy cooker

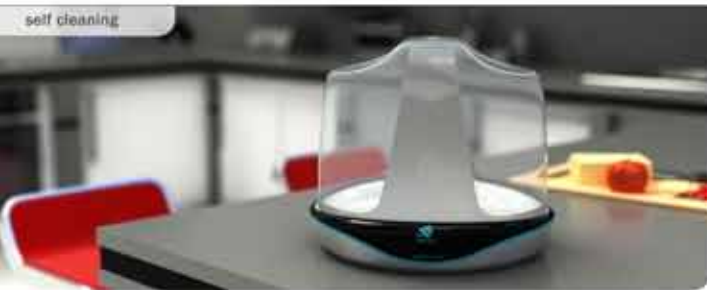
supersteam drying



steam cooking



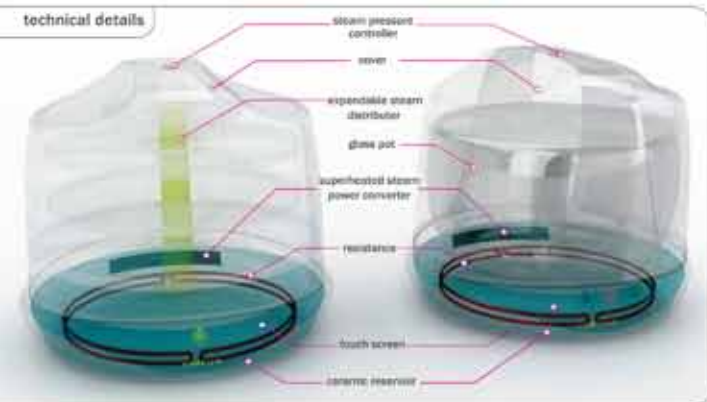
self cleaning



interface



technical details



The user prepares the food to cook. She sets secondary on cooking mode.



The user pushes the head of the lid and closes the lid.



After the food is cooked, the user serves it.



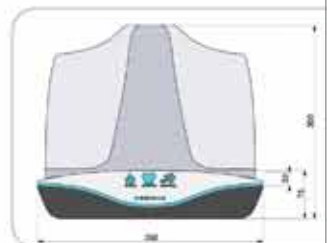
The user prepares the food to dry. She sets secondary on drying mode.



The user places the lid on the device, and cleans the glass cover.



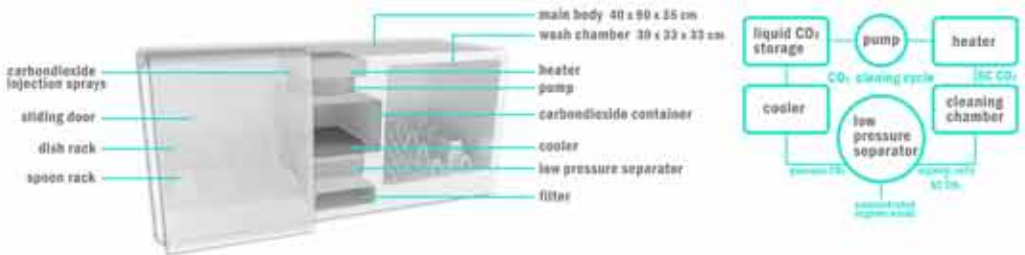
The user takes the food out and puts it into the glass.





DualWash is a two sided dishwasher which is also used as a kitchen cabinet. Waiting to load the dishwasher and then reloading it is a problem of today and also of coming decades. DualWash makes it possible to use full washing performance by a single user immediately after completing a meal. By using it with two sides successively, it gives the advantage to wash higher loads, such as after a 'Turkish guest' visits.

'dualWash'
Bipartite Dishwasher



DualWash is a two sided dishwasher, which creates one clean side and one dirty side. Dishes can be quickly and easily loaded.



The pressured lock door can be easily slid between the two sides, so that dirty dishes need not be so slow. Clean dishes are accessible, just like a cupboard.



When the door is slid to the side we want to wash, the device can be started. The washing cycle is so quick, we are encouraged to wash immediately after meals, having afternoon tea etc.



When the washing cycle is started, carbon dioxide cycle is activated and supercritical carbon dioxide is pumped to the cleaning chamber through the injection sprays.



When started, the interface shows us two possible modes: 'Instant wash' and 'For two sides successively' 'dual wash'.



While the washing continues, the interface informs us about the remaining time.



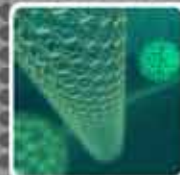
When 'dual wash' is activated, the door automatically slides to the other side and the interface reflects the condition of the washing cycle.



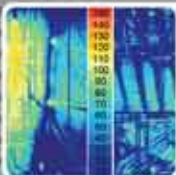
When the washing process is finished, the interface informs us and the locks at the door are deactivated, making them manually slideable again.



During the washing cycle, carbon dioxide flows around the machine and cleans it. For solid particles, supercritical carbon dioxide is turned to gas phase and food particle filter holds contaminants. The filter can be removed and cleaned.



CARBON DIOXIDE CLEANING
At room temperature, CO₂ can also exist as a liquid if kept in a closed system at an elevated pressure. Supercritical CO₂ has a very low surface tension, allowing instead of soaking up like a hot like water, it spreads out widely covering all surfaces.



PRESSURE RESISTANT DOOR
A pressure resistant door can withstand the atmospheric pressure between the inside and the outside. Pressure resistant doors vacuum the air around and lock itself. It can resist pressure against the flow.



PRESSURE SENSOR
A pressure sensor measures the pressure, typically of gases or liquids. Some pressure sensors are designed to measure to a dynamic range, for capturing very high speed changes in pressure.



Gizem Harut, Gamze Iskender

Changing eating habits along with kitchen layouts and smaller volumes of spaces minimizes the future home appliances. Cooleye creates an enjoyable environment in the kitchen by visualizing the food storage. Forming an attractive display in the kitchen, it leads to conscious consumption. Its smart control system provides energy saving via defined compartments with adjustable temperatures.

'Mini Cooleye'
Visualized Cooling Storage



mini cooleye



- DISPLAY DRAWER
- SERVING UNITS
- TOUCH SCREEN
- REFLECTIVE GLASS
- MIDDLE DRAWER
- SILICONE SURFACE
- LOWER DRAWER
- MINI SHELF
- BOTTLE PART
- ELECTROMECHANICAL DRAWERS

FEATURES

12



THE DISPLAY COMPARTMENT WITH REFLECTIVE GLASS PROVIDES VISIBILITY WITHOUT OPENING THE UNIT. SMART CONTROL SYSTEM GUIDES THE USER WITH BIO SENSORS AND ADJUSTABLE TEMPERATURE. THE DISPLAY CONSISTS OF FOUR SEPARATE GLASS UNITS WHICH ARE USED AS SERVING UTENSILS OUTSIDE OF MINI COOLEYE.



ELECTROMECHANICAL DRAWER SYSTEM OFFERS AN EASY OPENING. DEFINED PARTS SUPPLY EFFICIENT PLACEMENT. THE MIDDLE COMPARTMENT HAS TWO PARTS DIVIDED WITHIN A SEMI-WALL THE LEFT DIVISION IS SPECIALIZED WITH SILICONE SURFACE TO PREVENT SLIPPING.



THE LOWER COMPARTMENT HAS ONE PART WITH SILICONE SURFACE AND ANOTHER DIVISION FOR BOTTLES. SLIDING BOLLS IN THE BOTTLE PART KEEP THE BOTTLES STABLE AND SEPARATE. THE UPPER DRAWER IS SPECIALIZED FOR LITTLE STORAGE ITEMS.

INTERFACE



STAND BY MODE
BACTERIA ALERT
OPEN DOOR ALERT



SWITCH ON DISPLAY TO
SEE WORKING UNITS'
CONDITIONS



TOUCH THE WARNING
SIGN TO KEEP WORKING



SELECT THE COMPART-
MENT TO ADJUST THE
TEMPERATURE



SLIDE TO ON SELECTION
TO ACTIVATE UNIT AND
TURN BACK



SEE THE WORKING
CONDITION OFF ENTIRE
SYSTEM



TOUCH THE SWITCH
BUTTON TO TURN OFF
THE DISPLAY



BIO SENSORS

Bio-sensors consist of bio-recognition systems working as transducers. Changing level of pH, and heat caused by the occurrence of bacteria is detected by transducers. Semi-conductor pH electrodes recognize the pH level and a thermistor recognizes the heat change by the unit.



SMART CONTROL SYSTEM

The smart control system consists of a motherboard with fully integrated processes: display adapter, RAM and SSU. Bacteria sensors, switch controllers and temperature adjusters are shown. With the touch screen a capacitive system is used for control.



ELECTROMECHANICAL DRAWER

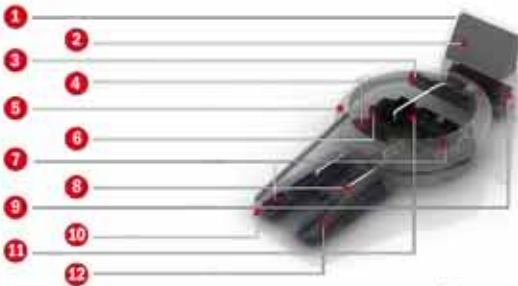
The electromechanical drawer unit consists of five main parts: data cable, drive unit, distributor, power supply and covers. The drive unit opens the drawer and for each cabinet a distributor is required. The sensors provide reliable activation with high driver loads.



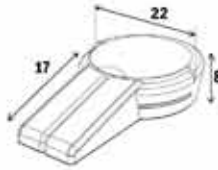
In 10 to 20 years people will have less time for cleaning and the living spaces will be smaller. A gesture and sound-controlled engaging cleaning device, with its camera and sensors Volto passes obstacles and cleans. The Volto idea is based on 'the fun of cleaning instead of effort'. The arms of the product are for cleaning both wide and narrow areas.

