Smart Nutrition Assistant

Product Analysis, Opportunity Identification, and MVP UX Design

CSIT 998 Capstone Project – Amanda Ma

Executive Summary

This report presents a user-centric analysis of leading nutrition tracking applications, identifying key UX and functionality gaps based on real-user testing and behavior observations. The study focuses on MyFitnessPal and MyNetDiary, uncovering limitations in AI-powered food recognition, caloric accuracy, and workflow efficiency. A redesigned solution tailored for time-sensitive professionals is proposed, including new positioning, core MVP module definitions, and interactive prototypes.

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Background

Based on Sensor Tower's category rankings for dietary tracking apps in Australia from January to April 2025, **MyFitnessPal** (**purple**) and **MyNetDiary** (**green**) consistently ranked among the top-performing apps (see Fig. 1). Additionally, product descriptions and promotional materials indicated that all nine apps exhibited highly similar functionality and targeted overlapping user groups.

Consequently, these two apps were selected for in-depth analysis.

Main Findings

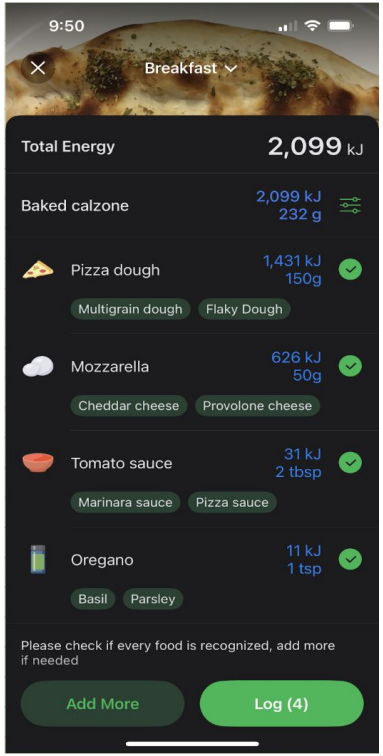
Existing Issue Summary

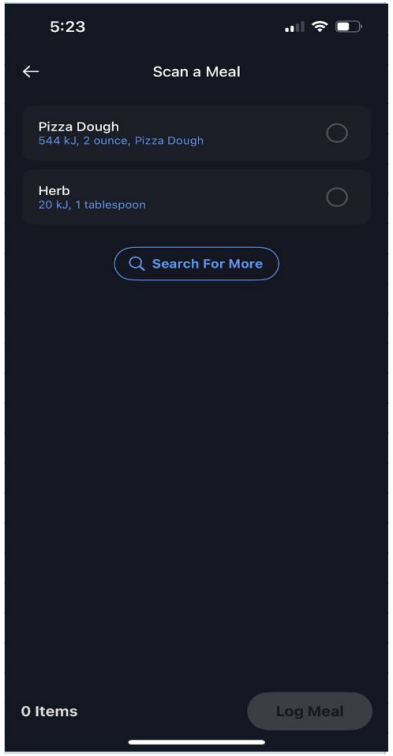
1.There are two main reasons for inaccurate calorie counting: inaccurate food recognition and inaccurate volume recognition.
2.It takes a long time to identify complex foods during AI processing.
3.Insufficient product localization, such as different food cultures in different countries
4.Similar products are highly homogenized, with the same core functions and processes, but different recognition results.

No.	Common Main Issues	Field
1	Food Identification	Fine-grained Image Classification
		Redundant fine-grained identification (MyNetDiary)
2	Inaccurate food volume or weight recognition	Visual Regression
3	Interface Design	UX & UI - Information overload and lack of personalization
4	Workflow	Lengthy login process

