جامعة عجمان
AJMAN UNIVERSITY

College: Engineering and Information Technology

Department: Information Technology

INT429 – Mobile Applications

SpendWise – Personal Finance Management Mobile Application

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1.Problem Statement

Managing personal finances has become a common challenge in today's world. People often struggle to keep track of daily expenses, recurring bills, and savings goals. Without proper organization, income and spending become scattered across cash, cards, and digital wallets, making it hard to see the full financial picture.

Manual methods like spreadsheets or notebooks are time-consuming and inconvenient, while many existing apps are too basic, offering only expense entry without deeper insights. As a result, users may overspend, miss payments, or fail to achieve their financial goals.

There is a clear need for a solution that combines simplicity with smart features such as budget tracking, recurring transaction management, and AI-driven savings tips. Our proposed mobile app, **SpendWise**, addresses this by offering an easy, modern, and intelligent tool that helps users organize their finances, analyze spending patterns, and make better financial decisions.

2. Target Users

The app is designed for a wide range of users, including:

- **Individuals** who want to monitor income and daily expenses.
- **Families** who need to manage shared household budgets effectively.
- **Professionals** who want a quick and reliable way to track financial health.
- **Anyone** aiming to develop better spending habits and reach financial goals.

3. Core Use Cases

1. **Add, Edit, and Delete Transactions**
   Users can record income or expense transactions, update them if needed, or remove outdated entries.
2. **Categorize Transactions**
   Transactions can be tagged under categories such as Food, Rent, Transport, or Entertainment, making it easier to analyze spending patterns.
3. **View Dashboard with Balance and Charts**
   A central dashboard provides the total balance and visual charts (pie charts, bar charts) to give users a clear picture of their financial situation.

4. **Set Budgets and Goals**

   Users can define monthly budgets and long-term goals

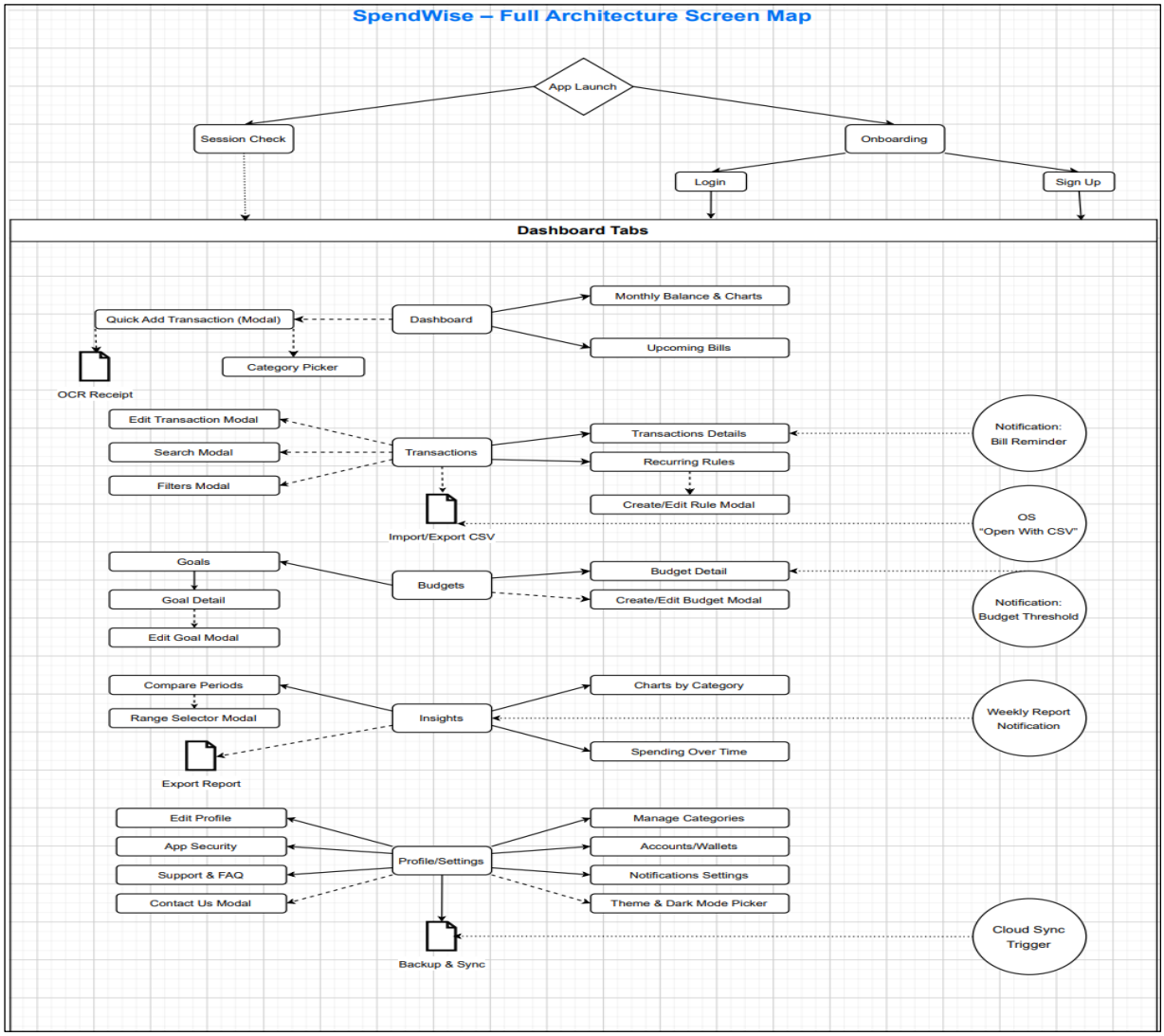
   (e.g., saving for travel or education) and track progress in real time.

