

Financial Literacy

January
2023

Piggy Bankers



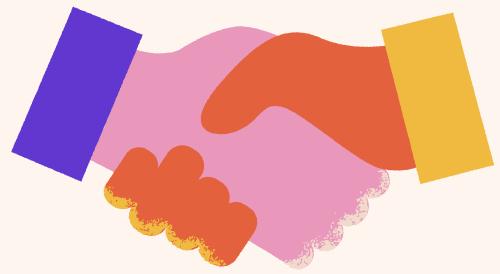
(Refined) Hunt Statement



- 1. Budget Management**
- 2. Savings Planner**
- 3. Investment Planner**

We will research what students know about these topics. We want to help them manage their budget, deliver solutions to plan their savings, and help them understand how to profit from investments.

User Research Plan



Who?

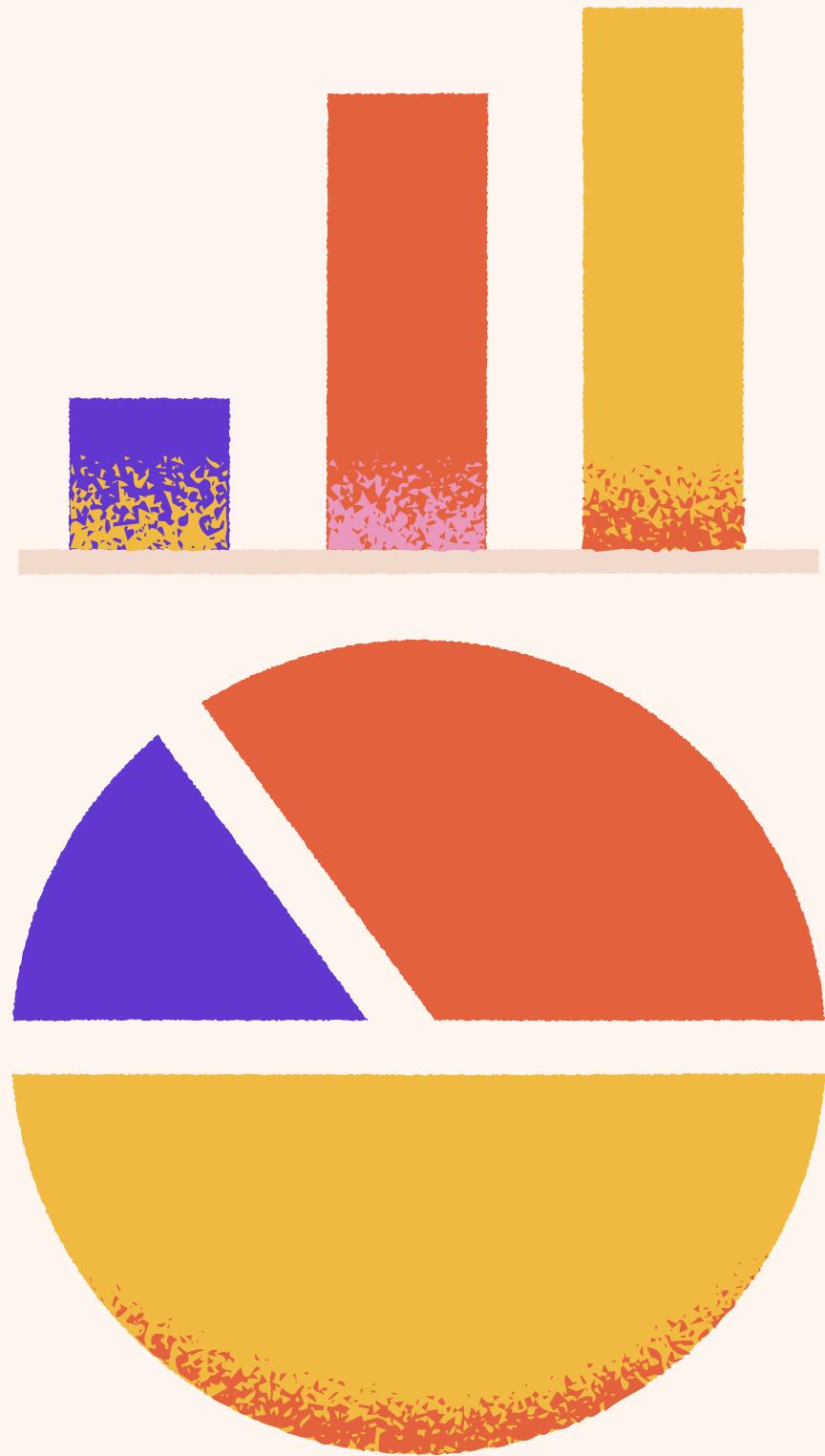
- Students over 18 years old

What?

- Budget Management
- Savings Planner
- Investments Planner
- Health Insurance

Methodology

- Google Forms
- Two Iterations



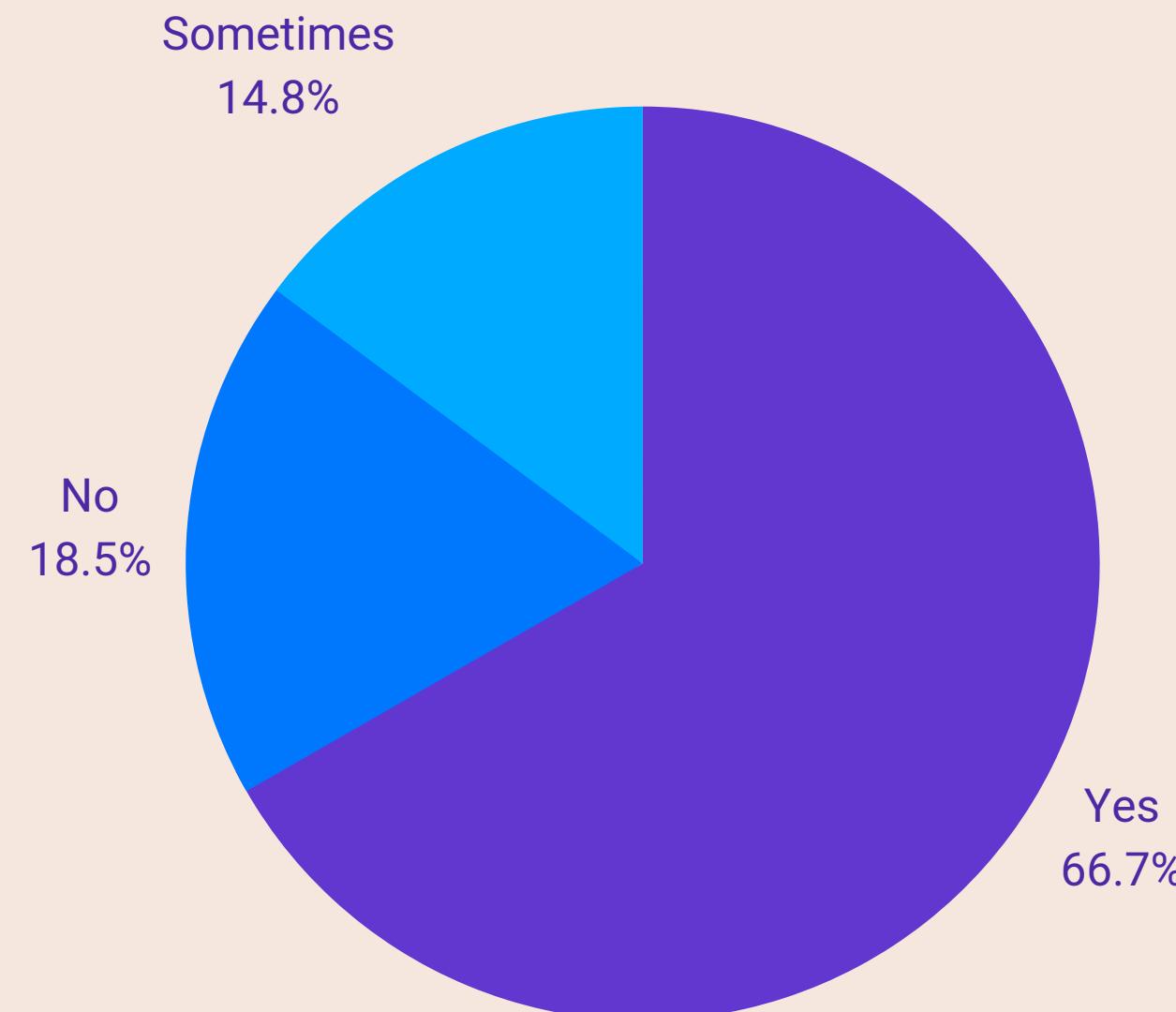
Data Analysis

Data Analysis

Budget Management

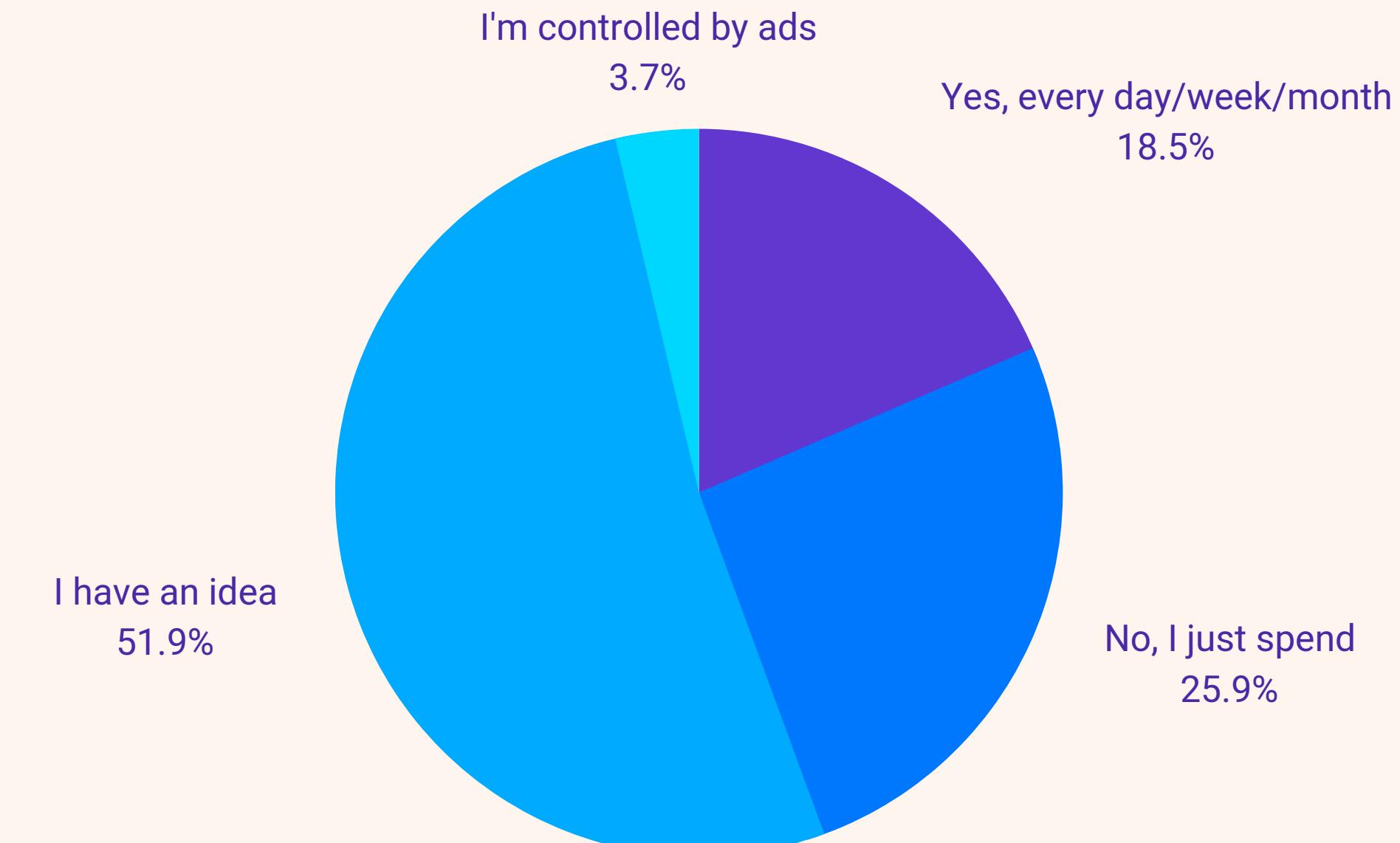


Do you track how much money you receive and spent every month?



27 responses

Do you control the amount of money you spend in each category?



Data Analysis

Budget Management



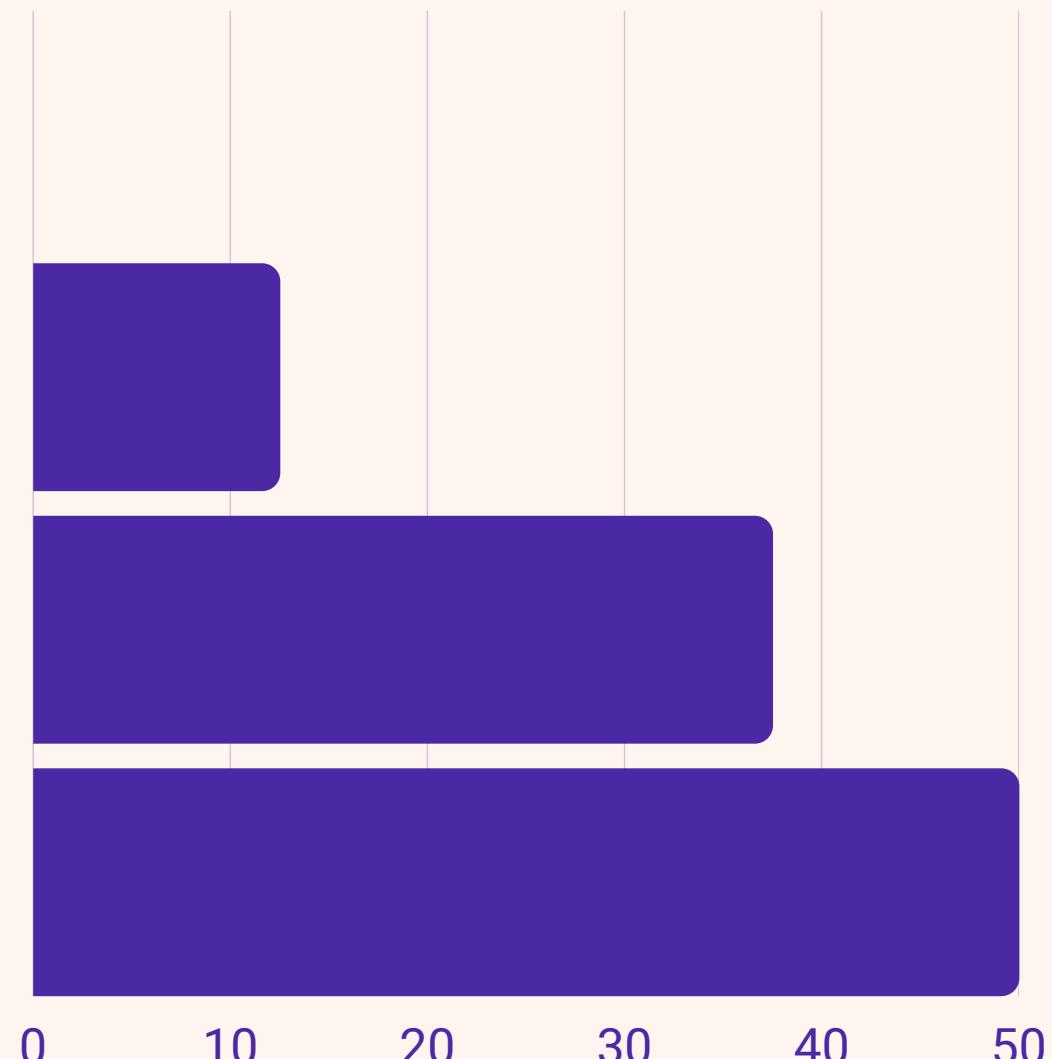
Does your bank application allows the following functionalities: Limit how much money you spend periodically (weekly, monthly)? Limit how much money spend by category (Insurances, Food , Utilities)?

