NEWSPAPER ARTICLE APP

A MINI PROJECT REPORT

Submitted by

RAGHUL S (2116220701210)

in partial fulfillment for the course

CS19611 – MOBILE APPLICATION DEVELOPMENT LABORATORY

of the degree of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

RAJALAKSHMI ENGINEERING COLLEGE

RAJALAKSHMI NAGAR

THANDALAM

CHENNAI – 602 105

MAY 2025

RAJALAKSHMI ENGINEERING COLLEGE
CHENNAI - 602105

BONAFIDE CERTIFICATE

Certified that this project report **"EXPENSE CALCULATOR APP"** is the bonafide work of **"RAGHUL S (2116220701210)"** who carried out the project work (CS19611-Mobile Application Development Laboratory) under my supervision.

Dr. P.Kumar

HEAD OF THE DEPARTMENT

Professor and Head

Department of

Computer Science and Engineering

Rajalakshmi Engineering College

Rajalakshmi Nagar

Thandalam

Chennai - 602105

Saravana Gokul G M.E(cse)

SUPERVISOR

Assistant Professor (SG)

Department of

Computer Science and Engineering

Rajalakshmi Engineering College

Rajalakshmi Nagar

Thandalam

Chennai - 602105

ACKNOWLEDGEMENT

RAGHUL S(2116220701210)

TABLE OF CONTENTS

ABSTRACT

The **Expense Calculator Android App** is a lightweight and user-friendly mobile application developed to assist individuals in managing their day-to-day expenses effectively. Built entirely using **Kotlin in Android Studio**, the app focuses on delivering a minimalistic yet efficient budgeting solution, especially suited for users who prefer simplicity and offline functionality.

The primary objective of the application is to provide a seamless platform for users to **input their monthly or weekly budget** and track their spending across various **predefined categories** such as **Food**, **Transport**, **Entertainment**, and **Others**. As users log their expenses, the app performs real-time calculations to determine whether they are within or exceeding their set budget.

To enhance financial awareness, the application features a **dynamic bar chart** that offers a visual representation of spending versus the allocated budget in each category. This graphical insight helps users make informed decisions about their finances and encourages responsible money management.

Key design principles include **offline capability**, ensuring all data is stored locally without the need for internet access, and an **ad-free experience**, allowing uninterrupted use. Furthermore, the app avoids unnecessary complexities such as mandatory sign-ins or data sharing, preserving user privacy and streamlining usability.

Targeted towards **students, freelancers**, and **minimalist users**, the Expense Calculator Android App serves as a practical and accessible tool for anyone looking to manage their personal finances with ease and efficiency.

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 GENERAL

In today's fast-paced and increasingly consumer-driven world, **financial awareness** has become more crucial than ever. With the rise in cashless transactions and spontaneous purchases, individuals often lose track of their daily expenditures. Even small, seemingly insignificant expenses can accumulate over time and disrupt personal budgets, leading to financial stress or unplanned borrowing. Despite the availability of numerous digital tools for expense management, many people—especially students, freelancers, and casual users—find traditional finance apps to be **complex, bloated with features**, or **heavily reliant on internet connectivity** and sign-ins.

To address these challenges, this project introduces a lightweight and intuitive **Expense Calculator Mobile Application**. The goal is to bring **simplicity and functionality** together in a single platform that allows users to effortlessly track their spending habits. By offering **predefined categories** for common expense types and providing **real-time budget tracking**, the app enables users to maintain control over their finances with minimal effort.

What sets this application apart is its **offline capability**, **no sign-up requirement**, and **clean, ad-free interface**, which ensure privacy, convenience, and a distraction-free user experience. It eliminates the need for account creation or data syncing with cloud services, making it ideal for users who value speed, autonomy, and data security.

With visual insights like **dynamic bar charts** and a simple, responsive design, the app promotes better financial decision-making. It encourages users to build consistent habits around budgeting and fosters a more mindful approach to money management—all without the complications found in traditional finance apps.

In essence, this mobile application provides a **minimalist, practical, and accessible solution** for personal expense tracking, tailored to the needs of modern users who seek efficiency without sacrificing ease of use.

