Product Requirements Document (PRD)

Product Name: Smart Grocery Shopping Assistant

1. Problem Statement

Grocery shoppers often face inefficiencies due to manual list management, poor inventory tracking, and lack of personalized guidance—resulting in food waste, missed items, and overspending.

2. Goals & Objectives

• Simplify grocery planning and shopping.
• Reduce food waste through better inventory tracking.
• Provide personalized and budget-aware recommendations.
• Improve shopping efficiency via optimized routes.
• Integrate with loyalty/rewards programs to save money.

3. Target Users

• Urban households and working professionals.
• Families managing shared groceries.
• Budget-conscious or health-conscious shoppers.
• Users of existing grocery delivery or store apps.

4. Features & Requirements

4.1 Intelligent Grocery Lists
• Add/edit/delete grocery items manually or via voice.
• Auto-suggest items based on past purchases or recipes.
• Share lists with household members (real-time sync).
• Categorize items (e.g., dairy, produce, frozen).

4.2 Household Inventory Tracking
• Scan barcodes/receipts to log items.
• Show current stock levels with expiry dates.
• Low-stock and expiry notifications.
• Visual pantry dashboard.

4.3 Personalized Recommendations
• Suggest items based on past behavior and diet.
• Recommend recipes from available ingredients.
• Filter by preferences (e.g., vegetarian, low-carb).
• Show budget-friendly alternatives.

4.4 Optimized Shopping Routes
• Multi-store trip planning via Maps API.
• Store-specific aisle order routing.
• Support for walking, driving, delivery.

4.5 Loyalty & Rewards Integration
• Connect with store loyalty programs.
• Apply coupons/discounts automatically.
• Display available points and rewards.

• Personalized deals based on shopping history.

5. Tech Stack

Layer	Technology
Frontend	React.js
Backend	Node.js + Express.js
Database	MongoDB
APIs	Google Maps API, Barcode Scanner API, Loyalty APIs
Hosting	Vercel/Netlify (FE), Render/Heroku (BE)

6. Success Metrics (KPIs)

• Active users with weekly grocery list usage.
• Reduction in average waste (via expiry tracking).
• Time saved per shopping trip (via routing).
• User savings from personalized deals.
• Retention rate over 30/60/90 days.

7. Milestones & Timeline (MVP Scope)

Milestone	Timeline
Requirements Finalized	Day 1
UI/UX Wireframes	Week 1
Core Feature Backend (CRUD APIs)	Week 2–3
Grocery List UI & Logic	Week 3–4
Inventory Tracker (Scan & Alerts)	Week 4–5
Route Optimization Integration	Week 5–6
Loyalty Program Integration	Week 6–7
Final QA & Bug Fixes	Week 8
Beta Launch	Week 9

8. Assumptions

• Users have access to smartphones and internet.
• Grocery stores support public APIs for rewards (or manual input allowed).
• Users are willing to link grocery habits for better insights.

9. Out of Scope (for MVP)

• Payment gateway integration.
• Real-time delivery tracking.
• Third-party retailer inventory sync.