**Menu.X Development Plan**

**Phase Breakdown**  
**Version 1.0: The Therap Java Fest Launch**

Our immediate goal is to launch a complete, functional, and impressive application for the Therap Java Fest. This version will showcase our core features and ensure 100% compliance with competition rules.

### Technical Stack for V1.0

* **Frontend (The User Interface)**: Built with React.js and MUI (Material-UI), hosted on Firebase Hosting. This provides a free, professional domain like menux-app.web.app.
* **Backend (The “Brain”)**: Custom server-side logic in Java & Spring Boot, hosted on Render (free web services tier).
* **Database (The “Memory”)**: PostgreSQL database, hosted on Render (free database tier).
* **User System (The “Front Door”)**: Secure user sign-up and login handled by Firebase Authentication.
* **AI Provider (The “Magic”)**: Google Gemini API for generating menu descriptions.

### Key Features for Diners (V1.0)

* **View Menu**: Diners can scan a QR code to instantly view a restaurant’s digital menu.
* **Place Order (Pro Feature)**: At “Pro” restaurants, diners can build an order using a shopping cart and submit it directly to the kitchen from their phone.
* **Request Service (Pro Feature)**: After ordering, diners can use a “Request Bill” button to notify staff they are ready for in-person payment.

### Key Features for Restaurant Owners (V1.0)

* **Onboarding**: A simple, free sign-up process using Firebase Authentication.
* **Menu Management (Free Plan)**: Owners can add, edit, delete, and manually re-order up to 25 menu items.
* **Menu Management (Pro Plan)**: All the same features as the Free plan, but with unlimited menu items.
* **QR Code Generator**: A dedicated page where owners can create unique QR codes for each table (e.g., “Table 1,” “Patio 5”) and download them.
* **Live Orders Dashboard (Pro Feature)**: A real-time screen where new orders appear instantly. Owners can view order details and mark them as “Complete.”
* **AI Description Writer (Pro Feature)**: A showcase AI feature for the launch. A button in the menu editor that uses our Java backend and the Gemini API to automatically write professional, appetizing descriptions for menu items.

### Internal Admin Process for V1.0

* **Manual Upgrades for Paying Users**: When a user pays the subscription fee (e.g., ~৳1,500 via bKash), we will manually update their planType to ‘Pro’ and set their subscriptionEndDate to 30 days in the future within the PostgreSQL database.
* **Manual Free Trial Granting**: To offer a free trial, we will manually update the user’s planType to ‘Pro’ and set their subscriptionEndDate to 7 days in the future. After 7 days, the account will revert to the Free plan unless they subscribe. The application logic will check both planType and subscriptionEndDate to determine active Pro status.

### Super Admin Dashboard (Included in V1.0)

To streamline our manual internal operations and eliminate the need for direct database access, we will also launch a lightweight Super Admin Dashboard as part of Version 1.0.

#### Key Features for Super Admins:

* **Secure Login with Admin Role Verification**: Admins log in via Firebase and are granted access via custom claims.
* **User Search**: Search restaurant owners by email or UID.
* **Upgrade to Pro**: One-click button to update user’s plan to Pro and set a 30-day subscription window.
* **Grant Free Trial**: Set user plan to Pro for 7 days with automatic expiry.
* **Revert to Free**: Downgrade accounts after expiry or on request.
* **Order Activity Viewer**: View live or recent order data across the platform (optional).
* **Basic Metrics**: Total users, Pro conversions, trial usage statistics.

This dashboard will significantly improve our admin efficiency, security, and professionalism, and is highly valuable during demo day or ongoing testing.

**Version 2.0: The Post-Launch Growth Roadmap**

Following the Therap Java Fest, we will rapidly enhance Menu.X with high-value AI and automation features to attract more users and drive business growth.

### Major New Features for V2.0

#### The AI Menu Scanner (Instant Menu Upload)

* **Concept**: Restaurant owners will be able to upload a photo of their existing physical menu. Our Java backend will use the Google Gemini API’s multimodal (vision) capabilities to perform OCR, automatically read the menu items, prices, and descriptions, and populate their digital menu.
* **User Flow**: Owners upload an image, and the frontend displays a “Review Your Scanned Items” screen where they can edit any AI-generated mistakes before saving.

#### The AI Smart Sommelier

* **Concept**: An AI chatbot for diners. Customers can ask for recommendations (e.g., “What’s a good spicy dish?”), and the AI, powered by the Java backend and the Gemini API, will suggest items directly from the menu.

#### Automated Payments & Subscriptions

* **Concept**: Integration with a real payment gateway (Stripe or a local Bangladeshi alternative) to allow restaurant owners to subscribe to the Pro plan and manage payments automatically — no manual admin processing needed.

#### The AI Business Forecaster

* **Concept**: An analytics feature on the owner’s dashboard that uses historical sales data to provide actionable insights. This includes predicting popular items, identifying slow inventory, and suggesting pricing strategies.

#### The Expanded Super Admin Dashboard

* **Concept**: A full internal UI for the team to manage users, process subscriptions, view platform-wide analytics, impersonate accounts for testing, and handle support more efficiently.

**Final Notes**

This two-stage roadmap provides a clear focus: 1. Deliver a polished, complete core product for the competition. 2. Use that success to launch intelligent, scalable features that grow and monetize the platform.