1.2 OBJECTIVE

The primary objective of the Expense Calculator Android App is to offer a simple, efficient, and user-friendly platform for personal expense management. The app enables users to define a customizable weekly or monthly budget and record their daily expenses under predefined categories such as Food, Transport, Entertainment, and Others. It provides real-time feedback by updating the budget balance immediately after each expense entry, helping users stay informed about their financial standing and avoid overspending. To enhance understanding of spending habits, the app features dynamic bar charts that visually represent categorized expenses in comparison to the set budget. This allows users to easily identify patterns and make informed financial decisions. A key focus of the application is to ensure complete offline functionality, allowing users to access and manage their data without requiring internet connectivity. Moreover, the app emphasizes a clean, ad-free interface without mandatory sign-ins, ensuring a smooth and distraction-free experience. Overall, the app is designed to be a practical financial companion for students, freelancers, and anyone seeking a minimalist solution to daily expense tracking.

1.3 EXISTING SYSTEM

Current expense tracking solutions such as **Monefy**, **You Need A Budget (YNAB)**, and other popular finance management apps offer a wide range of features including cloud synchronization, account linking, and financial goal setting. While these tools are powerful, they often come with certain drawbacks that limit their accessibility and appeal for users seeking a simpler alternative. Most of these applications **require user registration, login credentials, and internet connectivity**, which can be inconvenient for individuals who prioritize privacy or do not have consistent access to the internet. Additionally, many of these

platforms operate on a **freemium model**, offering basic functionality for free while locking essential features behind **premium subscriptions**. They may also include **in-app advertisements** that disrupt the user experience. Furthermore, the presence of advanced features, multiple settings, and complex dashboards often introduces a **steep learning curve**, particularly for users who only wish to perform basic expense tracking. As a result, students, freelancers, and minimalists often find themselves overwhelmed or discouraged from using such apps regularly. These limitations highlight the need for a **lightweight, offline-capable, and user-focused solution** that provides essential budgeting tools without unnecessary complications.

1.4 PROPOSED SYSTEM

The proposed **Expense Calculator Android App** is designed to overcome the limitations of existing financial management tools by focusing on **simplicity, usability, and accessibility**. Unlike conventional apps that are often bloated with features, advertisements, or login requirements, this solution emphasizes a **clutter-free user interface** that requires no prior learning or onboarding. The design is intentionally minimal, with **large input fields**, clear labels, and intuitive navigation to ensure that even first-time users can record expenses and manage their budget with ease. A core feature of the app is its ability to **function entirely offline**, making it reliable and accessible regardless of internet availability—ideal for users in areas with limited connectivity or for those who prefer to keep their financial data private and locally stored.

The app provides **instant feedback** after each expense entry, immediately updating the remaining budget and notifying users if they are nearing or exceeding their financial limits. To enhance understanding of spending habits, the app integrates **basic yet effective analytics** through visual tools such as **dynamic bar charts**, which offer a clear overview of categorized expenses compared to the set budget. This ensures users can quickly identify overspending areas without being overwhelmed by complex graphs or detailed financial summaries. Overall, the proposed solution delivers a **streamlined, distraction-free experience** that empowers

users to take control of their day-to-day finances without the overhead and barriers presented by traditional budgeting apps

CHAPTER 2

LITERATURE REVIEW

1.You Need A Budget (YNAB)

YNAB is a comprehensive budgeting tool built around zero-based budgeting, but its complexity and mandatory internet use can overwhelm casual users, making it less suitable for those seeking minimalism.

2.“Personal Finance Apps: Review and Future Directions” – Journal of Financial Planning (2020)

This study analyzed top finance apps and concluded that most users abandon apps that are feature-heavy or require frequent syncing, supporting the need for offline and simplified alternatives.

3.Expense Manager by Bishinews

Although offline and functional, the UI of Expense Manager is cluttered, illustrating that usability and visual simplicity are critical in user retention, particularly for non-technical users.

4.“Mobile UI/UX Trends in Finance Apps” – ACM Digital Library (2019)

The paper emphasizes that large buttons, clean layout, and immediate feedback increase user satisfaction in finance-related mobile applications, which aligns with the proposed app's design.

5.Google Material Design Guidelines

Following Material Design recommendations for spacing, color contrast, and element hierarchy improves app readability and accessibility, which has been incorporated into this project's UI.

6.“Designing for Offline Experiences” – Nielsen Norman Group (2018)

This article discusses strategies for building apps that function offline, supporting the design decision to store data locally in the Expense Calculator app without relying on cloud APIs.

7.Wallet App by BudgetBakers

Wallet offers a rich feature set with graphs and reports, but its cloud-dependence and premium model make it inaccessible for many students, reinforcing the importance of a free, offline solution.

