TalTech

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Budget Tracker Web App

Project proposal

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Author’s declaration of originality

I hereby certify that I am the sole author of this thesis. All the used materials, references to the literature and the work of others have been referred to. This thesis has not been presented for examination anywhere else.

Author: Aleksander Kampus

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Introduction

A budget tracker is an application that assists users in keeping track of their spending and achieving their financial goals. The application allows users to track their spending, set financial goals, and make budgets while also giving them a complete picture of their financial condition, including their income, costs, and savings. The initial target group for the budget tracker are all people who are looking to manage their financials better and stay on top of their financial goals.

For many people, managing their own money may be a difficult and stressful task, especially in today’s fast-paced and complex economy. It can be challenging to stay on top of one's financial status and make wise financial decisions when there are numerous bank accounts, credit cards, loans, and invoices to keep track of. Furthermore, not having a clear and comprehensive overview of one's finances can result in overspending, missed payments, and an inability to track progress towards financial goals. This issue is made worse by the fact that a lot of people lack knowledge about personal financial management and lack access to the tools and resources they need to manage their money wisely. As a result, many people struggle with their finances and may miss out on opportunities to improve their financial situation and achieve their financial goals.

To fulfil this work, the author will create an ERD schema, creates a database, and builds application layers respectively to the lecturer’s requests and wishes.

1. Overview

The goal of this project is to create a personal finance management application that helps users to manage their finances and stay on top of their financial goals. The app will provide users with a comprehensive view of their financial situation, including their income, expenses, and savings, and will allow them to track their spending, create budgets, and set financial goals.

The application will be built using a distributed system architecture, with a backend that provides REST APIs for the front-end to consume. The front-end will be a web application that can be accessed from any device with an internet connection.

At first, the application features will include:

Budgeting – the user can create a budget for different types of spending, such as rent, transportation, and shopping. The user can track their spending against the budget and see where they need to adjust their spending habits.

Transactions – the user can record their income and expenses and categorize their transactions for better tracking and analysis.

Goal setting – allows the user to create and track their financial goals such as saving for a down payment on a house or paying off a credit card balance.

Subscriptions- helps users manage their subscriptions, such as Netflix, Amazon Prime, and gym memberships, and to see where they can reduce their expenses.

Income - gives a comprehensive view of the user's income, including salary and other sources of income, and allows the user to monitor their income over time.

The bigger scope of this project includes extra feature:

Accounts – using Nordigen Open Banking API, user can connect their different bank accounts to the application. Making tracking all the transactions easier and allowing users also see their different accounts balances.

2. Application UI

The user interface (UI) of the personal finance management software is going to be welcoming and simple so that users can manage their money quickly and effectively. The application will have a navbar on the left-hand side, which will provide users with easy access to different areas of the application, such as transactions, budgeting, cards, and all the other features.

2.1 Dashboard page

The dashboard will work as the app's primary view and give users a quick overview of their financial condition, including their income, expenses, savings, and debts.

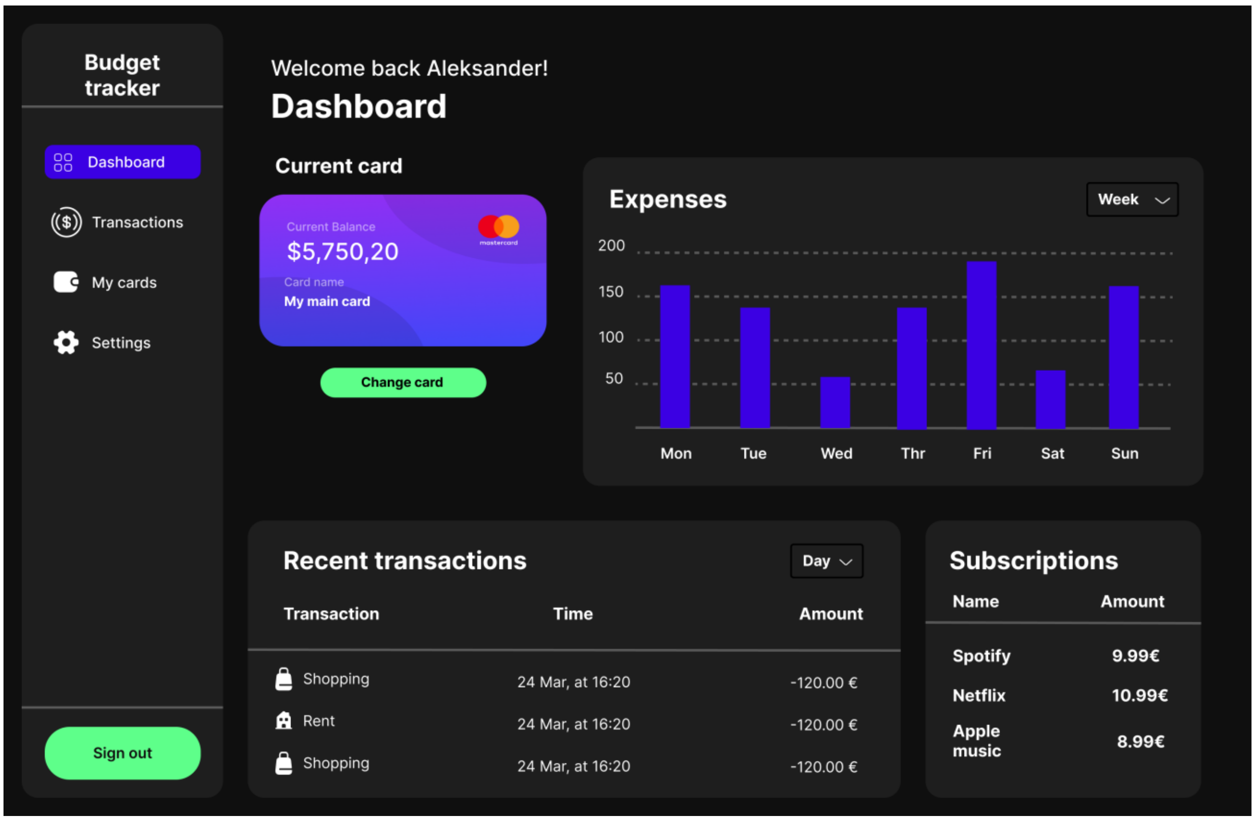

Figure 1. Dashboard page: One possible dashboard view.

The dashboard will be customizable, allowing users to select the financial data they want to see immediately. The dashboard will include many components, including a subscriptions overview, a transactions table, and an expenses chart. Users will receive a summary of their financial data for each module. The expenses chart module (Figure 2.), for instance, will display to customers how much they have spent on various expense categories, such as accommodation, food, and transportation. To view a full breakdown of their spending for a given category, users can click on a particular category.

