

# UCM Spring 2023 Project

## Personal Budget Web App

### Description

Making responsible financial decisions requires awareness of your own circumstances and defining concrete savings goals for themselves can help a person internalize their spending habits. This project is to develop a web application with which a user can define savings goals, track their spending, and estimate their capacity to take out a personal loan with Commerce Bank.

### Requirements

- The application must use Java and the Spring framework. It should also use a React front end and a MySQL database.
- Users should be pre-established and authenticated with a simple login page. Credentials can be stored in a database, but no encryption of the password is required for this project.

### Balance Adjustment View

- A user's initial balance should be zero, and they should be prompted to input an initial unplanned balance adjustment to indicate their starting balance.
- The user should be able to input planned expenses and incomes.
- The user should be able to input unplanned expenses and incomes.
- The user should be able to delete any existing balance adjustments.

### Monthly Calendar View

- The user should be able to see a monthly calendar view displaying expenses and incomes, as well as if those expenses and incomes are planned or unplanned.
- The user should be able to define monthly savings goals – the amount by which they would like their account to increase over the course of each month.
- The user's monthly view should display a target balance for the current day. This should be calculated based on the day of the month, monthly savings goals, and starting budget for the month.
  - Example: If the starting budget is \$500 and the savings goal is \$300, the target balance for the last day of the month is \$800. The target balance for the 10<sup>th</sup> day of a 30 day month would then be  $(10/30) * 300 + 500$ , or \$600.
- The user's monthly view should indicate the extent to which the user is currently over or under budget by comparing the day's target balance to the day's actual budget.

### Personal Loan Estimator View

- The user should be able to access a Personal Loan Estimator with inputs for a Loan Amount, Loan Term (in months), and Interest Rate.
- The Personal Loan Estimator should calculate a monthly payment based on the input values.

- The Personal Loan Estimator should offer advice to the user, informing them when a specific loan would cause their monthly savings to drop below their savings goal or worse, below zero.

### **Stretch Goals**

- Users inputting expenses and incomes should have options to make them recurring monthly, weekly, and/or with more complex methods for recurring dates such as “the first Friday of every month” or “the 12<sup>th</sup> and 24<sup>th</sup> of every month.”
- From the Personal Loan Estimator, users should be able to add the calculated recurring monthly payments to their calendar.