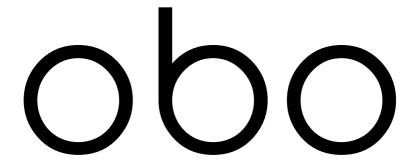


Chenxin Gao Irene Giorgetti Hiromi Kimoto Riccardo Manzati Chiara Tralci Ece Yükselen











Politecnico di Milano School of Design, Product Service System Design Innovation Studio, A.Y. 2022/2023

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ABSTRACT

In the last couple of months we had the opportunity to work on an extremely relevant topic: the current **energy crisis**.

For the innovation studio lab, part of the master's course in Product Service System Design at Politecnico di Milano, we were asked to address this issue by imagining possible future scenarios and responding to potential new needs.

Our answer, as a team of 6 designers, is rooted in an extensive and **in-depth research** on the issues of energy poverty and its daily life implications. In the following pages we present **obo**: a service that aims to cushion the impact of changing eating habits in everyday life.

THE TEAM

DONG-PA!*

*means light bulb in Chinese

We are Dong-Pa! A team of six designer from four different countries.
We have a variety of backgrounds, cultures, and experiences.
We believe in the power of our differences as a tool for an inclusive and meaningful design.

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Chenxin Gao Xiamen, China



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CHAPTER 01

BACKGROUND

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UNDERSTANDING THE CONTEXT

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The idea behind obo is rooted in a contemporary and complex field, the one concerning the current energy crisis. As a result of thorough research about the latter, it was deduced that tracing a single definition of what energy crisis means would be highly difficult since it can take several declinations related to the historical period, the general context, and the geographical area to which it refers.

Essentially, the concept of the energy crisis is highly variable but in principle, it is manifested when there are imbalances between energy supply and energy demand, which in turn leads to a general increase in prices.

The energy crisis involves every sector, from the public to the private one causing direct repercussions on people's daily lives. According to Eurostat data for the past year, September 2022, is the month in which we began to focus attention on the issue, the Eurozone's inflation rate was 9.9% up, comparable to the 3.4% of the same month in the previous year*.

As in previous months, it was the energy component that grew the fastest. This makes us understand how the energy crisis is now more than ever a current problem and, above all, a problem that affects everyone.

Reflecting on the possibility of reducing individuals' consumption at a time in history when energy reaches unsustainable prices was the primary goal of the project. The idea to act in the everyday life, giving rise to new behaviour and new meanings to simple actions, was our immediate answer to contribute to rapid change.



THE STARTING POINT

1.2

Within the crisis context just presented, it is known that there are people who suffer more than others from the repercussions given by rising prices and they may face a condition of energy poverty. As with the concept of "energy crisis", the same is true for the latter: it is a highly variable condition depending on the geopolitical context of the country in which you are located.

Being in a condition of energy poverty in Europe, where access to energy is primary and widespread, often does not mean having to give up energy use altogether, but rather having to minimize its use. It means to make choices and some sacrifices in order to give space to those that are basic needs.



34 WILLION

More accurately, the European Commission's definition of what it means to be "energy poor" is: "the condition of households that are unable to access essential energy services,". It is estimated that by 2020 there were already 34 million Europeans who faced this situation*. Looking at this data we can understand that Energy poverty in Europe had already become a problem at the beginning of 2020, but this should not be underestimated as the events of the last two years have only made the situation much worse. It is possible to say that this is a phenomenon that will grow in the years to come.

Looking at the big picture of the situation, we realized that the immediate answer that could be provided as a service that acted on the **individual person's consumptions**. Something that would consider the single energy consumption that could be easily controlled, cut the cost, and in turn be affordable to anyone. From this concept the initial design of obo took shape.

THE ITALIAN SITUATION

1.3

Moving forward within the research, the attention focused on what was closest to us in time and space: it was decided to specifically consider the Italian situation. A wide definition of what "energy poverty" means in Italy can be traced back to the European one given earlier, but it is necessary to consider some characteristics related to several sociocultural factors.

Italy has the third highest share among European countries of households that cannot afford to keep their homes adequately warm. Therefore, they must make daily decisions to reserve energy for the most necessary things. According to research carried out by the Italian Observatory on Energy Poverty OIPE in 2017, there are 2.2 million households considered to be in a state of energy poverty*, a number that is destined to grow because of all the recent events.

The factors to be considered are multiple and complex. They are a combination of low incomes and market characteristics but also dwelling conditions and energy efficiency of infrastructure. In short, the field of intervention is wide and touches on a variety of issues, so, to find a specific direction, we asked ourselves: what could never be given up?



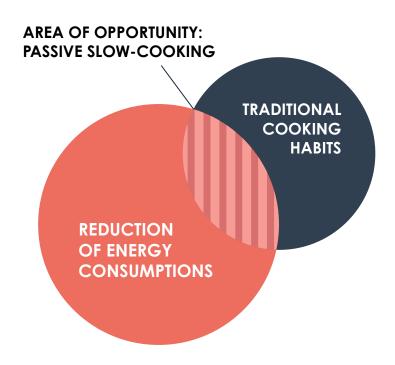
AREA OF OPPORTUNITY

1.4

Starting from this question, a long series of research and field experiments were started, with a particular focus on the domestic consumption. To better understand the topic, we engaged ourselves through a "body storming" experiment. A simple way to track consumption that led us to understand how energy is everywhere and how it is indispensable.