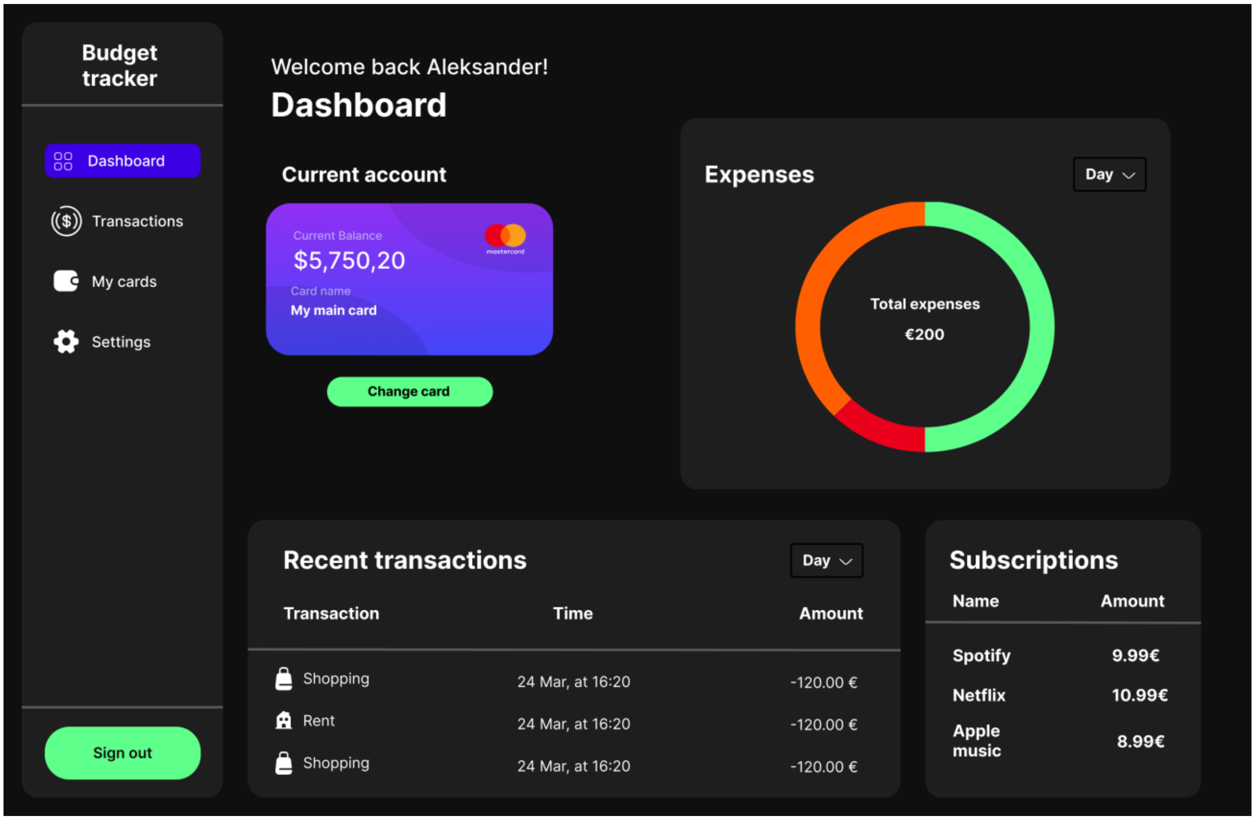

Figure 2. Dashboard page: Another possible dashboard view.

2.2 Transactions page

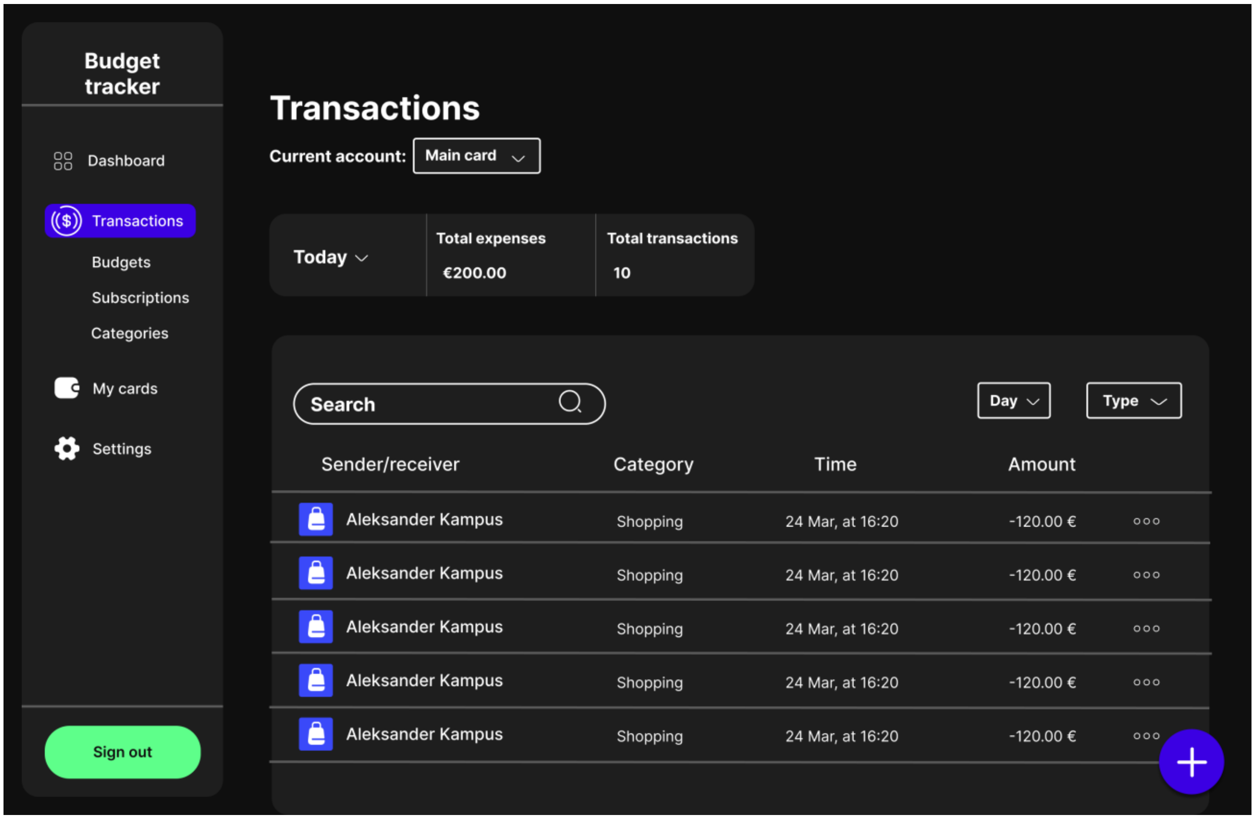

Figure 3. Transactions page: Transaction page main view.

The transactions page (Figure 3.) of the personal finance management application will be a table view that shows all the user's recorded financial transactions. The table will include columns for the sender/receiver, category, amount, and time.

