



Wallee.

Project Plan

Semester 2

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Information :

Faculty Advisor: Dr. Siddhartha Bhattacharyya sbattacharyya@fit.edu

Client:

- Doug Gibson
 - Dr. Siddhartha Bhattacharyya
- Small Business Owner
SWE/CSE Professor & Advisor

Project Overview:

What is Wallee?

- Mobile app for personal finance & budgeting
- Designed for students, freelancers, and young professionals
- Automates budgeting and provides intelligent insights

Goals and Motivation :

Our goal is to create an app to assist with financial goals to help save and manage money. Managing personal finances is a growing challenge for students, freelancers and young professionals who face variable income, recurring bills, and limited financial literacy. Existing budgeting tools often lack personalization, real-time updates, or intelligent guidance, leaving users without actionable insights.

Wallee aims to fill this gap by providing a smart, all-in-one finance app that integrates with user's bank accounts, automates expense tracking, delivers bi-weekly reports and includes an AI-powered financial assistant. Our motivation is to empower users to take control of their finances through simplicity, automation, and tailored insights.

Target Users:

Who is Wallee for?

- College students
- Freelancers with irregular income
- Young professionals
- Users with limited financial literacy
- Normal people/everyone

Novel Features :

- **Automated bi-weekly budgeting:** Align your financial planning with your actual paycheck schedule by automatically recalculating your budget every two weeks to manage cash flow in real time.
- **AI-driven guidance and insights:** Access a premium AI-powered finance assistant that analyzes your spending patterns to provide personalized tips, proactive reminders, and tailored coaching for smarter decision-making.
- **Tailored user experiences:** Enjoy a versatile platform designed for diverse lifestyles, including specific features and interfaces optimized for students, freelancers, retirees, and couples.
- **Intuitive visualization tools:** Gain immediate clarity on your financial health through interactive weekly tables and graphs that compare your set budget limits against actual spending.
- **Context-focused financial clarity:** Unlike competing apps that present raw transaction lists without guidance, Wallee prioritizes actionability by transforming complex data into easy-to-understand summaries.
- **Proactive and inclusive design:** Experience a supportive money management tool built on proactive automation and user-focused design, making sophisticated budgeting accessible to everyone.

Tools :

Backend runtime for APIs & webhooks:

- Node.js (TS) for public API/webhooks, Python (FastAPI) for analytics and budgeting workers. Best of both worlds.

Budgeting/analytics engine:

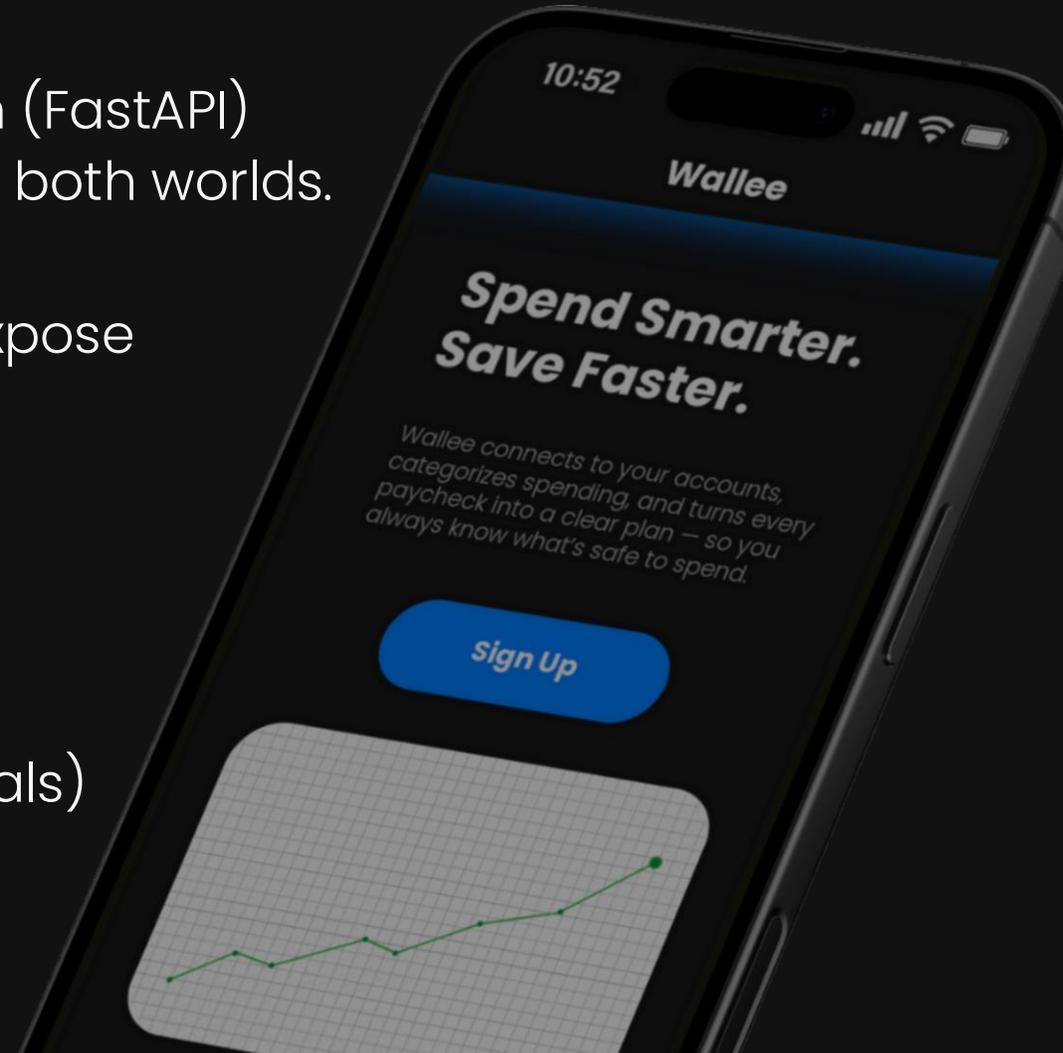
- Python worker for budgeting/forecasting; expose results via API.

