Student Information

- beesleys1@mymail.nku.edu

Individual Project - PennyWise

[GitHub Link](#)

[GitHub Code Link](#)

[Starting Presentation Link](#)

[Final Presentation Link](#)

Summary of the Project

A personal finance app that lets you put in expenses, and accurately evaluates spending habits for the betterment of the user.

Goals

- To give the user a secure authentication method
- To make budgeting easier for the user
- To have friendly and accessible insights for a user's budget
- For making thing simpler

Why?

- Other budgeting apps are not accessible, and require financial knowledge
- Budgeting is difficult in all aspects for a person
- Many apps are very overbearing and not as straightforward
- It's very expensive to have a seamless and easy budgeting app

Features

Register and Sign In Authentication: A user is able to register an account based on their name, email, and password.

Sign In Authentication: A user is able to securely sign into their account based on their email and password.

Show Current Funds: This will show the user their current funds at the top of the page.

Update Current Funds: The user is able to change their current amount, and updates the rest of the page.

Add a New Budget: This will allow the user to create a new budget.

Financial Recommendation: This is in the form of a text. It gives the user a suggestion based on their budget data.

Real-Time Budget Viewing: This will be a chart that shows the user how close their funds are to their budget goals.

Project Test Plan

The test plan is largely UI-based (because of the amount of elements present). These are unit tests, and some integration tests for basic Firestore capabilities.

Milestones and Deadline

- Milestone 1
    - Date: April 7, 2024
    - Goal: Specify the plan, and create a prototype.
- Milestone 2
    - Date: April 14, 2024
    - Goal: Complete authentication and basic page setups.
- Milestone 3

- - Date: April 21, 2024
    - Goal: Implement CRUD functionality, and populate the homepage with insights and buttons.
  - Milestone 4
    - Date April 22, 2024
    - Goal: Complete testing and additional bug-fixes for the final version.

Risk Analysis

- Coursework in other classes
- Work
- Sickness
- Hard Drive Failure
- Car Issues

Project Progress

Feature Implementation

First Week (*May 31 - April 7)*

Summary

- Completed the prototype.
- Made a plan for the individual project based on the requirements.
- We now know what we *don't* know.

Risk Analysis

- No risks this week.

Design

[Starting Presentation Link](#)

We've instantiated a new project, and have successfully set up Firestore and basic dart pages:

- [main.dart (GitHub link)](#)
- [firebase_options.dart (GitHub link)](#)

Code

- LoC: 50
- (update 4/23: the original progress was lost as a result of hard drive failure)

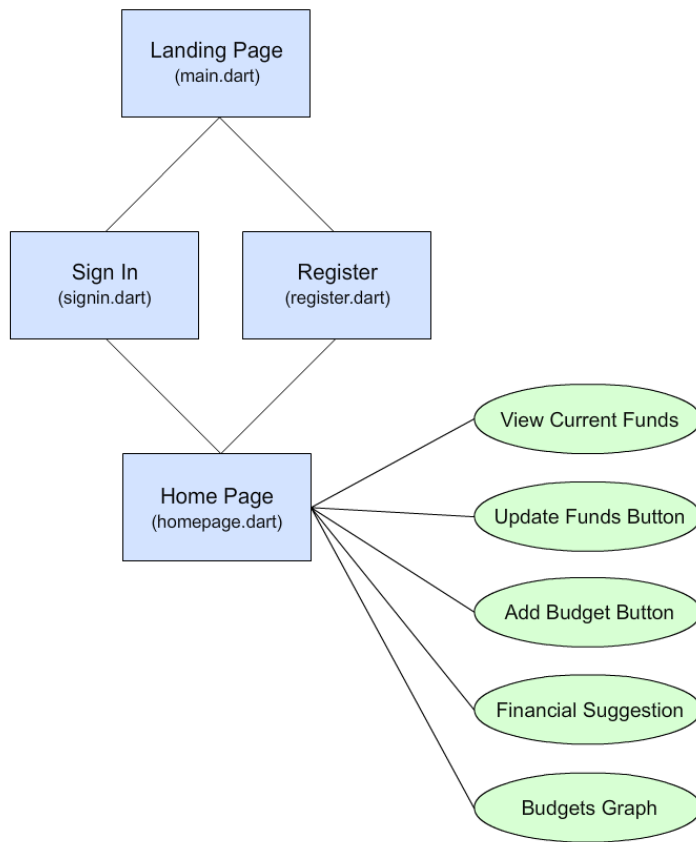## Second Week *(April 8 - April 14)*

Summary

- Created and implemented authentication for signing in and registering users
- Implemented Firebase's custom authentication features
- Completed frontend and backend design (since we're finally getting into things)
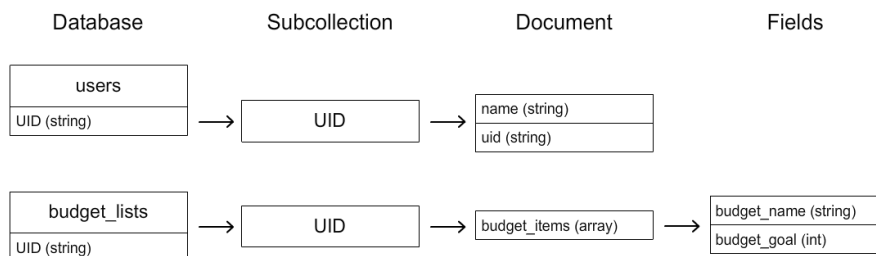
Risk Analysis

- Strep Throat

Design

Frontend Architecture

```
                    ┌──────────────────┐
                    │   Landing Page   │
                    │    (main.dart)   │
                    └──────────────────┘
                       /            \
        ┌──────────────┐          ┌──────────────────┐
        │   Sign In    │          │    Register      │
        │ (signin.dart)│          │ (register.dart)  │
        └──────────────┘          └──────────────────┘
                       \            /
                    ┌──────────────────┐
                    │    Home Page     │
                    │ (homepage.dart)  │
                    └──────────────────┘
```

- View Current Funds
- Update Funds Button
- Add Budget Button
- Financial Suggestion
- Budgets Graph

Backend Architecture   Cloud Firestore

Database	Subcollection	Document	Fields

users
UID (string)

→ | UID | → | name (string) |
|---| | uid (string) |

budget_lists
UID (string)

→ | UID | → | budget_items (array) | → | budget_name (string) |
                                         | budget_goal (int) |

login.dart (GitHub link)

[signup.dart (GitHub link)](#)

Code

- LoC: 322
- (update 4/23: the original progress was lost as a result of hard drive failure)

Final Week *(April 15 - April 23)*

Summary

- Finished the homepage.dart to include the following features:
  - Displays the user's current funds
  - Added a button to change current funds
  - Added a button to add a new budget item (with a name and a goal)
  - Displays a financial insight text, and updates it when data changes
  - Displays a bar graph to show current funds and budget goals, updates in real-time when data changes
- Finished most of testing
- [GitHub Code Link](#)

Risk Analysis

- **Hard drive failure.** Most progress was lost (only a few files were able to be saved). As a result, most progress was lost (only a few files were saved). Re-upload was necessary, and almost all of this progress had to be completely redone.

Code

- Total LoC: 809
- Feature Burndown Rate: 100%