



DataBytes x DiscountMate

Leadership Panel Presentation



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**Role: Junior Cross-Functional Lead,
Data Engineer & Full-Stack Developer**



Project Introduction

DiscountMate offers a **grocery price intelligence platform** that helps Australian shoppers compare supermarket prices, track savings, manage grocery lists, discover specials, and access AI-supported shopping assistance.

The project focuses on **building and stabilising the web platform**, and will expand into a mobile application in the future.

Key benefits include:



Save money on groceries



Shop smarter with data insights



Manage shopping in one place



DiscountMate

Smart Grocery Comparison Platform

Save on Groceries. Every Shop. Every Time.



Multi-retailer price comparison

Compare prices across leading Australian supermarkets.



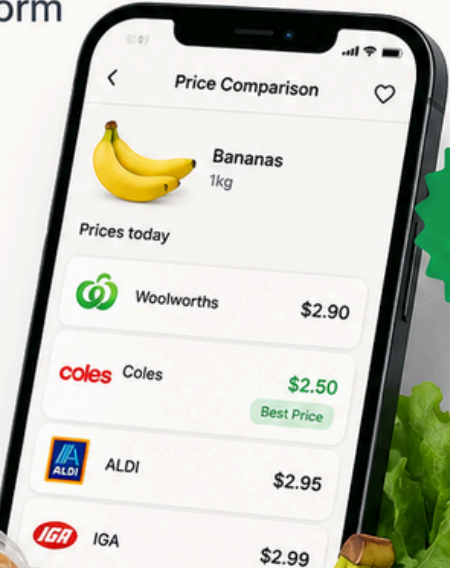
Data-driven shopping insights

Track price trends and discover the best time to buy.



User-focused features

Grocery lists, specials, savings tracking and AI shopping assistance.



My Grocery List

- ☒ Milk
- ☒ Eggs
- ☐ Chicken
- ☒ Apples

Your Savings

\$28.60

saved this week



Trusted Data
Secure & reliable



Secure & Private
Your data is protected



Cloud Powered
Fast, scalable & always up to date

Sophie Ngo

Junior Cross-Functional Lead | Data Engineer | Full-Stack Developer

Who I Am

I **drive cross-functional delivery** across data engineering, product features development, deployment, and project management - turning complex team dependencies into **scalable systems, reliable releases, and user-facing value**.

Leadership Scope

Data Engineering

Silver Layer Aldi ETL Pipeline

App Development

Profile Hub

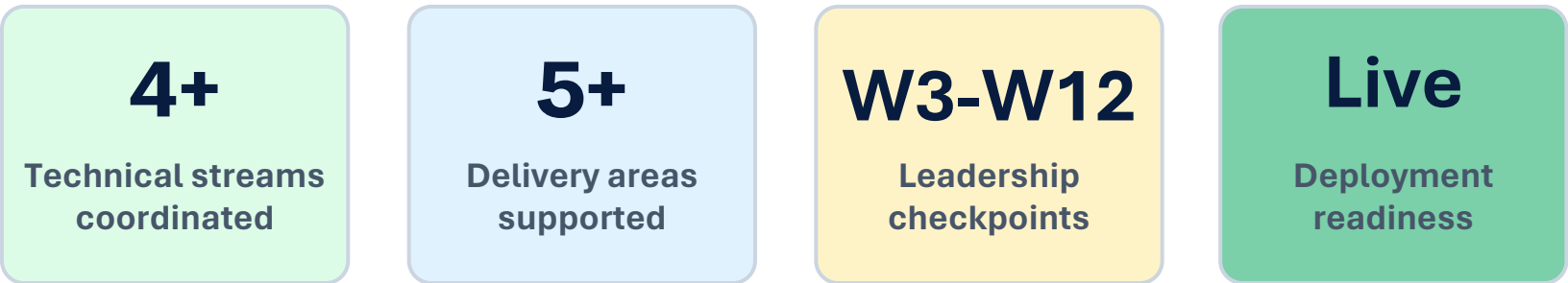
Deployment

Cloud Run + CI/CD

Coordination

Planner + Roadmap + blockers

● IMPACT SNAPSHOT



- Coordinated **4+ technical streams** across App Dev, DE, ML, and deployment.
- Led **5+ delivery areas**: Profile Hub, Aldi ETL, Cloud Run, CI/CD, ML sidecars, support email, custom domain.
- Helped move DiscountMate toward **a live, deployed, handover-ready platform**.
- **Reduced delivery risk** through **blocker escalation, PR coordination, and deployment readiness**.