8.“Human-Centered Design Principles in Mobile Apps” – HCI Conference Proceedings (2021)

Advocates for simplicity, minimal clicks, and reduced user effort in mobile apps—principles reflected in the app's one-screen input and instant feedback system.

9.“Data Visualization for Personal Finance” – Springer Briefs (2020)

The study suggests that basic bar charts are the most comprehensible and effective for casual users in personal finance apps, which guided the choice of visual analytics in the project.

10.AndroMoney App Review (2021)

While powerful, AndroMoney's complex categorization and report structure pose a steep learning curve. Simpler category options are more effective for daily tracking, especially for students.
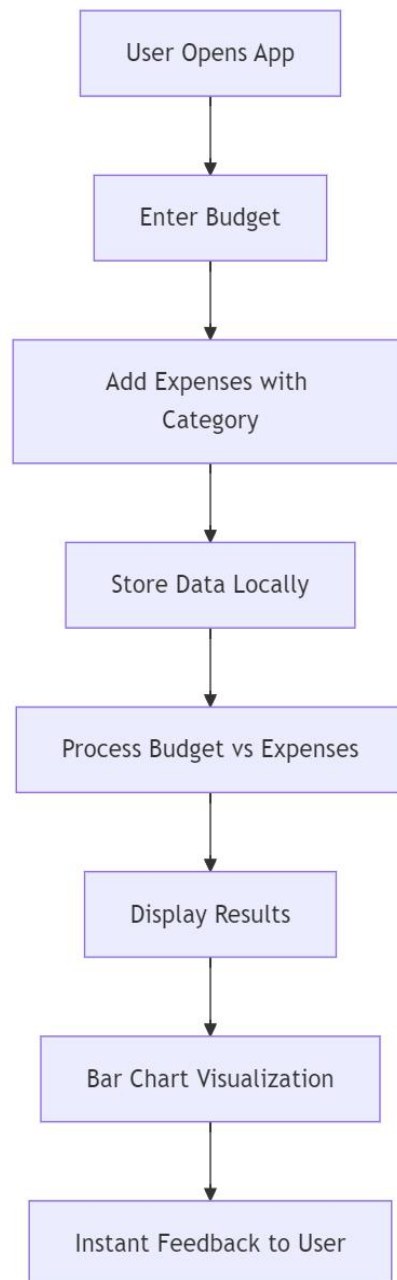
CHAPTER 3

SYSTEM DESIGN

3.1 SYSTEM FLOW DIAGRAM

```
┌─────────────────────┐
│   User Opens App    │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│    Enter Budget     │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  Add Expenses with  │
│      Category       │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  Store Data Locally │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│ Process Budget vs Expenses │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│   Display Results   │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│ Bar Chart Visualization │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│ Instant Feedback to User │
└─────────────────────┘
```

Fig 3.1 System flow diagram
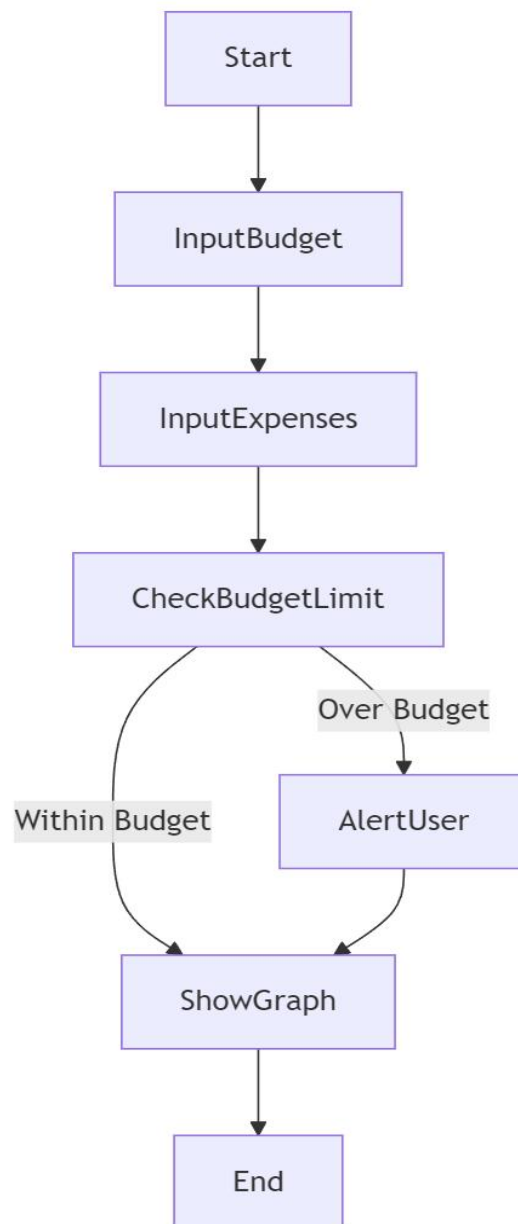
3.2 ACTIVITY DIAGRAM