It allows to limit by category

It allows to limit periodically

It does not allow anything

I don't know

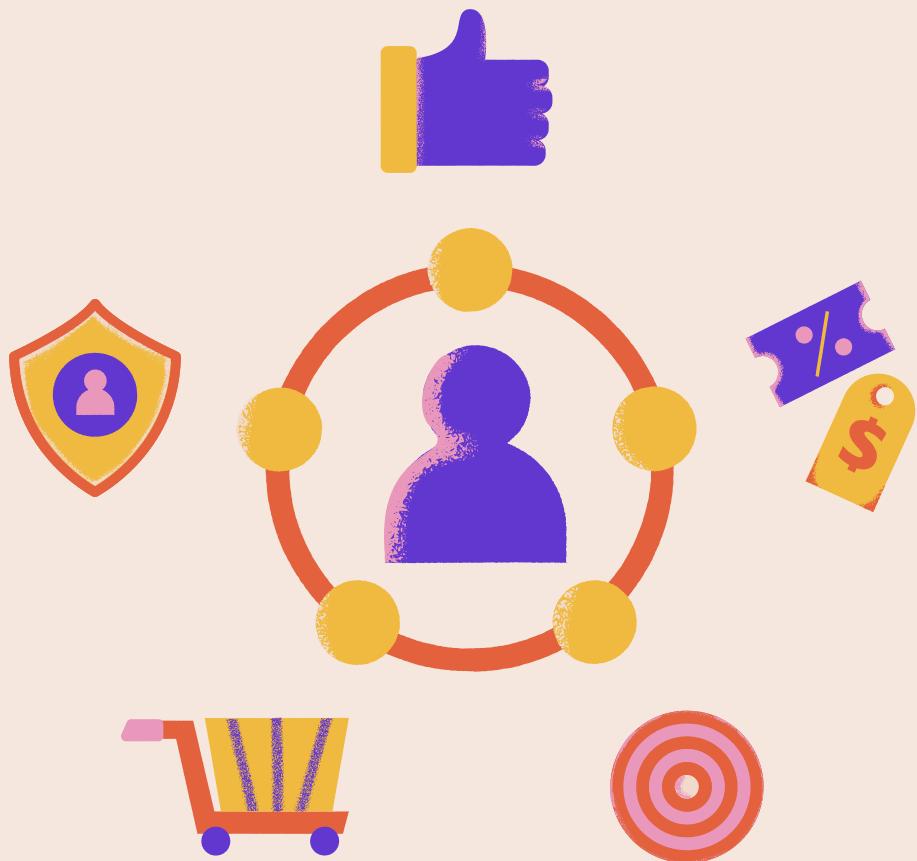


16 responses

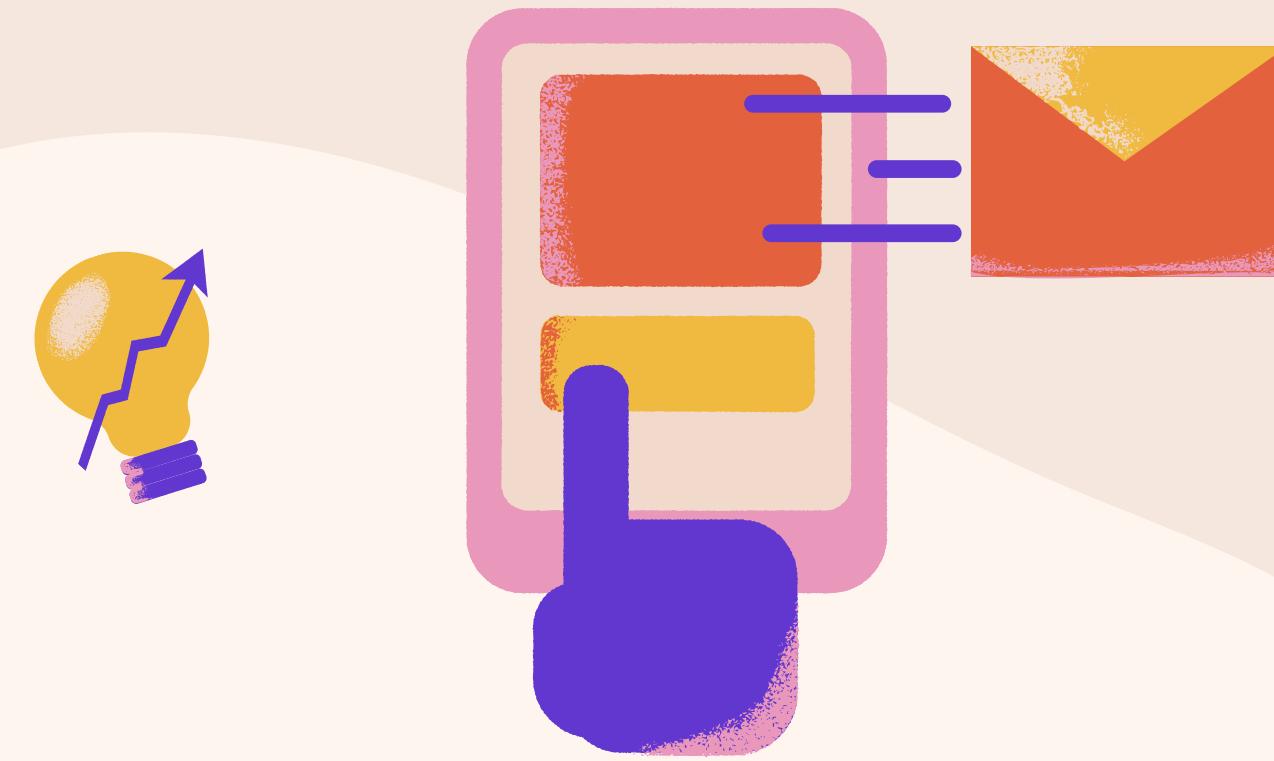
Data Analysis

Budget Management

“I would like to have a way to prevent from spending more on a specific category.”



“Yes, because I'd like to understand where I'm spending my money on. I use an app to track my spendings, and that's where I track by period and category, but it's separate from my bank app, which is less convenient.”

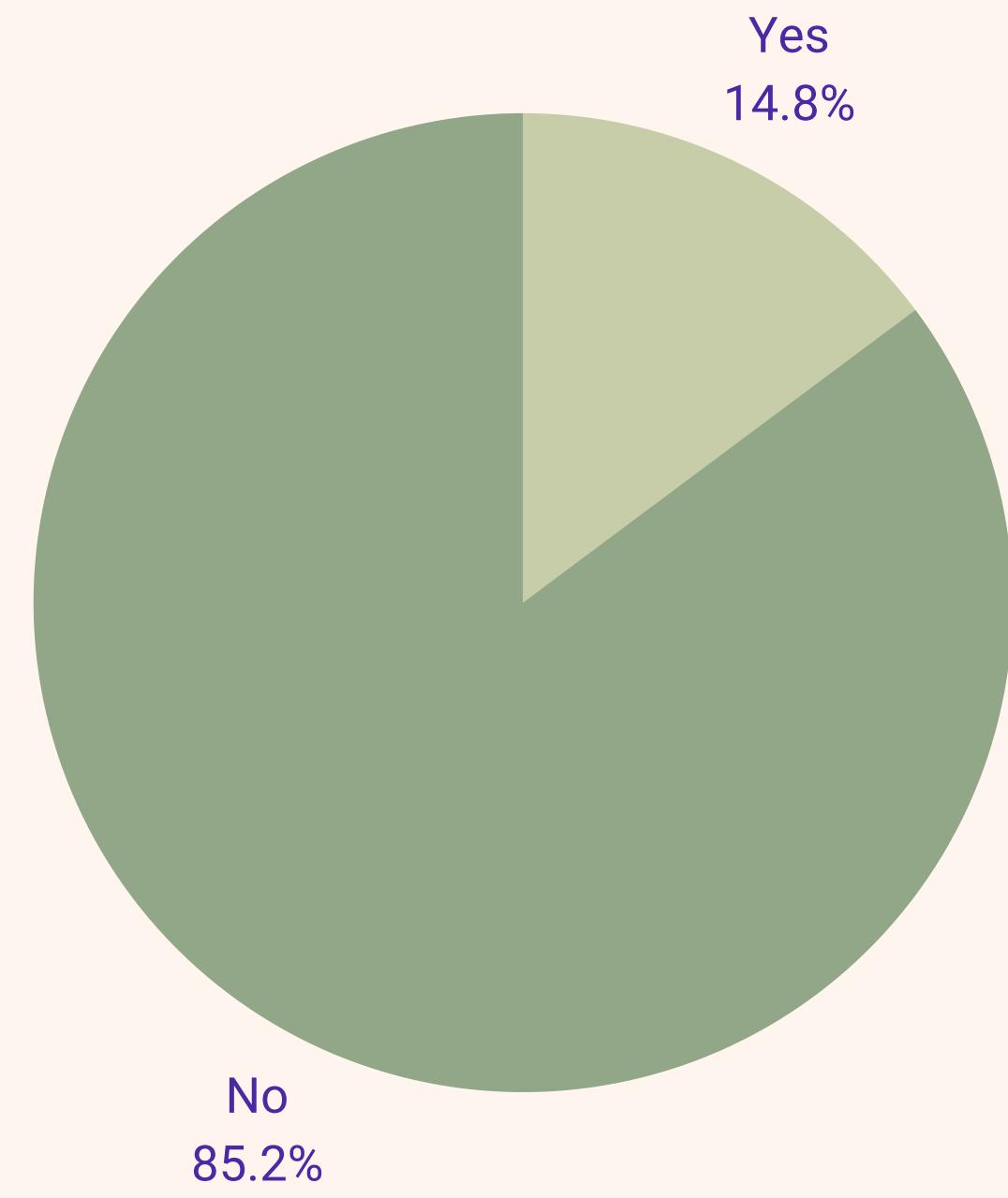


Data Analysis

Savings Planner



Are you familiar with the different types of savings accounts your bank offers you?



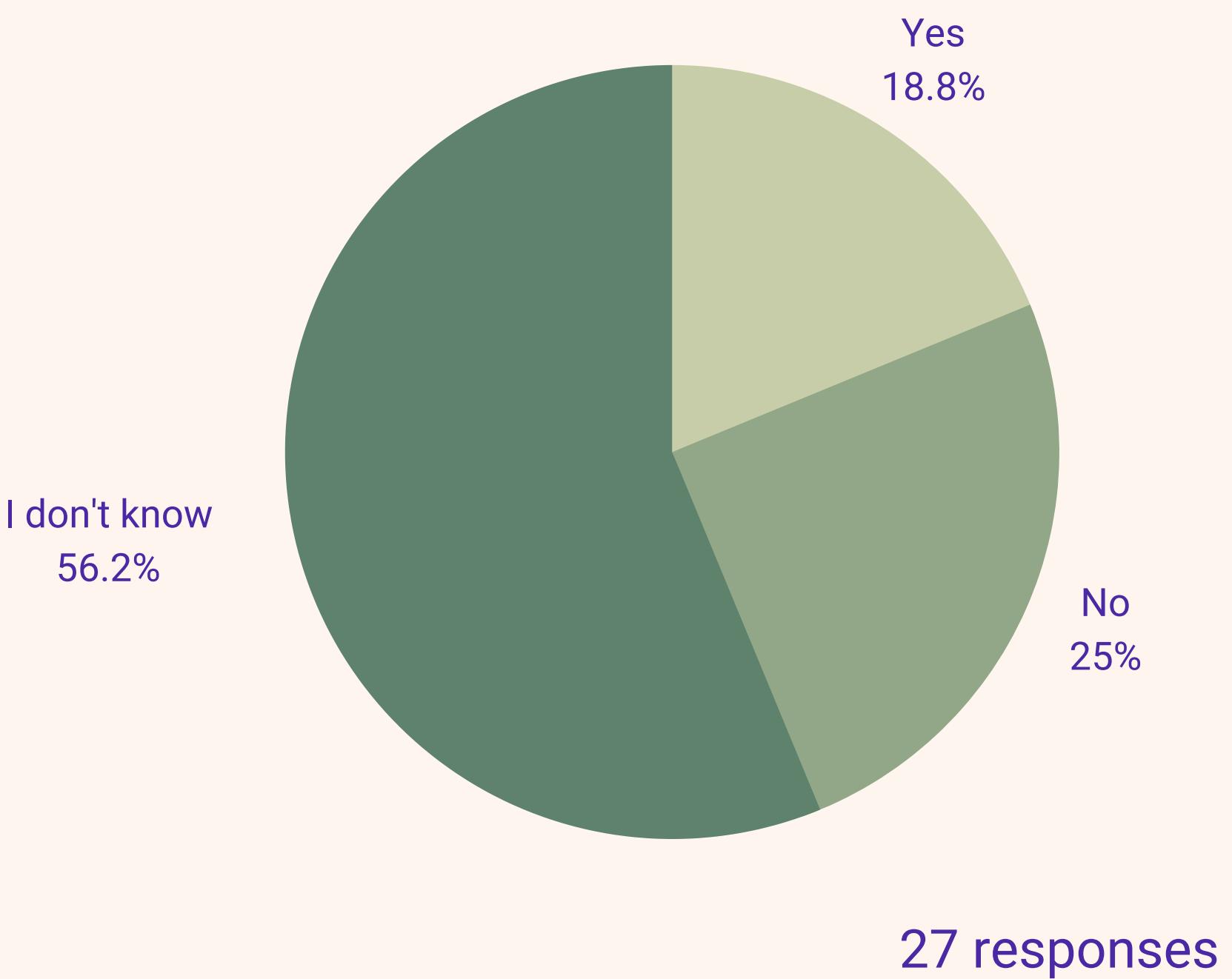
27 responses

Data Analysis

Savings Planner



Does your bank application offer a savings plan simulator?





Data Analysis

Savings Planner

Does your bank application offer a savings plan simulator?

If **not** would you like to have it?

If **yes** what do you would like to improve on it?

“I don't know but if not I would like to see one”

“I would like to have a better description of the different savings plans.”

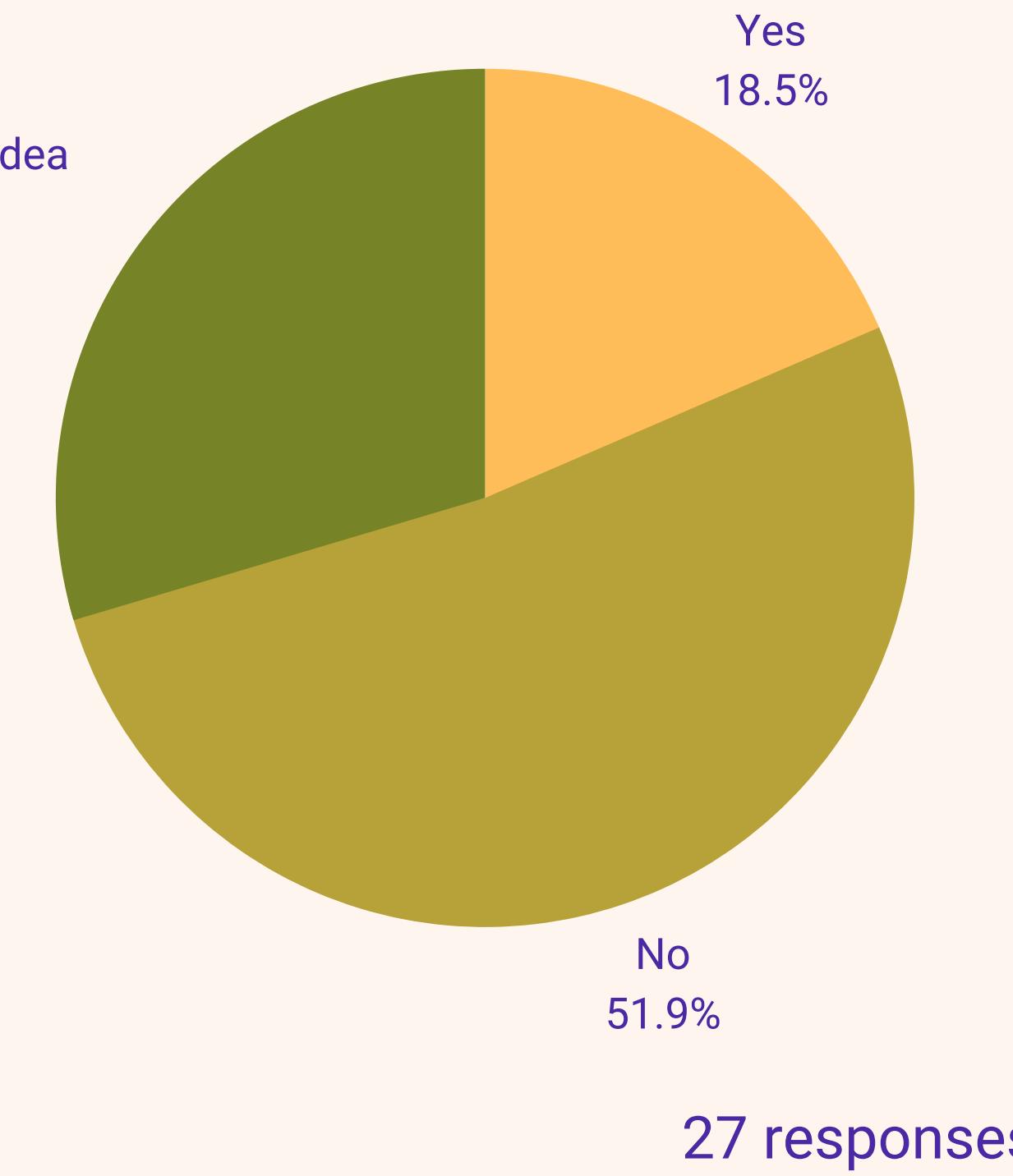
Data Analysis

Investments Management



Do you know how to invest your money?

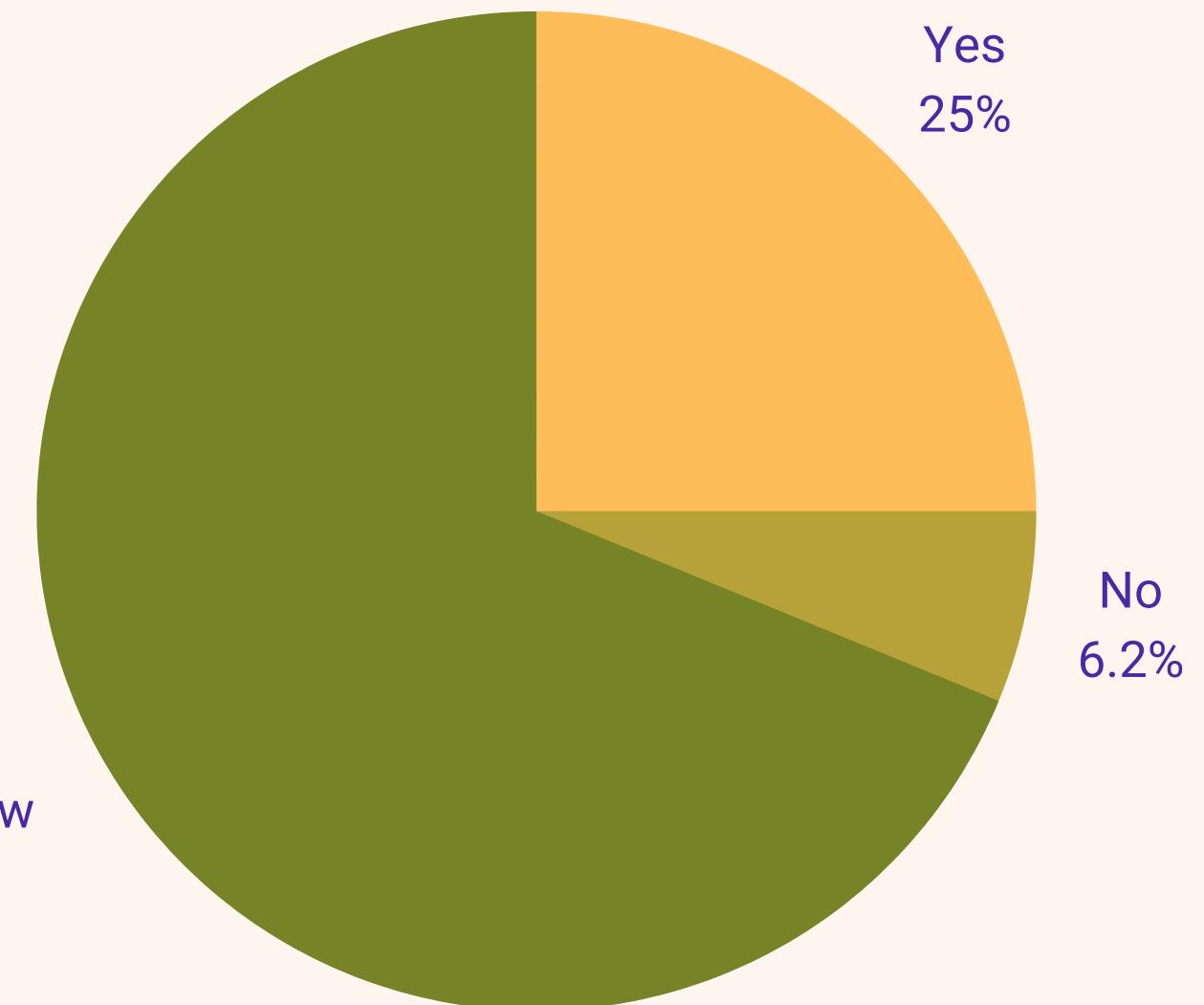
I have an idea
29.6%



Data Analysis

Investments Management

Does your bank provide an investment guide regarding the risks and benefits?