'Volto'
Robotic Cleaning Device

VOLTO



- | | |
|---------------------|--------------------------|
| 1. Dock station | 7. Rollers |
| 2. Motor | 8. Vacuum pipe |
| 3. Battery | 9. Dirt tablet mechanism |
| 4. Wide lens camera | 10. Movable arms |
| 5. Main body | 11. Motor |
| 6. Dirt storage | 12. LEDs |



Automated / Preset

User-Activated

Different Modes
*Sleed
*Powerful
*Fast



(1) Movable vacuuming main body and arms
(1) Reaching corners and edges
(2) Dirt transferring into base



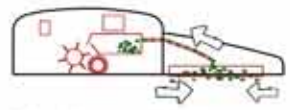
(3) Pressing dirt into tablets
(3) Removing dirt tablet without touching
(4) Wireless charging



Workflow



Rollers in the main body take dust by vacuuming and transfer to the dirt storage.



Rollers in the arms take dust by vacuuming and transfer to the dirt storage. A pipe helps to transfer vacuum equally.

Interface Examples



GESTURE AND SOUND-CONTROL
Thanks to a wide lens depth-sense camera and talk-a-volting the software is able to distinguish the user from the other stationary or moving objects, and with the sound input, the product is activated and ready to work.
"Interlocking" between gestures and sound-control algorithms.

MAP PREDETERMINATION AND BUILDING
The distance memory and sensor use the route and create dynamic maps, so the perfect clean-up to the way. The information is transferred to a memory disk for be used for later solutions. So, the product is able to find the shortest way to its target.
"Intelligent" the object "3d filtering"

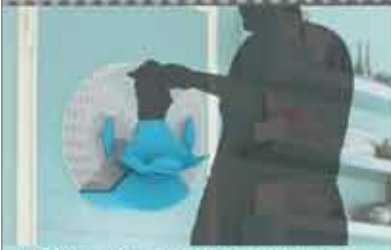
DIRT TABLET TECHNOLOGY
A sensor technology based on the idea to compress dust in the storage part, to reduce the space needed and make the transfer process more hygienic. With a rotating blade and a certain percentage of humidity, the dust is embedded in one and is thrown away without the need for water to flush it.



Ayşe Buse Üstün, Fulya Pekserbes

Wash A-Part is a wall mounted washing machine enabling people to collect and do their personal laundry with ease. It is designed to wash laundries in periods of 2-3 days, so the obligation to wait for clothes to be collected is eliminated. It also has drying and refreshing functions to clean clothes that don't require an intense wash or are just wet.

'Wash A-Part'
Wall Mounted Washing Machine With Washing Modules



Dirty clothes are collected in modules located on the wall within the users' personal areas at home



When the module is full, it is carried to the washing machine



When the open hatch button is pressed, the lid pops out a little bit to let the user lift up the lid



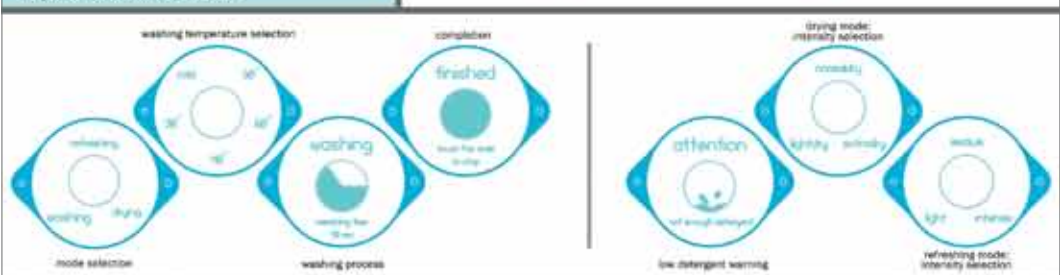
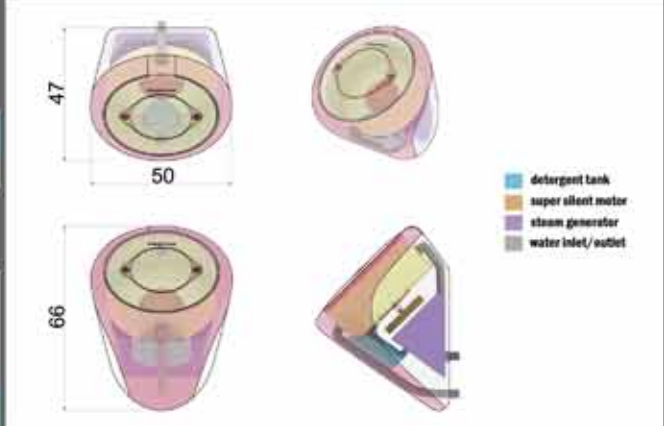
Once in every 40 washes, detergent needs to be refilled from the area within the machine



Then module is placed into the machine



The LED illuminated ring around the screen takes the modules' color to give feedback about which module is in



SUPER SILENT MOTOR
The super silent motor designed to reduce vibrations and noise works without any belts or gears. Not only making the machine more silent, it also prolongs the life span of the machine. By reducing disturbing sounds, it makes people to be leisurely any time of the day.

STEAM WASHING / DRYING
Steam generator within the machine generates and pushes steam through a tube to a nozzle. Steam is also used during pre-wash and post-wash, to soften the clothes. For drying, very hot steam heats the clothes' moisture; water moisture is evaporated out the system.

DETERGENT STORING
The detergent tank releases a little bit of detergent for each wash through a tube to the steam generator. The steam generator sprays the detergent on the clothes in the form of fine mist.

Part II

Further Product Concepts

ID401



Ece Güçlü, Sıla Karagöl, Hilal Coşkun, Eren Şenyurt

Allein is a lunchbox that gets your already-prepared meal heated, during your travel or your work time. With the help of two different containers, it is able to preserve both the main dish and the accompanying one. The top of the containers can be flipped and turned into plates. The containers can be taken off and washed.

'Allein'
Heater Lunchbox

allein



The case can be carried using its integral strap or placed into a personal bag



Allein has a battery that can be charged via USB



First, user prepares and cooks her vegetables at home and puts them into "Allein".



She carries it along with her during the day in her bag or with its special case.



At lunch time, she activates "Allein" in order to heat her pre-cooked lunch. Afterwards, she unties the case and spreads it as an eating area defined.



Activation



High temperature heating



Low temperature heating

Single controls include just one button and a surrounding touch pad to adjust heating temperature



The case protects allein, holds a fork, spoon, knife and bread in its inner pocket, and determines the eating area when untied.



Allein has three different containers: 1- opaque cylinder 2- transparent cylinder 3- transparent bowl



When she has a little bag with her, "Allein"'s case also can be carried on its own.



ELECTRIC HEATING

Electric heating is any process in which electrical energy is converted to heat. Common applications include space heating, cooking, water heating, and industrial processes. The heating element inside every electric heater is simply an electrical resistor.



TOUCH PAD

A touchpad (or trackpad) is a pointing device featuring a flat, smooth, a specialized surface that can translate the motion and position of a user's fingers to a specific position on screen. Touchpads operate in one of several ways, including capacitive sensing and contact area sensing.



NEOPRENE

Neoprene in general has good chemical stability, and maintains flexibility over a wide temperature range. It is used in a wide variety of applications, such as fishing gloves, orthopedic braces, electrical insulation, fluid and sheet applied elastomeric membranes or coatings, and car floor mats.



Bahattin Onal, Besmir Kamberi, Fatma Akçay, Zeynelabidin Aziri

Arc Surface Cleaner is a self-guided floor mopping robot, which saves time by minimizing the interaction with users. Considering that we have less time to spend at home in the coming decades, Arc Surface Cleaner is designed to decrease the time used for cleaning at home.

'Arc Surface Cleaner'
Mopping Robot



Filling the water tank



Giving the start command



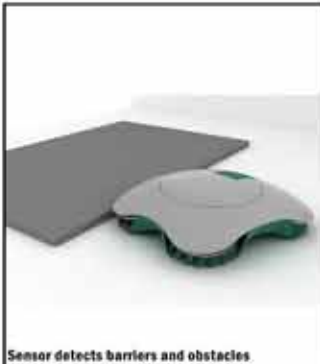
Starting and finishing time



General Interface time, battery, water



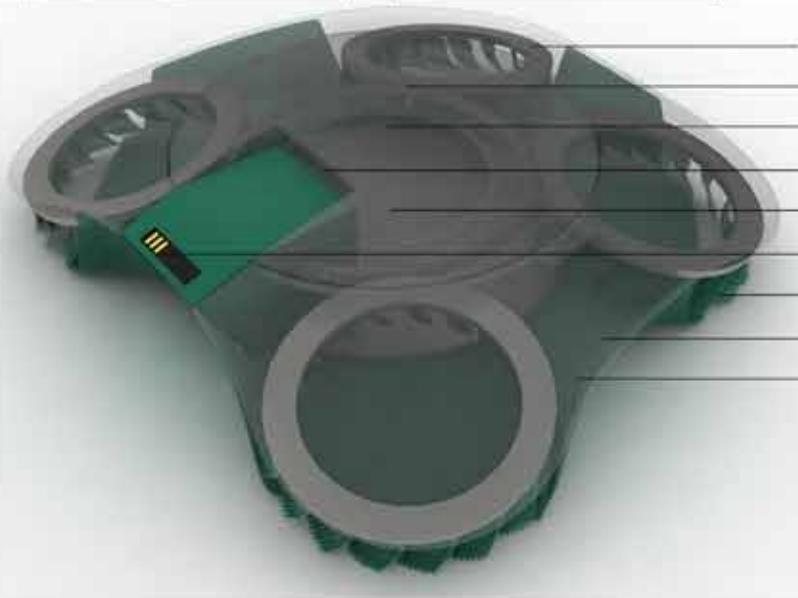
Beginning the cleaning process



Sensor detects barriers and obstacles



Target location



- 1 Brush Gear
- 2 Main Gear
- 3 Clean water tank
- 4 Water entrance
- 5 Dirty water tank
- 6 Battery
- 7 Brushes
- 8 Main body
- 9 Rubber

LONG LASTING BATTERY
Low Self-Discharge
4500mAh Energy Rechargeable
1.5V (6000h) alkaline
Self-discharge: 3% monthly (typical)
Recharge per month: 100mAh
Warning: After charging of batteries

ARTIFICIAL INTELLIGENCE
Intelligent agent in a system that perceives the environment and takes actions that maximize its chance of success.