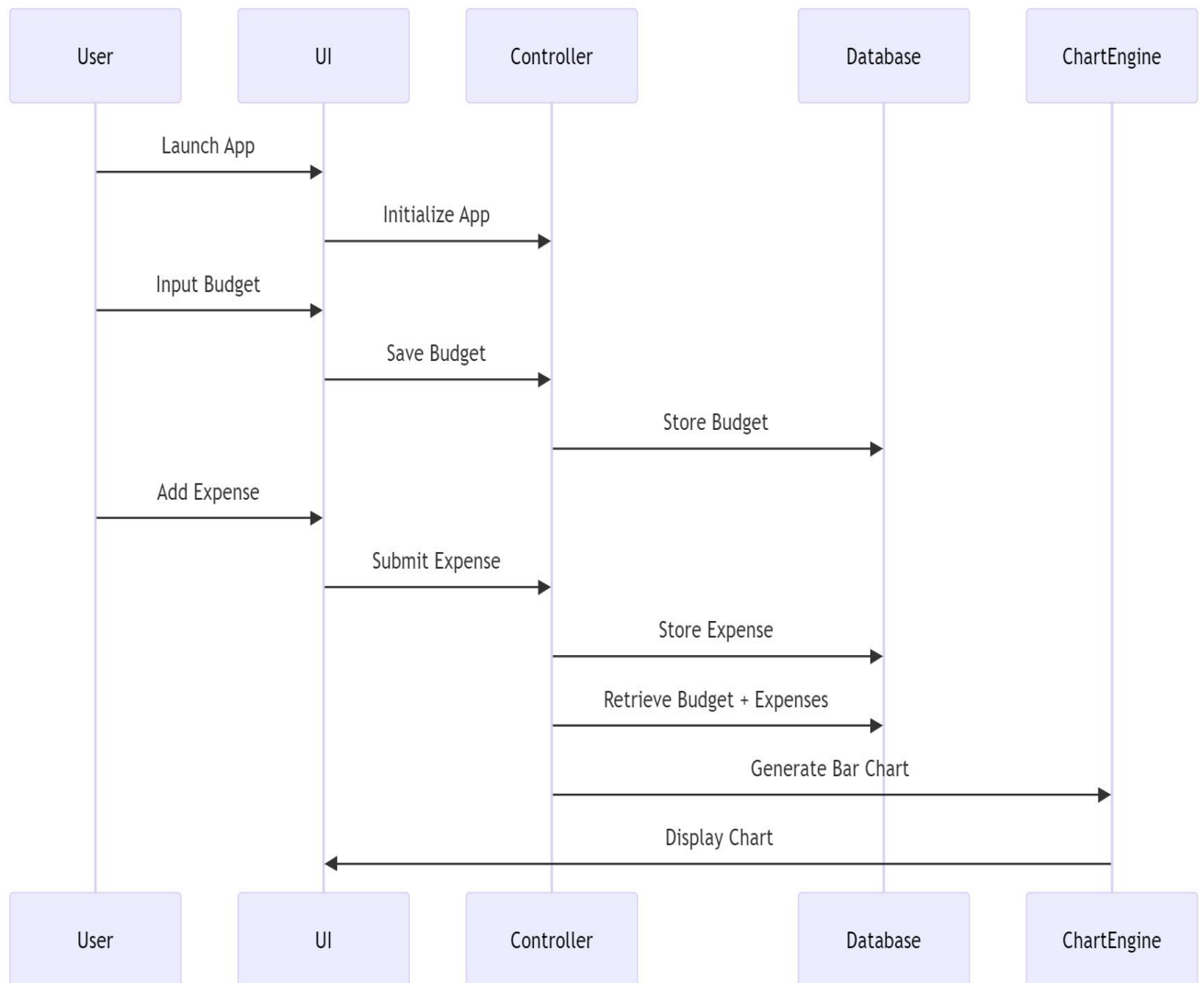Fig 3.2 Activity Diagram

3.3 SEQUENCE DIAGRAM

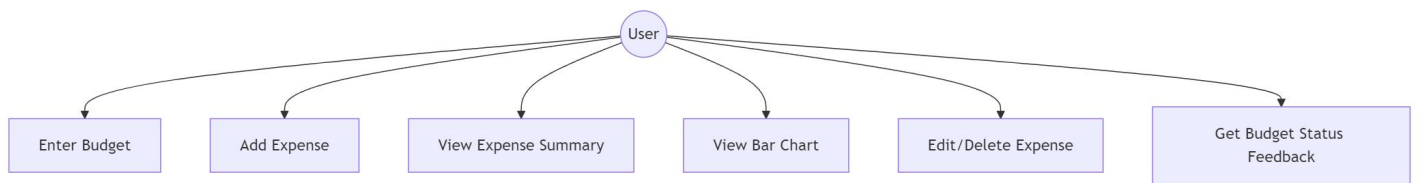Fig 3.3 Sequence Diagram

3.4 USE CASE DIAGRAM

Fig 3.5 Use Case Diagram

CHAPTER 4

PROJECT DESCRIPTION

4.1 INTRODUCTION

In an increasingly fast-paced and financially demanding world, personal expense tracking has become a crucial part of managing everyday life. Yet, many existing financial tools are either too complex, require constant internet access, or include intrusive ads and premium features that hinder accessibility. The **Expense Calculator Android App** aims to fill this gap by offering a simple, clean, and effective budgeting solution tailored especially for students, freelancers, and individuals who prefer a clutter-free experience.

This mobile application is developed using **Kotlin** in **Android Studio**, ensuring modern, efficient, and scalable Android development practices. It is designed with a strong emphasis on usability, simplicity, and offline functionality. One of the app's standout features is its integration of the **MPAndroidChart library**, which transforms expense data into interactive and visually appealing bar charts. These charts provide immediate insights into spending patterns, allowing users to instantly assess whether they are within or exceeding their budget.

The app eliminates the need for sign-ups or internet connections, offering users instant access to core functionality from the moment they open the app. With predefined categories such as Food, Transport, and Entertainment, users can easily log expenses, monitor budgets, and make informed financial decisions. The intuitive interface, combined with real-time feedback and minimal navigation, ensures that even non-tech-savvy users can manage their finances with confidence.

By focusing on the essentials and removing unnecessary complications, the Expense Calculator App provides a practical solution for everyday money management while fostering financial discipline and awareness.

4.2 OBJECTIVE

