POS Lite System

Complete Documentation

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# POS Lite System - Complete Documentation

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## System Overview

POS Lite is a comprehensive Point of Sale system designed specifically for liquor stores. Built with Electron, React, and SQLite, it provides complete retail operations management with both online and offline capabilities.

### Key Features

* \*\*Barcode Scanning\*\*: Fast product lookup and checkout
* \*\*Inventory Tracking\*\*: Real-time stock management with adjustment tracking
* \*\*Multi-User Support\*\*: Role-based access control (Admin, Manager, Cashier)
* \*\*Cash Drawer Management\*\*: Till tracking and reconciliation
* \*\*Employee Time Clock\*\*: Built-in time tracking for payroll
* \*\*Comprehensive Reporting\*\*: Sales, inventory, and financial analytics
* \*\*Offline Mode\*\*: Full functionality without internet connection
* \*\*Receipt Printing\*\*: Customizable receipt templates
* \*\*State Compliance\*\*: Michigan liquor database integration

### Technology Stack

* \*\*Frontend\*\*: React 18 with TypeScript
* \*\*Backend\*\*: Electron with Node.js
* \*\*Database\*\*: SQLite (3 separate databases)
* \*\*Build System\*\*: Vite + Electron Builder
* \*\*Package Manager\*\*: pnpm

## Initial Setup

### First Time Launch

When launching the application for the first time, you'll go through a two-step setup process:

#### Step 1: Store Information

* \*\*Store Name\*\*: Your business name (appears on receipts)
* \*\*Address\*\*: Complete physical address
* \*\*Phone Number\*\*: Contact number for receipts
* \*\*Tax Rate\*\*: Default sales tax percentage (e.g., 6.0%)
* \*\*Receipt Settings\*\*:
* Header text (appears at top of receipts)
* Footer text (appears at bottom of receipts)

#### Step 2: Administrator Account

* \*\*Username\*\*: Admin login username
* \*\*Full Name\*\*: Administrator's full name
* \*\*Password\*\*: Secure password (minimum 4 characters)
* \*\*Confirm Password\*\*: Re-enter password

### Developer Access

* \*\*DEV Button\*\*: Orange button available on all screens
* Provides emergency access to developer tools
* Bypasses authentication when needed
* Located in top-left corner (login/setup) or with navigation tabs (main app)

## User Management

### User Roles

#### 1. Administrator

* Full system access
* Can create/edit/delete users
* Access to all reports
* Modify store settings
* Perform factory reset
* Access time tracking for all employees

#### 2. Manager

* Access to most features
* Can view reports
* Manage inventory
* Process payouts
* View employee time records
* Cannot modify system settings or users

#### 3. Cashier

* Limited to POS operations
* Can process sales
* Clock in/out for shifts
* Cannot access reports or settings
* PIN-based quick login (4-digit)

### User Authentication

#### Login Process

* \*\*Username Entry\*\*: Enter username and press Continue
* \*\*Authentication\*\*:
* \*\*Admin/Manager\*\*: Password authentication
* \*\*Cashier\*\*: 4-digit PIN pad

#### Creating Users (Admin Only)

* Navigate to Settings → User Management
* Click "Add New User"
* Enter user details:
* Username (unique)
* Full Name
* Role selection
* Password (Admin/Manager) OR PIN (Cashier)
* Set active status

### Session Management

* Automatic session tracking
* User activity logging
* Logout with shift management for cashiers
* Option to punch out when logging out (cashiers)

## Point of Sale Operations

### Cart Scanner (Main POS Interface)

#### Scanning Products

* \*\*Barcode Scanner\*\*: Automatic focus on barcode field
* \*\*Manual Entry\*\*: Type UPC and press Enter
* \*\*Product Lookup\*\*: Searches Michigan liquor database
* \*\*Automatic Addition\*\*: Products added to cart instantly

#### Cart Management

* \*\*Quantity Adjustment\*\*: +/- buttons for each item
* \*\*Remove Items\*\*: X button to delete from cart
* \*\*Running Total\*\*: Live calculation with tax
* \*\*Clear Cart\*\*: Remove all items at once

#### Checkout Process

* \*\*Complete Sale Button\*\*: Opens payment modal
* \*\*Payment Types\*\*:
* \*\*Cash\*\*: Enter amount given, calculates change
* \*\*Debit Card\*\*: Records exact amount
* \*\*Credit Card\*\*: Records exact amount
* \*\*Transaction Recording\*\*:
* Updates inventory quantities
* Records in transaction history
* Logs inventory adjustments
* Updates daily till (if enabled)
* \*\*Receipt Options\*\*:
* Print receipt
* View receipt
* Email receipt (future feature)