Over-detailed and Misleading Food Recognition

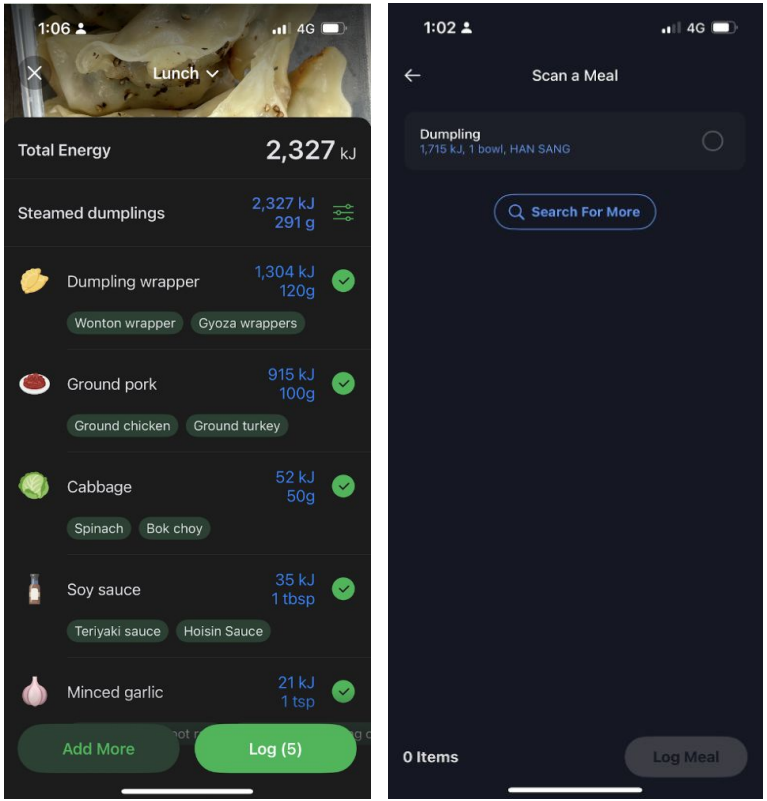
April 2025 evaluation of MyNetDiary, it attempts to list every ingredient within a dish, even when it cannot be confirmed from a photo.





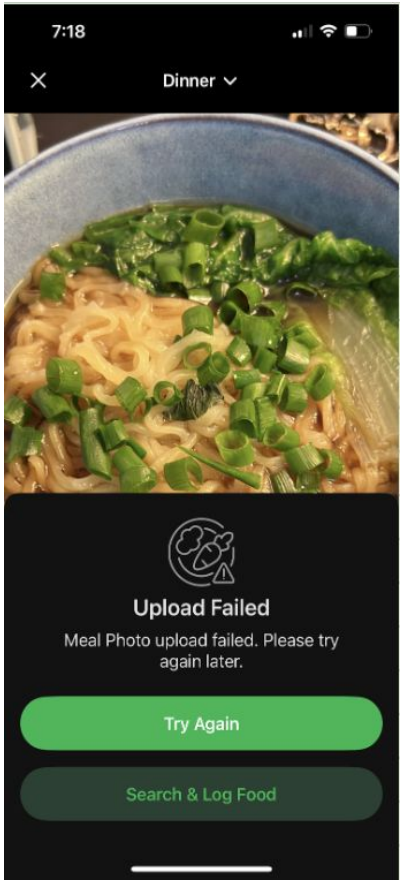
Over-detailed and Misleading Food Recognition

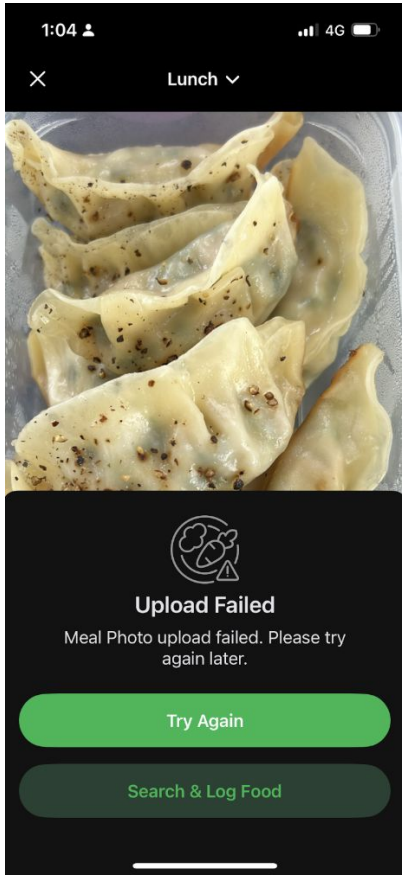
A vegetarian dumpling was misclassified as a meat-based item by ***MyNetDiary***.



