



Local PSS involving nutritionists and restaurants to promote good eating habits in Brazil.

Project by **Arthur Mercaldi Carlucci**

Tutor Valentina Auricchio

M. Sc. Product Service System Design

University Politecnico di Milano

Year **2013**

Acknowledgments

Acknowledgments

I would like to thank NUTRA for its participation on the project: Alessandra Cavallari, Luisa Marot and specially Karina Carlucci for sharing her knowledge, time and patience. Her participation was crucial for the project development.

Special thanks for Prof. Valentina Auricchio for her support during the making of the project.

Finally, big thanks for Neshat Asgari for all her background support, to my family for their constant support and encouragement, and to all my friends in Brazil and in Milan. They made this entire journey so amazing and unique.

0.Abstract

English

This project intends to develop a new healthy food service in Brazil, enabling an accessible option that increases the eating habits coherent with Brazilian's life-style, enhancing, consequently, the quality of life.

During the last decades Brazil suffered big changes in both economic and social fields. Besides the poverty reduction, economic development and other positive changes, recent research has revealed that Brazilian eating habit is a metter of consern today. In 2012, the number of non-communicable chronic diseases cases increased considerably, and the number of people exposed to those diseases is high since almost 50% of the Brazilian population is overweight.

This project investigates cultural and economic factors, considering the actual offers people's life style, and other variables to create an attractive service, functional and ready to be applied.

Through the design thinking, a complete PSS is developed involving new service concepts, system and branding.

Italiano

Questo progetto nasce con l'idea di sviluppare un servizio di alimentazione sana in Brasile, con l'intenzione di offrire una possibilità accessibile, attraente e coerente con lo style di vita dei Brasiliani, aumentando la qualità della abitudine alimentare della popolazione.

Negli ultimi due decenni Brasile ha subito molti cambiamenti nell'area economica e sociale. Oltre alle diminuzione della povertà, la crescita economica e tanti altri cambiamenti positivi, l'abitudine alimentare Brasiliana ha diventato motivo di preoccupazione dopo delle pubblicazione delle ultime ricerche. In 2012 il numero dei casi di malattie legate a una dieta squilibrata è aumentato notevolmente, così come il numero di persone soggette a loro.

Il progetto analizza i fattori culturali ed economici, considerando i servizi già esistenti, stile di vitta delle persone e altri variabili per creare un servizio attraente, funzionale e pronto per essere applicato.

Attraverso del design thinking, un PSS completo è sviluppato, che coinvolge un nuovo concetto di servizio, di sistema e di branding.

Português

Este projeto visa o desenvolvimento de um novo serviço de alimentação saudável no Brasil com a intenção de oferecer uma possibilidade economicamente acessível e coerente com o estilo de vida brasileiro para aumentar a qualidade do hábito alimentar da população.

Durante as ultimas decadas o Brasil sofreu grandes mudanças economicas e sociais. Além da diminuiçao da pobreza e um grande desenvolvimento economico, o habito alimentar dos brasileiros gerou numeros preocupantes. Em 2012 os casos de doenças relacionadas a má alimentação cresceu consideravelmente assim como as pessoas que estao sujeitas a elas, já que quase 50% da população brasileira está acima do peso.

O projeto invesiga fatores culturais e economicos, considerando serviços já existentes, estilo de vida das pessoas e outras variaveis para criar um serviço atrativo, funcional e pronto para ser aplicado.

Através do design thinking, um PSS completo é desenvolvido, envolvendo um novo conceito de serviço, sistema e branding.

INDEX

1. Introduction	_012	5.9. New Members 5.9.1. New Nutritionist Members' Kit	_069
2 n . i	_014	5.9.2. New Nutritionist Members	_07(
2. Research 2.0. Methodology	_016	5.9.3. Nutritionists' Welcome Kit	_073
2.0. Methodology 2.1. General Information	_018	5.9.4. New Restaurant Members	_072
2.1.1. Who are them? (Brazilian Middle Class)		5.9.5. Restaurants' Welcome Kit	_074
2.1.2. Health Data	_023	5.10. Members' Profile	_07
2.1.3. Cultural Factor	_021	5.10.1 Nutritionist's Profile	_075
2.2. Interview with Nutritionist	_024	5.10.2. Restaurant/Delivery's Profile	_076
2.3. NUTRA's Interview	_027	5.11. Visual I.D.	_078
2.3.1. Personal Consultancy	_027	5.12. Touchpoints	_080
2.4. Consultancy Observation	_030	5.12.1 Website	_086
2.5. Restaurants Offer	_034		
2.6. Meal Sample Analysis	_038	6 Prototyming	092
2.0. Fleat Sample Analysis		6. Prototyping 6.1. Location	_094
3. Problems Definition	_042	6.2. Partners	_098
3.1. Actual Scenario	_044	6.3. Solutions	_100
3.2. Problems Definition	_045	o.s. Solutions	_
S.E. Trostems Detriction	_	7. Future Plans	_102
4. Aim of the Project	_046	7. Puture Frans	_
4. Ann of the Project		8. Conclusion	_103
5. Service Development	_048	o. Conclusion	
5.1. Building Scenario	_050		Reference
5.2. Personas	_052		Bibliografy
5.3. Map of Offering	_055		Article: Website:
5.4. Actors and Roles	_056		
5.5. Storyboard	_057		
5.6. System Map	_065		
5.7. Business Model Canvas	_067		
5.8. Menu Development	_068		

Images Index

Image 1_ http://creativecommons.org/	_019
Image 2_ http://www.gogorio.com/	_019
Image 3_ http://g1.com/	_020
Image 4_ http://photobucket.com/	_022
Image 5_ http://www.flickr.com/	_023
Image 6_ Interview with Karina Carlucci	_024
Image 7_ http://www.flickr.com/	_026
Image 8_ Logo NUTRA	_027
Image 9_ NUTRA's leaflets	_028
Image10_ Consultancy Observation Records	_030
Image11_ Consultancy Observation Records	_032
Image12_ Consultancy Observation Records	_033
Image13_ http://www.flickr.com/	_035
Image14_http://www.rhp.com.br/	_035
Image15_ http://imovel.mercadolivre.com.br/	_036
Image16_http://www.94fm.com.br/	_036
Image17_ http://www.assimsefaz.com.br/	_037
Image18_http://produto.mercadolivre.com.br/	_037
Image19_http://saopaulo.evisos.com.br/	_037
Image20_ Illustrating the service	_051
Image21_ http://www.flickr.com/	_078
Image22_ Watercolor	_078
Image23_ Meu Menu Logo	_079
Image24_ Service Touchpoint	_080
Image25_ Service Touchpoint	_081
Image26_ Service Touchpoint	_082
Image27_ Service Touchpoint	_083
Image28_ Service Touchpoint	_084
Image29_ Service Touchpoint	_085
Image30_ Website	_086
Image31_ Website	_087

Image32_ Website	_088
Image33_ Website	_089
Image34_ Website	_090
Image35_ Website	_091
Image36_ http://www.viajeme.com.br/	_095
Image37_ http://commons.wikimedia.org/	_096
Image38_http://jorgedaher.wordpress.com/	_096
Image39_ http://www.flickr.com/	_096
Image40_ http://www.geolocation.ws/	_096
Image41_ http://img.photobucket.com/	_097
Image42_ NUTRA's Logo	_098
Image43_ http://www.laranjalimarefreshing.com.br/	_099
Image44_ http://www.degustrestaurante.com.br/	_099
Image45_ Prototyping Touchpoints	_100
Image46_ Future Plans	_102
Image47_ http://img.photobucket.com/	_103

Tables Index

Table 1_ Brazil - General Information

Table 2_ Sample Meal Analysis

_018

_038

_ ,	_
Table 3_ Weighing ingredients	_039
Table 4_ Ideal proportion	_040
Table 5_ Exceeded Ingredients	_041
Table 6_ Persona 1	_052
Table 7_ Persona 2	_053
Table 8_ Persona 3	_054
Table 9_ Map of offering	_055
Table10_ Actors and roles	_056
Table11_ Storyboard - first part	_057
Table12_ Storyboard - second part	_058
Table13_ Storyboard - third part	_059
Table14_ Storyboard - fourth part	_060
Table15_ Storyboard - fifth part	_061
Table16_ Storyboard - sixth part	_062
Table17_ Storyboard - seventh part	_063
Table18_ Storyboard - eighth part	_064
Table19_ System map - restaurants	_065
Table20_ System map - Delivery	_066
Table21_ Business model canvas	_067
Table22_ Menu development	_068
Table23_ New nutritionist members' kit	_069
Table24_ New nutritionist members	_070
Table25_ Nutritionist welcome kit	_071
Table26_ New restaurants or delivery member	_072
Table27_ Restaurants' welcome kit	_074
Table28_ Nutritionist's profile	_075
Table29_ Restaurants/delivery's profile	_076
Table30_ Restaurants/delivery's profile	_077
Table31_ Prototying location	_094

