AI-Driven Finance & Business Management System

1. Executive Summary

Taka Dorkar Pro is a unified financial platform designed specifically for the Bangladeshi market. It bridges the gap between personal finance tracking and small-to-medium business management. Unlike traditional trackers that require tedious manual entry, Taka Dorkar Pro leverages **Artificial Intelligence (AI)** to automatically parse transactions from local SMS and emails (e.g., bKash, Nagad, Bank alerts), visualize spending trends, and provide actionable financial forecasts.

2. Problem Statement

Managing finances in Bangladesh is currently fragmented:

- **Individuals** struggle to track spending across multiple mobile wallets (bKash, Nagad, Rocket) and bank accounts, often relying on manual spreadsheets.
- **Small Business Owners** lack affordable, integrated tools to manage inventory, track employee departmental expenses, and view real-time Profit & Loss (P&L) statements without complex enterprise software.

3. Core Modules & Features

A. Personal Finance (The "Pro" User)

This module focuses on automating the user's daily financial life.

- **Automated Transaction Tracking:** The system scans SMS and emails to detect financial activity automatically. It eliminates manual data entry.
- **Localized for Bangladesh:** Specifically trained to understand "Banglish" (mixed Bangla/English) messages and formats used by local providers like bKash, Nagad, and Rocket.
- **Smart Analytics:**
  - **Spending Trends:** Weekly, monthly, and yearly breakdowns.
  - **Predictive AI:** Forecasts next month's spending based on historical data using LSTM/Prophet models.
  - **Fraud Detection:** Instantly warns users of suspicious messages or fake transaction alerts.

B. Business & Workplace Management

This module transforms the app into an Enterprise Resource Planning (ERP) lite tool for teams.

- **Role-Based Access Control:**
  - **Owner:** Full control, view all P&L, manage salaries.
  - **Manager:** Approves department expenses, views department reports.
  - **Accountant:** Updates inventory and records salaries.
  - **Employee:** Submits expense claims for approval.
- **Departmental Tracking:** Expenses are tracked by department, allowing for precise profit/loss calculation per unit.
- **Salary Recording:** A record-keeping system for employee salaries to ensure accurate expense data.

C. AI-Powered Inventory Hub

- **Smart Restocking:** The AI forecasts inventory needs for the upcoming month, accounting for seasonal Bangladeshi events (e.g., Eid, Pahela Baishakh).
- **Dead Stock Detection:** Identifies products that are underperforming or not selling, helping businesses optimize their budget.
- **Automated Data Entry:** Users can upload spreadsheets or documents, and the AI parses them to update inventory or expense records automatically.

4. Technical Architecture & Security

Technology Stack

- **Frontend:** React.js (Responsive Web & Mobile-First Design).
- **Backend:** Node.js & Express (MERN Stack) following strict **MVC Architecture**.
- **Database:** MongoDB (Scalable data storage).
- **AI Integration:** LLM APIs and Python-based microservices (for NLP and Forecasting).

Non-Functional Requirements (NFRs)

- **Security:** All user data is encrypted using **AES-256**. Sensitive financial processing uses **On-device ML** where possible to ensure privacy.
- **Performance:** AI-driven reports (like P&L or Forecasts) are generated within **5 seconds**.
- **Scalability:** The backend is designed to support containerization (Docker/Kubernetes) for effortless scaling as the user base grows.
- **Localization:** The UI is culturally adapted for Bangladeshi users, ensuring intuitive navigation without changing existing habits.

5. Conclusion

Taka Dorkar Pro is not just an expense tracker; it is a financial companion. By combining localized AI with robust business tools, it empowers Bangladeshi users to take control of their money—whether they are managing a household budget or running a growing company.