While living with someone, the consumption of major household appliances is relatively low. However, when it comes to some particular activities, everyone has his own needs and that can increase consumption. A striking example is **cooking**: preparing a to-go lunch for just one person has two possible solutions: eating something cold and quick or cooking a single meal that would have to be reheated again.

Given this, we refocused the research on cultural factors by questioning Italian people's relationship with cooking. First, it was noticed an increasing trend that concerns an interest in traditional dishes, very often with a long cooking process*. Second, it was seen that the desire to spend time cooking and eating traditional food is strong despite the lack of time*.



It is within this general framework that we have identified our area of opportunity, always trying to consider data and trends and make connections between them. Combining the goal of reducing energy consumption working on the one that is easily controllable by the individual, along with Italian sociocultural factors, and always keeping in mind the areas of highest consumption within the domestic sphere, it was decided to work in the field of cooking and, more particularly, into slow cooking. This is how obo design started.

LOOKING FOR POSSIBLE ANSWERS 1.5

While doing research to understand how it would be possible to reduce consumption without drastically changing users' habits, we came across the practice of passive slow cooking. This is an ancient method that allows food to be cooked over a longer period of time than normal through heat insulation. The pot must be boiling and then placed inside special containers where the food uses the heat previously provided to complete the cooking process. Since you cook directly on the stove for a third of the usual time, through this method it is possible to make energy consumption 30-33% more efficient*.

Passive cooking techniques use different tools according to geographical location and historical period. One of the main tools used is the so-called "Haybox", a wooden box filled with a natural material, hay in fact, useful for maintaining a certain temperature of whatever is placed inside.

This technique was repeatedly taken up and repurposed throughout the 19th and 20th centuries. One noteworthy product includes the "Wonder Oven", a simple tool, highly variable in shape, that can be created by users from cheap materials such as Styrofoam.

Taking inspiration from the world of passive slow cooking and its tools, an attempt was made to find a solution that would be suitable for a possible future. Imagining a scenario in which energy prices will be increasingly high and unaffordable, with many implications on our daily-life, obo-bag, a product that attempts to make passive cooking practical and attractive, was shaped.



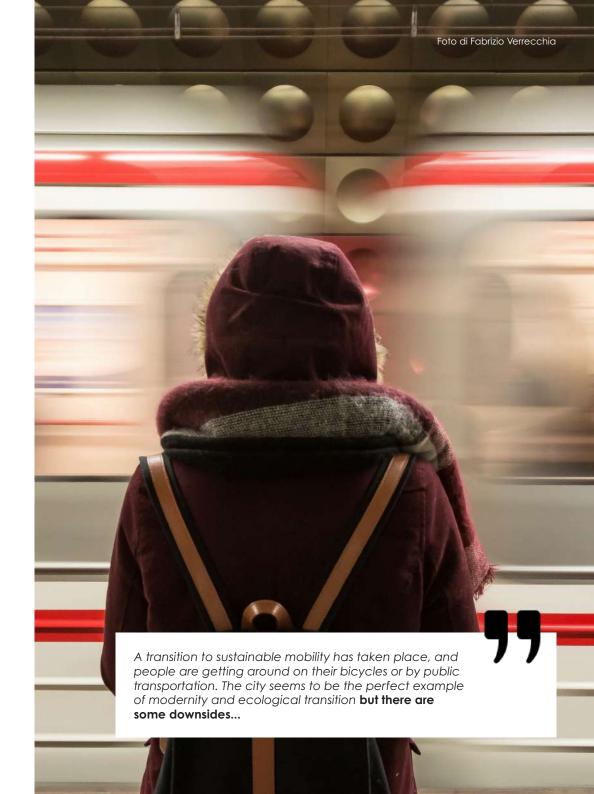
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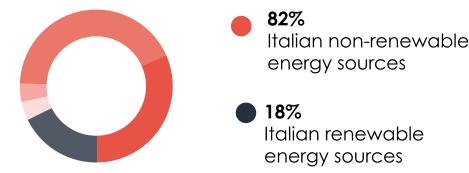
THE UNCERTAINTY GAP

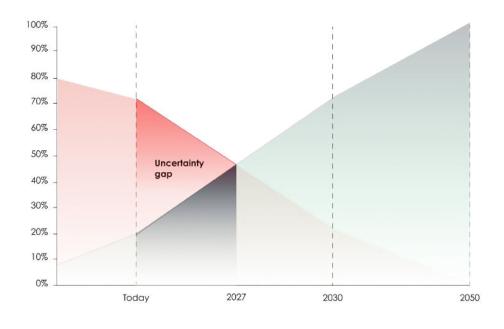
2.1

The initial research phase related to the definition of energy poverty led us to imagine a future scenario in which to work. Considering energetic, economic, and environmental crises, we asked ourselves: what will Milan be like in 2027?

The analyzed data led us toward an idea of an increasingly urbanized and economically unaffordable city. In a future characterized by resource scarcity energy prices will exponentially increase forcing many people to make daily choices about their consumptions.

It is important to consider that in Italy, only 18% of the energy we use comes from renewable sources, while the remaining 82% comes from a mix of non-renewable sources*. Moreover, in 2019, Italy covered 79% of its national energy needs through imports*, and this is precisely the reason for the frightening increase in energy prices in the last period.