#### Quick Actions

* \*\*F2\*\*: Focus barcode scanner
* \*\*F3\*\*: Quick clear cart
* \*\*F4\*\*: Complete sale
* \*\*ESC\*\*: Cancel current operation

## Inventory Management

### Inventory List View

#### Features

* \*\*Search Bar\*\*: Filter by UPC, description, or vendor
* \*\*Barcode Scanner\*\*: Quick product lookup
* \*\*Stock Levels\*\*: Visual indicators (green/yellow/red)
* \*\*Sorting Options\*\*: By description, quantity, vendor, etc.
* \*\*Pagination\*\*: 50 items per page

### Adding Products to Inventory

#### From Product Catalog

* Scan or search for product
* If not in inventory, "Add to Inventory" appears
* Set initial quantity
* Enter cost and retail price
* Product added with timestamp

#### Manual Addition

* Click "Add New Item"
* Enter product details:
* UPC (required)
* Description
* Volume
* Quantity
* Cost
* Retail Price
* Save to inventory

### Inventory Adjustments

#### Adjustment Types

* \*\*Purchase\*\*: Receiving new stock
* \*\*Sale\*\*: Automatic from POS transactions
* \*\*Adjustment\*\*: Manual count corrections
* \*\*Return\*\*: Customer returns
* \*\*Damage\*\*: Damaged product write-offs
* \*\*Theft\*\*: Loss prevention tracking

#### Making Adjustments

* Select product from inventory
* Click "Adjust"
* Choose adjustment type
* Enter quantity change (+/-)
* Add reason/notes
* Adjustment logged with timestamp and user

### Stock Tracking

* \*\*Real-time Updates\*\*: Instant quantity changes
* \*\*Audit Trail\*\*: Complete adjustment history
* \*\*Low Stock Alerts\*\*: Visual warnings
* \*\*Negative Prevention\*\*: Blocks sales if insufficient stock

## Cash Drawer Management

### Till Settings

#### Configuration

* Navigate to Settings → Till Settings
* Enable/Disable till tracking
* Set starting denominations:
* $1, $5, $10, $20, $50, $100 bills
* Rolls of coins (optional)
* Save settings

### Daily Till Operations

#### Opening Till

* System prompts at first login
* Count and enter starting cash
* Verify against expected amount
* Record any discrepancies

#### During Operations

* Automatic tracking of cash transactions
* Running total of expected cash
* Change calculation and tracking

#### Closing Till

* End of shift/day prompt
* Count actual cash
* System calculates variance
* Generate reconciliation report
* Option to print/save report

### Payouts

#### Creating Payouts

* Click "Payout" button
* Enter details:
* Amount
* Reason/Description
* Authorized by
* Cash removed from till
* Payout logged with timestamp

#### Payout Tracking

* Complete payout history
* Daily payout reports
* Running till balance updates
* Audit trail with user attribution

## Employee Time Clock

### Clock In/Out Process

#### For Cashiers

* \*\*Auto-prompt\*\*: Time clock appears after login
* \*\*Clock In\*\*: Single button press
* \*\*During Shift\*\*: Time tracking active
* \*\*Clock Out Options\*\*:
* Manual clock out
* Auto-prompt on logout
* End of day reminder

#### For Managers/Admins

* Optional time tracking
* Can clock in/out from Settings
* View all employee time records

### Time Tracking Features

#### Shift Management

* \*\*Active Shift Display\*\*: Current duration
* \*\*Break Tracking\*\*: Optional break logging
* \*\*Overtime Calculation\*\*: Based on 40-hour week
* \*\*Shift History\*\*: Complete time records

#### Reports

* \*\*Daily Time Report\*\*: Who worked when
* \*\*Weekly Summary\*\*: Hours per employee
* \*\*Payroll Export\*\*: CSV format for processing
* \*\*Individual Timecards\*\*: Per-employee records

## Reporting System

### Sales Reports

#### Daily Sales

* Transaction count and total
* Payment type breakdown
* Hourly sales pattern
* Top selling products
* Cashier performance

#### Weekly/Monthly Summary

* Sales trends
* Comparison to previous periods
* Average transaction value
* Peak hours/days analysis