Delivery Governance & Cross-Team Leadership



1) Problem/ Observation

Teams were contributing across many streams, but ownership, priorities, blockers, and dependencies were not always visible enough.



2) Why It Mattered

Without clear delivery governance, work could become fragmented. Blockers could appear too late, PRs could stall, and leadership would not have a clear view of progress or risk.



3) What I Led

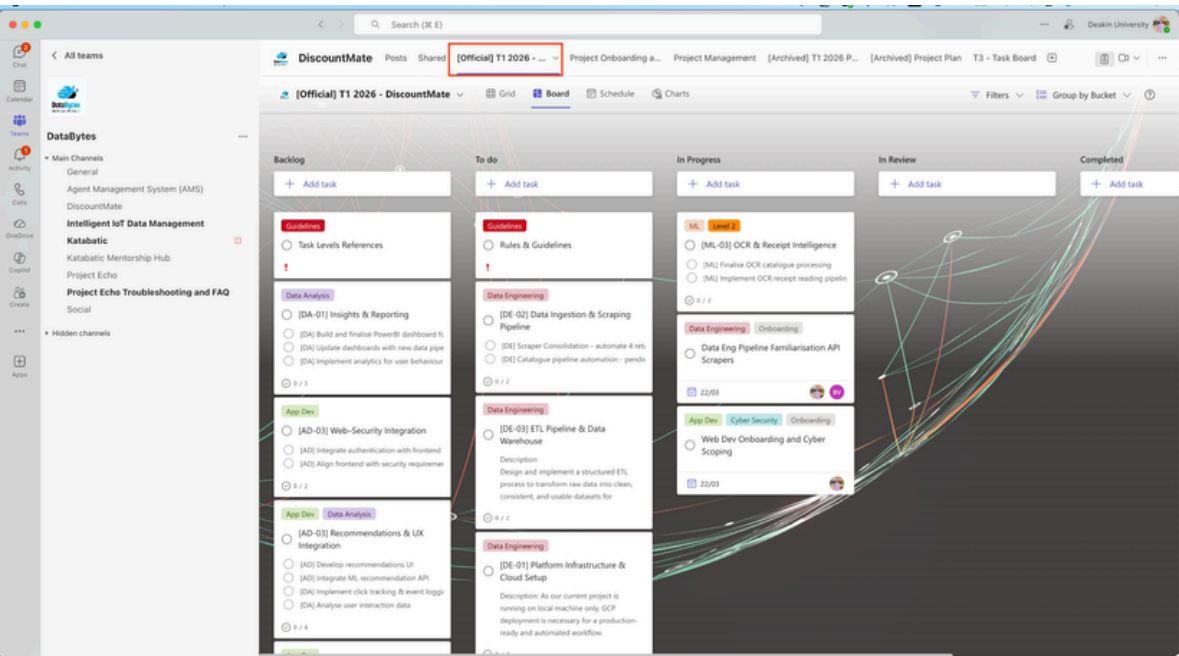
- Initiated a **best-practice Planner board** structure.
- Proposed breaking existing features into subtasks with **clearer ownership, priorities, dependencies, and status tracking**.
- Proposed and followed up on a **10-week development roadmap**.
- **Coordinated** with App Dev, Data Engineering, ML, mentors, Director, and university support.
- **Escalated** Cloud Run, IAM, service-account, GitHub Actions, and **deployment blockers**.
- **Reported progress and risks** through presenting **at Director meetings** in **W3, W8, W9 and W12**, keeping leadership informed of delivery status, blockers, and next actions.



4) Impact

Improved visibility, accountability, and coordination – moving the project from isolated task execution toward shared delivery goals.