ROBOTS
Robots are machines that can perform tasks that would otherwise require human intelligence. They are used in many different ways, from simple automation to complex systems.



Dilcu Keleş, Merve Özdemir, Tuğçe Çavuşoğlu

Bee Well is a product family comprising a steam distillator and air purifier. It suggests herbal well-being comfort at home with differentiated application areas. Hydrosol samples are achieved easily and can be preserved for later usage in small containers. They can be also used with the air purifier unit to freshen air with natural ingredients while filtering the air.

'Bee Well'
Home Distillator and Air Purifier



Distillator's temperature increasing through its touch screen. User should choose one of three levels of hotness of water and steam. Note: according to volume, the water can be used from 100ml to 1000ml.

Use air purifier has 4 mode levels. User can choose this function of purification by setting his/her desired time. There is timer for four 15min, 30min, 45min, 60min.



Prepare Bee Well by add water and herbs.



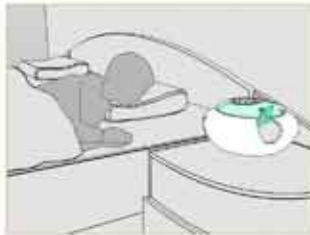
Shows the time to give feedback.



Detachable inner parts and self-cleaning mode.



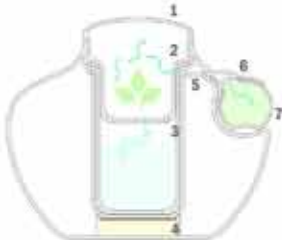
Freshen your living room.



Purify air when children are sleeping by setting time.



Purify your bathroom with natural scents.



1. Isolation Lid
2. Filtering Herbal Container
3. Water Container
4. Film Heater
5. Condensing Pipe
6. Lid of hydrosol sphere
7. Hydrosol Sphere

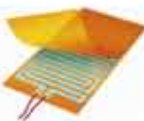


1. Isolation Lid
2. Circulating Fan
3. Water Adsorbent Filter
4. High Potential Particlar Filter (HPP)
5. Water Container



HYDROSOL

Herbal steam distillation is a generally large scale process. Steam passes through the fresh herbs and supports substances. Some distillation can provide locally prepared hydrosol. Hydrosol is a natural result of distillation process. It can be added by tea or water, or it can be used as is.



FILM HEATER

They are available in various shapes, sizes and materials. Polyimide Film offers a high degree of resistance to chemicals. But its most important characteristic is its flexibility and lightness.



HPP FILTER

An positive ionic has filter to keep particles. The HPP filter removes smaller particles, bacteria and viruses. Apart from that HPP filter is washable and this feature makes it easy to take care for air conditioner and purifier.

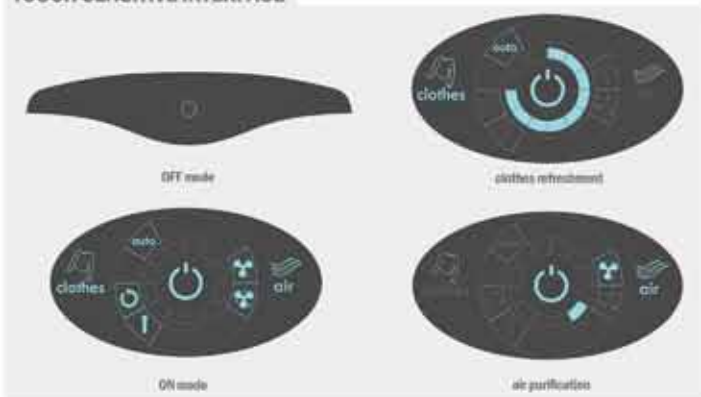


With the help of negative ion technology and HEPA filter 'BeFresh' refreshes clothes and purifies indoor air. Negative ions remove small particles on cloth fibres, and deodorise as well. While refreshing clothes, a closed area is generated by 'BeFresh', which helps negative ions to circulate inside. It doesn't need a closed area when it is used as an air purifier.

'BeFresh'
Clothes and Air Refreshment Unit



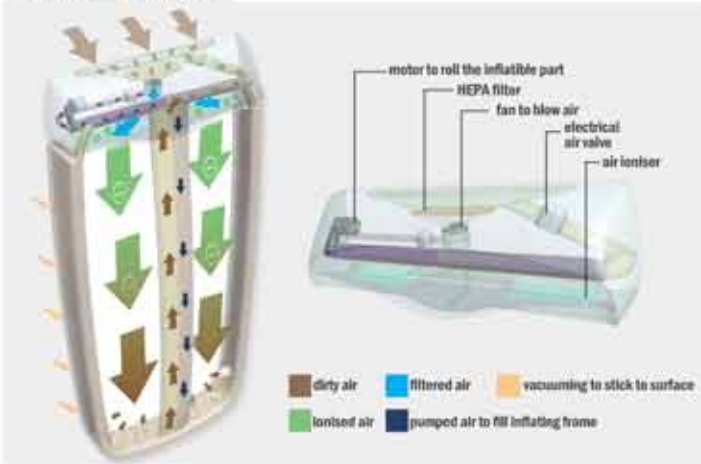
TOUCH SENSITIVE INTERFACE



INFLATING AND VACUUMING PHASES



WORKING PRINCIPLES



NEGATIVE ION TECHNOLOGY
Negative ions attach themselves to electrostatics and allergens, which are positively charged. The newly formed larger particles are then able to fall to the ground, and out of the air we breathe.

HEPA FILTER
HEPA filters remove at least 99.97% of airborne particles 0.3 micrometers in diameter. This is beneficial for asthma and allergy sufferers, because the HEPA filter traps particles such as pollen and dust mite which trigger allergy and asthma symptoms.

BRUSHLESS BLDC MOTOR
BLDC motor reduces the power required to operate. These fans are also run using a BLDC motor. In addition to higher efficiency, variable speed BLDC systems use BLDC motors because the built-in microprocessor allows for programmability, better overall air flow, and overall communication.



Gizem Harut, Gamze Iskender

Changing eating habits along with kitchen layouts and smaller volumes of spaces minimizes the future home appliances. Cooleye creates an enjoyable environment in the kitchen by visualizing the food storage. Forming an attractive display in the kitchen, it leads to conscious consumption. Its smart control system provides energy saving, via defined compartments with adjustable temperatures.

'Big Cooleye'
Visualized Cooling Storage



big cooleye



COOLING COMPARTMENTS

SLIDING SHELVES

BOTTLE DRAWER

DISPLAY COMPARTMENTS

REFLECTIVE DRAWERS

FREEZING COMPARTMENTS

SEPERATED DRAWERS



20

FEATURES



SPECIFIED STORAGE COMPARTMENTS ARE GUIDING THE USER FOR EFFICIENT USAGE.



ELECTROMECHANICAL DRAWER SYSTEM PROVIDES EASY USE EVEN AT LOWER HEIGHTS.



ADJUSTABLE TEMPERATURE FOR SEPERATE COMPARTMENTS IS USED TO AVOID SPOILING OF FOOD AND PROVIDER AN ENERGY EFFICIENT SYSTEM.



SMART CONTROL SYSTEM GUIDES THE USER WITH BIG-SENSORS AND GIVES THE OPPORTUNITY TO SEE THE COOLING UNITS WITHOUT THE NEED OF OPENING.

INTERFACE



STAND BY MODE. BACTERIA ALERT OPEN DOOR ALERT



SWITCH ON DISPLAY TO SEE WORKING UNITS' CONDITIONS



TOUCH THE WARNING SIGN TO KEEP WORKING



SELECT THE COMPARTMENT TO ADJUST THE TEMPERATURE



SLIDE TO ON SELECTION TO ACTIVATE UNIT AND TURN BACK



SEE THE WORKING CONDITION OFF ENTIRE SYSTEM



TOUCH THE SWITCH BUTTON TO TURN OFF THE DISPLAY



BIG-SENSORS
Bio-sensors consist of bio-recognition systems working as transducers. Changing level of pH, and hard caused by the occurrence of bacteria is detected by transducers. Semi-conductor pH electrodes recognize the pH level and a fluorometer recognizes the level change in the unit.



SMART CONTROL SYSTEM
The smart control system consists of a microboard with fully integrated processes. Display adapter, RAM and SSD, Bacteria sensor, switch controllers and temperature sensor reads are shown. With the touch screen a capacitive system is used for control.



ELECTROMECHANICAL DRAWER
The electromechanical draw-unit consists of five main parts: drive cable, drive unit, distributor, power supply and sensors. The drive unit opens the drawer and for each color-coded a distributor is required. The sensors provide reliable activation with high drawer levels.



Göktağ Duman, Selen Akgül, İdr Güngör, Koray Benli

Box'n Box is a modular cooler which blocks the loss of energy. Furthermore, each cabinets' conditions can be arranged according to what it contains. Additionally, with the UV technology, food and vegetables can be sterilized.

'Box'n Box'
Modular Cooler and Sterilization Tool

BOX'N BOX



The user comes back from shopping with lots of bags and puts them in front of the refrigerator.

