Project Proposal: Smart Expense Tracker

Project Title & Short Description

Smart Expense Tracker: a Personal Finance Assistant

Smart Expense Tracker is a mobile application designed to help students and young professionals record, and categorize their daily expenses and income. Many users struggle with consistent expense tracking due to complex interfaces and time-consuming data entry. Our app provides an intuitive solution with local data storage, real-time balance calculations, category-based spending summaries, and budget alerts. Built with Kotlin using Room Database and MVVM architecture, the app offers a streamlined interface with "smart" category suggestions that reduce manual input while providing clear insights into spending patterns.

Main Features

- Add, edit, and delete income or expense transactions
- Smart category suggestions based on transaction amount
- Local Room database for data persistence
- Real-time balance updates with income/expense tracking
- Category summary with percentage breakdown and spending indicators
- Color-coded budget warnings (yellow at 80%, red at 100%)
- Transaction search and filter by date or category
- Swipe-to-delete gesture for quick transaction removal

Stretch Goals (if time permits)

- Export transaction history to CSV format
- Receipt photo attachment with transactions

Target Audience / Use Case

Students, freelancers, and young professionals seeking a simple expense tracker for daily financial management. Ideal for users who need quick expense logging and want to understand spending habits through category summaries without the complexity of full accounting software or manual categorization.

Android Concepts Used

RecyclerView: Displays scrollable transaction list with custom adapter
Room Database: Local data persistence with Entity, DAO, and Database classes
MVVM Architecture: ViewModel and Repository pattern for separation of concerns
LiveData: Automatic UI updates when database data changes
Intent Navigation: Screen transitions between MainActivity and AddTransactionActivity
ItemTouchHelper: Swipe gesture implementation for transaction deletion
Notifications: Budget alert system when spending reaches configured limits

Added Value

Current expense trackers require manual category selection, causing user fatigue. Smart Expense Tracker minimizes input friction through rule-based category suggestions (e.g., 3–6$ = "Snacks," 10–30$ = "Food," 50+$ = "Shopping"). This ensures faster logging and consistent categorization and makes the overall expense tracking effortless and sustainable.

Research & Competitive Analysis:

Existing apps (Mint, Wallet, Expense Manager) demand multiple taps for each entry. Studies show that manual entry friction is the top reason for user abandonment. Our amount-based suggestion system reduces steps and simplifies expense logging, directly addressing this key user pain point.

GitHub Repository Link:

https://github.com/reemm111/SmartExpenseTracker.git

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