MEU MENU | **Introduction**

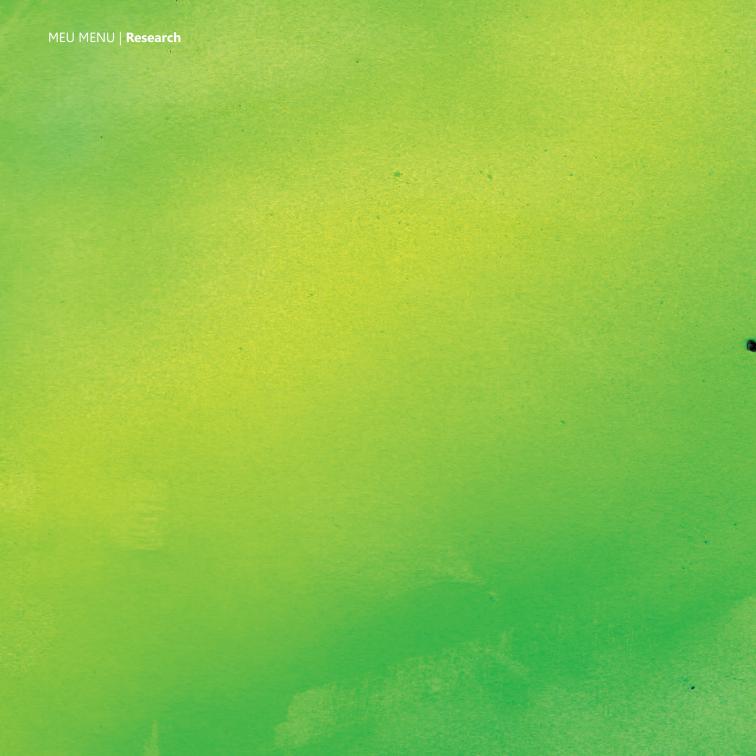
1. Introduction

"Meu Menu" is my final project of the Masters in Product Service System Design at Politecnico di Milano tutored by the Prof. Valentina Auricchio.

The project is a PSS (Product Service System) which intends to increase the quality of the eating habits in Brazil through a local system, involving nutritionist and restaurants, offering personalized dishes and accessible nutritional consultancy.

During this development of the service the knowledge of design thinking and service design tools were used as for achieving a functional and efficient outcome.

The whole project is based on official data from the Brazilian Health Ministry, IBGE and articles about nutrition and interviews with professionals.





2.0 Methodology

During this first phase, all the general information acquired about the context and specific subjects became a hint for more questions and more investigation leading to answers. The progress was not linear, but the outcome can be classified within categories, with each leading to a deeper investigation or resulting in one of the "problems", delimitating the project.

Contextualizing

General Information about Brazilians lifestyle, culture and economic situation. Interview with Nutritionist

Interview with the Nutritionist Karina Carlucci.



Interview with NUTRA, a nutritionist consultancy clinic.



Consultancy Observation

Observation made during the consultancy for "Delicias do açaí" restaurant.



Restaurants Offer

Analysis about restaurant offers for everyday meal, and customers' choices.



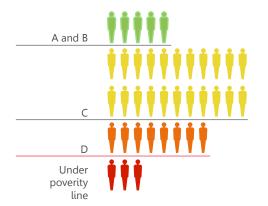
Meal Sample Analysis

Analysis about restaurants for everyday meal by a nutritionist.

2.1 General Information



Total 8.151.692,17 km2 190.732.694 ihabitants



It is worth to point out some general information about Brazil and its society before proceed.

Brazil has 190.732.694 inhabitants distributed in 8.151.692,17 Km2, 84,35% lives in urban areas according to data from IBGE collected in 2010. The most populated region in Brazil is the southeast, where 42,1% of the population live in, and where are placed two of the most famous cities in Brazil: Sao Paulo and Rio de Janeiro. This is the most industrialized region in Brazil.

During the last years, one of the most important phenomenon in Brazilian society was the growth of the middle class. Now, 54% of the population is part of the known as middle class after 35 million people migrate from the lower economic/social level. This research takes in consideration the income and proprieties from the families to classify people in 5 different levels: from "A" to "E", in which A has the higher incomes and E are considered not sufficient for their basic needs. The "C" level is able to afford more than just their basic needs, but also can spend with other goods.

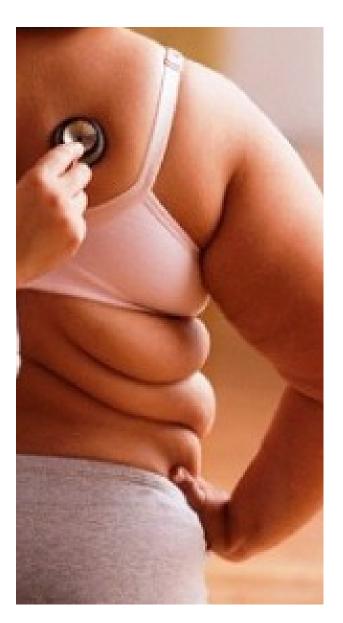




2.1.1 Who are them?

After fighting for years against the poverty, in 2012, Brazil saw a decrease in the miserable population numbers. At the same time, the country's economy became one of the biggest in the world, now Brazil has an important position on international politics, and all of those facts bring an optimist feeling in the whole population, including on the middle level. The population is not afraid of the possibility of lower their economic level in the future, they believe in a more comfortable future, which make them invest more in education and wellbeing instead saving for difficult times.

In most families, the children have higher education than that of their parents, granting them a very active role in the family's decisions, especially when it is about the acquisition of goods with new technology, such as computers, mobile phones and cars. 80% have access to computers and internet, and they purchase 60% from all the online shops in the country. In those families 41% of the income comes from women's work, while women are responsible for 25% of the income in the families on A and B class. Women are the strongest decision maker when is about health and wellbeing in the family. 60% of them use beauty treatments.



2.1.2 Health Data

Besides all those "good news", there were some not that positive. An alarming research was published saying that 49% of the Brazilians are overweight, which means that almost they have a BMI higher than 30. 15% of them have BMI higher than 50 and they are considered obese. The research was conducted by the Ministry of Health in 2011, using their own parameters about ideal range of weight.

The same research investigated why those numbers increased since the last research in 2006. According to a more detailed research , 34,6% of the Brazilians eat red meat with fat, 56% drink integral milk, 29,8% consume soda for at least 5 times a week, and just 20% consume the quantity and variety of vegetables suggested by the World Health Organization.

Those data are part of the explanation of the notable growth of non-communicable chronic diseases cases, such as diabetes, hypertension, atherosclerosis and cancer. Specialists believe that changes on the behavior influenced these numbers. Nowadays people have at least one of their meals out since their lifestyle and working habits are more rushed. In order to optimize their time, people go for restaurant to have their lunches. According to a nutritionist from USP, in general restaurants offer non balanced meals with big quantity of fat and sodium, which contribute to the growth of those numbers.

2.1.3 Cultural Factor

Eating habits cannot be treated from an absolute mathematical point of view, after all, these habits are part of the country's culture, identity of a region and it is influenced by older generations. Analyzing the Brazilian cultural heritage about eating habits, it is possible to find out that it has problems such high quantity of fat, many fried dishes, excessive consumption of red meat and abundant meals which were intensified during the years. Even with the spread of information about good nutrition habits for the whole populations through mass media communication, programs in the schools and others, those same problems are still present in the contemporary eating habit. So a simple rescue of tradition doesn't solve problems related to the diet as it could work in countries like Italy, famous for its high quality of food, one of the sources of the famous Mediterranean diet.

For that reason, Brazilians use to look for professionals to improve their diets in order to increase the life quality. Nutritionist or specialized doctors are often sought for this purpose.

