

Project Presentation

Smart Fridge

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Computer Engineering

Human-Computer Interaction - P6

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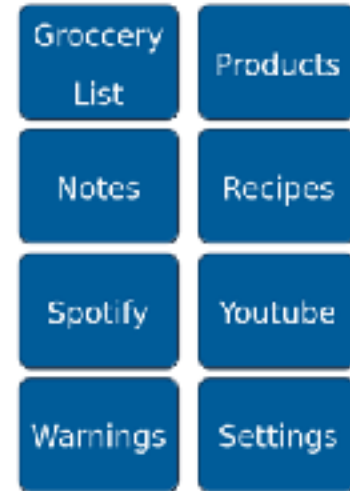
What is SmartFridge?

SmartFridge is an application designed to help families in several tasks, mainly regarding food management. With this app you can track the ingredients you buy, and even have some tips of how to cook them.



SmartFridge main functionalities are...

- ❑ **Insert** and **remove** products;
- ❑ Search for new **recipes**;
- ❑ Create a **grocery list** automatically;
- ❑ Create **notes** and **warnings**;
- ❑ Watch **Youtube** videos;
- ❑ Listen to music on **Spotify**.



Personas: Paula

- **Paula** is **25 years** old and she's the mother of three children;
- Lives with her **husband and children** and works as a factory operator;
- She works from 9 to 17:30 and has lunch at the **factory**;
- Cooks dinner every day, trying to provide a **healthy and varied diet** to her family;
- At weekends, usually on Saturday, Paula goes **shopping**. She always wastes some time writing a **shopping list**;





Personas: Paula

- Paula likes to cook and specially to try new **recipes**;
- She often passes near the supermarket, which is away from home, and remembers that she should **shop some products**, although that she has forgotten to take the shopping list.

Motivation:

- Paula would like to **quickly create a shopping list** or access it anywhere other than at home;
- **Search for new recipes** based on the products contained in the fridge;
- Get **warnings of the expiration date** of the products.

Scene 1: Consult the shopping list anywhere

Paula went to Glicínias and she remembered that she had dinner to prepare and that she didn't remember very well what she had or not in her fridge.

Since no one else was at home, Paula went to Jumbo and turned to her smartFridge mobile app.



Scene 2: Search for a new recipe

Paula wants to cook a new recipe. Unimaginatively, she turns to her smartFridge system and looks for pork recipes.

As no recipe pleased her, she searched for other recipes with other products that she had in the fridge.



Scene 3: Get warnings from products expiration dates

Paula came home from work and was going to drink a vanilla yogurt, but she noticed that the smartFridge was showing a warning saying that the expiration date of the strawberry yogurts was almost ending.

So, she chose to drink a strawberry yogurt, instead, and removed it from the fridge, updating the smartFridge.



Scene 4: Get the shopping list automatically

Paula decides to go shopping and, because she is in a hurry, she goes to her smartFridge system to see what's missing.

However, she will always have the shopping list available in real-time on her mobile app.



Scene 5: Listen to music on Spotify / Watch YouTube

Paula finds herself a pastry chef on Saturdays and, as she notices that her phone is almost out of battery, she decides to go to her smartFridge and listen to some music on Spotify.

However, sometimes she doesn't want to listen to music, so she turns on the smartFridge YouTube and watches some cooking videos.



Scene 6: Update the smartFridge with new products

Paula went shopping for groceries and she wants to insert them in the fridge.

So, she passes the products barcode on the barcode reader, choosing the quantity that she will insert. Adding to this, Paula has the chance to add the expiration date of each product so that she can receive warnings.





Usability goals

- A first-time user should be able to add/remove products without errors;
- A user should be able to search for new recipes based in some products in 2 / 3 minutes or less;
- A user must be able to get a shopping list done with an improved 50% speed compared with a normal fridge;
- A user should be able to read notes and warnings faster than any other task;

Why HTML5 ?

- Easy integration of python and java (long term);
- Good support for databases (long term);
- Easy mobile integration (web app);
- Huge amount of documentation.