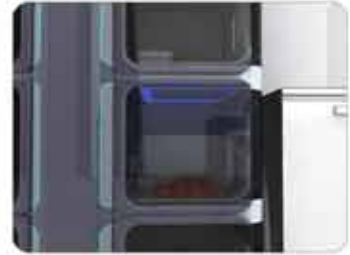
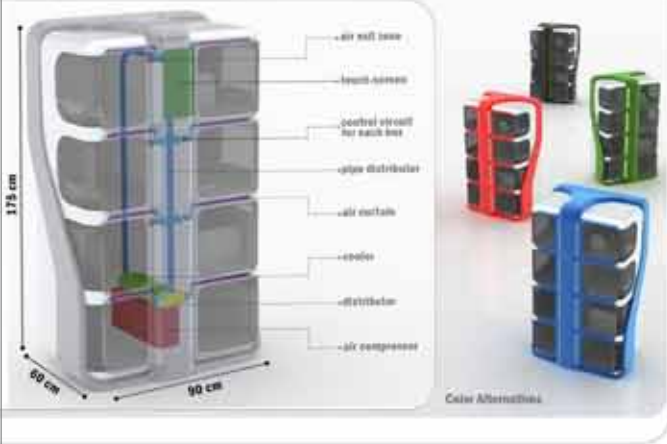


With the help of the speech recognition system, the user opens the cover of the dairy product box and the user places milk bottles into this box.



Then, the user places vegetables into the vegetable box.

PARTS AND WORKING PRINCIPLES



The user activates UV sterilization via the speech recognition system or touch screens.



After storing the food, the user checks the beverage box whether there is any orange juice for her child or not.



After taking orange juice, she activates the child lock of the device.

INTERFACE



SPEECH RECOGNITION

This feature enables the process to be far easier simply just to identify which food items are purchased, or to a simple interface designed and will be used when connected to the future.

STERILIZATION

This food is sterilized by ultraviolet (UV) lights, so that the food can be used safely in a healthier way. This sterilization process and automatic system prevents microorganisms that are responsible for the development of food-borne illnesses and toxins, like in any physical systems of food.

AIR OUTLET

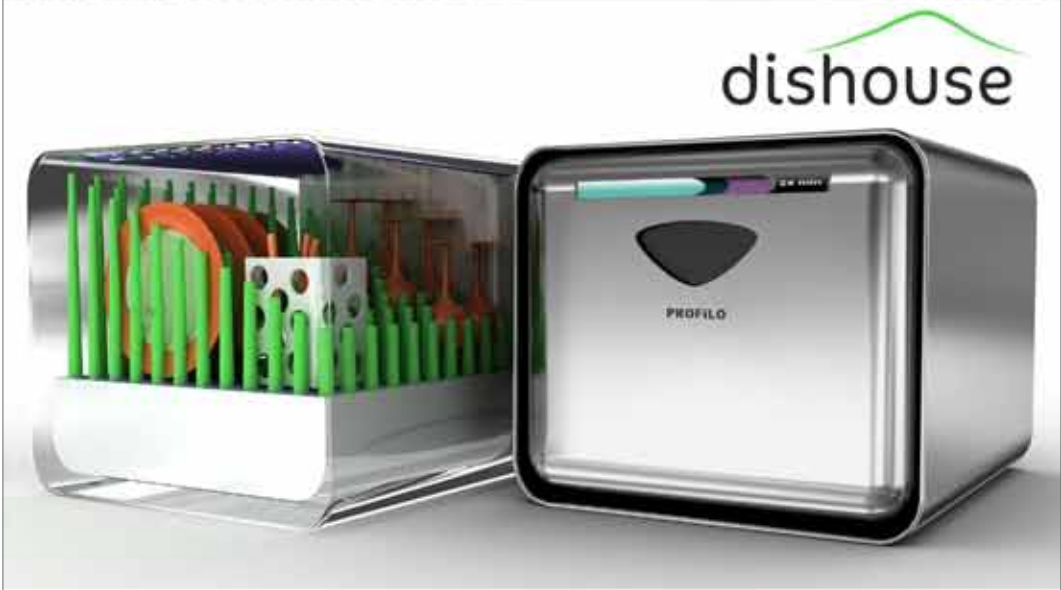
All contents provided is remaining in air flow through air passing software using air physical barrier flows. By this technology, the door air in the boxes will be maintained when they are opened.



A dishwasher concept designed for small sized families of the future, who are living in relatively small sized houses. It cleans mostly with hot steam and physical movements of silicone rubber fibers. Less water is used considering possible water shortage in the near future. UV sterilization is used to kill bacteria and microorganisms, resulting in no need to use detergent in this product.

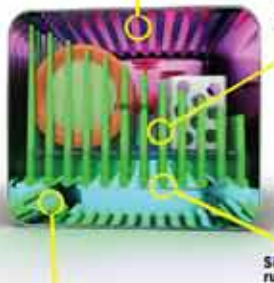
Gizem Cürdaneli, Yasemin Efe, Mert Kulaksız, Mehmet Demirezen

'Dishouse'
Drawer Type Water Efficient Dishwasher



Dishwasher in a small sized kitchen

UV Light concave shaped and placed on the top and bottom for it to reach everywhere

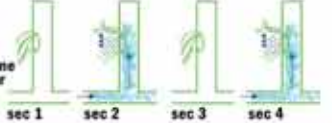


Food particle grinder

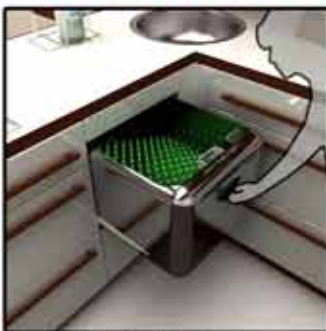
Parts and Their Functions



Hot steam is pressurized frequently through pipes and released from the holes to make silicone fibers move and provide cleaning with friction



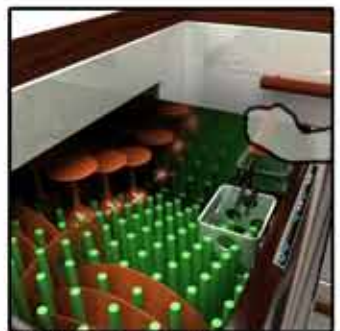
Usage Scenario and Features



Open the drawer type dishwasher



Place the cutlery into the apparatus



Start the machine and washing process



Start the machine and washing process



UV Light cleaning process and finish



Place clean dishes to shelf with easy access



SELF HEALING SILICONE RUBBER

Workaround solution for left over food and dirt. It does not absorb germs or bacteria. Resistant to hot steam with self healing technology. It is capable of recovering almost all of its original tensile strength.



UV LIGHT STERILIZATION

Ultraviolet (UV) light of sufficiently short wavelength is used to destroy viruses and bacteria, both the dishes and inside of the machine.



FOOD PARTICLE GRINDER

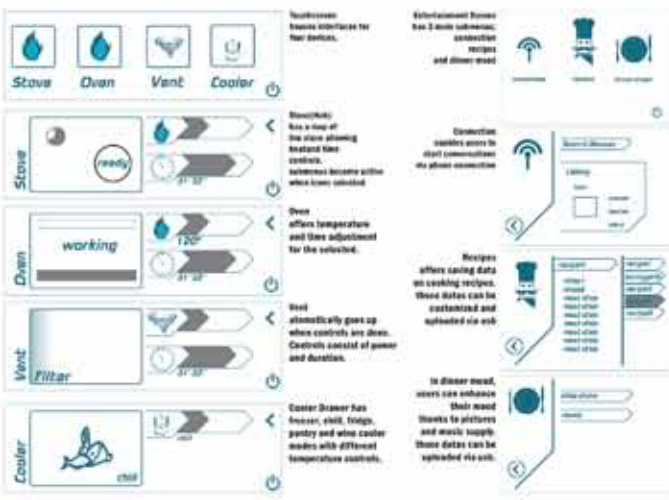
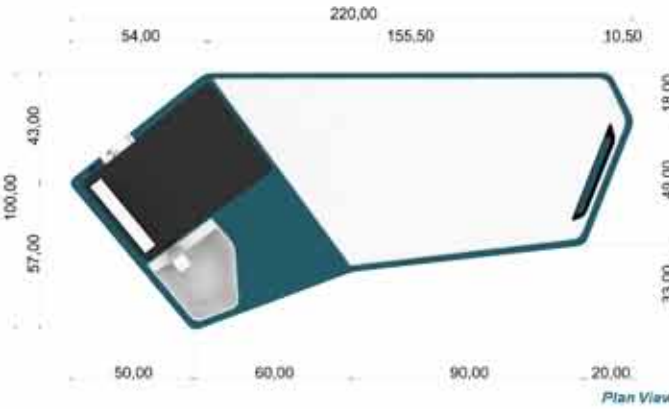
Small grinder that grinds down food particles to the machine for a long time. These smaller particles are washed down the drain more easily without getting caught to the filter or clogging the drain.



Mert Kaygısız, Hande Asıcı

Dyner enhances dining experience, improving social interaction in a dynamic manner for small houses, dorms or offices.

'Dyner'
Dynamic And Social Dining Experience



Dyner

dynamic diner



INDUCTION HEATING

Energy Efficient, High heat up efficiency and low energy consumption. Inducting electromagnetic reduces total consumption. Inducted heating of the glass ceramic panel characterizes the risk of burning and food being solid on the panel. Empty on dry pan don't activate the system.

COOLER DRAWER

A cooler drawer to the prep area gets fresh food without any needs and in an ideal place to keep your appetizers. CoolDrawer offers the option forward of being able to share a variety of items with a multiple temperature zone design.

GARBAGE DISPOSER

A garbage disposal unit as waste disposal unit is a device, usually electrically powered, installed under a kitchen sink between the sink's drain and the line which allows food waste into pipes small enough, generally less than 2 cm, to pass through plumbing.



Zeynep Cansu Peköz

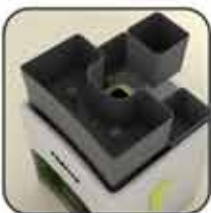
In a future where access to healthy, natural, additive-free food becomes increasingly important yet harder to achieve, Fresh Pick allows users to prepare their own preserves, without any need for prior experience or knowledge. Fresh Pick takes on the role of 'the previous generation', keeping traditional knowledge alive even at the face of urbanisation and generation gaps.