But not all these traditions are negative. According to nutritionists, the big variety of ingredients during the meals, the good consumption of proteins and the daily consumption of beans bring positive results and are suggested to be kept after nutritional consultancy.



2.2 Interview with Nutritionist



For a better understanding of real problems on Brazilian eating habits and what are the most challenging points, a professional was invited for interview. The nutritionist Karina Carlucci is graduated at USP (University of São Paulo), have the experience of working for a clinic in São Paulo and is co-founder of NUTRA, a nutritional consultancy company focu-

sed in both, personal and professional consultancy for restaurants.

Karina Carlucci reported her personal experiences at work, some specific cases and conclusions that support information acquired before. One of the main issue for clients is the parameter about variety and quantity of the food during the meals. In general, the excessive consumption of fat and carbohydrates, the small quantity of vegetables associated with other bad habits such as soda consumption and excessive sweet consumption are the main issues dialed the most during her consultancy. Another habit to be changed is the number of meals during the day, usually people have big meals few times day, while the most recommended would be 5 or 6 planned meals during the day. According to her, distribute more meals during the day would decrease the will to eat, helping the person to eat more moderated portions.

Even if it seems reasonable and possible the diet changes, follow the diet is another challenge for the clients. Karina says one of the villains of the diet is the rushed working routine of her clients. In order to optimize their time, many of her clients goes to restaurants for having lunch during the working days, and it's a reason of complains when it is about following the diet.

The nutritionist explains that foods served in restaurants are very different than the one made at home. First, because even with regular hygiene inspections, the customer is always exposed to those few restaurants that choose to ignore the operational procedures standardized in order to reduce food loss or saving money. But even if the restaurant is flawless in its hygiene and procedures, most of them

use abusive fat and sodium quantity, increasing the chance of contracting non-communicable chronic diseases that are increasing in the whole country. Besides that, restaurant owners are not concerned in offer a balanced food, they try to offer a big amount of food to satisfy any customer and justify the price of the dish, but following a diet is all about regulating portions and the variety of the food.

In addition to the information about the nutritional personal assistance, Karina Carlucci introduced some information about the restaurant consultancy, a different practice in which nutritionist analyses the establishment and its practices, and suggest changes in the installations, check equipment, give advice about all the kitchen organization and principally establishes the rules for food handling practices and cleaning routine, writing the practices manual and the standardized operating procedures, training the staff to follow them. The practices manual and the standardized operating procedures are actually two documents required for obtaining the legal license to have any company that involves the handling and storage of food in São Paulo state. This manual has to be signed by a nutritionist registered in the National Council of Nutrition and contains the category in which the establishment belongs according to its activities as well as the cleaning routine specified for that establishment, and they are both used as base for future inspections of the Health Surveillance.

Karina explains that this requirement ensures that all the staff, managers and workers know the right procedures to work with hygiene and keep the food good for consumption, and the restaurant has to follow these instructions. During the consultancy they also give some tips of how to cook and prepare food in a healthier way, but the decision to apply them is up to the manager or chef.

The menu development consultancy also exist and can be done analyzing the dishes offered and changing them, writing a new technical form for each dish, including the precise quantity of each ingredient to prepare the meal and how to prepare it, but usually the establishments are just interested in the required documents and their application.



2.3 Interview with NUTRA



In order to understand how the nutritionist consultancy works in the service point of view, the interview continued with questions about NUTRA, in which Karina is co-founder.

NUTRA is a nutrition consultancy company founded in 2012 by Karina Carlucci and two more nutritionists: Alessandra Cavallari and Luisa Marot. The company is placed in Ribeirao Preto, Sao Paulo State, and work with both, personal nutritional consultancy and establishment consultancy.

3.3.1 Personal Consultancy

For personal nutritional consultancy, they offer two different service options: Nutra Vita and Gourmet.

Nutra Vita is a nutritional counseling in which the patient is evaluated and report to the nutritionist his or her diet routine. Based on these data, nutritionist will suggest some changes, giving them some informative folders with which the patient can have some parameters for his own diet and educating the patient for having a better eating habit. The folder contains suggestions for the meals during the whole day with the right portion and different options, and the patient is supposed to follow it. New meetings are done every week or every two weeks, when the patient reports his feedback of the diet and new evaluations are done, after the diet can be changed or updated according to the results until the patient reach his goal.

As a variation of this service, Nutra has a family nutrition consultancy option in which the nutritionist goes to visit the family in their places, she does the consultancy for all the members of the family and, in addition to what was reported above, teaches more healthy procedures for the person who usually cook in that family, in some cases the mother of the family or an employee, improving the quality of the food for all of the family members.



The service called Gourmet also intend to teach and inform the patient how to have healthier eating habits, with the difference that the patient receives the exact menu of what to eat in every single meal until the next meeting, that in this case should be every week.

When questioned about the public of any of their personal services, Karina answered that usually their clients decide to look for an nutritionist for aesthetics reasons, normally trying to lose weight, or after some shocking experiences with some disease,

such as after a heart attack, or after a bad result in health exams, like high cholesterol taxes, glycaemia and other non-communicable chronic diseases.

The costs of those treatments are also commented during the interview. According to Karina there's a minimum price established by the Sindicato dos Nutricionistas (Nutritionists Union) to be charged, and it's R\$ 100,00 for each consult or R\$ 150,00 home consultancy. It is valid to remember that in Brazil today the minimum wage is R\$ 678,00, so it's possible to conclude that this service is not affordable for big part of the population. Karina confirms that her patients are mostly from higher social classes, and they are always trying to develop their services in order to satisfy this public and make their services more coherent with their life style.

Karina also tells about specific services offered by other professionals that try to make some kind of low cost nutritional consilience. They usually go for group meetings and their aim are usually weight loss. As it is a group consilience, it's possible to imagine that many of the client's particular problems, preferences or aims are not considered in this kind of services, different than the personal services.

2.4

Consultancy Observation



In order to understand how the consultancy happens and the interaction between the nutritionist and restaurant owner and staff, an observation was made during one NUTRA's session in the establishment of one of her clients. The establishment

is called Delicias do Açai and its main dish is Açai, a very popular typical Brazilian fruit that is served frozen and mixed with other fruits like banana or strawberry, and granola. Besides that, the restaurant offers juices, sandwiches and dishes with grilled chicken,

meat, fish and vegetables. The restaurant attracts many students as it is located close to a University and it has reasonable prices, being totally affordable for students.

The service performed in this moment is the application of the Practices Manual and Standardized Operating Procedures, the second listed in the chapter before. As the restaurant is new, Nutra already provided the Practices Manual and the Standardized Operating Procedures, and they are applying them before the request of the permanent operation license, while the restaurant works with a provisory license as the restaurant already had the standards required for this license kind.

On the day of the observation, the nutritionists Karina Carlucci and Alessandra Cavallari visited the establishment. The owner of the place was not present, and, in this case, the manager Rogério was the responsible during that day.

The visit started by the equipment inspection. The temperature of all of the 13 fridges and freezers were checked and registered in a paper. This activity should happen every day performed by the staff, but in the visit days, the nutritionist make it, so they can compare with the data collected by the staff in the other days in order to understand if the collection is been made correctly, as taught by them

before. The second step is to check the products in the storage. Some tips about the organization were given and heeded by the restaurant. Now, all the products have to be tagged with the fabrication day, the arrival day and the expiration day of that specific product, including the ones produced inside of the restaurant and kept. The nutritionists look for untagged products and check if the days written on the tags are coherent with the kind of the food and its conservation. In case of any discrepancy, the person who performs that role is called and corrected to avoid future mistakes.

After, the nutritionists go to the kitchens, first in the salad kitchen, then in the cooking part, and finally the preparation part, checking the procedures and talking to staff about doubts, if they had any problems in applying the suggestions during the week. All of these procedures happen in a very informal and light way, and while talking, the nutritionists keep observing how they proceed and interfering if it's necessary.

zIt was possible to observe many different informative boards about different tasks given by Nutra, for example on the wall next to the salad preparation part there is a board in which indicates in a clear way right procedures to manipulate vegetables, the products to use for cleaning them and how long they should stay in the product. Close to the

fridges there was a board indicating how to fill the tags for the food in the storage.

