

ENTERPRISE POS & CLOUD BILLING STANDARD • OFFICIAL SOP

PulseBill Operational User Manual & SOP Guide (Official English Edition)

Intelligent POS, Thermal Slip, Tax Billing & Multi-Terminal Operations SOP

APPLICATION SYSTEM

PulseBill Intelligent Cloud POS & Multi-Terminal Platform

MAIN TECH PLATFORM

<https://nova-pulse-ai.com>

SECURITY ARCHITECTURE

Encrypted Local-First Vault, Dual PIN & QR Terminal Pairing

RELEASE DATE

1 October 2026

OFFICIAL WEB PORTAL

<https://bill.nova-pulse-ai.com>

TECHNOLOGY PROVIDER

Powered by Nova Pulse AI Platform

DOCUMENT VERSION

Version 3.0 (Enterprise Multi-Terminal Edition)

COMPLIANCE STANDARD

Revenue Code Sec. 86/4, 86/5 & Sec. 65 Ter

PulseBill Operational User Manual & SOP Guide

Smart Mobile Cash Bill, Tax Invoice & POS Thermal Receipt Automation Platform



1-Page Quick-Start Cheat Sheet

For Store Owners & Admins: Launch in 3 Simple Steps

- Register Store Entity (/register):** Enter your store name, 13-digit Tax ID, and select your tax category (VAT Registered vs. Non-VAT). Get an instant 14-day Free Trial with 30 complimentary bills—no credit card required.
- Configure Store Profile & Assets (/settings):** Upload your commercial store logo and official rubber stamp image, add top-selling items to Quick Items, and set 4-digit PINs for cashier staff.
- Deploy Frontline Devices via Remote Pairing:** Use the **Remote Terminal Pairing** feature to generate a 6-digit one-time code. Staff can activate POS terminals instantly without ever knowing your Master Admin credentials.

For Frontline Cashiers: Issue Bills in 3 Fast Steps

- Access POS Terminal (/pos):** Tap your name and enter your assigned 4-digit PIN to begin your shift.
- Enter Amount & Scan Customer Info:** Tap a Quick Amount preset or tap **"Scan Business Card / P.P.20"** to photograph the customer's card or phone screen. Pulse AI auto-fills the company name, 13-digit Tax ID, and tax address in 1.5 seconds.
- Collect Payment & Print Receipt:** Select payment method (Cash, PromptPay QR, or Credit Card), enter cash received to view calculated change, and tap **"Issue Bill & Print Slip"** to print via a 58mm/80mm Bluetooth belt printer or share via LINE.

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1. Platform Overview & Zero-Friction Architecture

PulseBill is a state-of-the-art **Mobile-First Web App (PWA)** engineered to eliminate manual receipt writing for retail, dining, automotive, and professional services across Thailand:

- **100% Elimination of Manual Writing:** Instantly scan business cards, handwritten notes, or client screens using **Gemini 1.5 Flash Multimodal AI**, extracting 13-digit corporate tax IDs and addresses in under 2 seconds.
- **Thai Revenue Code Compliance:** Independent 3-series sequence numbering (**ABB-** , **INV-** , **BILL-**) guarantees zero missing sequences in Sales Tax Reports.
- **Zero-Hardware Barrier:** Operates on standard smartphones paired with affordable portable Bluetooth thermal printers (58mm/80mm).

[1. AI Scan Business Card / Note] → [2. Cash Received & Change Engine] → [3. Issue Bill & Print] → [4. Save to Local-First IndexedDB] → [5. Auto-Sync to Cloud on Reconnect] → [6. Sales

