جامعة عجمان
AJMAN UNIVERSITY

College: Engineering and Information Technology

Department: Information Technology

INT429 – Mobile Applications

SpendWise – Personal Finance Management Mobile Application

Student Name	Student ID	Role
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Sara Ali	*202110646*	Transactions Module
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1. Introduction

SpendWise is a personal finance mobile application designed to help users track, manage, and optimize their daily spending. The system provides a clean and intuitive interface that allows users to record transactions, monitor budgets, set financial goals, and visualize spending behavior through analytics dashboards.

The project was developed as part of **INT429 – Mobile Application Development**, following the requirements of Phase 1 (project proposal) and Phase 2 (application implementation). The final product reflects core mobile development principles including UI/UX design, data storage, user authentication, navigation, and budget monitoring.

2. Problem Statement

Many individuals struggle with managing their finances due to lack of visibility, unorganized spending patterns, and absence of effective budgeting tools. Without real-time tracking, users often overspend, fail to meet savings goals, and experience financial stress.

SpendWise solves this problem by offering a simple, accessible mobile application that helps users:

- Track daily expenses
- Categorize transactions
- Monitor monthly spending limits
- Visualize financial performance
- Set and follow savings goals
- Use an in-app AI chatbot (SalmaBot) for financial guidance

3. Objectives of the Application

The main objectives of SpendWise are:

- Allow users to add, edit, and delete transactions
- Help users categorize expenses
- Set and track monthly budgets
- Provide graphical insights (charts, summaries, analytics)
- Offer user-friendly navigation and responsive UI
- Integrate an AI-powered chatbot (SalmaBot)

- Notify users when they exceed monthly limits

These objectives support the overall goal of making personal finance simpler and more actionable.

4. Target Users

The application is suitable for:

- University students managing limited budgets
- Families tracking shared household expenses
- Working professionals monitoring spending habits
- Anyone looking to improve their financial discipline

SpendWise is designed with simplicity in mind, ensuring accessibility for all experience levels.

5. System Architecture

SpendWise follows an **MVVM (Model–View–ViewModel)** architecture combined with **Room Database** for offline data storage.

Model Layer:

- Transaction entity
- Budget entity
- Categories
- User profile settings

View Layer:

- XML layouts
- Dashboard
- Transaction list
- Add transaction form
- Budget screen

- Settings screen
- Chatbot interface

ViewModel Layer:

- Holds UI logic
- Observes LiveData
- Manages interaction between app screens and Room Database

Database:

- Room Database with DAOs
- Persists user data locally
- Stores categories, budgets, goals, transactions

This architecture ensures separation of concerns, clean code, and scalability.

6. Tools & Technologies Used

- Android Studio
- Kotlin
- XML
- Room Database
- Jetpack Navigation Component
- LiveData & ViewModel
- Material Components
- MPAndroidChart for visualizations
- Internal SpendWise design system (colors, icons, styles)
- AI Chatbot (SalmaBot) using preset rules and responses

7. Core Features Implemented

7.1 User Authentication

- Login and registration screens
- Local validation
- Professional UI styling with SpendWise colors

7.2 Dashboard

The dashboard provides a quick overview:

- Total Balance
- Income vs Expenses
- Monthly Spending Progress Bar
- Charts (Bar & Pie)
- Visual analytics of expense categories

7.3 Add / Edit / Delete Transactions

Users can:

- Record transactions
- Choose categories
- Input amount, date, notes
- Edit existing entries
- Swipe to delete

7.4 Budgets Module

Users can:

- Set monthly budgets
- See remaining balance
- Update budget anytime

7.5 Categories Management

Users can:

- Add custom categories
- Delete or modify categories

7.6 Chatbot – SalmaBot

Integrated AI assistant offering:

- Financial tips
- Expense insights
- Motivational guidance
- Quick responses for FAQ

7.7 Settings Page

- Change preferences
- Manage categories
- Check app info
- Log out

8. Screens Overview

Below is a structured description of your screens (taken from your screenshot collection):

Welcome Page

Clean splash screen with SpendWise logo and “Get Started”.