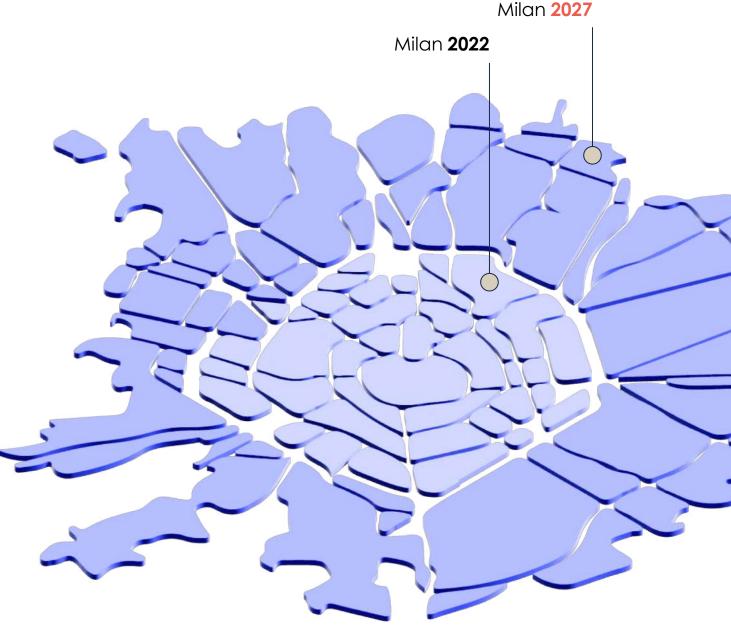
Given the existence of a renewable transition path, according to the plans Italy will have a higher percentage of renewable domestic energy sources than non-renewable ones around 2030. This allowed us to define what we called our uncertainty gap: a time frame in which Italy will be subject mainly to unpredictable external energy turbulence, in which we envisioned our scenario.

22

MILAN 2027 2.2

In 2027, Milan is envisioned as a rich and prosperous city. A place where everyone can study, work and easily access all the basic services. A place full of opportunities, where people can make many different choices related to their needs and interests. That is why it is still very attractive to many people from all over the Italian peninsula and more. A transition to sustainable mobility has taken place, and people are getting around on their bicycles or by public transportation. The city seems to be the perfect example of modernity and ecological transition but there are some downsides.

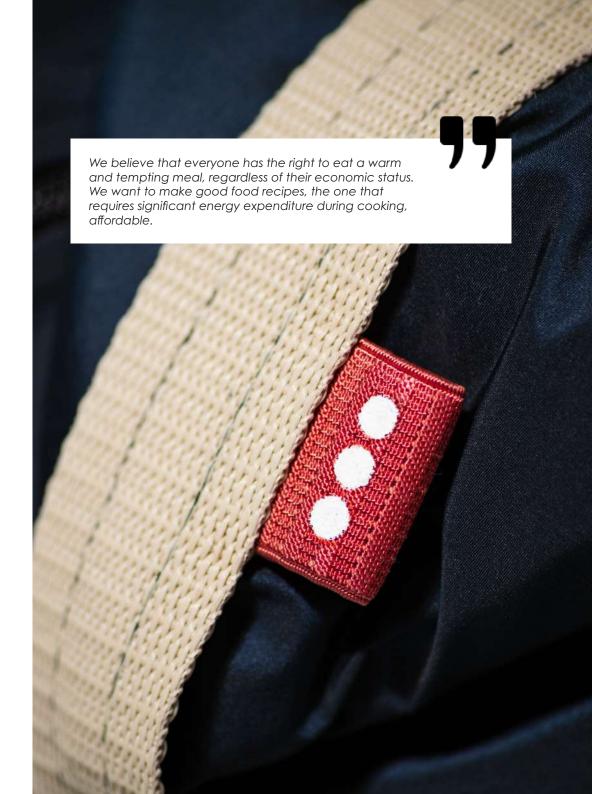
Accommodation requests are so many that the housing market has skyrocketing prices. The **gentrification** process has reached unthinkable levels, affecting all areas surrounding the city, not only the most central ones. What were considered as **suburbs** ten years ago are now an integral part of the metropolitan area. Isola, Tre Torri e Lambrate were just the first examples of the gentrification process that has forced the underprivileged to move first to the hinterland and then to the countryside. Cities such as Segrate, Cusano and Busto Arsizio are now effectively part of the city of Milan. Every day a large number of people enter the city center to reach their working places and spend a great deal of time **commuting**.



CHAPTER 03

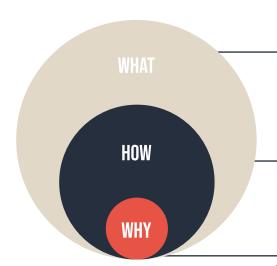
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We provide obo-bag, an insulated wrapping tool that allows users to passively slow-cook their food. The starter kit contains is a dedicated pot, a set of cutleries, and an instruction booklet that provides access to a whole range of specific contents.

We offer a service that aims to provide knowledge about passive slow cooking. We spread this practice trough educational contents, virtual masterclasses, and in-person events.

