

PROJECT CANVAS

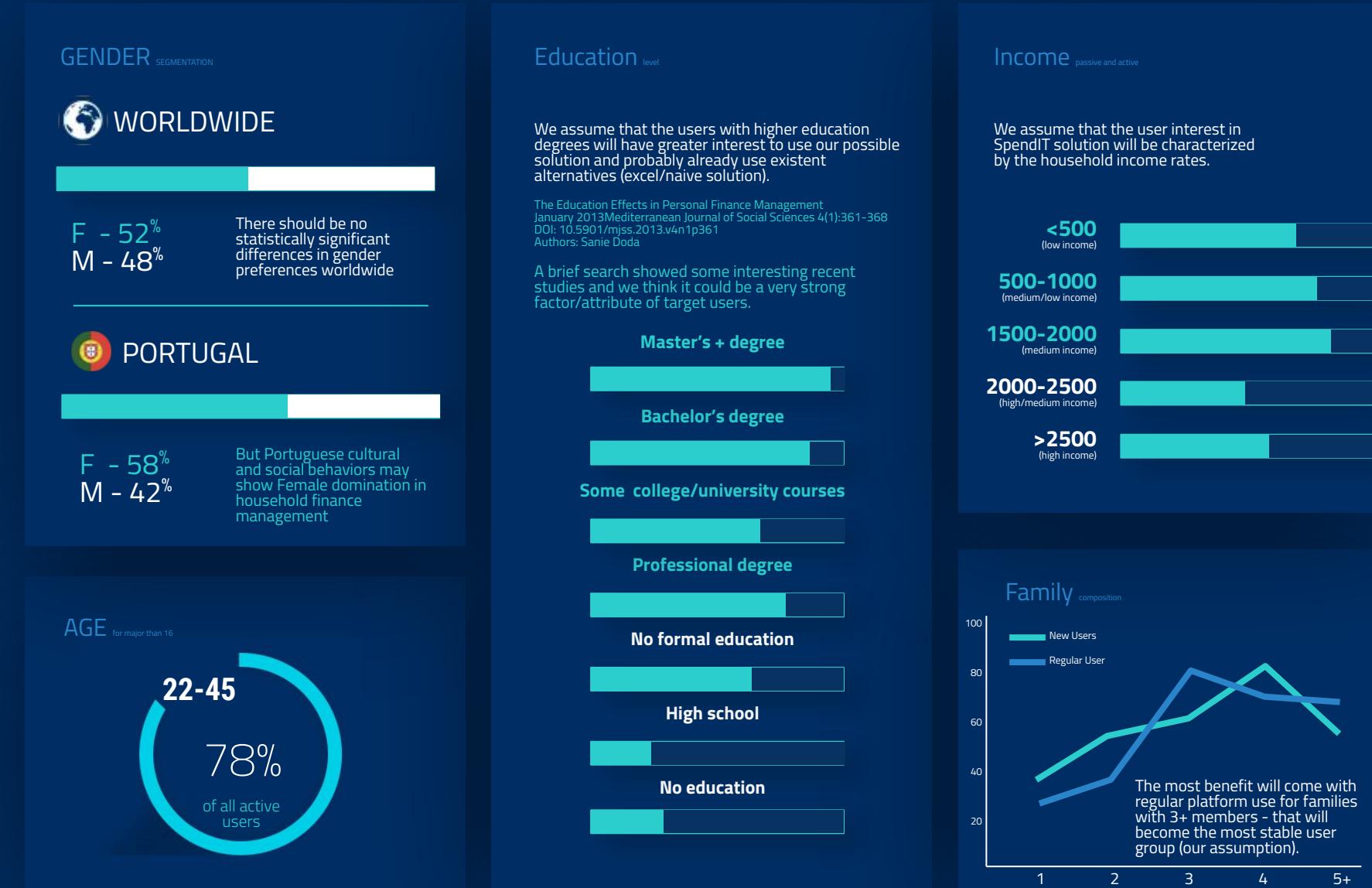
Concept

Slogan	Spend it your way! - SpendIT: Your personal AI Manager	Possible slogan evolution	Get more - spend less! - Don't wish - plan it! - Better life comes with better planning! - Plan it - Spend it!
Target users	Active, young and educated Individuals and families (households) with medium/low income		
Users	All consumer groups		
Vision	This work proposes a multi-service management and analytical tool for the household budget/financial planning with prompt, accurate and relevant recommendations to the users, taking into consideration their existing needs and opportunities as well as their difficulties and the goals to be achieved, through the use of the platform metadata and the users' usage history.		
Value	<p>Useful: Empowers the user to regularly track and take action over their private finances.</p> <p>Ease of use: Interface simplifies the input of receipts and information processing.</p> <p>Privacy minded: User and consumer data anonymization with comprehensive privacy in mind. Explicit options for sharing of the processed data with a 3rd parties.</p> <p>Dynamic: Evolves over the usage time and provides more accurate personalized results.</p> <p>Expandable: Customizable UI/UX and flexible visualization tools provide full-fledged data presentation mechanisms.</p> <ul style="list-style-type: none"> • Create and stick to a household budget; • Increase the savings rate over a period of time; • Track promotions/sales; • Monitor your own purchase behaviour, to better manage impulse buys. 		

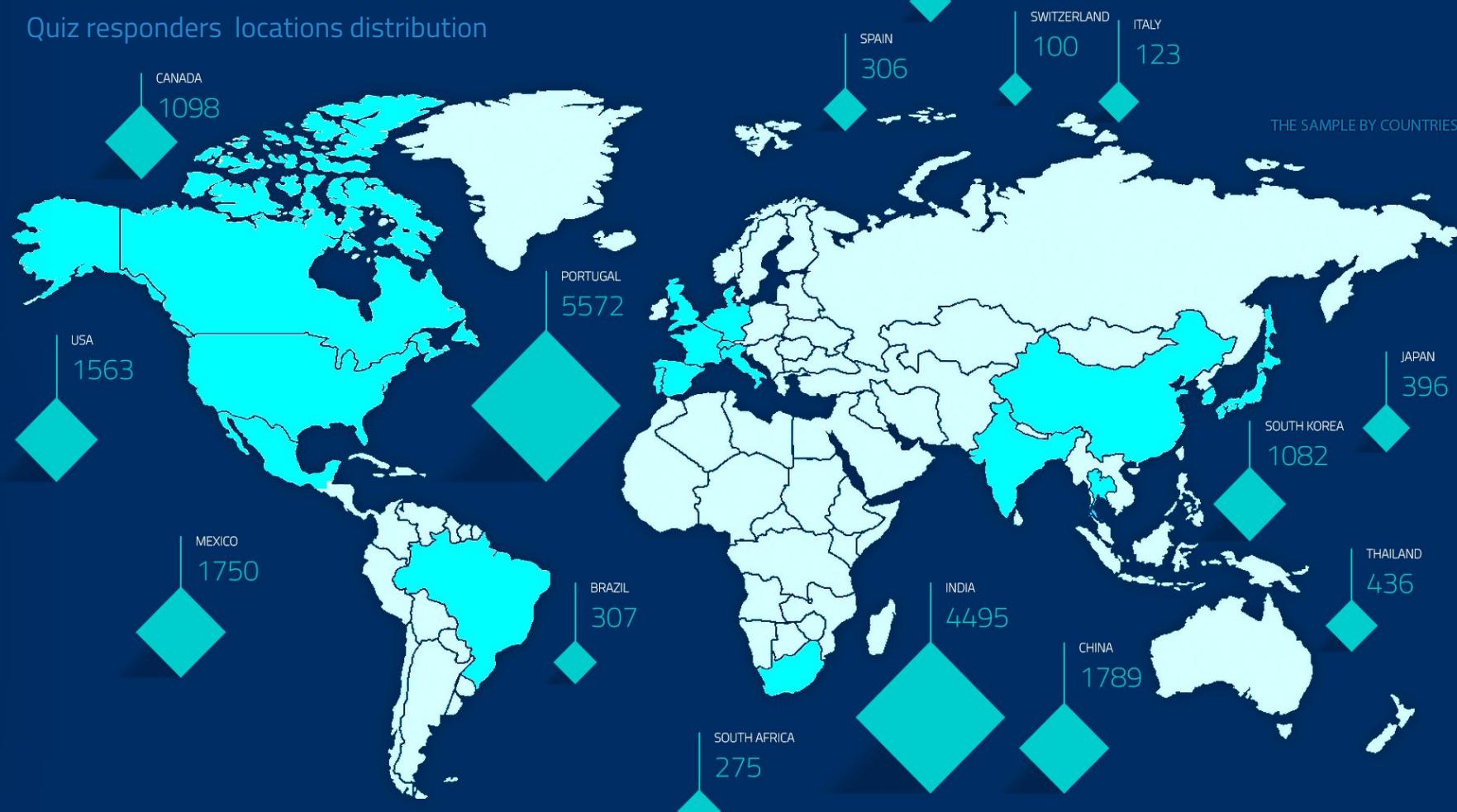
Note:
This part (Problem and objectives) is not ready yet. What you can see here is just a draft/notes for the Problem tree representation and will be updated during the next iteration.
We are keeping all the notes in one place.