The transactions table will be filterable, allowing users to view specific subsets of their transactions based on different criteria. For example, users will be able to filter transactions by date range, category, or by sender/receiver. This will help users quickly find specific transactions and gain insights into their spending patterns.

Furthermore, users will have the option of directly editing or deleting specific transactions (Figure 4.) from the transactions table. This will enable consumers to easily fix any mistakes or modify their financial statements as necessary.

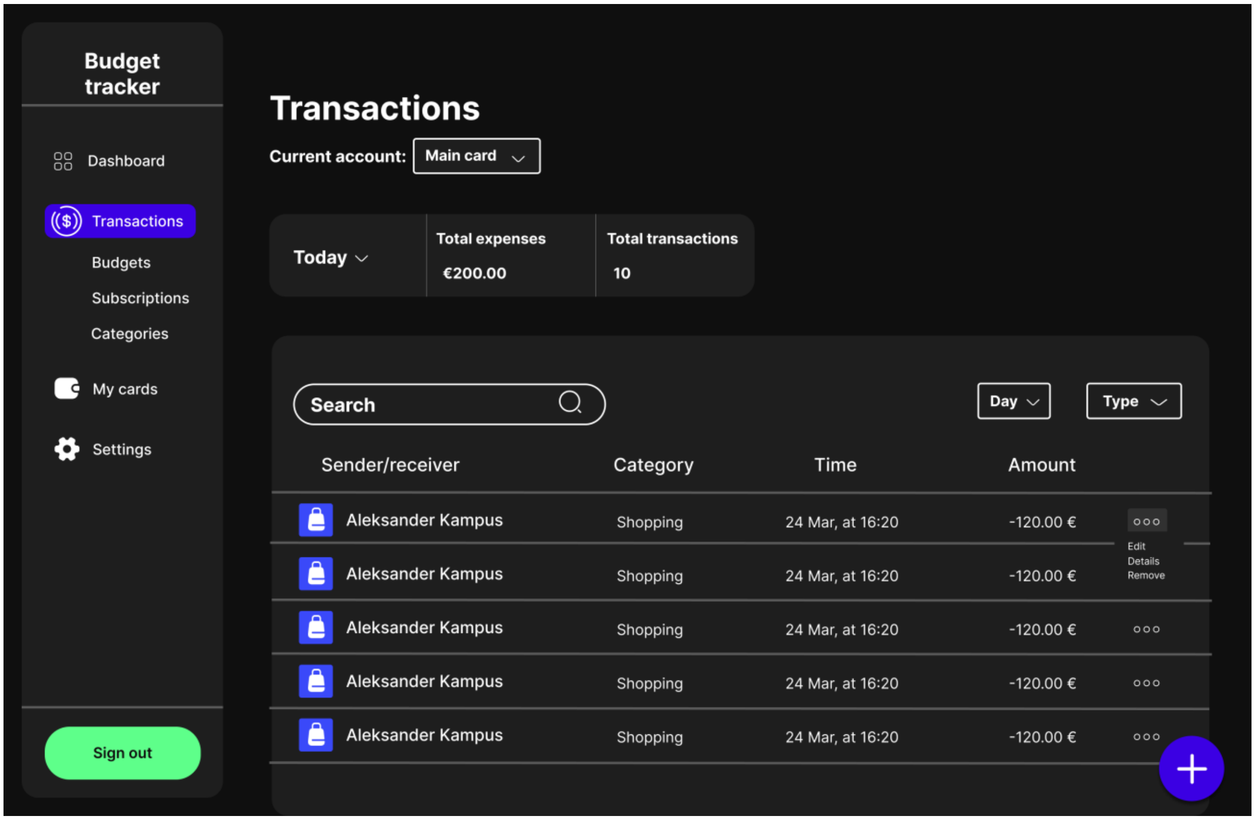

Figure 4. Transactions page: Transaction edit menu.

In addition to the table view of all recorded transactions, the transactions page of the personal finance management app will also feature a button with a "+" symbol in the bottom right corner. When the user clicks on this button, a modal window will appear where they can add a new transaction (Figure 5).

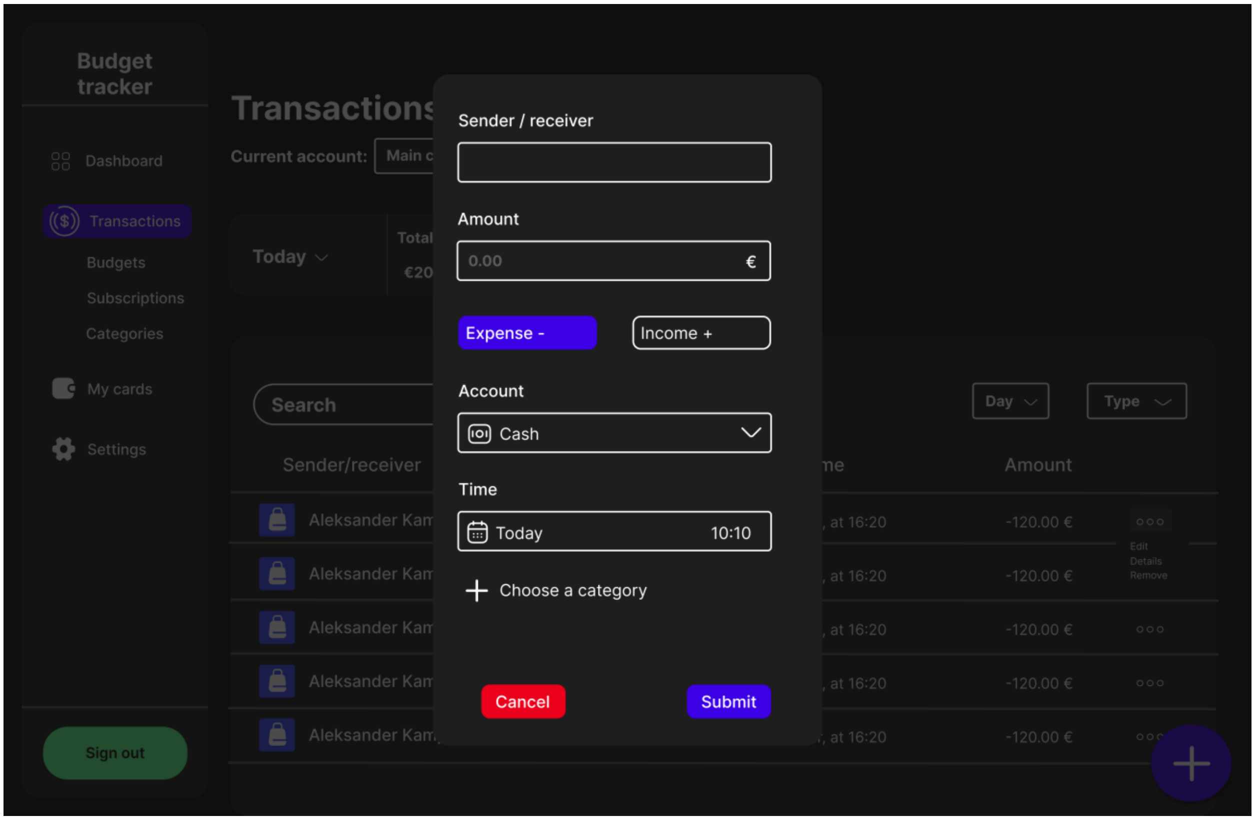

Figure 5. Transactions page: Add transaction modal.