We believe that everyone has the right to eat a warm and tempting meal, regardless of their economic status. We want to make good food recipes, the one that requires significant energy expenditure during cooking, affordable.

THE PRODUCT

3.2



Obo is your good partner to support a **slow cooking** life: the kit enables everyone to be a slow cooker everyday. Composed by obo-bag, pot and culterly, it aims to transform your way of cooking but without radical behavioural changes. Using a small quantity of energy while firstly heating the pot, the insulated bag will go on **passively** cooking while you commute, work, study. In this way the obo-bag will bring you a warm meal everywhere, making every place feels like home.

Depending on your preferences and commuting lifestyle, the bag can adapt to many carrying ways, allowing you to always slow cook comfortably.



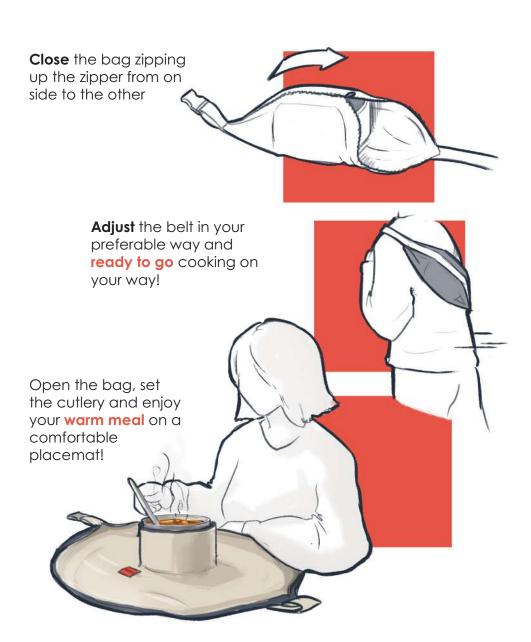


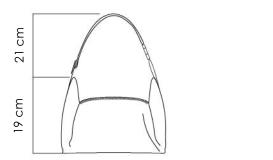
Prepare the ingredients and heat the pot till it reaches the boiling temperature

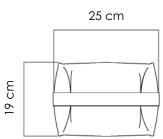


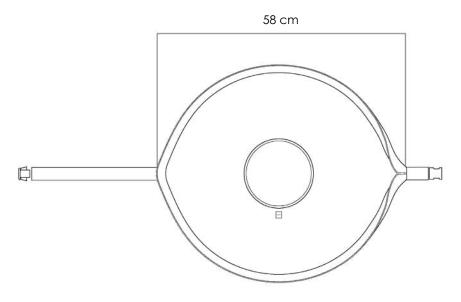
Close the lid by rotating the handle and thus **sealing** the pot













THE PRODUCT Materials

3.2.4

Obo-bag enables slow cooking thanks to the **insulating padding layers** inside. In fact, the product is stuffed with three layers of polytherm fleece, a 100% polyester fleece fabric on one side and 100% silver lining on the other.

The reflective side reflects heat back to the source, thus keeping the heat inside the bag and ensuring a high enough temperature for cooking.

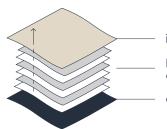
The fabric of the internal and external are both waterproof. The external Polyester fabric does not rub off and gives a semi-glossy appearance.

Baron Tactel® Polyamide Fabric Poly Therm Reflective Fleece 100% Organic Cotton Batting Water-repellent Polyester Fabric

Between each layer of Polytherm fleece is a layer of 100% organic cotton batting, to secure proper heat reflective. Both the central cylinder and the bag thus contain three layers each of the two fabrics.

The internal fabric is Baron Tactel® - beige, a 100% polyamide fabric with polyurethane coating on the left side and Teflon® impregnation on the right side. The windproof coating ensures an **higher insulation**. It is breathable and waterpoof, ensuring quick and easy cleaning.





internal layer: polyamide waterproof fabric padding: six layers of polytherm fleece

and organic cotton batting

external layer: polyester waterproof fabric

THE PRODUCT Obo-pot

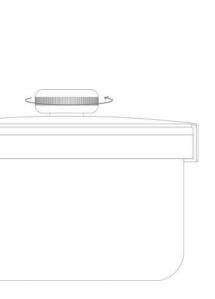
3.2.5

The pot from the obo-kit is at the same time the container where to start cooking the ingredients and the lunchbox from which to eat comfortably.

Inspired by pressure cooker closures, it is designed to be **easily sealed** by turning the handle on the lid: this movement results in the shifting of the side tabs. This provides an airtight seal that can retain heat and ensure **safety**.

There is a vent valve on the lid, which allows the pot to be opened comfortably even if there is a high temperature inside. The sizing is thought to prepare a single serving.

The simple design makes this pot easily transportable and adaptable to different settings, allowing you to continue cooking on the go and enjoy hot dishes anywhere.





THE PRODUCT Product design











Obo-bag is a tool designed to be worn in different ways. It can be carried as a **shoulder bag** or as a **handbag** since its length is adjustable. It can suit as a **fanny pack** up on the chest or on the back. It can be attached to other accessories or, given its small size, it can also be **inserted into other bags**. Each person can customize his way to carry around the obo-bag.









Obo is a service that provides knowledge, experiences and a specific product to spread the slow cooking method.

