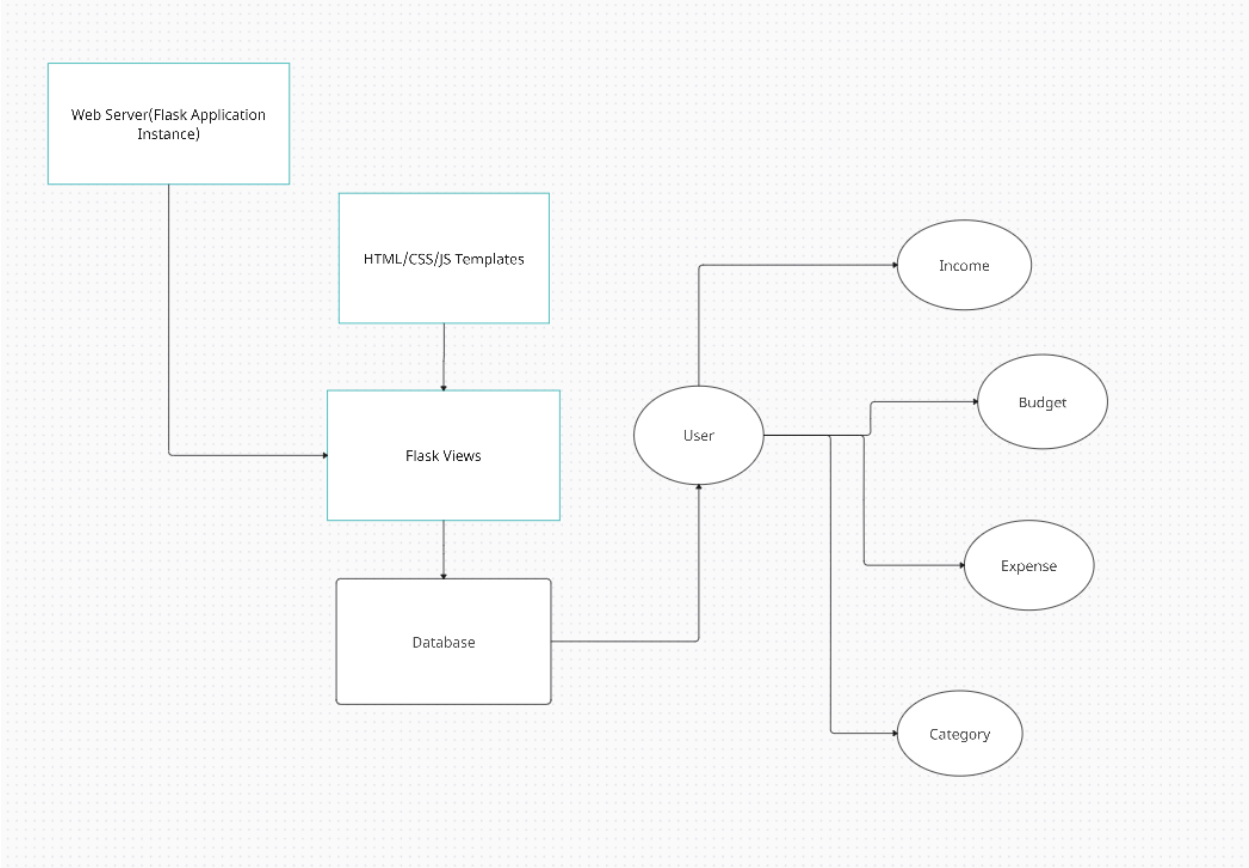
Introduction

The Expense Tracker App aims to provide users with a convenient tool to monitor and manage their expenses efficiently. In today's fast-paced world, keeping track of expenses is crucial for financial stability and planning. This application offers users a seamless experience to record, categorize, and analyze their spending habits.

