CHAPTER -1

INTRODUCTION

1.1 Overview

The Personal Expense Management is a web application which is used to maintain data of daily, weekly, monthly and yearly expenses in an eye-catching way. This project is aimed at developing a web application which will be helpful to users who run out of resources due to mismanagement and find it difficult to maintain records of their expenses. So personal expense management will help them manage their needs and spending in a better way by accessing the web application directly from web browsers. It is designed and developed in a way that it is compatible with each device.

The application doesn't need any extended hardware or software support to run and thus a user with minimal resources can also make use of the application to make a difference into their life. Personl Expense Management can be accessed from a web browser, such as Google Chrome or Mozilla Firefox, allowing for a portable work environment. This web application usually is developed using spring boot and Data JPA in the backend development and uses java as a programming language and in the frontend, it uses HTML and CSS which is used to format the layout of a webpage.

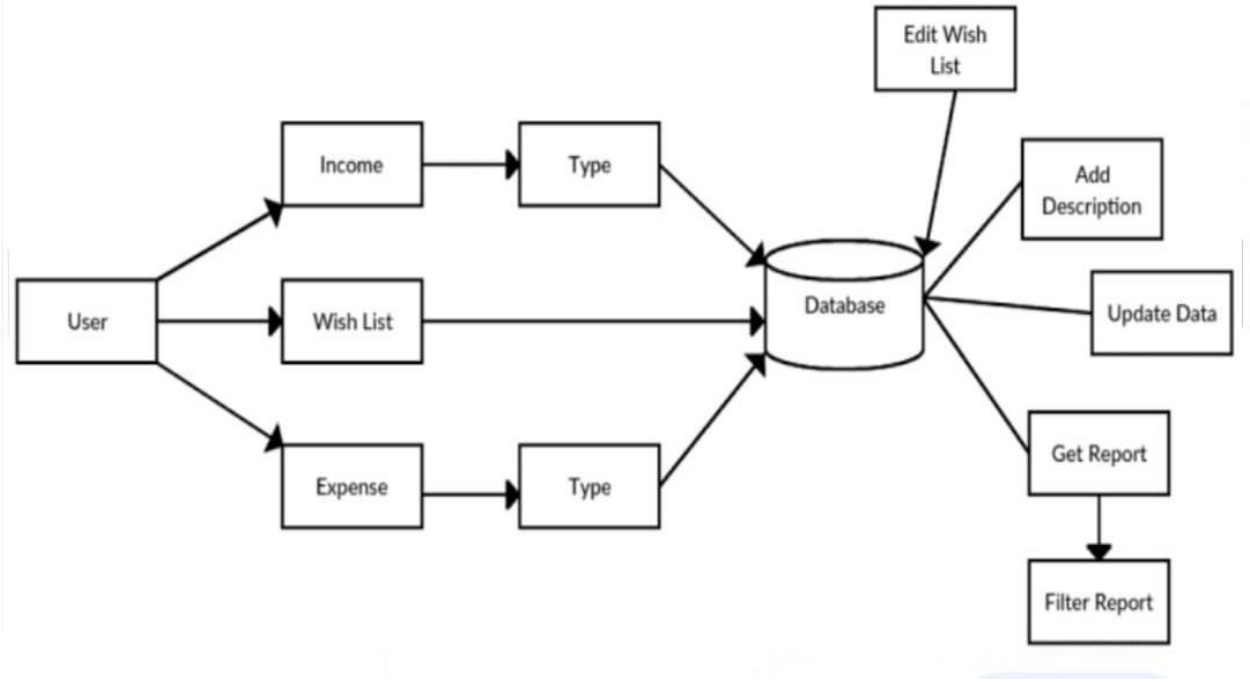

Fig1.1: Database System

1.2 Aim

A Personal Expense Management is a one kind of digital diary that helps to keep an eye on all our money related transitions and also provides all financial activities report on the monthly basis . All information is saved in offline mode so users can easily access any time and any palaces. User interface of the Personal Expense Management is very simple and attractive, so it is easy to understand and the best way to record our financial data. In our daily life money is the most important portion and without it we cannot last one day on earth but if we keep on track all financial data then we can overcome this problem.