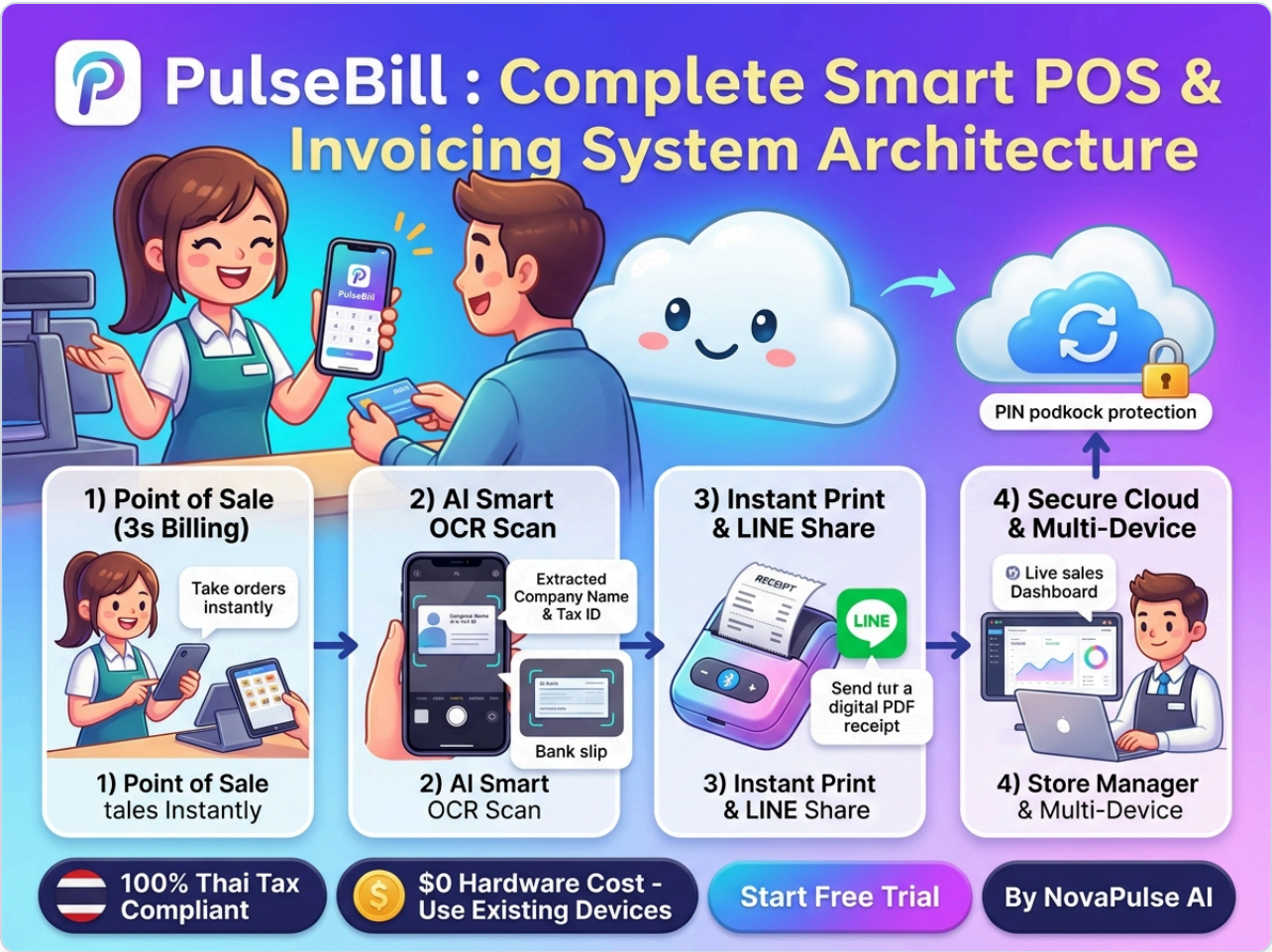
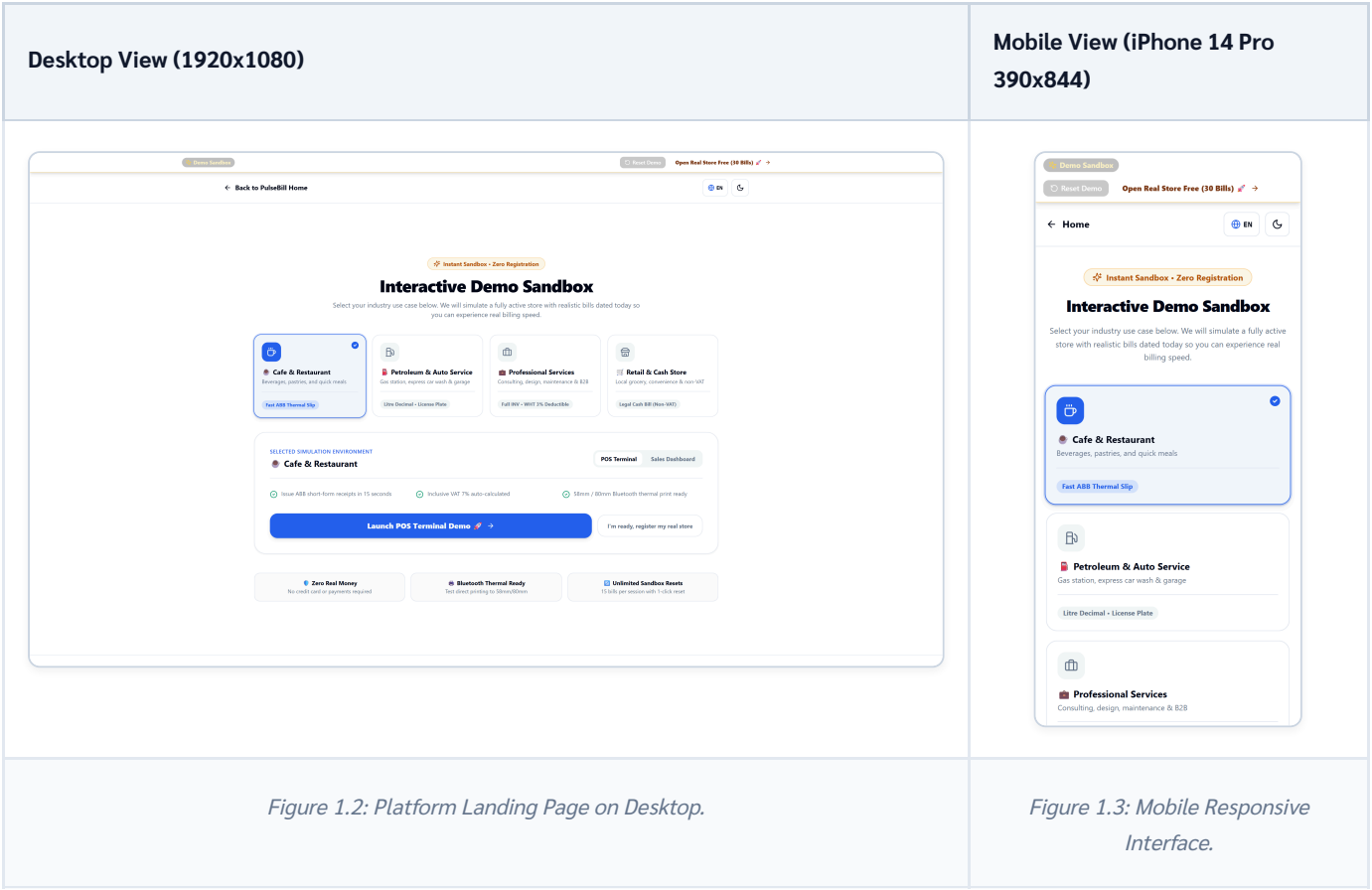


Figure 1.1: PulseBill End-to-End System Architecture, Local-First Engine & Full-Loop Billing Lifecycle Infographic.



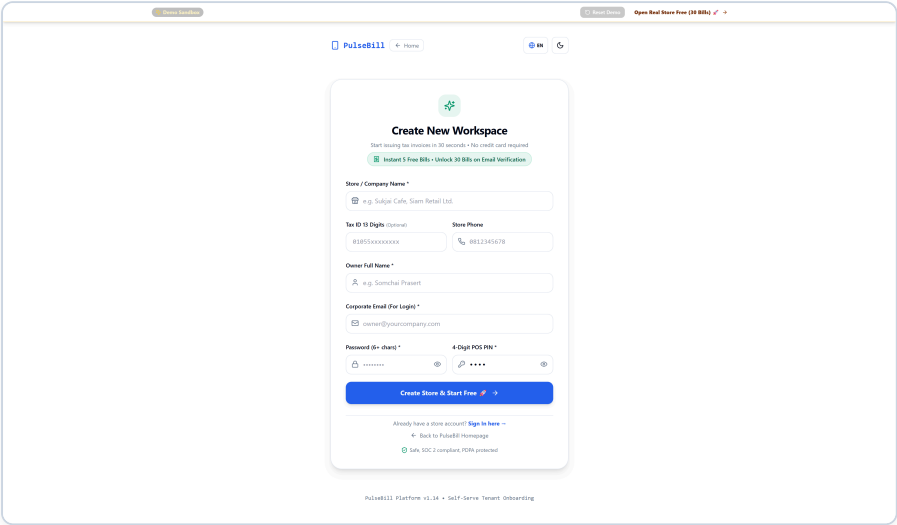
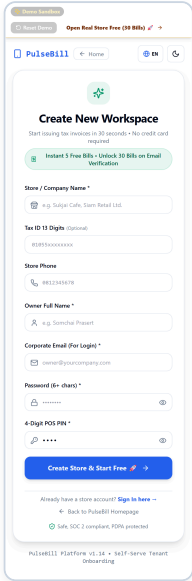
2. How to Register a New Company

2.1 Principles & Rationale

Launching a business workspace should be friction-free. PulseBill eliminates credit card requirements and extensive documentation upon sign-up. New merchants receive an immediate **14-day Free Trial with 30 bills quota** and an isolated multi-tenant workspace.

2.2 Step-by-Step SOP: Merchant Registration

- Navigate to **/register** or click **"Start Free Trial"** on the home page.
- Complete the 4 core registration fields:
 - Store / Business Commercial Name:** e.g., *Pulse Cafe & Bistro* or *Somchai Auto Services*.
 - 13-Digit Tax ID:** Toggle between **"Individual / Sole Proprietor (Citizen ID)"** or **"Corporate Entity (13-Digit DBD Tax ID)"**.
 - Tax Regime Selection:**
 - VAT Registered (Inclusive):** Enables Abbreviated Invoices (**ABB-**) and Full Tax Invoices (**INV-**).
 - Non-VAT Business:** Generates compliant Cash Bills (**BILL-**) under Section 65 Ter without VAT lines.
 - Master Administrator Credentials:** Provide corporate email and secure password.
- Click **"Register Store Account"**: Your isolated database partition is provisioned instantly with initial cashier credentials (**9999**).

