PHARMACY MANAGEMENT SOFTWARE

Software Requirements Specification (SRS)
Development-Ready Functional & Technical Blueprint

Project parameter	Finalized requirement
Business model	Retail Pharmacy + Wholesale / Distribution
Deployment	Online cloud-based application
Branch model	Single branch and multi-branch support
Accounting	Fully integrated double-entry accounting
Purchase automation	AI-assisted invoice ingestion across supplier formats
Market	India – GST and pharmacy compliance configurable
Document status	Baseline requirements for estimation, design and development

Important implementation principle: AI-extracted purchase data must be reviewed and approved by an authorized user before it creates a posted purchase voucher or changes live stock and accounts.

Prepared as a product-neutral specification. The interface may follow the speed, keyboard workflow and information density of established pharmacy ERP products such as Marg ERP, while using original branding, layouts and code.

Document Contents

- 1. Purpose, scope and product objectives
- 2. Users, roles and operating model
- 3. Core product modules
- 4. Retail and wholesale sales workflows
- 5. Purchase and AI invoice processing
- 6. Inventory, batch and expiry controls
- 7. Integrated accounting and GST
- 8. Reports and dashboards
- 9. Multi-branch operations
- 10. UI/UX and productivity requirements
- 11. Non-functional requirements
- 12. Technical architecture
- 13. Data model and key entities
- 14. Integrations and external interfaces
- 15. Security, audit and backup
- 16. Regulatory and compliance considerations
- 17. Acceptance criteria and test scenarios
- 18. Phased implementation plan
- 19. Assumptions, exclusions and open decisions

1. Purpose, Scope and Product Objectives

This SRS defines the functional, operational, data, security and technical requirements for a cloud-based Pharmacy Management Software serving both retail medical stores and wholesale medicine distributors. It supports a single outlet as well as multiple branches, godowns and billing counters under one organization.

Product objective: deliver a fast, keyboard-friendly pharmacy ERP with medicine master, purchase, retail/wholesale billing, batch-wise inventory, expiry control, supplier/customer ledgers, GST and complete integrated accounting. The key differentiator is a universal AI-assisted purchase invoice import workflow that can interpret varying supplier invoice layouts.

- Provide one central, real-time database for authorized branches and users.
- Support both counter retail billing and B2B wholesale order/invoice workflows.
- Maintain stock at product + batch + branch/godown level, including free quantities and unit conversions.
- Automate accounting postings from operational vouchers while preserving traceability.
- Reduce manual purchase entry through OCR, AI document understanding, item matching and validation.
- Keep final control with users: no uncertain AI extraction is posted without review and approval.

Scope includes web application, responsive user screens, backend services, database, document storage, AI/OCR processing pipeline, reporting, role-based access, backups and integration interfaces. Native mobile apps are not mandatory for the first release; the web application must be usable on desktop and tablet.

2. Users, Roles and Operating Model

Role	Typical permissions
Organization Owner / Super Admin	Organization settings, branches, financial years, users, all reports, security and configuration.
Branch Manager	Branch operations, approvals, branch reports, stock transfer and selected financial summaries.
Pharmacist / Authorized Dispenser	Prescription-linked sales, medicine verification, restricted-product workflow and patient records as permitted.
Retail Billing Operator	Create retail bills, returns and receipts; limited discount and cancellation rights.
Wholesale Sales Operator	Customer orders, quotations, wholesale invoices, dispatch and returns.
Purchase Operator	Purchase orders, invoice scanning, draft purchase vouchers and supplier returns.
Accounts User	Receipts, payments, journals, bank reconciliation, ledgers, GST and financial statements.
Inventory / Storekeeper	Goods receipt, batch entry, stock count, transfers, damage and expiry workflows.
Auditor / Read-only User	View authorized transactions, reports, logs and supporting documents without modification.

Access must be configurable by organization, branch, module, action and (where needed) transaction value. Sensitive actions such as bill cancellation, backdated entries, stock adjustment, purchase posting and journal posting should support approval rules.