'Fresh Pick'
Self-Contained Pickle Maker



Is it fresh? Is it natural? Is it healthy? Is it affordable? Is it always ready for me?

These are real concerns for the present and the future alike. With the Fresh Pick, users have one less thing to worry about - they do not have to "know" in order to "make". Pickling is a delicate process, that can go wrong for many reasons - wrong brine ratios, bacterial growth, pickling duration... With Fresh Pick, the dependency on knowledge is eliminated, pickling is now choosing a recipe, pressing a button, and coming back when the alert on the machine goes off.



Containers for water, vinegar, salt and lemon juice are removable and machine washable. They are loosened by removing the feed nozzles. Clean containers should be snapped on before starting the process.



The display unit houses a battery, which is removed and put to charge while the user starts washing vegetables. This short charge is enough for the whole process as the appliance doesn't require much energy.



Containers flush required amounts of ingredients down to the mixing chamber, according to the recipe. The chamber is removable but can also be flushed after use. Interface guides user on how to flush the appliances.



Glass containers in the desired size are placed inside after opening the latches on the sides. These latches lower the tray and allow adequate opening. Tray is indented so the containers stay in place.



Pushing the latches back down raises the tray and locks the containers in place. The appliance calculates the added weight of the vegetables by the tension and prepares to flush the right amount of brine.



The UV lights are turned on after the roll-up panel is pulled down. This shielding is necessary for protection, and the lights don't go on unless the panel is secured. After sterilisation, containers can be filled with vegetables.



LITHIUM AIR BATTERY
Environmentally safe, oil independent. Extends high energy density. Utilizes the oxygen in the air. Lightweight, cheap. Application in small appliances expected in 3 years.

UV STERILISATOR
Big scale use: water treatment. Small scale use: baby bottles, sanitizers, etc. Utilizes UVC ray to damage the DNA of bacteria. Safe after application. Waste to be mixed while working. Proven technology.

CAPACITIVE TOUCHSCREEN
Electrostatic charge on the surface is used to calculate conductivities that the fingertips (or other conductive material) is touching. Proven technology.



Turkish traditions will carry to the future with this electric grill and integrated smoke purifier. Thanks to smoke flavor generated by wood chips, and its electrostatic precipitator, a smoky grill taste is retained. However, there is no smoke to worry about and the process of making barbeques becomes very easy, attractive and well suited to social dining.

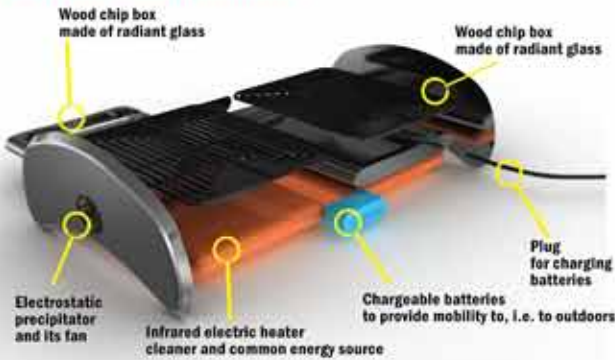
Gizem Cürdanelli, Yasemin Efe, Mert Kulaksız, Mehmet Demirezen

'Grilicious'
Clean Barbecue With Authentic Flavours

grilicious



Parts and Their Functions



Usage Scenario and Features



An unplanned grill activity seems to be fun with some friends



Thanks to the smokeless grill; it does not have to be placed away from the table and people



Wood chips are placed to give grill taste to food



Two separate drawers for different taste of wood chips. Variety of taste, at the same time



Smoke and bad odors eliminated through smoke extraction system



Access from two sides; more people integrated to the activity



INFRARED ELECTRIC HEATER
Heats the air and is three speed. Environmentally friendly component to clean and easy to clean. Evenly distributed heat and restore source of heat almost perfectly protected.



ELECTROSTATIC PRECIPITATOR
Composed of two sections, a charging section and a collection section. The charging section uses ionizer wires to ionize a positive charge the incoming smoke, fat and dust particles. The collection section is discharger heavily.



RADIANT GLASS
Radiant glass is a good conductor and is additionally used as the wood chips holder. It provides a barrier between the electro infrared mechanism and the food protecting the mechanism from dropping fat.



Mundus defines a hygienic spot in the small flat by combining sterilization, laundry and dishwashing functions. The central tube is mounted in the hygiene area. It reciprocates to distribute water evenly. At night, a UV light is activated to sterilize the hygiene area. Furthermore, the washing machine and dishwasher parts can be used separately.

'Mundus'
Hygiene Hero

Ece Güçlü, Sıla Karagöl, Hilal Coşkun, Eren Şenyurt

mundus



transparent mode



opaque mode



sterilization mode

Outer glass has liquid crystal technology by which opacity may be switched



both mundus parts (dishwasher and laundry) have their own interface and own systems, except for a common motor.



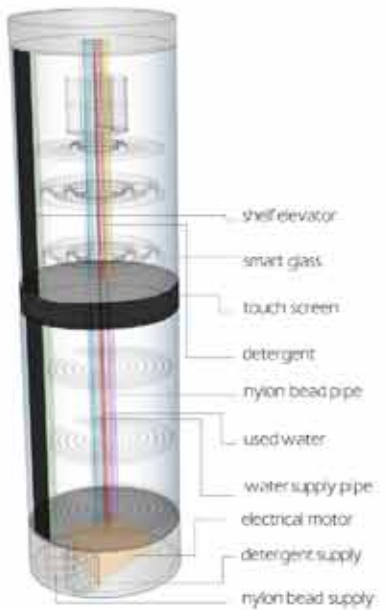
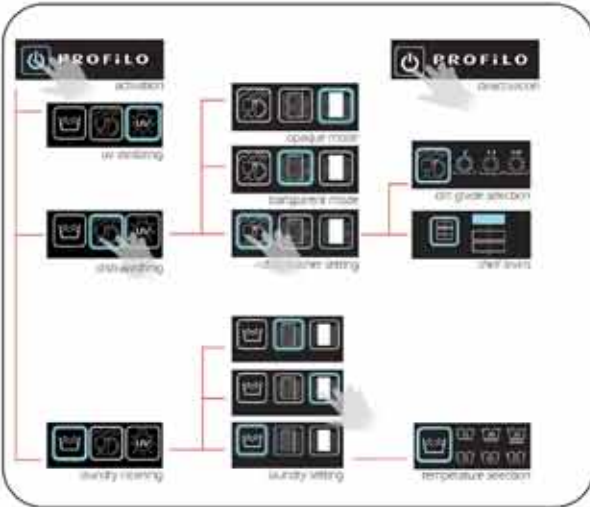
laundry part has three modules for collection and cleaning



dish and laundry parts can be used separately by changing the control pipe



starter interface placed on the central hand surface



NYLON BEADS

The beads are added to the wash along with as little as a cup of water and a drop of detergent. After the water saturates the clothes, the beads, which become absorbent under humid conditions, suck up the water along with the dirt. The dirt is not just attracted to the surface, but is absorbed into the center of the beads.



UV STERILIZATION LIGHT

Ultraviolet lamps are used to sterilize workspaces and tools used in biology laboratories and medical facilities. Commercially available low-pressure mercury-vapor lamps emit almost 90% of their light at 254 nanometers (nm), which penetrates very well with one of the two peaks of the germicidal effectiveness curve.



SMART GLASS

Smart glass, E-Glass, or switchable glass, also called smart windows or switchable windows in its application to windows or skylights, refers to electrically switchable glass or glazing, which changes light transmittance properties when voltage is applied. It changes from transparent to translucent.



Caner Çiftçi, Gökse Kaçaroğlu, Güzin Şen, Yasemin Camadan

'Planty' is an air purifier which utilizes the ability of plants to filter air. Since in the future, people will be very far from nature in city life, 'Planty' brings nature to people's homes along with fresh air. It also provides indoor illumination.

'Planty'
Air Purifier



'Planty' is waiting for refreshing your room.



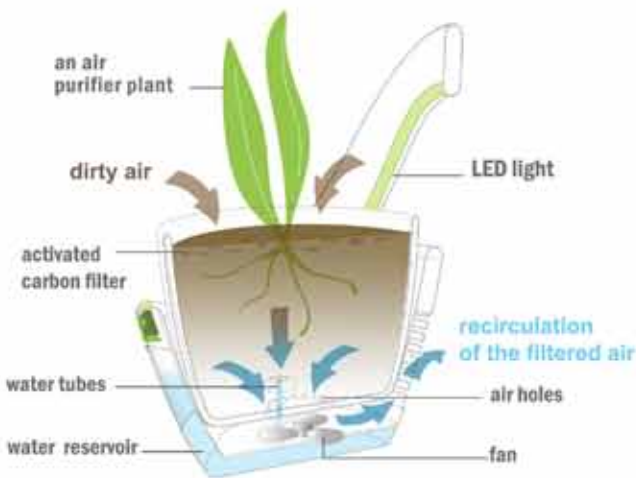
The pot is removable for plant care.



It needs some water, of course.



It can also be used for indoor illumination.



water inlet



water level indicator



working as an air purifier



illuminating the environment



pot & base



air holes





Halit Sancar, Nagihan Tuna, Pinar Şimşek, Gökçe Altun

Tabii is a food preparation unit that provides users healthy food options by sterilizing and washing food and extending food storage life by drying. The coming decades will come with water shortages and a counter reaction to unhealthy eating habits. Tabii puts a highlight on water shortages and the 'Turkish habit' of food drying. It presents sterilizing, washing, drying, and dehydrating processes.

'Tabii'
Food Washer, Sterilizer and Dryer

@tabii



Using the portable food container, fruit and vegetables can be easily placed inside the device. It locks itself to the main body.



