

Assignment: NutriTrack Advanced (30%)

FIT2081

Delvin Varghese

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Overview

1. Introduction to Assignment 3 Changes
2. Technical Enhancements
3. Feature Expansions
4. Submission Expectations

Why this Assignment Matters

- Builds on your Assignment 1 app *NutriTrack*
- Focuses on building real-world features:
 - Multi-user authentication
 - Database-first app design
 - Integration of public APIs and GenAI
- Encourages MVVM architecture and scalable app patterns
- You'll be creating an extensible product: **NutriTrack Pro**

Comparison: Assignment 1 vs Assignment 3

Assignment 1	Assignment 3
CSV-based validation	CSV used only once to seed Room DB
One user login flow	Multi-user login/logout with password
Minimal architecture	MVVM: Room + Repository + ViewModel + LiveData
Placeholder features	Functional Settings, NutriCoach, Admin Dashboard
No persistence beyond session	Persistent session unless logged out

Data Architecture: Room and MVVM

New Architecture Requirements:

- Use Room to persist data from the CSV on first launch only.
- Tables to include:
 - Patient, FoodIntake, NutriCoachTips
- All interactions through Repository + ViewModel
- Use LiveData to update composables reactively

Login System Changes

Multi-user System:

- First-time users must claim account:
 - Provide valid UserID + PhoneNumber
 - Set Name and Password
- Store credentials securely
- Future logins require UserID + Password
- Session persists until user logs out

Settings Screen (New)

User + Admin Features:

- Accessible from bottom nav or top menu
- Displays current user info (name, phone number)
- Logout button
- **Admin Access Button:**
 - Clinician passphrase: dollar-entry-apples
 - Reveals stats + GenAI insights

NutriCoach (Now Fully Functional)

NutriCoach Implementation:

- **Fruits Section:**
 - Fetch fruit facts from FruityVice API
 - Visible only if fruit score is non-optimal
- **GenAI Section (HD to HD++):**
 - Use Gemini API to generate personalized tips
 - Store each tip in `NutriCoachTips` table
 - Modal to view tip history: i.e. show all tips that have been shown to this particular user.

Clinician Admin View

Advanced Analytics (HD++):

- Secured by clinician-only passphrase
- Display:
 - Average HEIFA score for Male and Female users
 - 3 GenAI-generated insights based on DB queries
- Example insights:
 - Users with high vegetable scores also scored high in fruit
 - Females showed greater dietary variety

Checklist Before You Submit

Full Requirements (for HD or HD++):

- All data read/write from Room DB (except for first-time load from CSV)
- MVVM used throughout project
- Login + logout + session management
- NutriCoach is interactive and shows both sections
- Admin screen works and validates insights

The End