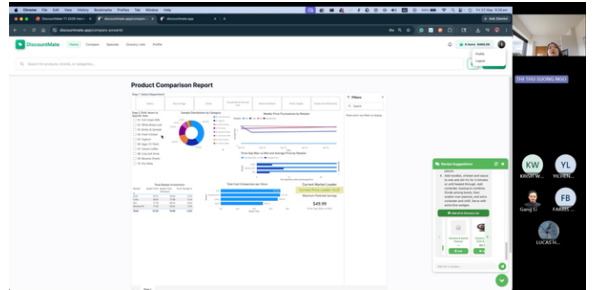
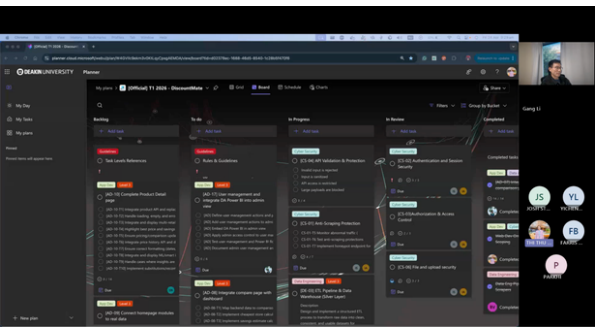
EVIDENCE



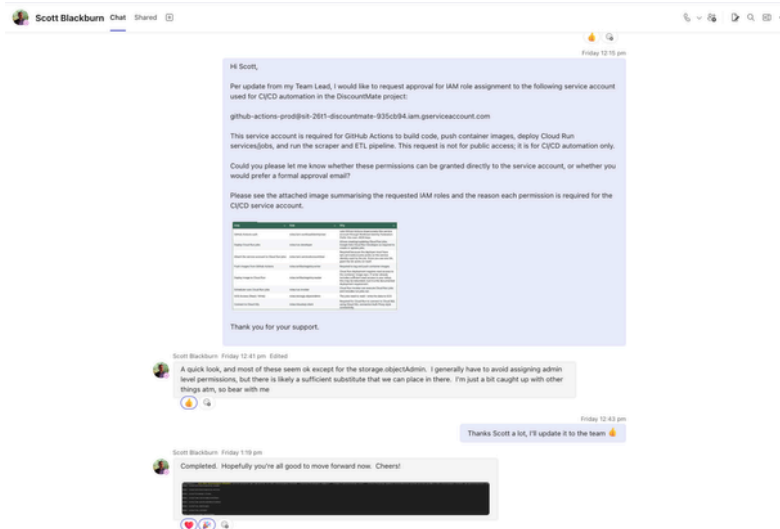
Planner board redesign



Proposed 10 Week Development Roadmap



Reported progress and risks at Director Meetings



Escalated to the university administration for deployment blockers



I improved how the team planned, tracked, and escalated delivery risks.

DiscountMate



2) Why It Mattered

3) What I Led/ Contributed

- ## 4) Impact

EVIDENCE



PR Evidence

PR #261

Silver pipeline + Aldi ETL implementation



Product Leadership: Profile Hub



1) Problem/ Observation

The original profile page **was limited** and **did not fully support a strong user journey, personalisation, or product growth strategy.**



2) Why It Mattered

A weak profile experience would reduce user engagement and make it harder to support alerts, subscriptions, support requests, privacy settings, and personalised shopping features.