During the day, some informal interview with the staff was done, the aim was to find out if the nutritionists are really able to understand the needs of the professionals during the work, especially in the rush time, and give tips that can be applied easily instead theoretical practices that are discarded after the consultancy. The staff answer that the tips are usually very easy to apply in their routine, and said that they never had any specific problem with one of the suggestions and all of them were very coherent with their routine. Later on, one of the employees approached the nutritionists asking tips for having more "crunchy" vegetables. They were complaining that the use of one of the cleaning products was making them a little soft. The answer was complemented with a practical demonstration of how to use the cleaning product and dry the leaves after, with two different processes, making it clear that the professionals rely on nutritionists' tips, not just for safety reasons, but also for general tips about cooking and dishes preparation.

Another interesting fact was that in the beginning of the day, the manager reported that one of the workers was not using an adequate shoes for kitchen and asked them to remind her what was told before. When the nutritionists met this employee,

they realized that she was wearing shoes with hills what is not safe for working in the kitchen, so they reinforced what would be adequate to the work and why using that shoes she was exposed to accidents. The manager's attitude shows trust in the nutritionists, and how they feel free to communicate problems and ask tips from them.

This experience was crucial for understanding better the knowledge of the nutritionist about professional kitchen and how they work, and the professional relationship between a nutritionist office and restaurant can be better understood with all the subjective details.





2.5

Restaurants Offer

Analyzing how the restaurants for everyday meal work, it is possible to separate them in 3 different categories according to how the meals are served.

The first, type is the ready portions restaurant, the most common one. They have already pre--prepared portions, frozen or not, and they are heated right before serving the dish. Those restaurants are fast food restaurant, and offer very good prices. According to the nutritionist Karina, even with all the varied offers available it's almost impossible to find one perfect for the person in the menu. There are people suggested to consume 2200 Kcal/day, while others just 1500Kcal/day so the same dish cannot be appropriate for both of them. And to satisfy most of their clients, and justify the price of the dishes compared with other restaurants, they offer big amount of food, without thinking in the balance of the ingredients. The abusive use of oil and salt cannot fail to be mentioned, and it is observed in almost all of those restaurants.

The buffet restaurant usually offer a big variety of food in a table, and the customer can serve himself and pay for what he got, sometimes it's charged for the weight, sometimes because of the choices of the customer or sometimes it's a price fixed. This restaurant offers the possibility for the client to choose whatever they want and the quantity. The

parameter makes it difficult for the customer to measure his own portions. The inappropriate use of salt and oil is also observed in this kind of restaurants. The nutritionist warns that more than that, the conditions of the food exposed are strict in Sao Paulo, but in other states, the customer have to rely on the owner's judgment. In Sao Paulo state, there are rules about the time of the food exposed can be consumed and the temperature that they have keep for being sure that all the food picked by the customer is good for the consumption.

Finally there's the option of the food delivery, sometimes made by restaurants that also offer food in their establishment, sometimes just offer food by delivery. They usually have around 3 options of dishes per day and they have, in general, low prices including the delivery service.

Still according to the nutritionist, another tricks used by some restaurants affects the quality of the alimentation. Making the beef looks more attractive adding a spoon of butter on top of it, which melt covering its surface, definitely makes it look juicer, but adds a lot of calories of fat, and no important nutrient for the dish. The same can happen with the rice preparation. Adding more cooking oil ensures a good looking dish, but makes the ingredients balance less healthy.



MEU MENU | Research | **Restaurants Offer**





2.6 Meal Sample Analysis

Therefore, the nutritionist Karina Carlucci was invited to analyze and compare one dish sold by a restaurant with what should be the ideal meal. Some options of restaurant were collected through indication of people whom use their services. Among them, there was a variety of prices. The chosen restaurant offers the meal by a price close to the average of all of the others.

During this analysis, the article "Adapted food pyramid: a guide for the right food choice" by Sonia Tucunduva PHILIPPI, Andrea Romero LATTER-ZA, Ana Teresa Rodrigues CRUZ and Luciana Cisotto RIBEIRO, 1999 was used as a reference, and its suggestion for a 2200 Kcal/day diet were used as the "ideal" one.



R\$ 10,00

food + delivery

The healthiest among the options:
Grilled chicken + salad

It is important to highlight that the diet chosen is very caloric, so the comparison is made using an ideal meal for an adult man who practice physical exercises, if using an smaller parameter, such as the ideal meal for a young woman, the discrepancy would be even bigger.

The cost of a meal for one person was R\$ 10,00 including the delivery, during the order, the

restaurant presented some options for meat, that could be pork, cow meat or grilled chicken, and the salad could be replaced by Russian salad. The choice was the grilled chicken and salad, so it would be the healthier option possible for a regular customer. First, it was considered each different food compared with it's portion, then the portions are used to compose a balanced dish.

Grains Aportions 2 ideal 3

Cassava ▼ wieight 89g ideal 96g 83% Corn ▼ wieight 60g ideal 142g 42%

Rice ▲
wieight 239g
ideal 125g
191%



Onion wieight 20g ideal --

Chicken ▲ wieight 133g ideal 100g 133% **Beet** ▲ wieight 93g ideal 42g 221%

Carrots ▼ wieight 27g ideal 36g 75% **Letuce** ▼ wieight 19g ideal 120g 15%

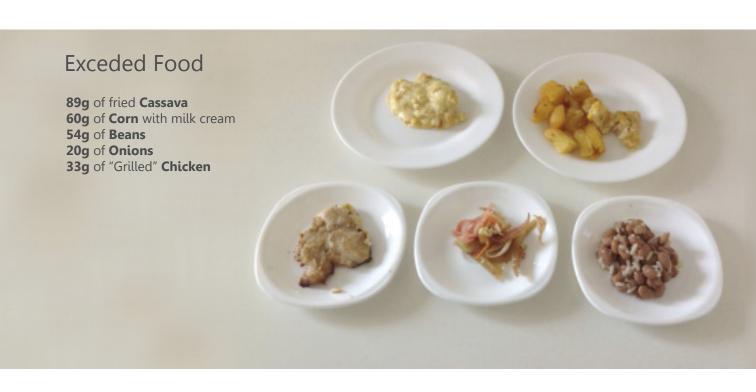
Beans ▲
wieight 104g
ideal 50g
208%



On the second step was to create a balanced dish using the restaurant's food. The article suggests 2 portions of grains and 3 portions of salad to have a good food variety. So the food was separate between the balanced dish and what is extra.

The conclusion was that the dish served by the restaurant is much bigger than what is suggested by the article and it is not balanced. It contained, in the total, more grains, beans and meat, and, even if the total portion of salad was close to the ideal one, each ingredient was not balanced.

The ideal dish should contain 2 different grains portion, the nutritionist decided to keep 2 rice portions even if the ideal should be 2 different grains. Even if there were 2 different grains, the way that they were prepared made them too unhealthy to be considered in the ideal dish. The cassava is fried while the corn is mixed with milk cream, what adds calories and fat to the dish.



The salad portion is not bad considering the total amount of ingredients, but analyzing closely, they should have different proportions. For an ideal dish, the beet portion should be half size of the presented one, the carrots portion bigger and the lettuce 6,6 times bigger than the presented one.

The nutritionist also comments about how the food was prepared. By its appearance it's possible to assume that even the chicken present on the dish was very oily. It shows that the restaurant uses much more oil than the ideal for a grilled chicken. The same happens with the rice.



Problems Definition

3.1

Actual Scenario

To sum up the main information acquired during the research and to understand the public's problems related to this subject, a fictional story is written.

"Sandra is a 32 years old commercial representative for a medicine laboratory. She lives with her husband, Pedro, and their dog in a calm residential condominium some minutes away from the city. They go every day to the city for working by car. She works with the car since she visits several doctors per day offering and explaining the medicines from the company. During the whole day she works alone, she meets several colleagues but they are all from the concorrent lab. The lunch time is the only time she can meet her colleagues from the same lab. Since most of them don't have time to go back home and cook, they always catch up for lunch in a restaurant.

During the lunch time they can share information about work and their life in a very light way to relax for a while. Diet is a subject which always shows up in the conversation. They share tips about what to eat, where to buy things, recipes that they read in magazines or internet, even though the meetings are usually in the home made food restaurant that they really like. Sandra has a friend that just became mother of her first son. She always takes her magazines related to kid's alimentation so she can get more information about it.