Login & Registration

Smooth authentication with purple design.

Home Screen

- Spending chart
- Balance card
- Expense categories
- Monthly overview

Transaction Screen

- List of all expenses
- Color-coded amounts
- Add button

Budget Screen

- Set monthly budget
- Track progress
- Edit limit

Categories

- Add / delete categories
- View list of category names

Settings

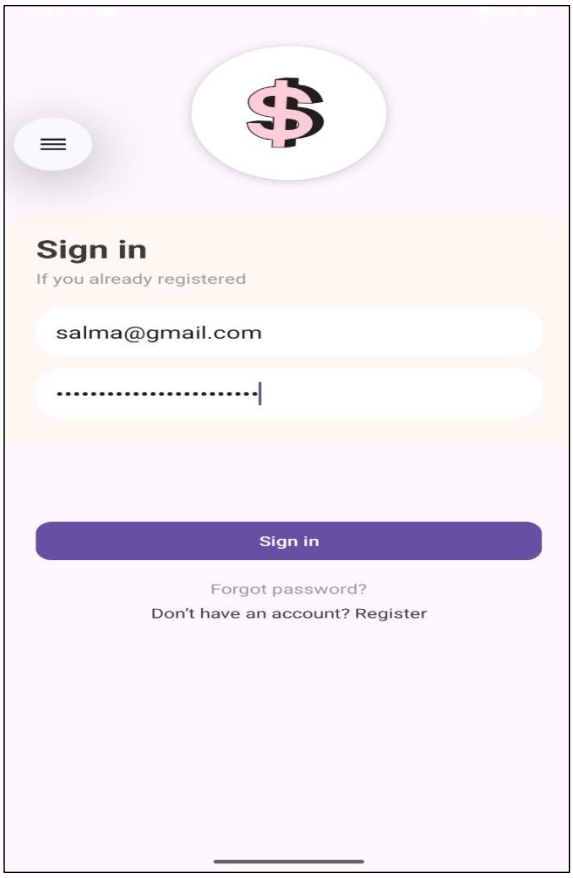
- Manage app preferences
- View About Us
- Access Goals