Banking integration:

- Plaid for US launch; design adapters to add TrueLayer for EU later.

Database & data modeling:

- PostgreSQL (core ledger, users, budgets, goals)
- Supabase Database Engine



Tools :

Job orchestration & scheduling:

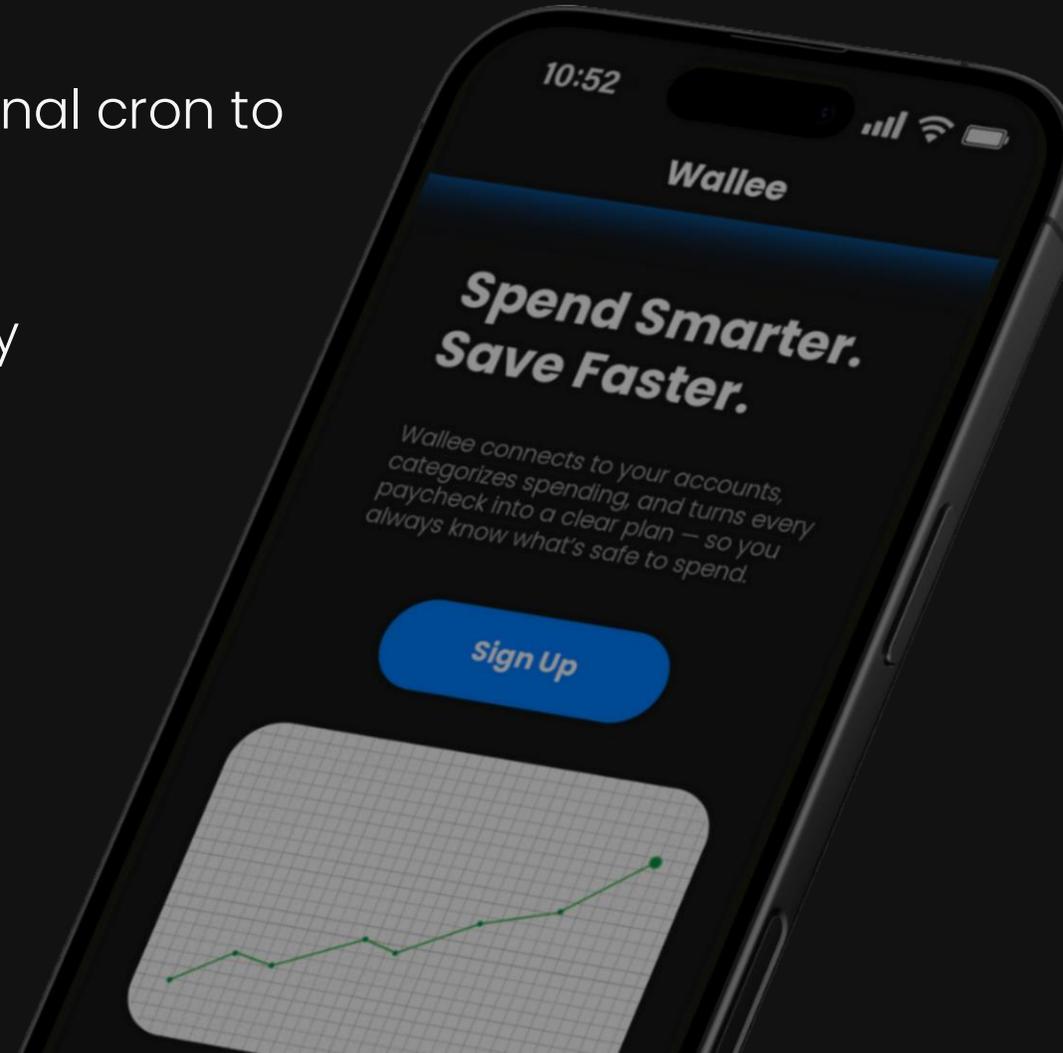
- Celery + Redis/SQS for analytics tasks; optional cron to trigger batch runs.

