

## Briefing

From 2006 to 2011, I worked in a computer company that was located in a residential neighborhood. Therefore, access to coffee shops, bakeries and restaurants demanded about a 5 to 10 minute walk, nothing practical if that post-lunch hunger or thirst appears in the middle of the afternoon. It didn't take long for each team get a refrigerator, and there were some micro-initiatives of food trade in the company.

The team I joined was one of the most organized in this aspect. We had a small fridge with soft drinks, teas and juices from time to time, and drawers with crackers, cookies, snacks, occasionally chocolates and peanuts. We were used to make one purchase per month with few items and consumption was low in average (at the time, around R\$ 150 per month).

Each and every item cost 1 Brazilian Real. Some of them had higher cardinality, such as 2 items per Real 1, 3 items per 1 Real and so on. It was not the aim of the initiative to profit from the selling activities. If profit was obtained, it was totally accidental. There was a sheet of paper on top of the fridge with a printed table whose first column were the names of the team, and the rest of the columns were squares, which they were used to the members mark their consumption during the month. People could take anything they wanted, mark the amount of corresponding squares in the sheet and then paid when they thought it was a good time for it, or when they receive their wages. It was all based on trust and worked well for a long time, with no cheating. There was no theft or default, which may be the first thing the reader can imagine.

Once responsible for replacement - by the way the analyst who was responsible for me, an intern - went on vacation and left all the shopping scheme with me. I noticed a guy who had some problems: the purchases were made in only one store, with low variety of products, and it was not the cheapest alternative. It was a supermarket in the city that had the home delivery service, and the purchase usually took a few days to arrive, which sometimes left the "candy-and-snacks schema" with very low or zero stock. The shopping list was more or less the same. There was no review of items: the list was predefined and it was common some items to be missing.

Initially, first it tried to resolve the issue of variety. Several potential foods were not placed there. I focused first on chocolates and salty foods. The variety of supermarket chocolates was low, so I started to appeal to candy distributors in the city center that were selling unopened boxes of chocolates with many units on it, resulting in savings of up to 30% per unit. I got a closed tea boxes distributor, and went up the variety of flavors of tea cups from 2 to 9, and a dozen some months later. To work the goods stock, I put R\$ 100 from my credit card in purchases every month, then every purchase I made gave me 40 days to pay.

With the highest variety, consumption increased. People from other teams came to buy with me. I began to establish a payday for all, in order not to run out of funds, since now I had a fixed date to pay the bills with my suppliers. Soon came a systemic need, which

started with an Excel spreadsheet, and then became an exercise that applied for beginners trainees when I wrote a Delphi programming training for the company in 2011.

The problems I had to solve with this system were:

- A purchase balance checker: certain items cost less than 1 Real, and certain items cost more. Within the month purchases, what would be done to check if the purchase did not yield loss, and how much should be the profit amount per month? (I usually used the term “Profit Ballast” since the schema should not be directed to make profits);
- Micro accounting: How to annotate income and expenses and have a cash flow generation?
- Payment Dates Suppliers: How to register the dates of payment of future purchases, their suppliers and alerts by email for proximity of the payment?
- Payment Reminders to Customers: how to send an email easily to customers, indicating the quantities consumed per month by each one?

The reader should note that I’m not telling this story only to establish an exercise. There is a moral of the story. I left the company in August 2011, and at the time, with a box with 2,000 reais, the scheme administrators didn’t know what to do with that “undesired” surplus of money.

The idea is to show that entrepreneurship initiatives appear by accident, when we least expect it, and the story was very inspiring to me to flip the switch and become a true entrepreneur.  
I hope that this can inspire more people in future.

## **Hands On**

Implement CRUDs for the following Use Cases:

- Products;
- Suppliers;
- Products per Supplier (and the product prices per supplier);
- Consuming Users;
- Stock;

The system should be a Web API 2 application with a HTML and JS (ONLY USING ANGULAR 1) front layer to send a receive information from back end.

Any other implementation should be considered as a differential in the evaluation.