The primary objective of the application is to provide a categorized tracking system for three major areas of expenses, enabling users to manage their finances efficiently by monitoring their spending patterns. It allows real-time comparison of actual expenses with the predefined or allocated budget, helping users stay within their financial limits and make informed decisions. Additionally, the application offers instant feedback through a responsive user interface and intuitive visual elements such as charts and indicators, ensuring users can quickly grasp their financial status at a glance.

4.3 METHODOLOGY

The application optionally adopts the MVVM (Model-View-ViewModel) architecture to ensure better separation of concerns, making the codebase more modular, maintainable, and scalable. By decoupling the user interface from the business logic and data handling, MVVM enables easier testing and future enhancements. To ensure robust and error-free functionality, the application implements null-safe input parsing, which safeguards against potential crashes or unexpected behaviors caused by empty or invalid user inputs. This enhances data reliability and improves the overall user experience. For data visualization, the application integrates **MPAndroidChart**, a popular open-source charting library that supports real-time data updates. This enables the rendering of dynamic, interactive charts and graphs, providing users with a clear, visual representation of their financial trends and budget comparisons.

4.4 TECHLOGY USED

Technology	Purpose
Android Studio	Official IDE used for developing and testing the Android application
Kotlin	Primary programming language for app logic and functionality
XML	Used for designing and structuring the user interface layout
MPAndroidChart	Open-source library for creating real-time, interactive charts and graphs
ViewModel (Jetpack)	Handles UI-related data in a lifecycle-conscious way (optional with MVVM)
LiveData (Jetpack)	Observes data changes and updates the UI accordingly (optional with MVVM)