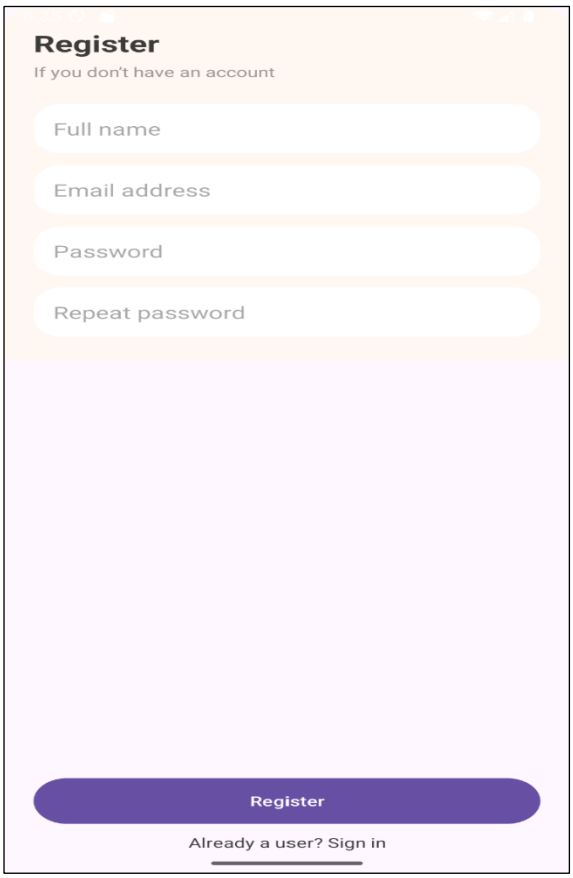
SalmaBot

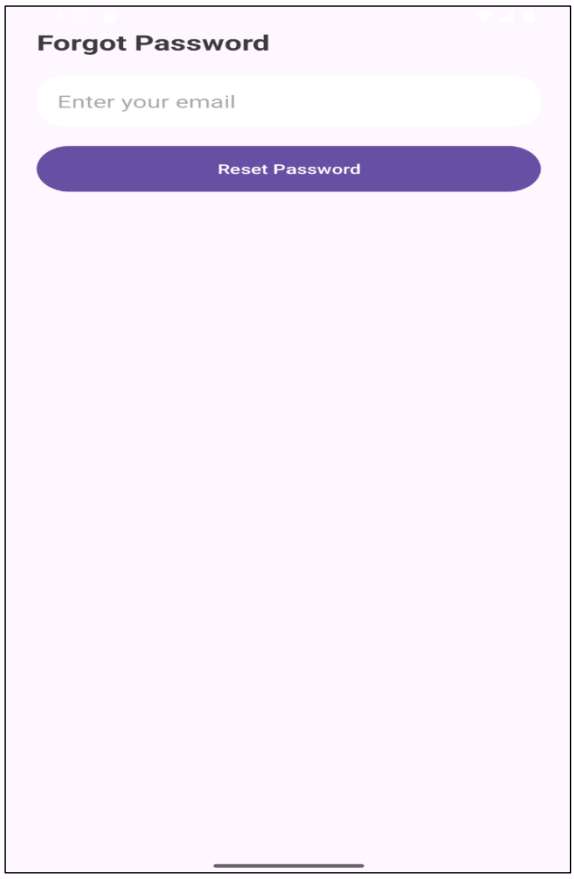
- AI chat interface
- Bubble design for messages