AI assistant & NLU:

- Google Gemini for knowledge and accuracy

API framework & validation:

- NestJS for API; FastAPI for analytics service.

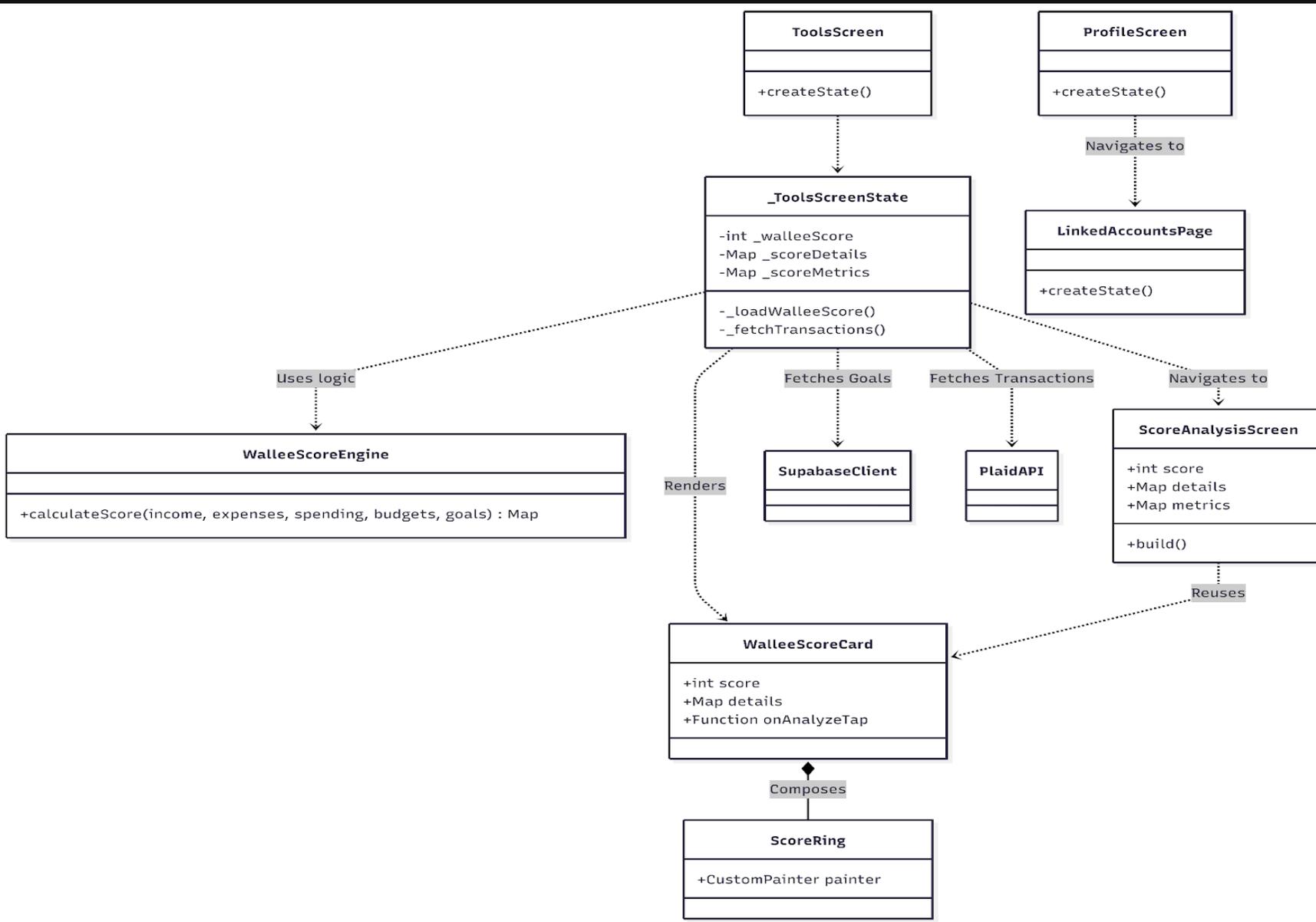


Challenges :