3) What I Led/ Contributed

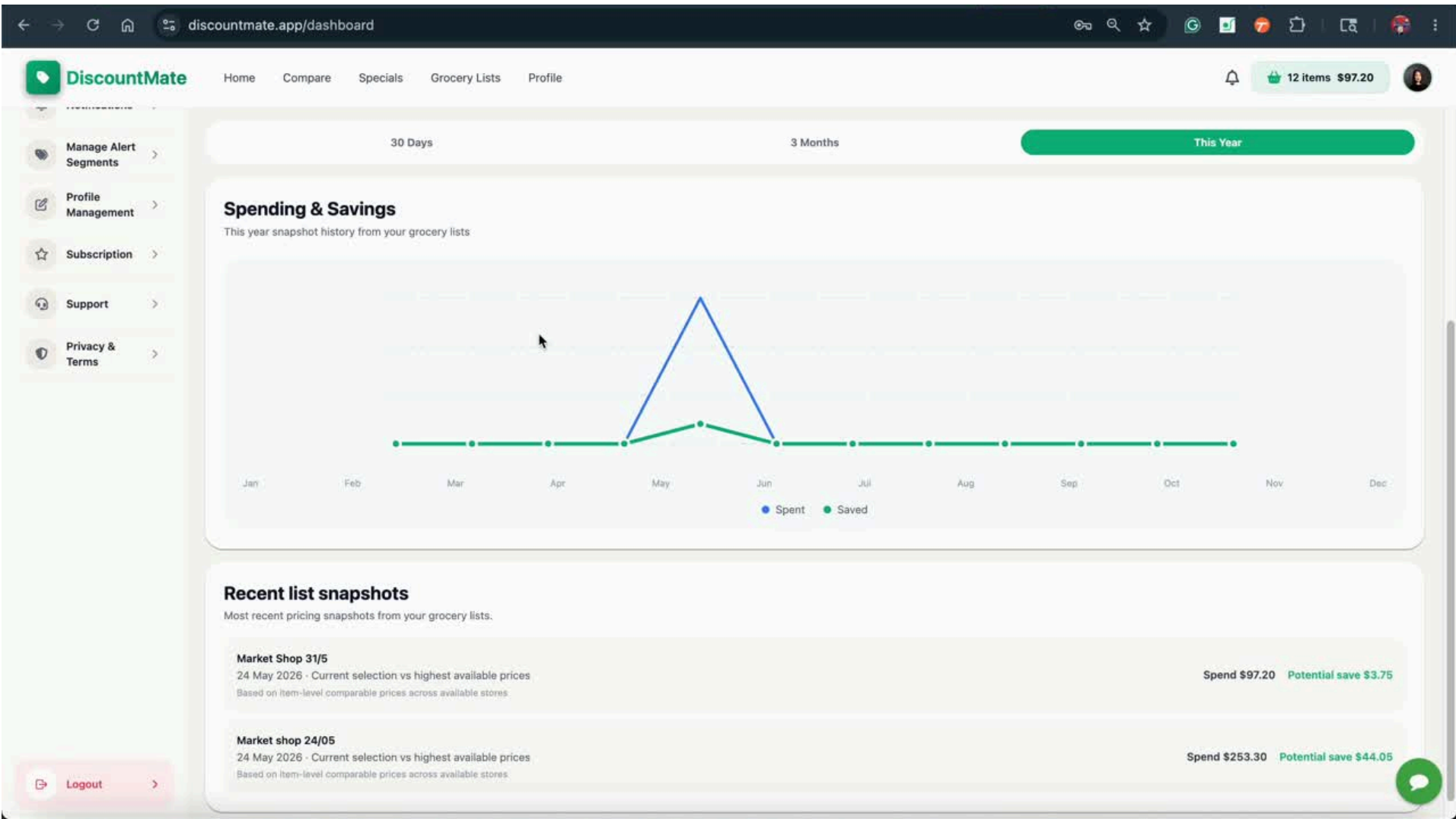
- **Initiated the Profile Hub concept** to replace a basic profile page with a fuller user feature centre.
- **Redesigned Profile Management UI** in Figma into a broader hub covering dashboard, notifications, alert segments, profile management, subscription, support, and privacy/terms.
- Proposed **Free, Premium, and Family subscription tiers** to **connect user experience with business value.**
- Refined the first-wave scope and deferred unsupported features until backend/data support was ready.
- **Supported implementation** and review through Profile Hub **PR #257.**



4) Impact

- Shifted the profile area from a simple account page into **a stronger user engagement hub.**
- Created **a clearer pathway for key user features** such as alerts, support, subscription, and profile management.
- Improved delivery realism by **aligning product ambition with backend and data readiness.**

EVIDENCE



Profile Hub Implementation



I shaped a user-facing experience that was ambitious but still realistic to deliver.



1) Problem/ Observation

DiscountMate was moving from local development to live deployment, but the process still had **manual setup, environment risk, ML integration complexity, and unclear deployment dependencies.**



2) Why It Mattered

Without a reliable deployment pathway, the team risked inconsistent builds, broken demos, blocked ML features, exposed services, and poor handover readiness.