As an **educational service company**, obo aims to teach people how to use this technique in their daily-lives by easily using the obo-kit. Everybody can approach this technique thanks to several inspirational tutorials, recipes and activites.

Referring to the original hobo spirits, community is the key to enhance slow cooking life. By collaborating with partner companies, talents such as chefs and contents makers, obo invites you to be a member of slow cooker community to enjoy everyday meal time.

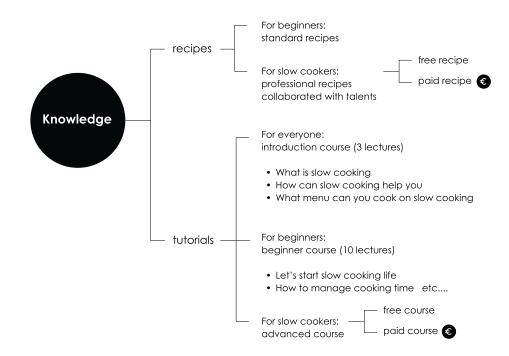
knowledge recipes

production obo bag cutlery obo pot selling

events

Obo provides three different types of tutorials and recipes depending on levels of users.

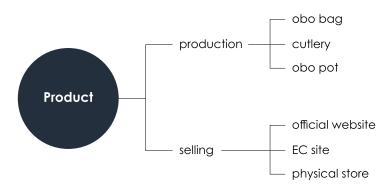
As obo aims to spread slow cooking to more users, the provided knowledge is all **accessible** on official website and basically free except special tutorials collaborating with chefs and talents



Product

Having partnerships with production companies and retailers, produces and sells **obo-kit** which is a starting slow cooking tool.

Obo kit is available to sell on the official website, EC platform and physical store. The user who get interested in slow cooking through obo's official website can purchase kit seamlessly and easy to start slow cooking since the first day getting the product.

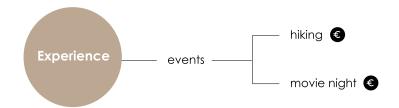




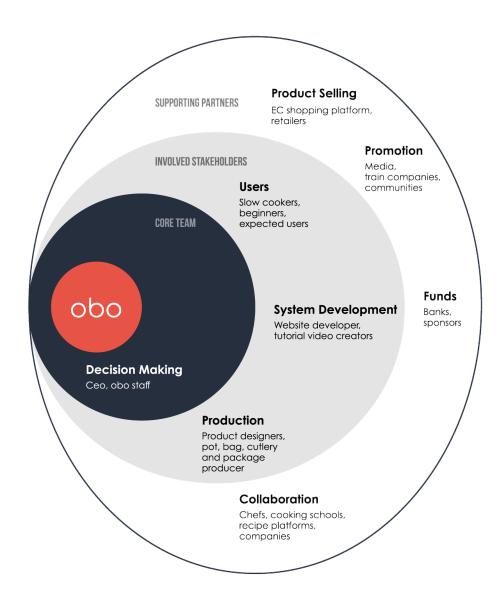
Experience

To spread slow cooking to more people and enhance obousers community, obo provides events.

For example, a **hiking event** collaborating with outdoor companies, participants cook together with rental obo kit, go hiking and enjoy eating warm meal at the top of mountain. Through the event, participants can find slow cooking's outstanding value even anywhere you are in, able to eat warm delicious meal.









Decision making

Company members



Production

Partner companies to produce obo pot, bag and cutlery



System Development

Partners developing and maintaining website and online contents



Users

Individuals for whom obo provides the service and product



Product Selling

Selling channels to promote obo kit



Promotion

Advertisements with partners to offer touch point to users



Funds

Financial partners supporting obo

MARINA has a full-time job in the city center, she lives in a small town outside the city, 1h by car from her office, because she can't afford to live closer. She's living in a rented townhouse with her family and as everybody she needs to pay attention to their energetic consumption due the current general crisis. She really likes to cook and to prepare tasty dishes, but she's always in a rush.



AGE: 34

OCCUPATION: Office employee

NATIONALITY: Italian

LOCATION: Rivolta d'Adda (CR)

GOALS & NEEDS

- Wants to feel at home also when eating in the office
- Not ready to drastically change her eating habits
- Has to better organise her activities
- Desire to be able to have a varied diet

ANDREA is a 25-year-old student who shares his flat with other people. Rents in the city are extremely high and there is very little left to spend on bills. Andrea pays attention to all his expanses, and, for this reason he brings his own homemade lunch on campus every day. It takes 45 minutes to him to reach Bovisa university campus because he lives in San Donato, in an old suburban building, where the kitchen has gas stoves.