The modal window will include fields for the transaction amount, sender/receiver, category, time, and the account with which the user did a transaction. Also, the user will have the choice to divide a single transaction across several categories, making it easy to accurately record expenses that span multiple areas of their budget (Figure 6). For instance, the user can divide a transaction between the "Groceries" and "Household" categories if they made a grocery store purchase that included both food and household goods. The amount will be automatically added to the budget for the particular category after the transaction is added.

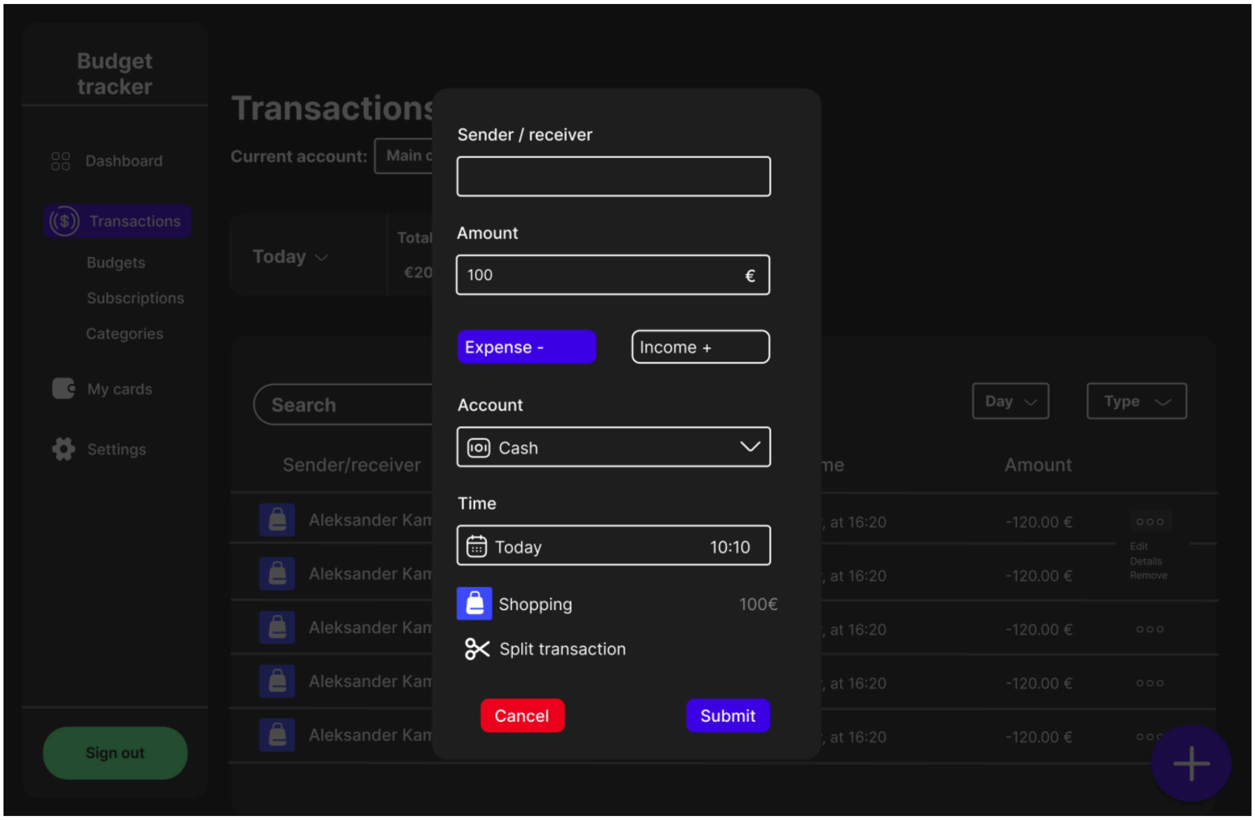

Figure 6. Transaction page: Split transaction between categories.

