

# Restaurant Nutrition Estimator - Product Requirements Document

## Executive Summary

**Problem:** 62% of nutrition app users complain about missing restaurant data, while 71% develop disordered eating patterns from obsessive calorie tracking. Three underserved user archetypes need restaurant calorie awareness without psychological harm.

**Solution:** Conversational restaurant nutrition estimator with delayed visibility options, serving psychology-conscious users who abandon traditional tracking apps.

### Success Metrics:

- Primary: Win 2+ hackathon categories (\$50K+)
  - Secondary: 100+ active testers, 80%+ would choose over existing apps
  - Long-term: \$1M ARR within 18 months serving underserved markets
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## User Archetypes

### ED Recovery Users (35% of target market)

**Pain:** Traditional apps trigger obsessive behaviors **Need:** Restaurant awareness without calorie obsession **Quote:** *"Since my eating disorder I try to avoid everything that has to do with food tracking... But I think it has potential!"*

### Insight Seekers (40% of target market)

**Pain:** Want food awareness but not daily tracking **Need:** Weekly patterns and surprising discoveries **Quote:** *"Some insights would be nice... it is sometimes very surprising what things make or break your diet"*

### Diet Philosophy Followers (25% of target market)

**Pain:** Rules work at home, break down at restaurants **Need:** Restaurant guidance aligned with dietary philosophy **Context:** Slow Carb, Paleo, Keto communities actively anti-calorie counting

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## Core Features

### MVP Features (Days 5-10)

#### 1. Conversational Restaurant Estimation

**User Story:** As a restaurant diner, I want to describe my meal naturally so I can get calorie estimates without database navigation.

### Acceptance Criteria:

- Text input accepts natural language: "pad thai with chicken from the place downtown"
- AI identifies restaurant, location, menu item, portion size
- Returns structured response: restaurant name, calories, confidence level, reasoning
- Response time <5 seconds, accuracy >70% for independent restaurants

### **Technical Requirements:**

- Perplexity API integration (750 tokens)
- Restaurant research + portion size reasoning
- Handles both descriptive ("mini croissant") and specific weights ("48g")

## **2. Personal Food History**

**User Story:** As a user, I want to see my logged meals so I can remember what I've eaten and delete mistakes.

### **Acceptance Criteria:**

- All entries saved with timestamp, restaurant, food, calories
- Personal history view showing chronological list
- Edit/delete functionality for each entry
- Data persists across sessions

### **Technical Requirements:**

- Supabase database integration
- Schema: user\_id, timestamp, restaurant\_name, food\_description, calories, raw\_ai\_response
- Simple user sessions (localStorage initially)

## **3. Privacy & User Separation**

**User Story:** As a user, I want my food data private so only I can see my eating patterns.

### **Acceptance Criteria:**

- Each user sees only their own entries
- No data sharing between users
- Secure user identification

### **Technical Requirements:**

- Browser-based user sessions initially
- Unique user\_id generation and storage
- Data filtering by user\_id in all queries

## Enhanced Features (Days 11-15)

### 4. Delayed Visibility Options

**User Story:** As an ED recovery user, I want to log food without seeing calories immediately so I can maintain awareness without obsession.

**Acceptance Criteria:**

- Toggle setting: "Show calories immediately" vs "Show in weekly summary"
- Immediate mode: calories visible during logging
- Delayed mode: confirmation only, calories hidden until summary view
- User can change preference anytime

### 5. Conversational Analytics

**User Story:** As an insight seeker, I want to ask questions about my eating patterns so I can discover trends without manual analysis.

**Acceptance Criteria:**

- Natural language queries: "What were my highest calorie lunches this month?"
- AI analyzes user's stored data to answer questions
- Responds with specific examples and patterns
- Handles diet-specific questions: "How compliant was I with Slow Carb rules?"

**Technical Requirements:**

- AI integration with user's historical data
- Query parsing and data analysis
- Structured response with examples

### 6. Pattern Insights Dashboard

**User Story:** As any user type, I want to see my eating patterns visually so I can understand trends without spreadsheet analysis.

**Acceptance Criteria:**

- Weekly/monthly view options
- Restaurant frequency analysis
- Calorie trends over time
- Cuisine type breakdown
- Customizable based on user archetype preferences

## Polish Features (Days 16-20)

## 7. Beautiful UI Design

**User Story:** As a user, I want an aesthetically pleasing interface so the app feels premium and engaging.

**Acceptance Criteria:**

- Modern design with glassmorphism effects
- Smooth micro-animations and transitions
- Mobile-first responsive design
- Dark mode support
- Accessibility compliance (contrast, focus states)

## 8. Restaurant Intelligence Enhancement

**User Story:** As a user, I want more accurate estimates so I can trust the calorie information.

**Acceptance Criteria:**

- Local restaurant menu integration where possible
  - Chain restaurant database accuracy >90%
  - Independent restaurant estimation 70%+ accuracy
  - Confidence levels displayed transparently
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## User Experience Flow

### Core User Journey

1. **Landing:** User opens app, sees simple text input
2. **Logging:** Types restaurant meal description naturally
3. **Processing:** AI researches restaurant and estimates calories (5s max)
4. **Results:** Shows restaurant, meal, calories, confidence with option to save
5. **History:** User can view past entries, edit/delete as needed
6. **Insights:** Weekly summary or conversational analysis available