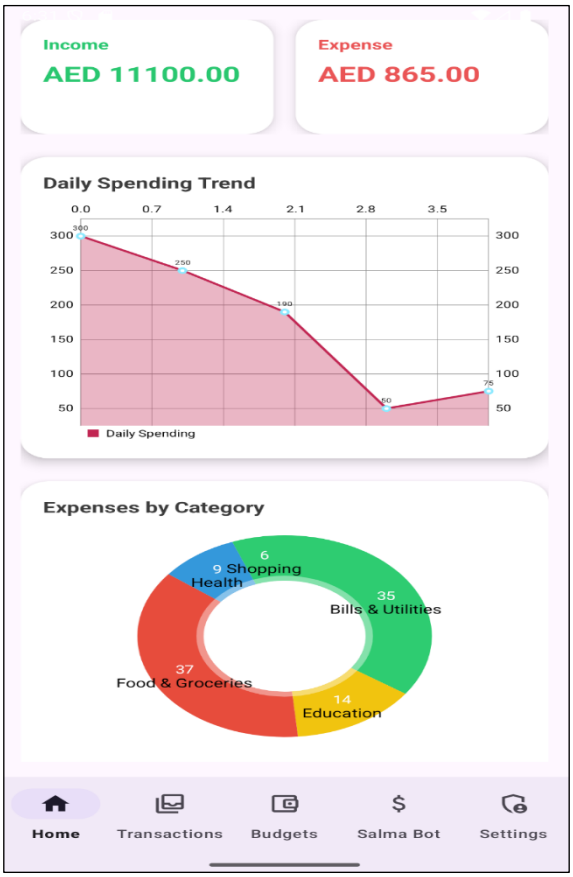
Goals

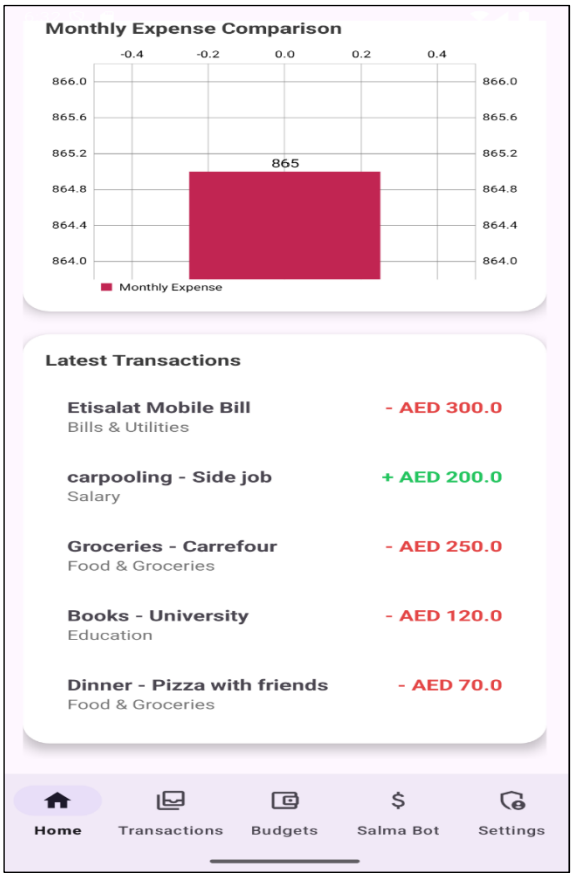
- Set savings goals
- View progress chart

