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 an app compariosn 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 also any particular features users would want to see.

- Finalised a MVP based on the Must Have's 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 used 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 registartion pages
  - Log a transaction page
  - Set a budget page

- Successfully deployed the app using Firebase, Vercel and Superbase 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 Vulnerbailities - have received communications for the database hosting service that there are vulnerabilities in the current set up that must be addressed. Must also ensure that my CORS error fix doesn't allow access to anyone.

- Data Laws and Other Regulations - must ensure that I am complying with any laws as I am dealing with special category data (i.e. financial information), so may need to research if I am required to have a privacy notice, etc.

- Free Hosting Services Longevity - as my app is currently hosted on 3 separate free-hosting services, if one begins to charge or goes under then this will involve me having to rework my current deployment method.

- Implementation Workload - the app still has many pages that need to be completed for it to be working and the pace I am currently working at may result in an in-complete 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 the use of human participants to use my personal budgeting applocation. 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 they liked/disliked or what they would change. This will help me determine what could be approved about my app and if it meets the goals I set out at the beginning of my project.