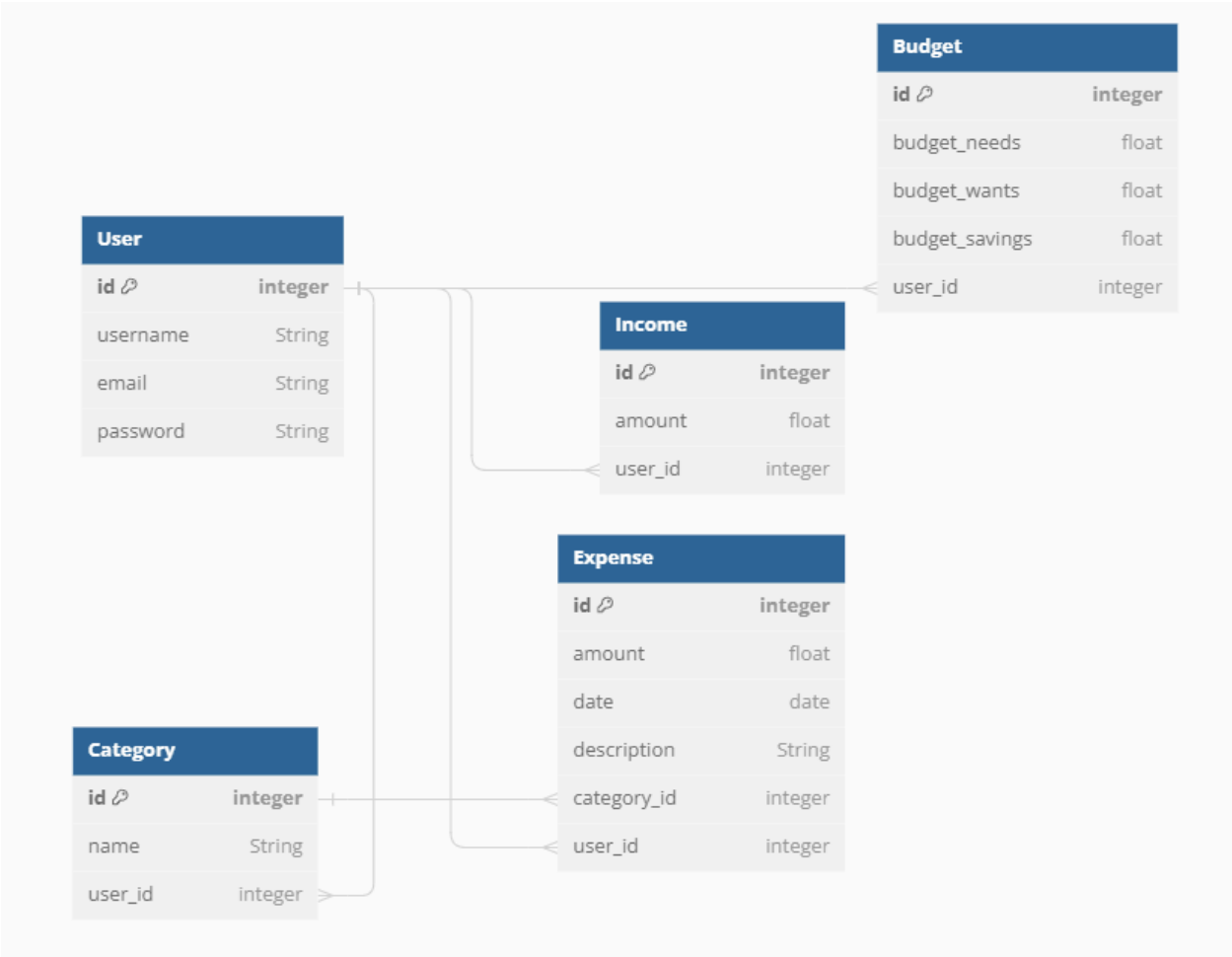
Objective

The primary objective of the Expense Tracker App is to provide users with the ability to record daily expenses with details such as date, category, amount, and description. This includes being able to categorize expenses into predefined or custom categories. There should be a user-friendly interface with registration and authentication in order to secure financial data securely and ensure user privacy. In addition, a budget feature will be implemented so that users can be recommended budgeting limits according to their income.