AUX Objectives	Current solutions (limits)
Unification (any store and product)	Proprietary solutions
Regularity (???)	No stimulation for regular use
Simplicity (???)	Limited Access
Roles and Sharing (family wise)	No interconnection possibilities
Analytics and segmentation (???)	Not flexible segmentation
Visualization (???)	Not friendly UI/UX
Integration (Ex. Government services)	No government and 3rd party support
Collaborative filtering (???)	No community knowledge
Recommendations (???)	No personalization
Automation (???)	Manual Actions
Predictions (???)	No current solutions

Users



Current visualizations and schemes represent our Group's initial vision about target users of the SpendIT solution. We are planning to follow up with in depth research as well as to prepare an online quiz (worldwide with a focus on Portugal) to study user groups, their interest and behaviors. Such study could be conducted at the same time with "Empathy study."



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Problem

We decided to make the problem framework from the "me" side of the issue.

It's possible to convert the problem statement to more formal:

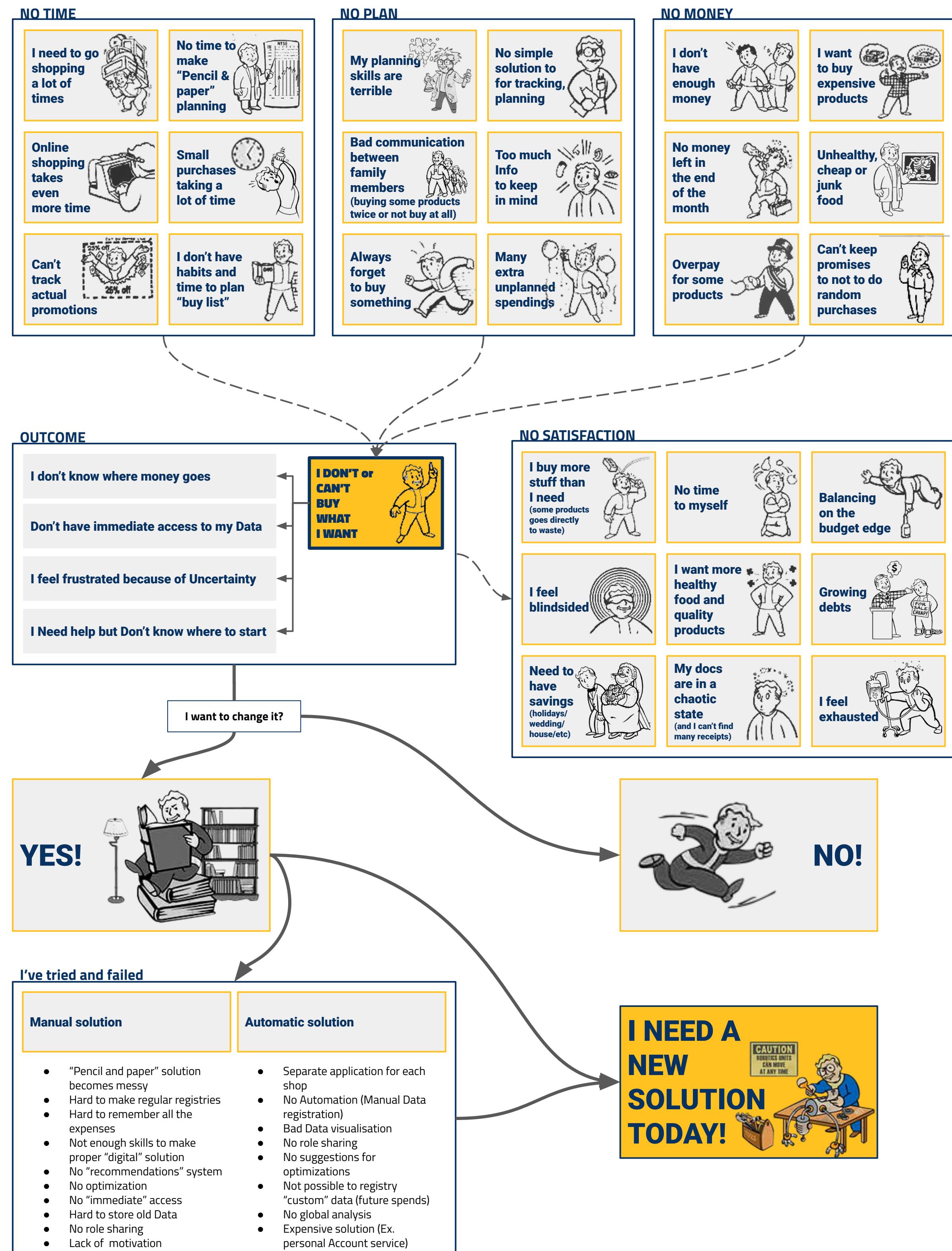
I don't have enough money → Financial limitations
My planning skills are terrible → Lack of management skills

But we think it will be more interesting to do investigation from informal side and see what kind of problems each person has.

From the first view, the problem of personal financial management has a straight and simple solution - register spends and make the planning.

The brief questionnaire between our friends and family members showed that there is a huge interest in a such solution.

But as we see right now - there is no solution on the market and we would like to investigate "why?". What limits and restrictions exist and why almost no one is trying to optimize their own budget.



Interview Question Guide

To broaden our perspective on the current landscape, with did some interviews to individuals representing our target audience.

The interview wants to understand the current problems as well as solutions they currently face / use to solve said problems.

If possible, we also want to gauge the interest on our solution and ways it can be improved.

General Questions

- Alguma vez sentiu que queria comprar um produto e não tinha dinheiro suficiente?
- Alguma vez quis realizar uma viagem ou compra grande e não teve possibilidades devido à sua condição financeira?
- Sente constantemente que abdica de certas compras em prol de despesas essenciais como água, luz ou gás, comida etc?
- Têm alguma dívida ou défice financeiro?
- Fica frustrado por não conseguir poupar dinheiro?
- Parece-lhe que o dinheiro se esgota rapidamente?
- Sente que não sabe muito bem para onde o dinheiro vai?
- Porque é que acha que isto acontece? / Acha que se resolve com melhor planeamento?
 - Quais os instrumentos utiliza para a gestão?
 - Se não utiliza, gostaria de utilizar?
- Quanto recebe por mês? / Qual o orçamento mensal do agregado familiar?
- Quanto gasta por mês? / Qual o valor normal que diria gastar por mês?
 - Têm contabilista ou alguma vez teve?
 - Se teve o que achou?

No Time

- Tem por hábito anotar em papel ou no seu smartphone a lista de despesas ou lista de compras?
- É a própria pessoa que planeia todas as suas despesas?
- Planeia só as maiores despesas?
- Como gera o tempo? / O que pensa sobre da falta de tempo?
 - Se sim, como se sente?
 - Porque que acha que não têm tempo?

No Money

- Alguma vez preferiu produtos com menor qualidade, apenas por serem mais baratos?
- Vive abaixo daquilo que ganha? / Sente que o orçamento disponível é desadequado ao seu estilo de vida?
- Gasta dinheiro desnecessariamente
- Acha que é um Shopaholic?

No Plan

- É você que gera o seu dinheiro?
- Se sim, acha que o está a fazer corretamente?
- Acha que o planeamento tem demasiada informação?
- É normal comprar o mesmo produto 2 vezes sem saber?
- Já alguma vez perdeu uma boa promoção de um produto?
 - Como teve conhecimento dessa promoção?
 - Se sim, como é que se sentiu?
- Se não, gostaria de estar a par de todas as boas promoções próximas de si?