AGE: 24

OCCUPATION: Student

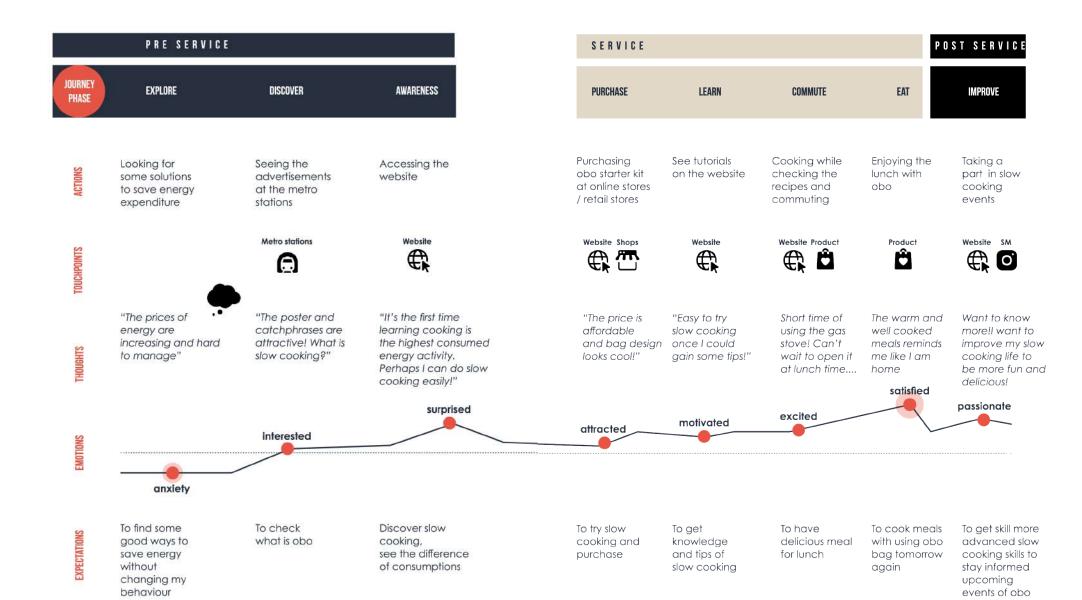
NATIONALITY: Italian

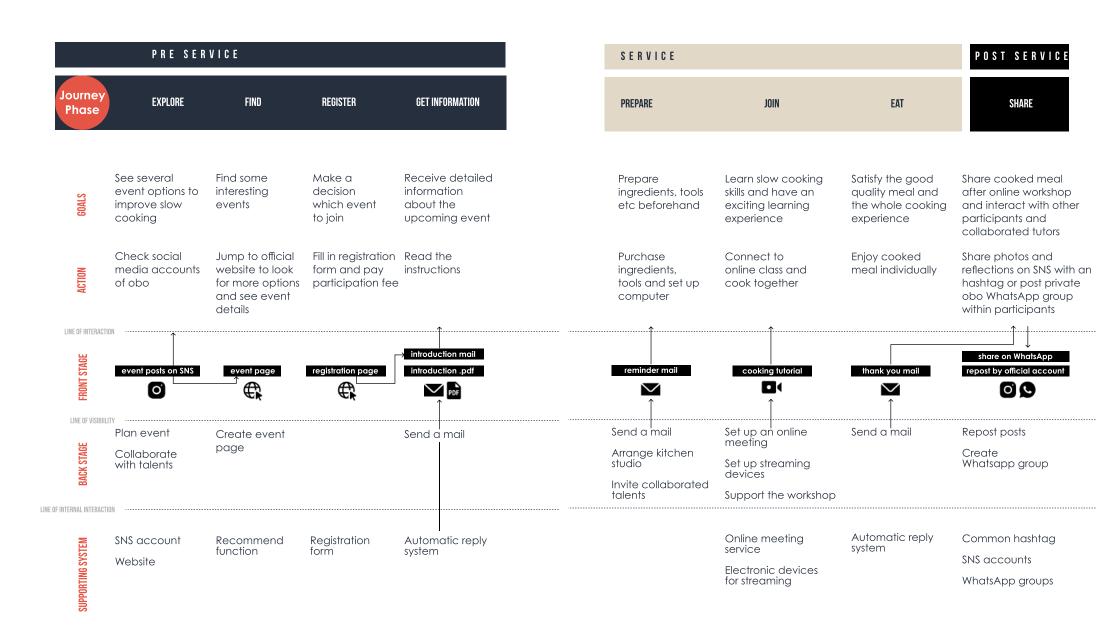
LOCATION: San Donato (MI)