2.3 Budget page

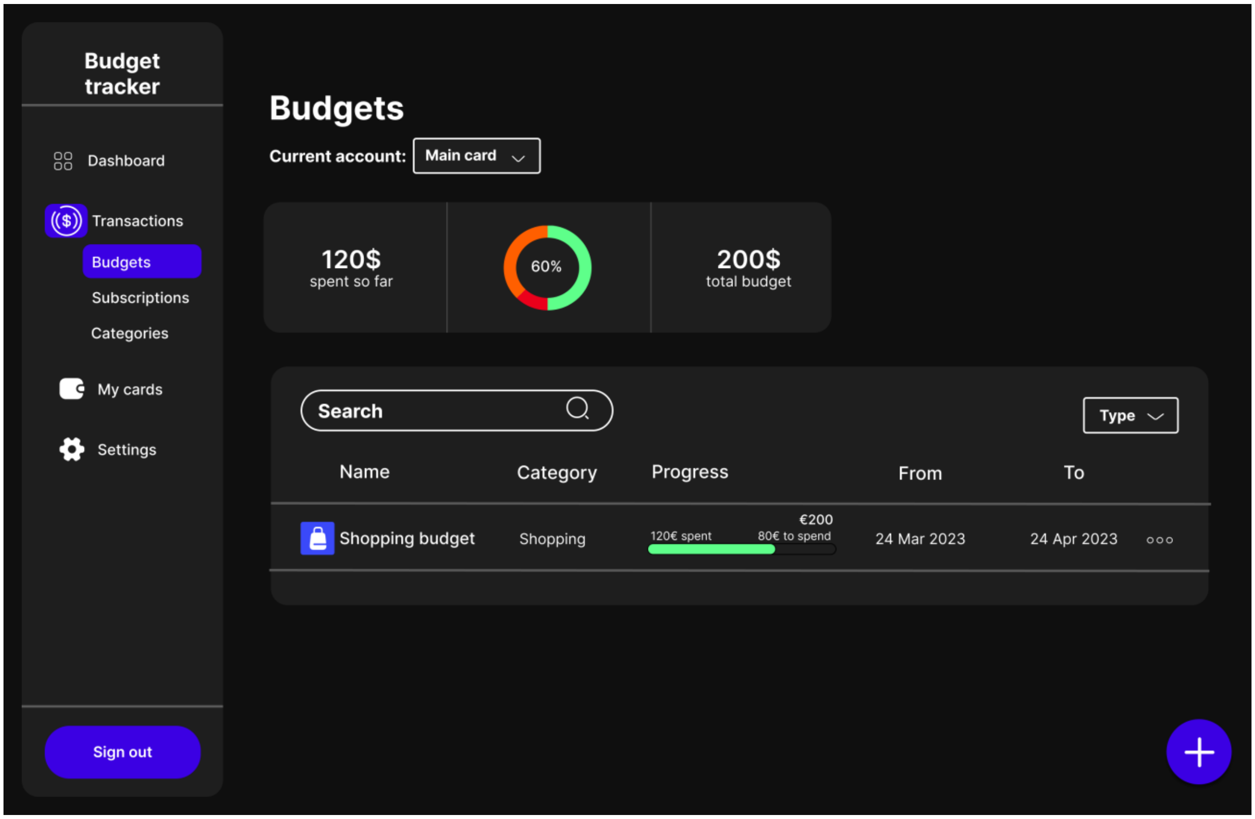

Figure 7. Budget page: Budget page main view.

The budgets page (Figure 7.) of the personal finance management application will be a table view that shows all the user's budgets. The table will include columns for the budget's name, category, progress, and from to dates on which the budget is valid.

The budgets table will be filterable, allowing users to view specific budgets based on different criteria. For example, users will be able to filter budgets by category, or by budgets name. This will help users quickly find specific budgets and gain insights into their spending situation. Also, users will have the option of directly editing or deleting specific budgets from the budgets table.

In addition to the summary of the user's progress towards their monthly budgets, the budget will also feature a button with a "+" symbol in the bottom right corner. When the user clicks on this button, a modal window will appear where they can make a new budget (Figure 8.).

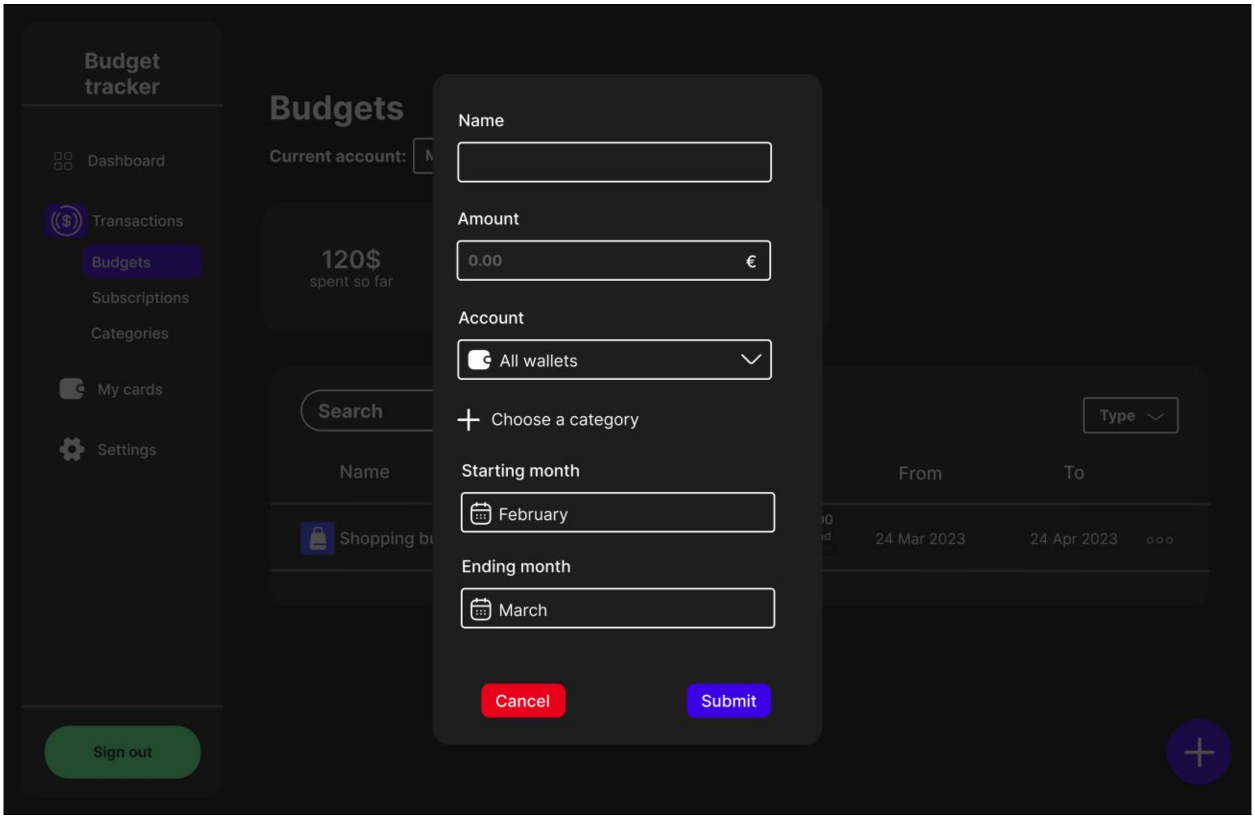

Figure 8. Budget page: Add budget modal.

The modal window will include fields for the budget name, budget limit, the account to which the budget is connected, categories and from to month when the budget is valid. Moreover, the user will have the choice to include multiple categories in a single budget, making it simpler to manage budgets effectively.

Furthermore, users can view details about specific budgets. When the user clicks on the three dots behind the budget details a modal is opened with all the different details (Figure 9.). The details modal includes a progress bar that shows the user's progress towards their spending limit for that category. There will also be a summary of the user's overall spending in that category. In addition will also display a breakdown of all transactions that have been recorded in that category for the current time period, allowing the user to see exactly where their money is going.