Registration on Desktop	Registration on Mobile
	
Figure 2.1: Store Registration Form (Desktop).	Figure 2.2: Mobile Store Registration Form.

3. How to Login & Authentication Lifecycle

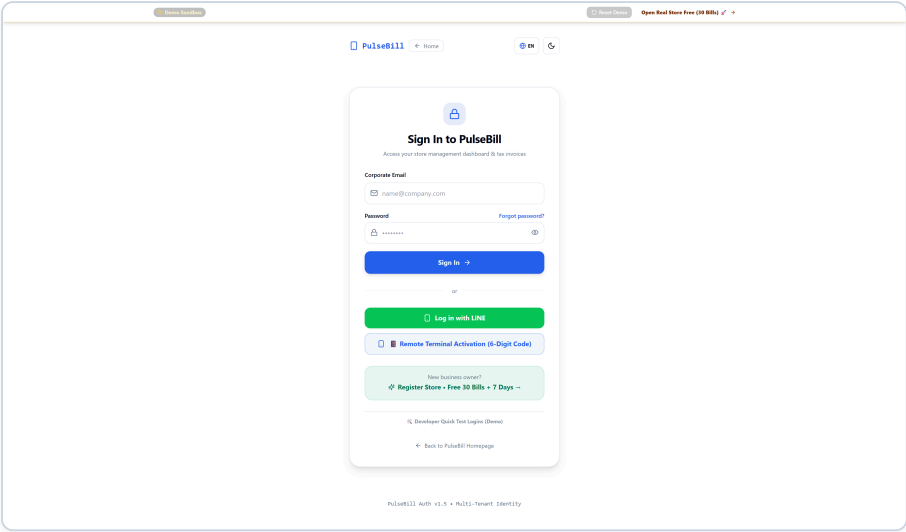
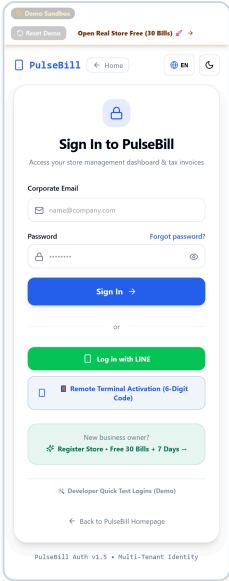
3.1 3-Tier Security Hierarchy

PulseBill enforces structured role separation:

1. **Master Admin Login (Owner):** Authenticates via corporate email/password or **LINE Login v2.1 OAuth** to manage settings, financials, staff, and tax audit trails.
2. **Cashier Screen-to-PIN:** Frontline terminal operators access the POS via a fast **4-digit numeric PIN**, preventing staff access to financial ledgers or tax configurations.
3. **Lock Terminal:** When leaving the counter, cashiers tap *"Lock Terminal"* to trigger a screen lock requiring PIN re-entry.

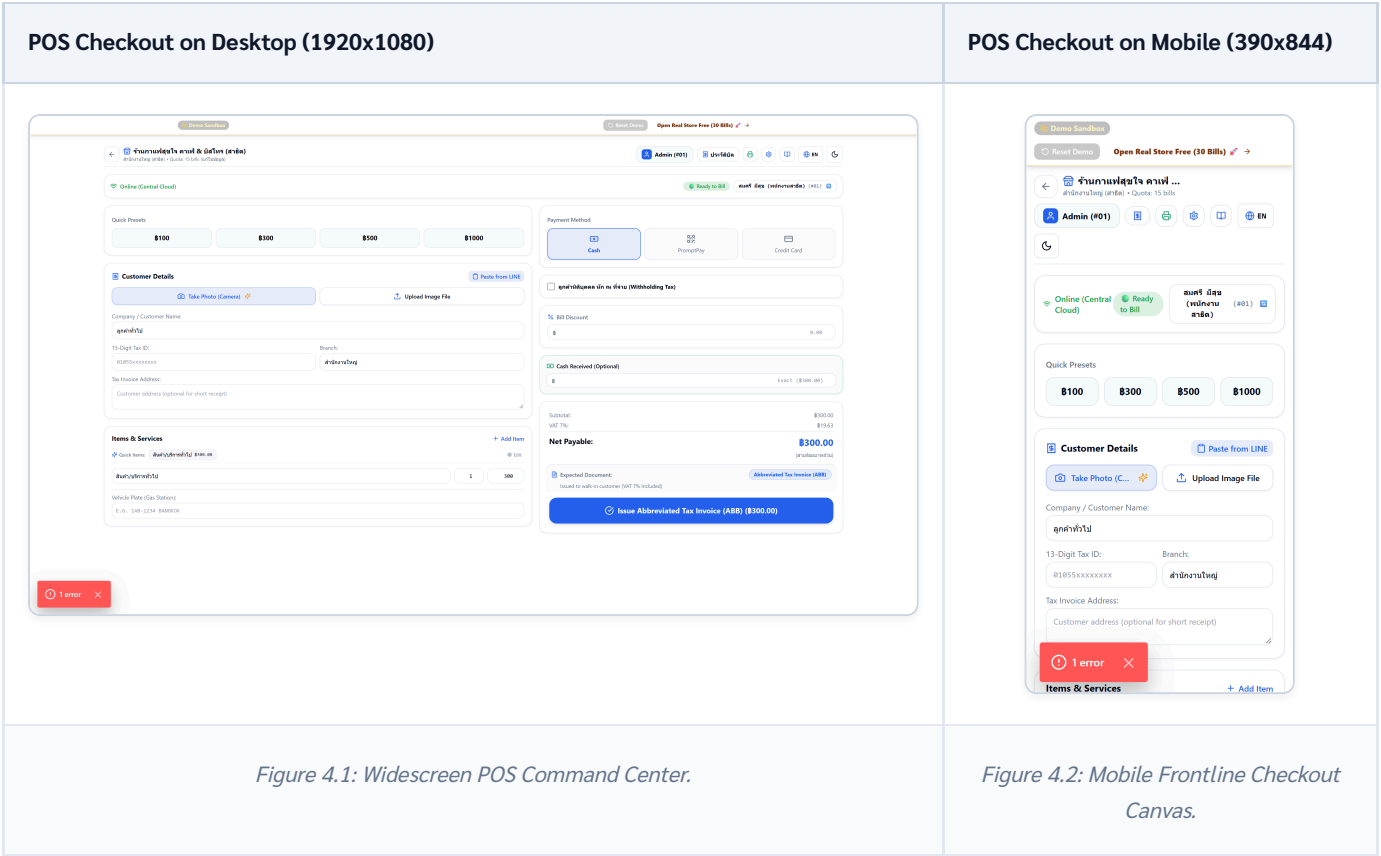
3.2 Step-by-Step SOP: Logging In

1. Navigate to `/login` .
2. **For Store Owners:** Enter email and password, or click the green **"Sign in with LINE"** button.
3. **For Frontline Staff:** On the counter terminal, select your name from the staff directory and tap your 4-digit PIN.

Login Screen on Desktop	Login Screen on Mobile
	
Figure 3.1: Central Login Portal (Desktop).	Figure 3.2: Mobile Quick Sign-in Interface.

4. How to Use the POS Terminal & Billing Operations

The POS checkout canvas is engineered for single-handed mobile speed and widescreen counter efficiency.