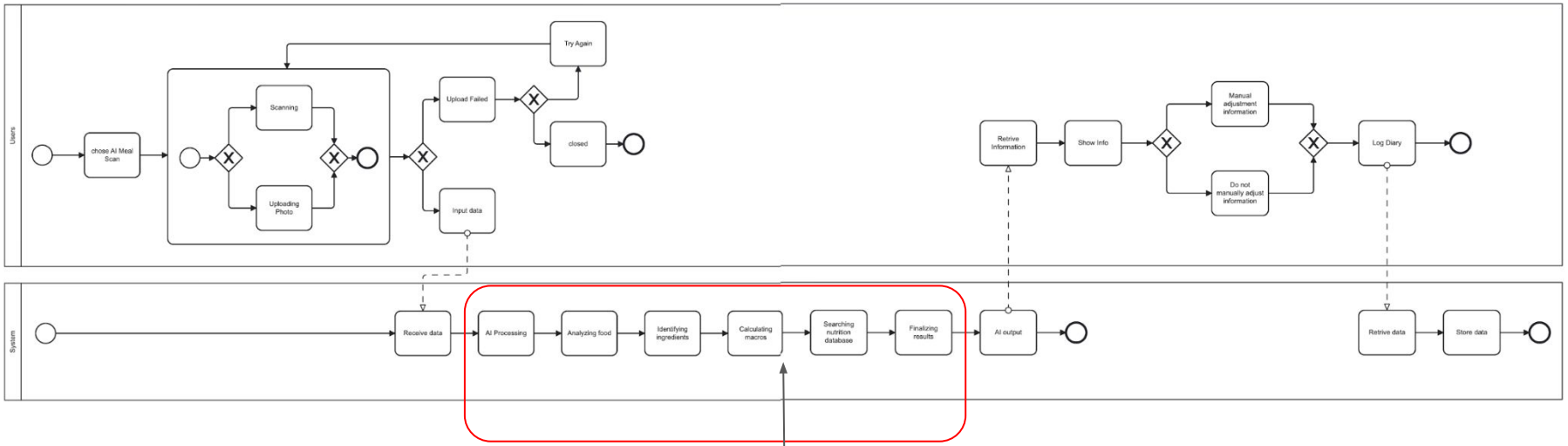
Unstable Photo Upload Functionality

MyNetDiary shows an unstable service status.





System complexity surfaced in user-facing workflows



Food Recognition -> Result Output Process

New Proposal Solution

Product Positioning
1.Users perceive health management as an ongoing task rather than a one-time effort, emphasizing the need for tools that support habit formation.
2.Target users - busy professionals - are highly sensitive to time expenditure, favouring health solutions that integrate seamlessly into their daily routines.

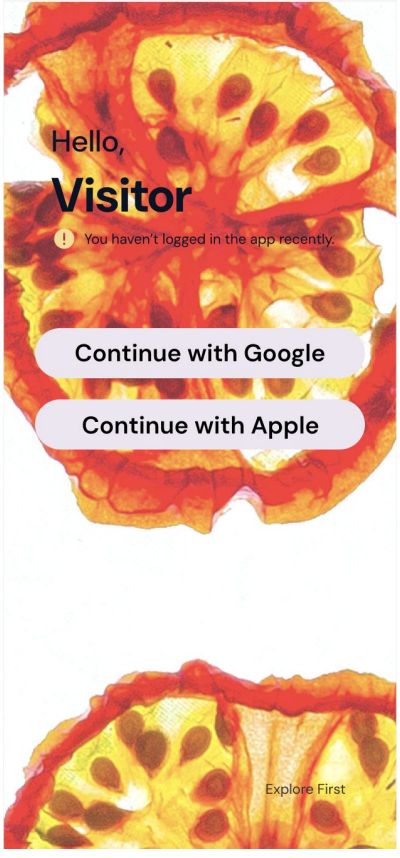
Purpose: simplify user operations to the greatest extent and serve users in the most intelligent way.