1.3 Objectives

- To identify and manage spending in an efficient time frame.
- Minimize manual effort with daily record of expenditures and incomes.
- To catch excessive or inefficient spending before they get out of hand.
- To keep individuals focus on financial goals and prevent them from becoming broke.
- To make plans for savings, investing, generating wealth, and get rid of any pending debts.
- It’s helpful to regularly review your expense tracking on a per-project or time-frame system.
- Accounting software like an expense tracker app makes it easy to manage your expenses.

CHAPTER-2

REQUIREMENTS

The Personal Expense Management provides a great space to track expenses by adding expenses, managing expenses and viewing expense report with security. This system is for all those who do not want to note down the expenses manually in a notebook and want to have a clear tracking record.

2.1 Spring Boot

Spring Boot is an open-source Java framework used for programming standalone, production-grade Spring-based applications with a bundle of libraries that make project startup and management easier. Spring Boot is a convention-over-configuration extension for the Spring Java platform intended to help minimize configuration concerns while creating Spring-based applications.

Fig2.1: Logo of Spring Boot

2.2 Spring Data JPA

JPA can be defined as **Java Persistence API**. It is the Java specification that can provide a standardized way to manage the relational data in Java applications. JPA facilitates the management of the database operations and mapping of the Java objects to database tables by defining the concepts and APIs. It serves as the bridge between the object-oriented domain models and relational database systems.

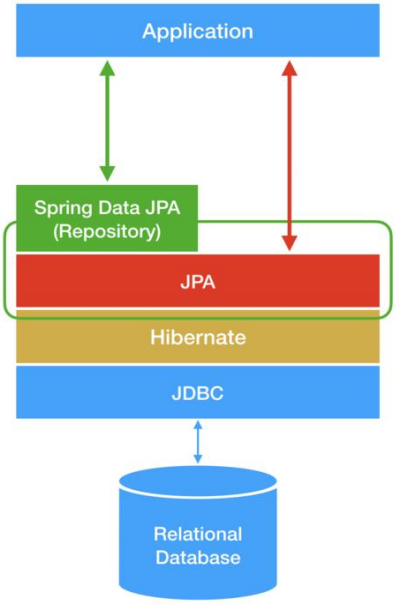

Fig2.2: Spring Data JPA

2.3 Hypertext Markup Language

Hypertext Markup Language (**HTML**) is the standard markup language[a] for documents designed to be displayed in a web browser. It defines the content and structure of web content. It is often assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript, a programming language.

Fig2.2: Logo of HTML

2.4 Cascading Style Sheets

Cascading Style Sheets (**CSS**) is a style sheet language used for specifying the presentation and styling of a document written in a markup language such as HTML or XML. This separation can improve content

accessibility, since the content can be written without concern for its presentation; provide more flexibility and control in the specification of presentation.

Fig2.2: Logo of CSS

2.5 My SQL

A relational database organizes data into one or more data tables in which data may be related to each other; these relations help structure the data. SQL is a language that programmers use to create, modify and extract data from the relational database, as well as control user access to the database.

Fig2.2: Logo of My SQL

CHAPTER-3

SYSTEM DESIGN

System Design is defined as a process of creating an architecture for different components, interfaces, and modules of the system and providing corresponding data helpful in implementing such elements in systems.