3. Core Product Modules

3.1 Organization, branch and configuration

- Organization profile, GSTIN, drug licence details, registered addresses and invoice settings.
- Branch and godown setup; branch-specific GSTIN, invoice series, cash/bank accounts, printers and stock locations.
- Financial year, voucher numbering, tax configuration, units, currencies (INR baseline), rounding and document templates.
- Retail/wholesale mode, price levels, customer categories, credit policies and approval thresholds.

3.2 Medicine / item master

- Brand name, generic/salt, strength, dosage form, pack size, manufacturer and therapeutic category.

- HSN, GST rate, schedule classification and configurable statutory flags.
- Base unit and conversion hierarchy (box, strip, tablet, bottle, piece); conversion must be explicit and auditable.
- MRP, purchase rate, retail price, wholesale price, trade price, minimum margin and price history.
- Barcode/GTIN, rack/shelf, storage condition, product image, active/inactive flag and reorder levels.
- Alternative brands and salt-based search; suggestions are informational and require pharmacist verification.
- Duplicate detection using normalized name, strength, form, pack size, manufacturer and barcode.

3.3 Supplier and customer masters

- Supplier/distributor legal name, GSTIN, drug licence details where applicable, contacts, addresses and payment terms.
- Retail customer, wholesale customer, institution and patient profiles with configurable fields.
- Credit limit, opening balance, price category, tax treatment, delivery address and outstanding ageing.
- Supplier/customer ledgers, transaction history, documents, notes, blocked status and balance confirmation.

3.4 Purchase management

- Purchase order, goods receipt, purchase invoice, purchase return, debit note and supplier payment.
- Invoice-level and item-level discounts, schemes, free quantity, freight, packing and other charges.
- Batch number, expiry, MRP, purchase rate, taxable value, GST and landed cost.
- Partial receipt, backorder, purchase against order and purchase without order (permission-controlled).
- Draft, verified, approved and posted states; edit/cancel rules and reversal vouchers.

3.5 Sales and billing

- Retail POS and wholesale invoice screens with separate pricing, credit and dispatch workflows.
- Barcode scan, fast item search, salt/brand search, batch selection, quantity and unit conversion.
- MRP validation, price overrides, discounts, GST, round-off, split tender and credit sale.
- Quotation, sales order, delivery challan, tax invoice, receipt, sales return and credit note.
- Hold/resume bill, duplicate print, thermal/A4 print, PDF and WhatsApp share through approved integration.
- Customer-specific price lists, schemes, minimum order quantity and salesperson attribution.

3.6 Prescription and patient records

- Attach prescription image/PDF and record prescriber details where required.
- Prescription-to-bill assistance, medicine history and refill reminders subject to consent and policy.
- Prescription OCR may suggest text but must not autonomously authorize dispensing or alter prescribed therapy.
- Access to patient information must be restricted and logged.

3.7 Stock and warehouse

- Real-time stock ledger by item, batch, branch and godown.
- Opening stock, goods receipt, sales issue, transfer, adjustment, damage, breakage and physical count.
- FEFO batch suggestions (First Expiry, First Out), configurable manual override and reason capture.
- Stock reservation for wholesale orders, pick/pack/dispatch and partial fulfilment.
- Negative stock blocking by default; exceptions only for authorized roles and with audit reason.
- Stock valuation using configured method; method changes require controlled migration and accounting review.

3.8 Expiry, returns and recall support

- Near-expiry thresholds by category or organization; expired stock blocked from normal sale.

- Expiry return eligibility tracking by supplier, invoice, batch and return window.
- Expired, damaged and recalled stock quarantine with separate stock status.
- Batch traceability from supplier purchase to customer sales, subject to available transaction links.
- Expiry loss, return, write-off and supplier credit tracking.

