

School of Computing and Mathematical Sciences

CO7201 Individual Project

Interim Report

Finance Tracker

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DECLARATION

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Name: Vivek Shah Date: 28/03/2025

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1. Introduction

Managing personal finances is essential in today's digital age, yet many struggle with tracking income, expenses, and savings. Existing finance apps are often complex, costly, or lack key features like multi-currency support and offline access. This project aims to develop a **Finance Tracker App** that provides a secure, user-friendly solution for budgeting, transaction tracking, and financial visualization.

The app will address common limitations by ensuring data security, real-time synchronization, efficient database management, and an intuitive UI. By tackling these challenges, it aims to offer a seamless and practical financial management tool, empowering users to take control of their finances effortlessly.

2. Status Of Requirements

1. Completed Tasks

- **User Authentication:** Users must be able to register and log in using email/password authentication.
- Google Sign-In: Support for Google authentication to provide an easier sign-in process.
- **Project Proposal & Research**: Defined project objectives, identified user needs, and outlined the feature set to create a structured development plan.
- **UI/UX Design** (**Wireframes, Prototyping**): Designed intuitive wireframes and prototypes to ensure a smooth and user-friendly experience.
- **Base UI:** Developed navigation, layouts, and primary screens to provide a consistent and interactive user experience.
- **Multi-Currency & API Integration [Desirable]:** Integrated real-time exchange rate API to support multi-currency transactions.
- **Cloud Synchronization:** Implement Firebase integration to allow users to sync financial data across multiple devices.

2. On Going Tasks

- Backend Setup (Room Database, Firebase) [Essential]: Setting up local storage with Room Database for offline access and Firebase for cloud sync.
- Core Features (Add, Edit, Delete Transactions) [Essential]: Implementing functionality for users to manage transactions efficiently.
- Transaction Filtering & Searching: Allow users to filter and search transactions by category, date, or amount for quick access.

3. Not Completed

These features are not mandatory but would provide additional benefits and improve the overall experience.

- **Notifications & Reminders:** Send alerts to notify users about budget limits and upcoming expenses.
- **Data Export**: Enable users to export financial records in CSV and PDF formats for external use.

- Receipt Scanning (OCR): Implement Optical Character Recognition (OCR) to allow users to scan receipts and auto-fill expense details.
- **Fingerprint Authentication:** Allow biometric login for enhanced security and quick access.
- Dark Mode: Introduce a dark mode theme for better accessibility and user preference.

3. Revised Time-plan

Time Plan

Time Plan	Wooks													
	Weeks													
Tasks	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Project Proposal & Research														
UI/UX Design (Wireframes, Prototyping)														
Authentication (Email, Google Sign-In) [Essential]														
Multi-Currency & API Integration [Desirable]														
Cloud Synchronization														
Backend Setup (Room Database, Firebase) [Essential]														
Core Features (Add, Edit, Delete Transactions)														
Budget Management Feature [Essential]														
Data Visualization (Charts, Graphs) [Essential]														
Notifications & Reminders [Essential]														
Data Security & Encryption [Essential]														
Data Export (CSV, PDF) [Desirable]														
OCR Receipt Scanning [Optional]														
Fingerprint Authentication [Optional]														
Dark Mode [Optional]														

User Testing & Feedback Collection							
Documentation & Report Writing							
Final Refinements							
Viva Preparation							
Presentation Preparation							
Final Submission & Viva							

- Completed
 On Going
 Not Started

Milestone	Deadline				
Project Proposal & Research	Define project scope, requirements, and conduct background research.	Week 2 (Completed)			
UI/UX Wireframes & Backend Setup	Create UI wireframes, set up Firebase authentication and Room Database.	Week 3 (Completed)			
User Login/Authentication	Registration and Firebase Authentication for user login,	Week 4 (Completed)			
Multi-Currency & API Integration	Integrated real-time exchange rate API to support multi-currency transactions.	Week 5 (Completed)			
Core Feature Implementation	Implement adding, editing, and deleting transactions.	Week 6 (On Going)			
Backend Setup	Implement the Room Database for offline storage and cloud sync functionalities.	Week 6 (On Going)			
Budget Management Feature	Develop functionality to allow users to set, update, and track monthly budgets. Ensure budget alerts and limits are implemented.	Week 7 (Not Started)			
Data Visualization	Create interactive charts and graphs to display income and expense trends. Utilize libraries like MPAndroidChart for graphical representation.	Week 8 (Not Started)			
Data Security & Encryption	Implement authentication security, encrypt sensitive financial data, and ensure secure storage practices to protect user information.	Week 8 (Not Started)			
Notifications & Reminders	Set up push notifications to remind users about their budget limits, upcoming bills, or expense tracking habits.	Week 9 (Not Started)			
User Testing & Feedback Collection	Conduct usability testing by gathering feedback from potential users. Make necessary refinements based on their experience and input.	Week 11 (Testing Done till Work Done)			
Documentation & Report Writing	Start writing the project report, documenting system architecture, design choices, implementation details, and test results.	Week 12 (Not Started)			
Final Refinements	Address any remaining bugs or issues based on testing and feedback. Optimize performance and enhance UI/UX.	Week 12 (Not Started)			

	Prepare responses for the viva, anticipate possible questions,	
	and practice explaining the project's technical	Week 12
Viva Preparation	aspects.	(Not Started)
	Create presentation slides summarizing the	
	project's objectives, implementation,	Week 12
Presentation Preparation	challenges, and outcomes. Practice delivery.	(Not Started)
	Submit the final report, codebase, and	
	presentation.	Week 14
Final Submission & Viva	Participate in the viva and defend the project.	(Not Started)

4. References

Research Papers & Journal Articles

[1] Oswal, S., & Koul, S. (2013). Big data analytic and visualization on mobile devices. In *Proc. Nat. Conf. New Horizons IT-NCNHIT* (p. 223).

Online Resources & Documentation

- [1] Google Developers, Official Android Documentation, Available: https://developer.android.com.
- [2] Google Firebase, Firebase Documentation, Available: https://firebase.google.com/docs.
- [3] JetBrains, *Kotlin Coroutines Guide*, Available: https://kotlinlang.org/docs/coroutines-overview.html.
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- [6] P. Lackner, *Philipp Lackner [YouTube Channel]*, YouTube. Available: https://www.youtube.com/@PhilippLackner.