4.1 Quick Presets & Frequent Items (Numpad Ergonomics)

- Quick Amount Presets:** Tap **฿50** , **฿100** , **฿500** , or **฿1,000** for 5-second walk-in transactions.
- Frequent Items:** Tap pre-configured menu items (e.g., *Espresso*, *Matcha Latte*, *Croissant*) to add items with real-time VAT 7% calculation.
- Gas Station License Plate Field:** When in petroleum mode, enter vehicle license numbers directly onto the receipt as required by tax law.

4.2 Gemini AI Multimodal OCR Scan & LINE Smart Paste

- Camera Scanning:** Tap " 📷 **Scan Business Card / P.P.20**" to snap customer tax documents. Gemini AI extracts name, 13-digit Tax ID, branch, and tax address in 1.5 seconds.
- Smart Paste from LINE:** If a customer sends company details via LINE, copy the message, tap " 📄 **Paste from LINE**", and the parser automatically populates all required tax fields.

4.3 Cash Received & Automated Change Engine

- Select payment method: **Cash**, **PromptPay QR**, or **Credit Card**.
- If cash is selected, input received banknotes (e.g., received ฿500 for a ฿165 bill).
- The change engine calculates **Change: ฿335.00** in bold, preventing drawer shortfalls and printing cash tendered directly on the slip.

4.4 Thermal Slip 58mm/80mm & A4 Tax Invoice Printing

- Tap "**Issue Bill & Print Slip**".
- Review the preview modal:

- **Thermal Slip 58mm / 80mm:** Optimized for Bluetooth belt printers.
- **Full A4 Tax Invoice:** Formatted for formal corporate reimbursement with dual signature boxes.

3. Tap Print or share the digital receipt directly to customer LINE chats.

4.5 Offline Mode Operations & Background Cloud Sync (#TEMP)

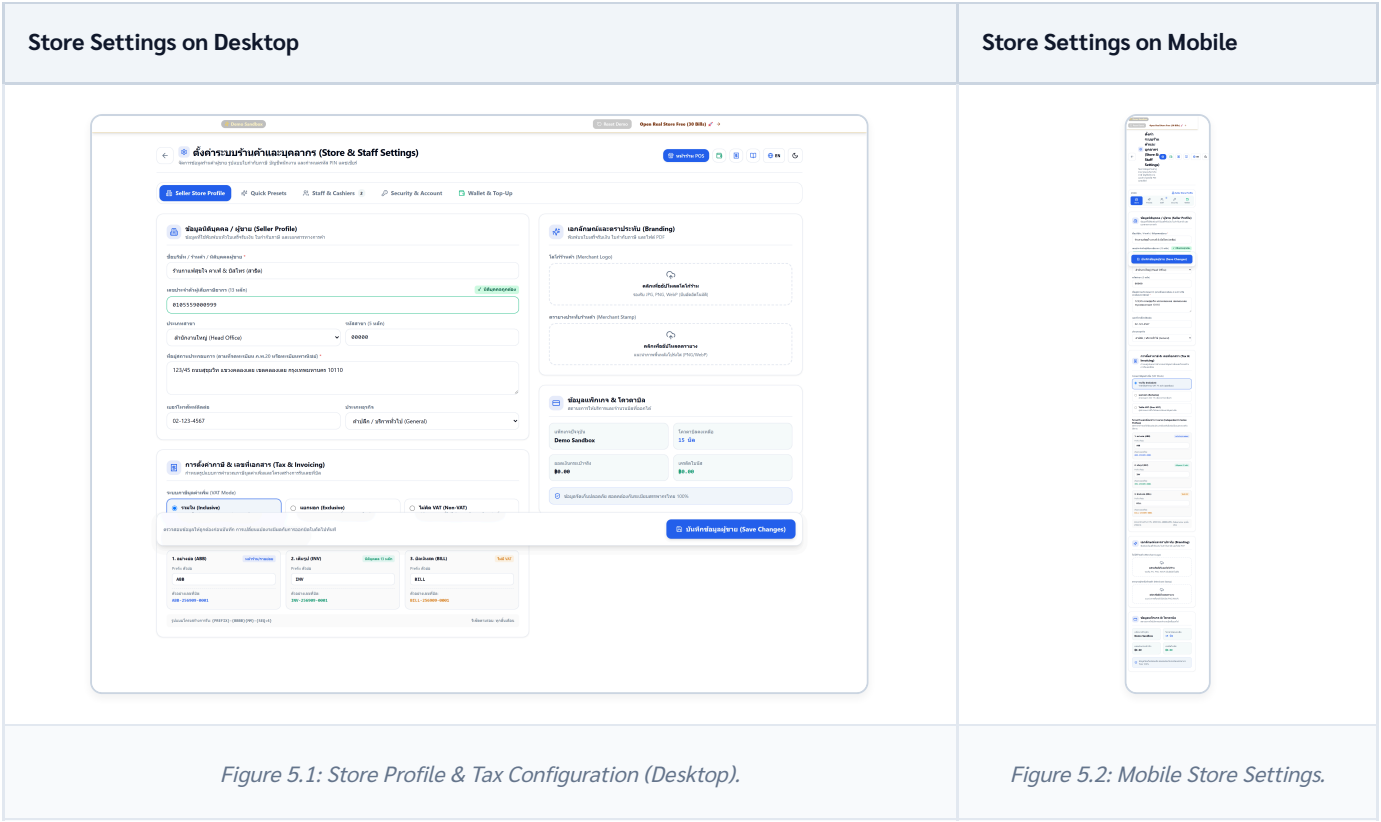
- When internet drops, the system seamlessly engages **Offline Mode**, issuing **#TEMP** serials and printing via Bluetooth.
- Once connectivity is restored, bills auto-sync to the central cloud and receive official continuous sequences without data loss.

5. How to Set Up All System Configurations

The unified Settings center (**/settings**) provides 5 dedicated modules:

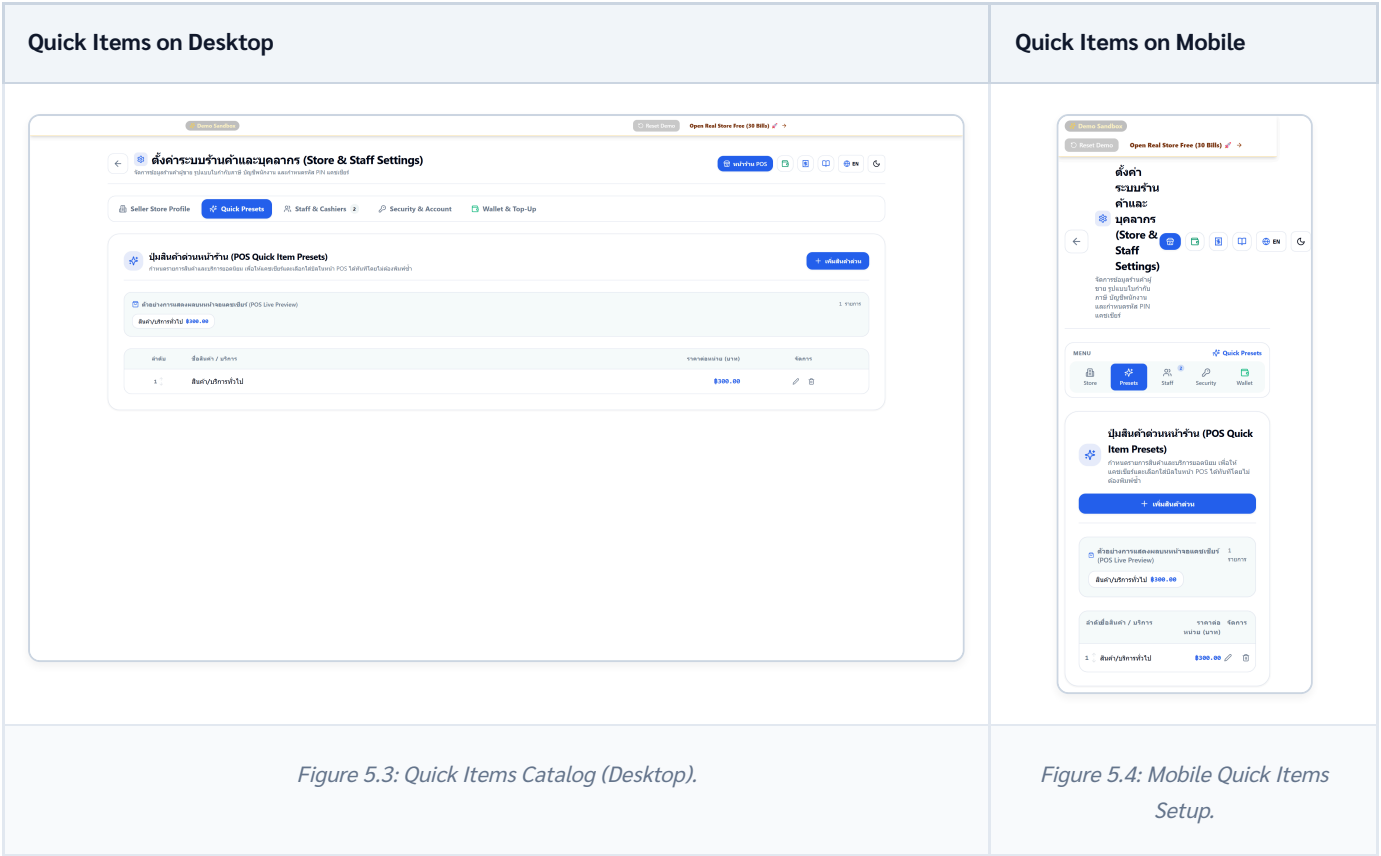
5.1 Store Profile, Logo, Rubber Stamp & 3-Series Prefixes (tab=store)

- **Commercial Directory:** Update store name, 13-digit Tax ID, registered address, telephone, and email.
- **Brand Identity Assets:**
 - Upload high-resolution **Store Logo** (JPEG, PNG, WEBP).
 - Upload official **Rubber Stamp Image**, auto-embedded on full A4 tax invoices.
- **3-Series Independent Sequence Engine:**
 - Set Abbreviated prefix (**prefix_abb** , e.g., **ABB-**).
 - Set Full Tax Invoice prefix (**prefix_inv** , e.g., **INV-**).
 - Set Cash Bill prefix (**prefix_bill** , e.g., **BILL-**).
 - Distinct counters ensure strict tax audit compliance.



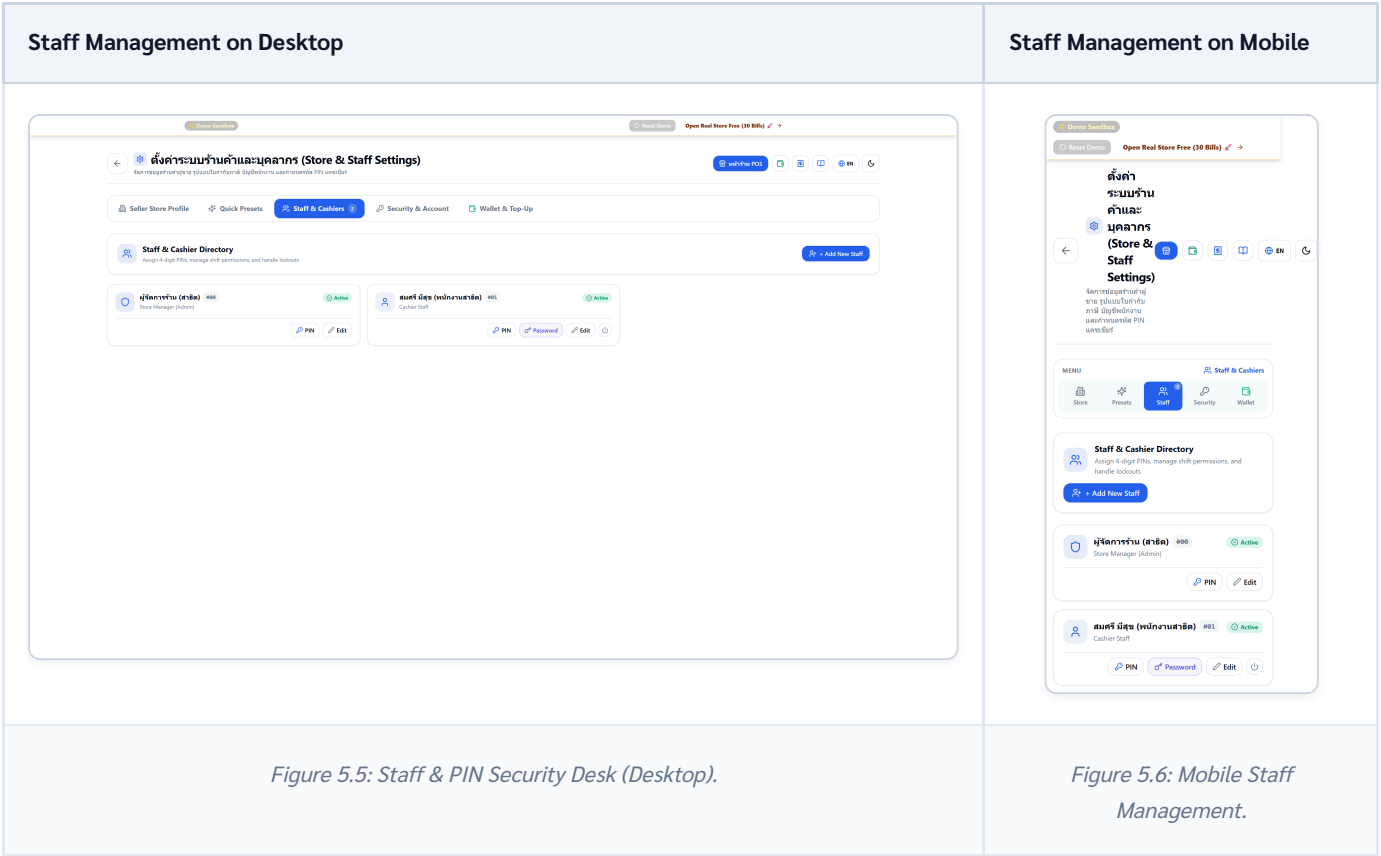
5.2 Quick Items & Business Domain Presets (tab=items)

- Manage catalog items, unit prices, and display order.
- Toggle industry-specific fields, such as Vehicle License Plate capture for fuel stations or 10% Service Charge for restaurants.



