**Product Requirements Document (PRD)**  
**Snack Package Service App**

**1. Overview**

The Snack Package Service App is a simple web application that enables offices to bulk order customized snack packages for employees. The system collects snack preferences, estimates costs, and generates optimized bulk orders using a basic AI feature. The application will be built using React with an SQLite database and will require minimal maintenance. No external CSS dependencies will be used. The entire application will run on the same port without unnecessary external dependencies, and OpenAI's API key will be used for the AI feature.

**2. Objectives**

* Provide a hassle-free way to bulk order snacks for office employees.
* Allow employees to specify snack preferences.
* Use AI to optimize snack distribution and ordering.
* Maintain a simple, low-maintenance architecture with SQLite.
* Offer reporting, inventory tracking, and manual adjustments.

**3. Key Features**

**User Side (Office Employees)**

* **Snack Preference Input:** Employees can select preferred snacks and quantities.
* **Cost Estimation:** Admins can receive cost estimates based on snack selection.
* **AI-Based Snack Recommendation:** AI generates optimized snack distribution based on past preferences.
* **Rule-Based System for Initial AI Features:** Basic algorithm analyzes past orders, snack ratings, and consumption trends to predict future demand.
* **Snack Rating System:** Employees can rate snacks to refine future recommendations.
* **Ingredient Comparison:** Employees can compare snacks based on dietary requirements.

**Admin Side (Office Admins)**

* **Bulk Ordering System:** Generates a combined snack order for all employees.
* **Inventory Management:** Tracks out-of-stock and excess snack quantities.
* **Excess Snack Tracker:** Identifies underutilized snacks to prevent waste.
* **Cost Estimates & Reporting:** Displays estimated costs in the admin dashboard.
* **Manual Stock Adjustment:** Admins can update stock levels manually.

**Delivery & Tracking**

* **Snack Order Status:** Tracks which snacks are available, in transit, or out of stock.
* **Delivery Tracker:** Manually updated tracking system for snack deliveries (similar to Amazon's tracking page).

**4. AI Integration**

* **Initial Phase:** Rule-based logic to analyze past orders, preferences, and consumption trends.
* **Future AI Expansion:** OpenAI's API key will be used to enhance AI-based snack recommendations.
* **Optimized Ordering:** AI will analyze budget constraints and employee preferences to generate efficient bulk orders.

**5. Technology Stack**

* **Frontend:** React (No external CSS dependencies)
* **Backend:** Node.js with Express (running on the same port)
* **Database:** SQLite
* **AI API:** OpenAI's API for advanced recommendations

**6. Non-Functional Requirements**

* **Minimal Maintenance:** Simple design to reduce long-term upkeep.
* **Performance Optimization:** Efficient queries and caching for faster load times.
* **Security Considerations:** Basic authentication for admin actions.

**7. Future Enhancements (Optional)**

* Automated notifications for low-stock items.
* Integration with snack vendors for real-time ordering.
* Mobile app version for easy order tracking.

**8. Timeline & Milestones**

1. **Week 1:** Project setup, database schema design.
2. **Week 2:** Implement user input forms and admin dashboard.
3. **Week 3:** AI integration for snack recommendations (rule-based first, AI later).
4. **Week 4:** Testing, deployment, and final optimizations.

**9. Success Metrics**

* Efficient bulk order generation based on AI recommendations.
* Reduced snack waste through optimized order planning.
* High user adoption and engagement from office employees.

**End of Document**