SIT374/SIT764 Capstone Expert Panel

Ocean Ocean, Database Lead

A deep dive into building our product database from the ground up, leading a one-person team, and creating the foundation for our mobile nutrition application.

Food Remedy Co.

First Name

Last Name

Email

Password

Confirm Password

Register

Already have an account? Log In

Project Overview

The Food Remedy mobile app enables users to:

Scan product barcodes

Instantly identify grocery products using their UPC codes

Access detailed nutrition data

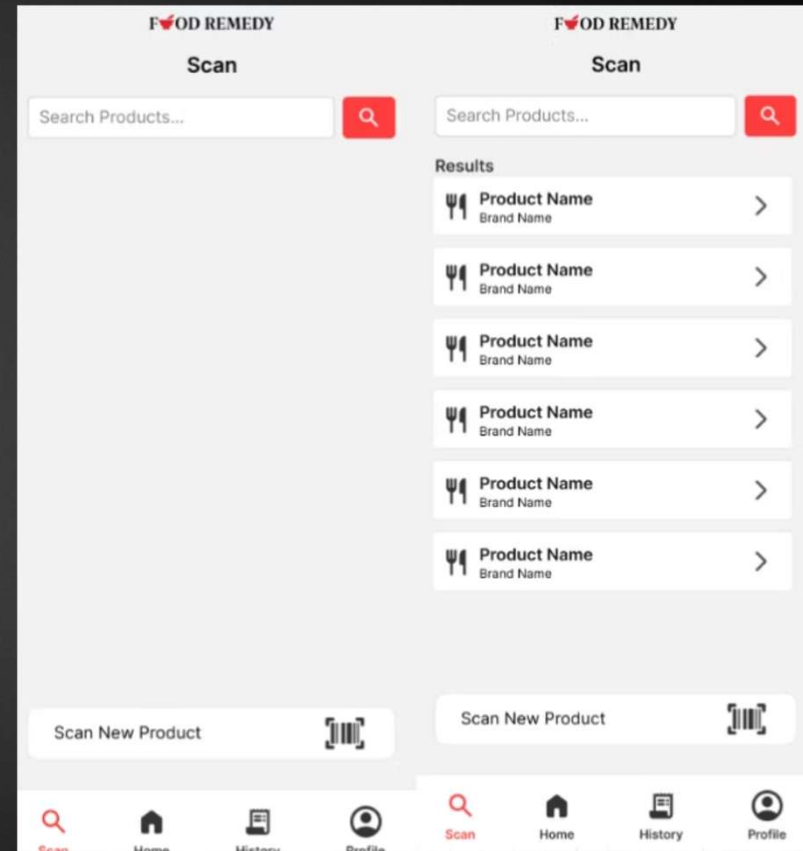View complete nutritional information and ingredient lists

Receive allergen warnings

Get immediate alerts for potential allergens in products

Discover healthier alternatives

Find nutritionally superior product options with similar taste profiles
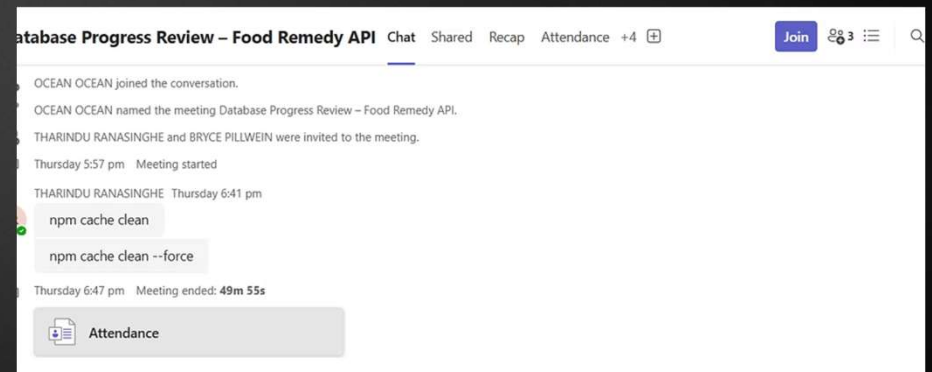
My Role & Challenges
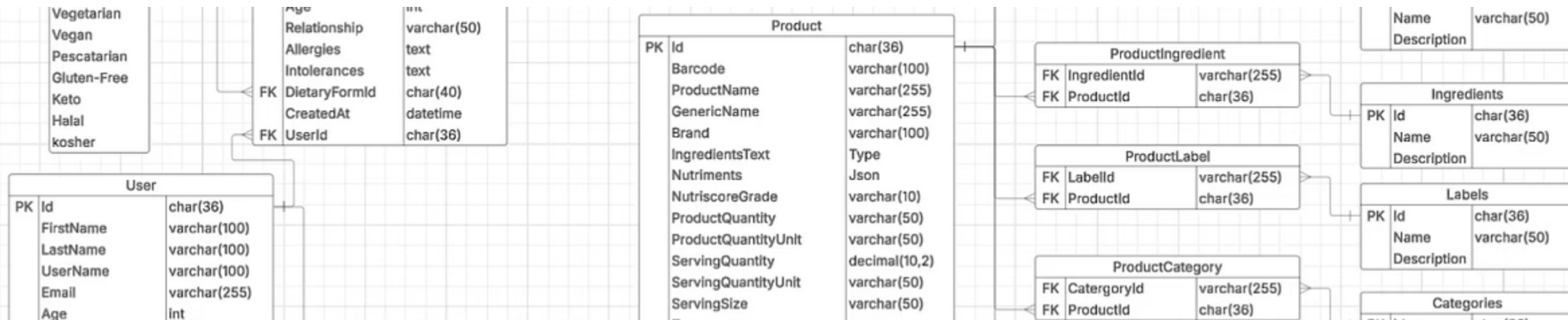
Sole Database Team Lead

- Volunteered when no other team members chose the database track
- Learned database architecture on-the-fly while building production components
- Balanced independent work with cross-team collaboration

My progress was accelerated through support from our Project Lead, Backend Lead, and my mentor, who provided crucial guidance at key decision points.