High-Level Design



Database Design



Normalization

User:
Each attribute (id, username, email, password) contains atomic values, ensuring 1NF. The id attribute is the primary key, so each user is unique. No partial dependencies or transitive dependencies exist, therefore the table is in 2NF and 3NF.

Expense Table:
Each attribute (id, amount, date, description, category_id, user_id) contains atomic values, ensuring 1NF. The id attribute is the primary key, so each expense record is unique. The category_id and user_id attributes reference the primary keys of the category and user tables. There are no partial dependencies or transitive dependencies, so the table is in 2NF and 3NF.

Budget:

Each attribute (id, needs, wants, savings, user_id) contains atomic values, ensuring 1NF. The id attribute is the primary key, so each budget is unique. The user_id attribute references the primary key of the User table, establishing a foreign key relationship. There are no partial dependencies or transitive dependencies, so it is 2NF and 3NF.

Income:
Each attribute (id, amount, user_id) contains atomic values, ensuring 1NF. The id attribute is the primary key, so each income is unique. The user_id attribute references the primary key of the User table, establishing a foreign key relationship. No partial dependencies or transitive dependencies exist, therefore the table is in 2NF and 3NF.

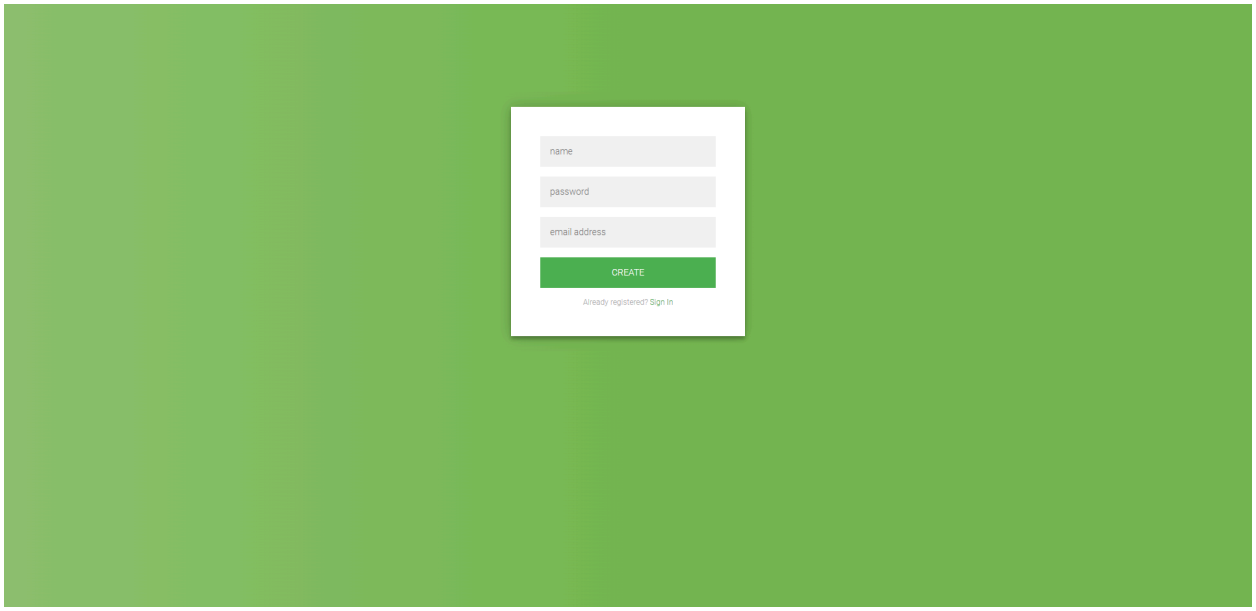
Category:
Each attribute (id, name, user_id) contains atomic values, ensuring 1NF. The id attribute is the primary key, so each category is unique. The user_id attribute references the primary key of the User table, establishing a foreign key relationship. There are no partial dependencies or transitive dependencies, so it is in 2NF and 3NF.