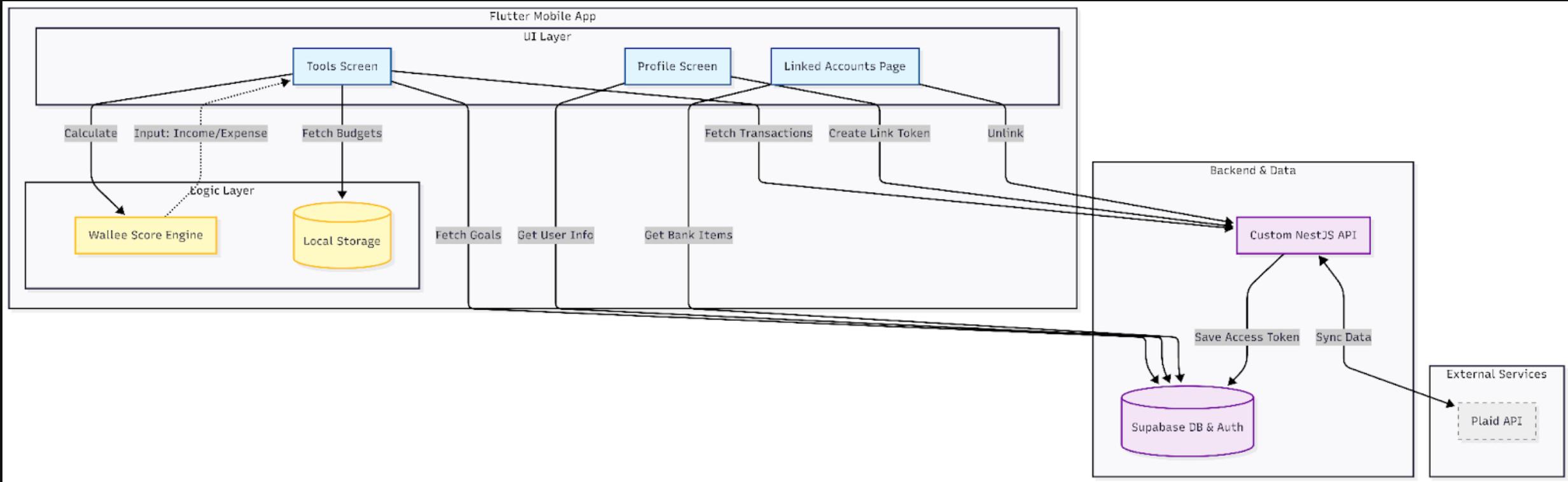
- Secure banking data integration
- Building a reliable AI assistant
- Implementing security
- Personalized budget engine



System Architecture Design:



System Architecture Design:



Evaluation Tactics:

System success will be evaluated using:

- Accuracy: Correct categorization and budgeting calculations.
- Reliability: Consistent performance across repeated budget recalculations.
- Performance: Timely updates after transactions and paychecks.
- User Surveys: Ratings (1–5) on usability, clarity, and perceived usefulness of features.

Progress Summary Matrix :

Module / Feature	Completion %	To Do
GUI	80%	The overall theme is set, needs to finish the little details and make sure the whole thing is following the guidelines
Backend APIs	90%	Last changes and testing
Budget Engine	90%	Last changes and testing
Database	60%	Need to finish implementation of bank accounts and profile pictures.

Milestone 4 (Feb. 23rd):

- Test all added core features
- Implement and test a calendar and time feature
- Implement and test remaining core features
- Implement and test all new database features

Milestone 5 (Mar. 30th):

- Have the app fully functional
- UI and bug testing
- Start working on apple integration if able to
- Conduct evaluation and analyze results
- Create poster for Senior Design Showcase

Milestone 6 (Apr. 20th):

- Have the app fully functional and presentable with all UI and bug fixes implemented
- Test/demo of the entire system
- Conduct evaluation and analyze results
- Create user/developer manual
- Create demo video

Task Matrix for Milestone 4 :

Task	Emma	Matteo	Kyle	Joshua
Hide api keys	0%	0%	0%	100%
Link budget and goal pages	0%	10%	90%	0%
Finish user profile page and settings page	30%	30%	30%	10%
Finish user reports	0%	100%	0%	0%
Finish implementing AI	0%	20%	0%	80%
Start implementing time and calendar	0%	0%	50%	0%
Connect bank accounts in the database	100%	0%	0%	0%



Thank you!
Any Questions?