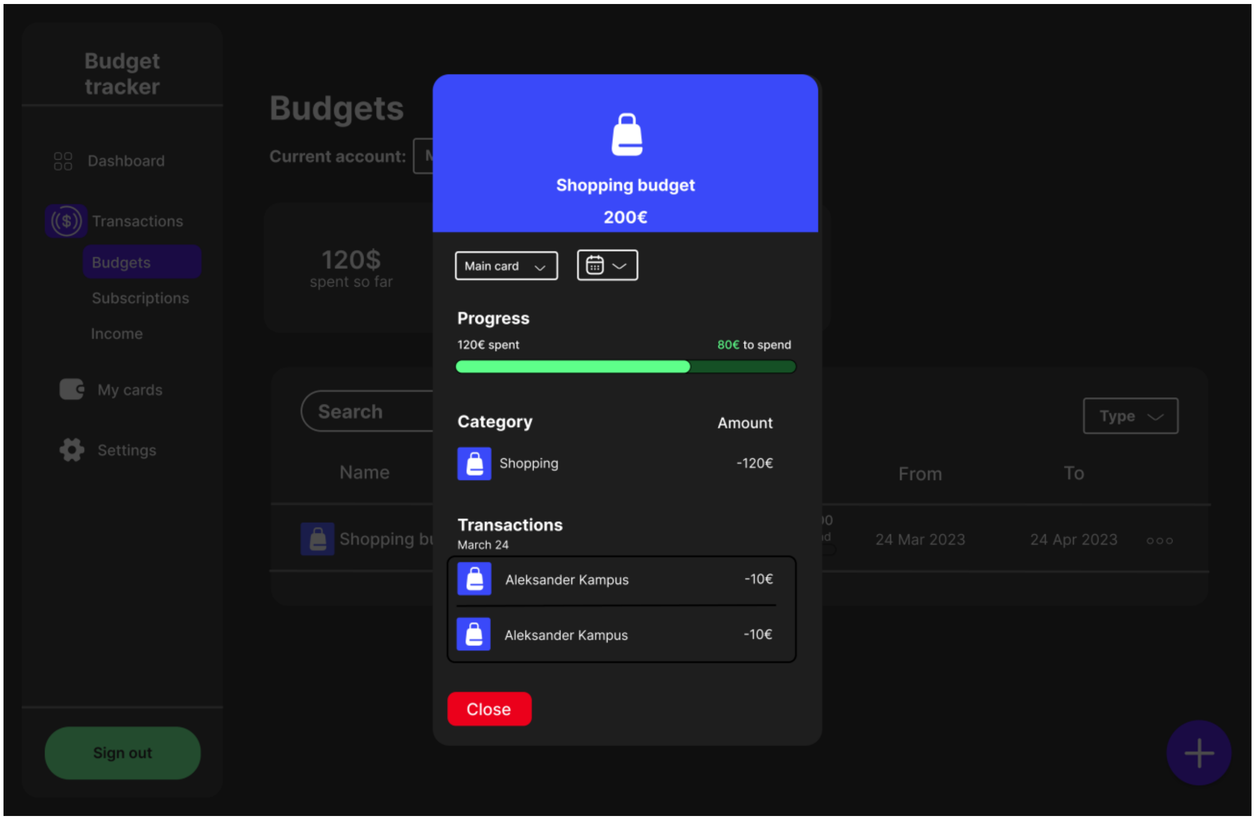

Figure 9. Budget page: Budget details modal.

2.4 Subscriptions

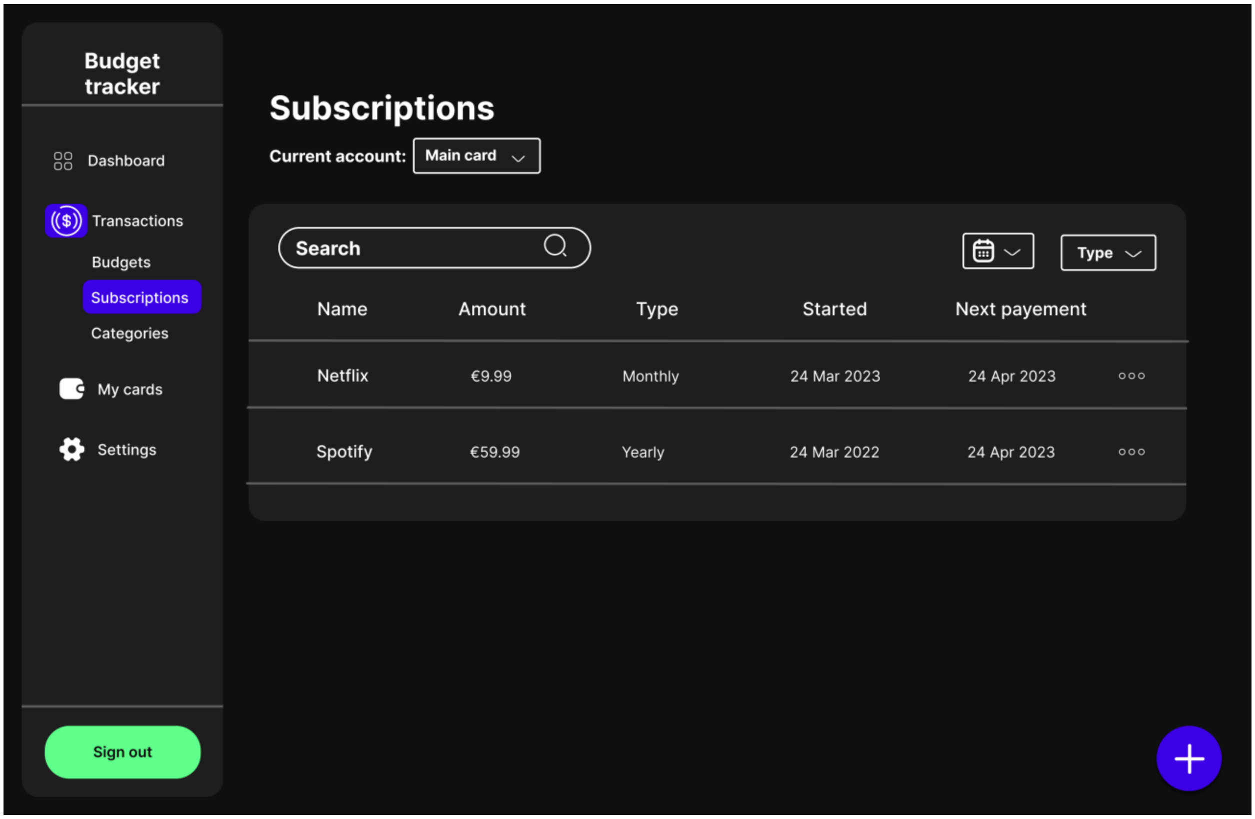

Figure 10. Subscriptions page: Subscriptions page main view.

The subscriptions page (Figure 10.) of the personal finance management application will be a table view that shows all the user's active subscriptions. The table will include columns for the subscription's name, amount, type when the user started using the subscription and when is the next payment.

The budgets table will be filterable, allowing users to view specific subscriptions based on different criteria. For example, users will be able to filter budgets by name, type, or by date when is the next payment or when the user started using it. This will help users quickly find specific subscriptions and gain insights into their spending situation. Also, users will have the option of directly editing or deleting specific subscriptions from the table.