3) What I Led

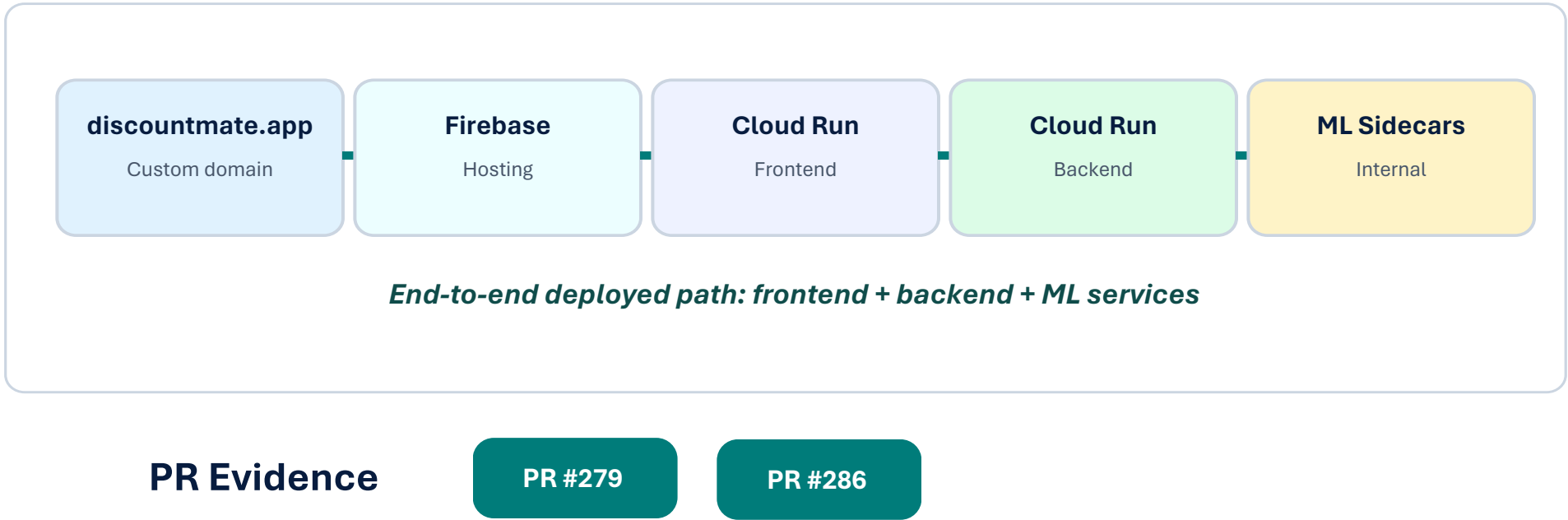
- **Led the setup of GitHub Actions CI/CD** for Google Cloud Run: automated build, push, and deploy flow.
- **Designed the Cloud Run architecture** with a separate frontend service and multi-container backend.
- **Coordinated** with DE and ML team **for backend deployment with ML sidecars**: Node.js backend, Python ML service, and reverse image search service.
- **Configured Docker image builds** for frontend, backend, ML service, and reverse image search.
- **Set up deployment flow** from GitHub Actions → Artifact Registry → Cloud Run.
- **Defined required variables/secrets** for GCP config, service names, image names, MongoDB, JWT, ML keys, and support email.
- Validated manual Cloud Run deployment first, then used it as the reference structure for automation.
- Configured <https://discountmate.app/> through Firebase Hosting and updated backend CORS.



4) Impact

- Moved DiscountMate **from manual/local deployment** toward **a repeatable cloud deployment pipeline.**
- **Connected frontend, backend, ML services**, support email, and custom domain **into one deployable system path.**
- **Reduced deployment risk** by validating services, documenting configuration, and communicating blockers early.
- **Improved showcase and handover readiness** for future teams.

