



BUDGET BUDDY

START COUNTING MORE

IHC - Assignment 2

DESIGN AND PROTOTYPE AN
APPLICATION, USING A HUMAN-
CENTERED APPROACH

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WHAT YOU WILL SEE TODAY

- | | | | |
|---|--------------|----|------------------------|
| 1 | Introduction | 7 | Low Fidelity Prototype |
| 2 | Objectives | 8 | Heuristic Evaluation |
| 3 | Personas | 9 | Functional Prototype |
| 4 | Scenarios | 10 | Demonstration |
| 5 | Tasks | 11 | Future Works |
| 6 | Requirements | 12 | Resources |



INTRODUCTION

BudgetBuddy is a platform for part-list and services tracking, tailored to your needs. You can create a list of products and services, and if you choose so, we'll be able to track the prices and availability for you

With BudgetBuddy, you will be able to easily track what you need for your hobbies and other aspects of your personal life

01

Organize the services and products needed for our users projects

02

Allow users to track product and services pricing

03

Allow users to keep track of products already purchased or executed services

04

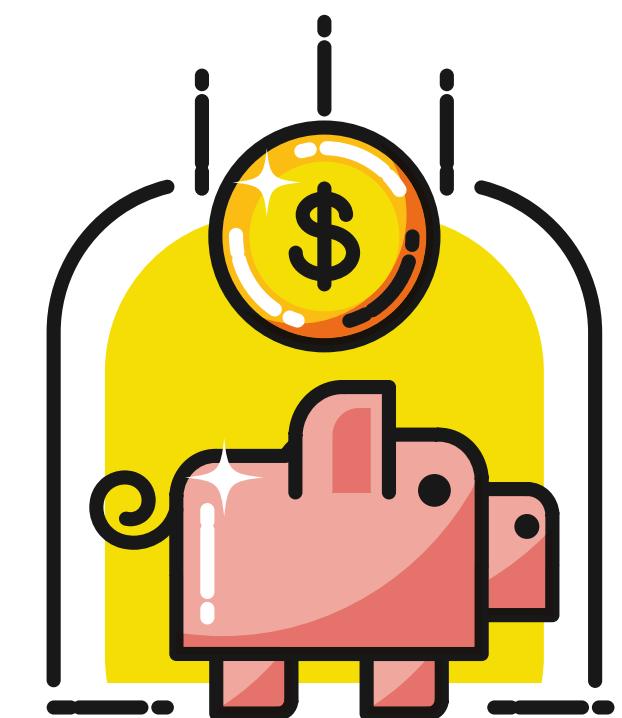
Empower users to manage the arrival of products and execution of services

05

Encourage the establishment and guidance of budget-based projects

GOALS

BUDGET BUDDY



Paulo Alberto

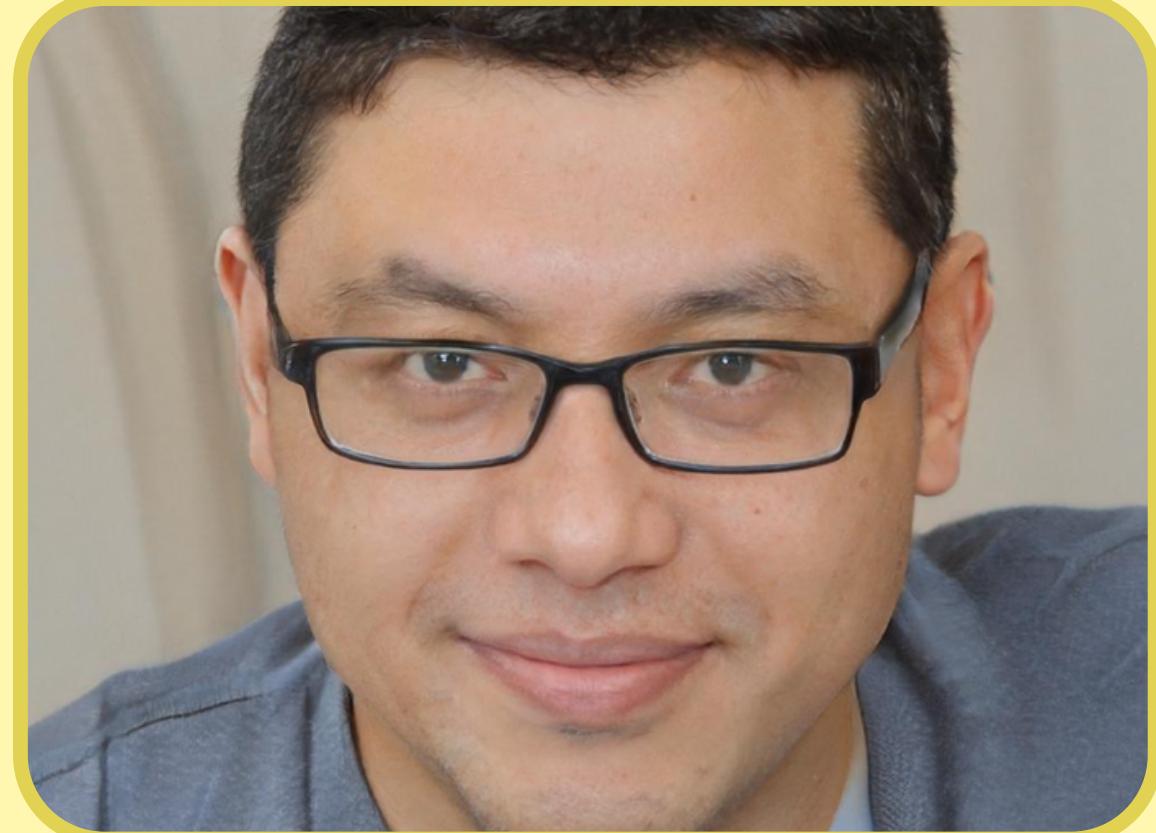
PROFILE

Gender : Male

Age : 38

Education : High School Diploma

Occupation: Electrician



BIOGRAPHY

Paulo is someone who likes to do stuff by himself. He's known in his neighbourhood as a Jack of All Trades. His family always acknowledges him as someone who easily forgets what they tell him.

GOALS AND TASKS

Find the best time to buy each element of the list to renovate his kitchen

Track the prices of the items needed for renovation

Asses the overall cost of the renovation

ENVIRONMENT

Since he has a lot of knowledge and experience, he wouldn't mind making most of the renovations. He isn't that organized, saving most of the information in a little paper agenda. He has a good knowledge of mobile phones and the internet, since he watches Youtube to learn most of the techniques he uses in his job

FRUSTRATIONS

Remember the materials and products

Remember the quotations for services

SCENARIOS - 2

KITCHEN RENOVATION

Paulo is planning to renovate his kitchen, and he has a hard time keeping up with the timing of the services and the arrival of the parts. To better manage the renovation, he uses the Budget Buddy app on his phone to create a calendar for his project. This way Paulo can also have a daily calendar with the occurrences in every project



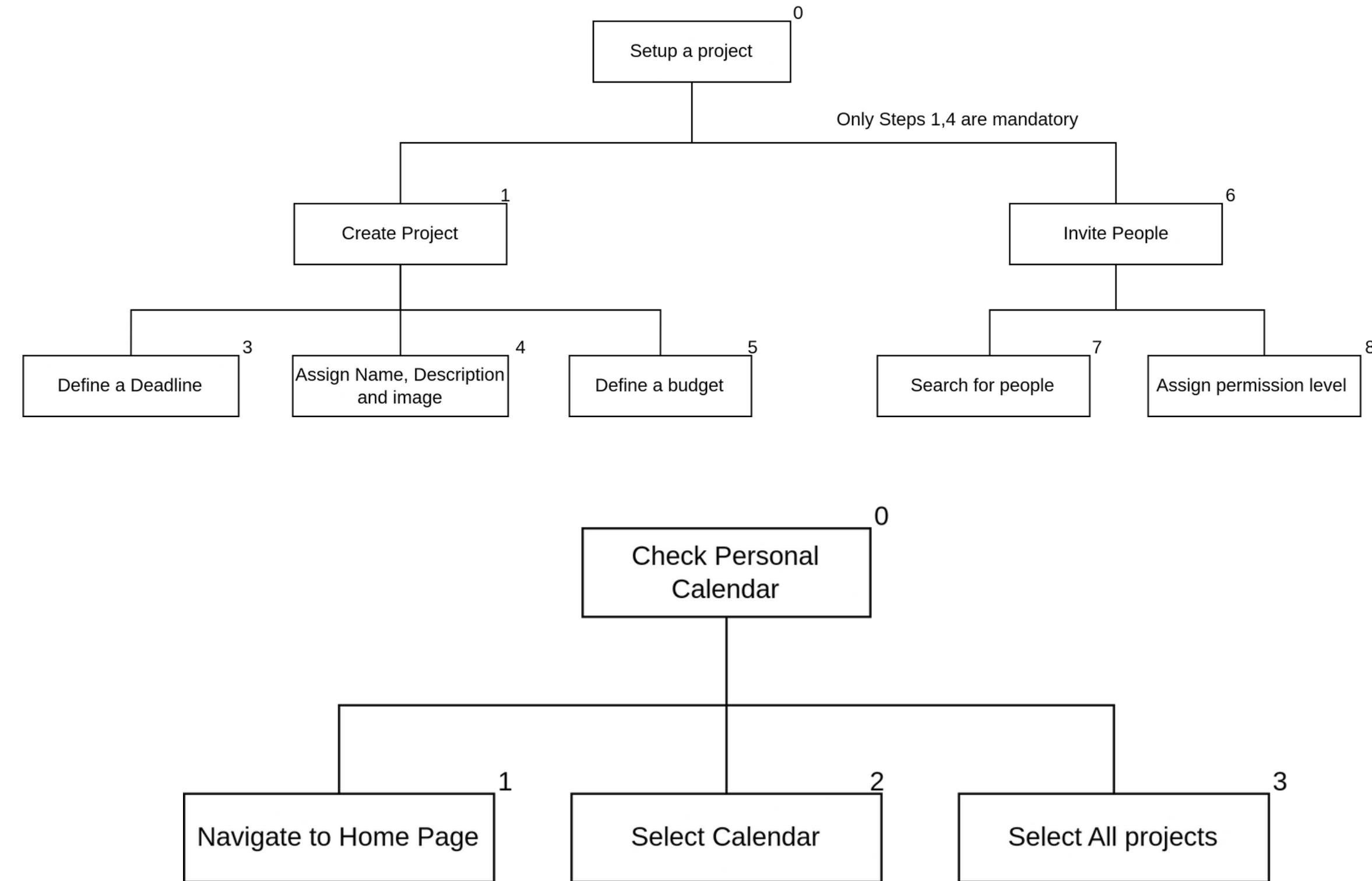
SCENARIOS - 1

PERSONAL HOBBY

Paulo wants to build a RC car for his son, so he needs to keep track of all products needed. He uses Budget Buddy app to set up a project, where he can easily add all the estimates for materials and tools. The app calculates the estimate total cost and checks if it's inside his budget. When Paulo buys any product, he can mark it as completed, in the application.