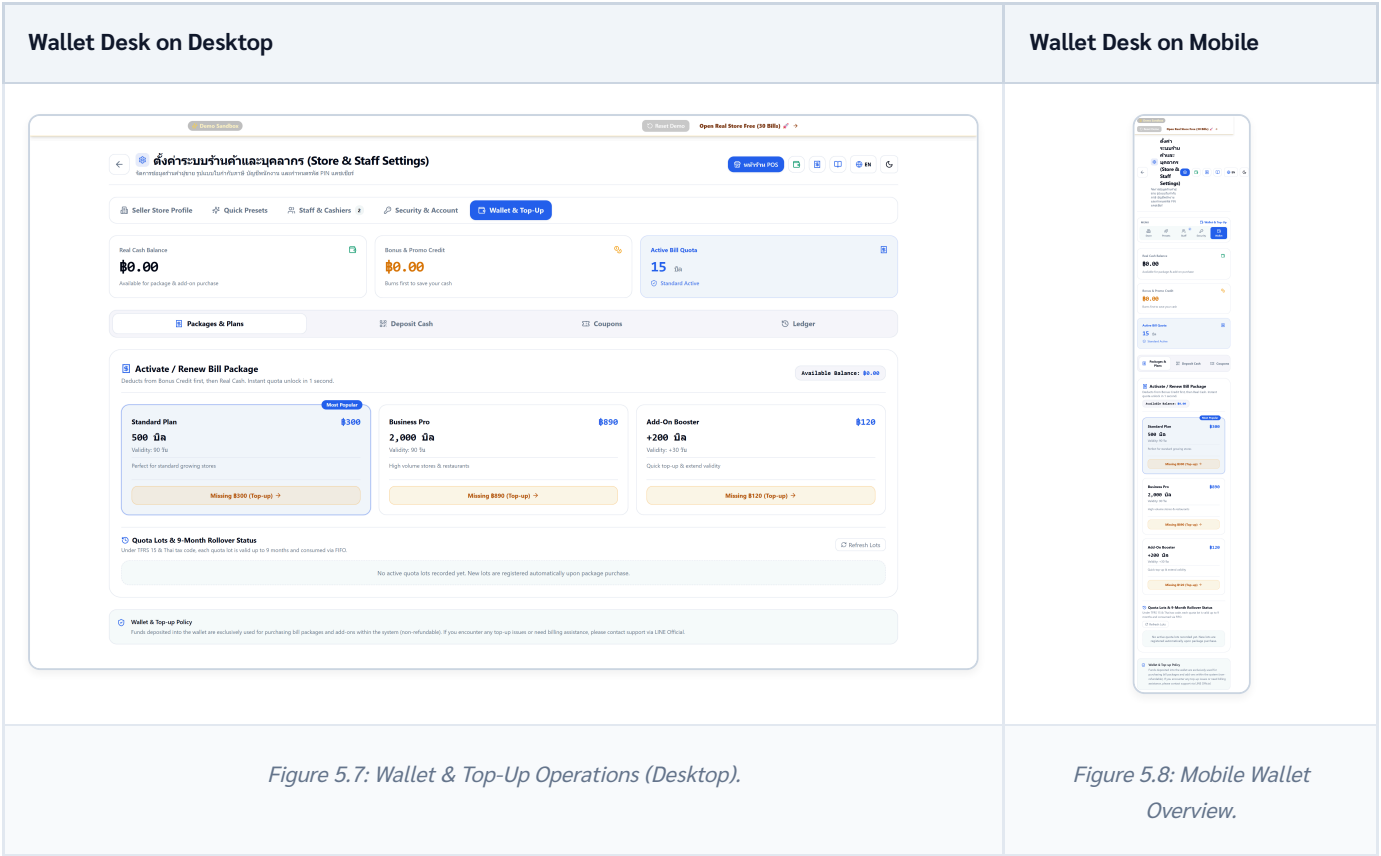
5.3 Staff Directory & Cashier PIN Security (tab=staff)

- Enroll frontline staff with name and staff codes (e.g., **#01 SomSri** , **#02 Somchai**).
- Assign secure 4-digit PINs encrypted with PBKDF2.
- Accounts automatically lock after 5 consecutive incorrect attempts to prevent unauthorized access.



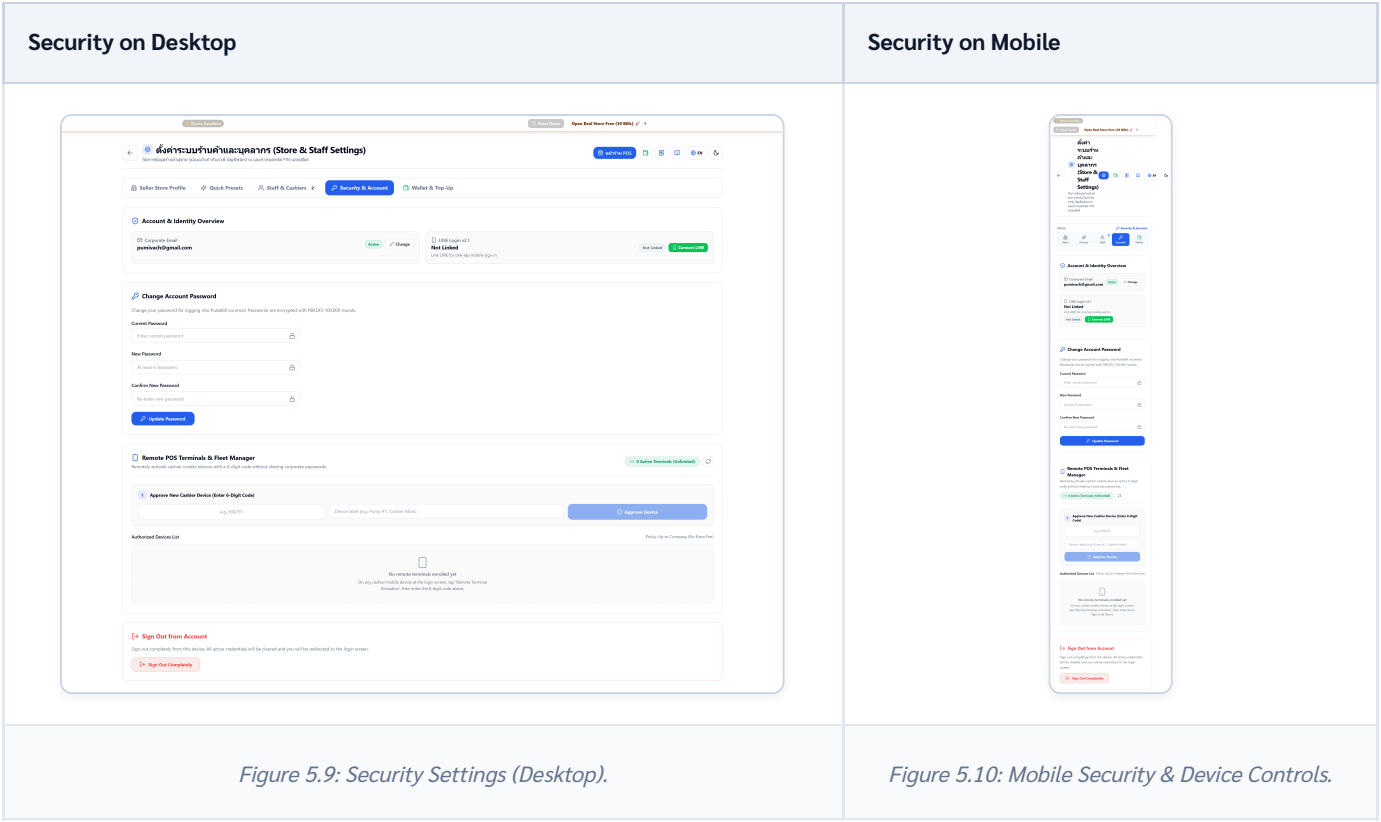
5.4 Unified Wallet, PromptPay Top-Up & Bill Packages (tab=wallet)