2.5 Categories page

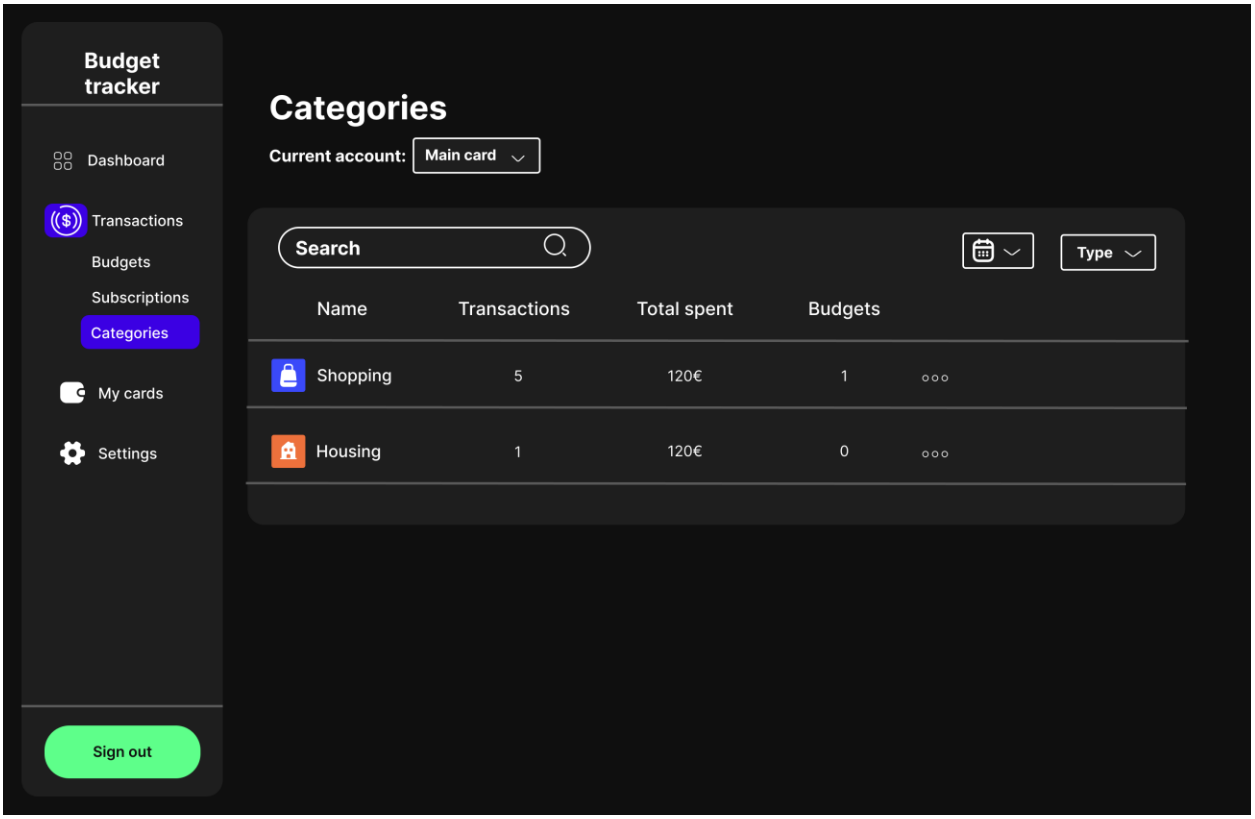

Figure 11. Categories page: Categories page main view.

The categories page (Figure 11.) of the personal finance management application will be a table view that shows all the categories The table will include columns for the category's name, number of transactions, total spent and number of budgets that have been created with this category. Users can't delete or create new categories; those are pre-made for every user. However, users can see details about each category by pressing the three dots behind a category and the pressing details button (Figure 12.).

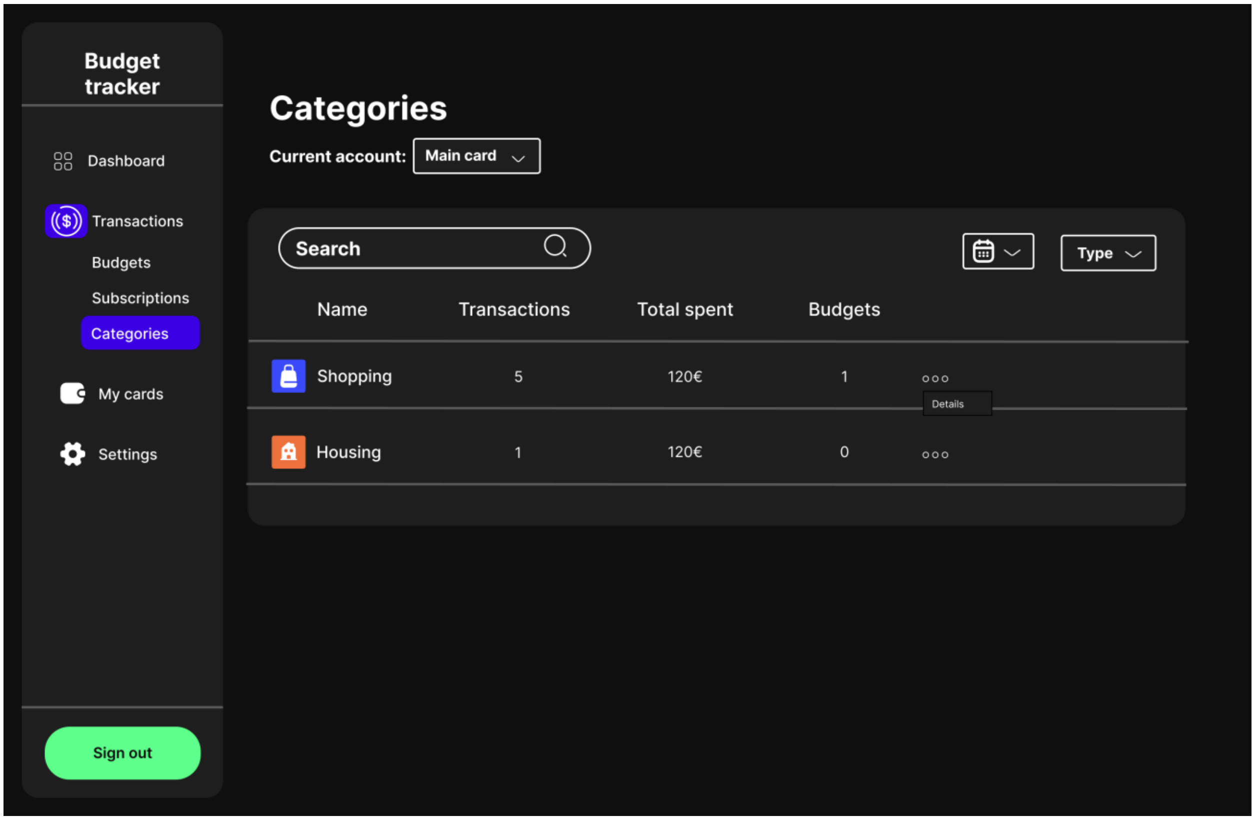

Figure 12. Categories page: Categories details menu.

The details modal (Figure 13.) includes an overview of the user's spending in that category for the filtered period. The budget details page will also include a graph of the past 6-month spending in that category. In addition, the user can see exactly where their money is going by viewing a breakdown of all transactions that have been logged in that category during the filtered period.