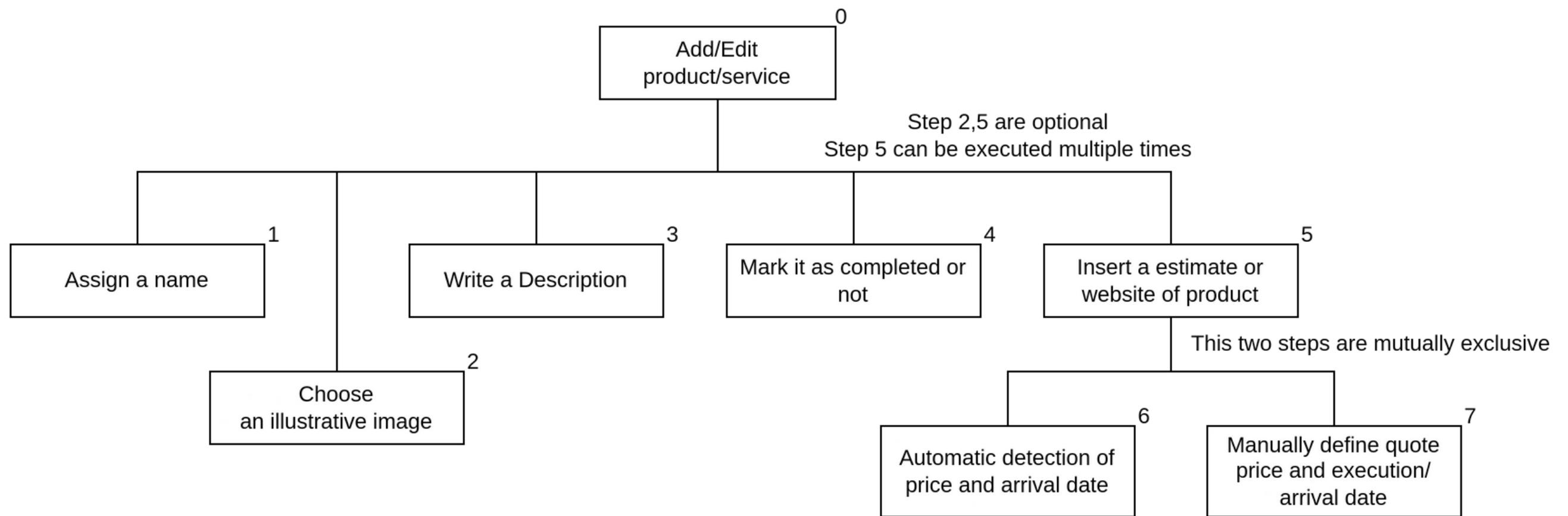


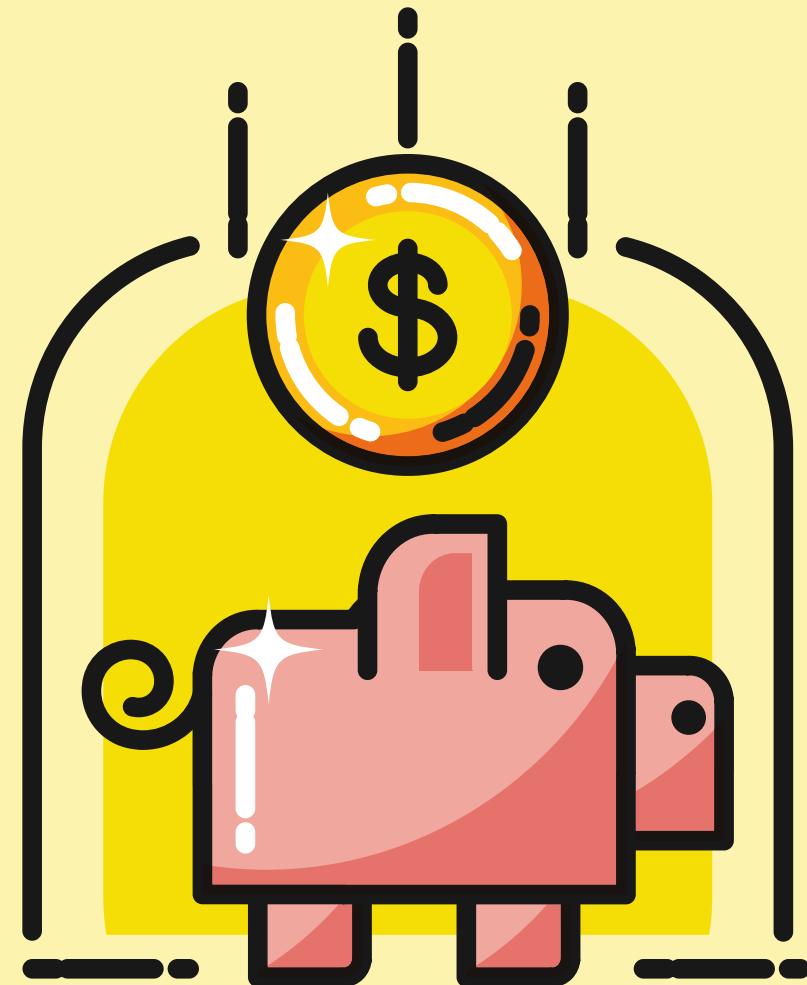
TASKS





TASKS





REQUIREMENTS

BUDGET BUDDY



NON-FUNCTIONAL REQUIREMENTS

- **Responsive:**
 - The system should be reactive and provide real time feedback on input editions
- **Secure:**
 - Each user should access resources based on roles and authorization levels
- **Accessible:**
 - Compatible with accessibility guidelines.
- **Reusability:**
 - The system components should be modular and reused
- **Usability:**
 - The system should follow a UCD approach



BUDGET BUDDY

FUNCTIONAL REQUIREMENTS

- **Global requirements:**
 - System should allow users to log-in and sign-up into their accounts
 - Users should be able to view and edit their profile
- **Products/Services:**
 - The user should be able to add price estimates and execution/arrival date
 - The system should be able to perform price and execution/arrival date tracking of at least 2 websites (when defined by the user)
 - A product/service should be able to be defined as completed or executed



