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PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

School of Computer Science Engineering

A Report on
Mini-Project Titled
"PERSONAL EXPENSE TRACKER"

Course Title: MOBILE APPLICATION DEVELOPMENT

Course Code: CSE2506

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Submitted By:

Name: SHREYAS A

Roll No: 20241CSE3012

Signature:

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ABSTRACT

The Expense Management Application is a simple Android-based system designed to help users record and track their daily expenses. The application allows users to add new expenses, view all previously added expenses, and store data securely using SQLite. With a clean interface and easy navigation, the app provides a basic yet effective solution for personal financial tracking. This mini-project demonstrates Android development concepts such as activities, layouts, RecyclerView, database handling, and user interaction.

This mini-project also highlights the use of object-oriented programming principles in Android development, efficient UI design practices, and data handling methods. The application can be extended with additional features like categorization of expenses, monthly summaries, or cloud synchronization. Overall, the project demonstrates the successful creation of a practical and user-friendly expense tracking system suitable for daily use.

INTRODUCTION

With the growth of digital technologies and mobile applications, people have shifted from traditional manual methods of maintaining financial records to smartphone-based systems. Keeping track of expenses helps individuals control spending habits, plan budgets, and make informed financial decisions. This project focuses on building an Expense Management Application—a simple Android app that allows users to record and review their expenses.

Android, being the most widely used mobile operating system, provides a robust platform for developing applications ranging from basic tools to advanced enterprise systems. In this project, Android Studio was used as the primary development environment due to its seamless integration with SDKs, design tools, and debugging features. Java was chosen as the programming language because of its widespread use in Android development, strong community support, and object-oriented structure.

This mini-project introduces fundamental Android development concepts, including Activity lifecycle, XML-based UI design, event handling, RecyclerView implementation, and SQLite database management. Users of the application can add expense entries, which are then saved locally and displayed in a structured list. The project emphasizes clean layout design, smooth navigation, and efficient data handling.

SOFTWARE
AND HARDWARE REQUIREMENTS

To develop and run the Expense Management Application successfully, several software and hardware components are required. The following section outlines all the necessary requirements in detail:

- **Software Requirements**

1. **Android Studio** – The official IDE for Android development, providing tools for UI design, coding, and debugging.
2. **Java Development Kit (JDK 8 or above)** – Required for compiling Java-based Android applications.
3. **Android SDK** – Provides essential libraries and APIs for building Android apps.
4. **Gradle Build System** – Automatically handles project compilation, dependency management, and packaging.
5. **SQLite Database** – Built-in Android database used for storing expenses locally on the device.
6. **Emulator or Device Drivers** – Needed to run and test the application on a virtual or physical Android device.

- **Hardware Requirements**

1. **Development Machine (PC/Laptop)**
    - Minimum 4 GB RAM (8 GB recommended for smoother performance)
    - Dual-core processor
    - 10 GB free storage space
    - Windows, macOS, or Linux OS compatible with Android Studio
2. **Android Device / Emulator**
    - Android version 7.0 (API 24) or above
    - At least 1 GB RAM

MODULES/FUNCTIONALITIES

The application is divided into several functional modules, each responsible for a specific task. These modules work together to provide a smooth user experience.

1. Add Expense Module

This module allows the user to input basic details about an expense such as the title and amount. It includes form validation to ensure proper data entry. Once submitted, the details are stored in an SQLite database. This module is implemented in AddExpense.java and designed using activity_add_expense.xml.

2. View Expenses Module

This module displays all saved expenses in a clean and organized list using a RecyclerView. Each list item shows the title and the corresponding amount. The RecyclerView uses ExpenseAdapter.java to bind the database records with the UI components. The layout for each list item is created in list_item.xml.

3. Database Module

The DBHelper.java class manages all operations related to the SQLite database. It handles creating tables, inserting new entries, and fetching all saved records. This module forms the backbone of the application's data management.