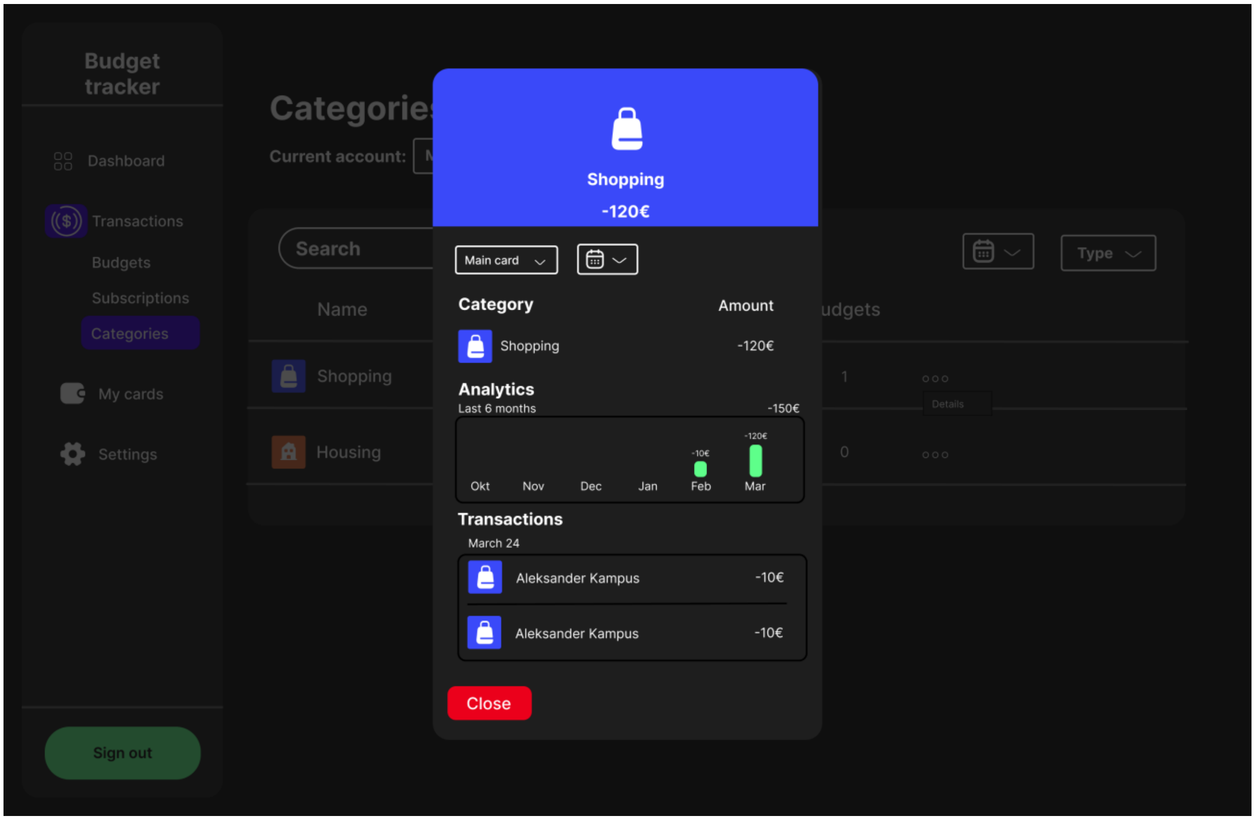

Figure 13. Categories page: Categories details modal.

3. ERD

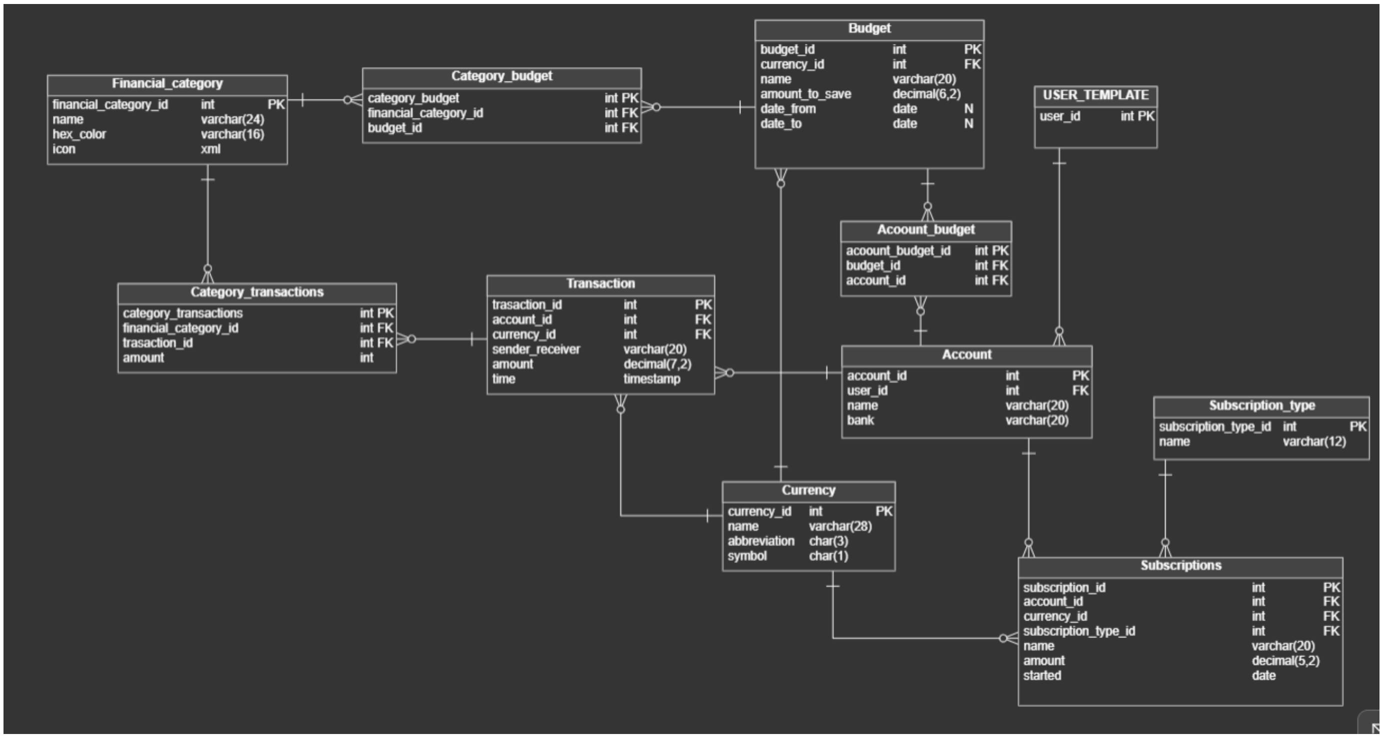

Figure 14. ERD schema.

Summary

References