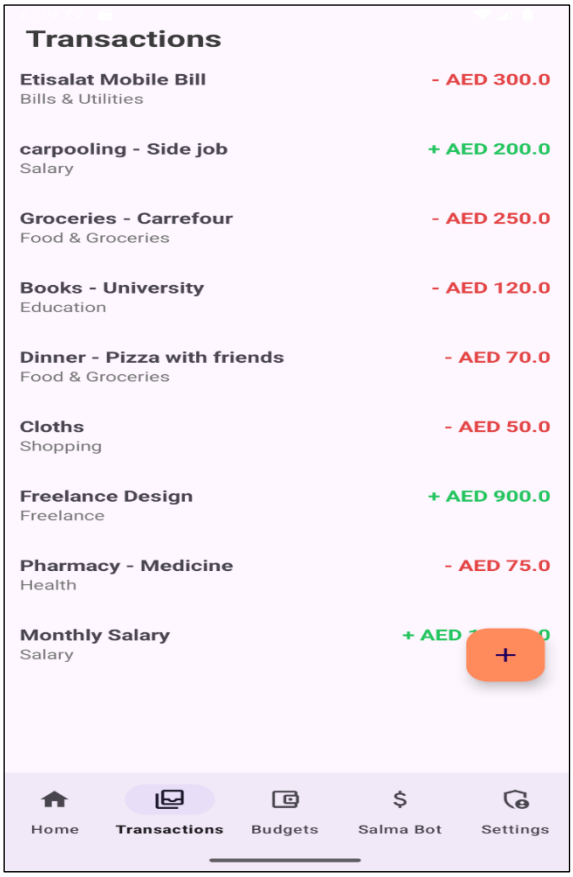




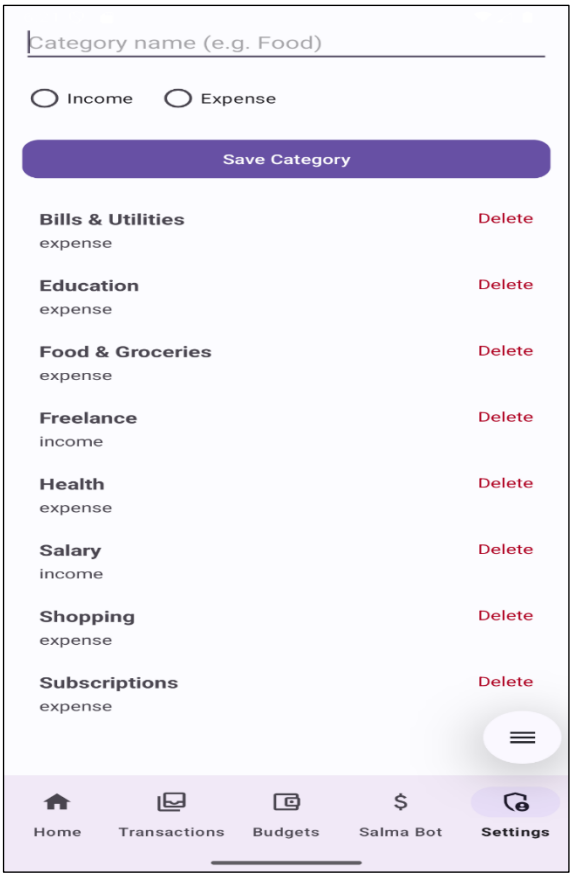

Forgot Password
Enter your email
Reset Password

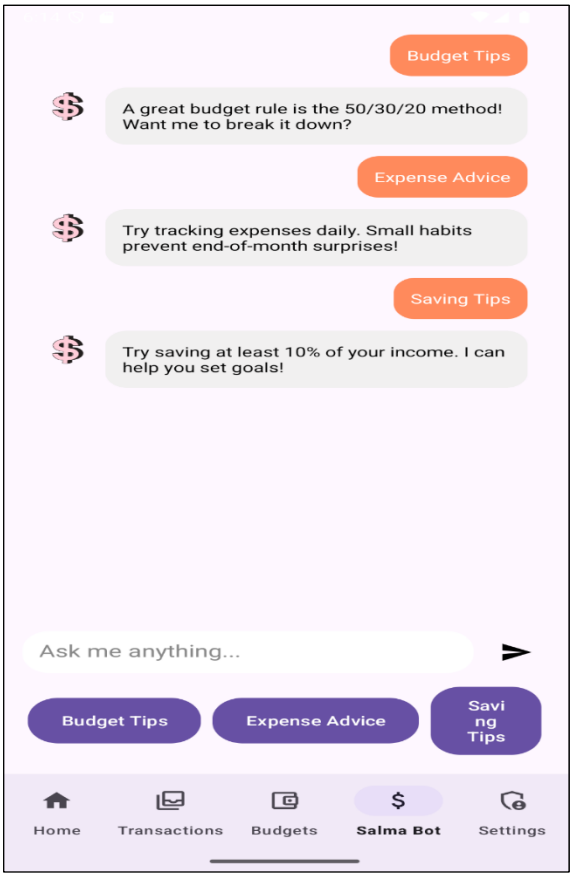

Income
AED 11100.00
Expense
AED 865.00
Daily Spending Trend
Daily Spending
Expenses by Category
6
Shopping
9
Health
35
Bills & Utilities
37
Food & Groceries
14
Education
Home
Transactions
Budgets
Salma Bot
Settings