CHAPTER 5

OUTPUT AND SCREENSHOTS
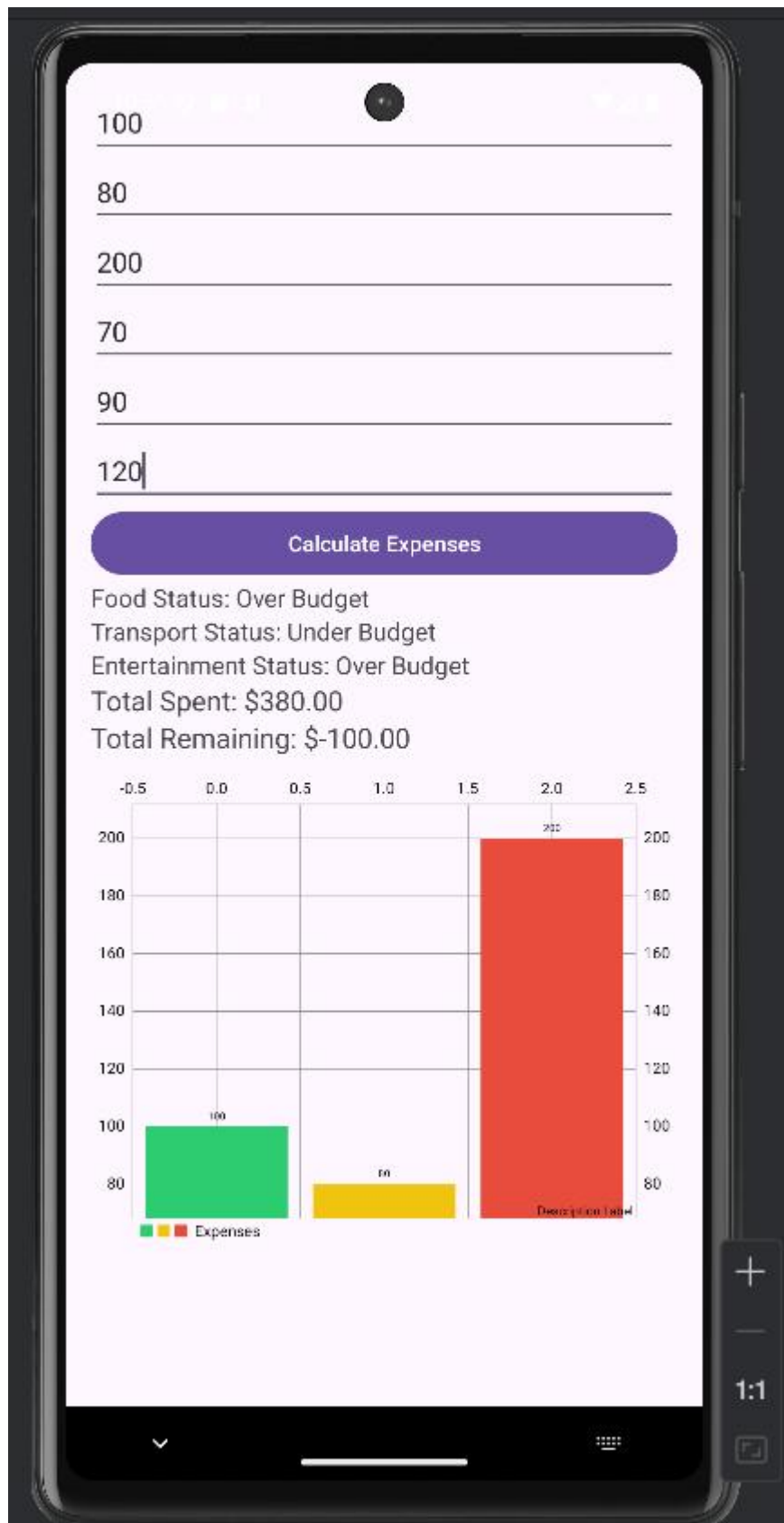
CHAPTER 6

CONCLUSION

The **Expense Calculator** app successfully delivers a clutter-free, offline, and dependable solution for managing personal budgets. With its user-friendly design and instant feedback through visual indicators, the app caters effectively to everyday users who require a simple yet functional tool for tracking their daily expenses. By focusing on core features such as categorized tracking and budget comparisons, the application ensures a smooth and intuitive user experience without overwhelming the user with unnecessary complexity.

Future enhancements aim to elevate the functionality and usability of the app even further. One key improvement would be the integration of **persistent storage**, allowing users to save historical expense data across sessions, enabling long-term tracking and analysis. Additionally, the ability to **export expense reports in CSV or PDF format** would offer users the convenience of reviewing and sharing their financial records as needed. Incorporating **monthly analytics** along with **pie charts and trend graphs** could provide deeper insights into spending behavior and highlight areas for potential savings. Lastly, implementing **reminders or push notifications** would encourage users to enter their expenses regularly, promoting consistent usage and more accurate budgeting over time.