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## **DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

### **Codegene - Skill Enhancement Project**

# **EXPENSE TRACKER**

**PROJECT STUDENT**

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# AGENDA

- Abstract
- Existing System
- Proposed System
- Advantages
- Disadvantages
- Hardware Requirements
- Software Requirements
- Modules
- Module Description
- Sample Output
- Conclusion

# ABSTRACT

The Expense Tracker is a web-based application developed using **ReactJS**, **Spring Boot**, and **MongoDB** that helps users efficiently manage their personal finances. It allows users to record daily income and expenses, categorize transactions, set monthly budgets, and monitor spending patterns through an interactive dashboard. The system provides real-time updates, data visualization, and export options, offering users a clear overview of their financial health. With its simple interface and responsive design, this application promotes smarter money management and financial awareness.

# EXISTING SYSTEM

- In the existing system, users primarily rely on **manual methods** such as notebooks or spreadsheets (e.g., Excel) to record and track their daily expenses and income.
- These methods **lack automation**, making it difficult to analyze spending patterns or generate real-time financial summaries.
- There is **no centralized database**, so data cannot be accessed, synced, or updated efficiently across devices.
- Manual tracking often leads to **data redundancy, calculation errors, and poor visualization** of financial information, limiting effective budget planning.

# PROPOSED SYSTEM

- **Automated Expense Management:** Automatically records, categorizes, and analyzes income and expenses through a centralized platform.
- **Cloud-based Data Storage:** Uses Spring Boot and MongoDB for secure, scalable financial data management.
- **Interactive User Interface:** Built with ReactJS for a responsive and user-friendly experience across devices.

# ADVANTAGES

- **Time Efficiency:** Automates expense tracking and calculations, reducing manual effort.
- **Accurate Insights:** Provides real-time analytics and visual reports for better financial decisions.
- **Data Security:** Ensures safe and reliable data storage using MongoDB and Spring Boot.
- **User Convenience:** Offers an intuitive ReactJS interface accessible across devices.

# DISADVANTAGES

- **Internet Dependency:** Requires a stable internet connection for data synchronization and access.
- **Server Reliability:** Application performance depends on backend server uptime and response speed.
- **Limited Offline Access:** Users cannot view or update financial data without an internet connection.
- **Technical Setup:** Initial configuration and deployment may require technical knowledge of ReactJS and Spring Boot.

# HARDWARE REQUIREMENTS

- **Processor:** Intel Core i3 or higher
- **RAM:** Minimum 4 GB (8 GB recommended)
- **Storage:** At least 500 MB free space for project files and database
- **Display:** 1366 × 768 resolution or higher
- **Operating System:** Windows 10 / 11, macOS, or Linux
- **Internet:** Stable connection for frontend-backend communication and database access



# SOFTWARE REQUIREMENTS

- **Frontend:** ReactJS with HTML, CSS, and JavaScript for interactive user interfaces.
- **Backend:** Spring Boot (Java) for API handling and business logic.
- **Database:** MongoDB for secure and scalable data storage.
- **Tools:** Visual Studio Code, IntelliJ IDEA, Maven, and npm for development and build management.
- **Operating System:** Compatible with Windows, macOS, and Linux.

# MODULES

1. User Management Module
2. Income Management Module
3. Expense Management Module
4. Dashboard & Reports Module
5. Database Management Module

# MODULE DESCRIPTION

## 1. User Management Module

- Handles user registration and authentication using secure login credentials.
- Stores user profile details in MongoDB for personalized data access.
- Validates user inputs and prevents duplicate or unauthorized access.
- Allows secure logout and session handling to maintain privacy.
- Ensures that each user's financial data is isolated and protected.

# MODULE DESCRIPTION

## 2. Income Management Module

- Allows users to add income entries such as salary, freelance, or investments.
- Supports categorization with icons for easy identification.
- Stores income details with amount, description, and date.
- Provides edit and delete options for better record maintenance.
- Displays total income dynamically on the dashboard.

# MODULE DESCRIPTION

## **3. Expense Management Module**

- Enables users to record and categorize expenses like food, bills, or travel.
- Automatically updates the total expense value in real time.
- Allows modification or removal of existing expense records.
- Provides date-wise and category-wise expense tracking.
- Helps in identifying unnecessary spending and improving budgeting.