Tabii washes the fruit and vegetables by minimizing the water usage and using centrifugal force. We fill the water container and place it into the device.



The touchscreen interface communicates with the user and informs us about the device operation.



After choosing the desired process, we can choose consecutive processes. When washing starts, it begins to pump the ionized water to the container and commence sterilization.



When the washing process is finished, we can pause the process, and cut the washed fruit and vegetables in the way that we want to dehydrate.



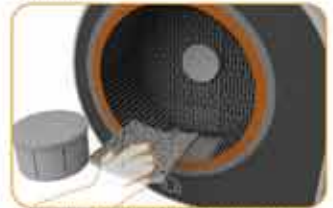
During the dehydration process, the interface informs the user about the process and remaining time. Drying and dehydration is achieved using ultrasound technology.



After the all process is completed, the interface informs the user about how much water is consumed and how long the process is.



The waste water container sucks the water used during the process. When the container is full, it informs us to pour away water.



Tabii cleans itself by using the water around the containers. For solid particles, there is a filter to capture and hold contaminants. It can be removed and cleaned.



IONIZED STERILIZER

Ionized water is separated into an oxygenated solution of positively and negatively charged ions. Ionized water kills more than 99.9% of harmful germs, carried by a low level oxygen, held by the molecules.



ULTRASONIC DEHYDRATION

Ultrasound prevents the release of moisture content from solids without producing a liquid phase change. Unlike the conventional dehydration methods based on hot air drying, it doesn't deteriorate the quality of the final product.



SPEECH RECOGNITION

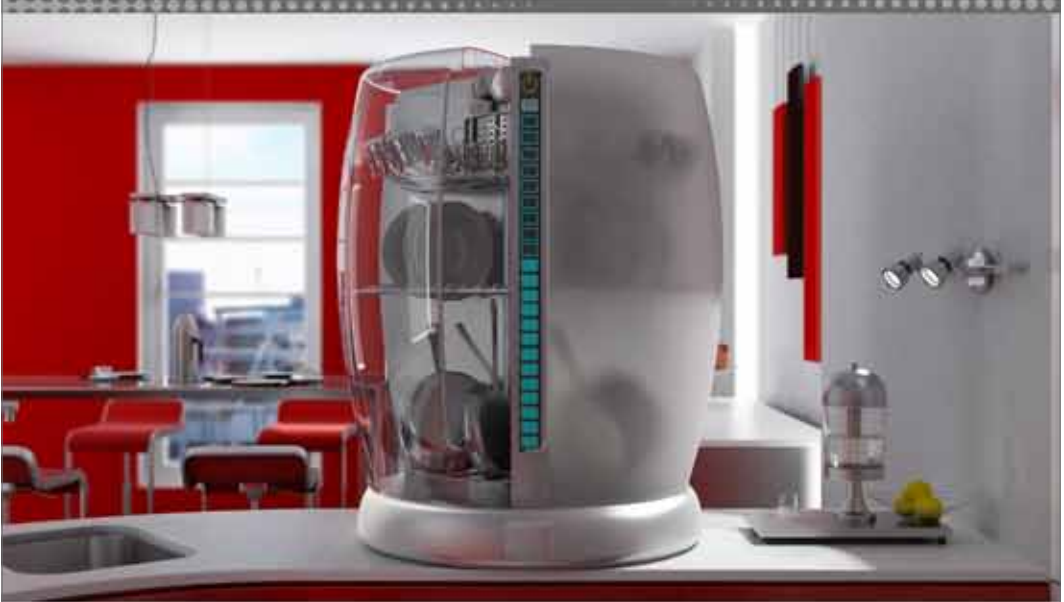
Speech recognition is a broad subject that refers to technology that can recognize speech without being targeted at a single speaker. Speech recognition applications include voice user interfaces that connect the user and product through displays.



Bahattin Onal, Besmir Kamberi, Fatma Akçay, Zeynelabidin Azri

Tidy Washer is a space saving dishwasher allowing storage of both dirty and clean dishes by removing the need for dish racks on the countertop. Tidy Washer is designed to be used in smaller living spaces in the coming decades.

'Tidy Washer'
Dishwasher



Putting detergent into the detergent drawer



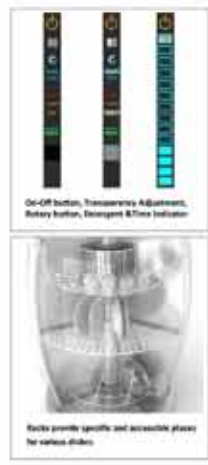
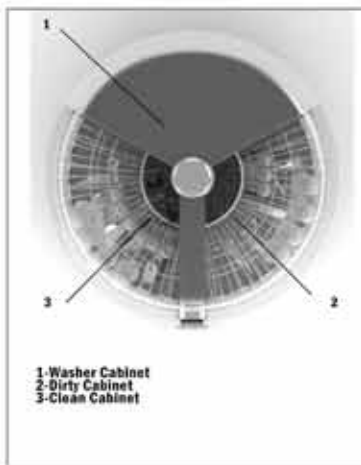
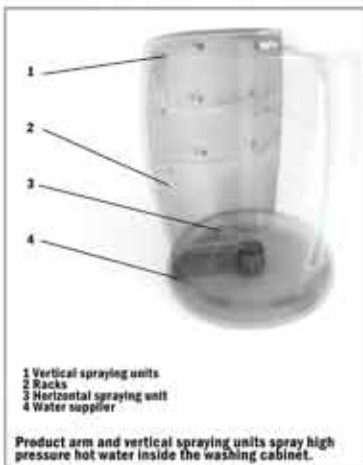
Placing dishes into the Tidy Washer



Rotating the dirty cabinet to the washing chamber



Selecting the right cleaning option



WASHING SENSE

Transparent sensor head lets dirty dishes are detected, the back wall adjust the cycle in a better solution according with maximum water and energy use.

POLYMER REINFORCED I IONIC CRYSTAL GLASS

Light is reflected when passing through an ionically strengthened medium, PVC I is a machine white light emitting panel in polyethylene strength applying on the glass. Due to their nature (non-organic) of this, the PVC I might slight yellowing.

TOUCH SCREEN INTERFACE

A touch screen is an input device which detects the presence and location of a touch within the display area. The touch generates control by touching the display of the device with a finger or ballpoint.

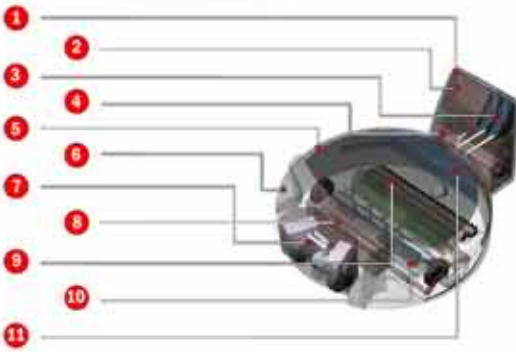


In 10 to 20 years people will have less time for cleaning and living spaces will be smaller. Xeron is a gesture and sound controlled engaging cleaning device. With its sensors and camera, it passes obstacles and cleans. The idea behind Xeron is 'the fun of cleaning instead of the effort'. The stain module is a separate part specialized for hard-to-clean stains.

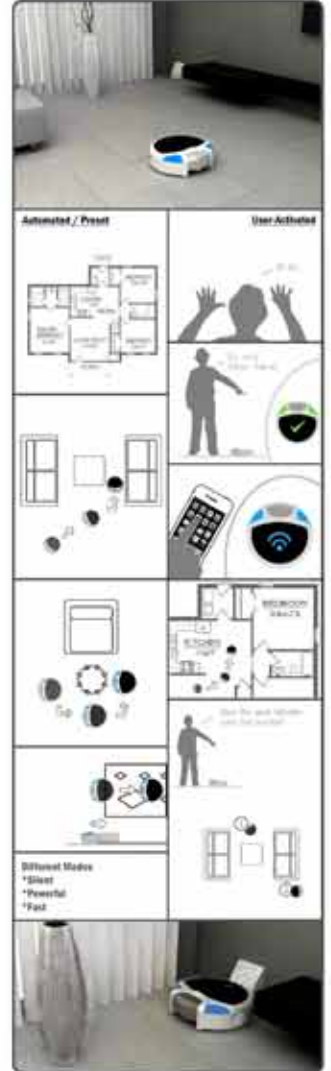
İrem Özdemir, İsmail Özgür Kızıl, Reyhan Topsakal, Şirin Cincioğlu

'Xeron'
Robotic Cleaning Device

xeron

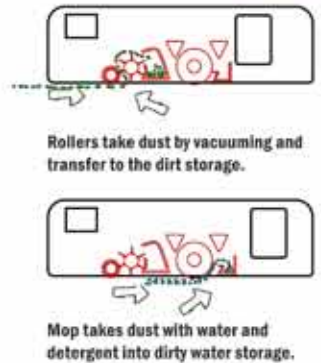


- | | | |
|--------------------------------|--------------------------|-------------|
| 1. Dock station | 4. Dirt tablet mechanism | 8. Motor |
| 2. Motor | 5. Main body | 9. Rollers |
| 3. Water and detergent storage | 6. LEDs | 10. Mop |
| | 7. Stain module | 11. Battery |



- (1) Stain cleaning
- (2) Wet and dry cleaning
- (3) Dirt and dirty water transferring into base
- (3) Pressing dirt into tablets
- (3) Removing dirt tablet without touching
- (3) Content transferring with base
- (3) Wireless charging

Workflow



Interface Examples



GESTURE AND SOUND CONTROL
Thanks to a video lens depth aware camera and voice and lighting the software is able to distinguish the user from the other furniture or moving objects, and with the sound input, the product is notified and ready to clean.



MAP REPRESENTATION AND BUILDING
The distance sensors and camera scan the room and create maps and maps, so the product can map the site. The information is transferred to a memory chip to be used for later reference. So, the product is able to find the shortest way to its target.