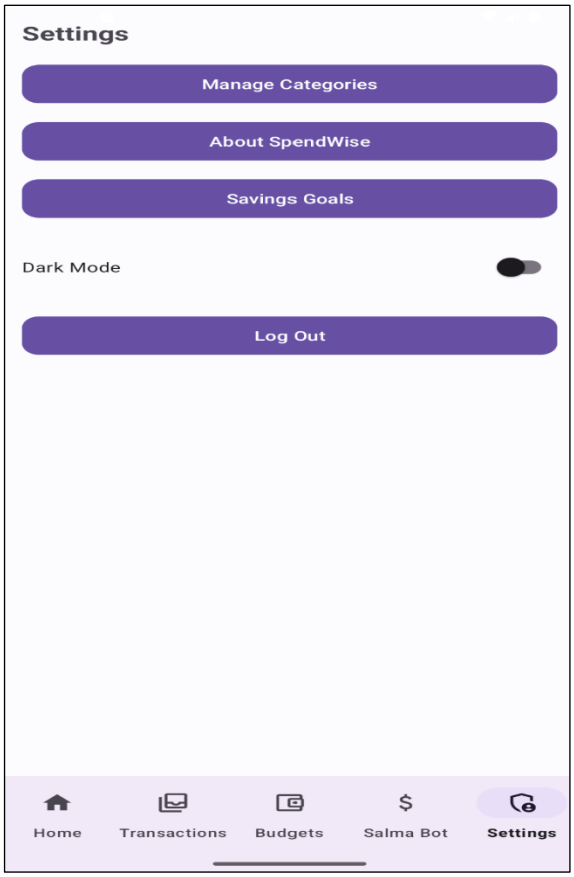

Monthly Expense Comparison
865
Monthly Expense
Latest Transactions
Etisalat Mobile Bill
Bills & Utilities
- AED 300.0
carpooling - Side job
Salary
+ AED 200.0
Groceries - Carrefour
Food & Groceries
- AED 250.0
Books - University
Education
- AED 120.0
Dinner - Pizza with friends
Food & Groceries
- AED 70.0
Home
Transactions
Budgets
Salma Bot
Settings

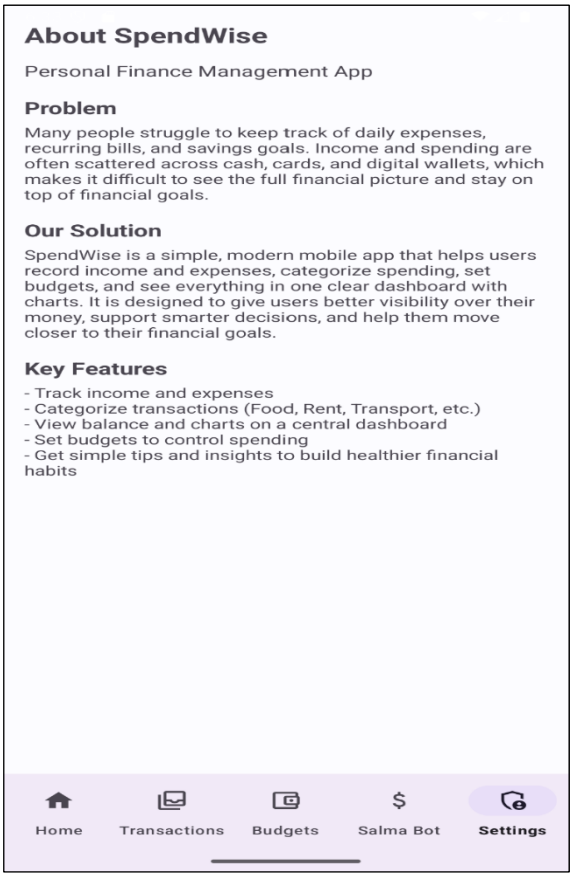

Transactions
Etisalat Mobile Bill
Bills & Utilities
- AED 300.0
carpooling - Side job
Salary
+ AED 200.0
Groceries - Carrefour
Food & Groceries
- AED 250.0
Books - University
Education
- AED 120.0
Dinner - Pizza with friends
Food & Groceries
- AED 70.0
Cloths
Shopping
- AED 50.0
Freelance Design
Freelance
+ AED 900.0
Pharmacy - Medicine
Health
- AED 75.0
Monthly Salary
Salary
Home
Transactions
Budgets
Salma Bot
Settings