27 responses

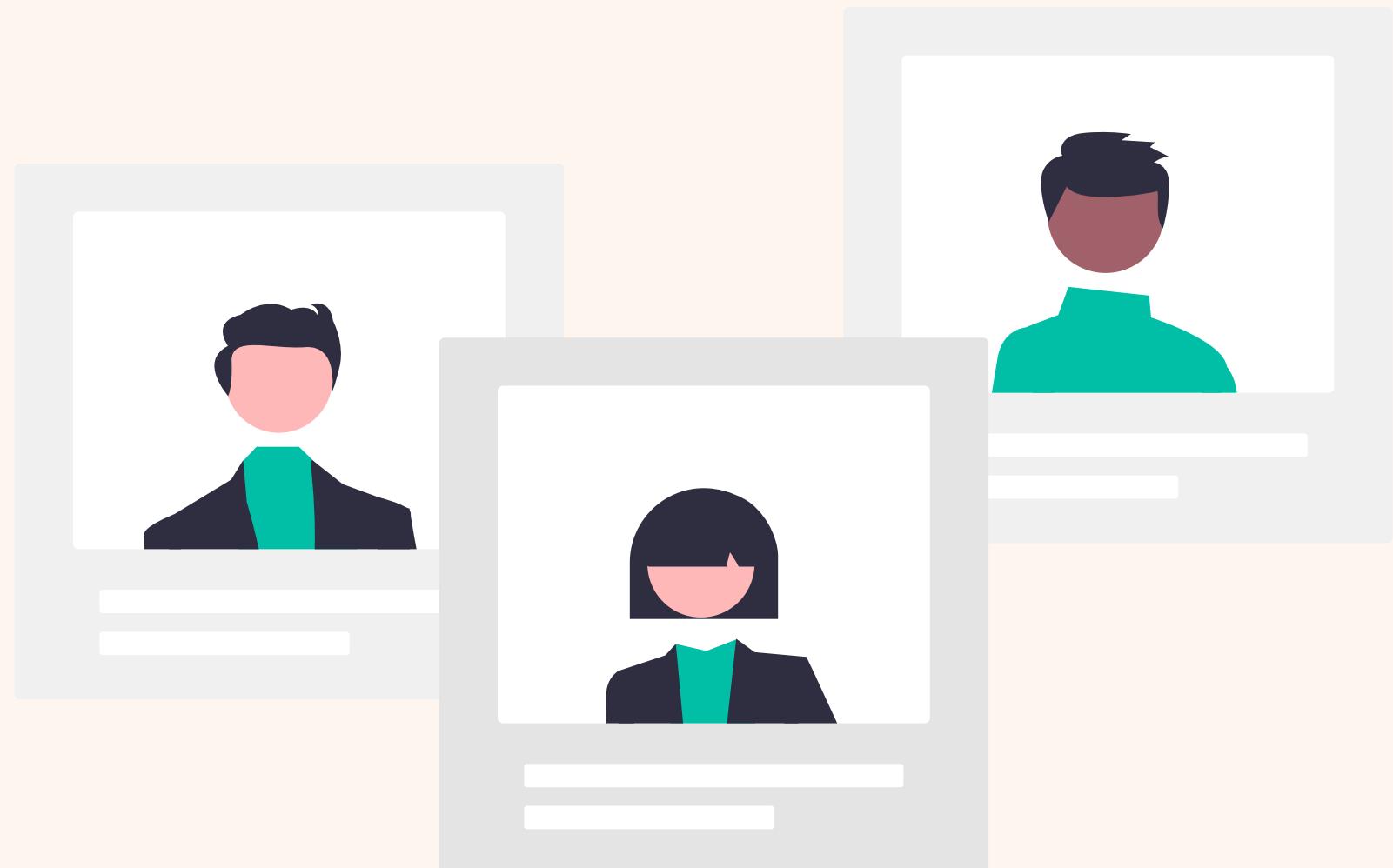


Data Analysis

Investments Management

“I don't know if they do but I would like to see what are the type of investments we can do and what are the benefits of it. I don't know anything about investments so any guide easily accessible information be useful”

Data Synthesis



Data Synthesis

Persona 1





Lisa

Demographic profile

22 years old
Female
3rd year Computer Science student in a university, writing her Bachelor thesis
Lives in a shared apartment in the city center

Lisa has an active lifestyle: she is studying full-time while going to the gym three times a week and trying to spend time with friends and family.

Lisa's financial knowledge is very limited. She doesn't have a savings account but she tries to keep a buffer on her primary bank account.

Personal Goals and Motivations

- maintain good work - free time balance
- be able to travel in the future
- better financial planning would make her life less stressful
- saving and investing money would help her achieve her goals

Needs

- fast and easy budget/saving planner to fit her lifestyle

Challenges

- sometimes it's difficult to keep up where the money goes
- doesn't know where to find the information she would need easily

Values

- freedom
- health

“ My life is so hectic that I don't have time to think about my expenses. Sometimes I just have this need to treat myself. ”

From Scenario to Storyboard

Persona 1



A stick figure is looking at a smartphone screen with the text "How could I save money". Another stick figure is holding the phone and saying "Download this app!"	A stick figure is looking at a hand holding a spending tracker for January. The tracker shows various expense categories like groceries, rent, and utilities.
Lisa wants to control her incomes and outcomes to save money.	She wants to see in which categories she spend more money
A stick figure is at a clothes store, receiving a reminder message: "YOUR LIMIT FOR CLOTHES IS ALMOST DUE!"	A stick figure is holding a smartphone with the text "SAVINGS PLAN".
And have a limit reminder	She will easily save money for her future trip!

CI Model

Intent: save money
for a future goal thought
budget management

Intent: find an excel template

Intent: define the income

Trigger: find an application

Breakdowns:

- hard to find an application that provides the desired functionalities

Trigger: find a template that requires the income and expenses fields

Breakdowns:

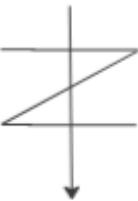
- needed to search a template online
- needed a simple template

Trigger: find the income value

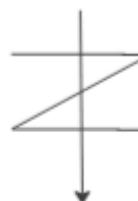
Breakdowns:

- needed to open the bank application

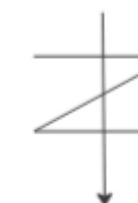
Activity: create an excel page



Activity: use the template



Activity: open the bank application, check account movements and write the income to the corresponding field of the excel



Intent: define the expenses

Intent: get the overall results

Trigger: find the outgoing value

Breakdowns:

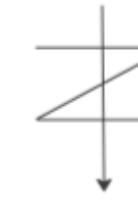
- needed to open the bank application

Trigger: get results that can be interpreted easily

Breakdowns:

- cannot observe the expenses by category

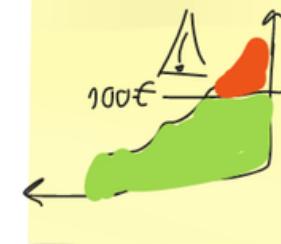
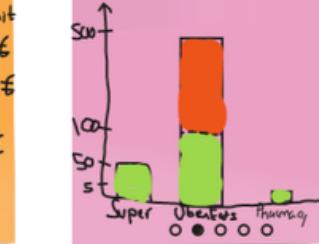
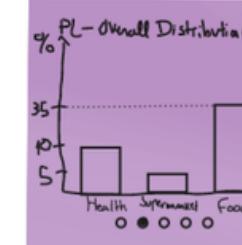
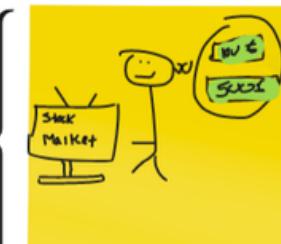
Activity: check account movements and write the income to the corresponding field



Activity: observe the amount of money available to save for a future purpose

Ideation

10x10

	Concepts Guide... learn more about																																
Budget Management	<p>Get Inspired: Pre-made plans for Health, Investments</p> <table border="1"> <tr><td>Plan 1</td><td>Plan 2</td></tr> <tr><td>Plan 3</td><td>Plan 4</td></tr> <tr><td>Plan 5</td><td></td></tr> </table>	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5		<p>Concepts Guide... learn more about Budget Management, Savings Planner, Health Insurance, Investment</p> <table border="1"> <tr><td>Budget Management</td><td>Savings Planner</td></tr> <tr><td>Health Insurance</td><td>Investment</td></tr> </table>	Budget Management	Savings Planner	Health Insurance	Investment																					
Plan 1	Plan 2																																
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Savings Planner	  <table border="1"> <tr><td>Supermarket</td><td>50€</td><td>150€</td></tr> <tr><td>UberEats</td><td>50€</td><td>100€</td></tr> <tr><td>Pharmacy</td><td>5€</td><td>20€</td></tr> </table>	Supermarket	50€	150€	UberEats	50€	100€	Pharmacy	5€	20€	 																						
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Health Insurance	<p>Plan Simulator</p> <table border="1"> <tr><td>Health:</td><td>250</td><td>30%</td></tr> <tr><td>Supermarket:</td><td>100</td><td>5%</td></tr> <tr><td>Food :</td><td>470</td><td>35%</td></tr> </table>	Health:	250	30%	Supermarket:	100	5%	Food :	470	35%	<p>PL-Overall Distribution</p> 	<p>Savings Accounts</p> <ul style="list-style-type: none"> Type A Type B Type C 	<p>Savings Account A Benefits</p> <ul style="list-style-type: none"> ~ ~ ~ <p>compare with : B C</p>	<p>Savings Comparator</p> <table border="1"> <tr><td>A</td><td>~</td></tr> <tr><td>B</td><td>~</td></tr> <tr><td>C</td><td>~</td></tr> </table> <p>BACK</p>	A	~	B	~	C	~													
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Investment Planner	<p>Health Insurance</p> <table border="1"> <tr><th></th><th>A</th><th>B</th><th>C</th></tr> <tr><td>Price</td><td>\$</td><td>\$1</td><td>\$15</td></tr> <tr><td>Dental Care</td><td>✓</td><td>✗</td><td>✓</td></tr> <tr><td>Skin Care</td><td>✗</td><td>✓</td><td>✓</td></tr> </table>		A	B	C	Price	\$	\$1	\$15	Dental Care	✓	✗	✓	Skin Care	✗	✓	✓	<p>Types of Health Insurance</p> <ul style="list-style-type: none"> Conventional Network System Refund System 	<p>Conventional Network System</p> <table border="1"> <thead> <tr><th>Appointment</th><th>Insurance cover</th><th>Beneficiary payment</th></tr> </thead> <tbody> <tr><td>A</td><td>5%</td><td>1€</td></tr> <tr><td>B</td><td>2.27%</td><td>0.70€</td></tr> <tr><td>C</td><td>74.80%</td><td>18.70€</td></tr> </tbody> </table>	Appointment	Insurance cover	Beneficiary payment	A	5%	1€	B	2.27%	0.70€	C	74.80%	18.70€		
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		<p>How to invest?</p> <ul style="list-style-type: none"> How to? Where to? Benefits Risks 	<p>How to?</p> 	<p>Where to?</p> <ul style="list-style-type: none"> Companies available: 	<p>Benefits</p>																												
					<p>Risks</p>																												

Design Goals

Budget Management

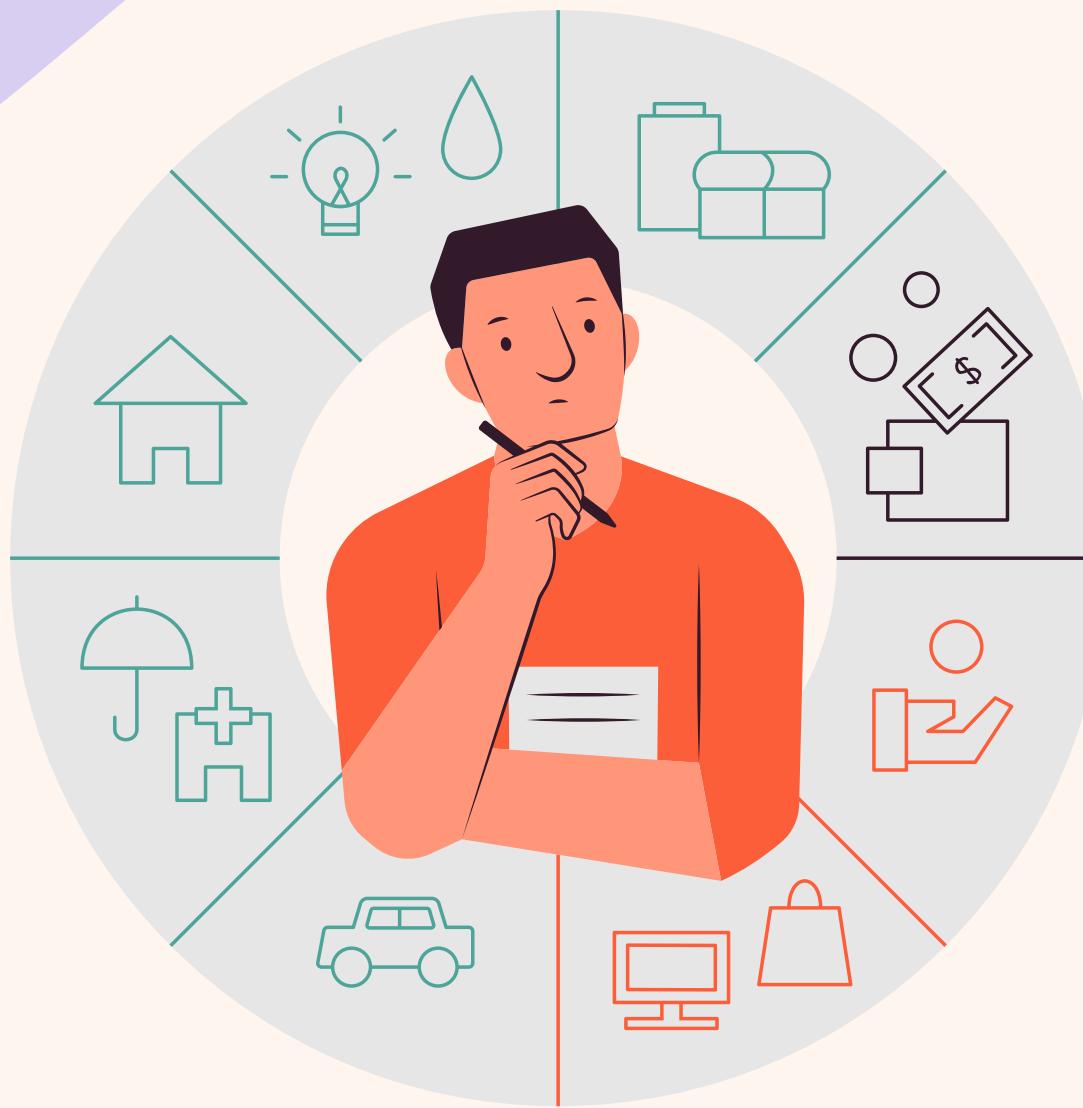
- System that warns, limits and tracks money

Savings Planner

- Shows and distinguishes different types of savings accounts
- Comparative analysis

Investments Planner

- Shows and distinguishes all the types of investments
- Highlights risks and benefits

