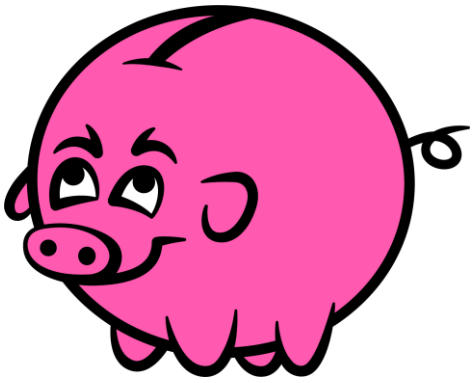
Enhancement of the Bónus app



BÓNUS

Final Project

Software project management
T-740-SPMM

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Project Summary

During the development of this project, we had to realize several documents. In this section, we will briefly summarise the content and rationale behind each of the documents we attached to this project's submission.

Design Documentation

This file describes in depth the process that led us to our prototype, discussing the process from its beginning until the realization of the Figma prototype.
Starting with a brief introduction that covers the main ideas behind the document, we continue by describing the design principles that guided us throughout the design planning and development steps.
After this initial information, we present a more detailed description of the design process, starting with our ideas and explaining how we moved from the initial sketches to the final prototype. More information on this step is available in the related file Design Phase_Group4_SPM_final_report.pdf.
Also, the final Mockup of the application, derived from the process described in the document, is available on Figma at the following link: Figma prototype.

User Stories

To keep our design and development user-centric, user stories were created. Below are examples of a few user stories created for the process.

- As a customer, I want to see my total money spent over a period of time, so that I can have a better overview of how I spend my money on groceries.
- As a customer, I want to see my purchases categorized by product (drink, meat, dairy, etc), so that I can see where I'm spending the most money.
- As a customer, I want to see my top 5 most bought products, so that I know which products I commonly buy.
- As a budget-conscious customer, I want to be notified if there is a cheaper alternative option for a product I usually buy, so that I can save money.

The full list of user stories can be found here: Trello Board.
The estimates in Trello are in hours.

Requirements

With special attention to the needs of end users, we planned the development process to be centered around requirements and features that would simplify the user's journey during the use of our application. We divide those requirements into functional and non-functional and present the main idea around these two categories in the following lines.

Functional Requirements

Our app is designed to run on a solid foundation of functional requirements, covering multiple aspects of the shopping process. There are several benefits for users. The first is that they will be able to register easily, access a comprehensive catalog of products, manage their shopping carts, use Gripið & Greitt with the loyalty program, get information based on their purchases, as

well as a long-term analysis. This app's functionality will represent our commitment to offering our customers a seamless and efficient way of shopping.

Non-functional requirements
There are a number of non-functional requirements for the application that focus on performance, security, scalability, and user satisfaction. Users will experience swift load times. Security is at the forefront, protecting user data. Scalability will allow the brand to meet growing demands. And, our design choices will be visually appealing, enhancing user confidence and satisfaction.

Using those as guidelines, we moved to Trello, an online platform that, in our opinion, better suits the needs of this project, and started writing down user stories from which we extracted the requirements of the application.
Since the beginning of the project, we have adopted an Agile methodology; therefore, not all the user stories have been further defined and expanded in requirements.
Instead, following an iterative fashion, we decided on a subgroup from the highest-priority user stories and analyzed them to create requirements.
We assume that by following this approach, all the user stories will eventually be "resolved" into features, resulting in a useful and interesting app for the final users.
More information on the currently defined user stories and the extracted requirements are available in the Trello board at the following link: Trello Board.

Development Process

Our main focus in improving the Bónus application was the insight system and the Bónus coin incentive; therefore, we prioritized those user stories and requirements.

We commence our development journey with a dedicated one-month design phase. During this time, our UI/UX designer will craft prototypes and conduct user testing to ensure an intuitive and user-friendly interface. Simultaneously, our backend developers will be engaged in designing the database and backend architecture. This parallel approach allows for efficient collaboration between the design and technical teams, ensuring that both the user interface and the underlying system architecture are intricately aligned.

The top-priority user stories are associated with the Insights system, as we anticipate that they will bring substantial value to both the application and its user base. Following closely are the user stories linked to the Bónus coin concept.

A Gantt chart resuming the development process and presenting an ideal schedule of the project with timing and sprints schedule can be found here: Gantt chart.

Architecture

Further moving into the depth of our project, we decided to include some diagrams and models that may speed up the development process that will continue once the project moves to the bonus development team.
To accomplish this task, we developed some diagrams that represent the system from different perspectives.
Following an agile methodology, we started with the diagrams that we thought were most important for the overall project and moved on to the others.
We started with a high-level architecture diagram that showed the whole system that interacts with the mobile bonus application. This diagram was realised to simplify the presentation of an overall view of the project. After this diagram, we moved to a Use-Case diagram that helped us define the user stories and the app requirements. Finally, we moved to an Activity-Diagram and an Entity-Relationship diagram, the first to present happy paths and the expected user interaction with the application, and the second to suggest a method that we think is efficient to store data in the databases so that the users will not have to wait for extensive periods before accessing the data they want.
During the development of these diagrams, we kept in mind the current phase we were in and prevented going too deep into the decision and definition steps. We thought that the development team of Bonus, who, of course, is more experienced than we are, would be able to make the decision that better suits the application and the needs of the end users.
Therefore, all the diagrams are just to present an overall idea and an overview of the system.
More detailed information on the architecture diagrams that we defined are available in the following file: software_architecture.pdf
We are aware that the images of the diagrams present in the pdf may be complicated or too small to be correctly analyzed; therefore, we also provide the diagrams in the format “drawio” as a separate file, available at the following link: Diagrams.drawio.
We suggest opening the files with the online web application draw.io, where, by importing the file, it will be possible to access each of the diagrams presented in the aforementioned file.

User Tests

Following the guidance of the UDC sprint website, we created some materials for the user testing phase.
By the end of the process, we came up with a list of tests that can be performed to ensure the usability and acceptability of the application.
We documented the process we followed and present the results in this document: User-testing-preparation-Template_Bonus_Group4.pdf
The resulting test steps are available in this Excel: Planning-user-testing-template_Bonus_Group4.xlsx

Project Presentation

Even if it is not required, and we were unsure whether we had to share it or not, we thought that the project presentation is a nice document that resumes in a few slides the core concepts of the project and the most important aspects of the development steps we carried out.

Therefore, at the following link, we provide the slides that were used during the project presentation: SPM Final.