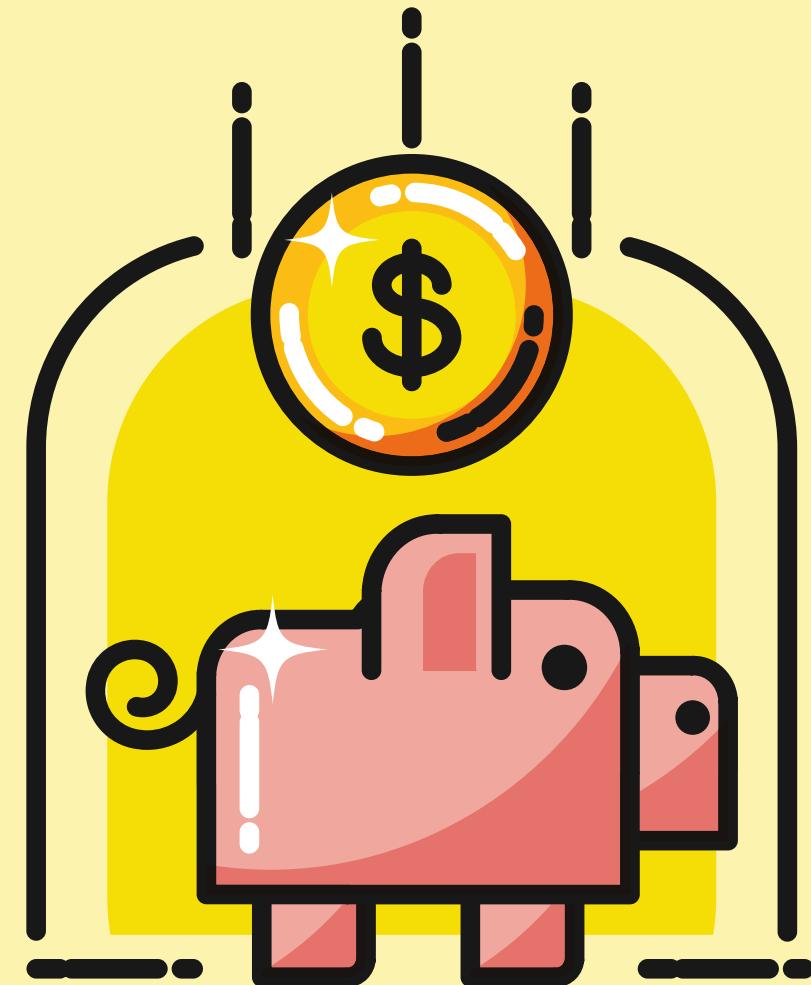
BUDGET BUDDY

FUNCTIONAL

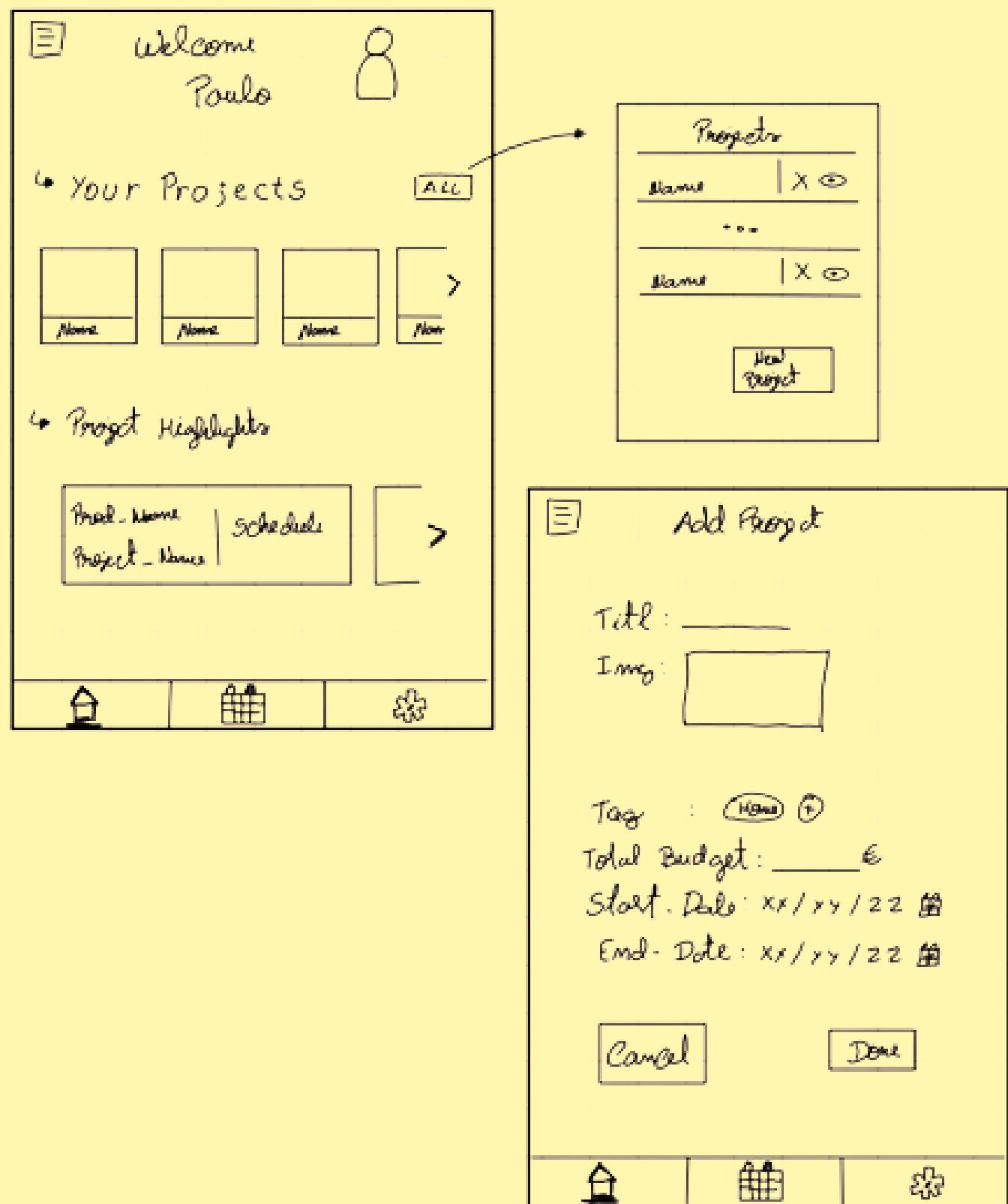
REQUIREMENTS

Project

- The user should be able to create various projects tailored to their needs
- The user should be able to specify a start and finish date, as well as a budget
- Project collaboration between users should be possible
- A project may have various products or services
- The user should be able to view a calendar for a single or all combined projects timeline
- The system should allow the user to view a graphic with the price evolution of all products on a project



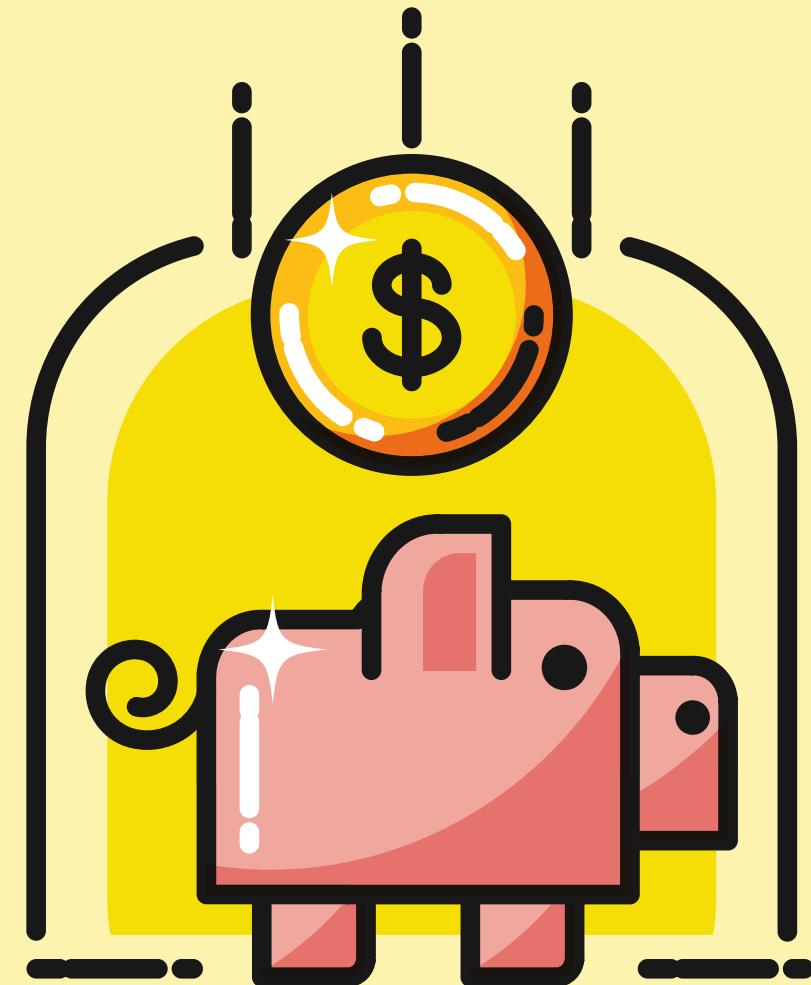
LOW FIDELITY PROTOTYPE
BUDGET BUDDY



LOW FIDELITY PROTOTYPE

MAIN FEATURES

- Personal vs Project Calendar
- Track Projects
- Add products/services to a Projects
- Invite Collaborators to a Project



USER EVALUATION
BUDGET BUDDY



BUDGET BUDDY

USER EVALUATION

- **Method : Physically with users**
 - Our objective was to assess the primary functionalities of the prototype, encompassing the defined persona and scenarios in our evaluation process.
- **Tasks :**
 1. Check all projects
 2. Add a new Project
 3. Add a product to the new project
 4. Add an estimate cost to this product
 5. Check your Personal Calendar
- **6 participants in total, participants were all approximately 20 years old.**



BUDGET BUDDY

USER EVALUATION

- **Results:**
 - Simple to use
 - User Friendly Interface
- **Key suggestions:**
 - Dedicated button for creating a Project, in the main page
 - Permissions for collaborators in a Project
 - Ability to mark a Product or Service as completed
 - Separation between Products and Services, in Project section