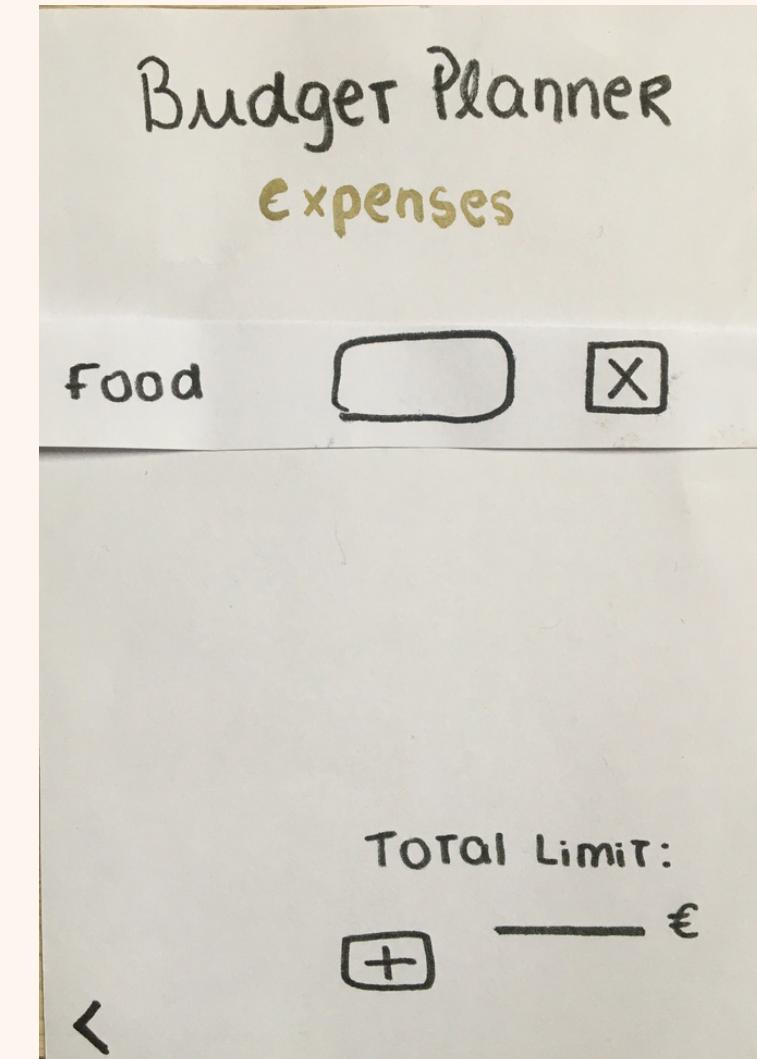
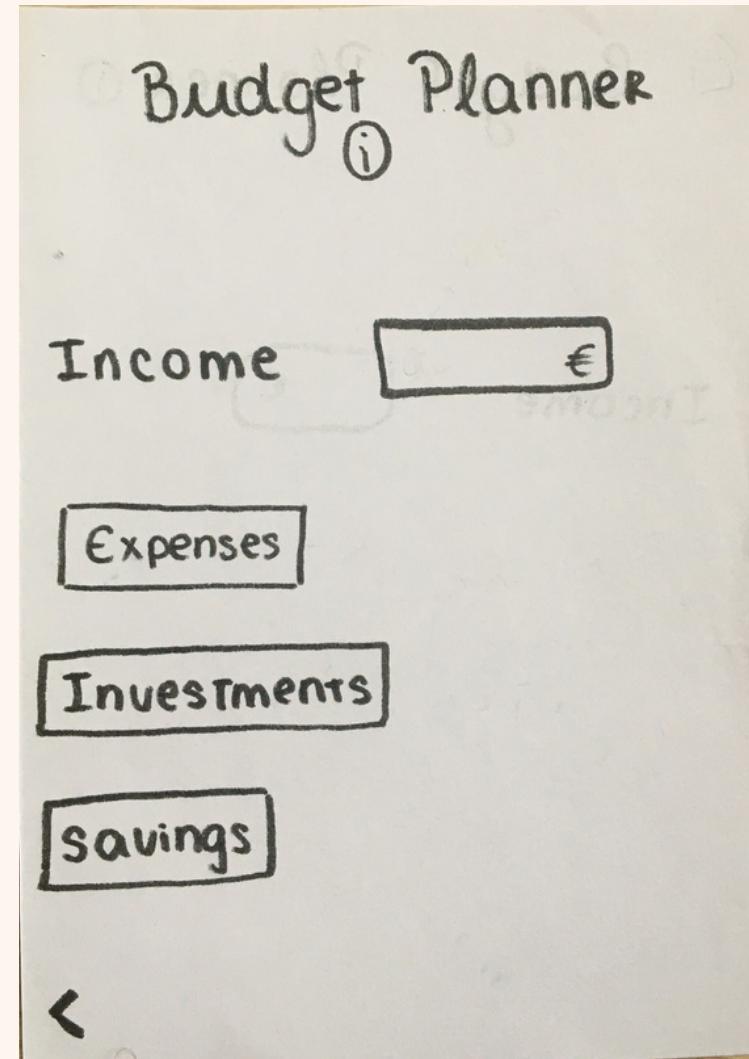
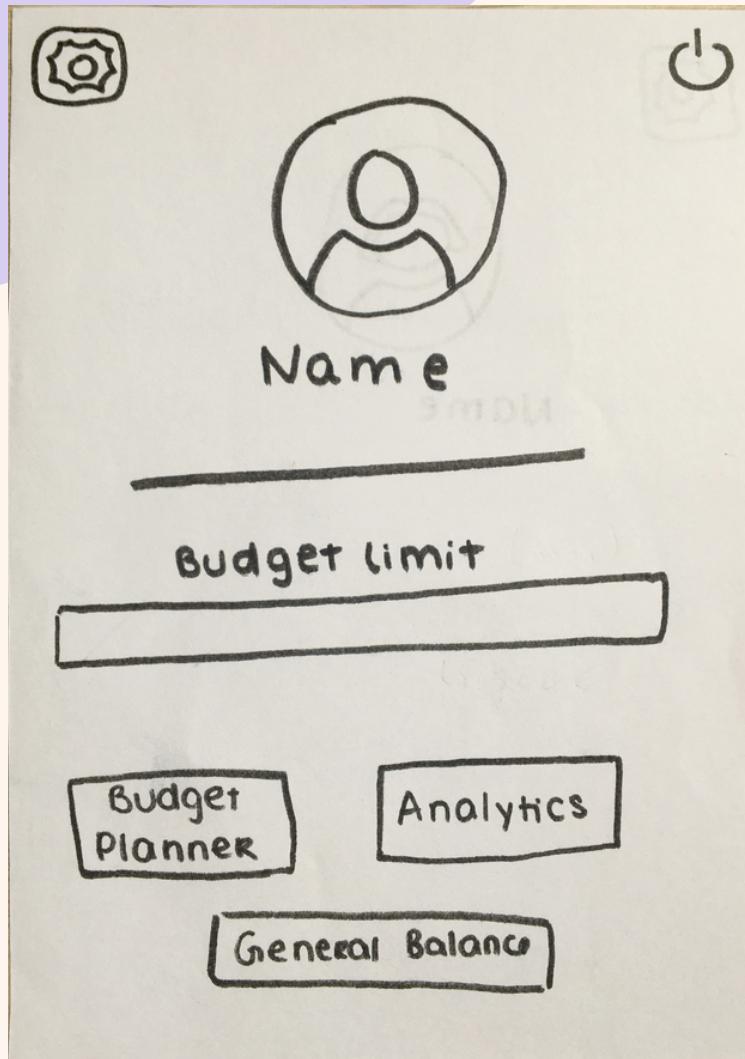


Low-Fidelity Prototype

1st iteration

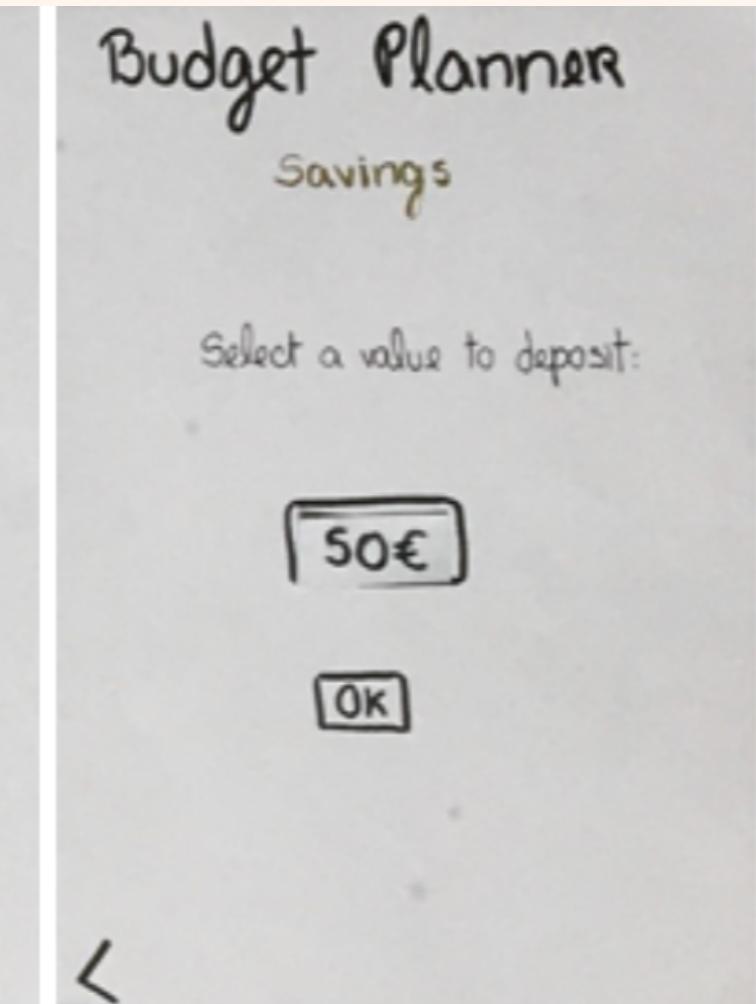
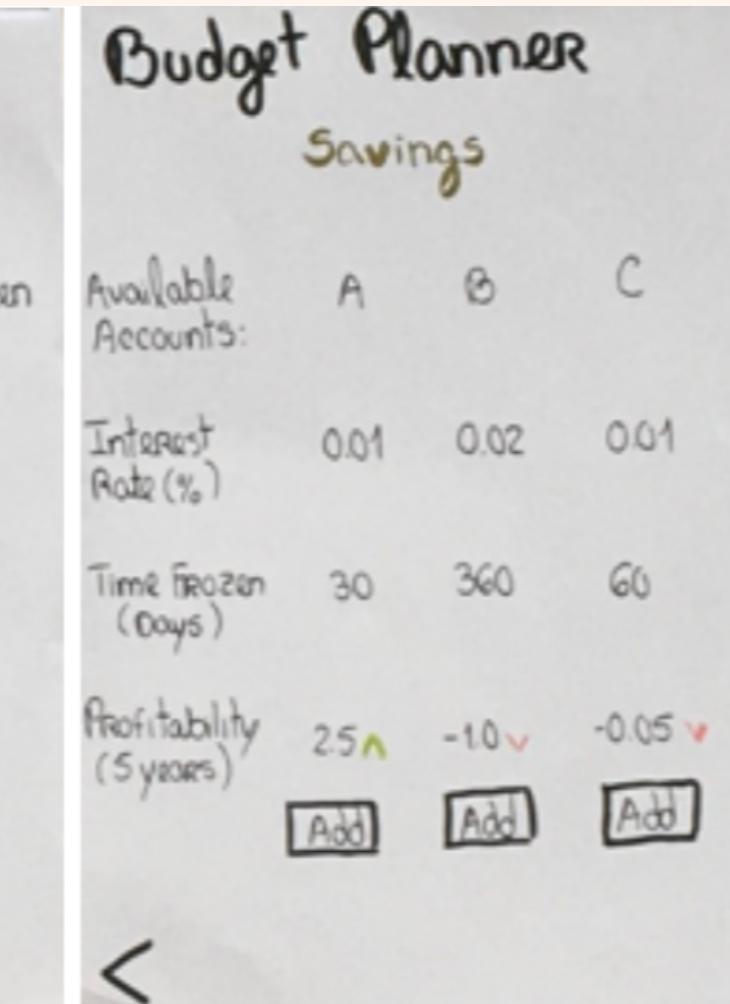
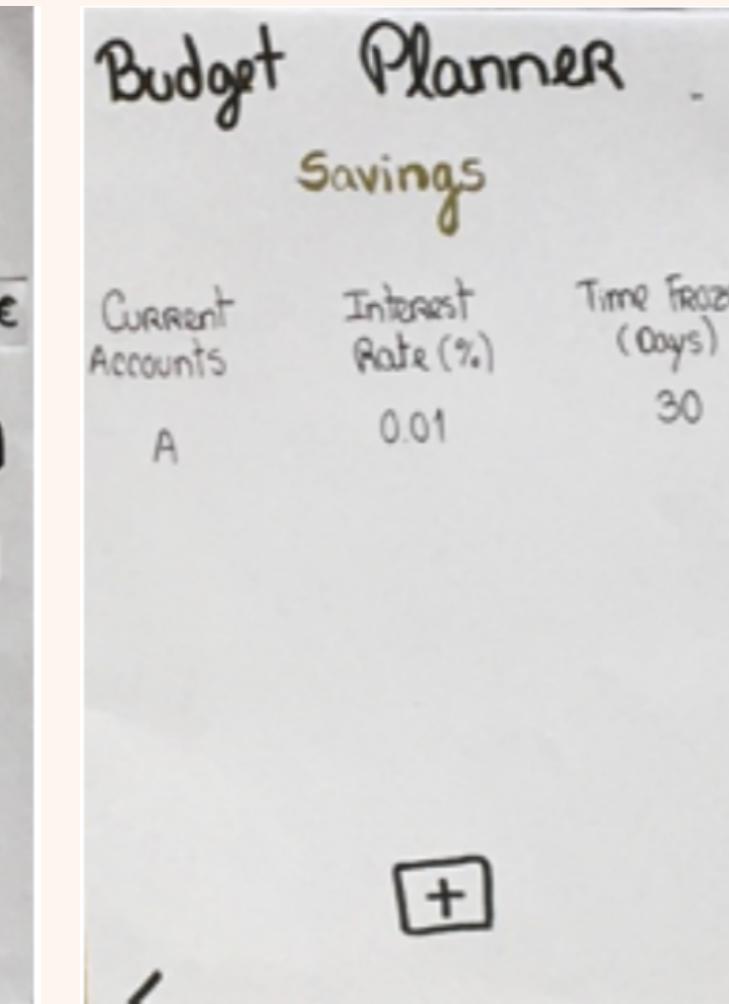
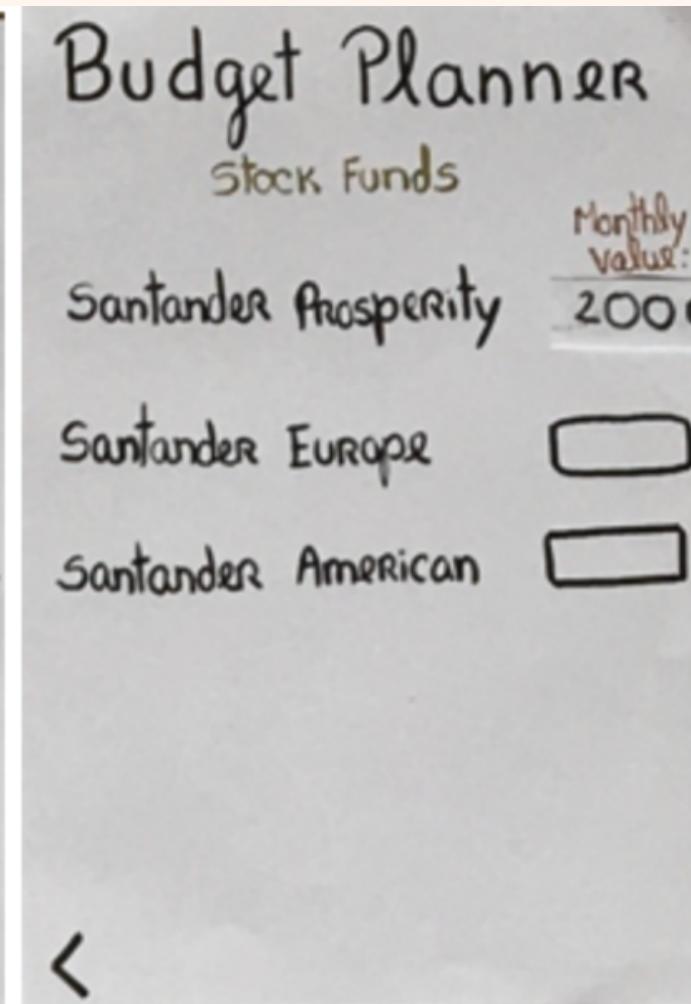
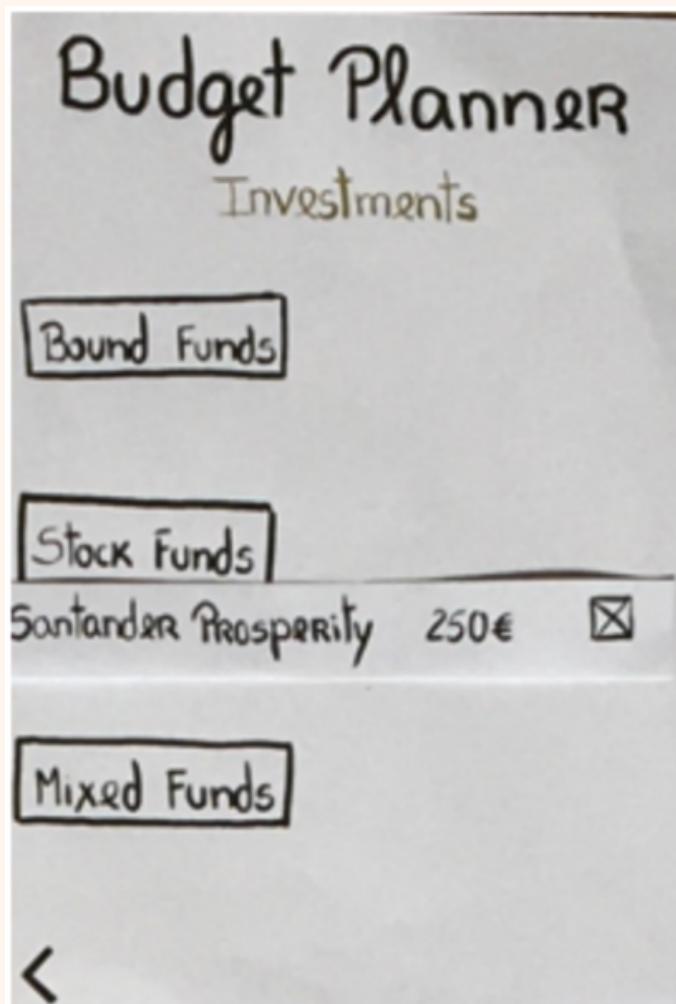
Low-Fidelity Prototype