3.9 Schemes and pricing

- Buy-X-get-Y, quantity slabs, value slabs, item/company schemes and supplier purchase schemes.
- Free goods recorded as quantity with correct cost allocation policy.
- Retail, wholesale, institution and customer-specific price lists.
- Discount caps, margin alerts, promotional validity and approval workflow.

3.10 Integrated accounting

- Double-entry ledger engine with chart of accounts and voucher types.
- Automatic postings for sales, purchases, returns, receipts, payments, stock adjustments and expenses.
- Cash/bank, customer and supplier control accounts, bill-wise references and cost centres.
- Journal, contra, receipt, payment, debit note and credit note vouchers.
- Trial balance, P&L;, balance sheet, cash flow and bank reconciliation.

3.11 Employees and administration

- User/employee master, role, branch mapping, attendance and leave (optional payroll phase).
- Shift/counter assignment, operator-wise sales and transaction activity.
- Login history, failed login monitoring, device/session controls and audit log.

4. Retail and Wholesale Sales Workflows

4.1 Retail counter sale

1. Operator opens a branch/counter session and selects customer or walk-in customer.
2. Search or scan medicine; system displays available batches, expiry, MRP, price and stock.
3. System suggests eligible batch using FEFO; operator confirms quantity and unit (strip/tablet/box as configured).
4. System validates sale restrictions, batch status, expiry, available quantity, price limits, discounts and GST.
5. Operator selects payment method: cash, UPI, card, bank, credit or split tender.
6. Invoice is finalized; stock is reduced by batch, payment is posted and accounting entries are generated.
7. Invoice is printed or shared; transaction remains searchable and auditable.

4.2 Wholesale sale / distribution

1. Select registered wholesale customer and validate credit limit, GSTIN and applicable price category.
2. Create quotation or sales order with customer-specific rates, schemes and minimum order rules.
3. Reserve stock by batch or allow allocation at picking; system checks expiry and available-to-promise stock.
4. Pick/pack goods, record dispatch details and generate invoice/delivery challan.
5. Post receivable and sales/tax entries; record receipt against one or more invoices.
6. Handle partial dispatch, backorders, sales returns, credit notes and customer claims.

4.3 Returns and cancellations

- Sales return should reference the original invoice wherever possible and capture return reason and batch.

- Returned stock must enter quarantine/inspection status until an authorized user decides whether it is saleable, damaged or expired.
- Posted invoices must not be silently deleted; correction must use reversal, return or credit-note workflows.
- Wholesale returns may require inspection, supplier/manufacturer claim tracking and approval.

5. Purchase and AI Invoice Processing

5.1 Standard purchase workflow

1. Create purchase order or open a direct purchase entry.
2. Select supplier and enter invoice metadata, or upload supplier invoice for AI extraction.
3. Extract and review item rows, taxes, discounts, freight, free quantity, batch and expiry.
4. Match each line to an existing medicine or create a new medicine draft after duplicate checks.
5. Validate supplier, invoice number, GSTIN, totals, tax rates, batch/expiry and purchase rates.
6. Submit for approval where configured; authorized user posts the purchase voucher.
7. On posting, update batch-wise stock, stock valuation, supplier payable and tax ledgers.
8. Store original invoice and processing evidence against the purchase voucher.

5.2 Universal AI invoice ingestion – supported inputs

- PDF: digitally generated, searchable and scanned/image-only documents; multi-page invoices.
- Images: JPG, JPEG, PNG and mobile camera photographs; rotation, crop and image enhancement.
- Spreadsheets: XLSX, XLS and CSV with column detection and mapping.
- Optional future adapters: email attachment ingestion, supplier portals and structured e-invoice/JSON imports.
- Supplier invoices may originate from different pharmacy ERPs, accounting packages or custom billing systems; no fixed template should be required for the generic AI route.