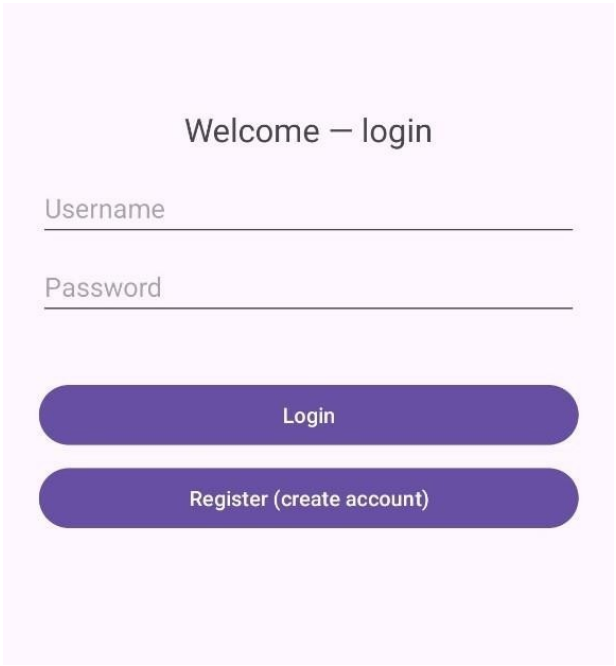
4. User Interface Module

Designed using XML, the UI module includes:

- activity_main.xml for the expense list screen
- activity_add_expense.xml for adding expenses
- list_item.xml for individual records

This module ensures a simple, user-friendly interface.

RESULTS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Password
Login
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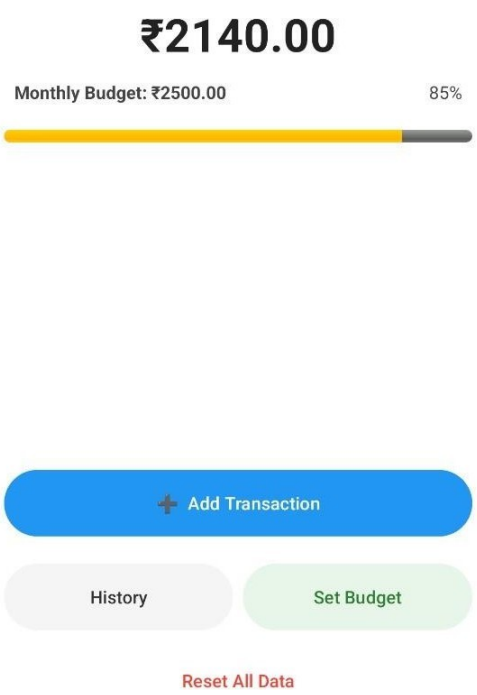
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Set Budget
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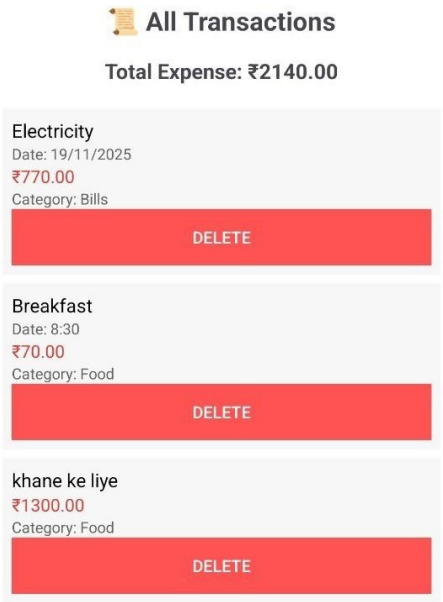
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CONCLUSION

The Expense Management Application successfully achieves its goal of providing a simple and effective tool for tracking daily expenses. The project demonstrates the fundamental concepts of Android application development, including user interface design, event handling, RecyclerView implementation, and database management through SQLite. By integrating these components, the project highlights how mobile technology can be used to improve personal financial planning.

This application can serve as a foundation for more advanced systems. Future enhancements could include categories for expenses, monthly analysis, integration with cloud storage, charts/graphs, and notifications. Overall, this project strengthened practical skills in Android development and provided valuable experience in building a complete, functional mobile application.