BUDGET TRACKER

A PROJECT REPORT
for
Mini Project-II (ID201B)
Session (2024-25)

Submitted by

Gourav Chauhan
(202410116100077)
Gaurav Vishwakarma
(202410116100076)
Divyansh Pathak
(202410116100067)
Divyanshu Mishra
(202410116100068)

Submitted in partial fulfilment of the
Requirements for the Degree of

MASTER OF COMPUTER APPLICATIONS

Under the Supervision of
Ms. Shruti Aggarwal
Assistant Professor

Submitted to

DEPARTMENT OF COMPUTER APPLICATIONS
KIET Group of Institutions, Ghaziabad
Uttar Pradesh-201206

CERTIFICATE

Certified that **Gourav Chauhan (202410116100077), Gaurav Vishwakarma (202410116100076), Divyansh Pathak (202410116100067), Divyanshu Mishra (202410116100068)** has/ have carried out the project work having "**BUDGET TRACKER**" (**Mini Project-II, ID201B**) for **Master of Computer Applications** from Dr. A.P.J. Abdul Kalam Technical University (AKTU) (formerly UPTU), Lucknow under my supervision. The project report embodies original work, and studies are carried out by the student himself/herself and the contents of the project report do not form the basis for the award of any other degree to the candidate or to anybody else from this or any other University/Institution.

Ms. Shruti Aggarwal
Assistant Professor
Department of Computer Applications
KIET Group of Institutions, Ghaziabad

Dr. Akash Rajak
Dean
Department of Computer Applications
KIET Group of Institutions, Ghaziabad

BUDGET TRACKER

ABSTRACT

Managing personal finances effectively is crucial for financial stability and long-term planning. The Budget Tracker system is designed to help users track income, expenses, and savings efficiently through a user-friendly interface. The system offers real-time budget monitoring, financial insights, customizable categories, and expense alerts to ensure better financial management.

Developed using React.js for the frontend, NODE JS for the backend, and database MongoDB the system ensures scalability, security, and cross-platform accessibility. Advanced security measures, including data encryption and authentication protocols, protect sensitive financial information.

Market research highlights the growing demand for digital financial management solutions, yet existing tools often lack affordability, customization, and privacy. The proposed Budget Tracker system addresses these gaps by providing an intuitive, cost-effective, and privacy-focused platform for users.

Through this project, we aim to empower individuals with better financial awareness, helping them make informed decisions, reduce unnecessary spending, and achieve their savings goals. The system's impact will be evaluated based on user engagement, financial improvement metrics, and overall usability.

ACKNOWLEDGEMENT

Success in life is never attained single-handedly. My deepest gratitude goes to my project supervisor, **Ms. Shruti Aggarwal** for his guidance, help, and encouragement throughout my project work. Their enlightening ideas, comments, and suggestions.

Words are not enough to express my gratitude to **Dr. Akash Rajak**, Professor and Dean, Department of Computer Applications, for his insightful comments and administrative help on various occasions.

Fortunately, I have many understanding friends, who have helped me a lot on many critical conditions.

Finally, my sincere thanks go to my family members and all those who have directly and indirectly provided me with moral support and other kind of help. Without their support, completion of this work would not have been possible in time. They keep my life filled with enjoyment and happiness.

Gourav Chauhan

Gaurav Vishwakarma

Divyansh Pathak

Divyanshu Mishra

TABLE OF CONTENTS

LIST OF FIGURES

Chapter 1

INTRODUCTION

1.1 General

Budget tracking is an essential aspect of personal and business finance management. A budget tracker helps individuals and organizations monitor their income, expenses, savings, and financial goals efficiently. This chapter introduces the concept of budget tracking and its significance in achieving financial stability.

1.2 Overview of the Budget Tracker System

The Budget Tracker system is a digital platform designed to help users track their financial transactions. It categorizes expenses, analyzes spending patterns, and provides real-time insights into financial health. The system ensures users can set budget limits, receive alerts, and generate reports for better financial planning.

1.3 Objectives of the System

1.3.1 User Benefits

- Helps in tracking income and expenses effectively.
- Provides real-time financial insights.
- Allows users to set budget goals and monitor progress.
- Sends alerts when exceeding predefined spending limits.

1.3.2 Administrator Benefits

- Ensures system security and data privacy.
- Monitors system performance and user activities.
- Generates analytics reports for financial trends.