- **Split Ledger Architecture:** Monitor real cash deposits (`real_money_balance`) and promotional credits (`bonus_credit_balance`).
- **Direct PromptPay Top-Up:** Generate dynamic zero-fee QR codes, transfer funds, and upload e-Slips for **Gemini AI Instant Verification** in 1.5 seconds.
- **Bill Packages:**
 - 🌞 **Standard:** 500 bills / ฿300 (0.60 ฿/bill, 3 months).
 - 🚀 **Business Pro:** 2,000 bills / ฿890 (0.44 ฿/bill, 3 months).
 - ⚡ **Top-Up Add-on:** +200 bills / ฿120.
- **3-Period FIFO Rollover:** Unused bills carry forward across up to 3 billing cycles (9 months).



5.5 Security Hardening & LINE Login Linking (tab=security)

- Update Master Admin password.
- Link account to **LINE Login v2.1** for 1-tap single sign-on.
- Audit active device sessions and trigger instant fleet sign-outs.



6. How to Remote Open App by Admin (Remote Terminal Pairing)

6.1 Principles & Rationale

Store managers frequently need to activate POS terminals on staff devices without disclosing their Master Admin password. PulseBill provides a secure **Remote Terminal Pairing** workflow:

- Staff devices are sandboxed strictly into POS Terminal Mode.
- Frontline devices cannot access financial ledgers, wallet balances, or store tax configurations.

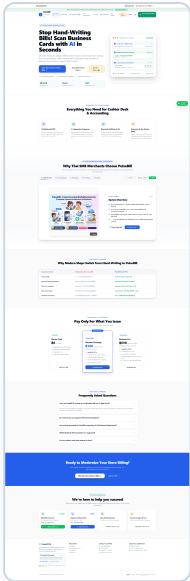
6.2 Step-by-Step SOP: Remote Terminal Enrollment

1. **On Admin Device:** Navigate to **Settings → Security & Devices (/settings?tab=security)** and click **"+ Pair New Terminal"**.
2. **Obtain Pairing Token:** The system generates a **6-Digit Pairing Code** (e.g., **849-201**) and a **Pairing QR Code** valid for 15 minutes.
3. **On Staff Device:** Staff opens the store terminal link, scans the QR code or enters the 6-digit code.
4. **Immediate Activation:** The device activates directly into Cashier Terminal Mode. Cashiers tap their name, enter their PIN, and commence sales immediately.

7. Sales Dashboard & Master Bills History Ledger

7.1 Sales Executive Dashboard (/)

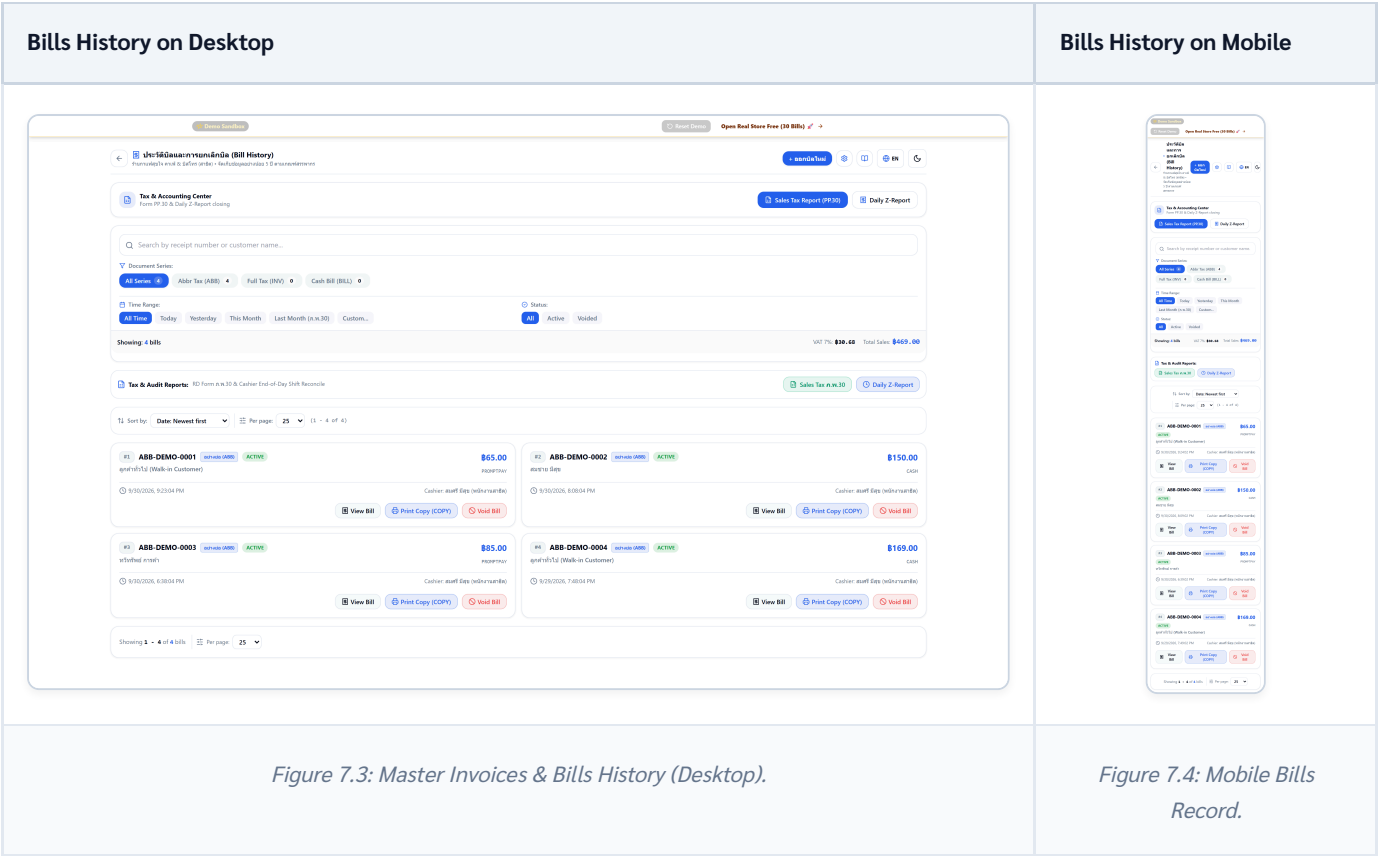
- Real-time revenue tracking, 7% sales tax summary, total transaction count, and remaining quota gauge.