Results

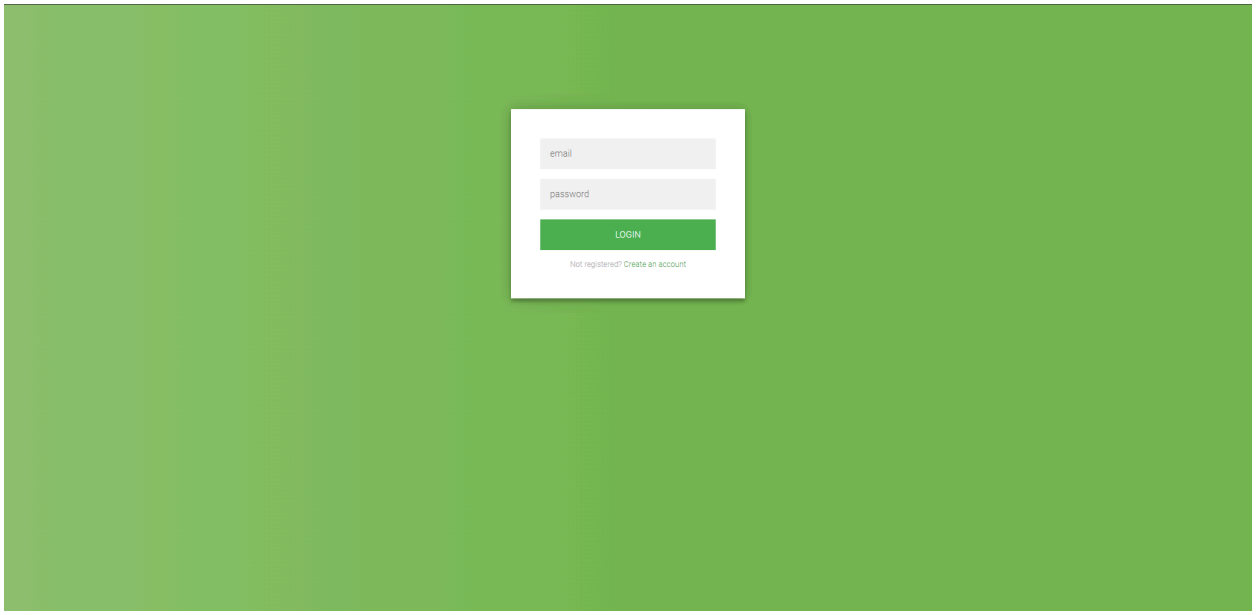
Upon completion, the Expense Tracker App will provide a streamlined expense tracking process leading to better financial management. It will also offer insights into spending habits and areas for potential savings as well as improved budgeting and planning capabilities.