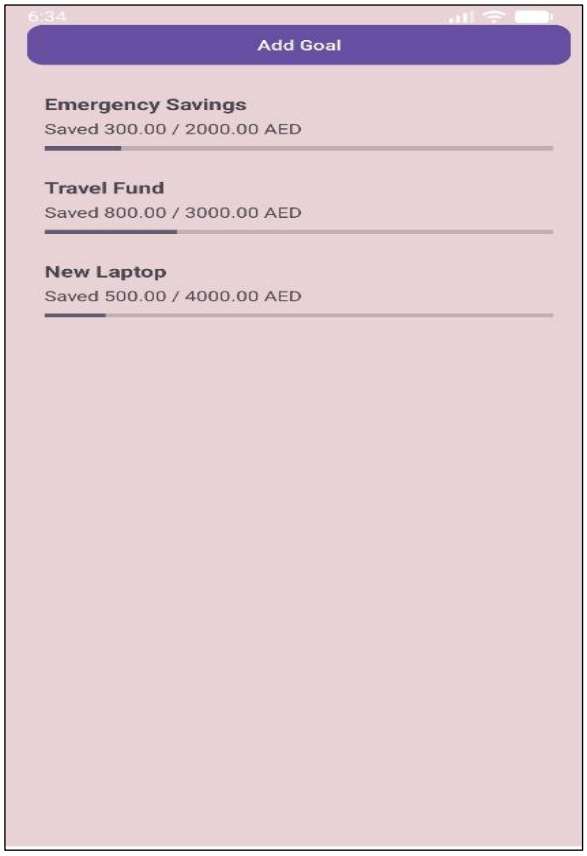

Category
Monthly limit
Save Budget
Food & Groceries
Limit: 1000.00 AED
Spent: 340.00 AED
Remaining: 660.00 AED (34% used)
Transport
Limit: 400.00 AED
Spent: 210.00 AED
Remaining: 190.00 AED (52% used)
Shopping
Limit: 800.00 AED
Spent: 230.00 AED
Remaining: 570.00 AED (28% used)
Bills & Utilities
Limit: 600.00 AED
Spent: 160.00 AED
Remaining: 440.00 AED (26% used)
Subscriptions
Limit: 150.00 AED
Spent: 55.00 AED
Remaining: 95.00 AED (36% used)


Category name (e.g. Food)
Income
Expense
Save Category
Bills & Utilities
expense
Delete
Education
expense
Delete
Food & Groceries
expense
Delete
Freelance
income
Delete
Health
expense
Delete
Salary
income
Delete
Shopping
expense
Delete
Subscriptions
expense
Delete
Home
Transactions
Budgets
Salma Bot
Settings


Budget Tips
A great budget rule is the 50/30/20 method! Want me to break it down?
Expense Advice
Try tracking expenses daily. Small habits prevent end-of-month surprises!
Saving Tips
Try saving at least 10% of your income. I can help you set goals!
Ask me anything...
Budget Tips
Expense Advice
Savi ng Tips
Home
Transactions
Budgets
Salma Bot
Settings


Settings
Manage Categories
About SpendWise
Savings Goals
Dark Mode
Log Out
Home
Transactions
Budgets
Salma Bot
Settings





9. Challenges Faced

Designing consistent UI components

Solution: created reusable XML shapes, rounded buttons, color themes.

Implementing Navigation

Solution: used Navigation Component with a clean nav_graph.

Database relationships

Solution: correct DAO queries for monthly expenses and categories.

Warning system for budget limit

Solution: used conditional checks + Room queries + UI banners.

Creating a smooth chatbot interface

Solution: used bubble drawables + simple response logic.

10. Future Work

SpendWise can be improved by adding:

- Cloud Sync (Firebase)
- User authentication with OTP
- Advanced AI chatbot using NLP
- Income tracking
- Export to PDF/Excel
- Weekly spending targets
- Subscription reminders

12. Conclusion

SpendWise successfully demonstrates the full mobile application lifecycle including planning, design, development, and testing.

The team applied practical skills in Android development using Kotlin, Room, and Navigation, while also delivering a clean UI, functional features, and an interactive AI chatbot.

The final application provides real value by helping users track their finances and improve their budgeting habits.