1.4 Problem Statement

Many individuals struggle with managing their finances due to a lack of structured budgeting tools. The absence of an efficient budget tracker results in overspending, missed savings opportunities, and financial stress. This project aims to develop an intuitive budget tracking system to address these challenges.

1.5 Target Audience

The primary users of the budget tracker system include:

- Individuals seeking better financial management.
- Small businesses tracking their expenses and revenues.
- Financial advisors helping clients with budgeting.

1.5 **Project Significance**

The Budget Tracker system simplifies financial planning by automating expense tracking and providing real-time analysis. It aids in reducing financial stress, promoting savings, and ensuring better money management.

1.7 Limitations of the System

- Requires users to input transactions manually (unless integrated with banking systems).
- Internet access is necessary for cloud-based tracking.
- Limited customization options for niche financial needs.

Chapter 2

FEASIBILITY STUDY

2.1 Technical Feasibility

The Budget Tracker system will be developed as a web-based and mobile-compatible application to ensure accessibility across different devices. The backend will be built using **NODE JS**, ensuring robust data processing and security. The frontend will be developed with **React.js**, offering an interactive and responsive user interface. A **database** MongoDB will be used to store financial data securely while ensuring scalability. Security measures like **encryption, two-factor authentication (2FA), and regular data backups** will be integrated to protect user data. The system will also feature APIs for bank integration, allowing seamless transaction tracking.

2.2 Economic Feasibility

The development cost of the Budget Tracker system includes expenses related to **software development, hosting, maintenance, and security enhancements**. By utilizing **open-source technologies**, the project can significantly reduce costs while maintaining high performance. Cloud-based solutions like AWS or Firebase offer cost-effective and scalable hosting options. The system will follow a **freemium model**, where basic features are free, and advanced analytics or premium services can be monetized. The potential return on investment (ROI) is high, considering the increasing demand for personal finance management tools.

2.3 Market Research

With the rise of digital financial management, there is a growing demand for **automated budget tracking solutions**. Studies show that users prefer applications with **intuitive UI, real-time tracking, data security, and personalized financial insights**. The increasing reliance on **cashless transactions and online banking** further highlights the need for effective budget-tracking tools. Competitor analysis reveals that while existing tools cater to budgeting needs, many users find them **either too complex, expensive, or lacking customization options**.

2.4 Existing Budget Tracking Solutions

Several budget tracking applications exist in the market, including **Mint, YNAB (You Need a Budget), and PocketGuard**.

- **Mint** provides expense tracking and financial insights but lacks customization.
- **YNAB** focuses on proactive budgeting but has a steep learning curve and a subscription fee.
- **PocketGuard** simplifies spending analysis but lacks in-depth customization.

While these solutions offer valuable features, users often express concerns about **pricing, complexity, and data privacy**. Many apps also require linking bank accounts, which some users find inconvenient or risky.

2.5 Gap Analysis

Despite the availability of multiple budget tracking applications, certain **gaps** remain unaddressed:

1. **Cost-effectiveness** – Many solutions require paid subscriptions, making them less accessible.
2. **User-friendly Interface** – Some tools are overly complex, discouraging users from regular tracking.
3. **Data Privacy** – Users are concerned about sharing financial data with third-party applications.
4. **Customization** – Most existing solutions have rigid budgeting structures with limited flexibility.

The **proposed Budget Tracker system** aims to address these gaps by offering a **simple, affordable, privacy-focused, and highly customizable** platform. Users will be able to **track expenses, set financial goals, generate insights, and receive alerts**, all within a **secure and user-friendly environment**.

Chapter 3

PROJECT OBJECTIVE

3.1 Key Goals of the System

The **Budget Tracker system** aims to provide users with an efficient way to manage their finances by tracking income, expenses, and savings. The main objectives include:

- **Automating budget tracking** to reduce manual effort.
- **Providing real-time insights** on spending patterns.
- **Ensuring data security** with encryption and authentication measures.
- **Offering a user-friendly interface** for seamless navigation.
- **Enabling financial goal setting** to help users plan their savings and expenses effectively.

3.2 User Requirements Alignment

The system is designed to meet user needs by:

- Supporting **multi-device access** (web and mobile compatibility).
- Allowing **customizable budget categories** for better financial organization.
- Offering **data visualization** tools like charts and reports for easy analysis.
- Implementing **spending alerts and notifications** to keep users informed.
- Providing **offline mode** for tracking expenses without an internet connection.