Today Carla, another friend, arrived with the news that she started a diet program followed by a nutritionist. She shared all the tips nutritionist gave and all the friends were interested. Sandra listen to it carefully because she knows she is overweight, but when Carla told the price she paid, Sandra thought that she is not that unhappy to her body, and decided to apply some of the tips Carla shared to her life and wait for results. Excited, they planned to go next Monday for a healthy food restaurant.

After work, Sandra meets her husband and cooks dinner for both of them. She uses some tips for preparing food and talk about them. He, instead, is not that happy with the new tips. He believes Sandra is overreacting and there's no need to make the food less delicious like that. During the dinner they discuss about the plans for the summer trip, work problems, money, and Sandra tells about the plans of her group of friends for next Monday. Pedro makes fun saying it will least until Wednesday maximum, when the other restaurant offers risotto."

4.2 **Problems Definition**

The text beside represents a general idea about the Brazilians target of the project. To define better all the ideas presented, it's possible to say that the problems can be summarized by:

Brazilians have bad eating habit (and cultural factor favors it)

Brazilian workers usually have short lunch breaks and prefer to eat in restaurant.

Professional nutritional consultancy is not affordable for most of the Brazilians.

Nutritionists always try to develop their services for a more elitist group.

Aim of the Project

"This projects intend to develop a PSS which provides useful information about nutrition, helping people to apply them in their daily life. The accessibility is one of the main issues considered."



Service Development

5.1 **Building Scenario**

"My Personal Menu"

Wouldn't be better if it was possible to have a balanced meal and healthy food specially for me and made by a restaurant in which I can go to have lunch every day?

"My menu" consists in bringing the relation between restaurant and nutritionist even deeper; creating a system that allows an easier communication among them.

The idea is to offer a nutritional consultancy for the customer and a food made by a restaurant which is coherent with what is suggested for the customer. The first step would be select nutritionists whom are specialized in professional consultancy. These nutritionists will be responsible to evaluate the restaurant interested in being part of the service.

They will check if the restaurant is adequate in different requisites about its suppliers, space, operational process and hygiene to ensure the quality of the food offered in that place. After that, the nutritionists and chef will work together on the restaurant menu, making some changes or adding new dishes on it, writing new technical forms for each dish that must be strictly followed by the restaurant for the clients of the service. When this is done, group

of nutritionist and restaurant will be set to attend clients of "my menu".

The client will get to know the service through one of the restaurant members or advertisement on internet, and can find out more about how it works using telephone number, website or through the staff of the restaurants members. After that, the about to be client does an appointment with one of the nutritionists. There, he receives a personal consultancy for his daily food, considering his own personal problems, aims or preferences. After all the considerations and orientations, the client picks a restaurant more practical for him, or that he already is used to. The nutritionist can analyze the dishes that the restaurant offers and sign for the user those that are more appropriate for him. He receives a member card, and book next appointment in two weeks. Next day, on the restaurant, the client shows his member card to the cashier or waiter and the restaurant receives through the system what is his client dish for today. The customer is sure about the quality of the food that he is receiving, and knows that the quantity is adequate for him, eating that dish will bring him benefits. For the rest of the day, he has all the information gave by the nutritionist during the consultancy, and he can pay everything using his meal voucher.



5.**2**

Personas



Sandra 34 years old Commerce representative

She works visiting doctors during the whole day, going from one to another by the car provided by the laboratory. On her lunch breaks, she always catches up with her colleagues to share some information about the work and relax a little bit. The meetings are always in a restaurant which serves homemade food. It's an old lady who started to cook for others and now is the owner of a quite big restaurant, but still preserves the home style.

Sandra and her friends always consider the diet in their alimentation, but it seems that when they are in that restaurant, they have too much temptation and end up eating pretty big dishes, even if it's not weekend. But it's ok, in the dinner, eating just a salad will compensate the big lunch.

Elias 54 years old Team manager

Just had some restrictions in his life imposed by his doctor since his last blood test demonstrated some data that requires attention. A big list of recommendations is in front of him, and he thinks how to manage all of that. The food problem is the worse one.

Due to his short lunch break he always eat close to his home, there's no time to face traffic and come back to eat at home. Well, he decides to start some exercises and, about the food, he will think later. Maybe he can manage in a buffet restaurant inside of the shopping mall which he works at.

Actually he doesn't think he eats that wrong anyways. He doesn't understand still how the extra sodium and fat are used in that restaurant, and it will make the next exam even worse.



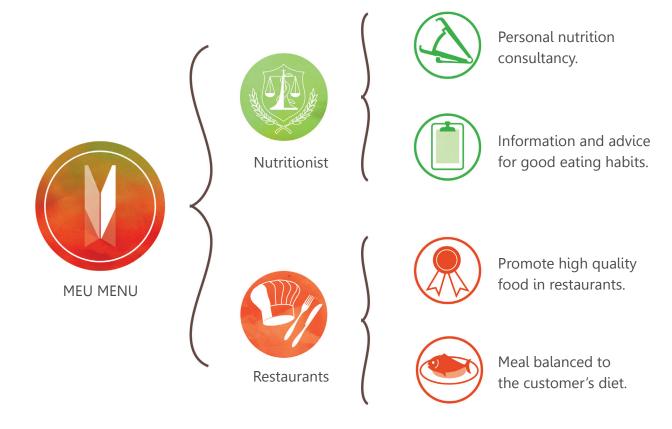


Luiza 26 years old Receptionist

Works at a doctor clinic assisting him with his patients while is graduating in nursery in an evening course. She has a heavy day. Even though she is totally focused in get the diploma and have time for nothing else, she sees that all this routine made a lot of difference in the Luiza she sees in the mirror. But what can she do? There's no time for gym anymore, and taking care about the eating habits takes too much time for her daily life.

She works in a continued timing with just 15min of lunch break. As she works less than 8 hours/day, she has this short lunch time. She orders the less caloric food from the delivery restaurant her friends use to buy, and try to do her best at night, when her mother cooks before she goes to the school.

5.3 Map of Offering



5.4 **Actors and Roles**



Nutritionist



Do **inspection** in restaurants to checkif they are adequate to be part of the service with regards to **hygiene** and quality of food.



Develop balanced meals together with its chef from the restaurant to include in the system of the service and serve customers.



Make an **personal nutritional consultancy** for each of the customers.



Restaurant



Develop balanced meals together with a nutritionist from the restaurant to include in the system of the service and serve customers.

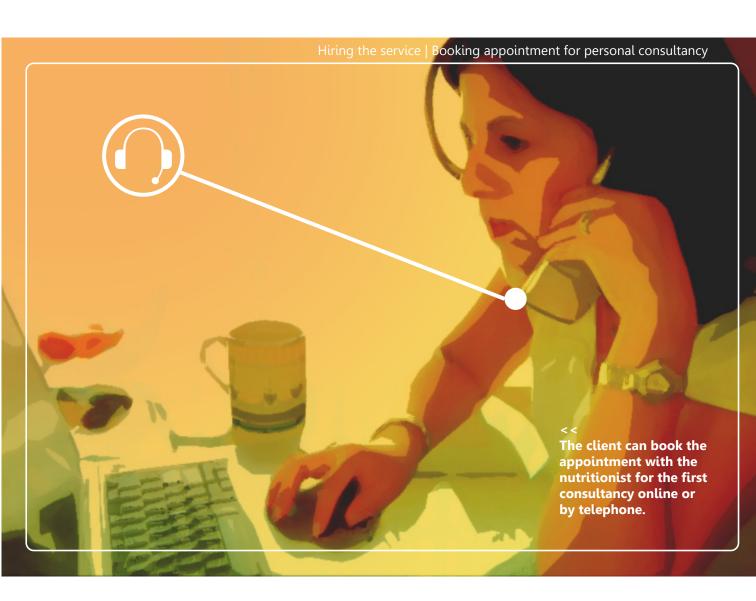


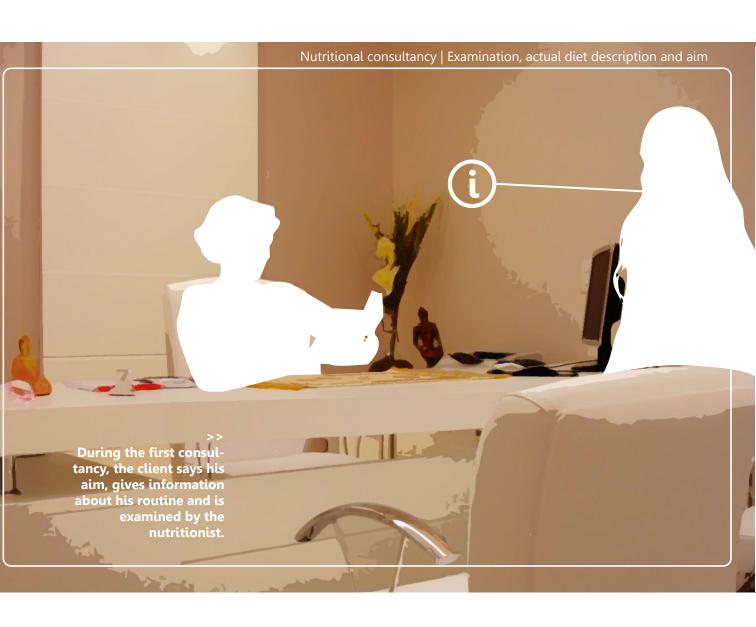
Adapt and serve meals according to what is suggested by the nutritionist