# MODULE DESCRIPTION

## **4. Dashboard & Reports Module**

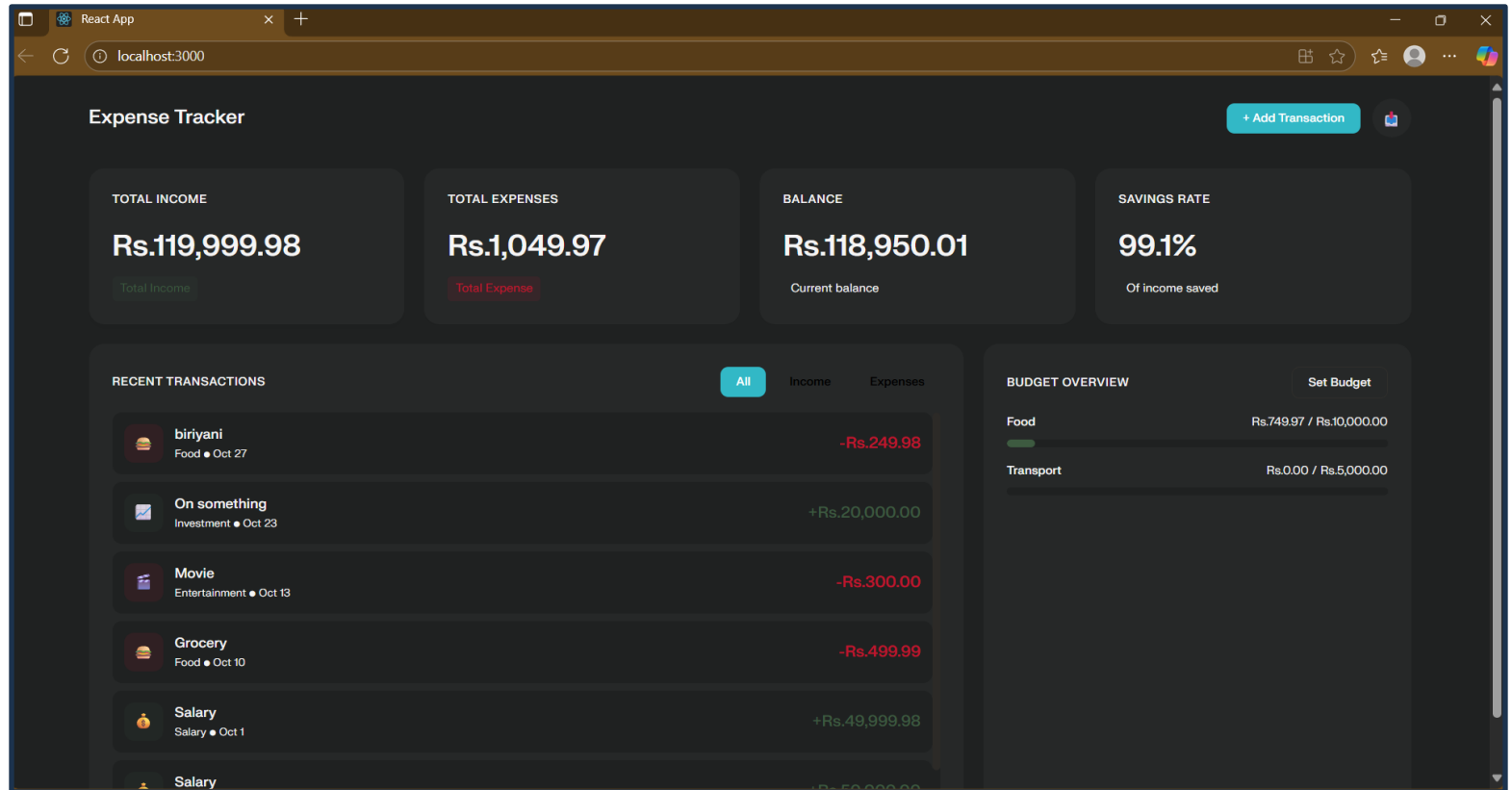
- Displays interactive summaries of income vs. expenses.
- Shows real-time balance and visual comparisons of spending.
- Provides detailed analytics for better financial decision-making.
- Uses ReactJS dynamic components for instant updates.
- Helps users monitor financial goals and track overall progress.