This system will bridge the gap between complexity and accessibility, ensuring a smooth and efficient budgeting experience.

Chapter 4

HARDWARE AND SOFTWARE REQUIREMENTS

4.1 Hardware Specifications

The Budget Tracker system requires both **server-side** and **client-side** hardware for efficient performance.

For Users (Client-Side):

- Device: Smartphone, Tablet, or Computer
- Processor: Minimum **1.6 GHz dual-core** or higher
- RAM: **4GB or more** for smooth performance
- Storage: At least **100MB free space** for app installation
- Internet: Stable connection for **real-time data syncing**

For Server-Side (Hosting & Database):

- Processor: **Quad-core 2.4 GHz** or higher
- RAM: Minimum **8GB** for handling multiple users
- Storage: **SSD-based storage** for faster data processing
- Cloud Hosting: AWS, Firebase, or Azure for scalability
- Database: PostgreSQL or Firebase with backup support

4.2 Software Tools Used

The system will be developed using modern **open-source technologies** to ensure flexibility, security, and scalability.

Frontend (User Interface Development):

- **React.js** – For building an interactive web interface
- **React Native** – For mobile app development (Android & iOS)

- **HTML5, CSS3, JavaScript** – For responsive design

Backend (Server & Logic Processing):

- **Python (Django/Flask)** – For handling user data securely
- **Node.js (if needed)** – For API handling and performance optimization

Database & Storage:

- **MongoDB** – For efficient data storage and retrieval
- **Cloud Storage (AWS S3, Firebase Storage)** – For storing receipts, reports, and documents

Chapter 5

PROJECT FLOW

5.1 Development Methodology

The **Agile methodology** will be used to develop the Budget Tracker system. This approach ensures **continuous feedback, iterative development, and flexibility** in incorporating new features. The development process follows these stages:

1. **Requirement Analysis** – Understanding user needs and system goals.
2. **Design & Prototyping** – Creating wireframes, UI/UX design, and database architecture.
3. **Development** – Implementing frontend, backend, and database integration.
4. **Testing** – Conducting unit, integration, and user testing to ensure system stability.
5. **Deployment** – Hosting the system on a **cloud platform** for public use.
6. **Maintenance & Updates** – Continuous monitoring and adding new features.