EVIDENCE

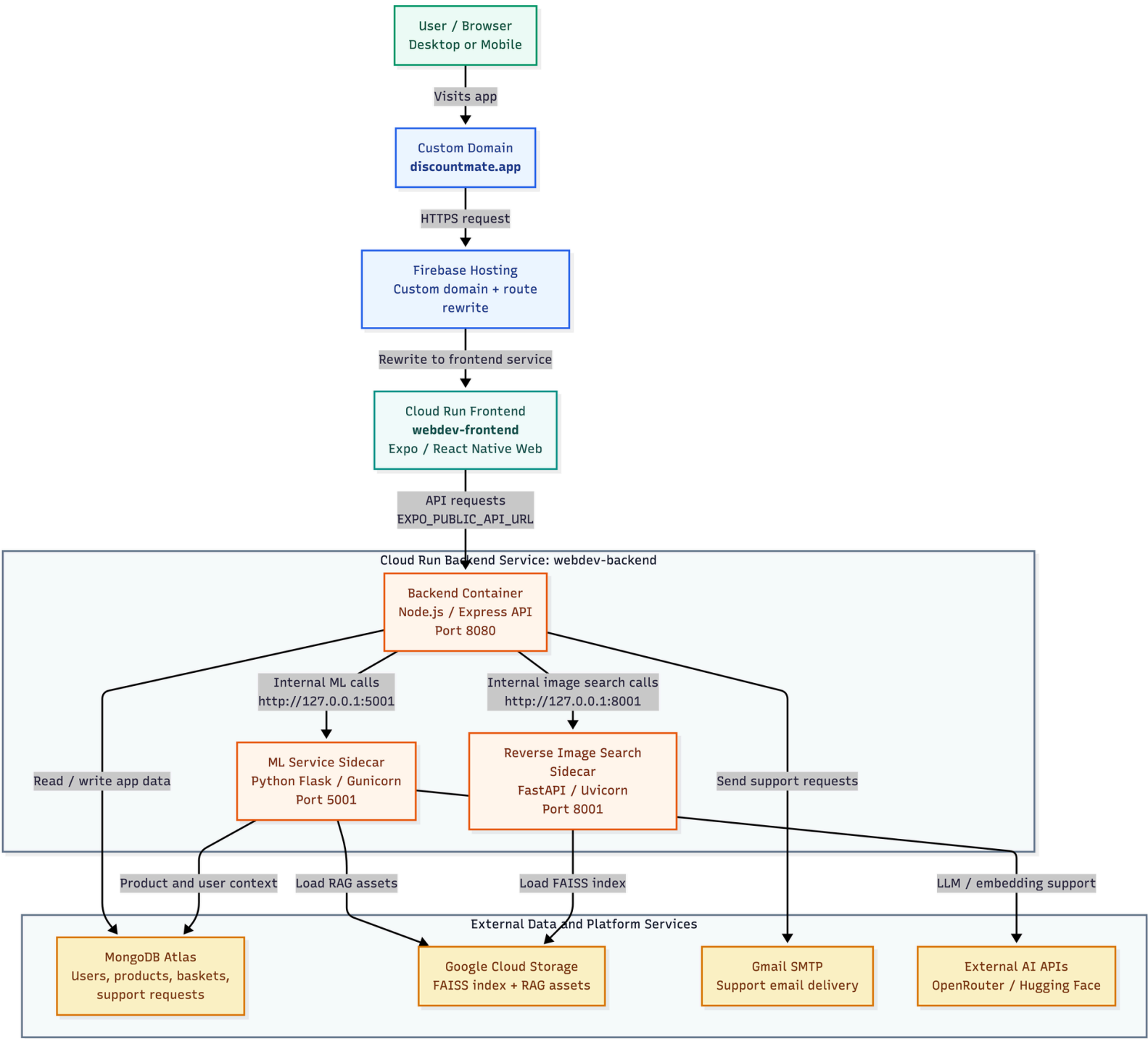


I helped move DiscountMate toward a live, repeatable and handover-ready deployment model.

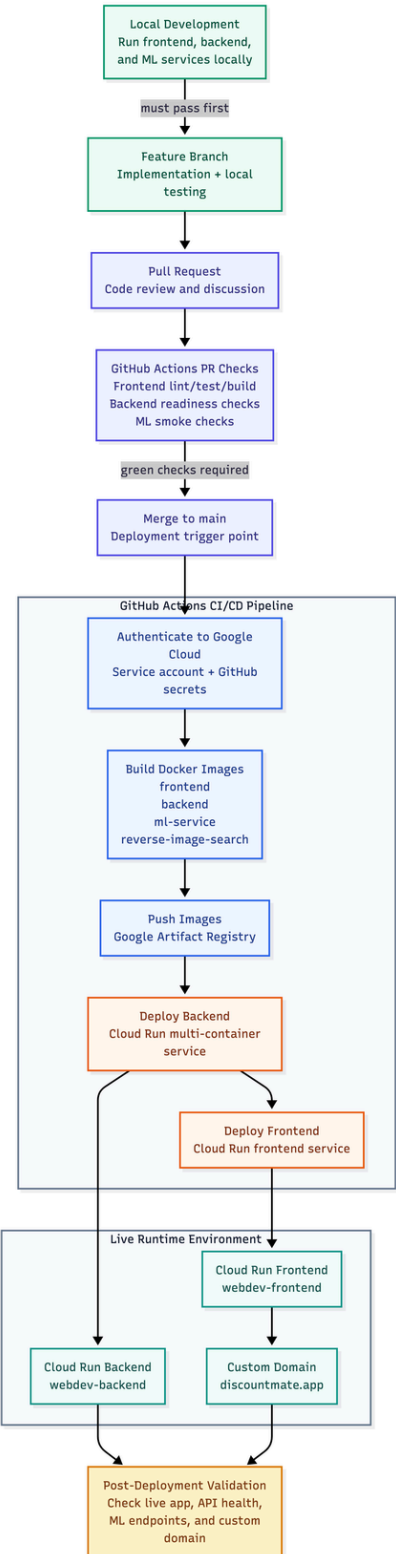
Deployment Leadership - Cloud Run, CI/CD & Production Readiness