Final Questions

- Gostaria de ter uma solução eficaz para o planeamento do seu dinheiro e do seu tempo?
- Gostaria que essa solução lhe poupasse dinheiro ao contratar um contabilista?
- O que pensa de uma solução com inteligência artificial que analisasse as suas compras através de uma foto à sua fatura e lhe gerisse o dinheiro e lhe sugerisse as melhores promoções, preços e ofertas de produtos?

Solution Framework

Previously in the **problem framework**, our brief questionnaire between our friends and family members showed that there is a huge interest in a such solution to management of personal financial data.

But as we see right now - there is no solution on the market.

As the market is still poorly explored, and since this problem is a major problem in the quality of life of many people, we decided to propose an **effective solution** through the help of **artificial intelligence** to solve these types of problems that are increasingly affecting our society.

The solution would be to create a mobile platform (Mobile App), which would be associated with all bank data from all customer bank accounts, which would allow, when making a purchase with a debit or credit card, the platform to recognize and manage expenses automatically.

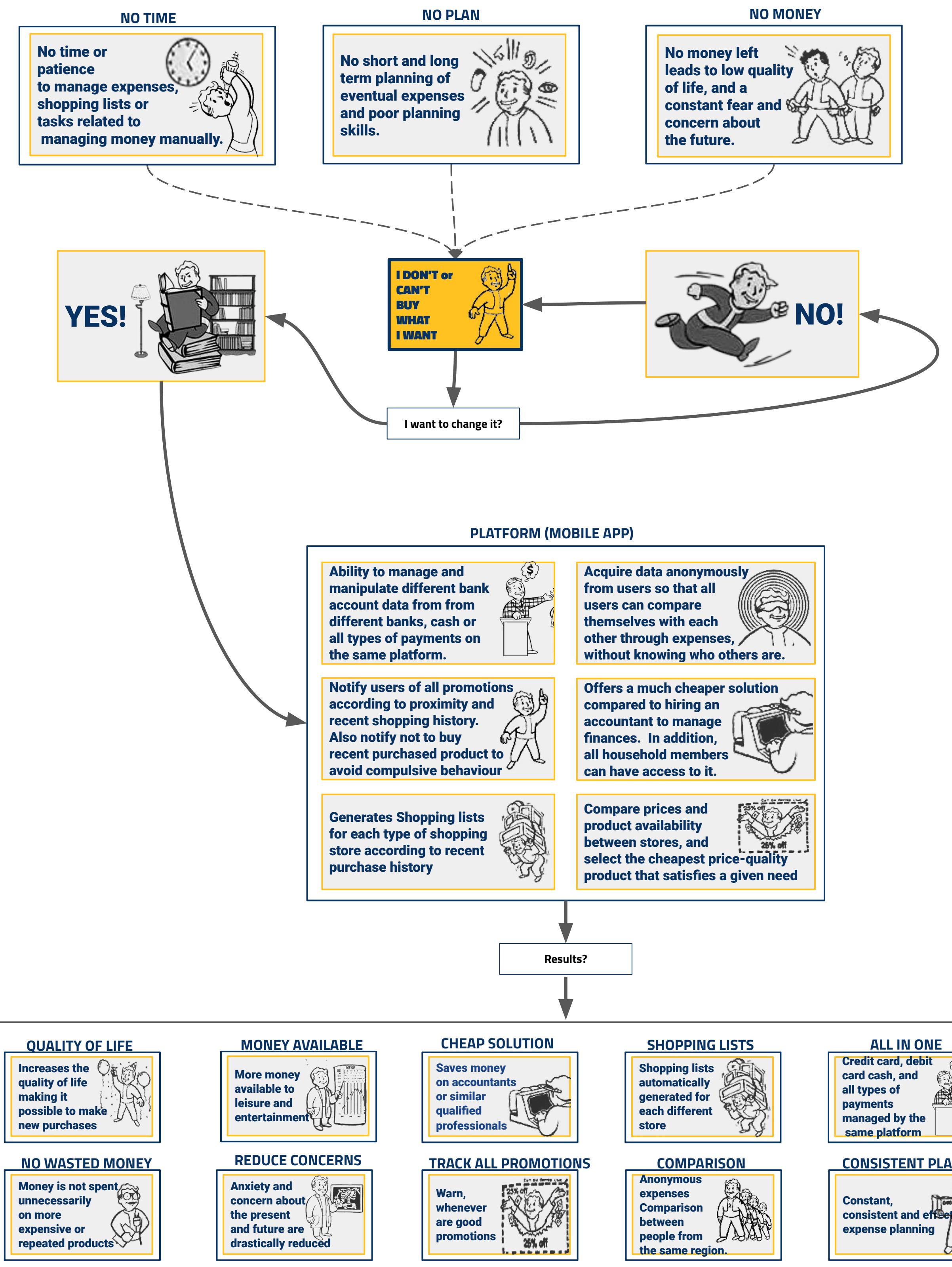
If a purchase was made with cash, the solution would be to take a picture of the invoice and the data would be analyzed automatically through the help of artificial intelligence.

The platform will also acquire data **anonymously** from all of its users so that all users can compare themselves with each other through expenses.

The data would be filtered by proximity, for example, a user who lives in a certain region can compare his expenses with other users expenses in the same region, but **without knowing** who the other users are.

The platform (Mobile App) will allow:

- Store and process data through the photo of an invoice receipt.
- Notifications to remind the user for events, such as:
 - remember to go shopping, and generate a list of products according to the user's recent purchase history.
 - remember not to buy a product if recently purchased. (To avoid compulsive behavior)
- Create a shopping list, shared by household members and can be dynamically changed.
- Compare prices and product availability between stores
- For a given store , see which is the cheapest product that satisfies a given need.



Affinity Map

The **Affinity map** is the process of finding items on the **Empathy map** and organizing them by affinity, grouping each item according to its type of affinity.

For all people interviewed we group their input according to the main topics of interest, to better visualize the general opinions for each topic.



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Empathy Map

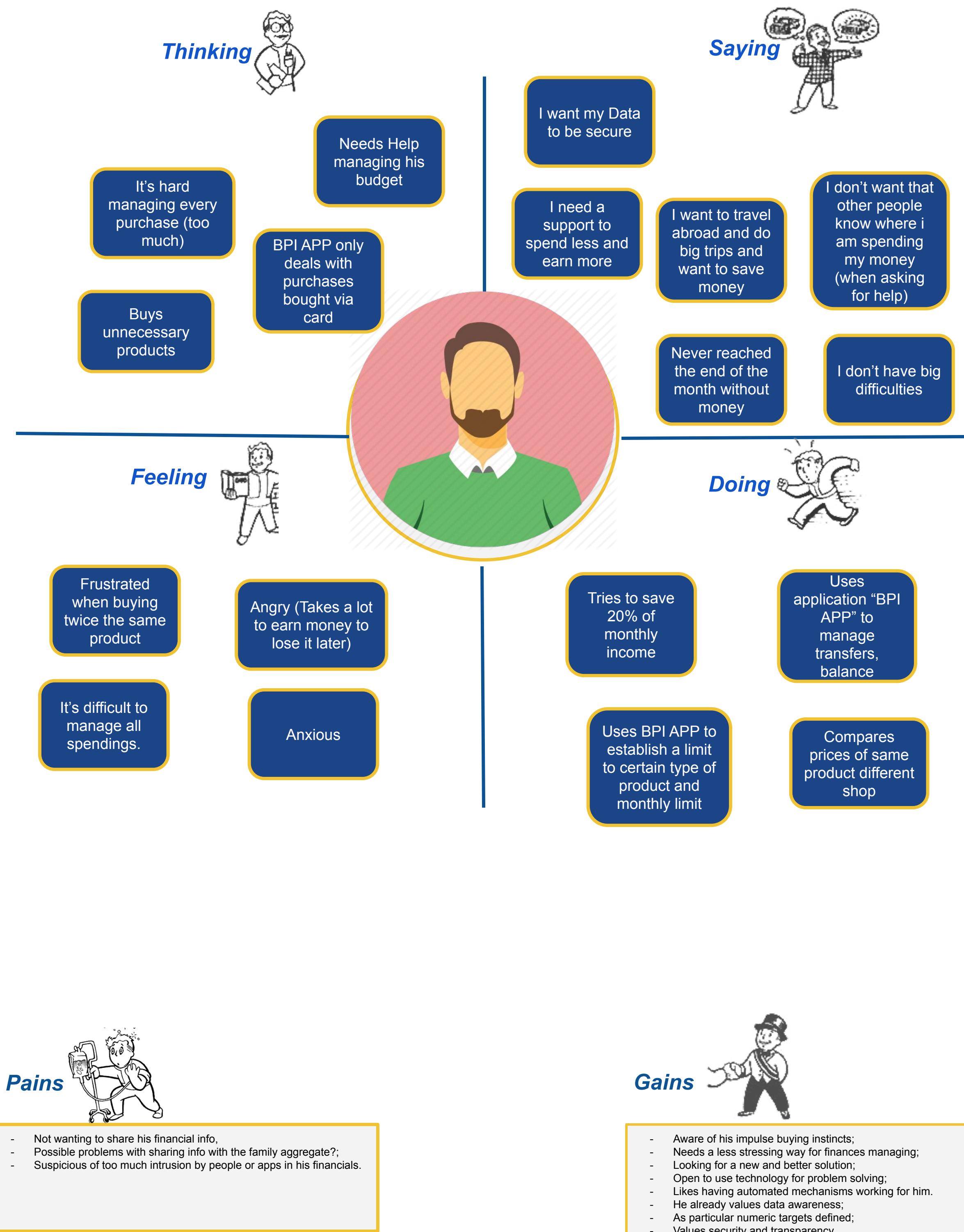
The concept of **Empathising** is the way to organize and synthesize the data collected from sources.