LOW FIDELITY PROTOTYPE
BUDGET BUDDY



BUDGET BUDDY

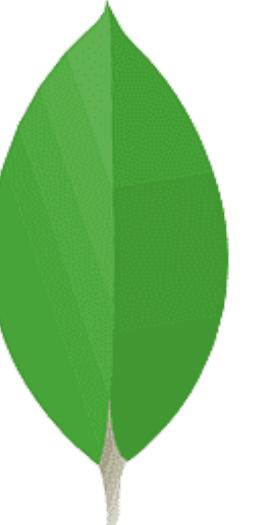
FUNCTIONAL PROTOTYPE

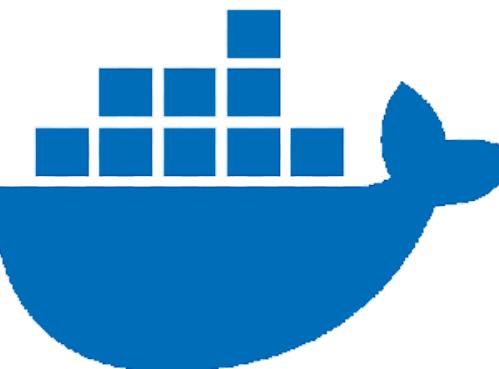
TOOLS

 Vue.js

 VUETIFY

 mongoose

 mongoDB

 docker

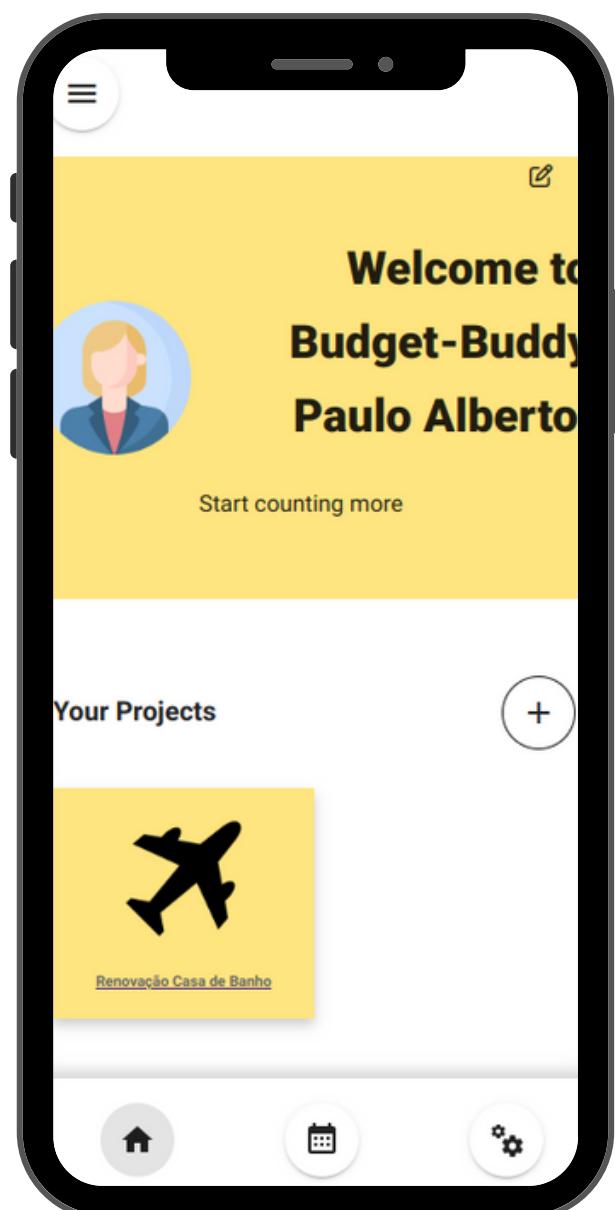
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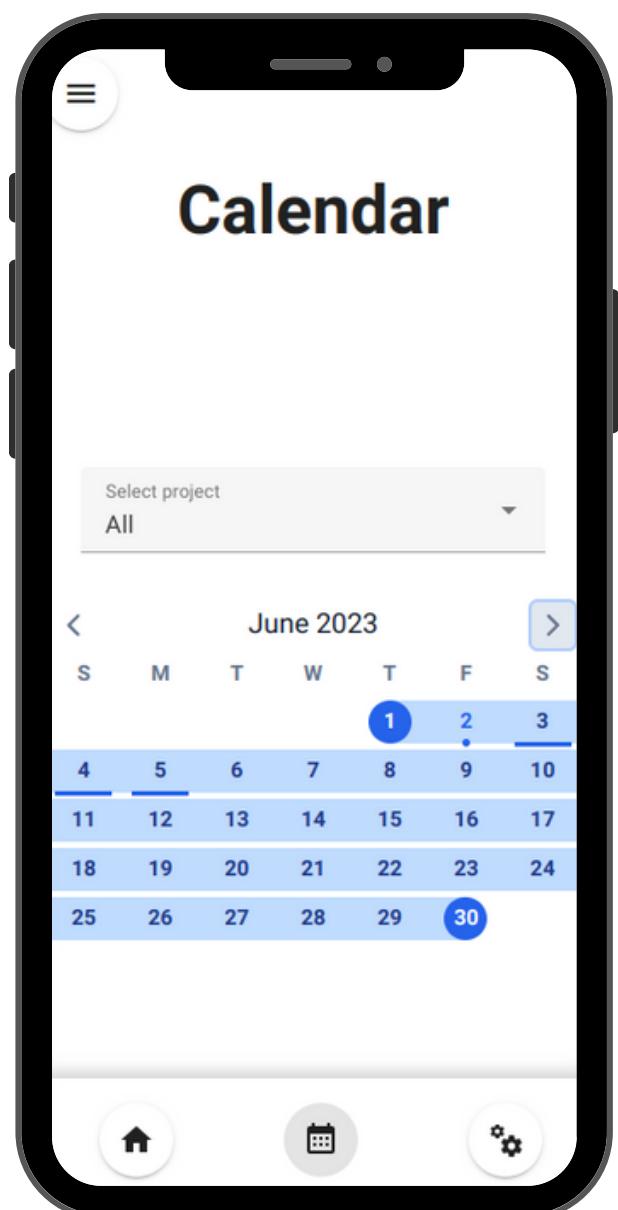
BUDGET BUDDY