3.1 E-R DIAGRAM

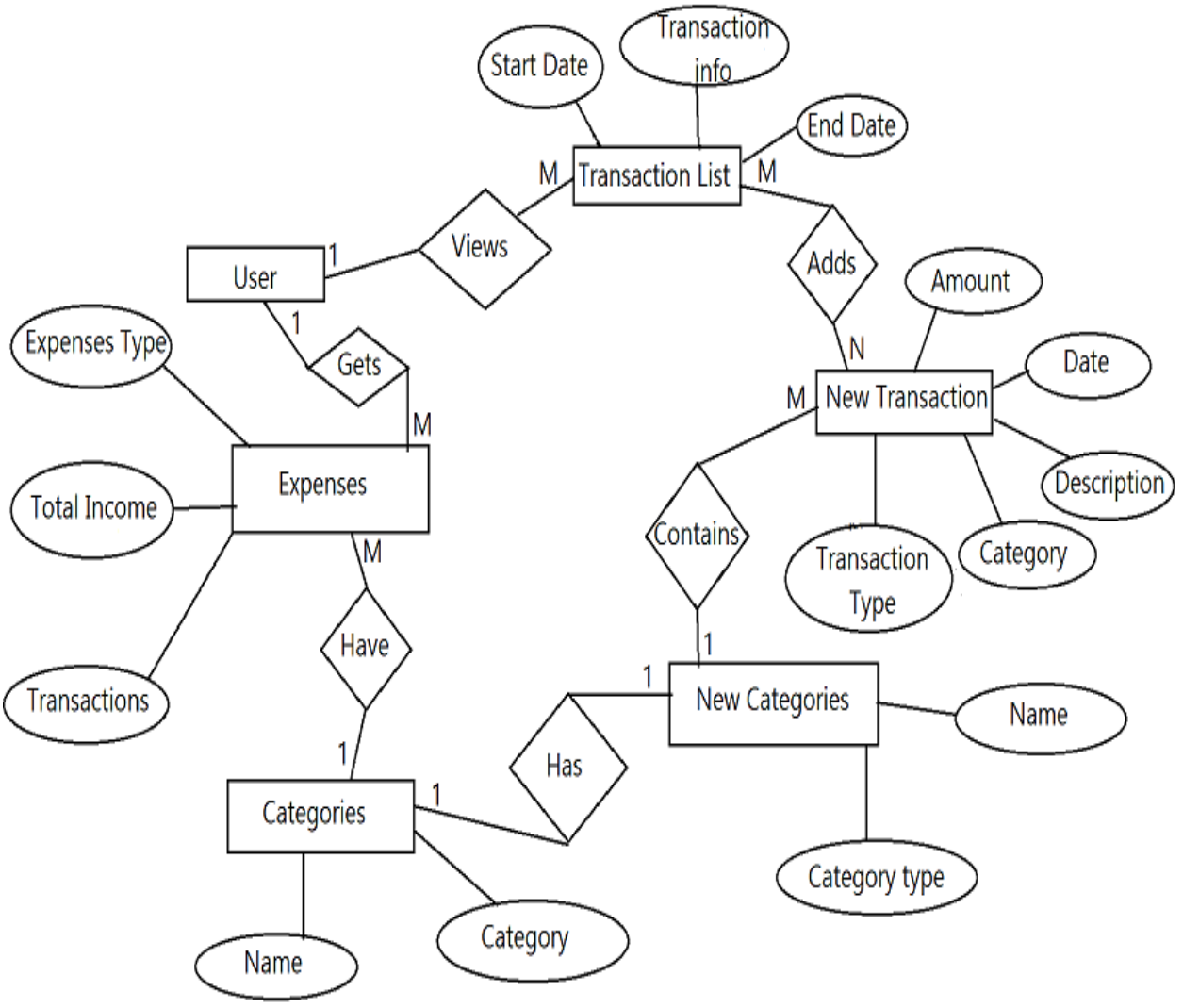

Fig 3.1: E-R Diagram

CHAPTER- 4

WORKING OF CLASSES

4.1 Transaction List Class

The Transaction class will serve as the blueprint for each financial entry (or transaction), and the Transaction List class will be responsible for managing these transactions as a collection. This class holds the details for each transaction (such as date, category, amount, type). You create individual Transaction objects to represent each expense or income. It supports operations like:

- Adding transactions (add_transaction)
- Removing transactions (delete_transaction)
- Editing transactions (edit_transaction)
- Filtering transactions by category or type (filter_by_category, filter_by_type)
- Sorting transactions by date (sort_by_date)
- Calculating totals for expenses, income, and net balance (total_expenses, total_income, net_balance).