1st Iteration



Low-Fidelity Prototype

1st Iteration



Low-Fidelity Prototype

1st Iteration

Analytics

Select a date period:

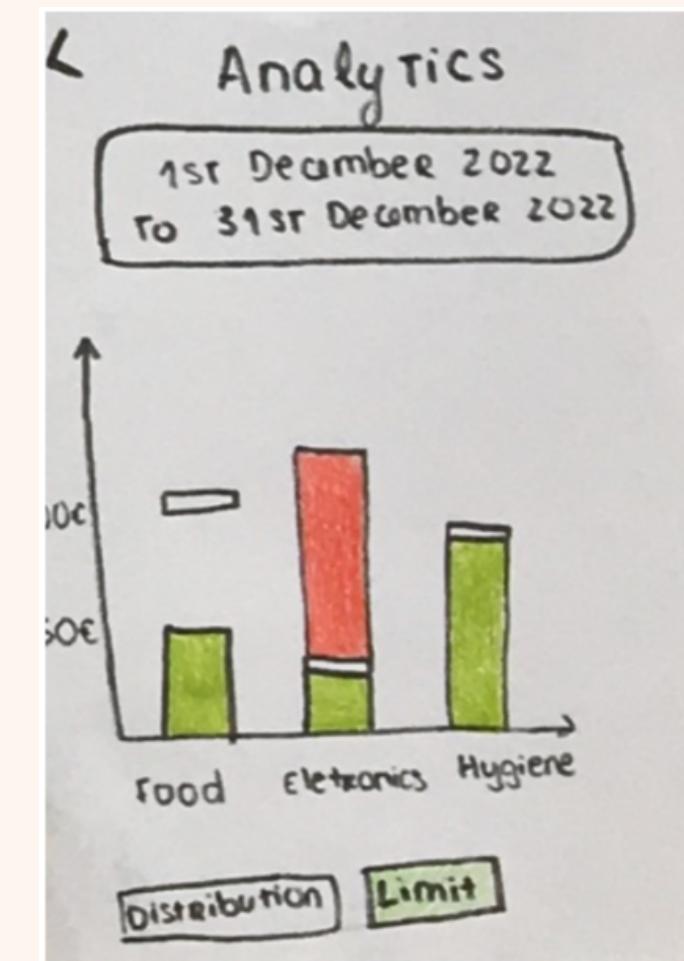
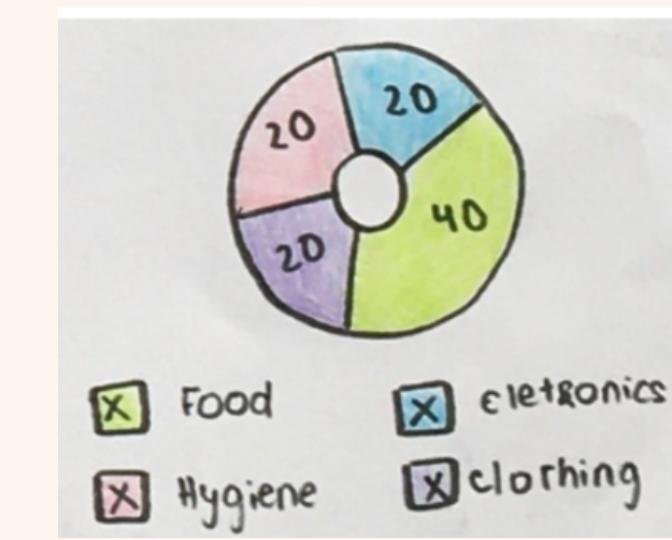
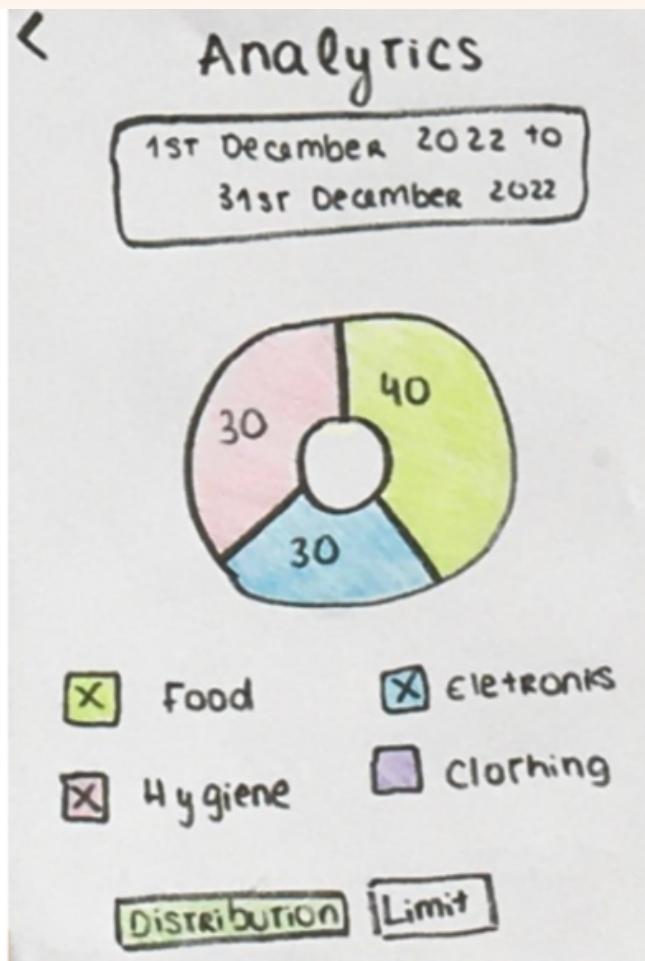
FROM:

1 November	2021
2 December	2022
3 January	2023

TO:

1 November	2021
2 December	2022
3 January	2023

Continue



Low-Fidelity Prototype

1st Iteration

General Balance

Select a year to filter:

2021

2022

2023

Continue

General Balance

Year: 2021

December	+ 10 €
November	+ 22 €
October	- 5 €
September	+ 30 €
August	- 19 €

Total Savings: 35,41 €

Transactions

Month: December

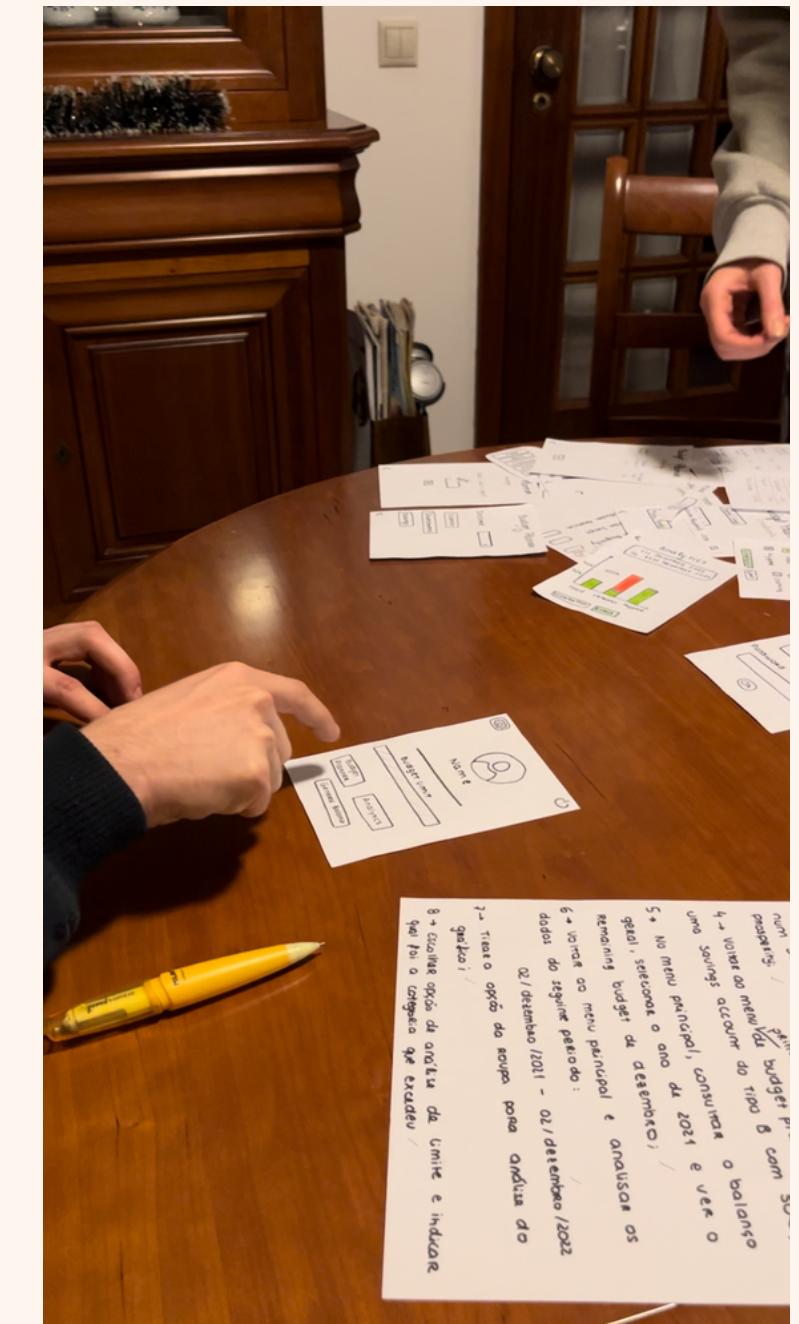
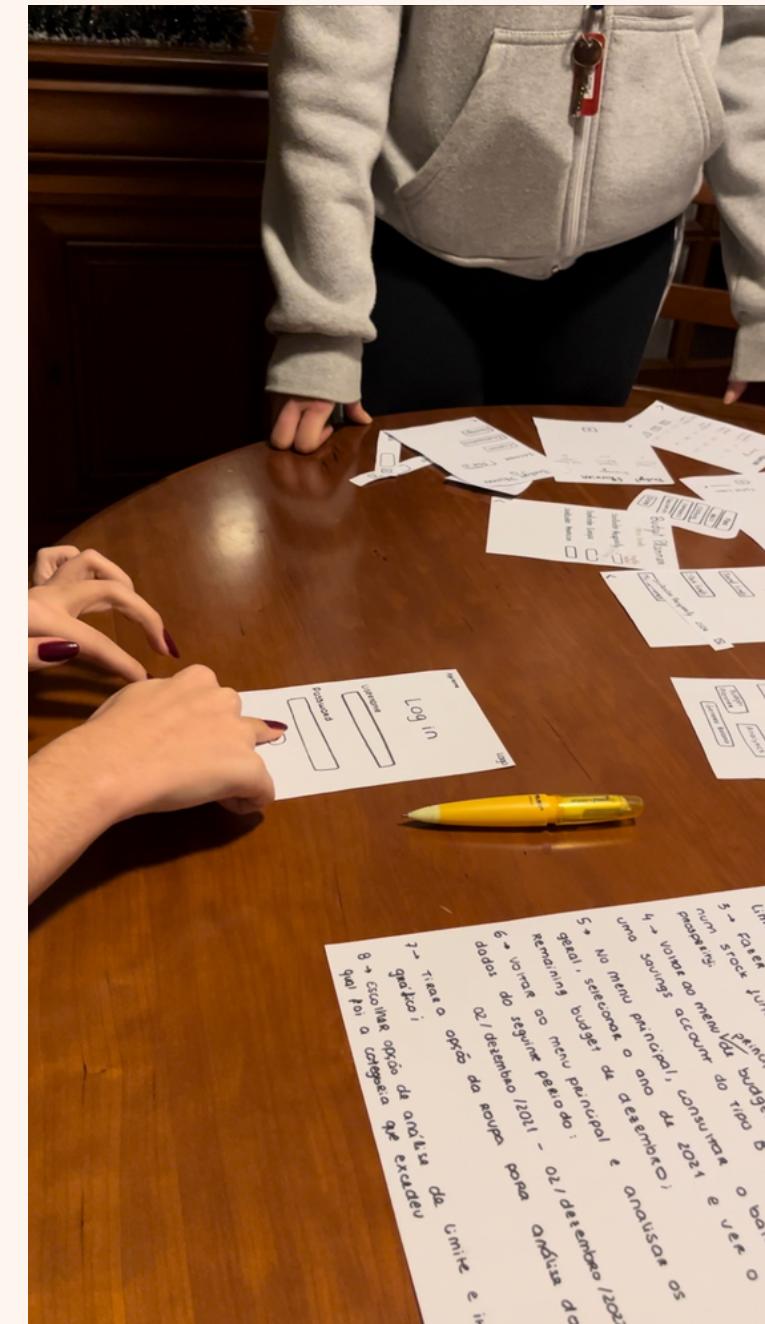
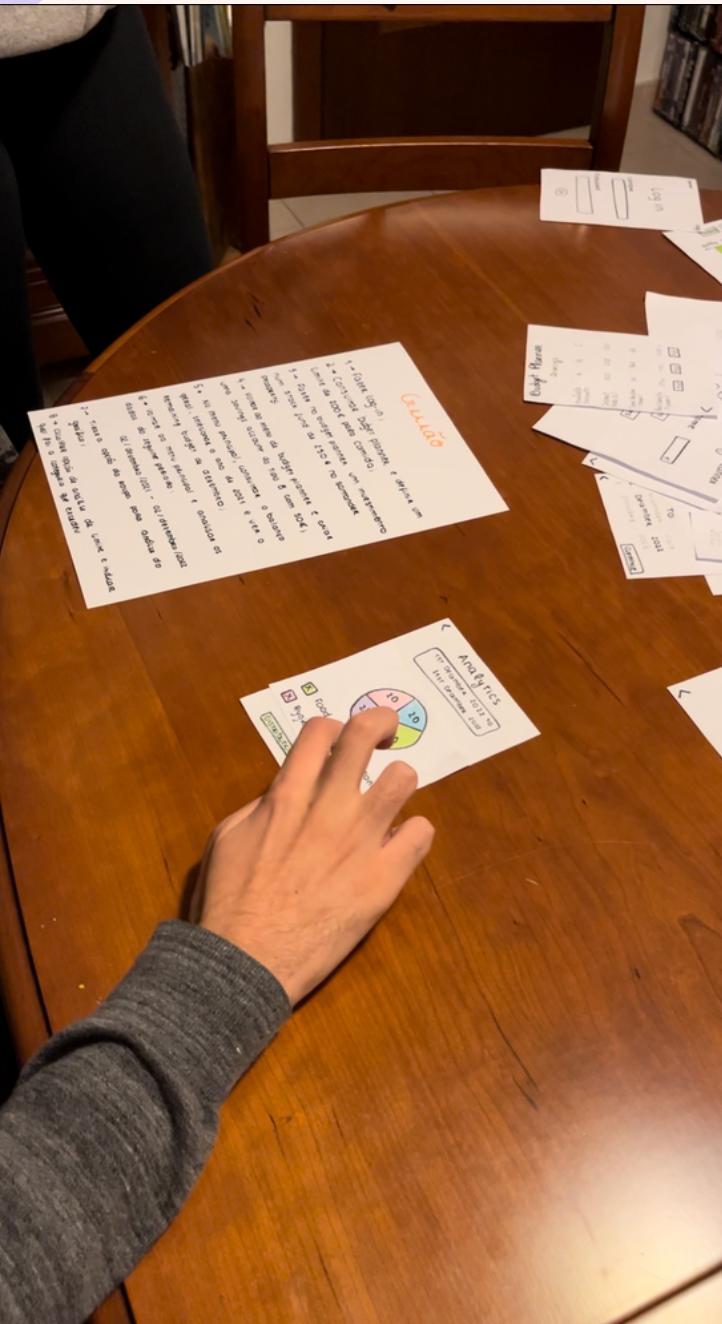
Continente	- 10 €
Frac	- 22 €

