**Product Requirements Document (PRD)**

Product Name: Smart Serve

Date: October 3, 2025

1. 🎯 Vision

Smart Serve transforms workplace cafeterias into efficient, employee-friendly hubs by replacing outdated manual systems with a digital-first platform. It empowers employees with fast ordering, cashless payments, and personalized meal experiences, while helping companies reduce waste, optimize inventory, and project a modern brand image.

2. 📦 Scope

✅ In Scope (Phase 1)

- Mobile and Smart Serve-based food ordering

- Real-time menu visibility and nutritional info

- Flexible payment options (UPI, cards, wallets)

- Admin dashboard for menu, inventory, and feedback

- AI-powered meal recommendations and demand forecasting

- Feedback analysis and smart queue prediction

❌ Out of Scope (Phase 1)

- Multi-location support

- Offline smart serve mode

- Loyalty programs

- Advanced health tracking integrations

3. 👤 User Roles

| Role | Description | Access Type |

|------------------|-------------------------------------------------------|---------------------|

| Employee | Orders meals, views menus, gives feedback | Mobile, Smart serve |

| Admin | Manages menu, inventory, pricing, and reports | Web Portal |

| Kitchen Staff | Views orders, updates status, manages prep queue | Smart serve, Web |

| AI Analyst | Monitors predictions, feedback trends, and insights | Admin Dashboard |

4. 🔧 Core Features

4.1 Digital Ordering

- Pre-order meals and schedule pickups

- Voice-based ordering via kiosk or chatbot

4.2 Smart Payments

- Cashless transactions with UPI, cards, wallets

- Dynamic pricing for slow-moving items

4.3 Menu Transparency

- Nutritional info and personalized suggestions

- Real-time updates and availability

4.4 Inventory Optimization

- AI-driven demand forecasting

- Alerts for low stock and expiry

4.5 Feedback & Ratings

- NLP-based sentiment analysis

- Instant visibility into employee satisfaction

5. 🤖 AI/ML Enhancements

| Feature | How It Works | Benefit |

|--------------------------|------------------------------------------------------------|----------------------------------|

| Meal Recommendations | Suggests meals based on history, preferences, and health | Boosts satisfaction |

| Demand Prediction | Forecasts daily meal volumes | Reduces food waste |

| Feedback Analysis | NLP processes reviews and ratings | Improves service quality |

| Smart Queue Prediction | Predicts peak hours and distributes orders | Cuts wait times |

| Meal Customization AI | Suggests portion sizes and combos | Promotes health and cost control |

6. 🧪 Tech Stack

| Layer | Technology |

|---------------|------------------------|

| Frontend | HTML, CSS, JAVASCRIPT, React, Bootstrap |

| Backend | Django |

| Database | PostgreSQL |

| AI/ML | Python (pandas, scikit-learn, NLP) |

7. 🚀 Benefits

- ⏱️ Save Time – Faster service, less queuing

- 💰 Cut Costs – Reduce food waste and billing errors

- 😀 Boost Productivity – Happier, more engaged employees

- 🏢 Professional Image – Modern workplace branding

8. 📌 Summary

Problem: Long queues, billing errors, food waste, and low satisfaction.

Solution: A smart, digital-first platform for ordering, payments, menus, and inventory.

Impact: Saves time, reduces waste, improves satisfaction, and enhances company image.

