Technical Specifications

Menu Allergy & Dietary Filtering System

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1. System Overview

A structured, rule-based filtering engine designed to standardize allergy and dietary communication in restaurant operations.

The system converts menu knowledge into structured, filterable data that can be accessed instantly during service.

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2. Operational Problem

Restaurants frequently encounter guests with:

- Multiple allergies at one table
- Mixed dietary restrictions
- Ingredient-specific avoidance requests

Filtering safe dishes smoothly and accurately in these situations is difficult.

During peak hours, servers must double-check with the kitchen, which:

- Slows both FOH and BOH operations
- Creates service delays
- Causes ripple effects across multiple tables
- Increases pressure on chefs and staff

Additionally, when servers focus heavily on allergy management, their attention shifts away from upselling wine, cocktails, and pairings — impacting revenue opportunities.

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3. Core Architecture

Each menu item is structured into:

- Modular components
- Allergen tags

- Ingredient flags
- Cross-contact indicators
- Modification rules

The filtering engine processes:

- Allergies
- Dietary preferences
- Ingredient avoidance
- Cross-contact tolerance

Outputs include:

- Safe dishes
- Restricted dishes
- Modifiable dishes
- Clear reasoning for each result

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4. Operational Impact

When accessible via a browser tab or application interface, servers can:

- Step aside briefly to filter dishes instantly
- Verify allergy safety without waiting on the kitchen
- Confidently recommend alternatives
- Resume service flow without disruption

This reduces operational friction, preserves service rhythm, and allows staff to maintain upselling opportunities — including wine and drink pairings — even during complex allergy scenarios.

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5. Practical Expansion

The system can integrate into:

- An administrative dashboard for centralized menu updates
- A staff-facing service interface
- A future AI-powered food and wine pairing layer

The architecture is modular and adaptable across concepts.