The main purpose of **Empathising** is to see the world through the eyes of others, understand the thoughts and actions of others, and discover problems from the point of view of those who live them.

The **Empathy map** is the consequence of the point of view of those who experience the **problem** and benefit from the **solution**.

The **Empathy map** summarizes the results of each person's **needfinding**.

For each person interviewed, we create the respective empathy map so that each empathy map summarizes the essentials from a source.



Empathy Map

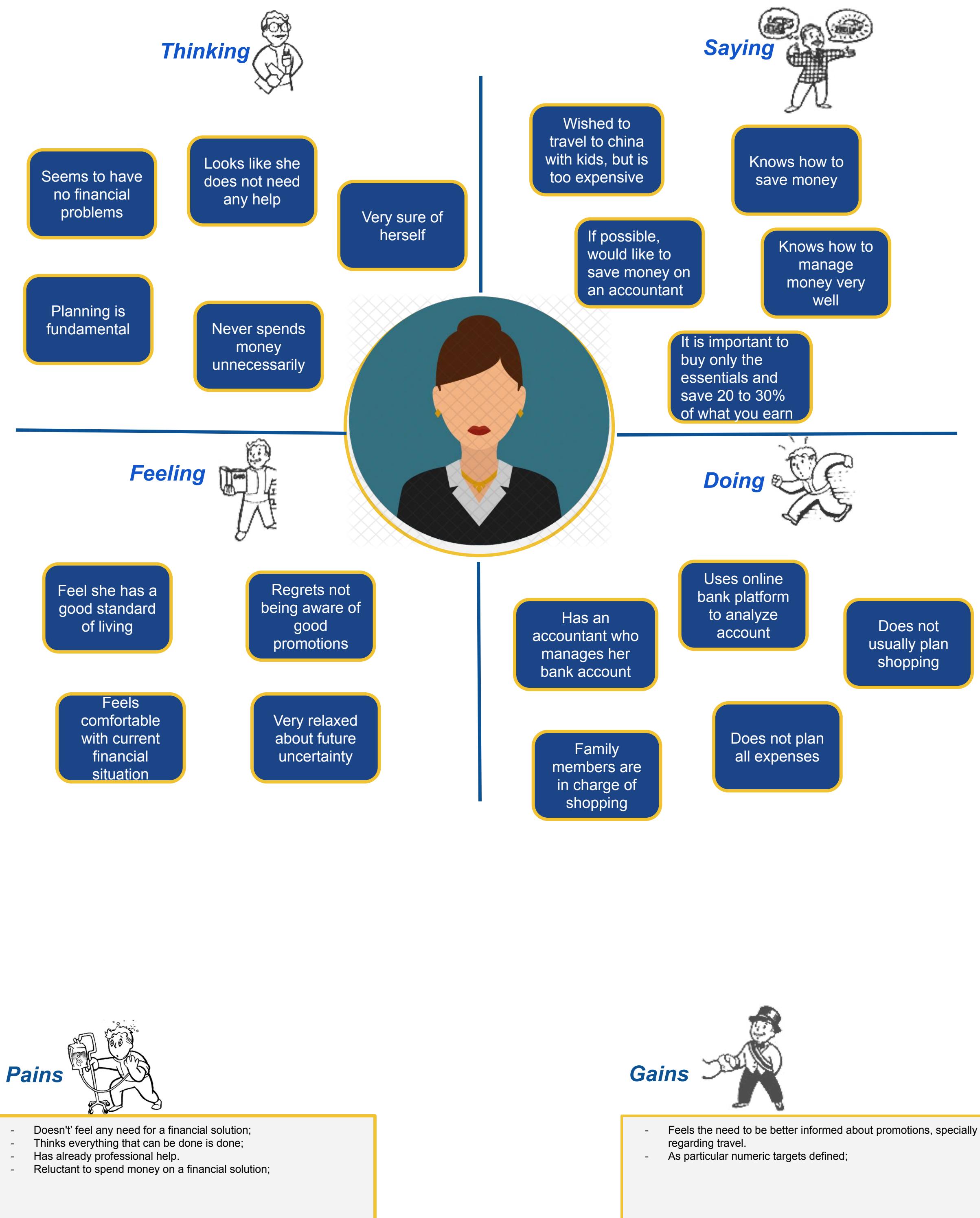
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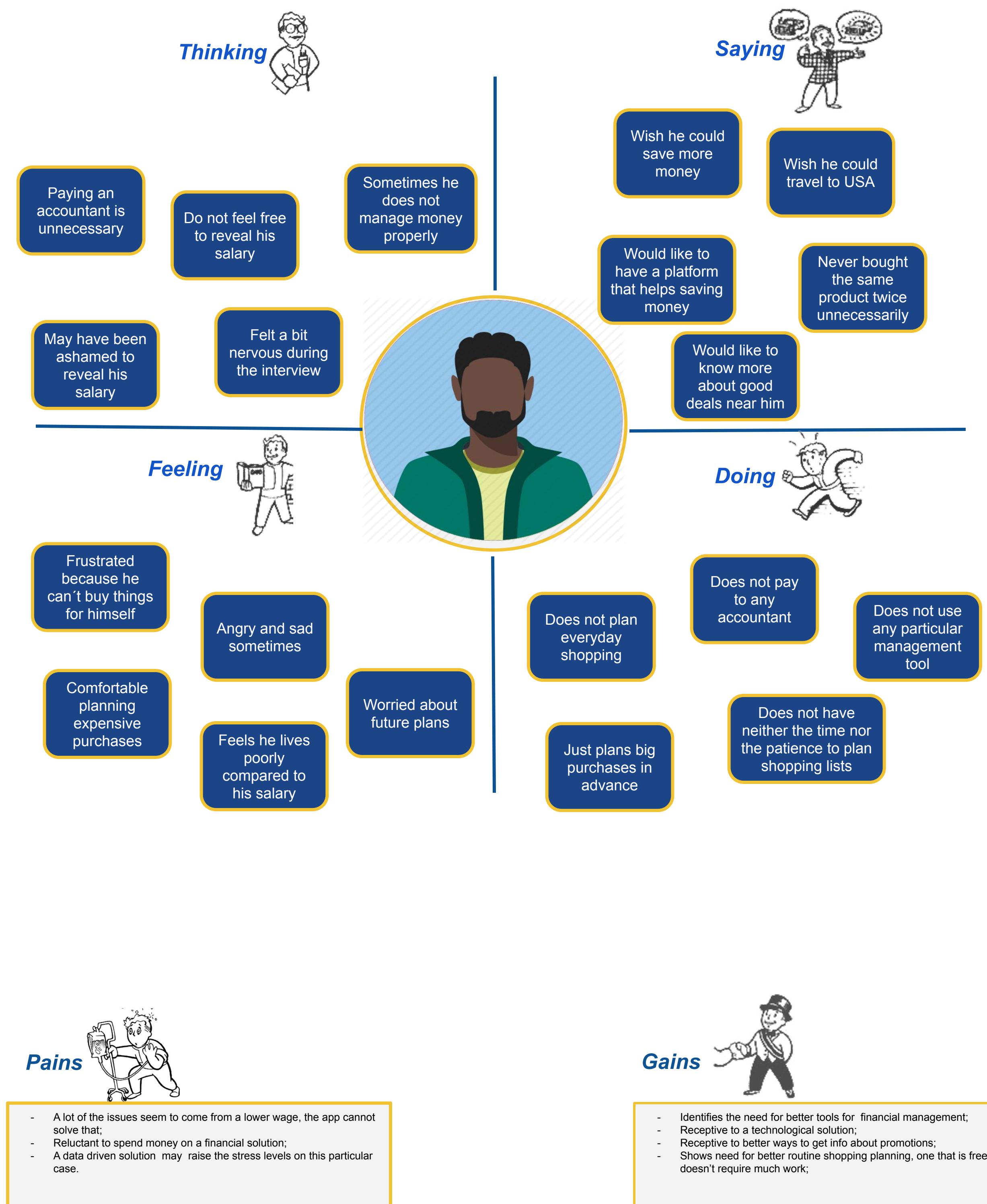
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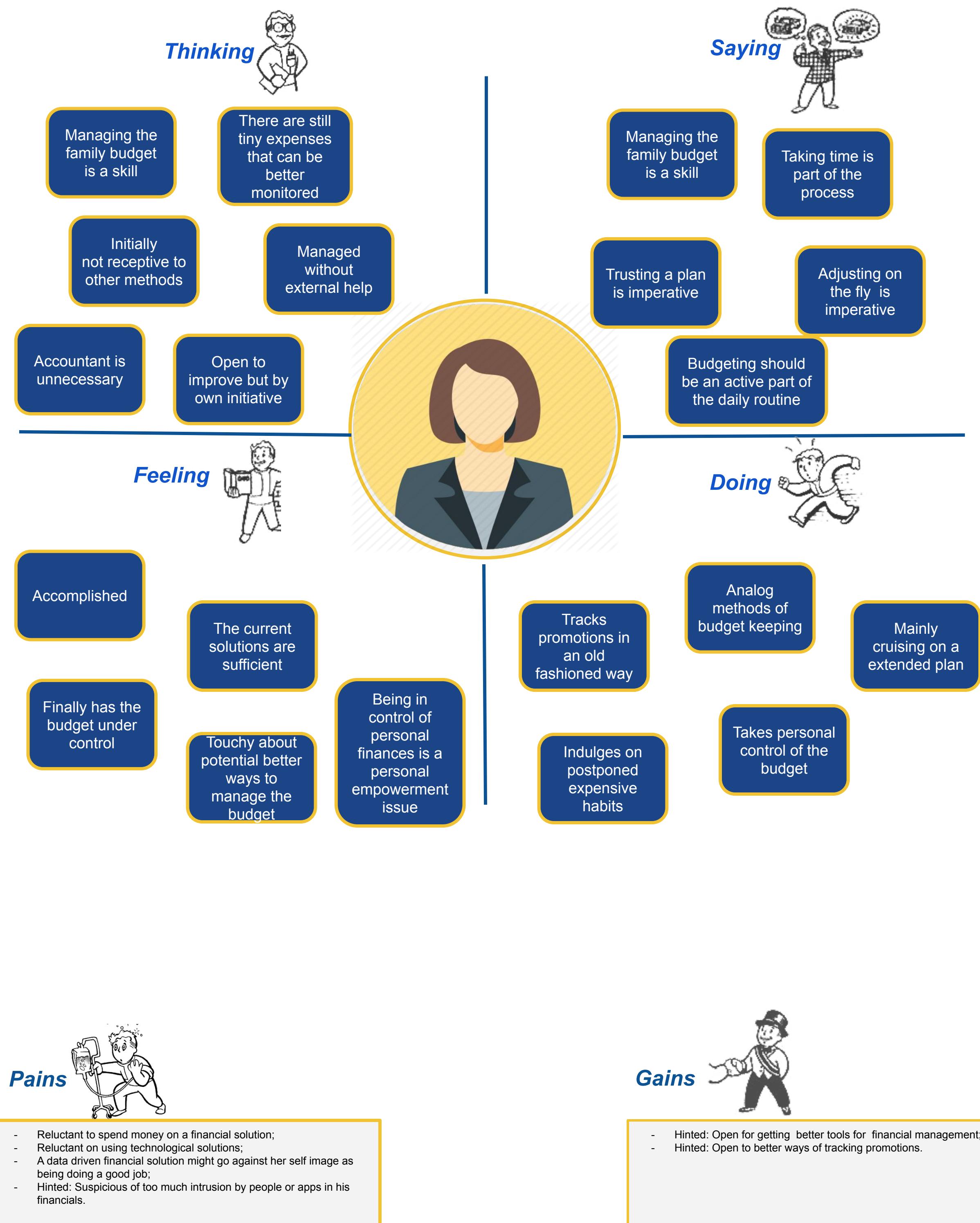
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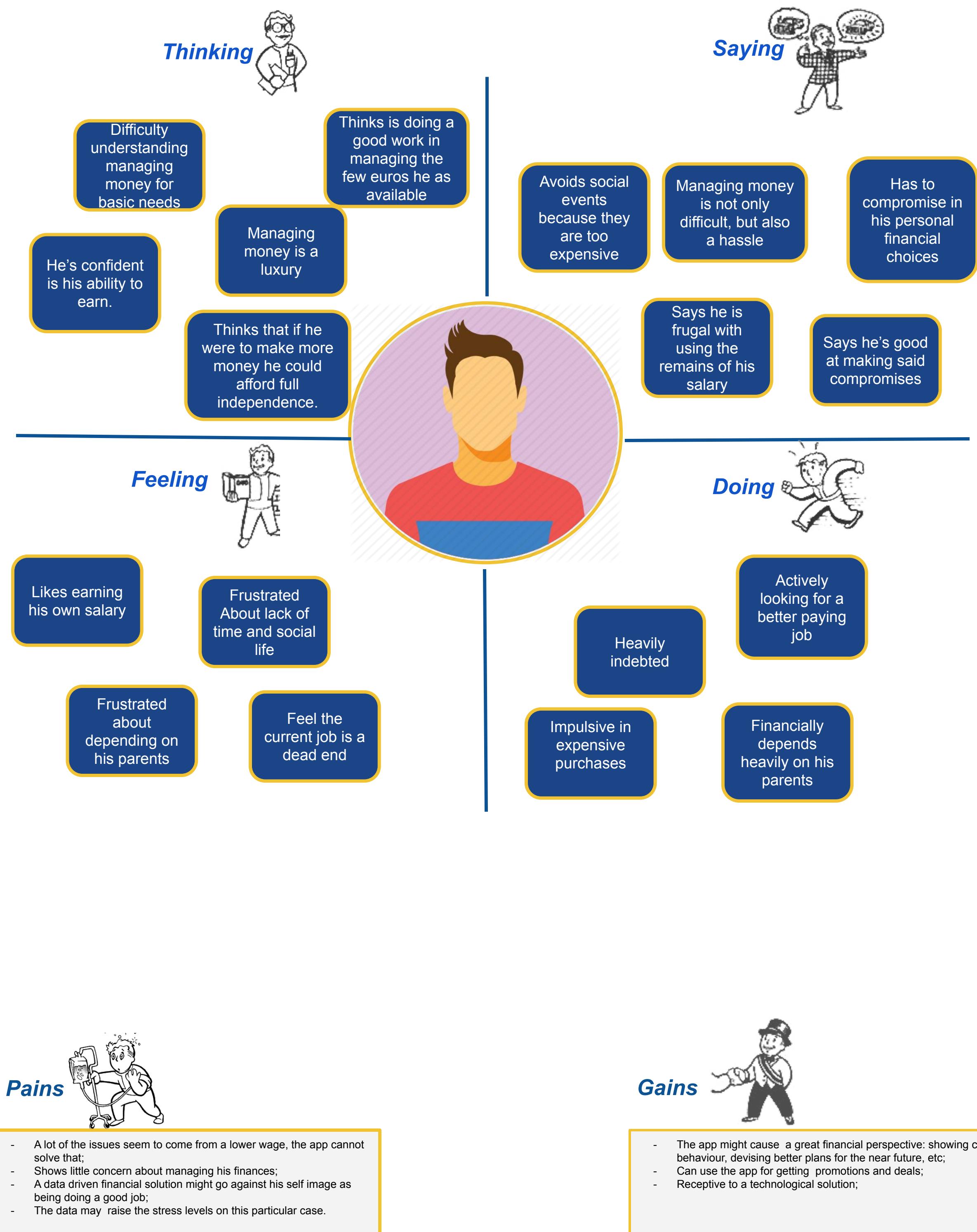
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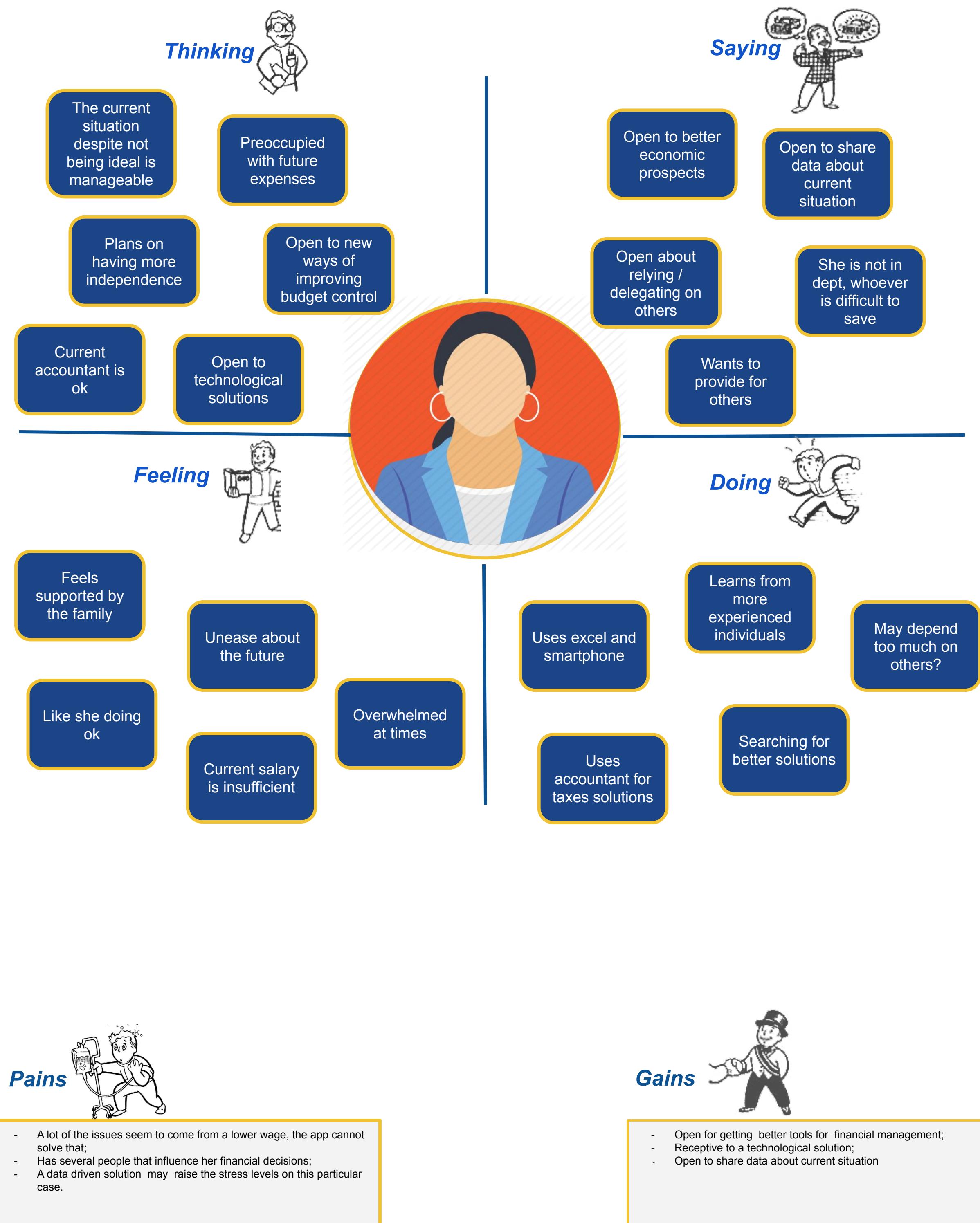
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Service Model