5.3 AI extraction fields

Header / line field	Required handling
Supplier identity	Supplier name, GSTIN, address, state and supplier account match.
Invoice metadata	Invoice number, invoice date, due date, PO reference, document type.
Medicine identity	Printed item description, brand, salt if present, manufacturer, strength, dosage form and pack.
Batch and expiry	Batch/lot number, expiry month/year or date, manufacturing date if present.
Quantity and units	Billed quantity, free quantity, unit, pack conversion and total received quantity.
Commercials	MRP, PTR/PTS or purchase rate, discount, scheme, taxable value, freight/charges.
Tax and totals	HSN, GST rate, CGST/SGST/IGST, cess if applicable, line total and invoice total.

5.4 AI processing pipeline

1. Secure upload and file validation: verify file type/size, malware scan, checksum and tenant/branch ownership.
2. Pre-processing: page rendering, rotation correction, de-skew, contrast enhancement, noise removal and page segmentation.
3. Document classification: identify invoice, credit note, delivery challan or unsupported document.
4. OCR: extract text, coordinates, tables and confidence values using OCR suitable for printed and scanned documents.
5. AI document understanding: infer header fields, line-item rows, column relationships and multi-page continuation.
6. Normalization: standardize dates, numbers, GSTIN, units, medicine descriptions, expiry formats and currency.

7 Supplier resolution: match GSTIN/name/address to supplier master; flag unknown or conflicting supplier identity.

8 Medicine matching: use barcode where present, then manufacturer + pack + strength + normalized brand/name + salt; use fuzzy matching only as a candidate generator.

9 Batch resolution: check existing batch and expiry for same item at the selected branch/godown; distinguish new batch from existing batch.

10 Business validation: recalculate line values, discount, taxable amount, GST and invoice total; compare extracted totals with printed totals.

11 Human review: show original document beside editable extracted rows; highlight uncertain fields, mismatches and unmatched items.

12 Approval and posting: only an authorized user can post; create purchase voucher, stock batches and accounting entries atomically.

13 Learning feedback: retain approved supplier aliases and mappings as tenant-scoped rules; do not train shared models on customer invoices without explicit consent.

5.5 Matching and confidence rules

Match level	Suggested system action
Exact barcode / GTIN + pack match	Suggest direct match; still validate strength and unit.
Exact supplier item code previously mapped	Suggest saved mapping; show mapping source.
Brand + strength + dosage form + pack + manufacturer match	High-confidence candidate; user confirmation per configured policy.
Name / salt fuzzy similarity only	Show candidate suggestions; mandatory manual confirmation.
No reliable candidate	Create unmatched line; allow user to map or create new item draft.

Confidence thresholds must be configurable and tested against real supplier samples. Confidence is not proof of correctness. Critical fields (item, batch, expiry, quantity, rate and tax) require review when confidence is below the approved threshold. The application must preserve the raw OCR result, normalized result, confidence, correction and user identity.

5.6 Review screen requirements

- Split view: original invoice pages on one side and editable extracted purchase grid on the other.
- Header panel for supplier, invoice number/date, branch, godown and purchase type.
- Line grid with item, mapped medicine, pack, batch, expiry, billed/free quantity, rate, discount, GST and amount.
- Visual status for matched, new item, low confidence, missing field, duplicate invoice and calculation mismatch.
- Allow page/row navigation, manual row addition/deletion, split/merge row correction and supplier alias mapping.
- Show invoice total vs calculated total difference and block posting beyond configured tolerance.
- Save as draft, submit for approval, reject with reason, retry extraction and view processing history.

5.7 AI exception and failure handling

- Unreadable image: request a clearer scan or manual entry; never fabricate missing values.
- Unknown supplier: hold for supplier creation or manual selection.
- Duplicate invoice: block or require elevated override based on supplier + invoice number + date + amount checks.
- Ambiguous medicine: keep unmatched and require user mapping.
- Unclear expiry/batch: mandatory manual correction before stock posting.
- Totals mismatch: show line-level and tax-level difference; prevent posting until resolved or authorized override.
- AI service unavailable: retain upload and allow manual purchase entry; retry asynchronously.
- Partial extraction: preserve successful fields and clearly identify fields needing user input.