FUNCTIONAL PROTOTYPE

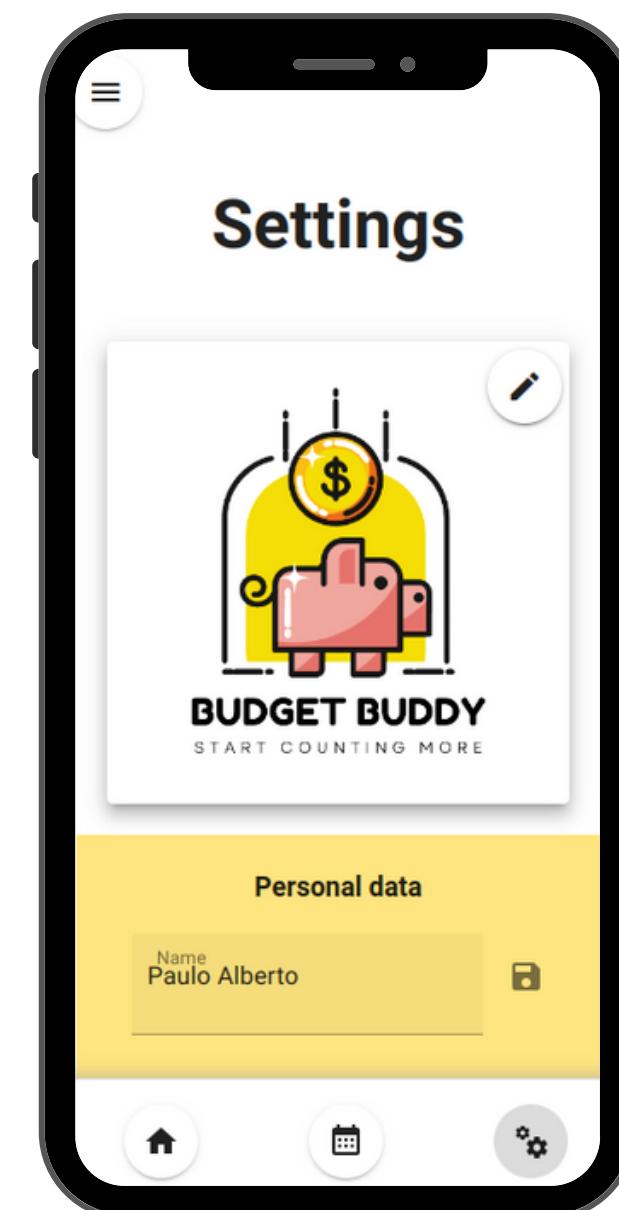
REGULAR PAGES



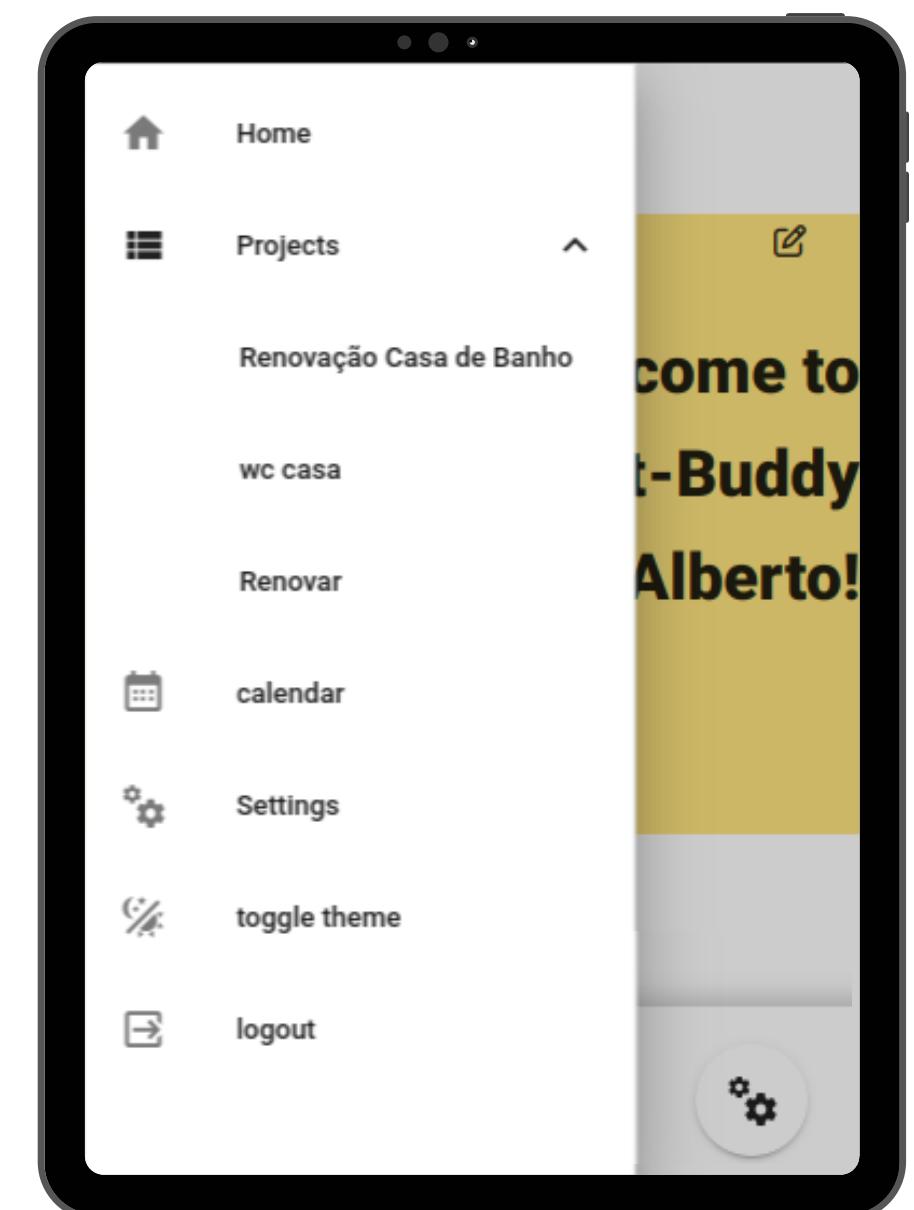
Home Page



Calendar



Personal Settings



Navbar



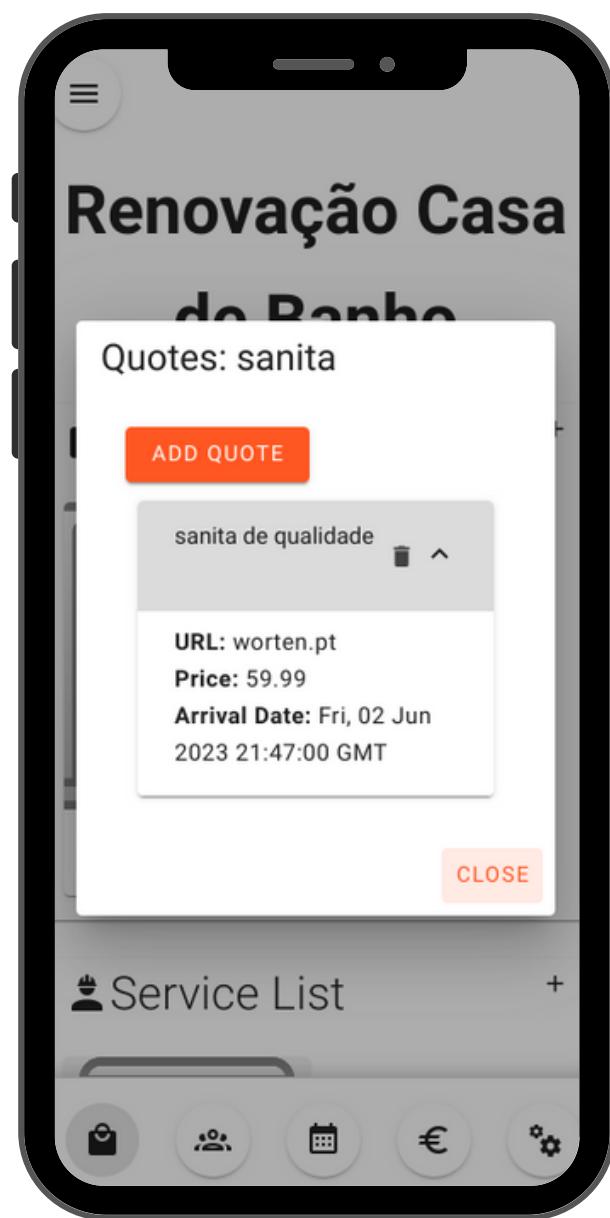
BUDGET BUDDY

FUNCTIONAL PROTOTYPE

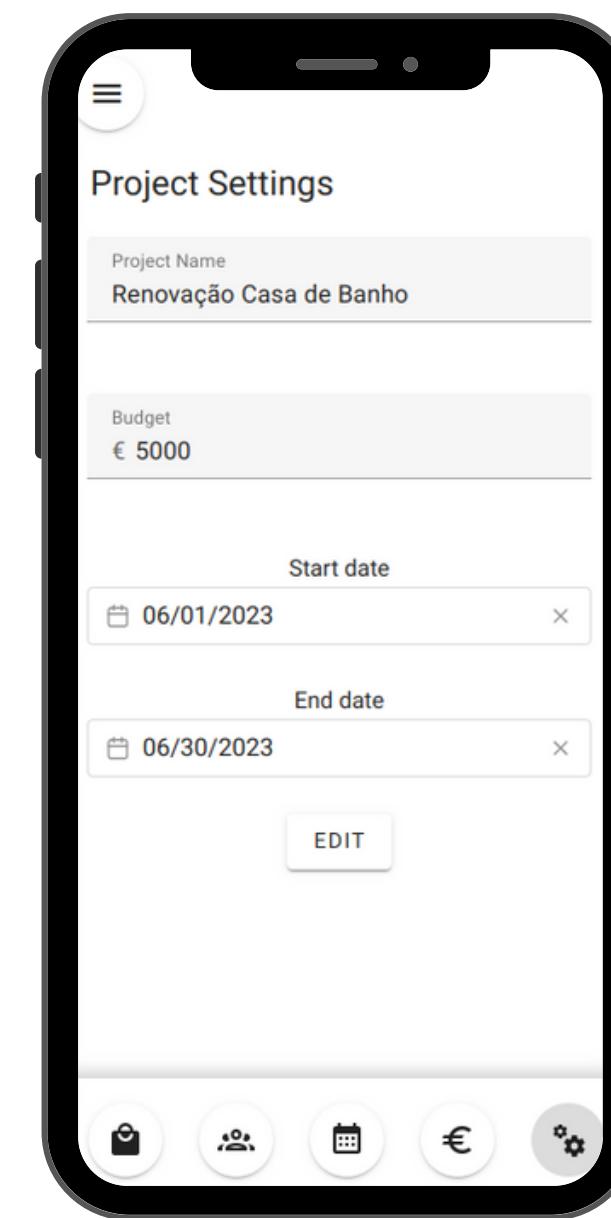
PROJECT'S PAGES



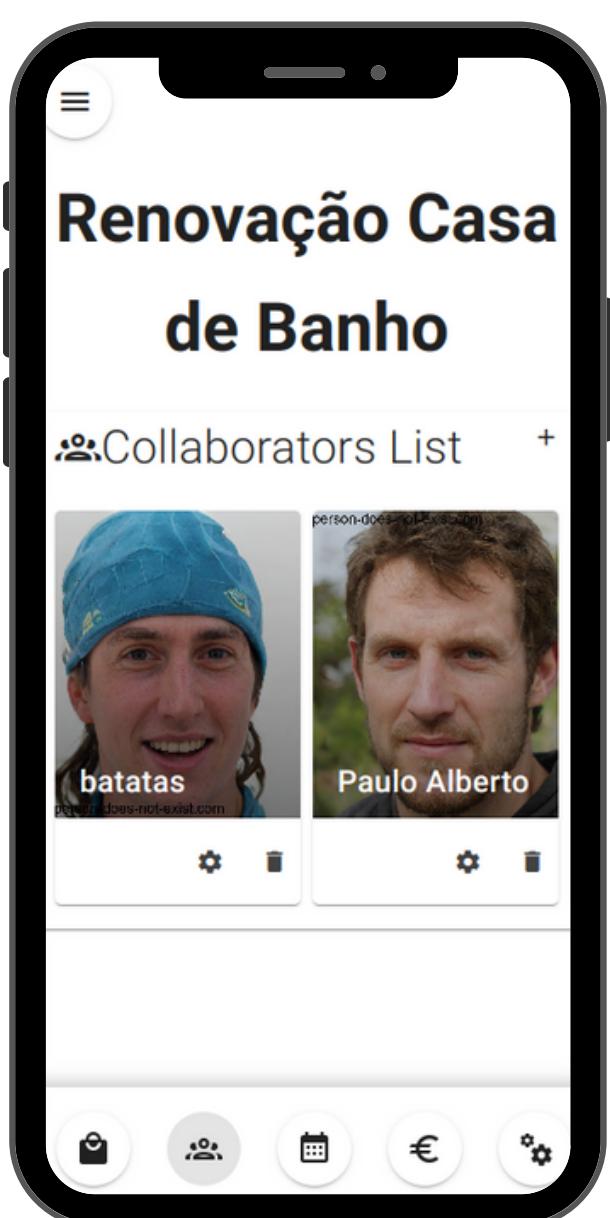
Project Page



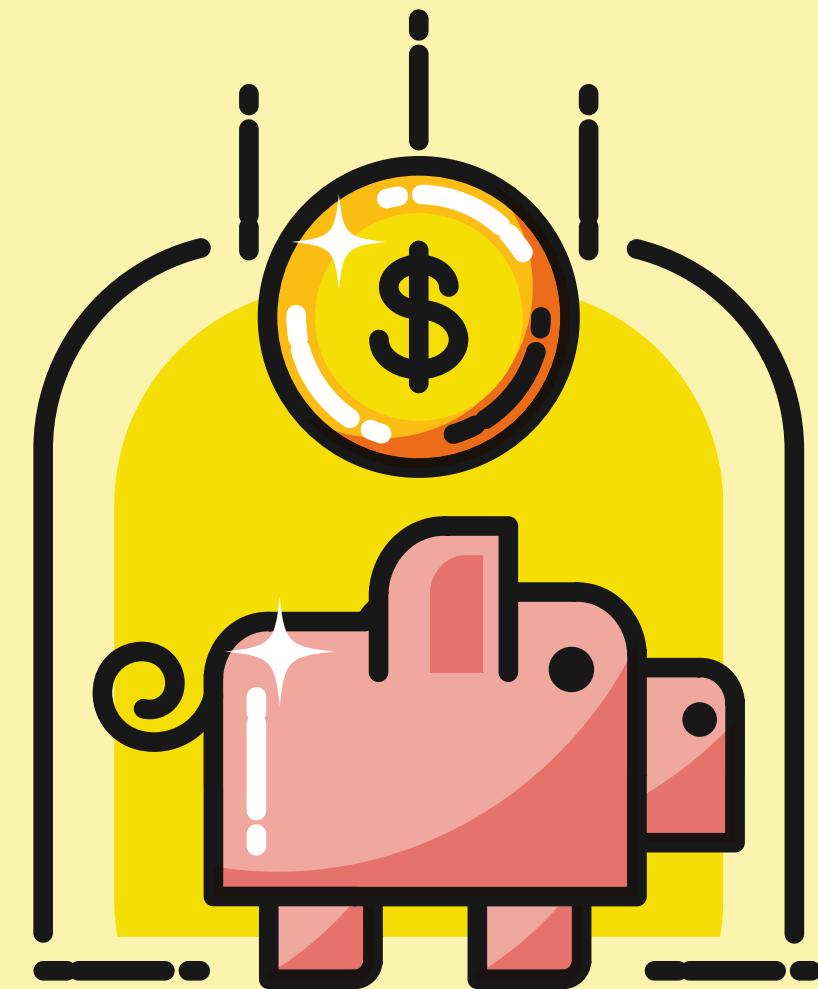
Add quote



Project Settings



Collaborators



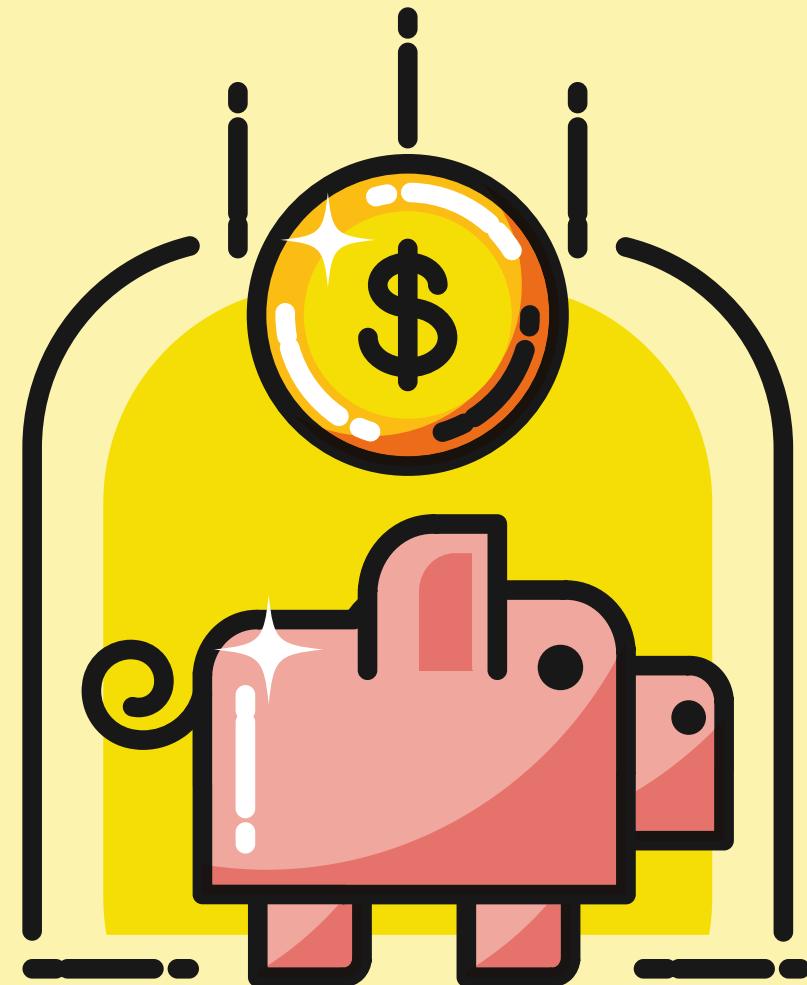
HEURISTIC EVALUATION
BUDGET BUDDY

Heuristic Evaluation of the Functional Prototype

Usability Problem	Evaluators	Heuristic	Severity Degree
The system doesn't inform the user when an object is created, such as a project or a product.	G	Visibility of system status	1
When the user commits an action, such as removing a product or a service, there isn't a button to undo the operation.	T	User Control and Freedom	2
The platform lacks a presentation/documentation page that explains the objective of the system	C	Help and documentation	1
The existence of two calendars (one personal and one for the project) is not well distinguished.	T	Consistency and standards	1
The "Add collaborator" form only asks for the collaborator's email. A different mechanism could be used, such as searching by name	C	Recognition rather than recall	1
The "add quote" for products allows entering regular text in a price field.	G	Error prevention	1



The image shows three smartphones arranged in a triangular pattern, each displaying a different screen of the Budget-Buddy mobile application. The top phone shows the welcome screen with a user profile picture and the text 'Welcome to Budget-Buddy'. The middle phone shows a list of 'Your Projects' with a card for 'Renovação Casa de Banho' featuring an airplane icon. The bottom phone shows another view of the project list. The phones have black frames and are set against a white background.