Heuristic evaluation

Issue	Heuristic	Severity
Inputs should have a visual interface (datepicker).	Recognition rather than recall.	2
Brightness and contrast changes should be done with a slide.	Flexibility and efficiency of use.	2
Missing a “Clear All” button in the grocery list.	Flexibility and efficiency of use.	4
Missing error messages when inserting empty code bars.	Help users recognize, diagnose, and recover from errors.	4
Missing an information section.	Help and documentation	3
Product only available in english.	Match between system and the real world	1



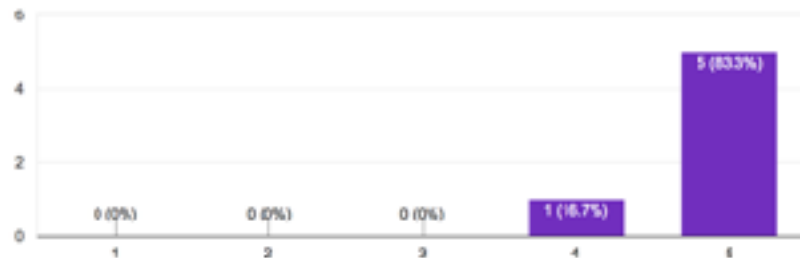
Usability tests

- Some people didn't understand what was the function of the **“Add to wishlist” button**.
Although, after accessing the information section, they were able to perform that presented task.
- In the recipes section, people had a hard time finding the **“fullscreen”** button. Some said that it should be on right corner;
- **Missing feedback** when adding a manual item to the grocery list;
- **Recipes preview** was too small;
- In the Warnings section, the **“Acknowledge All” button** was not working properly.

Usability tests

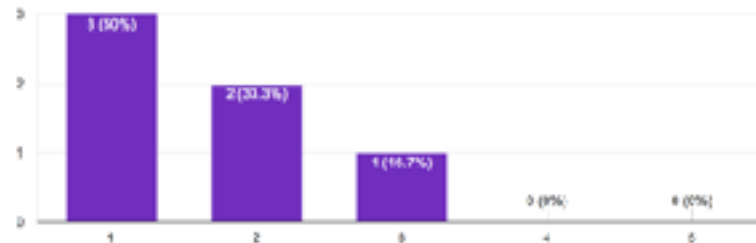
É fácil orientar-me no sistema?

6 responses



A utilização do site requer conhecimentos mais aprofundados ou experiência anterior.

6 responses



Design test

HOME	PRODUCTS			
	CONSULT / EDIT			
Product	Quantity	Edit	Rem.	
chicken	2 kg	EDIT	✖	
milk	1 l	EDIT	✖	
lettuce	1 unit	EDIT	✖	
cheese	50 g	EDIT	✖	
chocolate	1	EDIT	✖	
Caramel	1 units	EDIT	✖	

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	CONSULT / EDIT			
Product	Quantity	Edit	Rem.	
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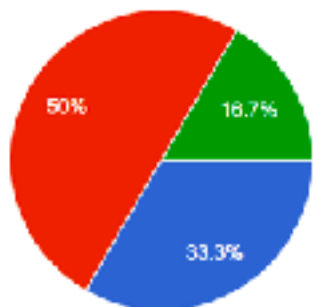
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Product	Quantity	Edit	Rem.	
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HOME	PRODUCTS			
	CONSULT / EDIT			
Product	Quantity	Edit	Rem.	
milk	1 l	EDIT	✖	
lettuce	1 unit	EDIT	✖	
chocolate	50 g	EDIT	✖	
chicken	2 kg	EDIT	✖	

Design test

Esquema de cores

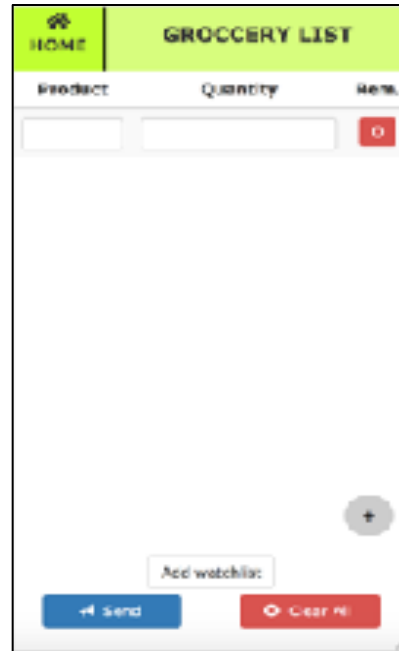
5 responses



- 1 - Aquela onde fez o teste de usabilidade
- 2 - Tons de azul com botões laranjas
- 3 - Cores do deserto
- 4 - Cores do mar

HOME		PRODUCTS	
+		CONSULT / EDIT	
Product	Quantity	Edit	Rem.
chicken	5 kg	edit	✖
milk	1 l	edit	✖
straw	1 unit	edit	✖
corn	68 g	edit	✖
chocolate	1	edit	✖
Coffee	1 unit	edit	✖

Project evolution: Grocery List



Project evolution: Help

Product	Quantity	Rem.
milk	3 l	
lettuce	1 unit	
cheese	4g 9	
<input type="text"/>	<input type="text"/>	

MONITOR PRODUCT

Send Clear All



What can you do in this section?

