**Product Requirements Document (PRD)**

**Project Name:** Menu.X  
**Version:** 1.0  
**Date:** July 3, 2025  
**Author:** [Your Name]  
**Status:** Finalized for Development

**1. Overview**

**Product Name:** Menu.X  
**Product Type:** Digital Ordering & AI-Powered Menu Management Platform  
**Target Users:**

* **Primary:** Restaurant owners and managers in urban Bangladesh
* **Secondary:** Diners seeking a seamless digital dining experience

**Launch Date:** Early November 2025

**2. Objectives & Goals**

**Primary Objective:**  
Develop a comprehensive digital platform that streamlines menu management, enhances the dining experience, and provides AI-driven insights to restaurant owners.

**Success Metrics:**

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| --- | --- |
| **Metric** | **Target Goal** |
| Active Restaurants Onboarded | 50 by Month 3 |
| Pro Plan Conversion Rate | 10–15% by Month 6 |
| Average Transaction Volume per Diner | To be determined post-payment integration |

**3. Assumptions & Constraints**

**Assumptions:**

* Users will have access to smartphones and stable internet connections.
* Restaurant staff will be trained to use the platform effectively.
* AI APIs will remain within free-tier usage limits during the initial phase.

**Constraints:**

* **Team Size & Budget:** Solo development with reliance on free-tier services.
* **AI API Reliance:** Dependence on third-party AI APIs; any changes may impact features.
* **OCR Accuracy:** Variability in menu designs may affect the accuracy of AI-driven features.

**4. Features & Requirements**

**4.1. User Authentication**

**Description:**  
Secure sign-up/login functionality for restaurant owners and managers.

**Requirements:**

* Support for email/password and Google login.
* Password reset functionality.
* User role management (Admin, Manager).

**User Story:**  
As a restaurant owner, I want to securely log into the platform so that I can manage my restaurant's digital menu.

**4.2. Menu Management**

**Description:**  
A system for creating, updating, and managing the restaurant's digital menu.

**Requirements:**

* CRUD functionality for menu items.
* Drag-and-drop reordering of items.
* Support for up to 25 items in the Free plan; unlimited in the Pro plan.

**User Story:**  
As a restaurant manager, I want to easily update my menu so that it reflects the current offerings.

**4.3. Diner Menu View**

**Description:**  
A digital menu interface for diners to view restaurant offerings.

**Requirements:**

* Mobile-responsive design.
* Item descriptions and prices.
* "Powered by Menu.X" footer in the Free plan; removable in the Pro plan.

**User Story:**  
As a diner, I want to view the restaurant's menu on my phone so that I can place my order.

**4.4. Smart Ordering System**

**Description:**  
A system allowing diners to place orders and request bills digitally.

**Requirements:**

* Real-time order updates for restaurant staff.
* Option for diners to request the bill.
* Integration with the restaurant's POS system.

**User Story:**  
As a diner, I want to place my order digitally so that I can avoid waiting for a server.

**4.5. AI Menu Architect**

**Description:**  
AI-driven tools for menu creation and enhancement.

**Requirements:**

* **OCR-based Menu Upload:** Ability to scan and digitize physical menus.
* **Description Writer:** AI-generated descriptions for menu items.

**User Story:**  
As a restaurant owner, I want to digitize my physical menu quickly so that I can update my digital menu effortlessly.

**4.6. AI Business Forecaster**

**Description:**  
AI-driven insights into sales trends and popular items.

**Requirements:**

* Predictive analytics for sales trends.
* Identification of popular and underperforming items.

**User Story:**  
As a restaurant manager, I want insights into sales trends so that I can make informed decisions.

**4.7. AI Smart Sommelier**

**Description:**  
AI-powered chatbot recommending menu items to diners.

**Requirements:**

* Natural language processing for understanding diner preferences.
* Personalized recommendations based on diner inputs.

**User Story:**  
As a diner, I want personalized menu recommendations so that I can discover new dishes.

**4.8. Analytics Dashboard**

**Description:**  
A dashboard providing visual insights into restaurant performance.

**Requirements:**

* Revenue trends over time.
* Popular items and categories.
* Peak service hours.

**User Story:**  
As a restaurant owner, I want to view performance metrics so that I can optimize operations.

**5. Technical Requirements**

* **Platform:** Firebase for backend services.
* **Frontend:** Responsive web application compatible with modern browsers.
* **AI Integration:** Use of third-party AI APIs for OCR, description writing, forecasting, and recommendations.
* **Security:** Implementation of HTTPS, data encryption, and secure authentication mechanisms.

**6. Dependencies**

* **AI APIs:** Availability and stability of third-party AI services.
* **Firebase Services:** Reliability of Firebase's free-tier offerings.
* **User Devices:** Compatibility with a range of smartphones and browsers.

**7. Milestones & Timeline**

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| --- | --- |
| **Milestone** | **Target Date** |
| High-Fidelity Prototype | July 31, 2025 |
| Beta Testing | Mid-October 2025 |
| Public Launch | Early November 2025 |

**8. Approval**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Role** | **Signature** | **Date** |
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