5.2 Data Flow and Use Case Diagram

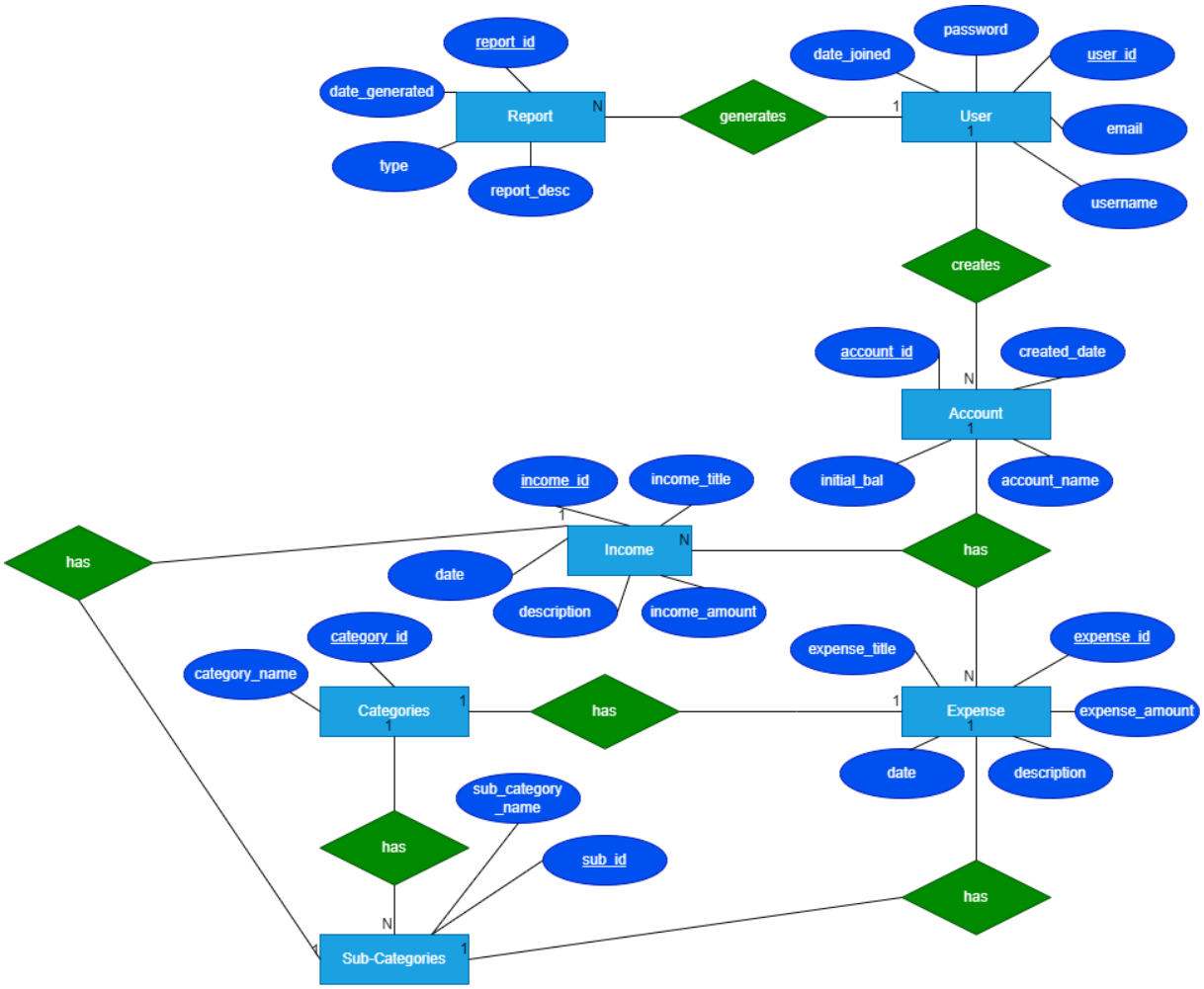
Data Flow in the Budget Tracker System:

- **User Registration & Login:** Users create accounts and log in securely.
- **Income & Expense Entry:** Users input transactions, which are stored in the database.
- **Budget Analysis:** The system processes data to generate reports and spending insights.
- **Notifications & Alerts:** Users receive reminders about spending limits and financial goals.

Use Case Diagram Overview:

- **Actors:** User, Admin
- **Use Cases:**
    - Register/Login
    - Add/Edit/Delete Expenses
    - Set Financial Goals
    - Generate Reports
    - Receive Spending Alerts

ER Diagram:



CHAPTER 6

PROJECT OUTCOME

6.1 System Features

The Budget Tracker system provides users with a **seamless financial management experience** through the following features:

- **Expense and Income Tracking:** Users can log and categorize financial transactions easily.
- **Budget Planning:** Allows setting monthly or custom budget limits.
- **Automated Insights & Reports:** Provides spending analysis through graphs and charts.
- **Alerts & Notifications:** Sends reminders for budget limits and upcoming bills.
- **Data Security:** Implements encryption and authentication for user privacy.
- **Multi-Device Accessibility:** Works on both web and mobile platforms.

6.2 User Interface Overview

The system features an **intuitive and visually appealing interface** with:

- A **dashboard** displaying total income, expenses, and savings.
- **Transaction input forms** for easy logging of financial activities.
- **Graphical reports and charts** for better understanding of spending habits.
- A **settings panel** for customization and goal tracking.

6.3 Impact Analysis

The Budget Tracker system significantly enhances **financial awareness and decision-making** by:

- Helping users **monitor and control spending habits** effectively.
- Providing real-time data to **improve financial planning**.
- Ensuring **data privacy and security**, unlike many third-party apps.
- Promoting a **user-friendly budgeting experience** with minimal learning curve.

This system **empowers users** to take control of their finances, **reduce unnecessary expenses**, and work towards their financial goals with ease.