### Psychology-Safe Experience (ED Recovery)

1. **Settings:** User enables "delayed visibility" mode
  2. **Logging:** Same natural input, but calories hidden
  3. **Confirmation:** "Logged ✓" message only, no numbers
  4. **Insights:** Weekly patterns shown without triggering daily obsession
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## Success Metrics

## Hackathon Categories (Primary Goal)

- **Uniquely Useful Tool (\$25K):** 3 underserved archetypes validation
- **Creative Use of AI (\$25K):** Conversational + delayed visibility approach
- **Future Unicorn (\$25K):** Clear path in \$6B+ market with differentiation
- **Most Beautiful UI (\$25K):** Premium design execution

## User Validation Metrics

- **Problem-solution fit:** 80%+ of testers prefer to existing apps
- **Archetype resonance:** Each type sees value in psychology-conscious approach
- **Usage intent:** 60%+ would use regularly for restaurant meals
- **Retention indicator:** Users return to check history/insights

## Technical Performance

- **Response time:** <5 seconds for restaurant estimation
  - **Accuracy:** 70%+ for independent restaurants, 90%+ for chains
  - **Reliability:** <2% error rate in core functionality
  - **Mobile experience:** Works seamlessly on phones where logging happens
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## Technical Architecture

### Stack

- **Frontend:** React/Next.js with Tailwind CSS (Bolt.new platform)
- **Backend:** Supabase (sponsored) for database and authentication
- **AI:** Perplexity API for restaurant research and analysis
- **Hosting:** Netlify via Bolt.new deployment
- **Design:** Figma for high-fidelity designs (if time permits)

## Database Schema

```
sql

-- Users table
users (
  id uuid primary key,
  created_at timestamp,
  settings jsonb -- delayed_visibility, diet_philosophy, etc.
)

-- Food entries table
food_entries (
  id uuid primary key,
  user_id uuid references users(id),
  created_at timestamp,
  restaurant_name text,
  food_description text,
  estimated_calories integer,
  confidence_level text,
  raw_ai_response text,
  user_notes text,
  is_deleted boolean default false
)
```

## API Integration

- **Perplexity Sonar:** Restaurant research and calorie estimation
  - **Future:** Local restaurant menu APIs for improved accuracy
  - **Analytics:** AI analysis of user's historical data for insights
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## Competitive Positioning

### vs MyFitnessPal (220M users)

- **Them:** Database navigation, precise tracking, daily obsession
- **Us:** Conversational input, restaurant focus, psychology-conscious

### vs Noom (\$400M revenue)

- **Them:** Psychology coaching but still daily calorie tracking
- **Us:** Psychology-first design with delayed visibility options

### vs Foodvisor (AI food recognition)

- **Them:** Image recognition, 46% accuracy, traditional tracking
- **Us:** Conversational estimation, restaurant specialization, anti-obsession

**Key Differentiator:** Only solution serving psychology-conscious users who abandon traditional apps

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## 17 **Development Timeline**

### **Days 5-7: Data Foundation**

- Supabase integration and user sessions
- Food entry storage and history view
- Basic edit/delete functionality

### **Days 8-10: Analytics MVP**

- User validation on desired insights
- Basic conversational analytics
- Weekly summary view

### **Days 11-14: Psychology Features**

- Delayed visibility implementation
- User preference settings
- Enhanced insights based on archetype needs

### **Days 15-18: Design Polish**

- Beautiful UI implementation
- Mobile optimization
- Micro-animations and premium feel

### **Days 19-22: Advanced Features**

- Enhanced restaurant intelligence
- One-shot competition entry (if applicable)
- Performance optimization

### **Days 23-25: Submission Prep**

- Documentation completion
- Demo video creation
- Final testing and bug fixes



## **Hackathon Submission Strategy**

### **Multi-Category Approach**

1. **Uniquely Useful Tool:** Restaurant estimation for underserved psychology-conscious users
2. **Creative Use of AI:** Conversational interface + delayed visibility psychology
3. **Future Unicorn:** \$6B+ market with clear user archetype validation

#### 4. **Most Beautiful UI:** Premium design differentiating from utilitarian competitors

### Evidence Package

- **User validation:** Direct quotes from 3 distinct archetypes
- **Market research:** Academic sources on eating disorder apps and user psychology
- **Technical demo:** Working conversational restaurant estimation
- **Business case:** Clear revenue path in underserved markets

### Narrative Arc

"Traditional calorie apps drive away 71% of users with disordered eating patterns. We discovered 3 underserved archetypes who need restaurant nutrition awareness without psychological harm. Our conversational estimator with delayed visibility serves millions of users existing apps abandon."

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### Iteration Strategy

#### User Feedback Integration

- Weekly user testing with all 3 archetypes
- Feature prioritization based on actual user requests
- Psychology safety monitoring for ED recovery users

#### Technical Iteration

- Performance monitoring and optimization
- Accuracy improvement through better prompts
- UI/UX refinement based on usage patterns

#### Market Validation

- Expand to 20+ testers across archetypes
- Price sensitivity testing
- Competitive feature analysis

**Next Action:** Start Supabase integration while reaching out to additional users for archetype validation expansion.