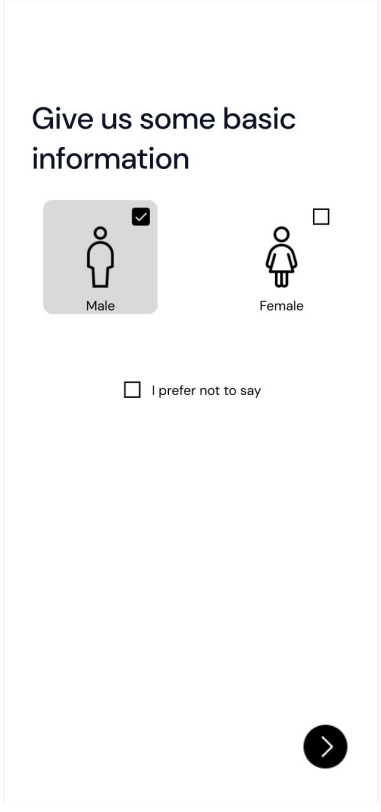
NutritionApp MVP Module Design <- For details, please visit GitHub

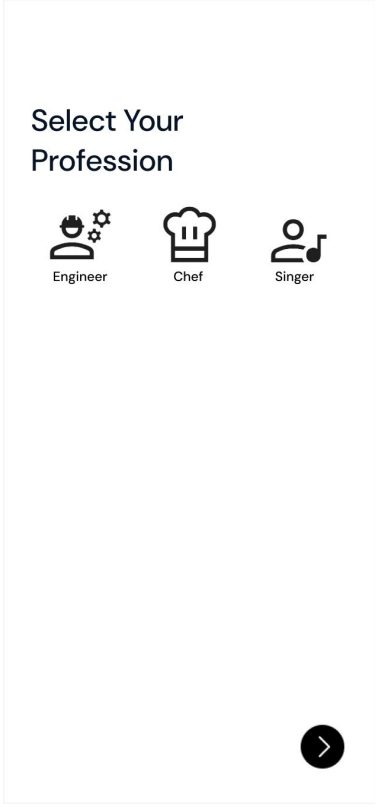
PROTOTYPE

Prototypes were designed using Figma to visualize core user journeys, nutritional summaries, and AI-supported interactions.

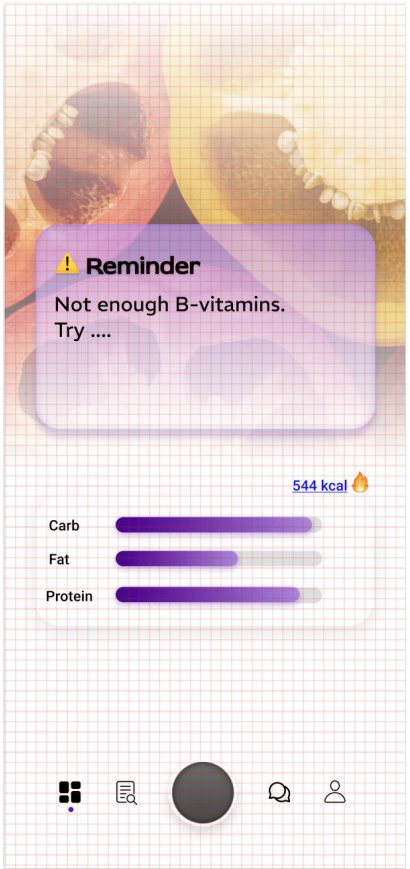
LOGIN PAGE


Hello,
Visitor
You haven't logged in the app recently.
Continue with Google
Continue with Apple
Explore First


Give us some basic information
Male
Female
I prefer not to say


Select Your Profession
Engineer
Chef
Singer

HOME & MEAL LOG PAGE



The nutrition summary card displays the user's daily calories intake and nutritional information.