Dashboard on Desktop	Dashboard on Mobile
	
<i>Figure 7.1: Executive Sales Dashboard (Desktop).</i>	<i>Figure 7.2: Mobile Sales Dashboard.</i>

7.2 Master Bills History & Void Operations (/bills)

Built on the **4 Universal Pillars of Data Tables**:

1. **Persistent Sequence Number**: Continuous item numbering across all pagination pages.
2. **Interactive Column Sorting**: Sort by bill date, document number, total amount, or status.
3. **Live Search**: Instant filtering across receipt numbers and customer tax IDs.
4. **Synchronized Dual Pagination**: Dual controls at top and bottom of the table.
5. **Void Bill Protocol**: Defective bills are officially marked as Voided and quota is refunded, preserving audit trails required by Thai tax law.



8. Interactive Demo Sandbox Guide

Prospects can test all features risk-free at [/demo](#) :

- 4 Turnkey Business Presets:
 - Cafe & Restaurant (ABB slip, Inclusive VAT 7%)
 - Petroleum & Auto Service (Litre decimals, License plate capture)
 - Professional Services (Full A4 INV, 3% Withholding Tax)
 - Community Mini-Mart (Cash Bill under Section 65 Ter Non-VAT)
- Zero-Friction Demo Experience:** Cashier PIN locks and lock buttons are deactivated in demo mode for continuous, uninterrupted testing.

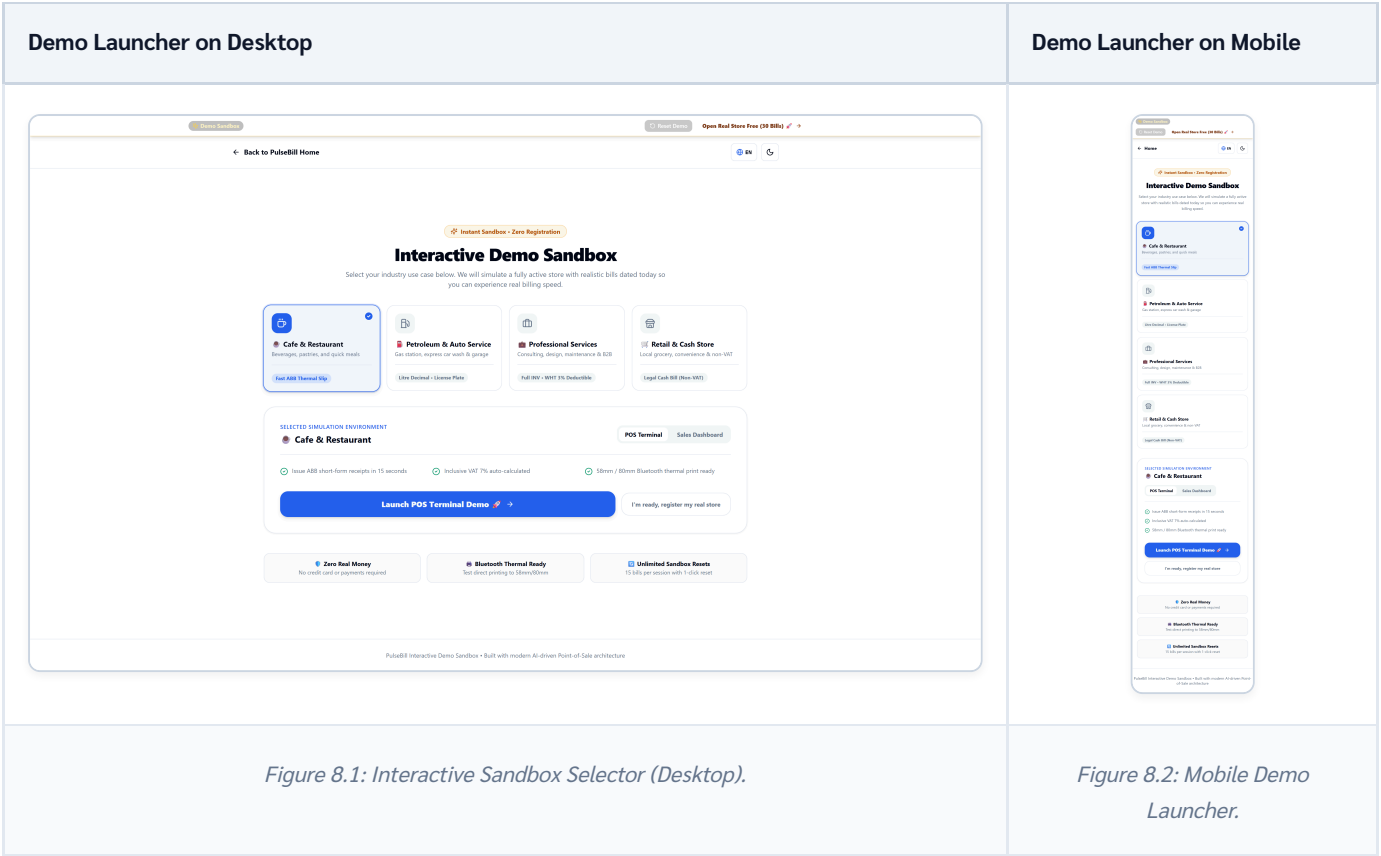


Figure 8.1: Interactive Sandbox Selector (Desktop).

Figure 8.2: Mobile Demo Launcher.

9. Thai Revenue Code & Legal Tax Compliance

1. Revenue Code 3 Document Classes:
 - BILL-** : Cash Bill for non-registered merchants (Sec. 65 Ter (18)). Prohibits "Tax Invoice" wording and VAT displays.
 - ABB-** : Abbreviated Tax Invoice (Sec. 86/6) for retail end-consumers.
 - INV-** : Full Tax Invoice (Sec. 86/4) for corporate expense and input tax claims.
2. Prohibition of Crossed Sequence Counters: Abbreviated and Full Tax Invoices maintain completely independent numbering sequences to prevent gaps in monthly Sales Tax Reports.
3. 5-Year Data Retention: Financial and tax data are securely archived for 5 years in accordance with Revenue Department auditing rules.
4. PDPA Image Retention: Original scanned receipt images are purged after 90 days in compliance with privacy laws.

10. Frequently Asked Questions (FAQ) & Troubleshooting

- Q: I transferred money into my wallet, but my bill quota didn't increase automatically?**

A: Deposits enter your *Real Cash Balance* first. Navigate to the **"Buy/Renew Package"** tab and click **Activate** on your chosen plan (e.g., 500 bills / ฿300) to deduct wallet funds and unlock your quota in 1 second.
- Q: What Bluetooth thermal printers are compatible with PulseBill?**

A: PulseBill supports all standard ESC/POS Bluetooth and Network/WiFi thermal printers (58mm and 80mm).

Q: What should I do if a cashier is locked out after 5 incorrect PIN attempts?

A: The store owner logs in with Master Admin credentials, navigates to **Settings → Staff** (</settings?tab=staff>), and clicks

"Unlock PIN"

on the staff profile.

Q: Is there a sandbox mode to train staff without consuming real quota?

A: Yes. Visit </demo> at any time to access 15 complimentary mock bills with unlimited 1-click resets.

PulseBill Operational User Manual & SOP Guide. Produced for Thai Retail Merchants, Enterprise Fleets, and Accounting Practitioners.