DIRT TABLET TECHNOLOGY
A feature technology based on the idea to compress dirt in the storage part, to make the space product and make the cleaner process more hygienic. With a rotating table and a certain percentage of humidity, the dirt is reduced by size and is thrown away without the need for user to touch it.

Part III

Further Product Scenarios

ID301



IWashit

Adem Önalın • S. Berk İlhan • A. Burak Aktaş •
Burak Söylemez • Heja Can Deniz • İsmail Malçok

Encouraging household members to wash their own clothes through effective use of water

In modern society clothes are usually washed in piles in order not to waste water. As an individual every household member needs his/her clothes washed but sometimes their tolerance of waiting pile to get big enough for the washing machine decreases because of their urgent needs. At this point, in most houses it is the duty of women to wash the clothes and fulfil the demand of other members of the household, and mostly women end up washing some other clothes which don't need to be washed yet, along with the required ones.



Aksoy family likes to have their breakfast together every morning. That morning after the breakfast Mrs. Aksoy hands her husband's favourite shirt to him which was washed and ironed earlier. Then Mr. Aksoy and their son Cenk leaves house.



Cenk has basketball training every day. He takes shower after the practice and stores his sweaty training outfit in his gym bag during the day.



Mr. Aksoy is a manager in a company and he attends several important meetings during the day. Unfortunately that day he accidentally spills coffee on his shirt.



At the end of the day when Mr. Aksoy comes home he puts off his shirt and shoves it in to the basket. Cenk shoves his training outfit into the basket as well.



After a few days Mr. Aksoy tells his wife that he needs to go on a business trip and he wants to take his favourite shirt and asks his wife if she has washed them. Cenk also needs his training outfit for the basketball practice. Mrs. Aksoy says she couldn't, because there are not enough clothes to wash.



Along with her husband's and son's clothes Mrs. Aksoy washes some other clothes, which actually don't require washing, in order to fill the washing machine. And this situation causes other clothes to wear off faster.

Home Heroes

IWashit.

How can we encourage household members to wash their own clothes when they need and enable them to use water effectively?

The problems which occur in domestic life concerning washing clothes in piles and the unjust fact that this is women's duty are simple but important matters. In order to create a solution for these matters, it is essential to be able to change the current social behaviours and habits about these two topics. Therefore, the ideas should adopt lifestyles smoothly, and obviously should be beneficial to the users in various ways so they would change their behaviours without knowing it. Focusing on this perspective led us to a product concept which has the ability to retrieve water from shower and washing fewer clothes in a short amount of time.



Mr. Aksoy goes right into the bathroom when he comes home. Because of the meetings that he has attended, he is very tired and he wants to take a shower. He also needs to wash his shirt which he spilled coffee on that day at the office.



Aksoy family has an IWashit in their bathroom. He takes off his shirt, puts it into the IWashit. Between two options, air and water wash, he prefers relatively intense washing option, water wash, because he needs coffee stain to go off.



IWashit is a practical washing machine which washes less clothes in a very short amount of time. In the shower, as soon as Mr. Aksoy starts using hot water, IWashit starts retrieving hot water from the drain. The water is disinfected and filtered before the product starts using it by the UV supported filters. Therefore, clothes are washed by truly clean water.



After Mr. Aksoy is finished with shower, he takes his washed and dried shirt from IWashit and his shirt is ready to wear again. Since every member of the house washes their clothes on their own, nobody needs to wait the pile to get big enough to wash their clothes.



After his practice, Cenk wants to have a quick shower in gym. His gym also has a IWashit in their shower room. Since Cenk's training outfit is only sweaty, he uses air wash feature of the product. Air wash is an option for less dirty clothes without stains which uses steam provided by the steam collectors on top of the shower cabin.



Mr. Aksoy frequently goes on business trips. Thanks to IWashit now he doesn't have to take many clothes with him because the hotels he stays at have it in their rooms so that visitors could wash their clothes themselves when they need.

Chore Center

Aylin Alpay • Çağrı Mercan • Ezgi Çetin •
Fatma Köstekli • Fulden Dehneli • Kaan Karaca

Facilitating chore management and involving men in household activities

As women's involvement in business life has increased, their responsibilities have increased as well. Since men are not accustomed to share the housework, women rush to do these in their spare time. Most of the jobs are done at the corners of the house invisibly apart from men and they are not in habit of helping and indeed don't know how to do it, thus women have to deal with challenges in both areas.



Hande and Kaan are married for two years. Both of them are working all day. After long and tiring work hours, unlike Kaan, Hande is thinking about the housework which is waiting for her.



Hande goes to the kitchen immediately to prepare dinner. Meanwhile, Kaan has already sat in front of the television.



Hande wants her husband to put the laundry into the washing machine while she is putting the dishes into the dishwasher but because of the complicated interface he cannot adjust the proper programme.



This burden again stays on the shoulder of her as usual.



When Hande returns to the kitchen from the bathroom, the dinner which is in the oven has already burned.



Hande is very frustrated about this mess and complains about it to Kaan who is watching television. Kaan responds that he does not notice what she is doing, and does not know how to help her.

Home Heroes

How can we enable people to share the household responsibilities and make the organization of household chores easier?

It is a problematic situation that women take most of the household responsibilities alone in the house. Not being aware of the duties and not being familiar with these jobs can be counted among the reasons why men are not participating. Since these jobs become more visible and can be organized efficiently with easier interface, the division of labour can be obtained easily for both sides.



Kaan and Hande come back home from work. Even though Hande is exhausted she is happy, since now they have a chore center which combines fridge, washing machine, dishwasher, oven, stove and sink. Thanks to this chore center she is able to handle the housework with her husband.



As Hande starts cooking, Kaan watches TV near the chore center. He notices his wife and starts to help her.



Hande realizes that dishwasher which is operated via internet connection from work, finishes the dishwashing and she takes off the clean dishes.



Meanwhile, the display signals that the laundry basket is full and needs to be operated. Kaan notices the signal.



He puts the basket into the machine and because of its simple interface, he can easily start the machine.



Since they handled everything together quickly, they have time for themselves.



Organic Composting

Ayşe Ayça Vanlı • Didem Er • Sinem Öz •
İrem Arı • Mahmut Demirok

Domestic organic waste and reintegrating with nature

Waste is a big problem for the future of our country and for our planet. A person produces various types of waste material in just one day. There are different recycling ways for different waste types like glass, plastic, paper or organic waste. However, with the increasing population in our country, the amount of waste materials will also increase. Some new methods will have to be found for recycling. Here we mainly focus on domestic organic waste. People can find opportunity of recycling other waste types, yet they do not know how to utilize organic waste, thus they throw them into the bin.



Demet prepares breakfast for her son, and throws the glass milk into the garbage.



She waits at the bus stop to go shopping, and throws the water bottle away.



Demet does shopping and then throws the plastic bags away.



Demet comes back home. She reads the brochures and throws them away.



Demet prepares dinner and throws the vegetable waste away.



She tidies the dinner table, and throws the food waste away.

Home Heroes

How can we compost organic waste at home and encourage people to do this activity?

Our project is based on domestic waste, and reintegrating it into nature. The basic aim of this product is to compost organic waste and use it to create rich soil. By this way what comes from nature turns back to nature. In our country, people like growing plants in their gardens. Since it is almost impossible in cities to have your own garden, most people grow vegetables and flowers in the pots in the balconies or terraces. Through this product people make their own rich soil for their plants by using their own organic waste, and support domestic economy by selling excessive rich soil.



Demet comes home from shopping and starts cooking.



Demet puts the organic waste into the waste container placed on the counter which is designed as a part of the product. Waste materials are collected in an organic bag which can be used in the composting process.



She takes out the waste with organic bag from the container when the waste container is full.



She puts the organic waste into the product, and after adding necessary soil for composting process, she starts the product.



She takes the rich soil from the bottom part of the product, and puts it in the pots. By this way, she is able to grow plants naturally in her own home.



She sells the excessive rich soil via Internet using her blog.

Tarhana Maker

Ece Akevren • Ezgi Özdemir • Hafize Beysimoğlu • İlkin Taşdelen • Seda Aksoy

Incorporating local values and needs: Integrating the tradition of food drying at the local scale

In 2050s, the need for healthy and organic food increases. People become strangers towards their own local culture and traditions. This home hero aims at revitalising and integrating the tradition of food drying at the local scale.



In 2050s, people are living in globally modernized metropolitans. Life standards are high but there are some problems due to extremely grown population.



Unemployment is one of the biggest issues, and women are trying to find a way to create a micro-economy at the local context.



Family members give more importance to have more time together and take healthy eating habits in this era.



Local culture becomes hard to preserve due to globalization. Especially, traditional recipes passed on from one generation to another are forgotten.



Eating habits during 1980s and 2010s had become incredibly unhealthy, and in 2050s it is a challenge to find, produce and preserve the organic and healthy food. Food becomes precious.



The question is how can we revitalise the tradition of food drying in a healthy way without damaging social values?

Home Heroes

How can we incorporate technology into traditional cooking habits without damaging social values by creating hygienic conditions and shortening time?

Poor hygienic conditions and spending too much time while drying food are the main reasons for the extinction of this tradition.



Holder of the product communicates with her neighbours through an online network. People are selling their own products and harvesting in this network. Today, one of the neighbours wants to buy some tarhana. It's time to work!



Community garden provides organic food for the neighbourhood. Neighbours gather up to harvest seasonal products and socialize. Also, this activity is a good chance for family members to spend time together.



Some neighbours gather up together with the holder of the product. Everybody brings their harvests from community gardens and does division of labour while socializing. Old recipes are remembered and passed on from one person to another. In the end, every participant takes their shares from the produced dried food.



Here, food dryer dries and grinds tarhana into small particles. It also scales the weight of the material in the grinder. Different heat setting tips for different kind of foods are given by the interface. With the help of blown hot air and auto steam evacuation, drying process takes only 1-2 hours.



