

Google Cloud

PRESENTS

Agentic AI Day

Build the next generation of intelligent agents

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Team Details

- a. Team name: MISSION DOJO
- b. Team leader name: Srinidhi Naren
- c. Problem statement: Receipt Management for Google Wallet

Brief about the idea

Raseed Spark – AI-Powered Family Finance Companion

We're building Raseed Spark – a smart, multimodal financial assistant designed specifically for families and students. It uses GenAI, computer vision, and Google services like Vertex AI, Document AI, and Wallet API to scan receipts, track expenses, detect patterns, and proactively guide spending.

But this isn't just another expense tracker — it's a personalised agent that:

- Turns paper receipts into structured insights.
- Predicts future overspending before it happens.
- Teaches financial literacy to kids through gamified chores, goals, and quizzes.
- Detects subscriptions, reward opportunities, and even warranty expirations.
- Interacts via chat, voice, and Wallet-based smart passes.

Opportunities

- How different is it from any of the other existing ideas?

Raseed Spark goes beyond simple expense tracking. It blends multimodal GenAI with family-first design — combining receipt parsing, budgeting, gamified learning, and financial coaching. Unlike generic apps, it's built as a conversational agent with memory, image understanding, and Wallet-based interactivity.

- How will it be able to solve the problem?

By using Google's powerful tools — Document AI for parsing receipts, Gemini for financial conversations, Vertex Agent Builder for logic, and Wallet API for daily touch points — we turn boring financial data into personalised insights. Students and families get clear, actionable feedback with zero manual effort.

- USP of the proposed solution

A gamified, family-friendly AI agent that lives in your wallet, chats like a coach, teaches money skills to kids, predicts overspending, and even tracks warranty returns — all built natively with Google's ecosystem.

List of features offered by the solution

AI Receipt Scanner

Extracts itemised data from paper or digital receipts using Google Document AI & Vision.

Conversational Budget Assistant

Chat with a Gemini-powered agent to ask things like “How much did I spend on snacks this month?”

Gamified Chore & Allowance System

Kids earn digital rewards via chores; parents manage allowances with built-in automation.

Smart Spending Reminders

Predicts budget overruns, notifies of upcoming bills, and tracks subscriptions and renewals.

Google Wallet Integration

Creates passes for receipts, rewards, savings goals, shopping lists, and warranties.

Personalised Financial Insights

Generates charts, savings tips, and spending summaries customised to family habits.

Learning Mode for Kids

Interactive stories and quizzes teach financial literacy in an engaging way.

Anomaly & Fraud Detection

Alerts parents of unexpected or suspicious transactions in student accounts.

Process flow diagram or use-case diagram

1. Receipt Upload (Image/Video/Live)
 - User uploads receipt via frontend (web or mobile)
2. OCR + AI Extraction (Gemini Vision or fallback Google Vision OCR)
 - Extracts line items, categories, total, date, taxes, store name, etc.
3. Data Structuring
 - Converts raw extracted text into structured JSON format
4. Vector Embedding + Storage
 - Receipt text is embedded using Vertex AI Embedding API
 - Embedding stored in Vertex AI Matching Engine for semantic search
 - Structured JSON + metadata stored in Firebase Firestore
5. Memory Vault Creation
 - Monthly and yearly summaries are generated per user
 - Stored in Firestore as `monthly_summaries` and `yearly_summaries`
 - Summaries include category-wise totals, trends, and total expenses

Process flow diagram or use-case diagram

6. Retrieval via Agentic System (Vertex AI Agent Builder)

- User asks queries like “Compare my 2024 and 2025 expenses”
- Agent fetches relevant summaries or receipts from Firestore
- Uses Matching Engine for vague queries like “Show me my wellness spending”

7. Processing via Gemini Pro

- Gemini analyzes summaries or receipts
- Generates comparisons, insights, suggestions in natural language

8. Google Wallet Pass Generation (Optional)

- Gemini output converted to a Wallet pass (e.g., spending trend, shopping list)
- Sent to user's Wallet via Google Wallet API

