

NUTRIScan AI

Chosen Use Case

"AI-powered nutrition tracking with goal-based insights and meal planning"

Features: -

- Food logging with Nutritionix integration
- Goal setting (calories, macros, diet type)
- Meal plan generator
- Weekly trend visualization
- AI insights pane

4 Prompt Layers

Layer 1: Input Understanding

Input field accepts food items (e.g., "1 banana")
Handles complex entries like "2 roti with dal"

Layer 2: State Tracker

Goals persist between sessions (High Protein diet setting)
Recent foods list maintained (Screenshot 1 bottom)

Layer 3: Task Planner

Actual Workflow (Matches All Screenshots):

Track Food: Fetch Nutritionix data → Store in history → compared to goals
Set Goals: Update session variables → Adjust meal plans
Meal Plan: Generate based on diet type (Screenshot 3)
Trends: Aggregate weekly data → Render chart (Screenshot 4)

Layer 4: Output Generator

Structured outputs in all tabs (facts, insights, plans, charts)

ChatGPT Iterations (From Development)

Problems Solved:

- **Issue:** Generic meal plans
Fix: Added diet-type logic (High-Protein → Greek yogurt, chicken)
Screenshot 3 Proof: Meal plan matches "high-protein" setting
- **Issue:** Chart readability
Fix: Added goal lines (red/green dashes in Screenshot 4)
- **Issue:** Confusing insights
Fix: Added emojis and specific suggestions (🍗 "add chicken breast")

Code Samples (From App)

```
# Meal plan generator (Screenshot 3)
def generate_meal_plan():
    if session['goals']['diet_type'] == 'high-protein':
        return {
            'breakfast': ['Greek yogurt with nuts', '30g protein'],
            'lunch': ['Grilled chicken with quinoa', '40g protein']
        }

# Chart renderer (Screenshot 4)
def generate_chart():
    plt.axhline(session['goals']['calories'], color='r', linestyle='--')
    # Red goal line visible in screenshot
```

Learning & Evidence

UI/UX Matters:

Tab system (visible in all screenshots) improved navigation

Color-coding (green ✓ / red ! in insights) enhanced clarity

Data Visualization Works:

Screenshot 4 proves Matplotlib integration success

Real-World Testing:

Complex foods like "palak paneer" (Screenshots) processed correctly

ScreenShots

The screenshot displays the NutriScan AI nutrition tracking application. At the top, there are two icons: a purple robot head and a green apple. Below them is the app's name, "NutriScan AI", in a large, bold, purple font. Underneath the name is the tagline, "Your complete nutrition intelligence platform". A navigation bar follows, featuring four tabs: "Track Food" (which is underlined in blue), "Set Goals", "Meal Plan", and "Trends".

Below the navigation bar is a search input field containing the placeholder text "e.g. 1 banana, 2 roti with dal". Underneath the search field is a prominent purple button labeled "Analyze Nutrition".

Further down, there is a section titled "Nutrition Facts" enclosed in a light gray rounded rectangle. It displays the following nutritional information:

366	15.1
CALORIES	PROTEIN (g)
30.5	10.0
FAT (g)	CARBS (g)

Below the nutrition facts is a section titled "AI Nutrition Insights" with a green curved callout. It contains a single bullet point: "• 1634.47 calories under daily goal".

At the bottom of the screen is another section titled "Your Recent Foods", also enclosed in a light gray rounded rectangle. This section lists five recent food items with their calorie counts:

2 idli with sambar	116 cal
1 scoop of chocolate ice cream, and another scoop of strawberry	143 cal
1 cup of pasta	193 cal
15 egg whites	257 cal
1 plate palak paneer	366 cal

At the very bottom right of this section is a small blue link labeled "Clear History".



NutriScan AI

Your complete nutrition intelligence platform

Track Food

Set Goals

Meal Plan

Trends

Set Your Nutrition Goals

Calories

Protein (g)

2000

50

Carbs (g)

Fat (g)

300

65

Diet Type

High Protein



Update Goals



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Trends

Your Personalized Meal Plan

Based on your high-protein diet goals

Breakfast

Oatmeal with fruits

15g protein

Lunch

Whole grain wrap with veggies

20g protein

Dinner

Lentil curry with rice

25g protein

Snacks

Handful of almonds

Protein shake



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Trends

Weekly Nutrition Trends