Screenshots

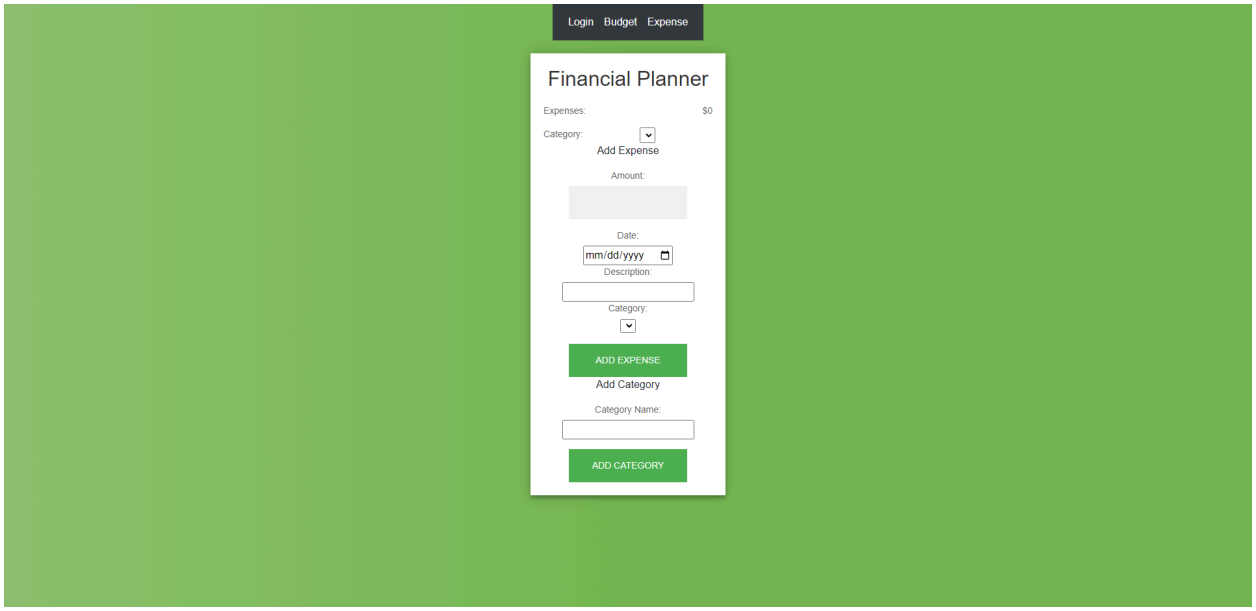
Sign-up



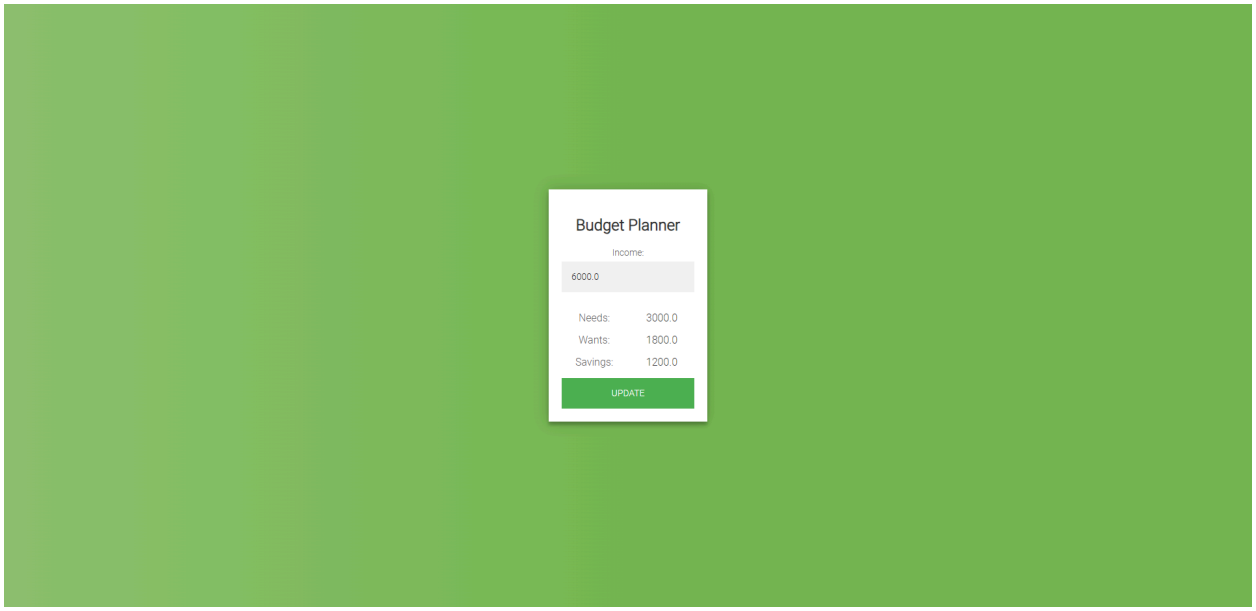
Login


email
password
LOGIN
Not registered? Create an account

Home


Login
Budget
Expense
Financial Planner
Expenses:
$0
Category:
Add Expense
Amount:
Date:
mm/dd/yyyy
Description:
Category:
ADD EXPENSE
Add Category
Category Name:
ADD CATEGORY

Budget



Contribution

Vincent Mei: Created database, sign-up page, login page, budget page, and project report
Shannon Luu: Created home page