How to calculate:

1g Carb = 4 kcal

1g Protein = 4 kcal

1g Fat = 9 kcal

For example, for a 2,000-kcal diet:

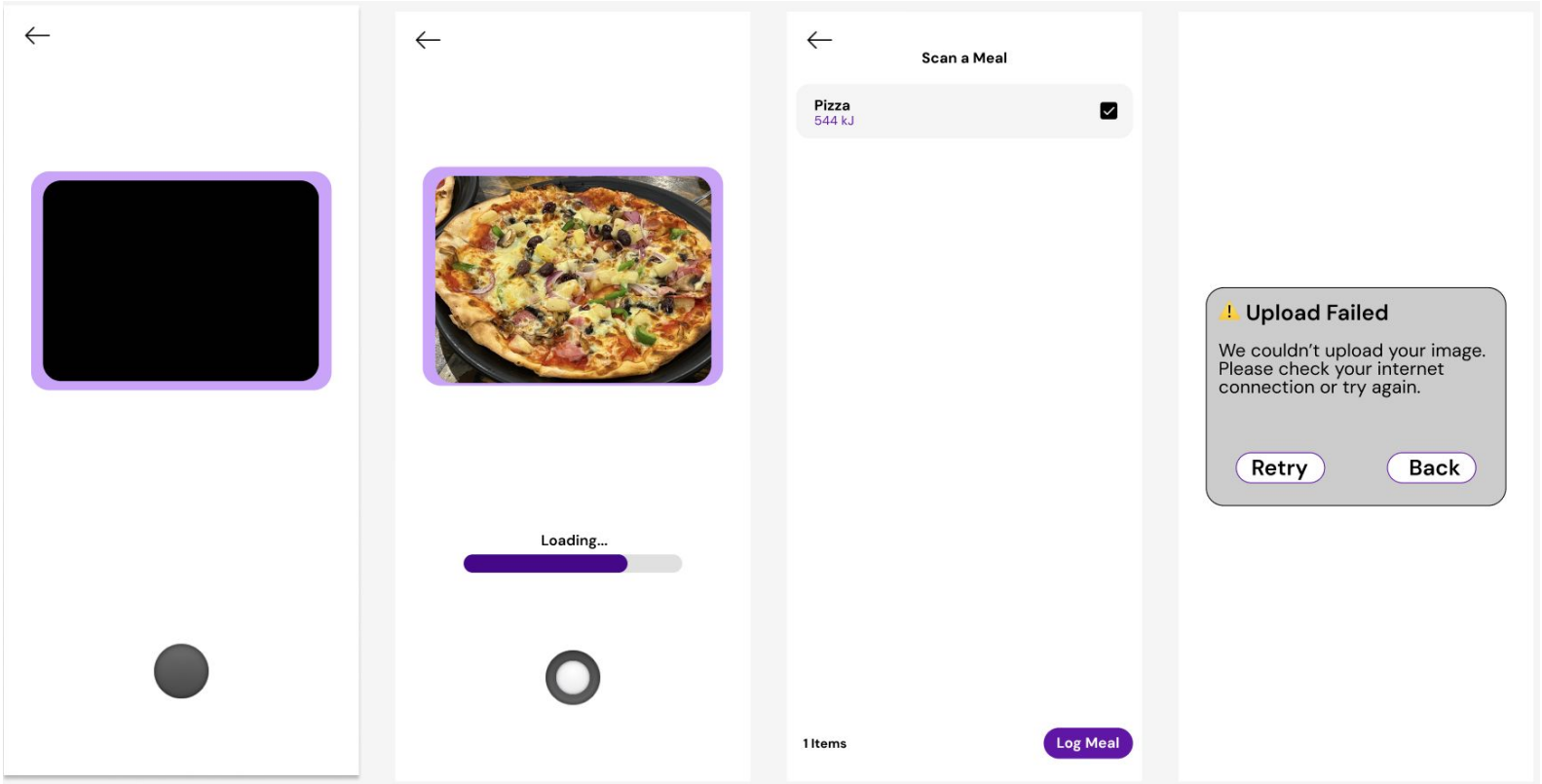
Carbs Min = (45%* 2000) / 4; Max = (65%* 2000)/4

Carbs: ~ 225-325g/day

Protein: ~ 75-125g/day

Fat: ~ 44-78g/day

SHOOTING & UPLOADING



Thank You !