

Personal Budget Tracker

Kirsty Balfour - 2635375B

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1 Status report

1.1 Proposal

1.1.1 Motivation

Managing personal finances effectively is a common challenge for many individuals. Without a clear system for tracking income, expenses, and savings, people often struggle to achieve their financial goals. This project aims to address this issue by providing a free and easy to use personal budget tracker web application. The application will allow users to take control of their financial health by logging and categorising transactions, visualising spending patterns, and setting and monitoring savings goals.

1.1.2 Aims

The project aims to develop a personal budget tracker application with the following goals:

- Implement a secure user authentication system to ensure data privacy.
- Enable users to add, edit, and delete financial transactions.
- Allow categorisation of transactions into predefined categories such as groceries, transportation, and entertainment.
- Generate financial summaries and visualisations of spending patterns (e.g., charts or graphs).
- Provide a system for users to set and track savings goals.
- Ensure persistent storage of user data for reliability and accessibility.

1.2 Progress

My progress so far is as follows:

- Conducted a comparison of existing budgeting apps and formulated an extensive requirements list based on the project proposal and these apps.
- Carried out a potential users survey to gain an idea of how often people budget, why people may not be budgeting, and any particular features users would want to see.

- Finalised an MVP based on the Must Haves from my refined requirements list that took into account the user survey results.
- Researched tech stacks and appropriate formats for the application and landed on a Progressive Web App that uses an Angular front-end, Express.js server, and a PostgreSQL database.
- Designed an architecture diagram, ER diagram, and wireframes for the MVP aspects of the application.
- Began implementation and have the following pages up and running:
 - Login and registration pages
 - Log a transaction page
 - Set a budget page
- Successfully deployed the app using Firebase, Vercel and Supabase hosting services. The application can be found [here](#).

1.3 Problems and risks

1.3.1 Problems

I have dealt with the following problems so far:

- Had to change tech stacks from a React App to an Angular App due to Angular having more built-in support for Progressive Web Apps.
- Deployment took a lot more time than I initially anticipated and resulted in having to restructure my code base and try multiple different free hosting services.
- Have dealt with CORS errors when trying to access my server on the deployed app. These are now fixed but potentially present security vulnerabilities.

1.3.2 Risks

Anticipated problems are as follows:

- Security vulnerabilities: I have received communications from the database hosting service indicating that there are vulnerabilities in the current setup that must be addressed. I must also ensure that my CORS error fix doesn't allow access to anyone.
- Data laws and other regulations: I must ensure that I am complying with any laws as I am dealing with special category data (i.e., financial information). This may require research to determine if I need a privacy notice or similar documentation.
- Free hosting services longevity: As my app is currently hosted on three separate free hosting services, if one begins to charge or goes offline, I will need to rework my current deployment method.
- Implementation workload: The app still has many pages that need to be completed for it to be fully functional. The pace I am currently working at may result in an incomplete product.

1.4 Plan

Week Beginning	Goal
16/12/2024	Complete the set a savings goal form/page
23/12/2024	Complete the home page overview, ensuring that all transactions, budgets and savings goals can be edited/deleted
30/12/2024	Implement the different expense, savings, income views
06/01/2025	Implement the report/charts page
13/01/2025	Testing - Add unit tests
20/01/2025	Testing - Add integration tests
27/01/2025	Evaluation - plan a user evaluation
03/02/2025	Evaluation - conduct the user evaluation
10/02/2025	Evaluation - analyse the results of the user evaluation
17/02/2025	Write Dissertation
24/02/2025	Write Dissertation
03/03/2025	Write Dissertation
10/03/2025	Write Dissertation
17/03/2025	Finish Dissertation & Start Presentation
24/03/2025	Submit Dissertation & Presentation

1.5 Ethics and data

The evaluation I conduct will involve human participants using my personal budgeting application. I have verified that the ethics checklist will apply to any evaluation I need to do. I will sign and complete the checklist. I will collect qualitative data on how easy the application was to use, what participants liked/disliked, and what they would change. This will help me determine what could be improved about my app and if it meets the goals I set out at the beginning of my project.