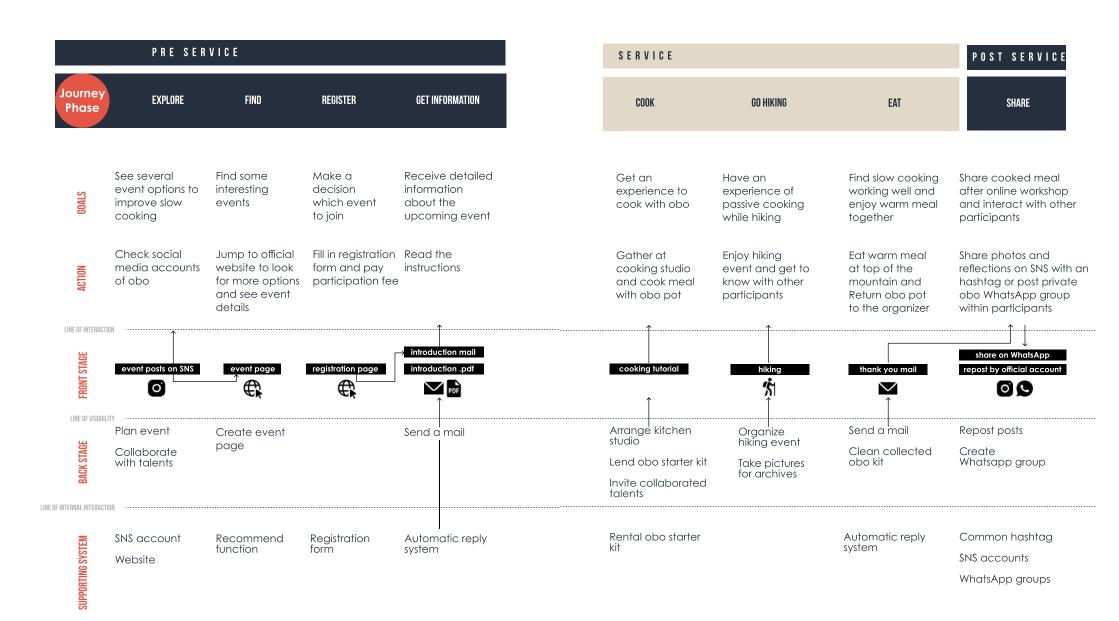
GOALS & NEEDS

- Wants to be able to cook dishes that he cannot afford
- Loves to eat delicious dishes from any traditional culture
- Has to well organize his meals to spend less
- Cares about the quality of his diet









Through the touch points of obo being a slow cooker will be easily achievable, open to everyone to find inspiration and be a part of the community.

Website

Obo's official website provides every level of slow cooking tutorials and recipes. Event registrations will also be held on official website.

Social networks

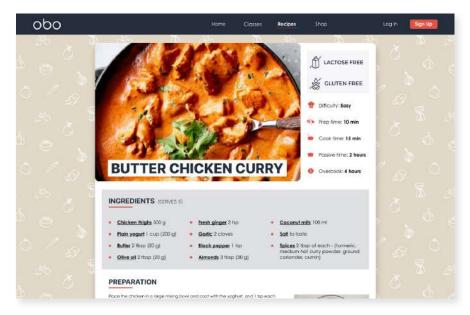
Obo uses social media accounts in order to promote its events and give the inspiration to slow cookers. it also reposts pictures shared by users to enhance community.

Advertisement

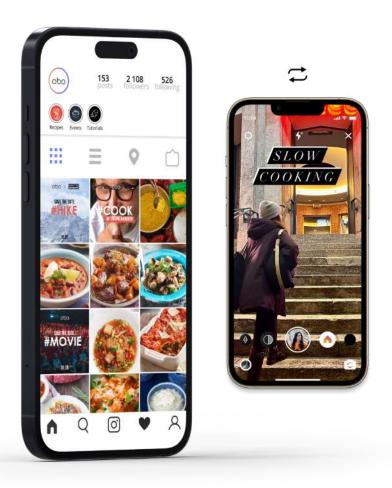
Advertisement strategy will be held on social media and train stations since obo aims to make commuting time valuable.







Social Networks

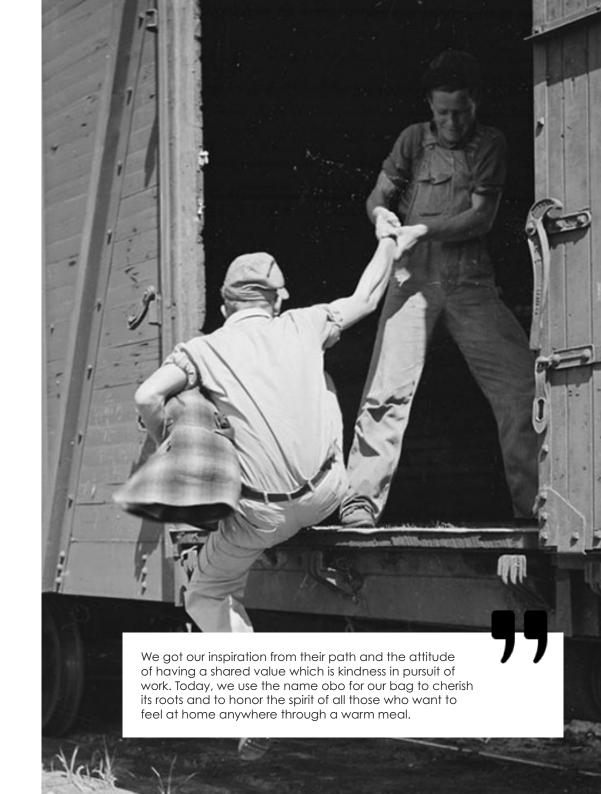




CHAPTER 04

BRANDING

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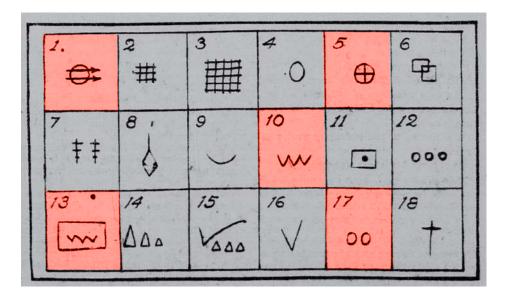
WHY 0B0? 4.1

Hobo was the name given to migrant workers in the United States between the XIX and the XX century. A hobo travels and is **willing to work**, hoboes used to live on the road in strict contact with nature.

We got our inspiration from their path and the attitude of having a shared value which is kindness in pursuit of work. Today, we use the name obo for our bag to cherish its roots and to honor the spirit of all those who want to feel at home anywhere through a warm meal.