Sign Up Page

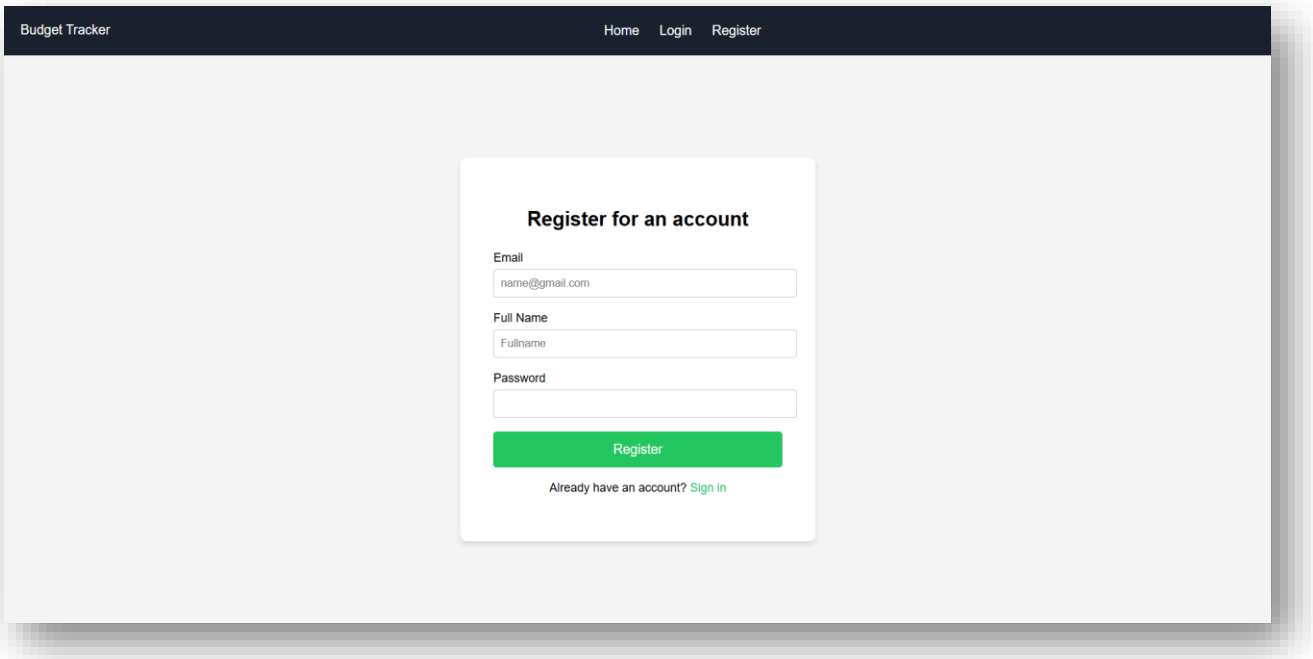


Figure 6.1

Login Page

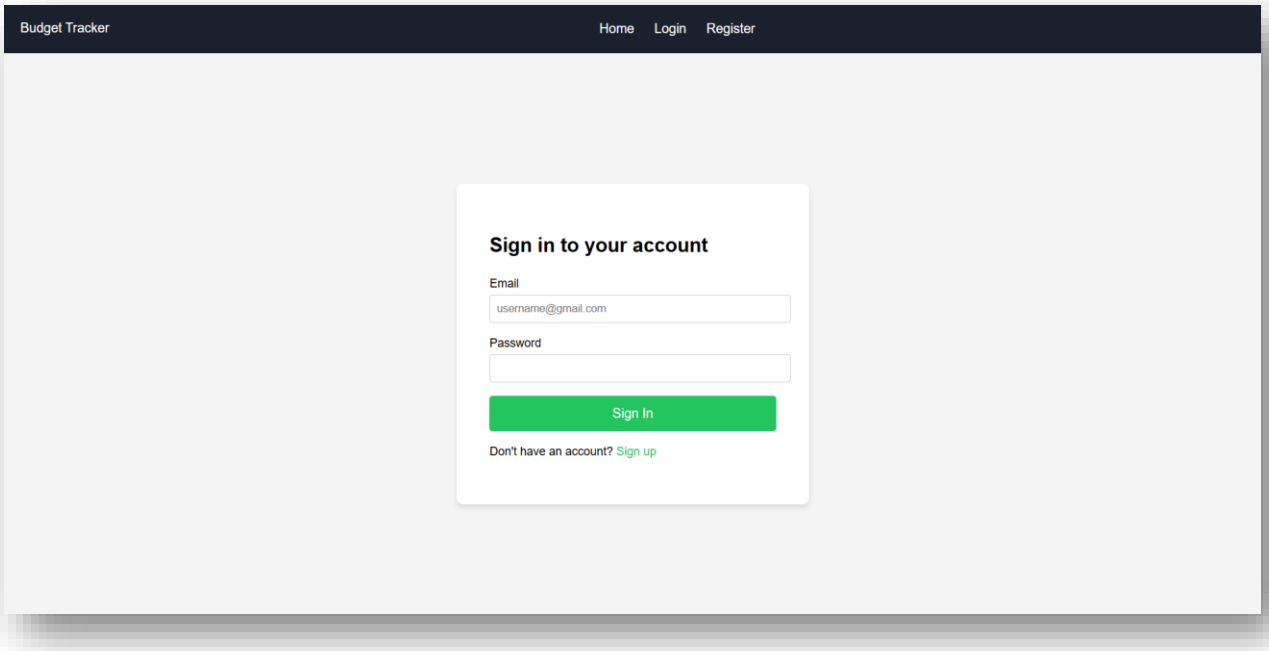


Figure 6.2

Home Page

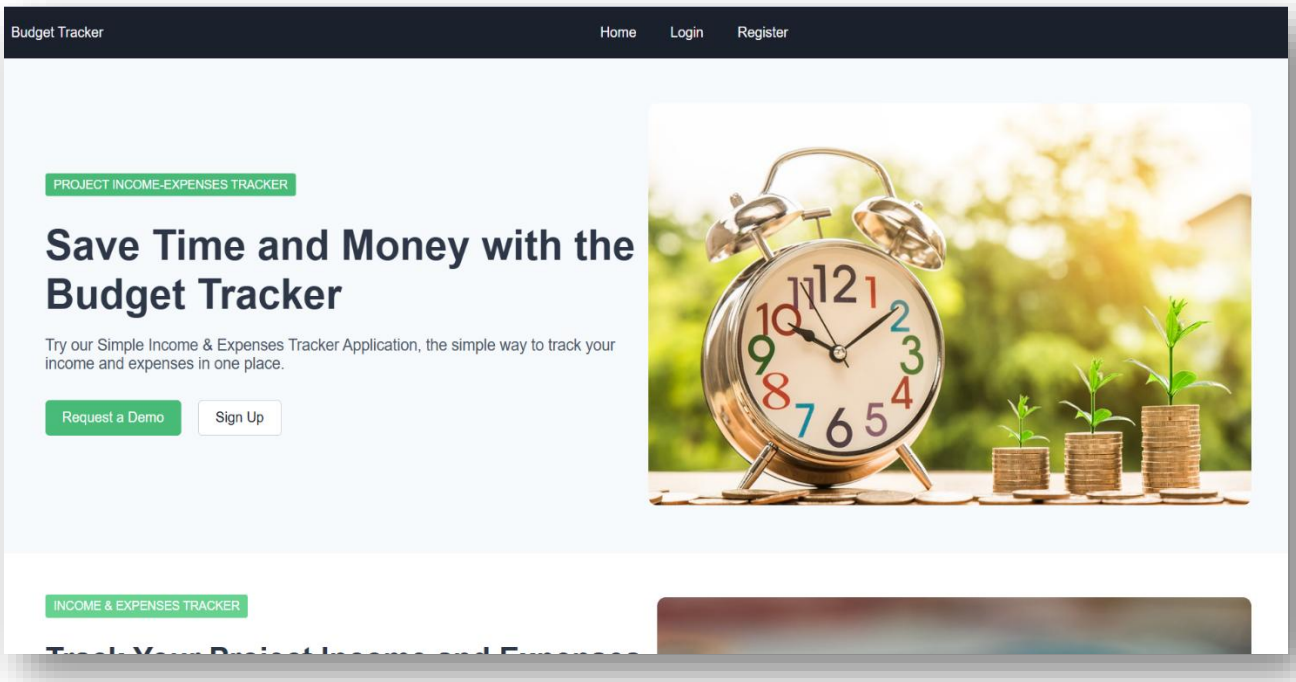


Figure 6.3

Dashboard

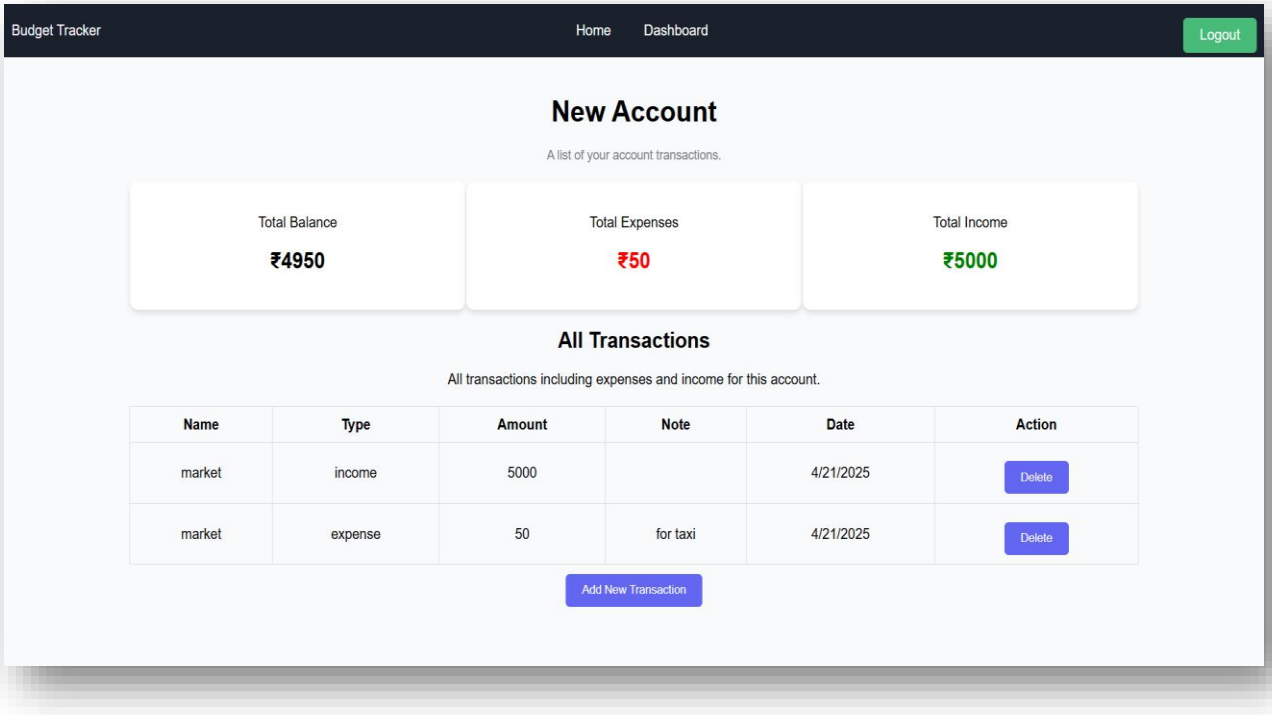


Figure 6.4

REFERENCES

[1] S. Krug, *Don't Make Me Think: A Common Sense Approach to Web Usability*, 3rd ed. Berkeley, CA: New Riders, 2014.

[2] J. McKinney, *Automating Budget Tracking: A Guide to Personal Finance Apps*. Financial Tech Press, 2020.