5.**5 Storyboard**





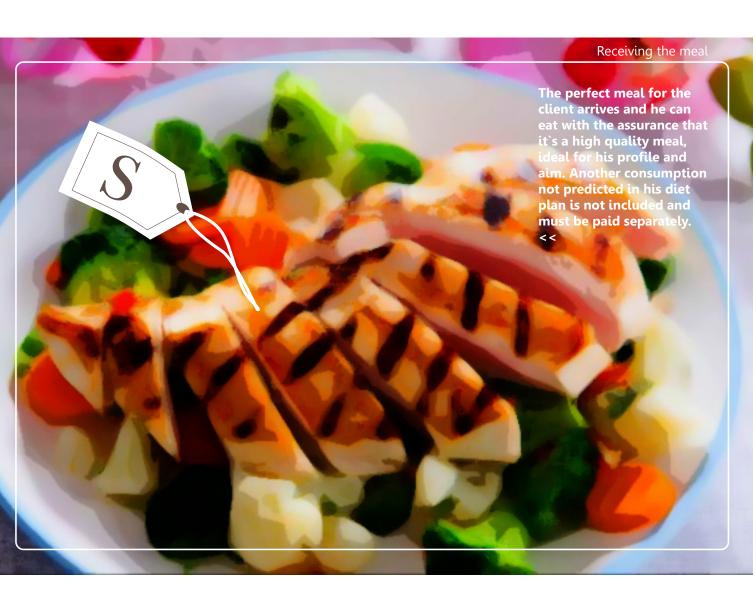




Nutritional consultancy | Creating a diet and giving info about nutrition to the pacient The nutritionist will create the diet plan, giving tips for the client how to cook in a healthier way. In this plan, one of the meals on week days are the restaurant members meals

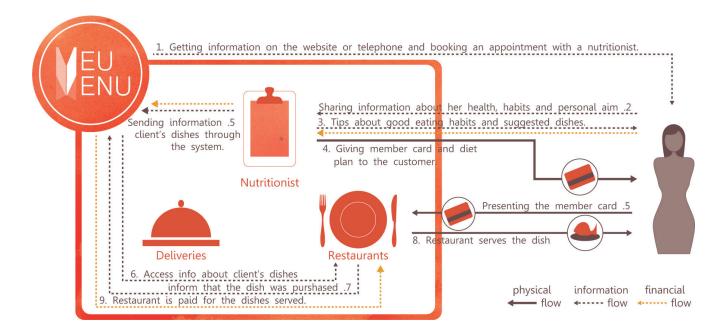




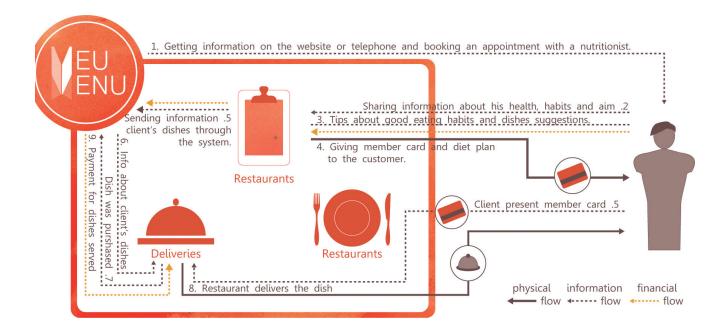


5.6 **System Map**

5.6.1. System Map Restaurant



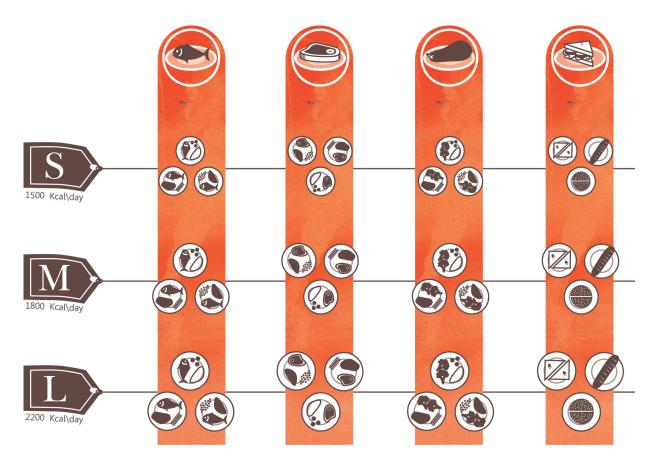
5.6.2. System Map Delivery



5.7 **Business Model Canvas**



4.8 Menu Development



The table shows how the dishes are developed for the restaurants. Every restaurant must have at least three different dishes of the following options: red meat, white meat, vegetarian meal and speciality. Each one of the dishes will be available in three sizes, S, M, L. They have different portions size,

adequate for the 1500 Kcal/day, 1800Kcal/day and 2200 Kcal./day diet plan. This plan covers all the variety necessary to provide personalized portion size for different aims and profiles, for that reason the content of each dish is registered in technical forms and they should be strictly respected.

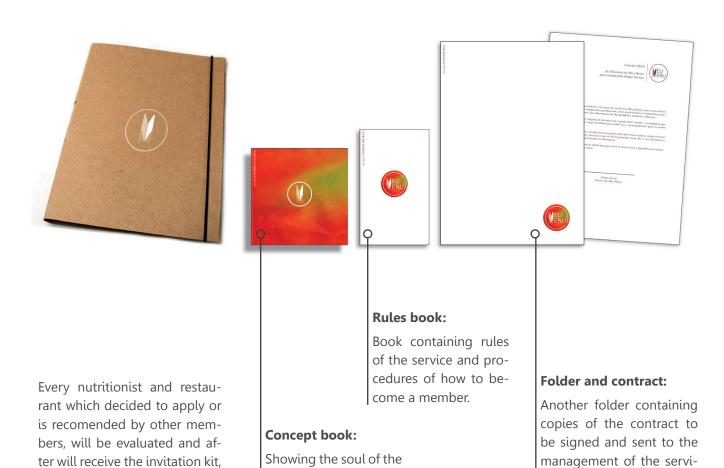
ce. From this kit, this is the

only part to be sent back.

5.9 New members (Restaurants and Nutritionists)

5.9.1. New Nutritionist Members' Kit

which is a **folder containing:**



group, the aims and

values of the service.

5.9.2. New Nutritionist Members



The process for a new nutritionist to become a member happens in four steps. First, the applicant should apply on the website, or be indicated by a restaurant member or user. After an evaluation considering the nutritionist's CV, experience and the service needs, the ones accepted will receive the invitation Kit.

The almost member will evaluate the details of how the service works, what are their roles and fees. If the nutritionist agrees, he can fill up a form choosing to perform professional consultancy and personal consultancy or just personal consultancy.

This form should be sent together with the contract signed to Meu Menu's management. As soon as the paper work is done, the nutritionist will receive a password to use the website and update their profile. On the website they will be shown as options for those who are looking for a nutritionist of the service.

To perform as nutritionist of Meu Menu, the new member will receive a "Welcome Kit" which contains:

5.9.3. Nutritionists' Welcome Kit



Box containing:



Welcome book:

Book containing all the information about the service, how it works internally and the description of every procedure.