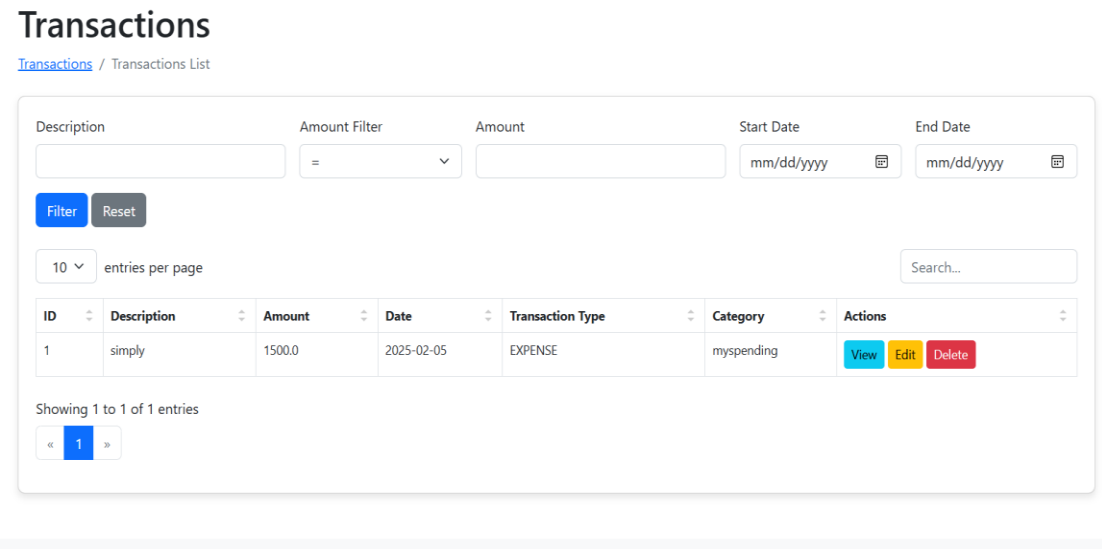

Fig 4.1: Transaction Listing Page.

4.2 New Transaction Class

The New Transaction class in the expenses tracker project would likely build on the idea of handling individual financial transactions. A new transaction represents an instance where a user logs an expense

or income. The class captures various details about the transaction (such as amount, date, description, etc.) and provides methods to access and manipulate these details. This class will store information about a single financial transaction, such as:

- **Transaction Date**: When the transaction occurred.
- **Category**: The type of transaction (e.g., Food, Entertainment, Salary).
- **Amount**: The monetary value of the transaction.
- **Description**: An optional note explaining the purpose of the transaction.
- **Type**: Whether it's an "expense" or "income."

The Transaction class in this way, you can efficiently create and manage individual transactions within your expenses tracker project. This class helps keep the data clean, easy to manipulate, and ensures that you can extend functionality as the project grows.

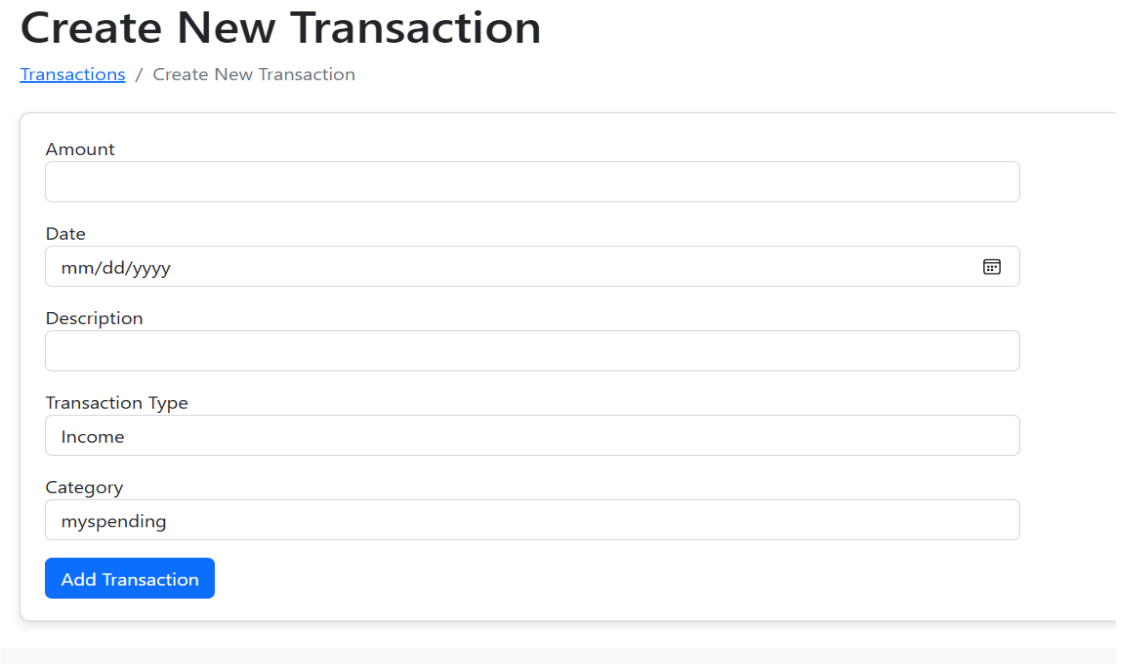

Fig 4.2: New Transaction Page.