Monitor new products

Choose each products you wish to monitor. When the quantity of the "monitored products" is below what you defined, you will be alerted!

Add items to your grocery list

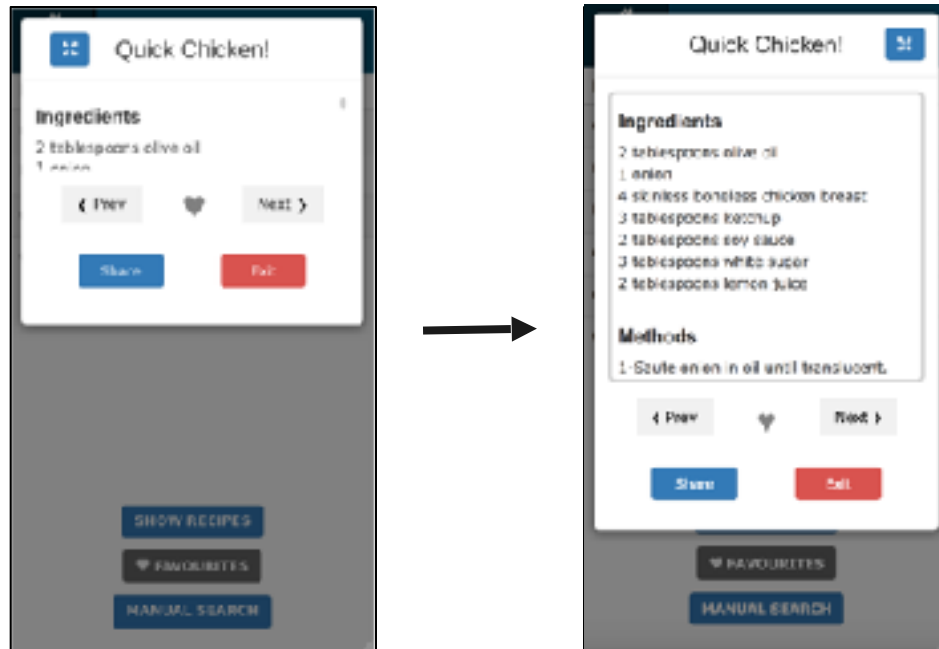
By clicking in the button "+" you can easily add some items to your grocery list. This ones will not be saved after you leave this section.

Exit

MONITOR PRODUCT

Send Clear All

Project evolution: Recipes



Demo

→ Products



Demo

→ Grocery List



Demo

→ Recipes



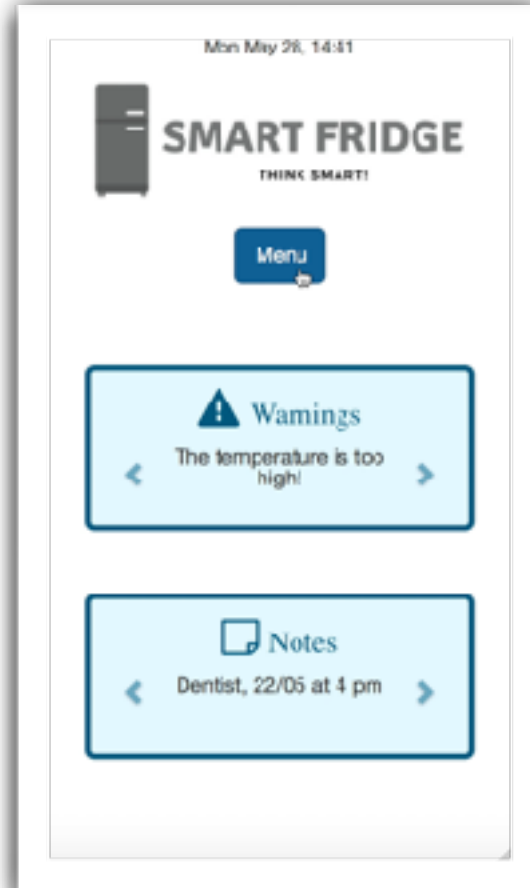
Demo

→ Notes & Warnings



Demo

→ Spotify





Questions ?