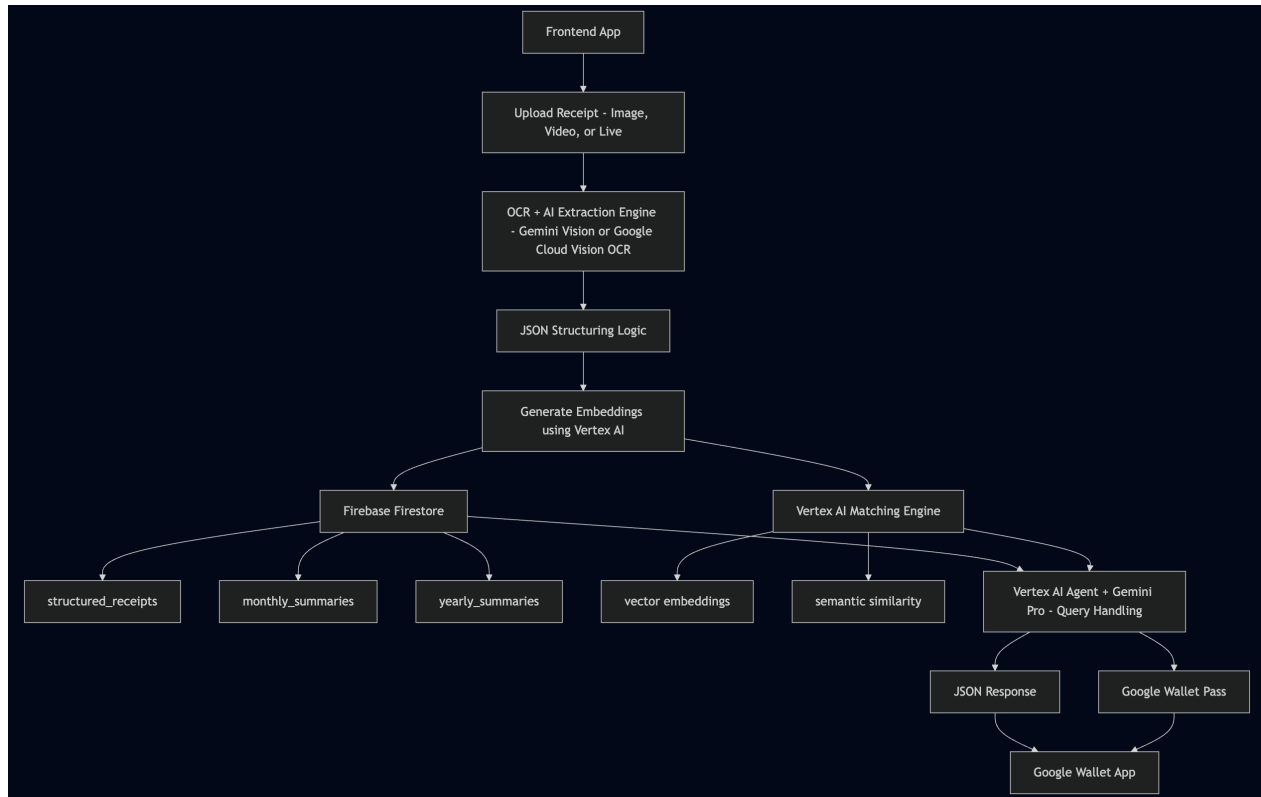
9. Frontend Display

- Gemini's output or Wallet pass shown to user
- Optional: Show trend charts, smart tips, or progress badges

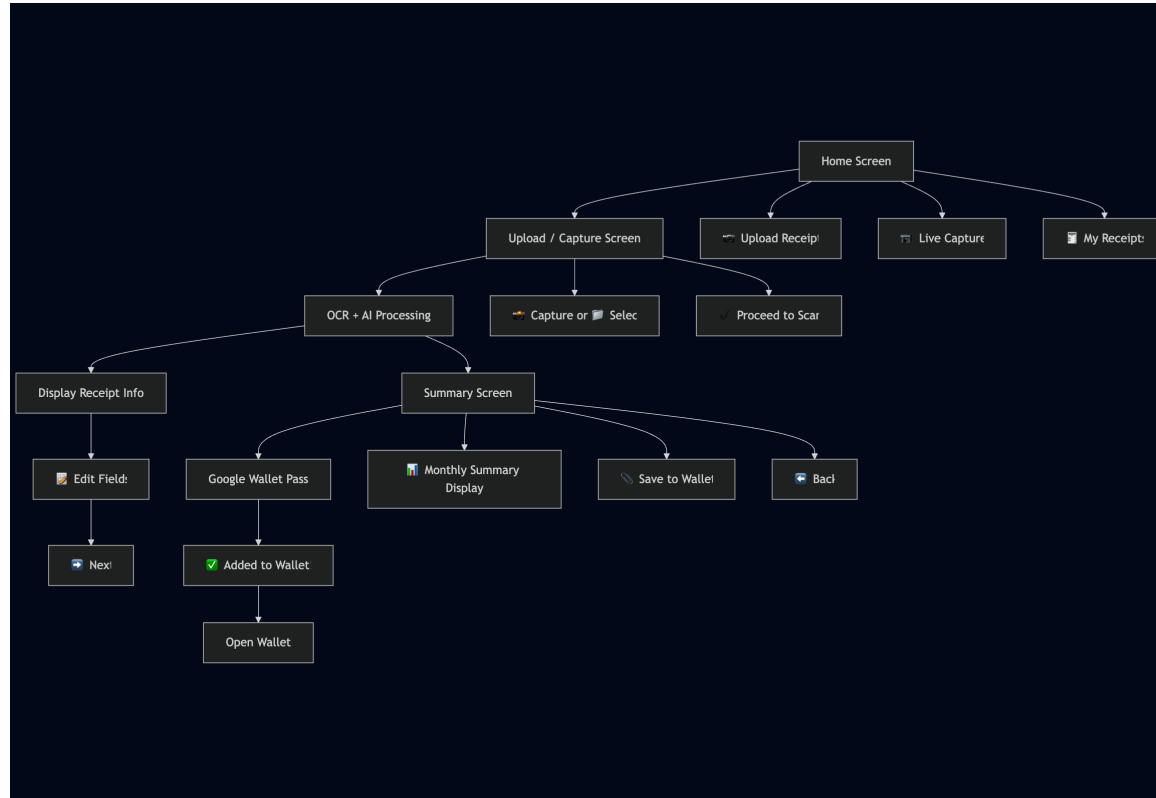
Technologies to be used in the solution

Stage	Technology
1. Frontend	React
2. Receipt Ingestion	File/Image upload component
3. OCR	Gemini Vision (primary) + Google Cloud Vision OCR (fallback)
4. NLP/Reasoning	Gemini 1.5 Pro (multimodal)
5. Storage	Firebase Firestore (structured receipt + summary data)
6. Vector Store	Vertex AI Matching Engine (semantic vector search)
7. Memory Vault	Firestore monthly_summaries and yearly_summaries
8. Agent Orchestration	Vertex AI Agent Builder
9. Wallet Integration	Google Wallet API (pass creation, push)
10. Backend APIs	Firebase Functions / Cloud Functions
11. Notifications	Firebase Cloud Messaging (FCM) + Wallet push alerts

Architecture diagram of the proposed solution



Wireframes/Mock diagrams of the proposed solution (optional)





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Thank you!