1920s guide to a supposed traditional hobo's code in France.

Poor welcome 5. Eats.
 10. Look out for the dog.
 13. Men and dogs ready to attack. 17.
 Insist and they'll give in.

Hoboes had a really simple lifestyle, they used to share a sign **system to communicate** inside with each other through simple and useful messages. These signs were left by hoboes at waypoints. Although each place and each community gave different meanings to the symbols, some shapes were more common than others: such as triangles, circles and arrows.

They also shared an ethical code whose focal points were kindness and willingness to work.

VISION

Empower each and every individual to always be able to cook themselves a warm and comfortable meal. Helping people's physical and mental well-being by cushioning the impact of changing eating habits.

MISSION

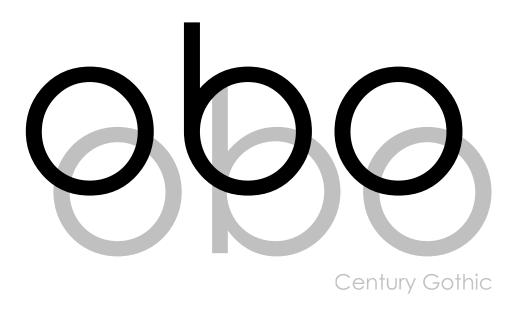
Teach and empower **daily commuters** to use **passive slow-cooking**, an ancient and convenient cooking method, in a comfortable and affordable way.

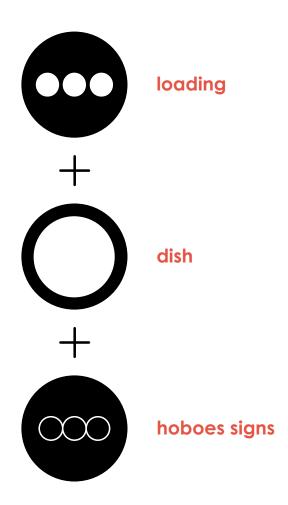


L0G0 4.4

Despite the direct inspiration from the term hobo, it was chosen for the logo to drop the letter h for simplification of pronunciation and not to tie the brand strictly to the inspirational term itself.

Obo's logo was created to be on the edge between a **symbol** and a word. Taking inspiration from the symbols used by the obo community, an attempt was made to create a repetition that would be reminiscent of the three suspension points.





In addition to the above, the circle is the center of our communication: a warm meal will always be served in a nice, cozy, soft **circular dish**.

74 75

CLAIM 4.5

Obo was created to cushion the impact that the energy crisis may have on people's eating habits. Primarily targeting commuters, our brand claim reads "cook in your way."

Thanks to obo-bag, not only can you cook while traveling, but you can also maintain your old **eating habits** while continuing to cook your own way.



4.6

TYPEFACE

4.7

Obo's tone of voice is intended first of all to be **approachable** and **understandable** by anyone. Having to relate to an audience regardless of gender, age or social class, it is necessary for the tone to remain as **welcoming** and **neutral** as possible.

The **simple** and **respectful** communication is inspired by the ancient sign language shared among hoboes.

SIMPLE APPROACHABLE PLAYFUL

O

COMPLEX ELITE SERIOUS

Century Gothic Pro was chosen as the main font because of its extremely soft and rounded shapes. The verticality and flexibility of Bebas Neue Pro serves to balance the width of the century and is used for headlines and the payoff.

Century Gothic Pro



AaBbCcDdEeFfGgHhliJjKkMmN nOoPpQqRrSsTtUuVvWwXxYyZz 1234567890 ?!

Bebas Neue Pro

Aa

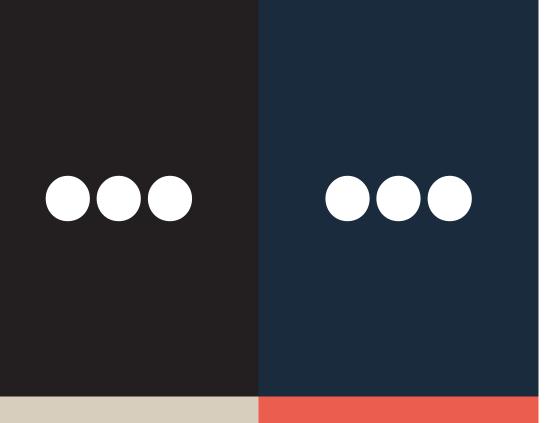
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PALETTE & MARK

For our colour palette we started with by choosing shades that are highly adaptable to different situations and various personalities. The Gunmetal blue, the product's predominant tint, is linked to an ideal of safety and reliability. Finally, the details are depicted with a very warm orange, tending to red, Opal Fire colour, which brings us back to the idea of a comforting, caring and warm moment.

White	#FFFFFF	R 255 G 255 B 255	C 0 M 0 Y 0 K 0
Black	#000000	R 0 G 0 B 0	C 75 M 68 Y 67 K 90
Gunmetal	#252F3E	R 37 G 47 B 62	C 84 M 72 Y 51 K 53
Bone	#E1D8C7	R 225 G 216 B 199	C 11 M 12 Y 21 K 0
Fire Opal	#E55545	R 229 G 85 B 69	C 4 M 82 Y 77









EVOLVING for scarcity