6. Inventory, Batch and Expiry Controls

- Stock quantity must be tracked by organization, branch, godown, item, batch and stock status.
- Maintain separate quantities for saleable, reserved, quarantine, damaged, expired and in-transit stock.
- Batch record includes batch number, expiry, MRP, purchase rate, manufacturer, supplier and source purchase voucher.
- FEFO suggestions should prioritize earliest valid expiry; do not silently force a batch if user selects another valid batch.
- Block sale of expired, recalled or quarantined stock unless a legally permitted and explicitly authorized exception exists.
- Unit conversion must be consistent across purchase, stock, sales and returns.
- Stock transfer must have dispatch, in-transit and receipt states to prevent duplicate stock creation.
- Physical stock count should capture book quantity, counted quantity, variance, reason and approval.
- Every stock movement must create an immutable stock ledger entry linked to its source voucher.

7. Integrated Accounting and GST

7.1 Accounting design

- Use a double-entry accounting engine with balanced debit/credit postings.
- Operational vouchers generate accounting entries through configurable posting rules; users should not need to re-enter routine sales and purchase accounting.
- Maintain chart of accounts, control accounts, cost centres, branch dimensions and bill-wise references.
- Posted entries are immutable; corrections use reversal or adjustment vouchers with audit links.
- Support cash, bank, UPI clearing, card clearing, customer receivable, supplier payable, inventory, sales, purchase, tax and expense accounts.

7.2 Indicative posting map

Transaction	Typical accounting effect (configuration-dependent)
Retail cash sale	Debit cash/UPI/card clearing; credit sales and output GST; cost of goods sold and inventory reduction.
Credit sale	Debit customer receivable; credit sales and output GST; recognize COGS and reduce inventory.
Purchase invoice	Debit inventory/purchase and eligible input GST; credit supplier payable.
Supplier payment	Debit supplier payable; credit bank/cash.
Customer receipt	Debit bank/cash; credit customer receivable.
Sales return	Reverse relevant sales/tax and restore returned stock only after inspection policy.
Purchase return	Reduce supplier payable/inventory and adjust eligible input tax as applicable.
Stock write-off	Debit stock loss/expense; credit inventory, with approval.

7.3 GST and tax requirements

- GST configuration by applicable HSN, rate, place of supply and transaction type.
- CGST/SGST for intra-state and IGST for inter-state transactions where applicable.
- Purchase and sales registers, tax summaries, HSN summaries and input tax credit reports.
- GSTR-1 data preparation/export, GSTR-2B reconciliation support and GSTR-3B summary.
- Credit/debit note handling, tax adjustments and reconciliation exceptions.
- E-invoice and e-way bill integrations only where legally applicable and through authorized APIs/providers.
- GST return output should be treated as preparation/reconciliation support; filing remains subject to taxpayer review and current statutory requirements.

8. Reports and Dashboards

Dashboard / MIS

- Daily sales, purchase, gross margin and expenses
- Branch-wise sales and profitability
- Cash, bank, UPI and credit collection summary
- Stock valuation and working capital snapshot
- Low stock, out-of-stock, near-expiry and expired stock alerts
- Top-selling, slow-moving and non-moving medicines

Sales reports

- Retail and wholesale sales register
- Item, brand, salt, company, customer and salesperson-wise sales
- Invoice-wise margin and discount analysis
- Sales return, credit note and cancelled/reversed voucher reports
- Customer outstanding and ageing
- Order fulfilment, pending dispatch and backorder reports

Purchase reports

- Supplier and item-wise purchase register
- Purchase rate history and supplier price comparison
- Purchase return and debit note register
- Free quantity, discount and scheme analysis
- Supplier outstanding and payment due reports
- AI invoice import success, failure, exception and correction reports