Runtime Architecture and CI/CD Deployment Flow



High-level runtime architecture of the deployed DiscountMate web application



CI/CD deployment flow from local development to Google Cloud Run for DiscountMate



I helped move DiscountMate toward a live, repeatable and handover-ready deployment model.

Final Leadership Impact



TECHNICAL DECISIONS

Shaped foundations that improve scalability and reliability.

2

Major data pipelines
Silver Layer reference pipeline; Aldi ETL

3

Warehouse tables supported
fct_product_prices; dim_products; dim_retailers

4

Deployable service areas
Frontend; backend; ML service; reverse image search

1

Live custom domain
discountmate.app

LEADERSHIP ACTIONS

Drove visibility, alignment, and accountability across the project.

4+

Technical streams coordinated
App Dev; Data Eng; ML; Deployment/CI-CD

4

Director checkpoints
W3; W8; W9; W12 progress updates

2

Delivery governance tools
Planner board redesign; 10-week roadmap

6

Key PR evidence
PR #279, PR#245, PR#261, PR#279, PR#286, PR#290

FINAL OUTCOMES

Delivered measurable value and a deployable platform path.

5+

Delivery areas supported
Profile Hub; Aldi ETL; Cloud Run; CI/CD; ML sidecars

5

Validation areas
Frontend; backend API; ML specials; reverse image; support email

1

Integrated platform path
GitHub Actions -> Artifact Registry -> Cloud Run

2

Production-readiness PRs
PR #279; PR #286

MY GROWTH

Grew beyond individual delivery into cross-functional leadership.

From contributor
to cross-functional delivery leader

From 1 stream
to coordinating across 4+ streams

From technical delivery
to decisions, stakeholder updates, risk escalation

Stronger impact mindset
connecting data, product, deployment, and people



My leadership helped turn DiscountMate from fragmented technical work into a coordinated, validated, and handover-ready platform.



Fragmented planning

to structured roadmap and visibility



Local / manual setup

to cloud deployment pipeline



Basic profile experience

to full Profile Hub with user features



Raw retailer data

to reusable Silver Layer foundation



Unclear blockers

to visible escalation and early resolution

Final Leadership Impact



KEY LEADERSHIPS LEARNINGS



Leadership is about creating clarity, not control.

I learned that my role was most valuable when I helped the team understand priorities, blockers, dependencies, and next steps.



Technical work creates impact when it connects to product goals.

I learned to think beyond individual tasks and ask how each contribution supports DiscountMate's end-to-end delivery and user value.



Communication is a leadership tool.

Regular updates, blocker escalation, and follow-ups helped reduce uncertainty and kept mentors, team leads, and team members aligned.



Good leadership balances ambition with realistic delivery.

I learned to control scope, defer unsupported features, and focus on what could be delivered reliably within the trimester.



My strongest value is connecting disconnected workstreams.

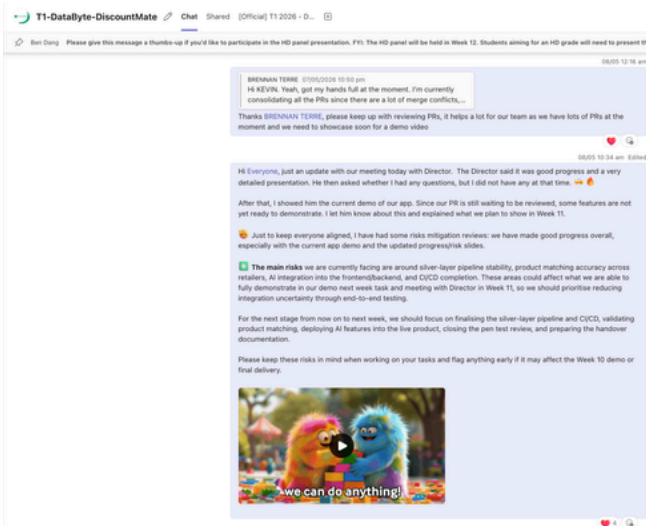
Through planning, data engineering, deployment, and handover work, I learned that I can turn separate team efforts into one coordinated delivery path.