Service model is intended to describe the solution from the user point of view.

The **Service model** is based on **BPMN** (Business Process Management Notation).

The **BPMN** notation was developed to model processes, but can also be used to model services.

We followed the following steps to model our service:

1 - If the application is opened for the first time, it is mandatory to enter all personal data, likes, activities, all bank account details, and give permission to the application to manage expenses, suggest promotions, shopping lists, and personalized feedback. Further openings of the application will not require personal data input.

2 - Choose desired feature

The application has several features

The first one is the **input voice** which is used by the client. The client says which product or products he wants to buy.

The application will **analyse** all products related to the input voice and return the product with the lowest price, highest quality and popularity among people who bought it.

If the **input voice** refers to a product, recently or frequently purchased, the application will launch a voice alert to prevent the client from buying repeated products (**Avoiding compulsive behaviors**)

The application will also **save searched data**, about a specific product, so that it can be customized according to client's needs. This way, it will be able to suggest products, shopping lists and promotions. (Through deep learning)

Whenever a client wants to make a certain purchase, then, needs to introduce a voice input. This voice input can be about a specific product or a topic that encompasses several products.

For example, input voice can be leather jacket or food(not a specific food product).

After specifying the product, the application takes care of generating a shopping list with products related to the topic of voice input and according to recent purchase history.

For example:

Topic food --generates--> Bananas, fish, meat, etc...

3 - Management and Comparison

Both features are intended to inform the user about their finances and project/model future earnings.

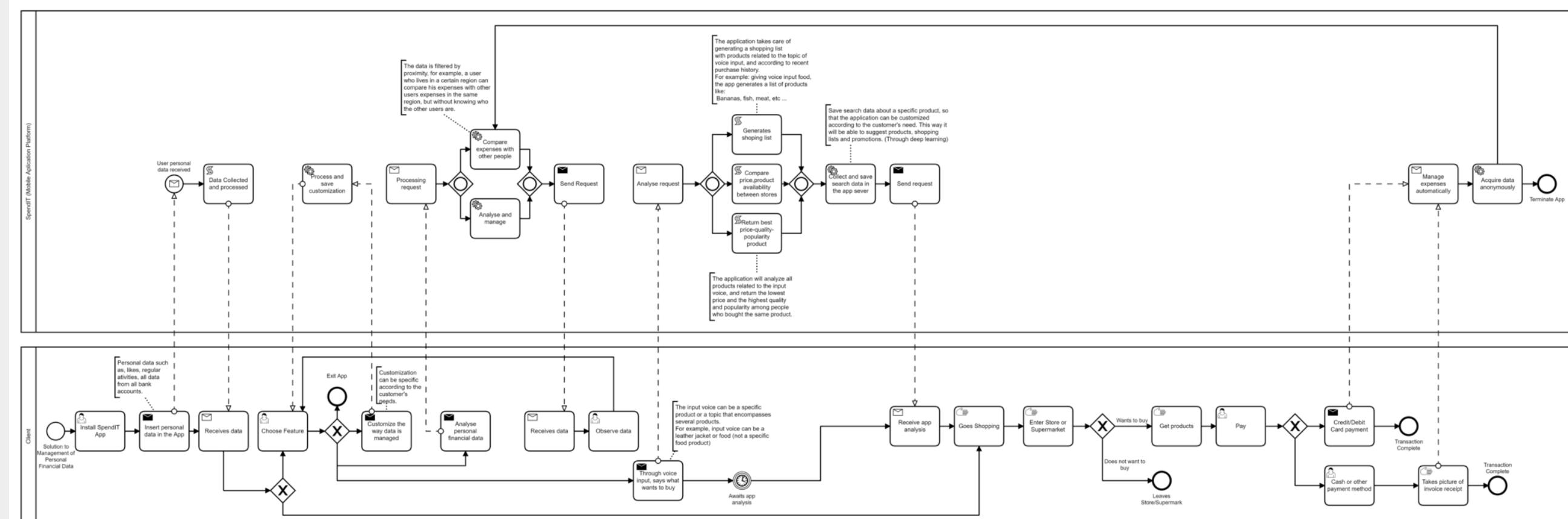
The management feature is intended to manage the client's personal finances.