4.3 Category Class

Category class that manages and organizes the categories used for transactions (like "Food," "Utilities," "Entertainment," etc.). The Category class will help organize transactions based on their type, which can help users better categorize their spending and income for reporting or analysis. Category class with the Transaction class by associating each transaction with a specific category. When creating a transaction, you could choose the appropriate category (like "Food" or "Salary") to ensure the transaction is categorized correctly.

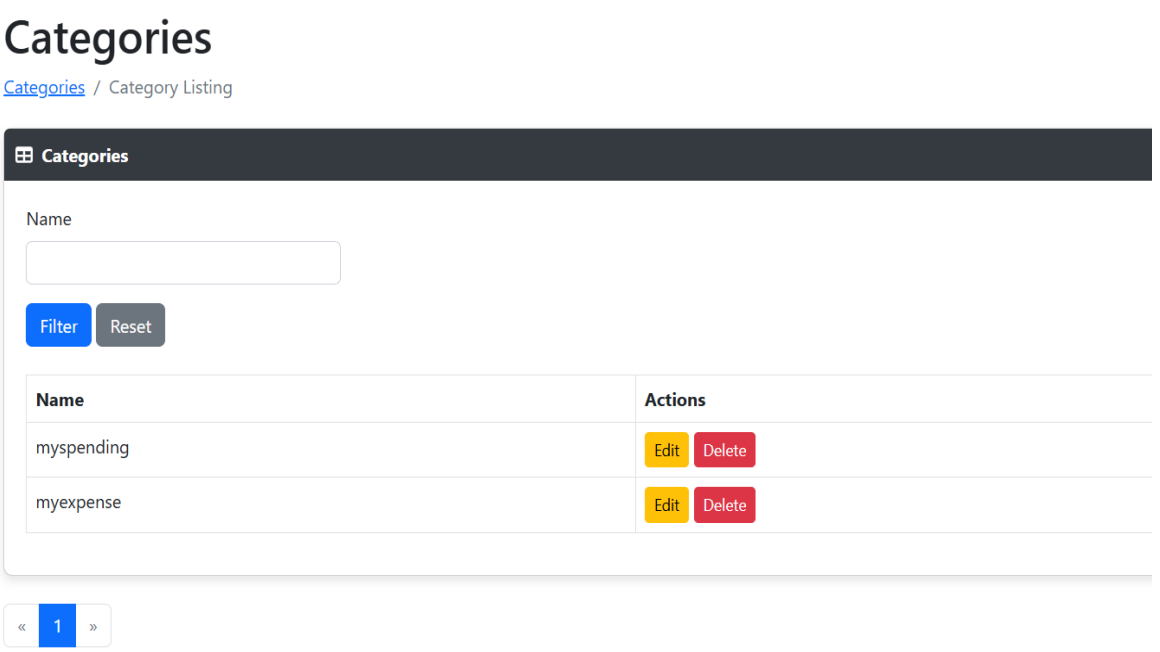

Fig 4.3: Categories Page.

4.4 New Category Class

New Category class, with some additional features or changes, I can help you with that. I'll present a more enhanced version of the Category class, which can be more flexible and useful in managing and tracking transaction categories in your expenses tracker project. Categories help group transactions into logical sections (e.g., "Food," "Rent," "Salary"), which makes it easier for users to track and analyze their spending and income. This class allows you to manage categories dynamically—add/remove subcategories, update descriptions, and validate categories. The below page shows, the persons expenses her the one can add category, and add the categories to the category list.