Prepared tarhana is packaged and ready to be delivered to the neighbour who wants tarhana. This micro-economy helps to provide a new income for the family budget. Also neighbours can exchange their different types of produce and try each other's recipes.



The family recipe is now passed on to young generations. Besides, familiar flavour is remembered by old generations and they love it! It is time to spend quality time with the family and eat home made healthy food!



Little Chef

Ceren Balcı • Derya Adıyaman • Gökçe Evren •
Medina Bektesevic • Yasemin Canik

Encouraging and enabling healthy eating habits and engaging cooking for all family members



On Monday, Ipek (32) gets prepared for work while she tries to convince Erdem to have breakfast. However, Erdem doesn't want to eat and they have a quarrel about this like every morning.



On Tuesday morning, Ipek can have a lunch break but instead she has a cup of coffee. In the same way, Emre is still working because he doesn't have lunch break. Similarly, Erdem is having unhealthy food by eating hamburger and drinking cola with his friends at school.



Wednesday morning, Ipek and Emre are still working in their working places. They are really exhausted with this work day and they couldn't leave work on time. They are in this unhappy mood, and they mostly drink coffee and tea. Meanwhile Erdem comes home from school.



On Thursday, after Ipek finishes her work, she returns home. At that time, Emre is still at work and eats fast-food as dinner. Until her mother arrives home, Erdem is at home alone watching TV and he is really bored because of being alone. Therefore, when Ipek arrives home, Erdem welcomes her mother happily.



On Friday night, Ipek and Erdem have dinner together at home. However, Erdem doesn't want to eat the dish with vegetables, and this situation and Erdem's general eating habits make Ipek really worried. Emre doesn't want to prepare dinner for himself because he comes home very tired. Instead of having proper dinner, he prefers watching basketball match on TV.



On Saturday, Emre goes to take his son from his mother's home to spend the weekend together. Emre and Erdem goes to Emre's house. After a while they get hungry and they order food because Emre doesn't know how to cook. Thus, another meal passes with unhealthy food.

Home Heroes

How can we encourage children to get involved in cooking activity with other family members?

The time that is spent with family members and the moments that they share together are gradually decreasing. With 'Little Chef' it is aimed to solve this problem and increase the time shared with family members.



Erdem and his father decide to prepare a meal in order to spend time together. Erdem starts 'Little Chef' and with the help of controls and displays, he picks the person with whom he will cook, and then picks a food type from a menu that he wants to prepare.



Erdem decides to prepare a pizza. In order to make 'Little Chef' ready, firstly he turns the heating control button on. While he turns it on, the degree screen located at the centre of the product turns into yellow. If the control button is turned more, the screen becomes red, so Erdem sets proper heating degree with the help of cooking book.



After that, with special equipment which is developed specifically for kids, Erdem starts to follow cooking steps. First he watches his father preparing a pastry. When pastry is ready, with his father Erdem places the pastry into the elephant shaped mould which is the silhouette of a character included in the book.



By following the screen, Erdem understands that the next step will be chopping vegetables and preparing sauce for the pizza. When he completes previous steps, he pours the sauce on the pastry, after that he places sliced ingredients onto sauced pastry.



Erdem checks 'Little Chef' in order to see the next step. He realizes that preparation period is over, and then with the help of his father he places the pizza into the 'Little Chef'. Through the transparent windows they watch pizza baking for a while. Then, they read story about the meal that they have just prepared.



In the mean time, they hear the sound of 'Little Chef' informing them that the pizza is ready. While Emre sets the table and Erdem brings the tray of 'Little Chef', Erdem has a cheerful conversation with his father, while they are eating the meal that they have prepared together.

Engaging Chores

Ayşegül Uzunyol • Çağlar Bektaş • Deniz Gülmezoğlu •
Meriç Dağlı • Ümit Can Koralay

Encouraging people to share their household experiences

In the future, people will have better working and living conditions. With the developing technology, socializing in virtual environments will become increasingly popular and gain a different kind of understanding. Sharing information and local know-how will play a significant role in people's lives, and people will try to find alternative ways to share their experiences through specialized networks. However, although these conditions that can be considered better than today's, people will get lonelier and isolated in real life. Besides, because of the busy life, people will try to make boring household chores more engaging, so that they could have more fun.



The activity of cooking requires both effort and experience. People who don't know how to cook well, usually ask others who have experience. Especially in Turkey, women mostly ask their mothers for recipes. It's also a common attitude to talk on the phone while preparing the meal.



However, sometimes they give up trying to cook well and order ready and/or fast food from outside, which leads to unhealthy food consumption patterns especially for children.



There is no doubt that the most boring household chore is ironing for most women. Besides, usually women prefer to bring the ironing board in front of the TV.



Besides all these, in the future, people will get socialized on the web via social networks rather than meeting in real life.



Because there are not enough facilities to do sports outdoors, doing sports at home and alone will become more and more common.



Cleaning the house is one of the most boring household chores. Women who have small children cannot leave the children alone, which makes cleaning even harder.

Home Heroes

How can we encourage people to share their experiences related to their home life and enable them to socialize while doing the household chores?

Household chores are challenging and boring for most of the people. With this device, a social network is provided for people to share their experiences and the practical solutions they know about specific topics related to household chores. With the video conversation feature of the product, people can get socialized while doing the household chores or exercises at home. In another words, friends can do exercise, prepare meals, or even do ironing at their own houses and at the same time, from the screens they can get connected with others and get socialized.



The device is portable and can be attached to the desired surface on the wall to reflect the visuals. User has the options to resize the screen and multiply the frames via the interactive projection. The little camera at the front of the product captures the image and sends it to the receiver. The reflector lenses behind the product reflect videos on the surface.



Interface is controlled by a ring-shaped remote controller. The camera recognizes the user and tracks the face, but the camera angle can be changed optionally. In this way, the device is controlled completely by the user through which the security and privacy are provided.



The product enables one to interact with others while doing sports. For instance, one can watch the exercise moves from the expert and do it with a friend via video call. In addition, the ring-shaped remote controller, tracks the time elapsed, heart-beat and calories through displaying them on the screen.



In Turkish cuisine the recipes of the elderly have a significant value for our culture. With this product, it is possible to learn interactively how to cook as tasty as they do. The user can watch her mother while she is cooking and save the recipe in a video or text format to use it later.



One can reach the recipes that other people or chefs share in the network, and she or he has the option to make changes or comments on them. By this way the social network is expanded interactively as an open source.



Ironing which is one of the most boring household chores can be made more fun by providing social interaction. In addition, mothers with little children would not worry about leaving the child alone in the room, since the room can be checked from the screen of the product.



Balcony Kitchen

Evgenia Ponomareva • Ezgi Kış • Gizem Görçin •
Serdar Arıçelik • Deniz Senyurt

Encouraging outdoor socializing

Nowadays, people live distanced from nature. Future living systems try to explore a more nature-inclusive way of living. Community gardens will become more widespread and residents will be responsible from the maintenance of these gardens. These gardens will become an important part of new housing estate planning.



Every apartment will have their own area in the community garden to grow trees and flowers.



Each flat will also have a small garden in their balconies or terrace. They can grow vegetables or small plants likewise.



Residents will be responsible for the maintenance of community garden areas assigned to them. They will be able to grow larger trees and flower beds.



These gardens will become outdoor gathering places for people to share information about the plants that they grow. They will share their knowledge and experience, and exchange crops.



These gardens can also be used as outdoor cooking and eating areas. Families can plan parties outside and invite other residents to join them.



There could be several seasonal festivals held such as the "Pumpkin harvest fest". People will work together to collect the fruits and vegetables, and afterwards they can prepare meals prepared from the harvested crops.

Home Heroes

How can we integrate healthy eating into people's everyday life?

With the current speed of life, a great majority of people will soon be deprived of the enjoyment of cooking outdoors regularly. However, balcony kitchens will create an invaluable alternative for outdoor cooking while providing healthy and fresh food.



Profile balcony kitchen systems consist of modules that store and use solar energy. These modules are portable and attached to each other.



These modules are produced as a selection of features of home appliances, such as coolers, grills and blenders.



Family members share work while cooking outside and preparing meals, which becomes a collaborative activity.



Easily accessible fresh food will be provided by balcony gardens and healthy food will be a significant part of life.



These modules can interact with each other and with the community garden to give the user immediate access to community garden maps and fresh ingredients in real-time.



Neighbours come together by means of this communication system to share their fresh grown everyday crops and cook meals together in their balconies. Thus, this improves the neighbourhood relationships.

Evolving Fridge

Merthan Öztürk • Onurcan Önal • İlgar Akbarov •
Selin Özden • Oliver Whittaker

Rethinking product lifespan and product waste

The conventional products need to be rethought in terms of usability, personalisation, adaptation to life shifts and supply for replacement parts.



Non-customizable, similar products don't get the attention of the customers.



Current products don't have a flexible capacity that meets different needs of users.



As the fridge has a fixed capacity, it doesn't meet the expectations of user for future needs.



Cleaning the inside of the fridge is a quite difficult household activity. There are some areas that are difficult to reach.



Repair and maintenance are not possible for some parts of the fridge. These non-replaceable parts appear to be the main reason for the short lifespan of the product and its disposal.



As a result, after a while when the product parts become worn-out, the product turns into a waste.

Home Heroes

How can we increase product lifespan by making them evolving and adaptable?

Products are not designed to evolve according to our changing needs.



Yılmaz family and Can, who is living alone, go to store to purchase new fridges that fit to their needs and they try different combinations.



While Zeynep is drawing on the specialized area of the fridge, the father puts the vegetables into the large vegetable compartment.



Can often cooks egg as it is easy to prepare for him, so he uses an extending egg tank.



Ayşe as the mother, takes the breakfast compartment to living room to serve there.



As the pieces of the fridge can be separated easily, Can puts these pieces into the dishwasher to clean them.



While Can is giving back the extra part, Yılmaz family takes that part to extend the fridge.



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