Visual ID Material:

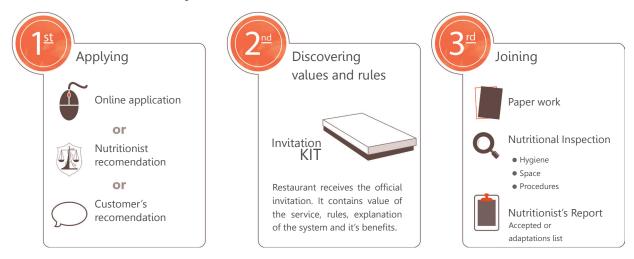
Boards to be placed on the desk, on the facade of the clinic, leaflets to be distributed, placed in folders, adesives and all the visual material to promote the service in the place.



Folder and Blank Technical Form:

Folder and blank forms with the nutritionist and "MEU MENU" visual ID to be filled and used during the professional and personal consultancy, and menu development.

5.9.4. New Restaurant or Delivery Members



The process for a restaurant or delivery become a member happen in six steps. First, the applicant should apply on the website, or be recommended by a nutritionist member or user. After an evaluation considering the service's needs, the ones accepted will receive the invitation Kit.

The applicant will evaluate the details of how the service works, what are their roles and fees through the invitation Kit. If he is still interested he will do the paperwork and send to Meu Menu management, booking an appointment for a nutritionist to visit his establishment. The service will allocate one of the nutritionist who works with professional

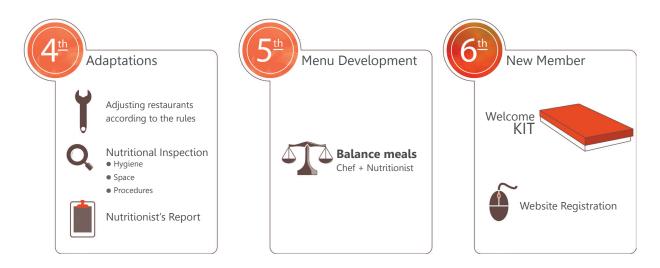
consultancy to evaluate the establishment in three main requisites:

Hygiene: If the restaurant is adequate with the hygiene standards of the service.

Space: If the kitchen is well equipped.

Procedures: If the restaurant follows the minimum procedures required for the service.

After the evaluation, the nutritionist will make a report for the service and restaurant approving the membership of the establishment or repro-



ving, with a list of adjustments for it. It's important to highlight that all the restaurant should be up to date on it's operational license and documents. If it's not, the nutritionist will add this request on the list.

After adjusting any possible problem, the restaurant or delivery will go through a new evaluation and a new report until it gets the approval of the nutritionist.

The next step is to develop the dishes for the service. The chef and nutritionist will develop the menu together balancing the specialities of the establishment and the nutritional requirements of the service. The nutritionist will make the technical forms for the dishes and they must be followed strictly.

The technical forms will be delivered to the establishment together with the "Welcome Kit", and finally the establishment will receive the access to the website to update and receive clients from the service.

5.9.5. Restaurants' Welcome Kit



Box containing:













Welcome book:

Book containing all the information about the service, how it works internally and de description of every prcedure.

Visual ID Material:

Boards to be placed beside the cashier and on the facade, leaflets to be distributed, placed in menus, adesives and all the visual material to promote the service in the place.

Folder and Technical Forms:

Detailed explanation of all "MEU MENU" dishes. Following them is essencial for the service.

5.10 Members' Profile

4.10.1. Nutritionist's Profile

The Nutritionist

Young Independent professional or local clinic

The Meu Menu is a good opportunity for young nutritionists who want to be more known and have more clients. The "Meu Menu" material offers a clear path for the nutritionist to apply their knowledge in order to get a good result.

Benefits:

++ Clients

The nutritionist who joins "Meu Menu" will be inserted in a network of restaurants that can possibly need their consultancy and will get new clients for personal consultancy.

+Trust

They will be able to offer to their clients a good and solid option for reaching their aim; it means more credibility for them, increasing the trust of their clients, what is very important in this field.



4.10.2. Restaurant/Delivery's profile



Restaurants/Delivery

Small entrepreneurs who just started their business or have currently legal shortcomings.

There are many cases of restaurants which were founded by ex-chefs of other restaurants who decided to start their own business after saving money. Those restaurant usually start with legal problems because they are not informed about exact rules or they don't have all the money to spend adjusting the kitchen, space and documents. Regular consultancy is almost not an option in this case because of the price, but it could make them save a lot of money on the adjustments. Through Meu Menu they can get this support, adding value to their restaurant with the healthy food flag, and receiving new clients through the service.

Benefits:

++ Regular Clients

The restaurant who joins "Meu Menu" will be an option for the clients of the service to have their meals. Those have a high chance to become regular customers.

+Healthy Food

The restaurants members will be recognized as better quality food offer than their competitors.

Restaurants/DeliveryHealthy food restaurant or delivery.

Restaurants which already have the concept of healthy food are also possible members. They will join the system, receiving new regular clients interested in this kind of food. They will reinforce their concept of healthier having more promotion.

It's important to remember, as those restaurant probably already follow good procedures, hygiene routines and have adequate space and suppliers, joining the Meu Menu will be quite easy.

Benefits:

++ Regular Clients

The restaurant who joins "Meu Menu" will be an option for the clients of the service to have their meals. Those have a high chance to become regular customers.



5.**11 Visual I.D.**

The visual identity of "Meu Menu" tries to highlight and communicate to the customers the good points of the service, applying them in all the graphic material distributed to members and customers, making strong the connection with the clients and easy to recognize. The main ideas to be communicate and its graphic solutions are:



Healthy Tasty



Personalized





Smart Precize

5.**12 Touchpoints**



Transparent or white stamped with the logo printed to promote the service on restaurant's counter or nutritionist's desk.







Ads for menus

Printings to be attached to restaurants' menu in order to advertise and inform about the service.



Adhesives

Adhesives advertizing the service to be placed in shop windows or entrance door of the restaurants and nutritionists members.









Leaflet

Leaflets to advertise and promote the service in other companies that are somehow related to well-being but that are not involved in the service.

Member cards

Member card received on the first personal consultancy to facilitate the access to all the information of the client.

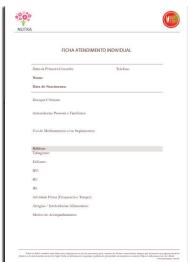
Graphic Material from the kits



Leaflets

Leaflets to be displayed on the desk of nutritionist and on the restaurant's counter to advertise the service and inform with basic information about how it works.





Folder and forms

Folder and forms delivered to the client during the nutritional consultancy also brings the service's graphic style.



Website

Main interface for all of the members and users of the service.

5.12.**1. Website**

The Website is the main touchpoint of the service for clients and future clients, There, it's possi-

ble to find all the information about the service displayed as in the following images:



Introduction of the service:

Video showing what is the service, communicating the value of "Meu Menu" and basicly how it works.

Members list:

Access to all members list of restaurants and nutritionists available. (next image)

Client's testimonials:

What client's are talking about the service on main social networks.

Members list:



Map with members' location:

A map showing all the nearby members with the user's location as reference.

Member's category:

On the map each category present's different color. The user can choose to see just one of them on the map.

List of members:

List of members close to the user. A search bar is located on the top part, and on the bottom, a link for a full list of members.



Member's information:

Clicking in any of the icons, an information bar will appear showing a small description of the member, it's address and telephone. It's possible to access the menu of that establishment or get more ditailed information.



Member's detailed information:

Clicking in +info, the user will access a more detailed description with pictures of the place and opinion of other users about that place.

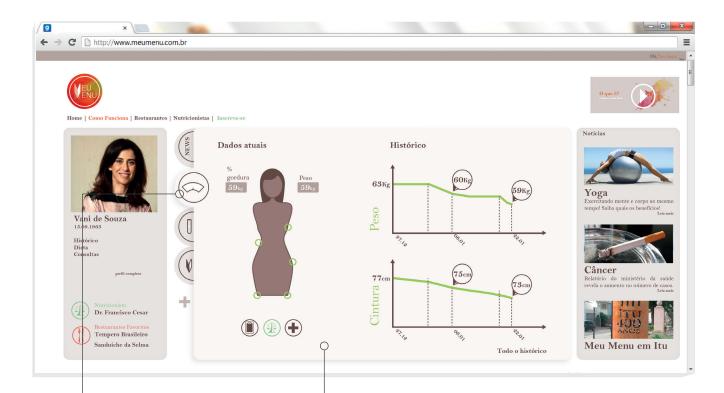


User's profile:

User's information are displayed. Personal data, current nutritionist resposable and favorite restaurant can be seen.