Monthly Total: 250 €

Remaining Budget: 10 €



Wizard of Oz



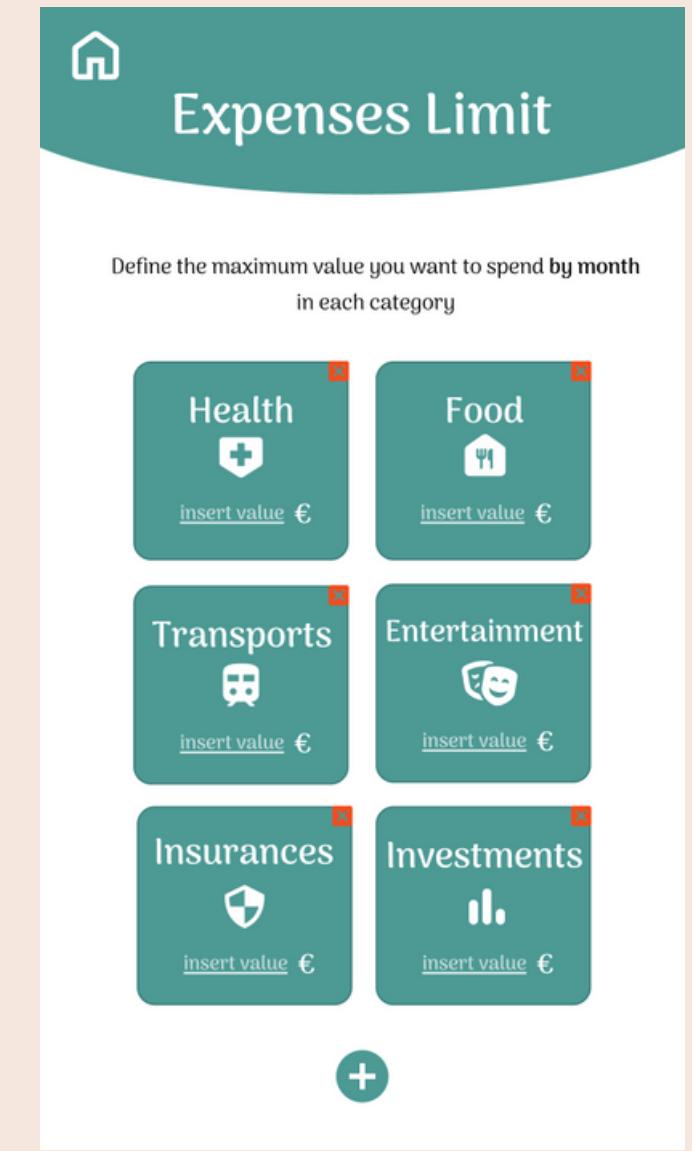
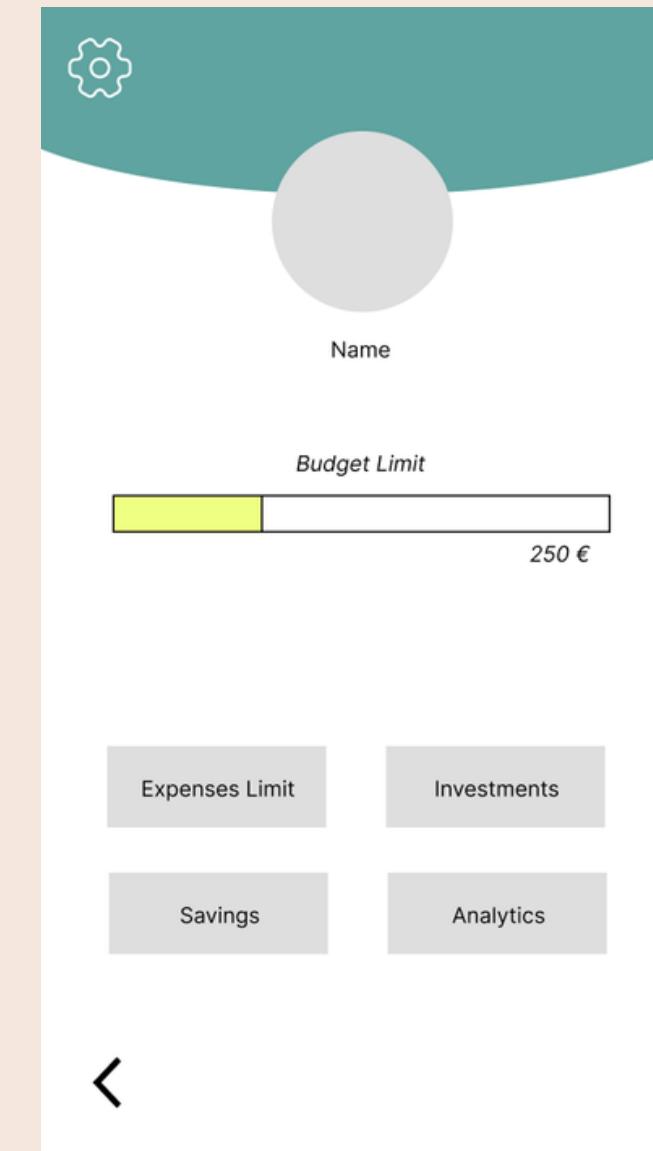
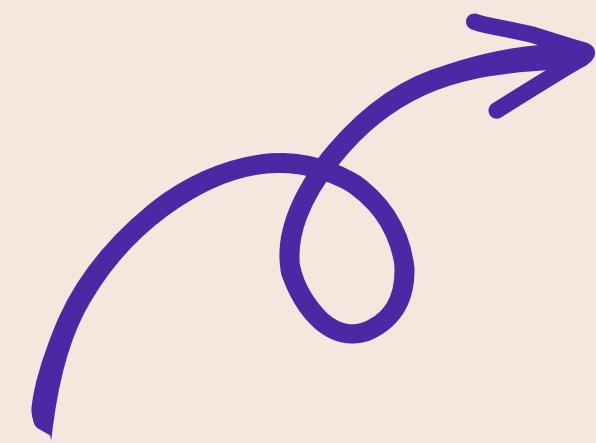
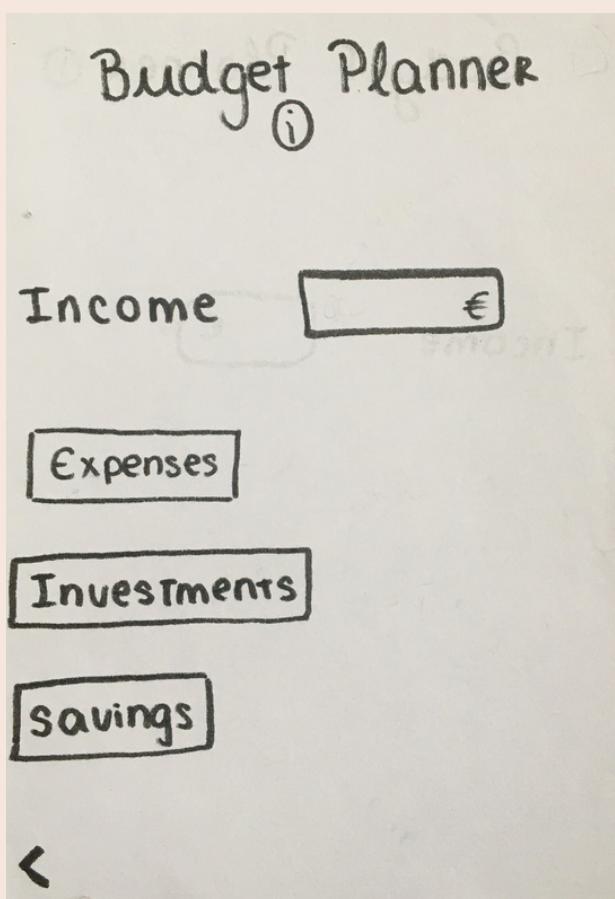
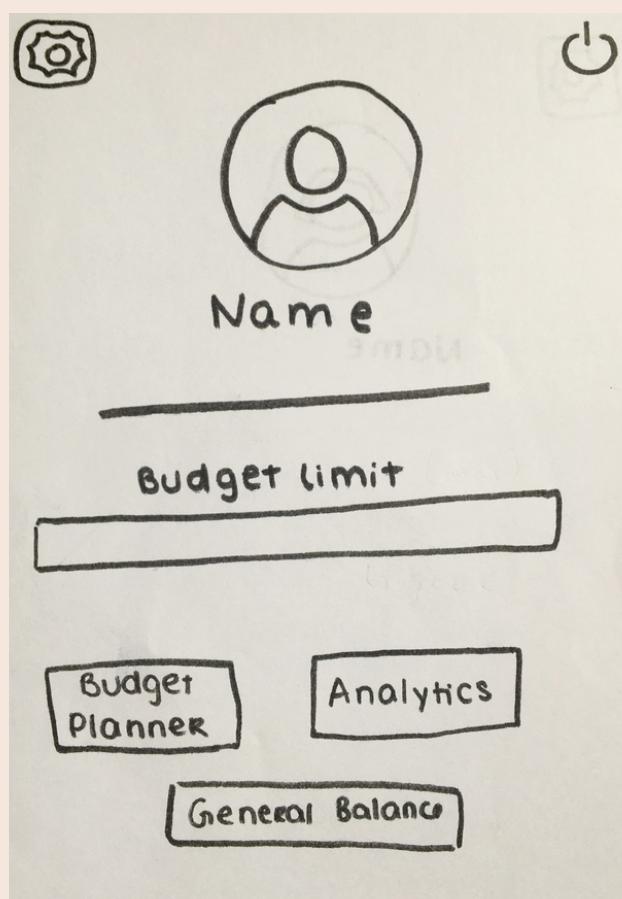


Mid-Fidelity Prototype

1st iteration

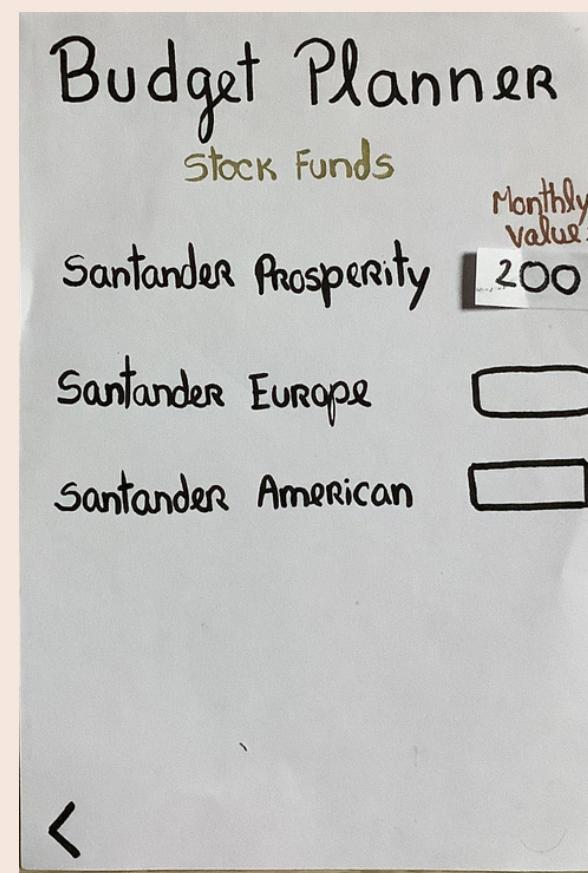
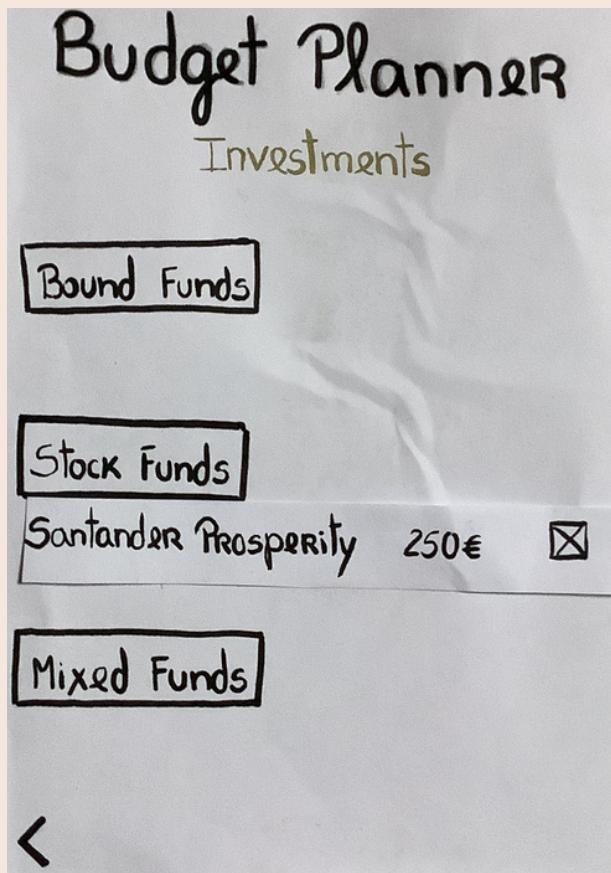
Mid-Fidelity Prototype

1st Iteration



Mid-Fidelity Prototype

1st Iteration

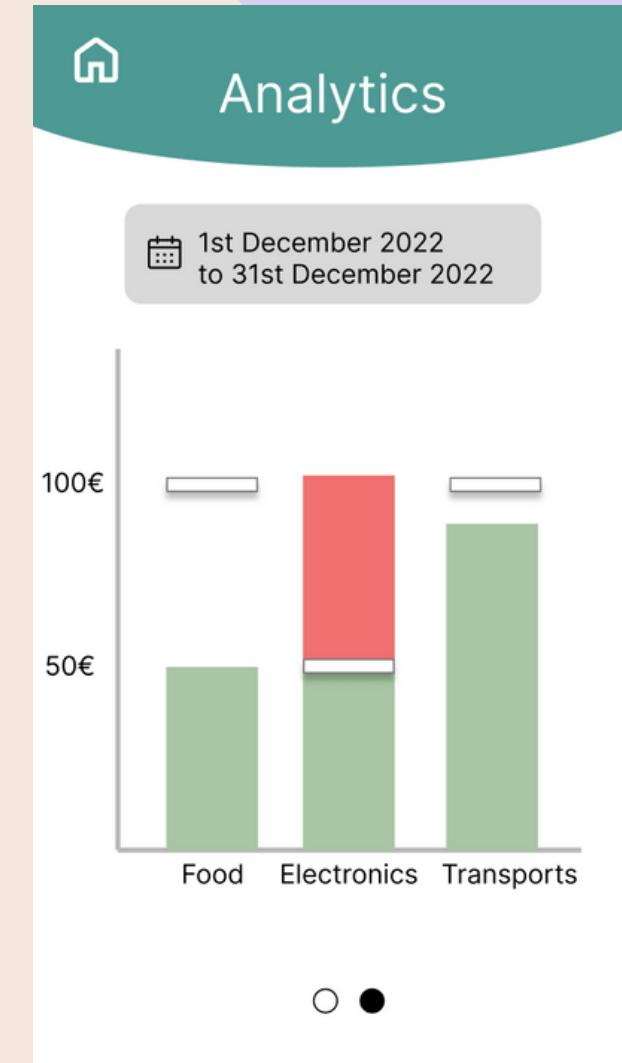
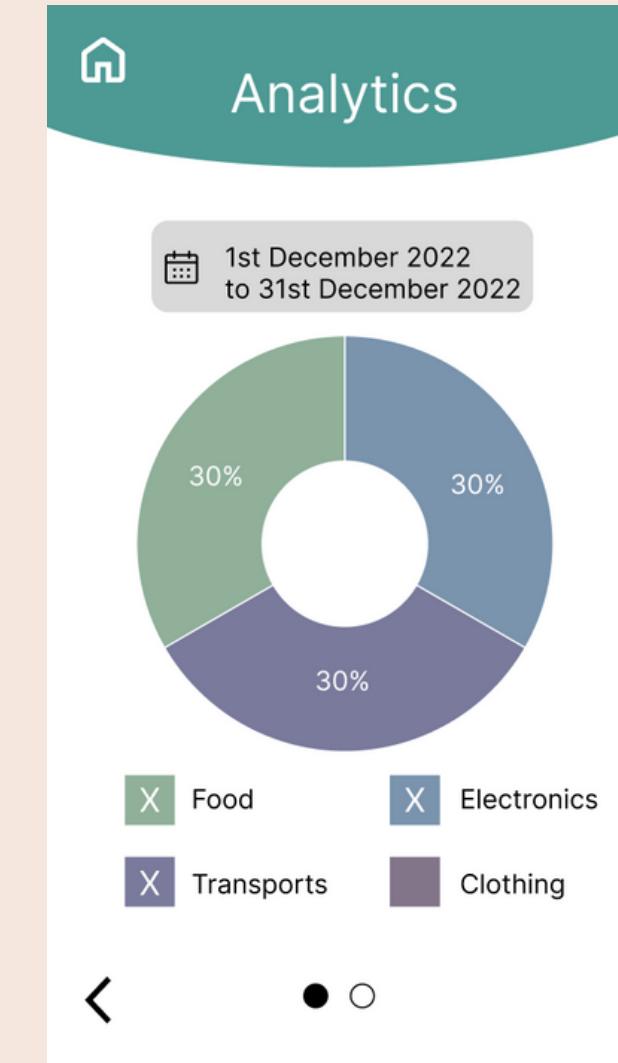
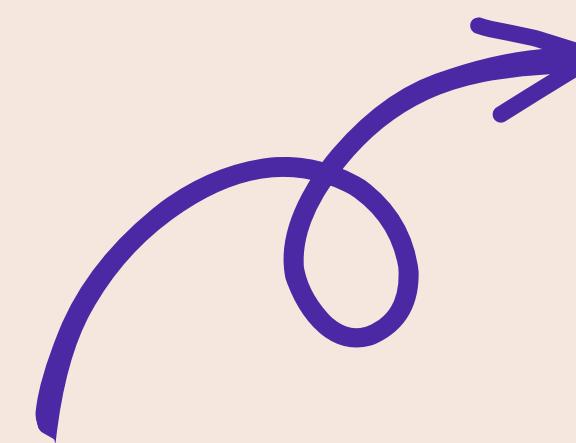
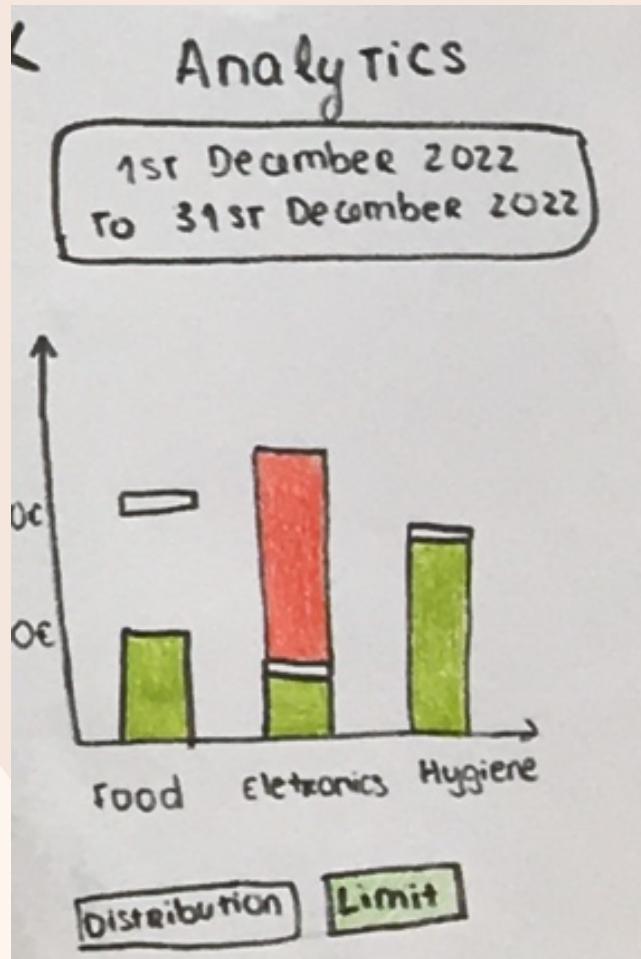
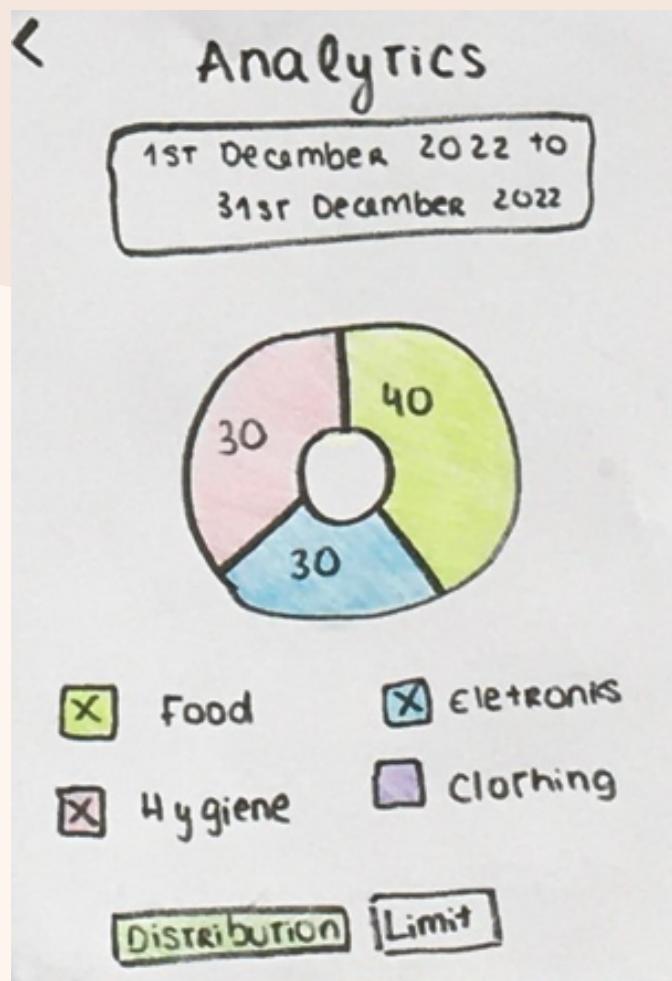