### Inventory Reports

#### Stock Analysis

* Current inventory value
* Stock turnover rates
* Low stock items
* Overstock identification
* Dead stock analysis

#### Product Performance

* Best sellers
* Slow movers
* Profit margins
* Vendor performance
* Category analysis

### Financial Reports

#### Revenue Analysis

* Gross sales
* Tax collected
* Discounts given
* Net revenue
* Profit margins

#### Cash Management

* Till reconciliation history
* Payout summaries
* Cash vs. card sales
* Daily deposits

### Compliance Reports

#### Audit Trail

* All inventory adjustments
* User activity log
* Transaction modifications
* System access log

#### State Compliance

* Age-restricted sales tracking
* License verification logs
* Required state reports

## Settings & Configuration

### Store Settings

#### Information Management

* Update store details
* Modify tax rate
* Change receipt text
* Business hours setting

### Receipt Settings

#### Customization Options

* Header/Footer text
* Logo upload (future)
* Field selection
* Format options

### User Management

* Add/Edit/Delete users
* Password resets
* Role modifications
* Access control

### System Settings

#### Database Management

* Backup configuration
* Auto-backup schedule
* Restore from backup

#### Display Settings

* Theme selection (future)
* Font size
* Language (future)

## Developer Tools

### Overview Dashboard

* System health status
* Database statistics
* Error logs
* Performance metrics

### Data Management

#### Clear Data Options

* \*\*Clear Inventory\*\*: Removes all products
* \*\*Clear Sales\*\*: Deletes transaction history
* \*\*Clear All Data\*\*: Wipes inventory and sales
* \*\*Factory Reset\*\*: Complete system reset

#### Mock Data Generation

* Generate test transactions
* Create sample inventory
* Populate time clock data
* Useful for testing/demos

### Database Tools

* Direct SQL query execution
* Table inspection
* Data export/import
* Schema modifications

### Import Tools

#### CSV Import

* Michigan liquor database import
* Bulk inventory updates
* Transaction import
* User import

## Offline Mode

### Capabilities

* \*\*Full POS Operations\*\*: All sales functions work offline
* \*\*Inventory Management\*\*: Track stock changes locally
* \*\*Report Generation\*\*: Access historical data
* \*\*User Management\*\*: Local authentication

### Limitations

* No cloud backup while offline
* No remote access
* No real-time multi-store sync
* Product catalog updates delayed

### Synchronization

* Automatic sync when online
* Conflict resolution for simultaneous changes
* Queue management for pending operations
* Status indicators for sync state

## Database Architecture

### Three-Database System

#### 1. LiquorDatabase.db (Product Catalog)

* \*\*Purpose\*\*: Read-only product information
* \*\*Source\*\*: Michigan state liquor database
* \*\*Updates\*\*: Via CSV import
* \*\*Contents\*\*:
* UPC codes
* Product descriptions
* Vendor information
* State pricing

#### 2. LiquorInventory.db (Operations)

* \*\*Purpose\*\*: Store inventory and transactions
* \*\*Contents\*\*:
* Current inventory levels
* Transaction history
* Inventory adjustments
* Till settings and daily records
* Payout records

#### 3. StoreInformation.db (Configuration)

* \*\*Purpose\*\*: Store and user management
* \*\*Contents\*\*:
* Store information
* User accounts
* User activity logs
* Time clock records
* System settings

### Data Relationships

* Products linked via UPC across databases
* User actions tracked with user\_id
* Transactions reference inventory items
* Adjustments maintain audit trail

## Security Features

### Access Control

* Role-based permissions
* Secure password hashing
* PIN authentication for cashiers
* Session management

### Audit Trail

* Complete user activity logging
* Transaction history immutable
* Inventory adjustment tracking
* Login/logout records

### Data Protection

* Local database encryption (future)
* Automatic backups
* Transaction integrity checks
* Prevent data tampering

### Compliance

* Age verification prompts
* State reporting compliance
* Tax calculation accuracy
* Legal receipt requirements

## Troubleshooting

### Common Issues

#### "Product Not Found"

* \*\*Cause\*\*: UPC not in state database
* \*\*Solution\*\*:
* Verify UPC is correct
* Check for updated product catalog
* Add manually if private label

#### "Foreign Key Constraint Failed"

* \*\*Cause\*\*: Database relationship error
* \*\*Solution\*\*:
* Check user exists
* Verify data integrity
* Contact support if persists

#### "Cannot Create User"

* \*\*Cause\*\*: Username already exists
* \*\*Solution\*\*:
* Choose different username
* Check for duplicate entries
* Perform factory reset if corrupted