# MODULE DESCRIPTION

## **5. Database Management Module**

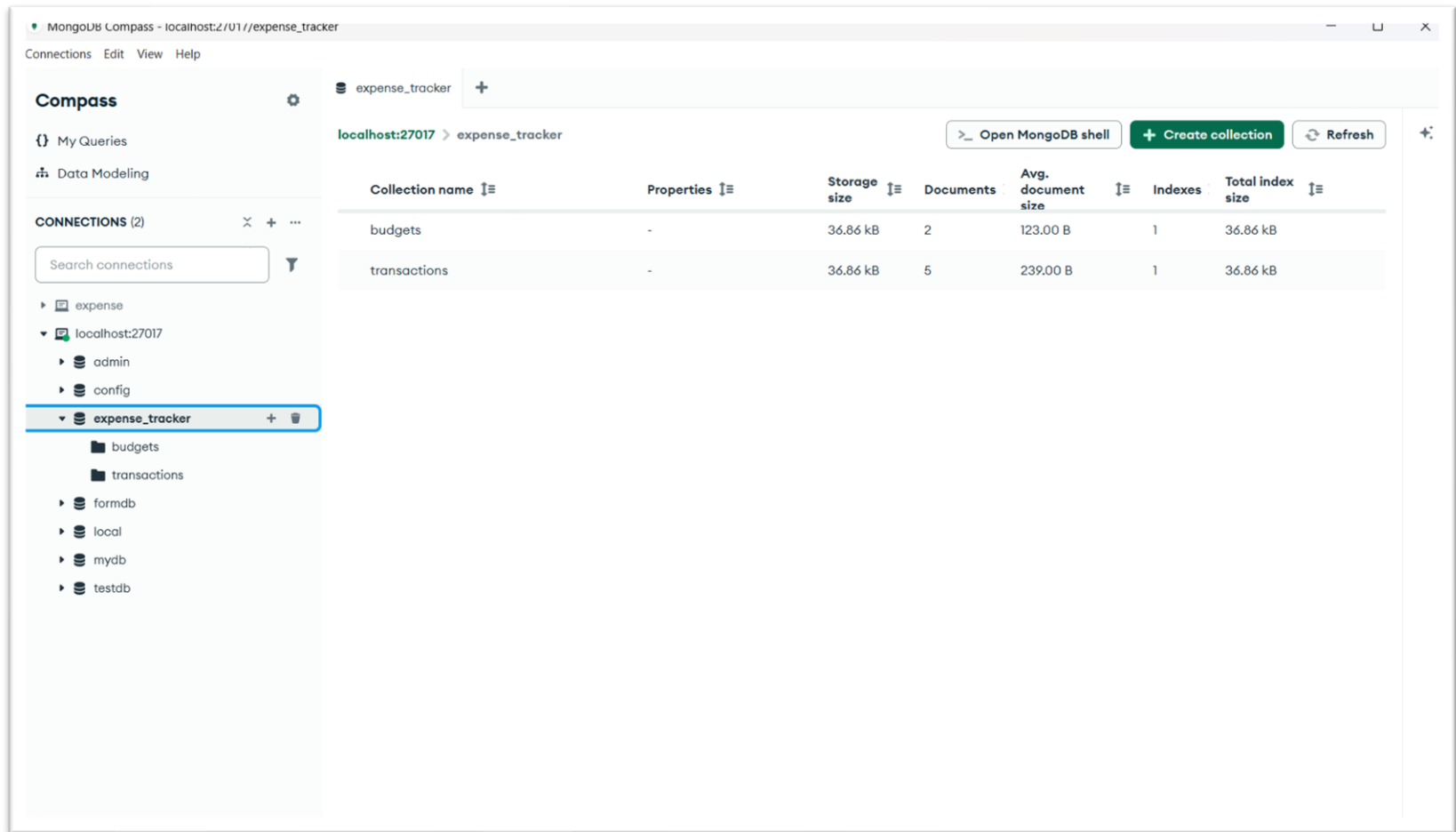
- Manages storage and retrieval of all financial data using MongoDB.
- Ensures data integrity and consistency between frontend and backend.
- Facilitates CRUD operations (Create, Read, Update, Delete) efficiently.
- Handles scalability for multiple users and large data volumes.
- Provides backup and reliability through a robust database structure.

# SAMPLE OUTPUT



Source Code: <https://github.com/Harshida-A/Expense-Tracker#>





***Screenshot of Database - MongoDB***

# CONCLUSION

- The Expense Tracker system successfully simplifies financial management by automating income and expense tracking.
- It integrates **ReactJS**, **Spring Boot**, and **MongoDB** to deliver a seamless, secure, and efficient user experience.
- The system provides **real-time insights**, **data visualization**, and **budget management**, helping users make informed financial decisions.
- Overall, it serves as a reliable and scalable solution for individuals seeking smarter and more organized personal finance management.