



SoloBite 4 Case Study

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SoloBite AI-Powered Meal Companion for Solo Diners

Your fridge, one plate, fully fuelled. Transform what you have into nutritious single-portion meals for no waste, no guesswork, just smart cooking.

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Solo Diners Are Trapped in a Broken System

The Growing Challenge

- **35% of urban Indian households** are single-person⁴ and rapidly growing
- Standard recipes serve 4-6 people; scaling down breaks ratios and wastes ingredients
- Solo diners waste **30-40% more food** proportionally compared to families
- **Decision fatigue at 8 PM:** half a fridge, no ideas, Swiggy wins

The Real Pain Point

"Every recipe app wants me to buy 12 things I don't have and cook for 4 people. So I open Swiggy instead."

No app combines: fridge awareness + single portions + nutrition tracking + pantry intelligence in one seamless experience.

Competitive Landscape

We analysed five leading apps to understand gaps in the market. Whilst each solves part of the problem, none addresses the complete solo dining journey.

Fridge Scanner

Strength: Photo to recipe

Gap: No portions, no nutrition

Mealtime

Strength: Quick recipes

Gap: Manual scaling, no fridge scan

Eat This Much

Strength: Macro-based plans

Gap: Ignores what you have

Forma

Strength: Photo + nutrition coaching

Gap: Not solo-specialised

Prospere

Strength: Fitness meal plans

Gap: Ignores available ingredients



Our Opportunity

The White Space

No product combines fridge-first ingredientscanning +single-portion recipes + nutritionally complete meals + pantry-aware intelligence + cross-day ingredient optimisationin one unifiedexperience.

SoloBite fills this gap by addressing the complete solo dining journey4from what's in your fridge to what's on your plate, with zero waste and full nutrition.

Understanding Solo Diners



Priya 4 "The Reluctant Cook"

Primary Persona

27, Software Engineer, Bangalore

- Cooks 2-3 times weekly, orders in the rest
- Wastes 30-40% of groceries
- *"Tell me what to cook from what I have, for one person, with enough protein"*



Arjun 4 "The Fitness Solo"

Secondary Persona

30, Product Manager, Mumbai

- Gym 4 times weekly, knows macros
- Struggles to translate nutrition goals to varied meals
- *"High protein variety from the same base ingredients"*



Meera 4 "New to City"

Tertiary Persona

24, Junior Analyst, Delhi

- Surviving on Maggi and Zomato
- Needs beginner-friendly guidance
- *"Beginner-friendly, no jargon, step by step"*

Key Features That Solve Real Problems

1

SmartSingleInput

One field to type, snap a photo, or speak. No mode selection required. The AI intelligently figures out your intent and responds accordingly.

2

Personalised Nutrition Engine

7-step onboarding calculates TDEE and per-meal macro targets. Every recipe displays protein, carbs, and fat against your personalised goals with visual rings.

3

Tiered Pantry System

Always have: Rice, oil, spices (6+ months shelf life) **Usually have:** Onions, garlic, tomatoes (2-4 weeks) Drag-and-drop between tiers. AI never asks you to buy what you already own.

4

Weekly Cross-Optimisation

7-day meal plans where ingredients thread intelligently across days. Consolidated grocery list with estimated costs minimises waste and shopping trips.

5

Delta Suggestions

"Add paneer (+40) for +12g protein" 4 small, affordable upgrades that enable informed nutritional trade-offs without overwhelming the user.

TECHNICAL

Architecture & Tech Stack



Built for speed, scalability, and intelligent AI-powered personalisation with modern web technologies.

Technology Stack

Framework	Next.js 15, TypeScript
Styling	Tailwind CSS 4
AI Engine	OpenRouter (Gemini 2.0 Flash) YouTube Data API v3
Video Integration	
Voice Input	Web Speech API
Deployment	Vercel

 LAUNCH

Working Prototype & Success Metrics

What We Built (in One Day)

- 7-step nutrition onboarding with TDEE calculator
- Smart input: text, photo upload, voice recognition
- AI recipe generation with nutrition rings and delta suggestions
- Weekly meal planning with cross-ingredient optimisation
- Drag-and-drop tiered pantry management
- YouTube recipe video integration
- Demo mode fallback (works without API key)
- Progressive Web App (installable on mobile)

GitHub: github.com/rashis-git/SoloBite

Target KPIs

60%+

Recipe Adoption

First-recipe acceptance rate

40%+

Weekly Active

Return 3+ times per week

80%+

Nutrition Accuracy

Within $\pm 15\%$ of targets

Tech Stack: Next.js 15 + TypeScript + Tailwind + OpenRouter + YouTube API