Timeline:

Timeline showing the last updates of user's profile or members. On the image it's possible to see a new dish updated by user's favorite restaurant, new members options and her personal information updated by her nutritionist.



Tags:

On lateral tags, the user can access her history of data uploaded by her nutritionist, blood tests, menu prescripted for her and more.

User's history tag:

On any tag theuser will access information about her history. Weight, sizes can be checked in this example. It's important for the user to see her progress. She can upload them, or check nutritionist's uploads.



Prototyping





6.1 **Location**

The chosen city to place the prototyping phase is **Ribeirão Preto**, São Paulo. It has 605.114 inhabitants and it's the center its region. It's located 380km away from São Paulo, the Capital of the state, and 1000km away from Brasilia, the capital of Brazil.

The main activities are the ethanol production using the sugar cane crops from the region, commerce and services specially related to health and education. The city hosts one well known university in Brazil, USP, and several others, attracting students and workers from all the country. It's considered one medical center, plenty of laboratories, clinics, hospitals and research centers.

Currently, the civil construction is a hot activity in the city. Constant immigration of people from another cities caused a big expansion of the city and a notable increase in house prices during the past years. New towers or houses condominiums located in the south zone of the city are the aim of elitist customers, while on suburbs, it's possible to find new constructions, with good quality and safe houses condominiums for reasonable prices. The city also hosts big quantity of students who come for University and pre-university courses from different cities in Brazil.



MEU MENU | Conclusion





The positive points, reasons why Ribeirão Preto was chosen for the prototyping phase are:

Medium size city with reasonable cost of living:

Big enough to test the service but not too big, avoiding some possible problems presented in bigger cities. The cost of the service is also very important for testing the service, and placing them in the main centers of Brazil like Sao Paulo or Rio de Janeiro would not give a real feedback of the customers, considering that those cities are notably more expensive than others.

Medicine center and Medicine University:

The city host one of the main Medical Universities in the country, graduating several nutritionists per year. The number of young professionals in the city is high, possibly interested to be part of the service.

It's the center of the region, and many workers come from the suburbs to work during the day, returning to their hometown in the evening, assuring many possibly customers interested in the service.

6.2

Partners

For complete the prototyping phase, some partners are involved to be part of the system. These are the partners suggestions for this phase:



The Nutritionist clinic which contributed during the research and service development of the service will be the firsts "Meu Menu" nutritionist. The fact that they are three nutritionists who already work with both professional and personal consultancy ensures that all the roles can be performed by them.



Laranja Lima is a health food restaurant chain, with 3 restaurant located in 3 shopping malls around the city. They are considered a good choice for partnership because they already have the practices manual and standardized operating procedures documents ready, which means the requirement to be part of the service. They also have 3 restaurants covering the main commercial areas in the city, and their concept of offering healthy food is aligned with the service's concept. Their customers are possibly interested to join the service.



DeGust was a restaurant for everyday meal which decided to focus on delivery food. They are placed in the city center, what facilitates their logistic in delivering the meals. They also claim that their food is healthy and balanced, what matches with the concept of the service.

6.3 **Solutions**

During the prototyping phase, the online system used by the members and customers will not be ready. In order to facilitate the communication without losing the efficiency, all the information that should be transferred online will be done by printed material.

For the prototyping phase, the Nutra's nutritionist will develop the minimum dishes number with all the sizes (S,M and L) for both, restaurant and delivery restaurant menu. The total will be 12 dishes that are going to be used by both of them. This way, the nutritionist will know exactly the content of each dish in a simple way without the need of the online system. Each of the dishes will have the same code for both restaurants.

The member card will be replaced by a voucher book which each page represents one meal. In the voucher book are written the codes of the dishes suggested for that customer. When the customer presents the voucher in the restaurant, it already brings the information of which are the options for that customer and he can decide in the moment about the choices. The voucher has two different parts in which one of them should be kept by the customer as a "receipt" and the other by the restaurant. The restaurant will present the tickets in the end of the day to the Meu Menu's management in order to receive the payment for the dishes.

And, finally, a paper form will be added to the nutritionist papers, so all the data of the consults like weight or exams results can be registered and used for comparison later.





nome: Vani de Souza data de nascimento: 15.09.1965 inicio ticket: 12.02.2013 Códigos dos pratos: 0013M Ticket do Cliente 0026M 0045M Vale uma refeição 0026M 0045M

Meal's Vouchers

Printed vouchers contains user's data and the code of the dishes suggested for him. Each page contains a meal voucher and a recipt.

Folder and Form

Folder and forms containing all the information about every personal consultancy so the user can keep track of his progress.



7. Future Plans

The service aims to join certain number of nutritionists and restaurants in order to reach a good variety of options and cover the whole city with members, satisfying the needs of the customers.

The next step will be to replicate the system in different cities, creating many local systems connected by the online platform. To replicate the service in another city will be necessary the creation of new professional network and promotion of the service for the possible customers, but all the material, system and rules are exactly the same.

In the future Meu Menu expect to become the sign that ensures a healthier food offer in that establishment, recognized even by the people who are not Meu Menu customers. Since the restaurants have to respect the hygiene, procedures and suppliers choice rules to be part of the service, the customer can be sure to receive a higher food quality dish there.

8. Conclusion

The service, outcome of the project, satisfies its initial proposition; it gives an option for those who are looking for a better quality of life, ensuring an accessible price for a complete nutritional consultancy considering the customers' routine trying not to interfere with their habits apart from the eating habit.

The service is a good option for restaurants who are interested on the professional nutritional consultancy, including places with legal shortcomings wanting to improve their situation.

Finally, proposed system is simple and efficient, but the prototyping phase should be complete, including testing the online platform to analyze its operation when it's used by more members. It is expected that the outcome of this phase will further refine the system, enhancing its functionalities and efficiency.



Bibliography

Jégou, François; **Manzini,** Ezio. **Collaborative services.** Social innovation and design for sustainability. Milan, Italy: Edizioni Polidesign, 2008 (e-book)

Meroni, Anna. Creative Communities. Milan, Italy: Poli.DESIGN, 2007. (e-book)

Meroni, Anna; Sangiorgi. Design for Services. Aldershot, UK: Gower Publishing, 2011.

Mont, Oksana. **Functional Thinking -** The role of functional sales and product service systems for a function-based society. Sweden: Lund University, 2002. (e-book)

Stickdorn, Marc; Schneider, Jakob. This Is Service Design Thinking. Amsterdan, Netherlands: BIS, 2012.

Articles:

Anjos, Luiz A. Mendonça, Cristina P. "Dietary and physical activity factors as determinants of the increase in overweight/obesity in Brazil". Saúde pública, mai-jun 2004; 20(3): 698-709.

Bezerra, Ilana N. **Sichieri**, Rosely. **"Characteristics and spending on out of home eating in Brazil."** Saúde pública 2010; 44(2): 221-9.

Cruz, Ana T. Latterza, Andrea R. Philippi, Sonia T. Ribeiro, Luciana C. "Adapted food pyramid: A guide for a right food choice." Nutr Jan/Abr 1999: 65-80.

Falcão, Mario C. Tardido, Ana P. "The impact of the modernization in the nutritional transition and obesity." Bras Nutr Clin 2006; 21(2): 117-24.

Websites:

Aquino, Yara." **Mais da metade dos brasileiros está na classe média**" Exame. 02.09.2012 < http://exame.abril. com.br/brasil/noticias/mais-da-metade-dos-brasileiros-estao-na-classe-media>

Prevideli, Amanda." **Quem é classe média no Brasil?**" Exame. 20.09.2012 http://exame.abril.com.br/brasil/noticias/afinal-quem-e-classe-media-no-brasil>

Zimermann, Maira."**Nutricionistas alertam sobre doenças ligadas a má alimentação"**: Redação Portal Ponta Grossa. 27.08.2012 http://www.pontagrossa.com.br/noticia.php?id=619>

Melo, Dr. Maria Edna. **"Doenças Desencadeadas ou Agravadas pela Obesidade":** Associação Brasileira para o Estudo da Obesidade e da Síndrome Metabólica. 20.05.2011 http://www.abeso.org.br/pdf/Artigo%20-%20Obesidade%20e%20Doencas%20associadas%20maio%202011.pdf