#### Till Doesn't Balance

* \*\*Cause\*\*: Unrecorded transactions or errors
* \*\*Solution\*\*:
* Review transaction history
* Check for payouts
* Verify starting amount
* Look for system errors

### System Maintenance

#### Regular Tasks

* \*\*Daily\*\*: Till reconciliation
* \*\*Weekly\*\*: Database backup
* \*\*Monthly\*\*: Clear old logs
* \*\*Quarterly\*\*: Update product catalog

#### Performance Optimization

* Clear transaction history (keep backups)
* Rebuild database indexes
* Remove unused products
* Archive old reports

### Emergency Procedures

#### System Won't Start

* Check database files exist
* Verify permissions
* Run in developer mode
* Restore from backup

#### Data Corruption

* Stop using system immediately
* Make backup of current state
* Restore from last good backup
* Manually recreate recent transactions

#### Factory Reset Process

* Access Developer tools
* Navigate to Clear Data
* Select Factory Reset
* Confirm three times
* System returns to initial setup

## Workflows

### Daily Opening Procedure

* First employee logs in
* Open till (if enabled)
* Count starting cash
* Verify inventory counts (spot check)
* Begin operations

### Processing a Sale

* Scan/enter products
* Verify customer age (if prompted)
* Complete sale
* Select payment type
* Process payment
* Provide receipt

### End of Day Procedure

* Close till
* Count cash
* Record variance
* Process deposits
* Run daily reports
* Backup database
* Log out all users

### Inventory Receiving

* Receive shipment
* Scan products
* Enter quantities received
* Verify costs
* Update retail prices if needed
* File adjustment as "Purchase"

## Best Practices

### Security

* Change default admin password immediately
* Use strong passwords for admin/manager
* Regular password updates
* Don't share user accounts
* Log out when not in use

### Data Management

* Daily backups
* Keep 30 days of backups
* Test restore process monthly
* Archive old data annually

### Operations

* Reconcile till daily
* Verify high-value transactions
* Spot-check inventory weekly
* Review reports for anomalies
* Train staff on all procedures

### Compliance

* Keep software updated
* Maintain accurate records
* File required reports on time
* Verify age for restricted sales
* Document all adjustments

## Support Information

### Getting Help

* Developer Tools → Help section
* GitHub Issues: https://github.com/anthropics/claude-code/issues
* Check this documentation
* Review error logs

### System Requirements

* \*\*OS\*\*: Windows 10/11, macOS 10.14+, Linux
* \*\*RAM\*\*: 4GB minimum, 8GB recommended
* \*\*Storage\*\*: 2GB for application, 5GB for data
* \*\*Display\*\*: 1280x720 minimum
* \*\*Network\*\*: Required for updates only

### Version Information

* Current Version: 1.0.2
* Database Version: 3
* Electron Version: 32.1.0
* Last Updated: September 2024

## Appendices

### Keyboard Shortcuts

* \*\*F2\*\*: Focus barcode scanner
* \*\*F3\*\*: Clear cart
* \*\*F4\*\*: Complete sale
* \*\*F5\*\*: Refresh
* \*\*Ctrl+S\*\*: Save current form
* \*\*Esc\*\*: Cancel operation

### Error Codes

* \*\*ERR\_001\*\*: Database connection failed
* \*\*ERR\_002\*\*: Invalid barcode
* \*\*ERR\_003\*\*: Insufficient inventory
* \*\*ERR\_004\*\*: User authentication failed
* \*\*ERR\_005\*\*: Transaction failed

### Glossary

* \*\*UPC\*\*: Universal Product Code (barcode)
* \*\*SKU\*\*: Stock Keeping Unit
* \*\*POS\*\*: Point of Sale
* \*\*Till\*\*: Cash drawer
* \*\*Variance\*\*: Difference between expected and actual

## Future Enhancements (Roadmap)

### Planned Features

* Multi-store support
* Cloud synchronization
* Customer loyalty program
* Gift card processing
* Advanced analytics dashboard
* Mobile companion app
* Supplier integration
* Automated ordering

### Under Consideration

* Kitchen display system
* Table management
* Reservation system
* Online ordering integration
* Delivery management
* Customer database
* Marketing tools
* Advanced reporting
* This documentation represents the complete functionality of the POS Lite system as of September 2024. For updates and additional information, consult the CLAUDE.md file or contact the development team.\*