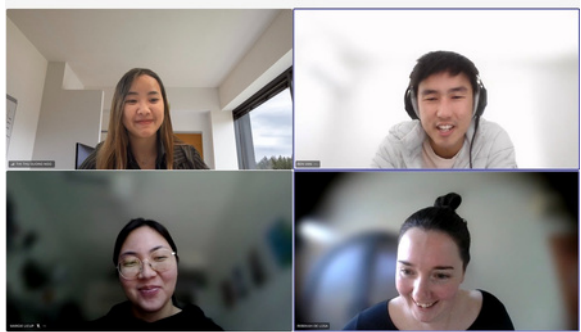
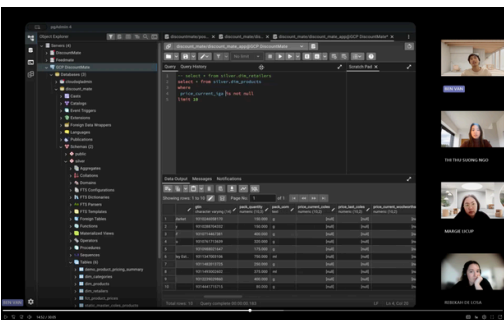
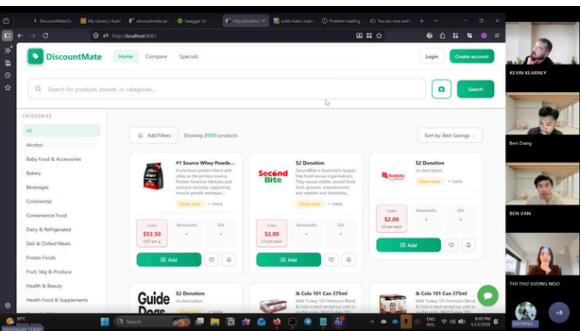
My Final Takeaway

I learned that my strongest leadership impact is connecting people, systems, and decisions into one clear delivery path.

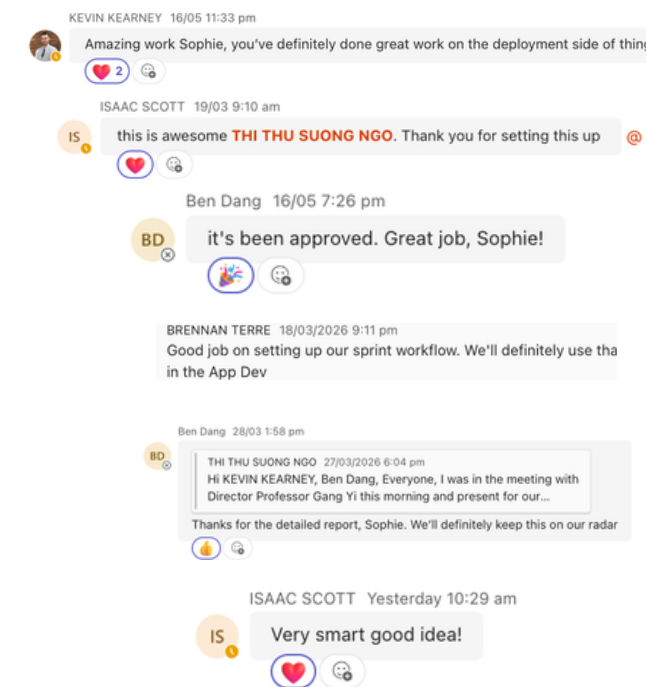
100+ team messages on project updates, technical clarifications, etc.



Attended weekly project and team meetings



Feedbacks from mentors, project lead, team leads, team members from my leadership and impacts



This capstone strengthened my ability to **lead with clarity**, **collaborate effectively**, and **deliver value** that supports the product and the team.



Thank You

Let's continue to develop leadership initiatives and drive positive change for this company together.