USER EVALUATION
BUDGET BUDDY



BUDGET BUDDY

USER EVALUATION

METHODOLOGY

- **Method**
 - Tests Physically with users
 - Observer notes
 - User Guide
 - Post Task Questionnaire

Usability Test User Guide

Tasks: Consult the website to perform the tests:

Task	Description	Rating Scale
Task 1	Register your account and enter the application.	Very difficult 1 2 3 4 5 Very easy
Task 2	Create a Project to start over the next week and add paulo.alberto@ua.pt as a collaborator that can only be seen.	Very difficult 1 2 3 4 5 Very easy
Task 3	Access your personal calendar and check that the current dates for your Project are correct.	Very difficult 1 2 3 4 5 Very easy
Task 4	Add a product to the project. Then add a quote of your cost and availability.	Very difficult 1 2 3 4 5 Very easy



BUDGET BUDDY

USER EVALUATION

PROPOSED TASKS

Method : Physically with users + User Guide and Post Task Questionnaire

TASK 1

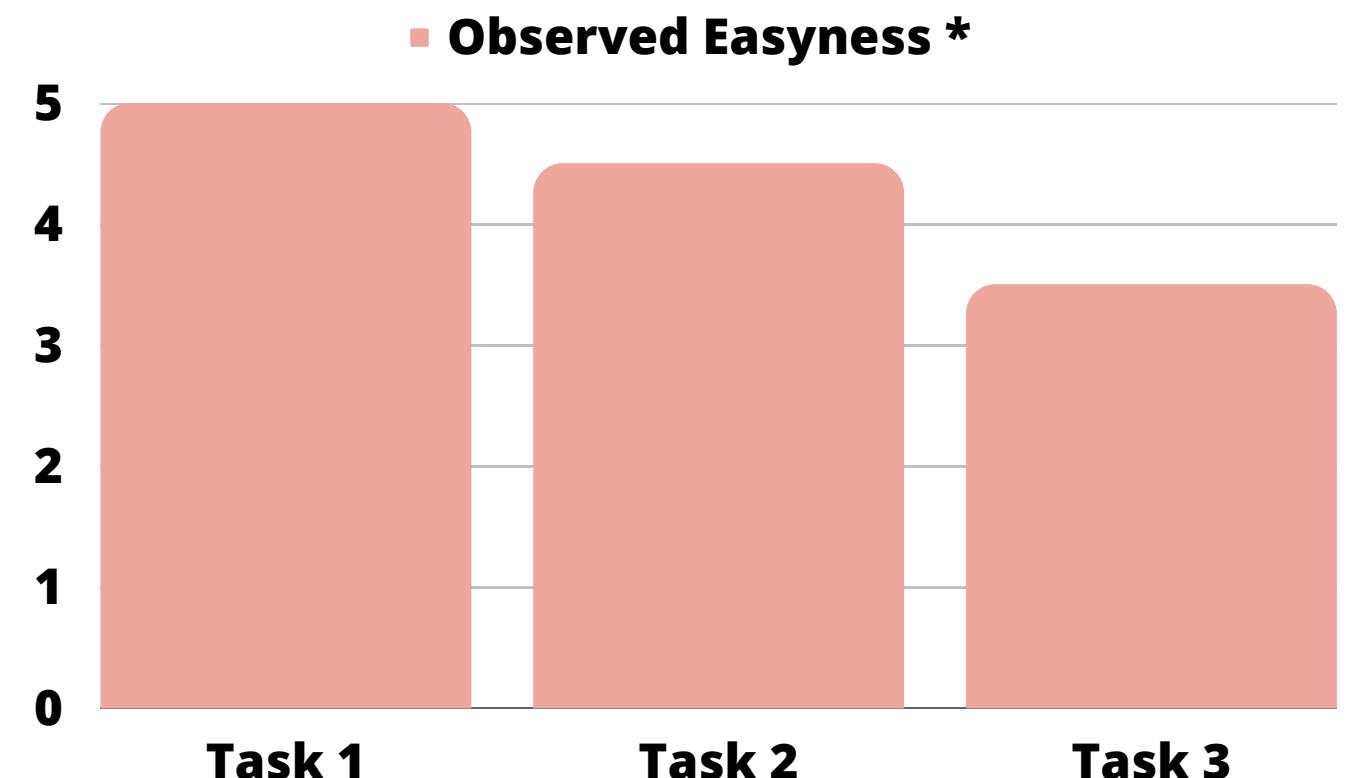
Register your account and enter the application.

TASK 2

Create a Project to start over the next week and add paulo.alberto@ua.pt as a collaborator that can only be seen.

TASK 3

Access your personal calendar and check that the current dates for your Project are correct.



* The results presented are the result of the average of the data collected the results presented are the result of the average of the data collected



BUDGET BUDDY

USER EVALUATION

PROPOSED TASKS

TASK 4

Add a product to the project. Then add a quote of your cost and availability.

TASK 5

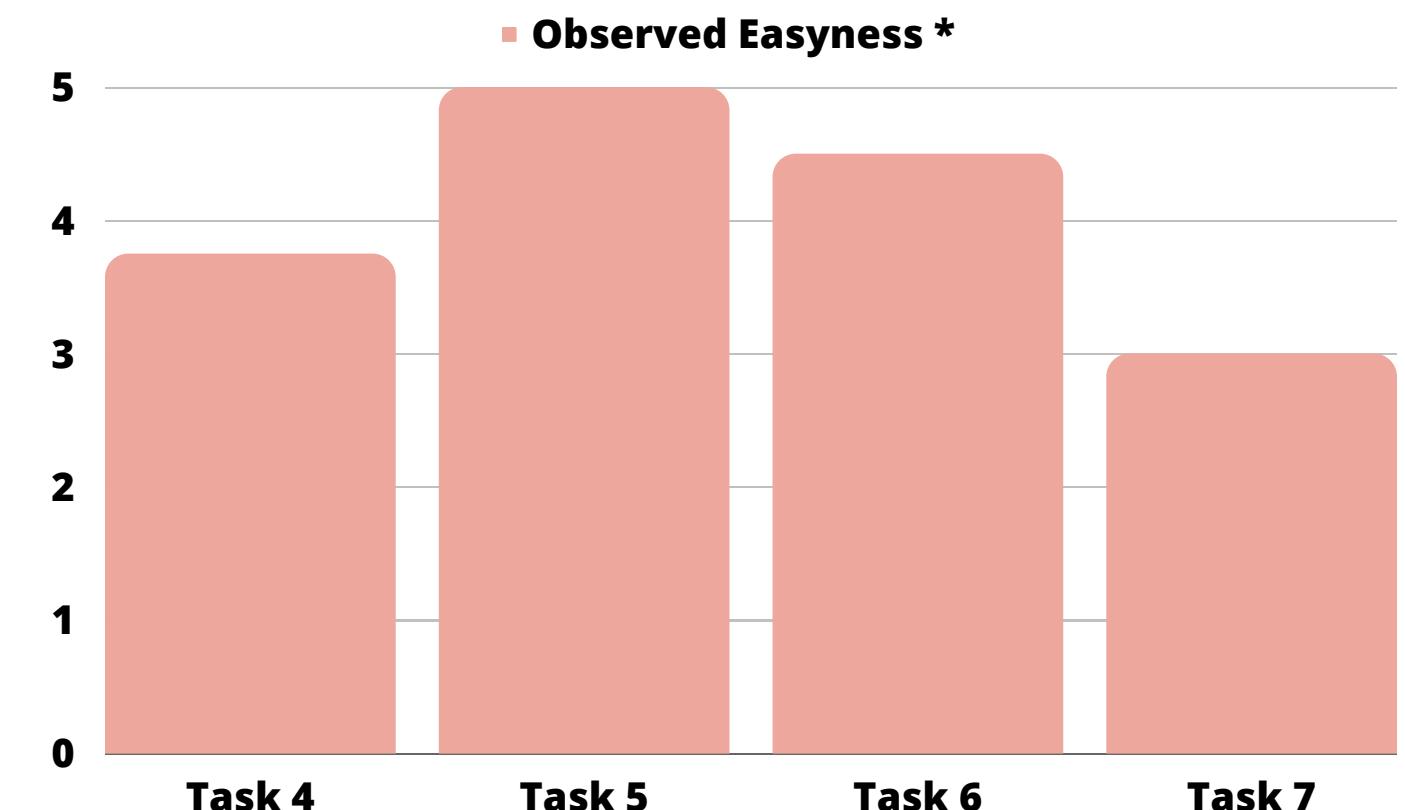
Add a service to the project. At the end, mark it as done.