Critical Skills Developed

- Data modeling & normalization
- SQL schema design
- Entity Framework implementation
- Leadership in technical uncertainty

Contribution #1: Database Architecture

Designed and implemented a comprehensive database schema that efficiently handles product data, nutritional information, ingredients, and allergen warnings while supporting rapid API responses.

Contribution #2: Team Leadership
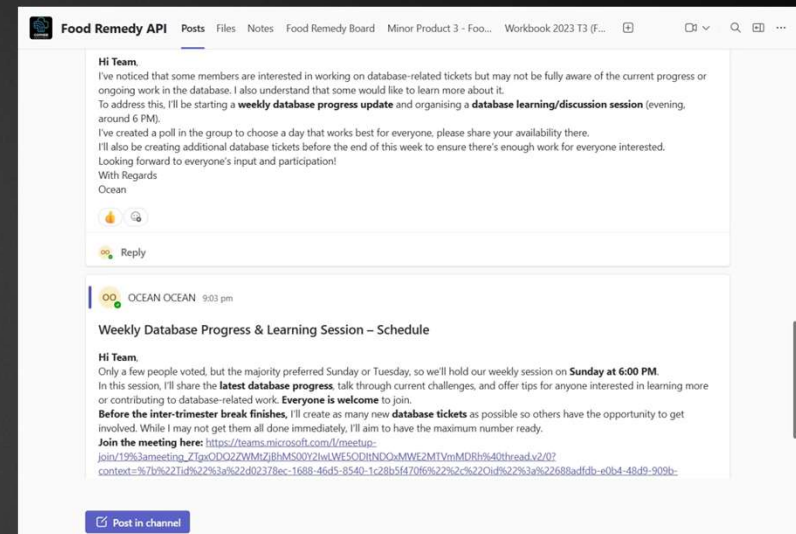
Weekly Database Learning Sessions

Initiated and led collaborative sessions to share database knowledge with team members across specialties
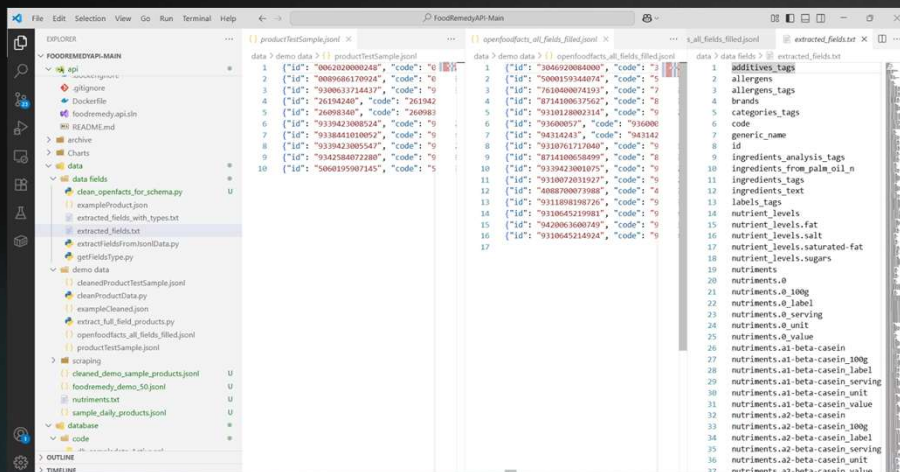
Comprehensive Documentation

Created detailed ERD diagrams and dataset documentation to provide clarity and reference for all team members

Cross-Functional Communication

Maintained consistent alignment with project leads and mentor through regular check-ins and progress updates

Current Status: Dataset Foundation

Data Ready for Integration

- **60,233** original products from the OpenFoodFacts Australia dataset.

- **10-product sample dataset** created for API testing and demonstrations.

- **16-product "fully complete" dataset** (no null or empty fields) for schema validation and reference.

Cleaned and normalized data ready for database insertion, processed using my custom cleaning pipeline.

Structured for efficient API queries and fast mobile app response, covering all major food categories for realistic MVP demonstrations and testing.

Project Impact

Complete Schema & Models

Database structure and EF models fully designed and ready for implementation

Demo-Ready Data

Curated product information prepared for testing and demonstrations

Enhanced Team Knowledge

Improved understanding of database architecture and API integration across the team

The database foundation is now positioned to support the entire application ecosystem, from backend services to frontend display, with a focus on performance and reliability.

Lessons & Growth

Technical Skills Gained

- Advanced SQL schema design
- Data modeling and normalization techniques
- Entity Framework optimization
- ETL processes for data transformation

Professional Development

- Technical leadership in ambiguous situations
- Cross-functional communication strategies
- Documentation practices for complex systems
- Knowledge sharing and team education

"The biggest growth came from embracing the challenge of being the sole database specialist and transforming it into an opportunity to develop both technical depth and leadership skills."

Next Steps & Timeline

1   Week 7

Complete migration and insertion testing to validate schema performance

2   Week 8

Deploy database for MVP release and connect to API endpoints

3   Week 9-10

Implement automated update pipeline for ongoing data refreshes

4   Beyond

Optimize query performance and scale database for production traffic

Thank you for your time and support.