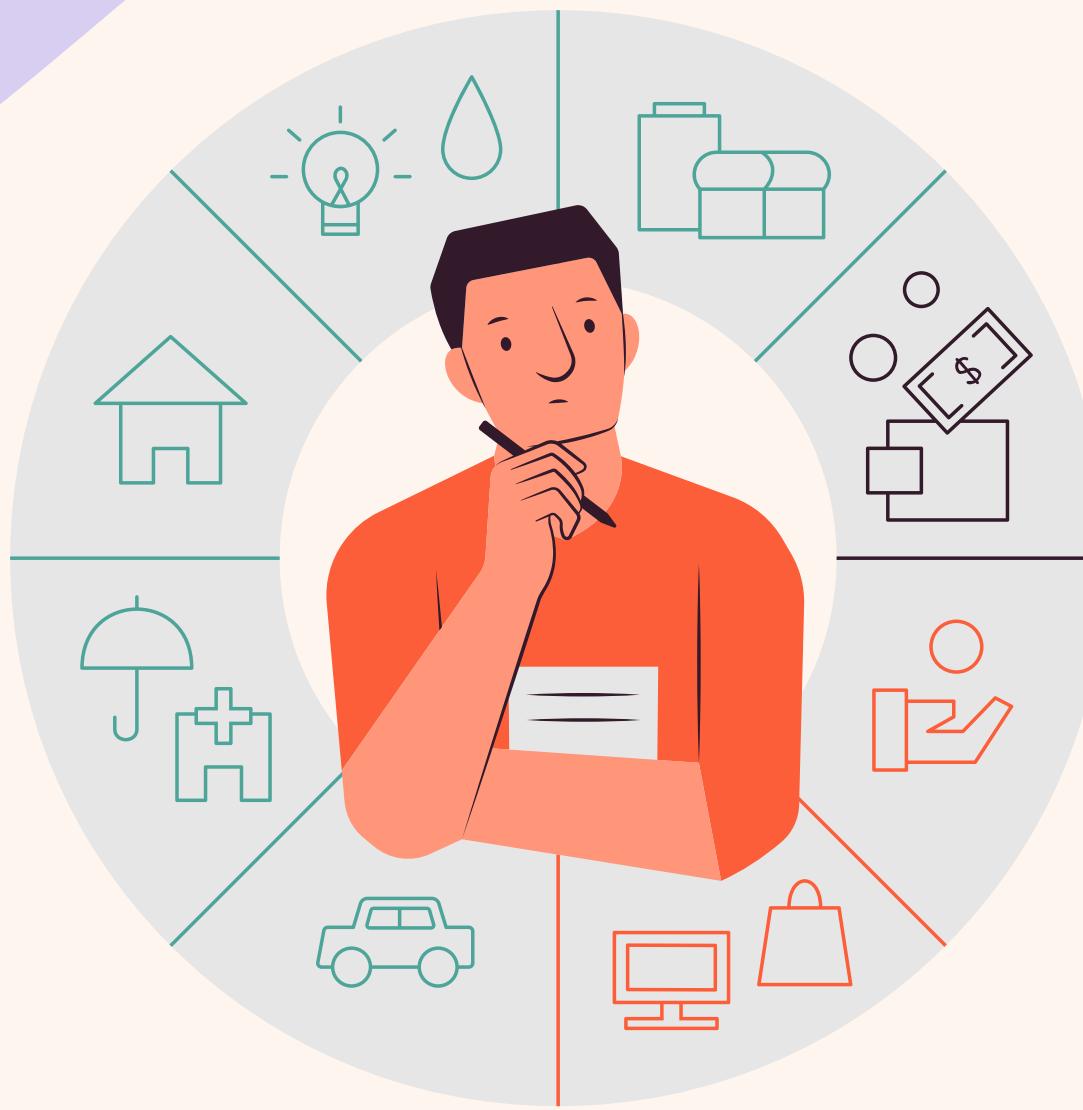
A digital prototype of the mobile application interface. It consists of three screens:

- Investments Screen:** Shows a teal header "Investments" with a house icon. Below it is a navigation bar with arrows and a help icon. A section for "Santander Prosperity" shows a value of "250 €".
- Stock Funds Selection Screen:** Shows a teal header "Stock Funds" with a house icon. Below it is a navigation bar with arrows and a help icon. It asks "Select the desired fund" and lists "Santander Prosperity", "Santander Europe", and "Santander American". It also asks "Select the monthly amount to deposit".
- Stock Funds Information Screen:** Shows a teal header "Stock Funds" with a house icon. Below it is a navigation bar with arrows and a help icon. It contains a large gray box with text about stock funds, mentioning equity funds, diversified portfolios, broad ranges of companies, industries, and sectors, and specific types like index funds, growth funds, and value funds.

Mid-Fidelity Prototype

1st Iteration





Mid-Fidelity Prototype

From 1st to 2nd iteration

Mid-Fidelity Prototype

2nd Iteration

The diagram illustrates the evolution of a user interface design, moving from a low-fidelity wireframe to a high-fidelity mid-fidelity prototype.

Low-Fidelity Wireframe (Left):

- Log in:** Contains fields for **Username** and **Password**, and a **OK** button.
- Expenses Limit:** Contains a **Name** field, a **Budget Limit** slider set to **250 €**, and a grid of categories: **Health**, **Food**, **Transports**, **Entertainment**, **Insurances**, and **Investments**. Each category has an **insert value** field and a red 'x' icon.

High-Fidelity Mid-Fidelity Prototype (Right):

- Welcome:** Displays the **piggy banking** logo, a globe icon, and a **Welcome** message. It includes a **Sign in or Log in below** section with **Username** and **Password** fields, a **Confirm** button, and a **Don't have an account? Sign in** link.
- Profile:** Shows a circular profile icon with a pencil, a **Name** field, and a **Budget Limit** slider set to **190 €**.
- Expenses Limit:** A detailed view of the budget configuration. It shows a **Total per Month** of **250 €** and a **+** button for adding new categories. Categories listed include **Health** (25 €), **Food** (200 €), **Transports** (25 €), **Entertainment** (0 €), **Insurances** (0 €), and **Investments** (0 €). Each category has an **insert value** field and a red 'x' icon.



Mid-Fidelity Prototype

From 2nd to 3rd iteration

Mid-Fidelity Prototype

3rd Iteration

The image displays three mobile application screens for 'piggy banking' investments, arranged horizontally. A large purple arrow points from the first screen on the left to the third screen on the right.

Screen 1: Bond Funds

- Header: Investments
- Section: Bond Funds > (with an information icon)
- Text: Start by clicking at "+" below
- Buttons: Total per Month (0 €), Total per Month in Bond Funds (0 €), and a blue + button.
- Navigation: Back arrow

Screen 2: Stock Funds

- Header: Investments
- Section: < Stock Funds > (with an information icon)
- Text: Start by clicking at "+" below
- Buttons: Total per Month (0 €), Total per Month in Bond Funds (0 €), and a blue + button.
- Navigation: Back arrow

Screen 3: Investments - Funds

- Header: Investments
- Section: Funds
- Buttons: Stock (with an information icon), Bond (selected, with an information icon), and Mixed (with an information icon).
- Text: Start by clicking at "+" below
- Buttons: Total per Month (0 €), Total per Month in Bond Funds (0 €), and a blue + button.
- Navigation: Back arrow

Design Notes: The screens are set against a light beige background. The application interface uses a dark blue header bar. The main content area has a white background with light gray rectangular callouts. Information icons (i) are placed next to section titles. The blue + button is a prominent feature in all three screens, suggesting it is a key action for adding funds. The purple arrow highlights the progression from the initial investment type (Bond Funds) to the final selection (Stock, Bond, Mixed) and the addition of funds.

Mid-Fidelity Prototype

3rd Iteration

The image shows two mobile application screens side-by-side. Both screens have a purple header with the text "piggy banking" and a house icon. The left screen is titled "General Balance" and has a "2022" button. Below it is a table of transactions from December to August. The right screen is titled "Transactions" and has a "December 2022" button. Below it is a table of transactions from December to August. A large blue arrow points from the "Remaining Budget" bar on the left screen to the "Remaining Budget" bar on the right screen.

Month	Amount
December	+10 €
November	+22 €
October	-5 €
September	+30 €
August	-19 €

Total Savings: 35,41€

Merchant	Amount
Continente	-10 €
Fnac	-22 €

Remaining Budget: 28 € / 250 €

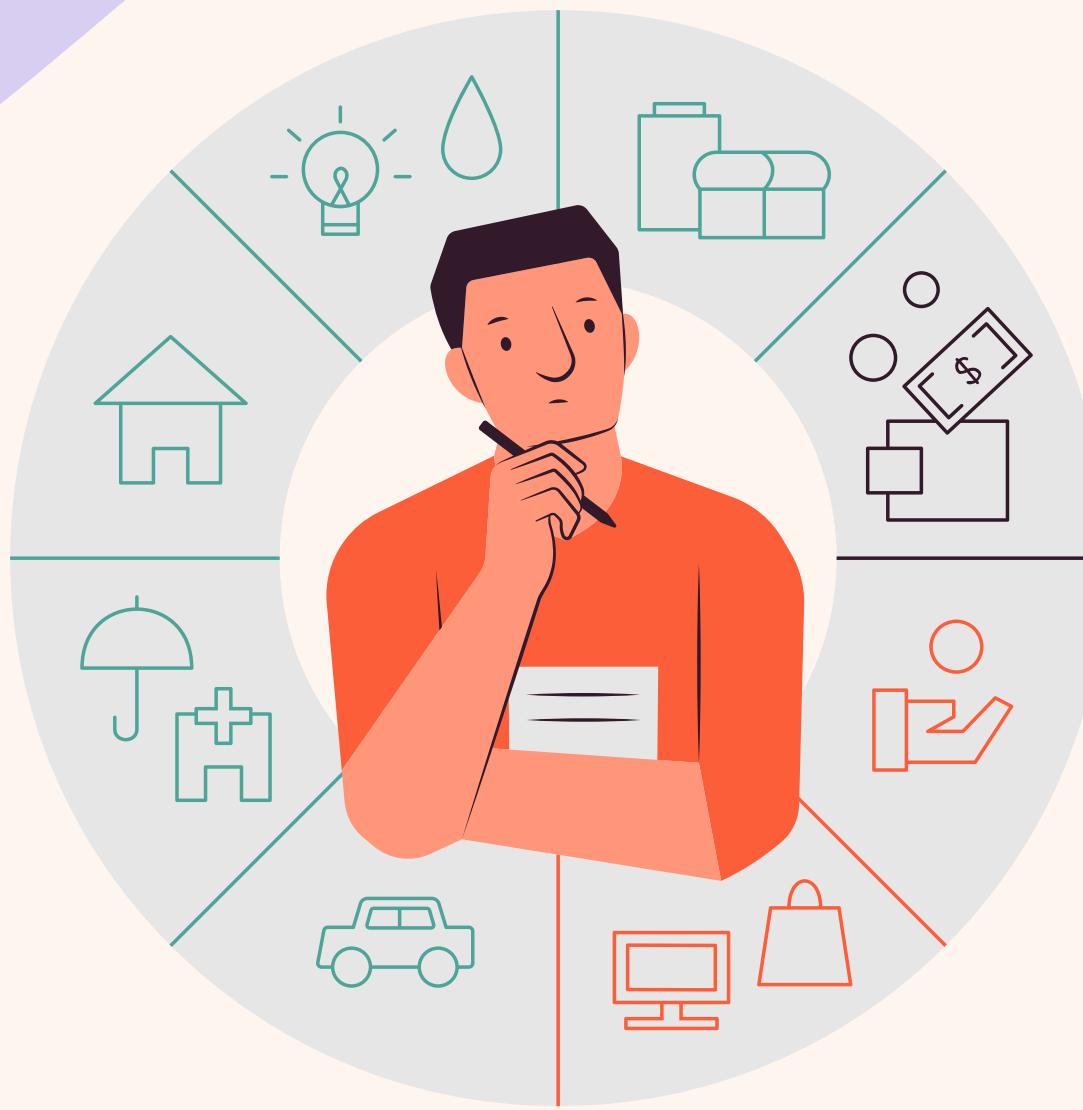
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Remaining Budget: 28 € / 250 €



From Mid to High-Fidelity Prototype Refinement

High-Fidelity Prototype

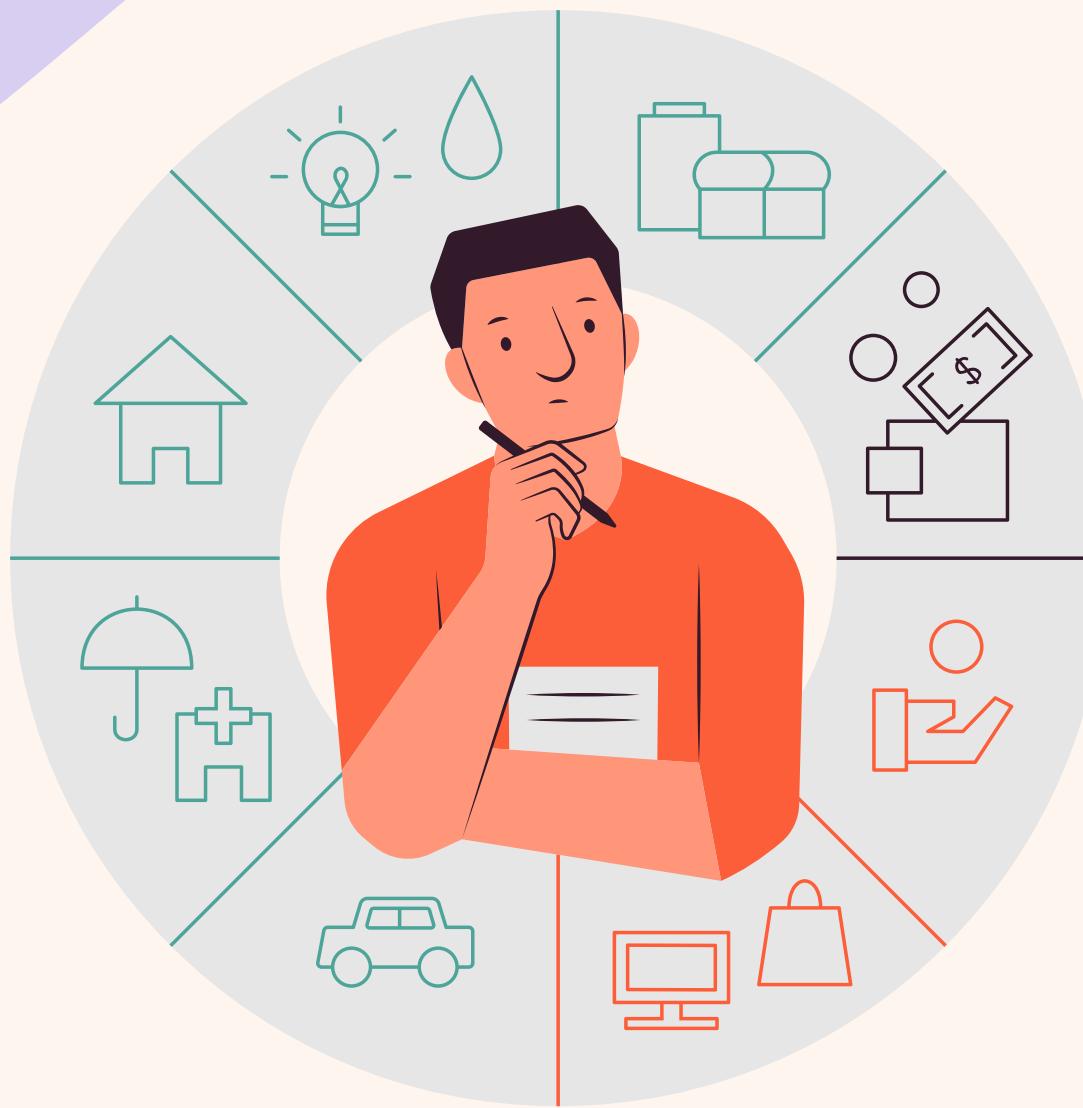
The image displays four high-fidelity prototypes of a mobile application named "piggy banking".