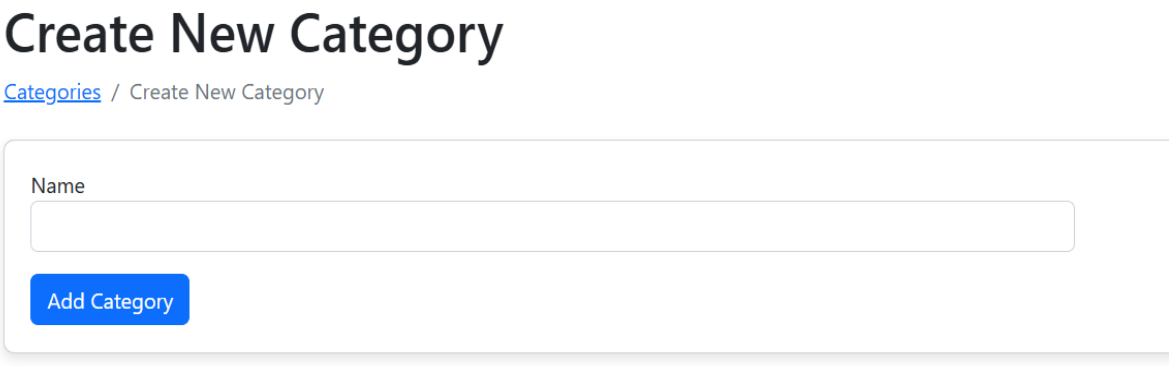

Fig 4.4: New Categories Page.

4.5 Expenses Class

Expenses overview in your expenses management project, we need to extend the current classes and introduce additional methods that will help calculate these values. The Monthly Expenses Overview provides a breakdown of the total expenses incurred by the user during a given month. It allows the user to view their spending across different categories, helping them monitor their budget and control their spending habits. The Total Expenses Overview shows the cumulative amount of all expenses recorded in the tracker, regardless of the period. This overview helps users understand their total spending over time and assess their overall financial health. The Income Overview displays the total income the user has earned over a specific period (e.g., monthly, yearly). This summary helps the user track their earnings and compare them with their expenses.

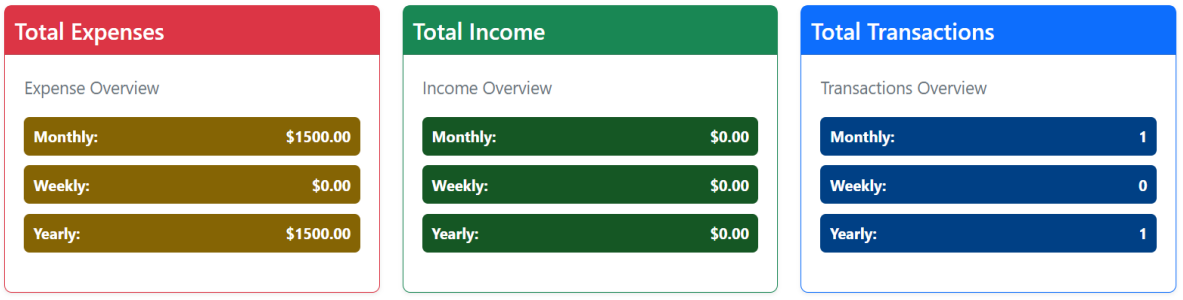

Fig 4.5: Expenses Overview Page.

CONCLUSION

An “Personal Expenses Management is a useful tool that can help individuals keep track of their spending habits and manage their finances effectively. By tracking expenses, individuals can gain insights into where their money is going and identify areas where they can reduce spending. To effectively use an expenses management, it's important to create a budget and set financial goals. This will help individuals prioritize their spending and make informed decisions about where to allocate their resources. It's also important to regularly review and update the tracker to ensure that it remains accurate and relevant. Personal Expense Management is an effective tool that makes it easy and efficient for people and organisations to keep track of their spending. This application divides expenses into categories, making it simple for users to monitor their spending habits. Users of this application may plan their budgets, manage their finances more skillfully, and save money. The user interface and navigation of the Personal Expense Management application are both simple and intuitive. Users may quickly and simply add their spending because to the interface's straightforward design. Moreover, users can monitor their costs in a variety of forms, including daily, weekly, and monthly. At the conclusion of each month, the application generates reports that show the expenses graphically.