TASK 6

Consult the project calendar and check the timing of the values you added before.

TASK 7

Log out of your session and log into your paulo.alberto@ua.pt account, with the password 123456. Check that you are added to the project you created earlier.



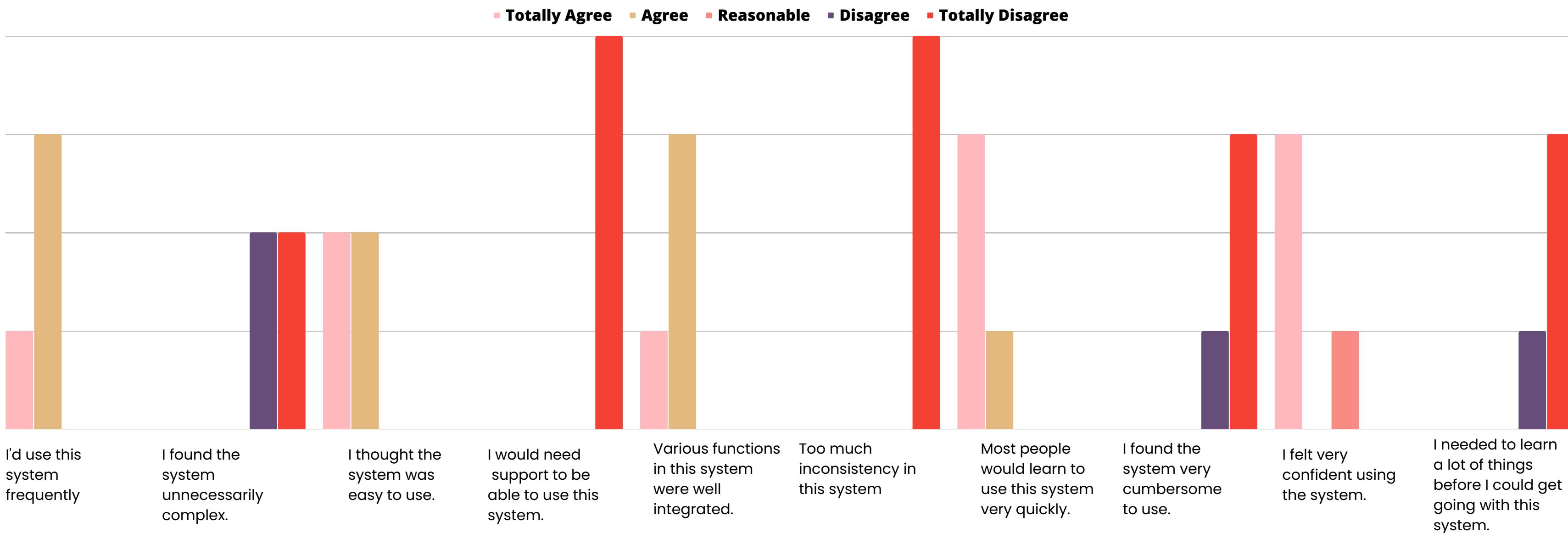
* The results presented are the result of the average of the data collected the results presented are the result of the average of the data collected



BUDGET BUDDY

USER EVALUATION

RESULTS OF QUESTIONNAIRE





BUDGET BUDDY

USER EVALUATION

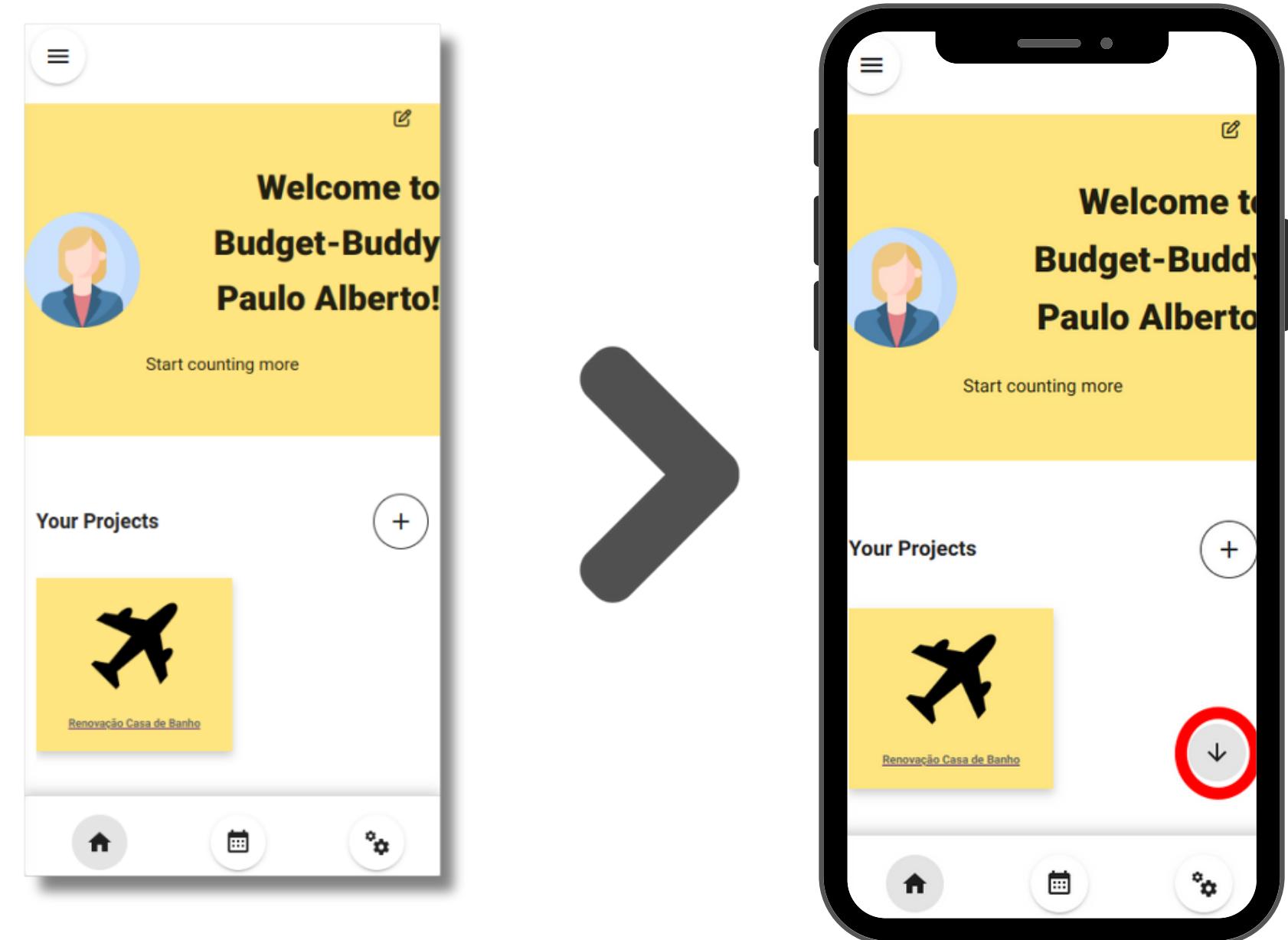
PROBLEMS DETECTED

Problem

- Users couldn't understand that there were more Projects located bellow on the page

Solution

- Button that Indicate that there is more content bellow and fades when the bottom of the page is reached