Welcome Screen: Shows the app logo, a globe icon, and the word "Welcome". Below it, a message says "Sign in or Log in below". It features a "Username" field with placeholder "Piggy Banker" and a person icon, a "Password" field with placeholder "*****" and a keyhole icon, and a "Confirm" button. A link "Don't have an account? Sign in" is also present.

Profile Setup Screen: Displays the "piggy banking" logo and a three-dot menu icon. A circular edit icon with a pen is centered. Below it is a "Budget Limit" bar showing "28/250 €". Other buttons include "Expenses Limit", "Investments", "Savings", "Analytics", and "General Balance". Navigation arrows are at the bottom.

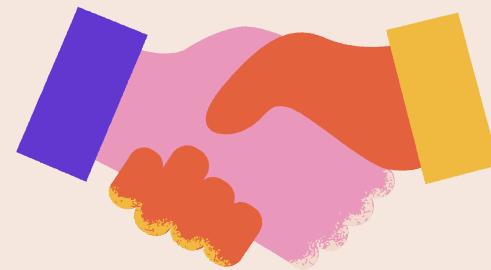
Analytics Overview Screen: Shows the "piggy banking" logo and a house icon. The title "Analytics" is displayed above a date range "1st December 2022 to 31st December 2022". A donut chart is divided into four equal segments of 25% each, labeled "202€" in the center. Below the chart, categories are listed with crossed-out items: Food (orange), Health (blue), Transports (purple), and Entertainment (green). Navigation arrows are at the bottom.

Detailed Analytics View: Similar to the previous screen, but the donut chart shows two segments of 50% each, labeled "202€" in the center. The categories listed are Food (orange), Health (blue), Transports (purple), and Entertainment (green). Navigation arrows are at the bottom.



Summative User Evaluation

Summative User Evaluation



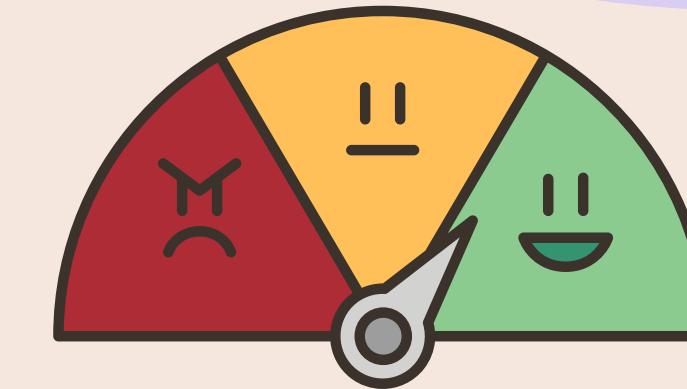
Application

- Interactive
- User-friendly



Wizard of Oz

- 5 users
- Think out loud



Evaluation

- Single Ease Question
- Averaged 6.8 from 1-7

Summative User Evaluation

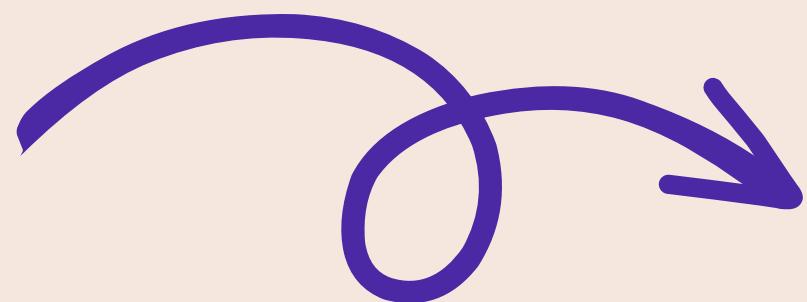


The investment's information is not straightforward



No market's performance over time

"Total per Month" is not very explicit



piggy banking

Investments Funds

Stock i

Bond i

Mixed i

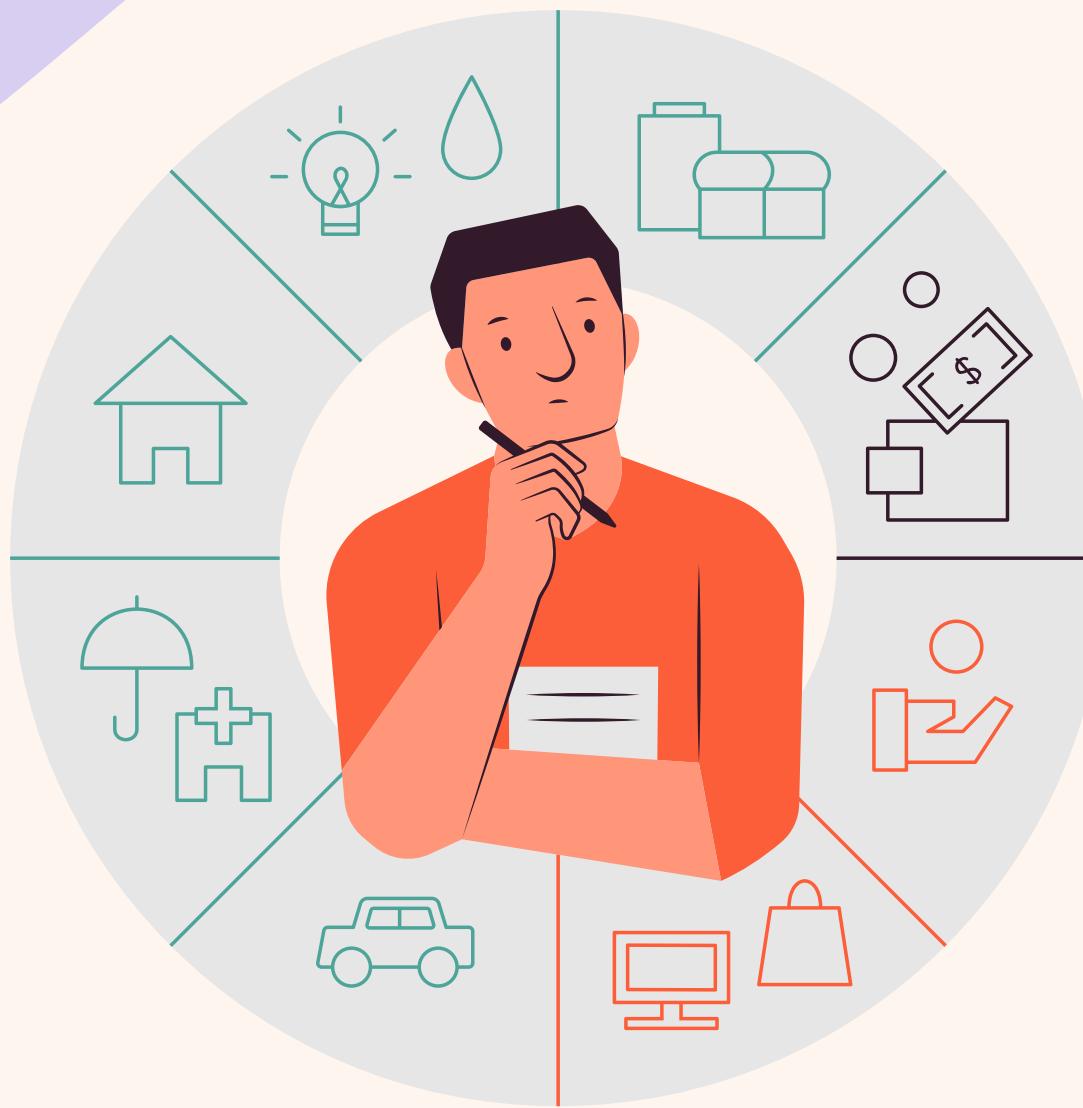
Start by clicking at "+" below

Total per Month

Total per Month in Bond Funds

0 €

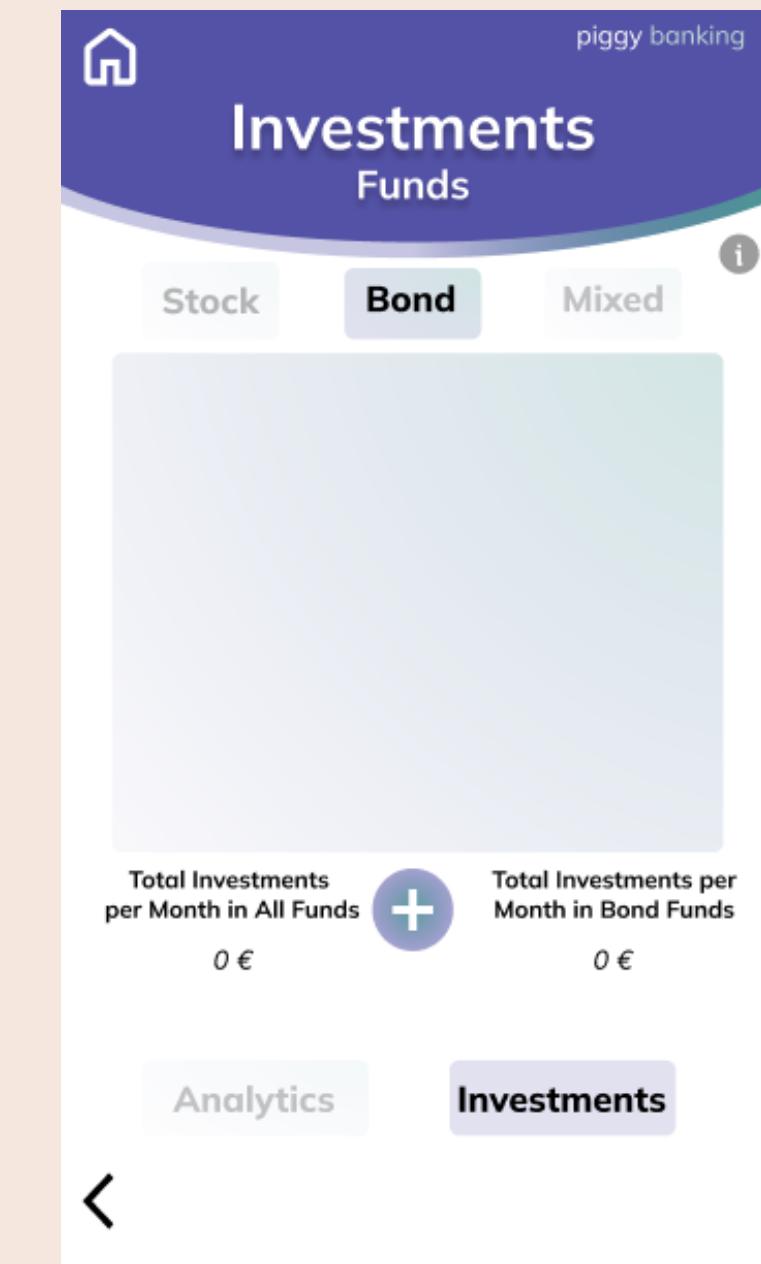
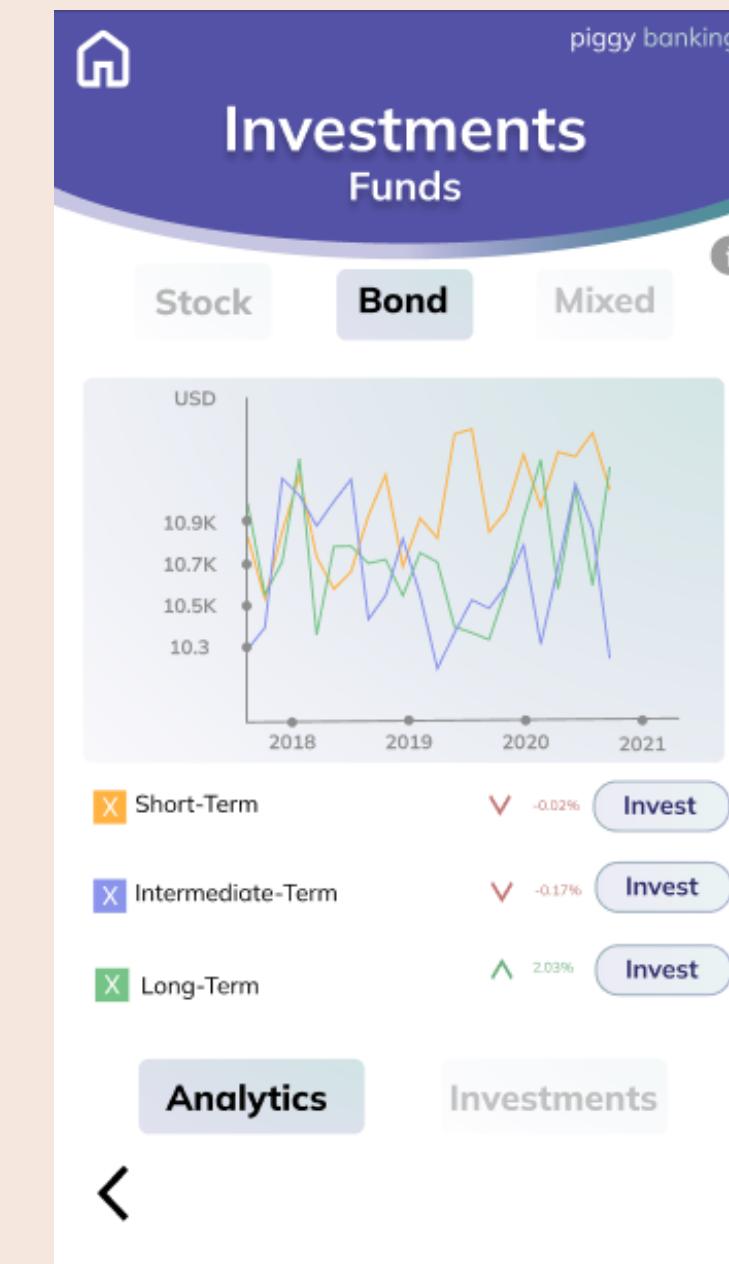
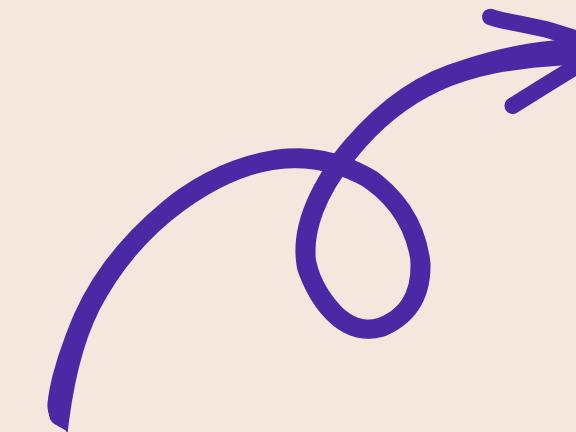
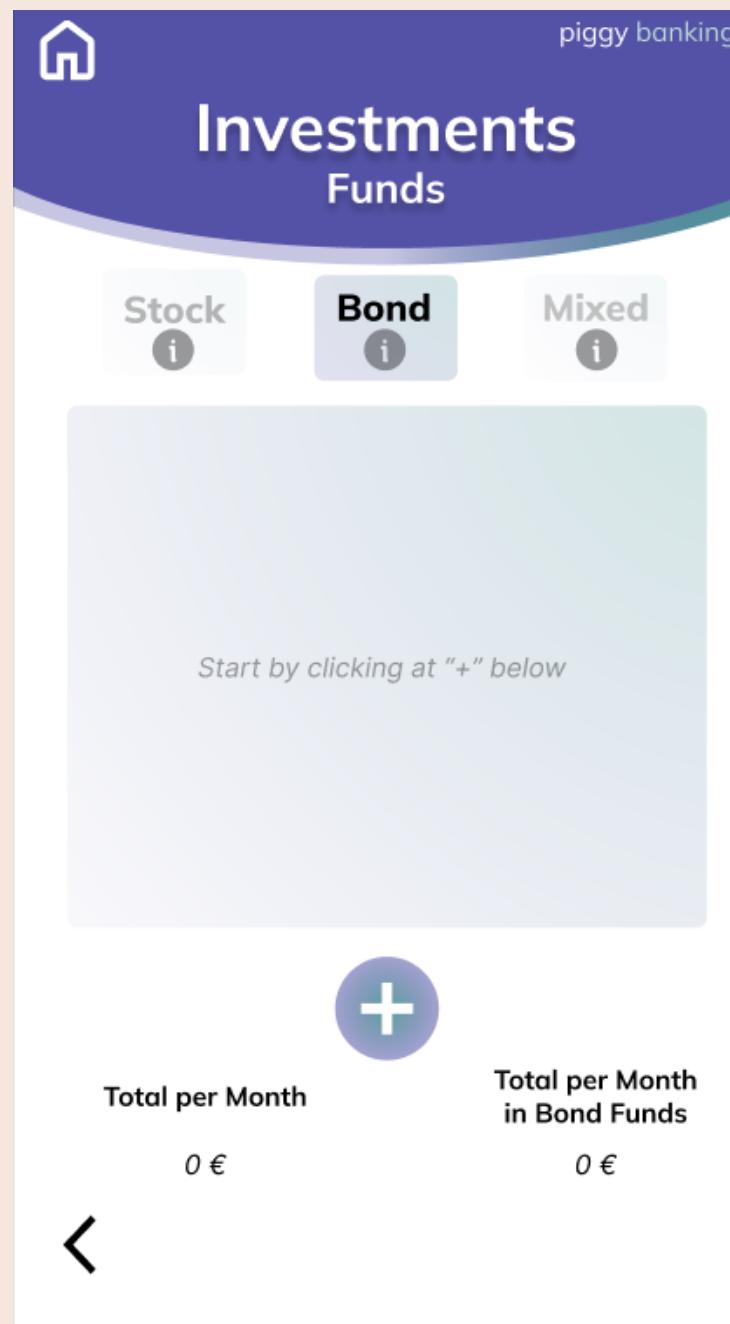
0 €



High-Fidelity Prototype

Refinement

High-Fidelity Prototype (Refinement)



Conclusion