5. **Dark Mode and Material 3 Design**

   The app supports dark mode and modern Material 3 design for accessibility

   and better user experience.

4. Architecture Sketch



Notation Key	Architecture Description
• Solid = Normal navigation • Dashed = Modal/dialog • Dotted = System/deep link • ◇ = Decision point • □ = Screen • = External input • ○ = System event	The diagram shows the navigation flow of the SpendWise app, starting from app launch, where users go through onboarding and authentication (Sign Up/Login) or directly enter via session validation. The main application is structured around a dashboard tab container with five sections: Dashboard, Transactions, Budgets, Insights, and Profile/Settings. Sub-screens are reached through solid-line navigation, modals and dialogs through dashed lines, and system events (like notifications) through dotted lines. External inputs such as CSV files and OCR receipts are shown as document shapes. This highlights how users and system processes interact across the app.

5.Notes on Development Phase

This is an **early-phase proposal**. As the project moves toward the implementation and deployment phases, some features may evolve, or change based on user testing, technical feasibility, and team discussions.

Risks:

Scope creep – adding too many advanced features may overcomplicate the architecture.

Database design issues – incorrect schema design could cause problems with data integrity and performance in Room.

AI integration limitations – generating accurate and useful savings tips may require more advanced models than initially expected.

Compatibility issues – ensuring the app runs consistently across different Android versions and devices.

Testing difficulties – unit testing with coroutines, LiveData, and Room may introduce unexpected edge cases.

Milestones:

- **Week 5:** Submit proposal (problem statement, target users, core use cases).
- **Weeks 6–7:** Implement user authentication & profiles.
- **Weeks 8–9:** Expense transactions CRUD operations + categorization.
- **Weeks 9–10:** Dashboard with balance & charts.
- **Weeks 10–11:** Budgets & goals tracking.
- **Weeks 11–12:** Dark mode + Material 3 UI design.
- **Weeks 12–13:** Advanced features (recurring transactions, OCR receipts).
- **Week 14:** Testing, debugging, and final documentation.
- **Week 15:** Final presentation & demo.