**Billing & Stocks Management System - Project Plan**

**📆 Overview**

A modern billing and stocks management system tailored for local vendors, enabling them to automate daily operations like inventory tracking, bill generation, and reporting, with inclusive features such as speech input, image-based entry, and multilingual support.

**Core Objectives:**

* Stock management via manual and scanned bill entries
* Speech-to-text and image-to-text data input
* Multilingual to English text conversion
* Modern billing and GST compliance
* Reporting: Monthly, Yearly, Purchase, Sales, GST slab-wise
* Data backup and recovery
* Mobile-first accessibility

**📈 Tech Stack**

**Frontend:**

* React.js (Web)
* React Native (Mobile) *(Recommended)*

**Backend:**

* Python Flask (REST API)

**Database:**

* PostgreSQL

**Authentication:**

* JWT (Token-based auth)

**Cloud Storage:**

* Firebase Storage / AWS S3

**OCR & NLP:**

* Tesseract OCR / Google Cloud Vision / AWS Textract
* Google Translate API / DeepL
* Speech recognition using Google Speech-to-Text or speech\_recognition (Python)

**Backup:**

* Daily/Monthly DB dump with cron jobs
* Cloud/External storage upload (e.g., AWS S3/Google Drive)

**🛠️ Modules**

**1. User & Vendor Management**

* Create/edit shopkeeper and vendor profiles
* Capture contact info via voice or image

**2. Stock Management**

* Manual entry and scanned bill input
* Auto inventory update on purchase/sale
* Low stock alerts

**3. Billing System**

* GST-compliant billing
* Retail and wholesale support
* Thermal or PDF bill generation

**4. OCR + Image-to-Text**

* Scan paper bills/receipts
* Extract item name, quantity, price, GST
* Translate content to English

**5. Speech Input**

* Input names, addresses, and other details via voice
* Save as editable text

**6. Reporting**

* Monthly/Yearly reports
* Purchase vs Sales
* GST slab-wise reports
* Export to PDF/Excel

**7. Backup & Recovery**

* Local and cloud-based backups
* Downloadable/exportable backups

**8. Historical Data Search**

* Scan old documents
* Extract and sync historical data

**📱 Mobile Version Plan**

**Options:**

**1. React Native (Recommended):**

* Shared logic with React.js
* Native access: camera, mic, storage
* Android + iOS compatible

**2. Flutter (Alternative):**

* High performance, native feel
* Full rebuild required

**3. PWA (Progressive Web App):**

* Installable web app
* Limited native access

**Key Mobile Features:**

* Bill scanning (OCR)
* Voice input for entries
* Offline support with sync
* Bill printing (PDF/Bluetooth)
* WhatsApp/share reports
* Notifications for stock/backup/due

**📊 Recommended Architecture**

Frontend:

- Web: React.js

- Mobile: React Native

Backend:

- Flask REST API (shared)

Database:

- PostgreSQL

Cloud Storage:

- Firebase or S3

Auth:

- JWT

Add-ons:

- Firebase for push notifications

- SQLite (mobile local DB) with sync engine

Let me know when you want to start building each part or need a project scaffold!