



1 Image source:
<https://www.pexels.com/photo/blur-breakfast-chef-cooking-262978>.

TA4PEOPLE WITH FOOD ALLERGIES

A restaurant recommendation platform for people with food allergies

Motivation

Allergic problems are growing worldwide. Recent studies estimate that there are between 200 to 250 million people worldwide living with food allergies, and there is currently no cure for the condition.

A food allergy can be life-threatening and has a significant impact on the quality of life of the patient and caregiver. One of the main challenges for people with food allergies is eating out. Several studies mentioned that most allergic reactions occur outside the home, especially at restaurants due to the lack of knowledge of the restaurant staff about food allergies.

At restaurants, the cross-contamination of food is very common. For instance, using the same oils or utensils to cook different dishes can potentiate the transfer of allergens to dishes that were allergen-free.

Description

This work proposed a solution for the dining out problem faced by people with food allergies.

A participatory design approach was followed, to have close contact with food allergic people, to allow them to express themselves about what is the best for them, to collect all the requirements needed, and decide together how the prototype should be designed so that, in the end, the result satisfies their needs.

The platform offers detailed information that is crucial for people with food allergies to understand if the restaurant is safe and provide the conditions for their allergy constraints.

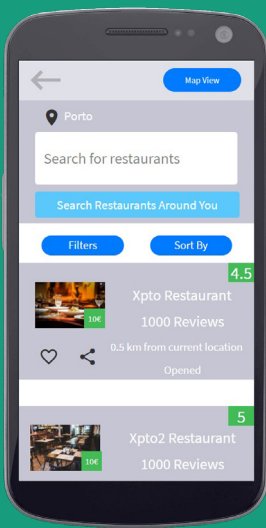
Data collection

This study started with the in-depth interviews method to guide all the investigation and to collect data about the daily challenges and practices of food allergic people.

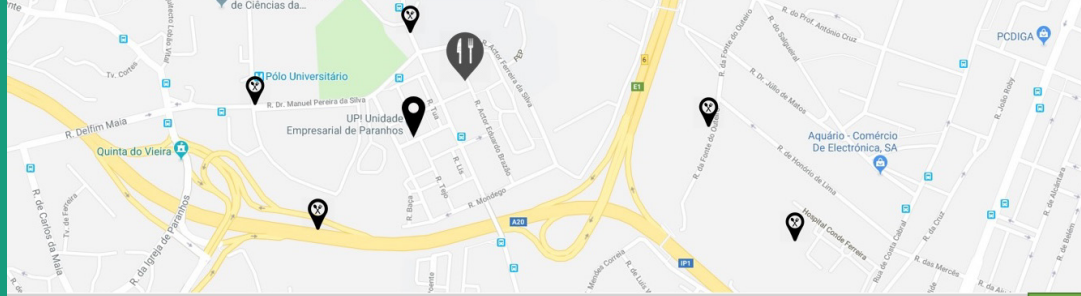
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2



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10€

Xpto Restaurant

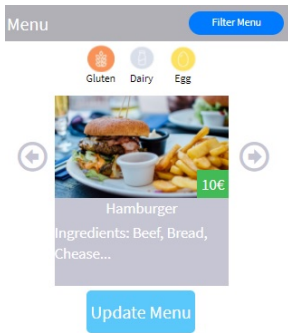
100 Reviews

Opened Now

0.5 km from your current location

Get Directions

4.5



4

Using interviews was useful for getting and understanding information regarding person's beliefs, ideas, and behaviors and to investigate new subjects or problems in depth.

The interviews were conducted in two phases: Exploratory interviews and Interactive interviews. Twenty-five participants were interviewed, nineteen on the exploratory phase and six on the interactive phase.

The participants were recruited in two ways. The first contact with them occurred through the Portuguese Association of Celiac branch at Porto. After explaining clearly the goal and purpose of the work, several connections were established. Then to increase the number of participants I recruited people with food allergies at the Faculty of Engineering of the University of Porto.

Findings

The thematic analysis method was used as an advanced method to analyze qualitative data.

The thematic analysis allows the researcher to identify, analyze, and report patterns or themes within data.

The study showed that people with food allergies tend to go always to the same places, they call to clear doubts about cross-contamination, spend a lot of time reading the menu, ask questions about the food preparation, analyze the hygiene of the restaurant and staff to try to figure out if they can trust the restaurant. To avoid all these processes, as a rule, they search for this information online. However, the existing details regarding food allergies are practically nonexistent.

Solution Proposal

A solution of recommendations and reviews was designed to support the choice of a restaurant. The low-fidelity prototype of a restaurant recommendation platform has the following features:

- Personalized profile;
- Nearby and specific restaurant search;
- Detailed menus;
- Detailed reviews;
- Follow a user system.

Future work

Even though the interviews were time-consuming, allowed to get an in-depth understanding of the food allergy problem in people's life. A first usability test was performed. Therefore, future work to evaluate and validate the usability of the platform is required as well implementing the solutions for the founded problems in this first usability test. At this point, an iterative and incremental prototyping approach, using low-fidelity prototyping, is the best way to achieve excellent results of usability since it's possible to obtain relevant information and feedback from the end-users.

After exploring the usability tests, a pilot should be performed to understand how people with food allergies use the solution on the daily life.

- 2 Restaurant search results (List View).
- 3 Restaurant search results (Map View).
- 4 Menu and Review sections about a restaurant.