[3] A. Tan, "The Impact of Budgeting Apps on Financial Planning," *Journal of Financial Technology*, vol. 12, no. 4, pp. 45-58, 2019.

[4] OpenAI, *Budget Tracking Systems and User-Centric Design Principles*, 2025. [Online]. Available: https://www.openai.com. [Accessed: Mar. 9, 2025].

[5] Django Software Foundation, *Django Documentation*, 2025. [Online]. Available: https://www.djangoproject.com. [Accessed: Mar. 9, 2025].

[6] Mozilla Developer Network (MDN), *React.js and Frontend Development*, 2025. [Online]. Available: https://developer.mozilla.org. [Accessed: Mar. 9, 2025].

[7] Google Firebase, *Cloud-Based Data Storage and Security Practices*, 2025. [Online]. Available: https://firebase.google.com. [Accessed: Mar. 9, 2025].

[8] J. Nielsen, *Usability Engineering for Web and Mobile Applications*. Morgan Kaufmann, 2017.

[9] R. Thaler and C. Sunstein, *Nudge: Improving Decisions About Health, Wealth, and Happiness*, New York, NY: Penguin Books, 2008.

[10] P. A. Samuelson and W. D. Nordhaus, *Economics*, 19th ed. New York, NY: McGraw-Hill, 2010.