The client can observe how money and expenses are being managed, can see the statement of all accounts, and see future savings, generated by a prediction **Artificial Intelligence Algorithm**.

The client can also **customize** the way he wants money to be managed, according to his own needs and future plans/spendings.

The client can also compare his expenses with others.

The **Comparison feature** allow people to compare each other through expenses. The comparison is made by **proximity** and **region**.



Prototyping

The **Prototype** is the creation of an **Artifact** that approximates a final version of the **Product**.

This allows for testing several **design variations** to the implementation of the solution envisioned in earlier phases.

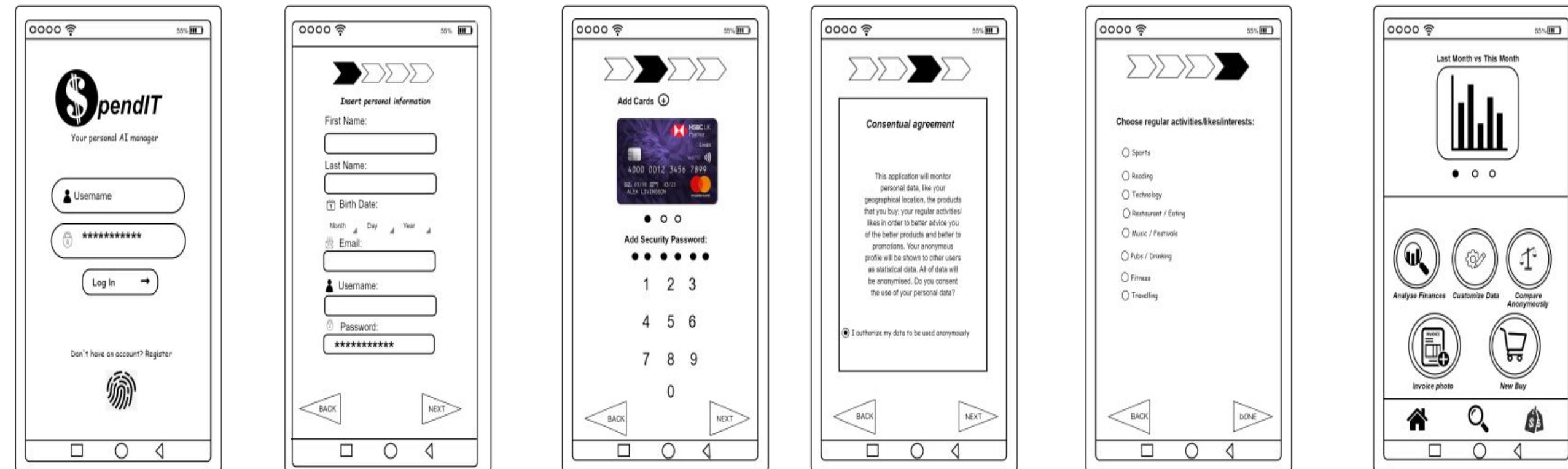
The prototype provides a way to **Probe** the problems and test solutions in a quasi real world context for gaining **Experience** in order to construct a better product or a better solution.

The following is a prototype for **SpendIT**, here we can experience several phases of the usage of the app, such as:

1 - Register User Data Input and Settings:

Login, Registration, Dashboard Menu;

1 - Registry and Settings



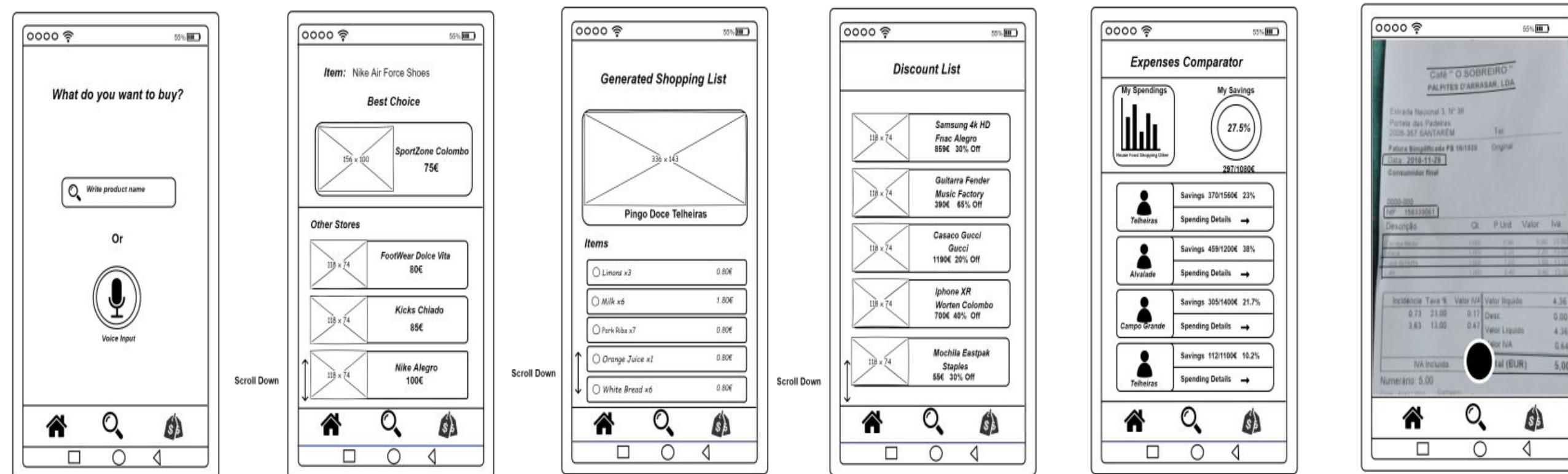
2 - Purchase Item:

Usage under the buying a product functionality, Registry of the input of a physical invoice;

3 - Finance Management:

Data Analysis menu;

2 - Purchase Item



3 - Finance Management



Storyboard

The **Storyboard** is a tool to practice the usage of the **Prototype** throw the illustration of a situation where the Prototype will be used and can be helpful.

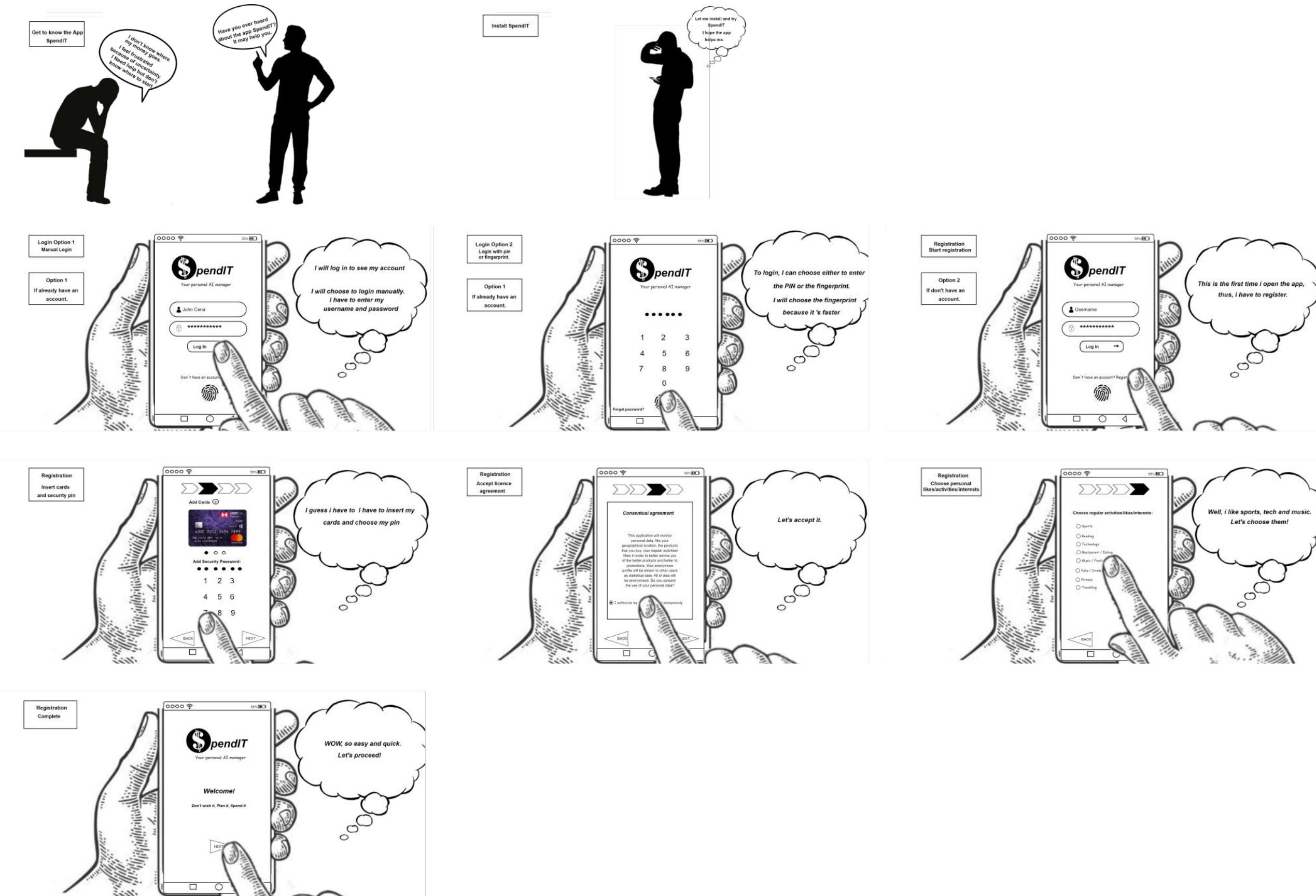
There will be illustrated three different situations:

1 - First Contact;

2 - Purchase throw the app;

3 - Registration of real world purchase.

First Contact



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Online Selection and Purchase



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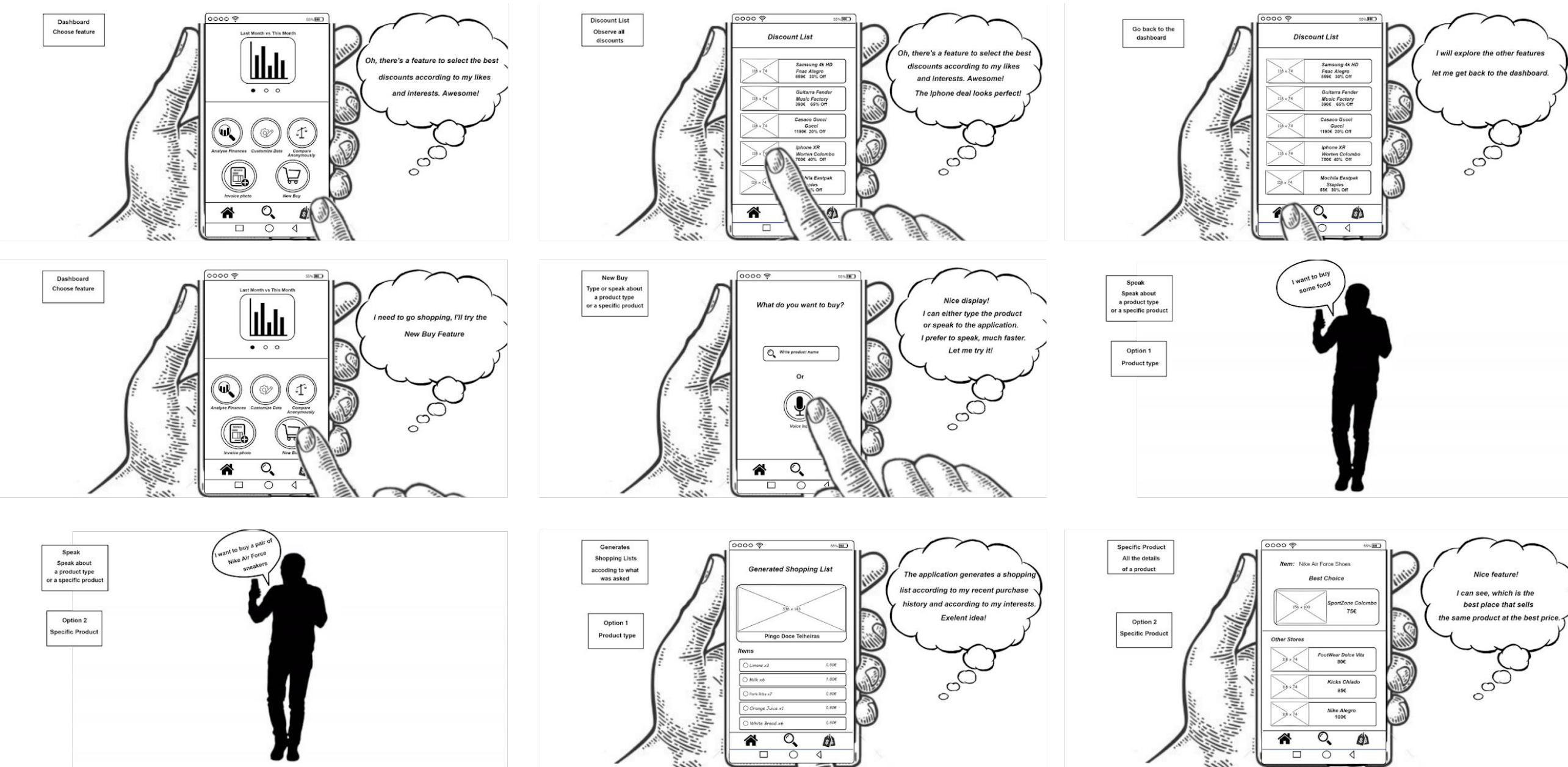
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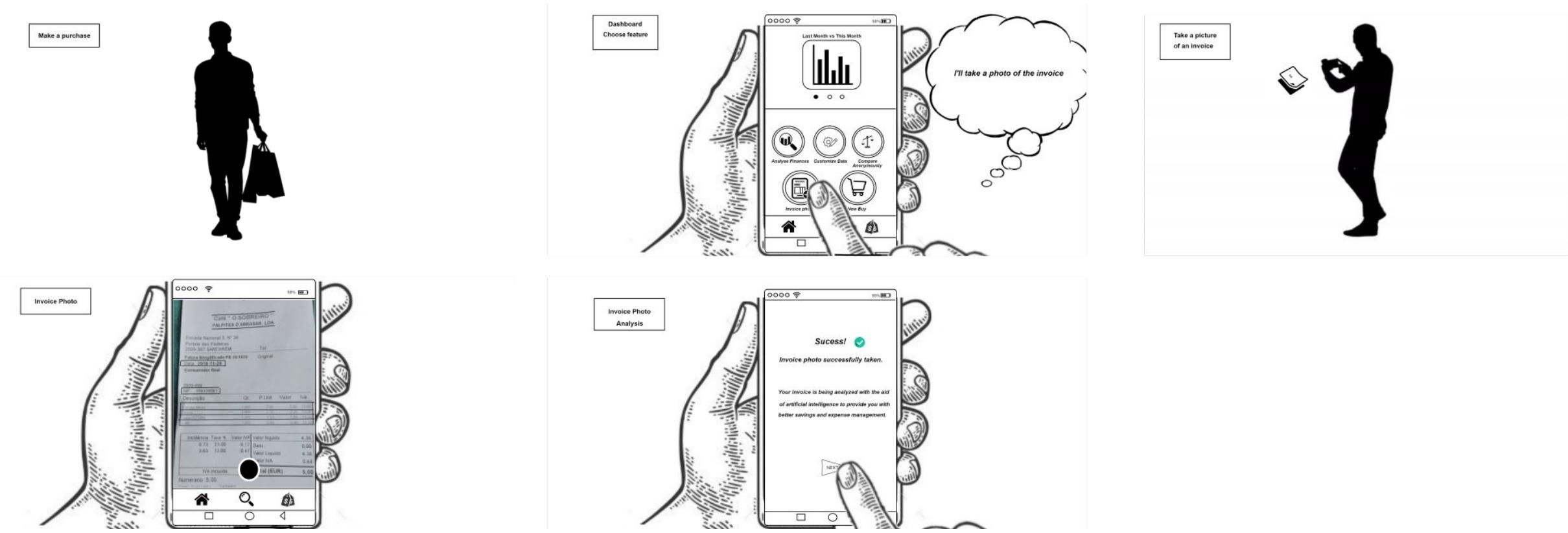
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Register a Physical Invoice



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