BUDGET BUDDY

USER EVALUATION

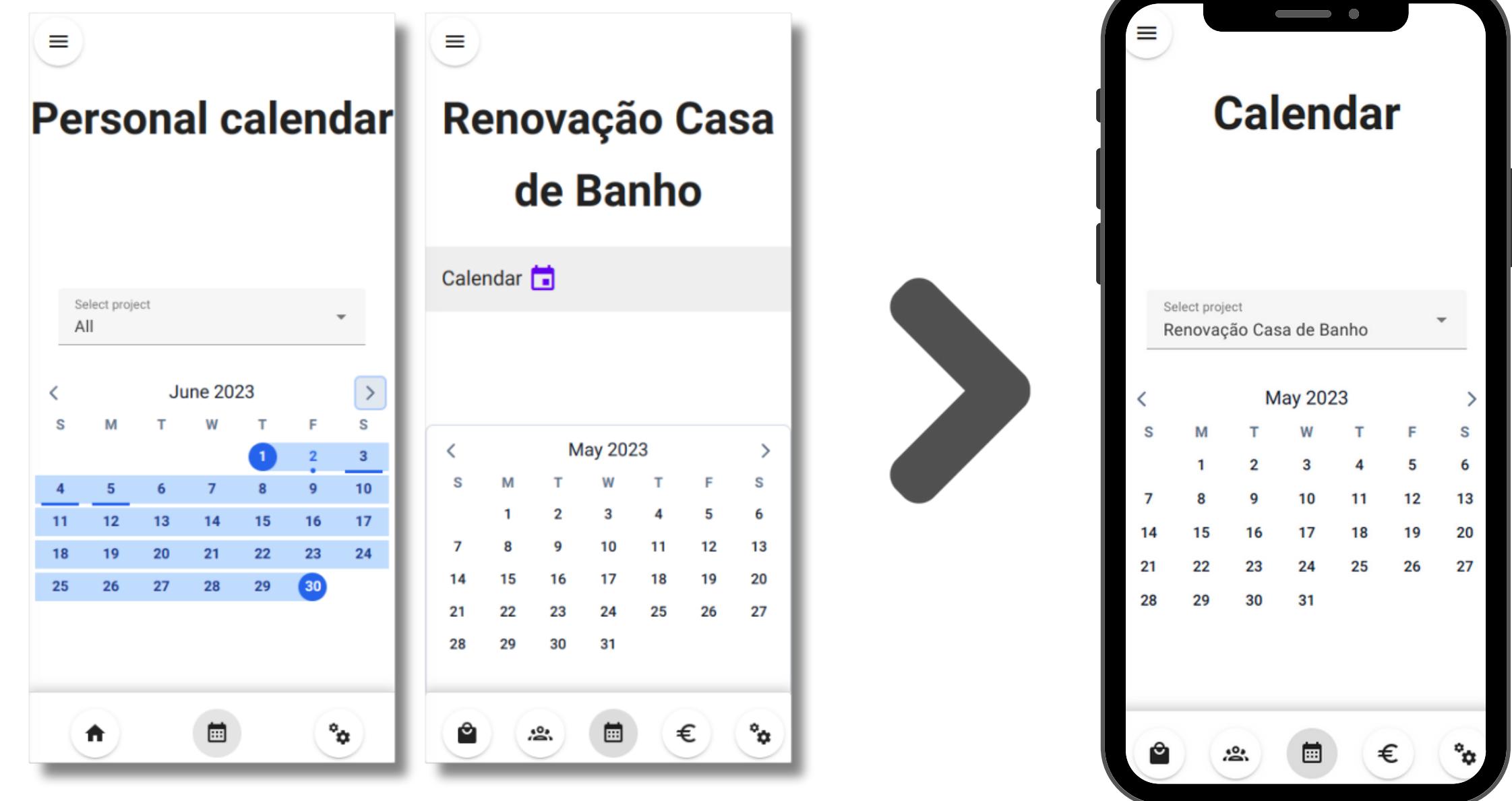
PROBLEMS DETECTED

Problem

- There shouldn't exist two separate calendar's, one for the Project and other Personal

Solution

- Merge of both Calendar's and when in the Project's page, the Calendar default's the filter to itself





BUDGET BUDDY

USER EVALUATION

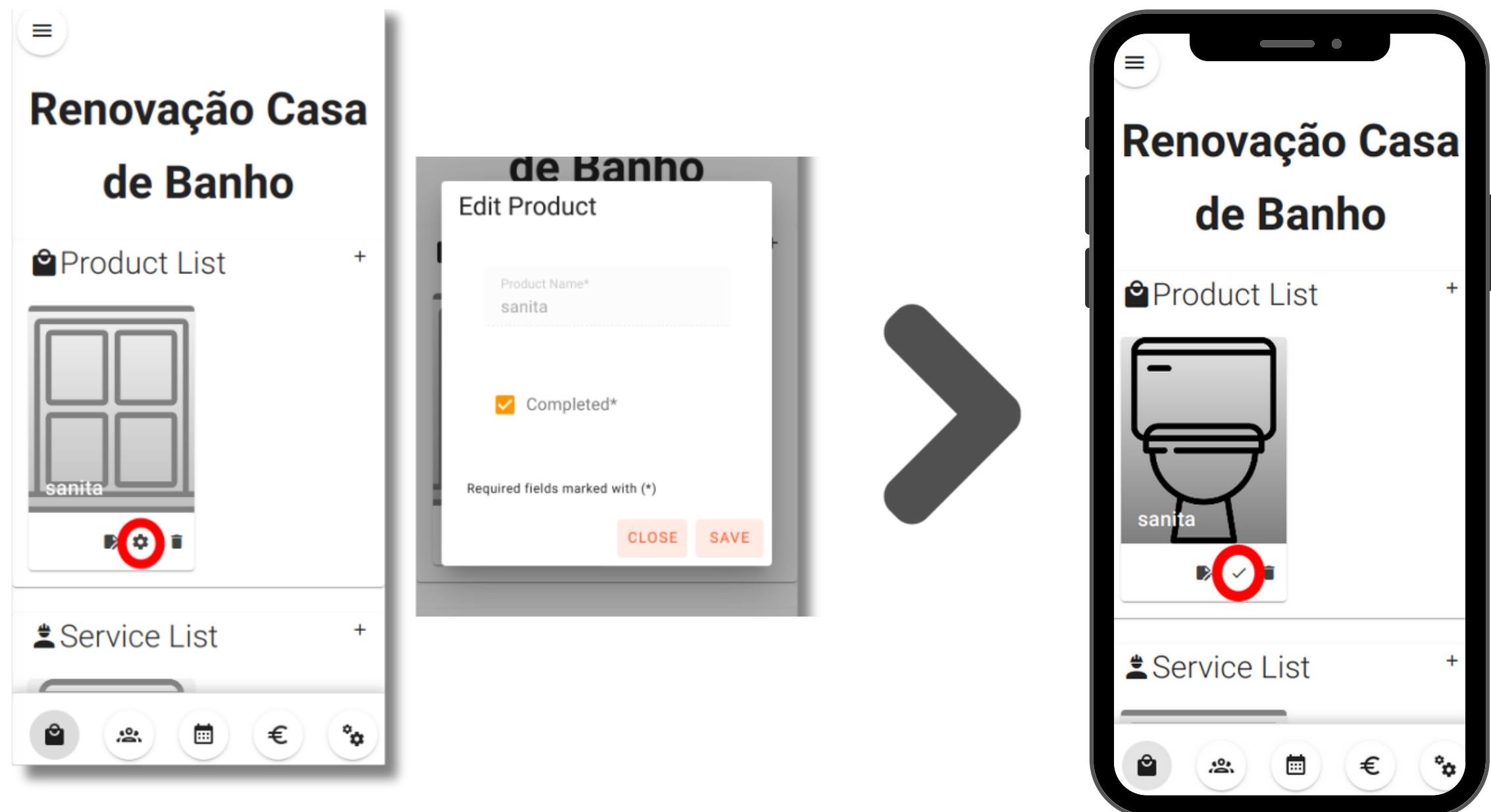
PROBLEMS DETECTED

Problem

- Too many clicks to mark a Product/Service as completed, especially given that it's present in a settings section that only allows the user to alter the completed field

Solution

- Dedicated button to mark a Product/Service as completed





DEMONSTRATION

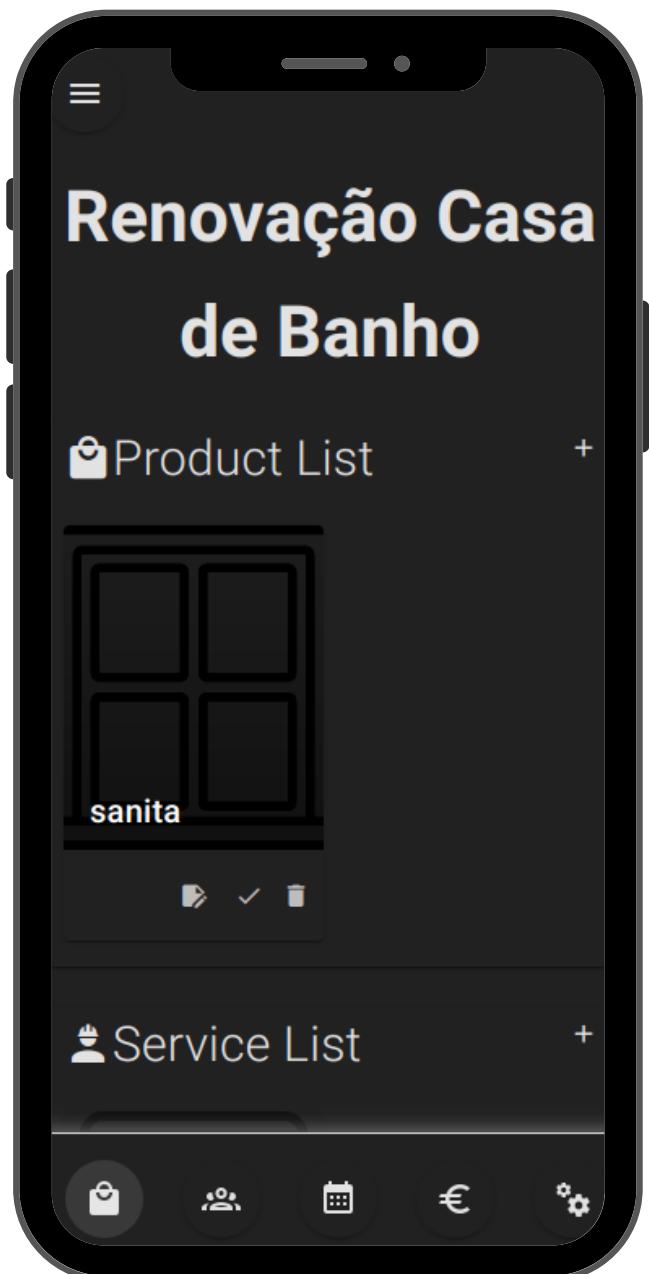
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FUTURE WORK

- Implement dynamic statistical data
- Improve the integration with Backend
- Add a more robust price tracking by website
- Implement better feedback for the user (Creating project, tracking price, etc.)
- Implement user selection of icons or images for project, services/products images





BUDGET BUDDY RESOURCES

- Project Repository (Including User Evaluation templates)
 - <https://github.com/TiagoSilvestre1/budget-buddy>
- User Evaluation results:
 - <https://docs.google.com/spreadsheets/d/1xktJnhBhzY9mIGv3upLL7dJsXD-v2UD4ITVje6q5PhA/edit?usp=sharing>
- Low Fidelity Prototype
 - https://drive.google.com/file/d/1nghM_nsCU5yE7Ge_JoikRcRKdEb7xYfc/view?usp=sharing

END OF PRESENTATION

Thank You for being *sharp*