Inventory reports

- Current stock by branch, godown, rack, item and batch
- Batch ledger and stock movement
- Expiry ageing and expiry return eligibility
- Stock adjustment, damage, breakage and write-off
- Physical stock variance
- Reserved, in-transit, quarantine and recalled stock

Accounting reports

- Day book, cash book, bank book and general ledger
- Trial balance and audit trail
- Profit & Loss and balance sheet
- Cash flow and fund flow
- Accounts receivable/payable ageing
- Bank reconciliation and voucher register

GST / compliance reports

- GSTR-1 working and outward tax summary

- GSTR-2B matching and ITC exceptions
- GSTR-3B working summary
- HSN-wise sales and purchase
- Tax rate mismatch and missing GSTIN reports
- Restricted medicine registers as configured and legally applicable

Staff / audit reports

- User-wise sales, discounts and cancellations
- Purchase approvals and overrides
- Login history and access log
- Stock adjustment and backdated transaction log
- AI corrections by field/user/supplier

All reports should support date range, branch, godown, item/company, customer/supplier and user filters where relevant; sortable columns; drill-down to source voucher; PDF/Excel export; print; and permission-aware data visibility.

9. Multi-Branch Operations

- One organization can operate one branch initially and add branches without changing the product model.
- Each branch can have its own address, GSTIN, invoice series, godowns, counters, users, cash/bank accounts and stock.
- Central administration can view consolidated results; branch users see only authorized branch data.
- Inter-branch transfer uses request, approval, dispatch, in-transit and receipt workflow.
- Central purchase may allocate stock to branches; branch-level purchase can also be enabled.
- Branch-wise and consolidated P&L; should use configured accounting and transfer valuation rules.
- Prevent duplicate invoice numbering within the relevant legal entity/series and financial year.

10. UI/UX and Productivity Requirements

The application should be inspired by the operational efficiency of established pharmacy ERP interfaces: dense but readable grids, keyboard-first data entry, fast search, shortcut-driven billing and minimal unnecessary navigation. It must not copy another vendor's proprietary code, assets, branding or exact screen designs.

- Persistent left navigation grouped by Dashboard, Masters, Purchase, Sales, Inventory, Accounts, Reports and Settings.
- Global search for medicine, supplier, customer, invoice and voucher number.
- Keyboard shortcuts for new bill, save, search, quantity, batch selection, payment and print.
- Configurable columns, saved filters, grid sorting and pagination.
- Fast billing screen with barcode focus, batch availability and clear total/payment panel.
- Purchase invoice scan review screen with original document preview and editable grid.
- Consistent status labels: Draft, Pending Review, Approved, Posted, Rejected, Reversed and Cancelled.
- Responsive layouts for desktop and tablet; desktop is the primary operational target.
- Clear error messages with corrective guidance; avoid silent failures.

11. Non-Functional Requirements

Area	Requirement / target
Availability	Target 99.5% monthly application availability excluding planned maintenance, subject to hosting SLA.
Performance	Common search and screen actions target <2 seconds at normal load; billing save target <3 seconds excluding external services.
Concurrency	Support concurrent users across branches; capacity to be sized by tenant, users, transactions and database workload.
Scalability	Horizontal scaling of stateless application/API and background workers; database scaling/replicas as justified.
Reliability	ACID transaction handling for voucher posting and stock/accounting updates; idempotent background jobs.
Security	TLS in transit, encryption at rest, RBAC, tenant isolation, secure secrets and audit logging.
Usability	Keyboard-friendly, consistent terminology, readable grids and guided exception handling.
Compatibility	Current supported versions of Chrome, Edge, Firefox and Safari; barcode scanners operating as keyboard input where compatible.
Maintainability	Modular services, documented APIs, automated tests, migrations and versioned configuration.
Data portability	Authorized exports of master data, vouchers, stock and reports in standard formats.
Localization	INR, Indian date formats, configurable invoice language and GST state codes.
Recovery	Target RPO 24 hours or better and RTO 8 hours or better initially; improve with managed point-in-time recovery.

12. Technical Architecture

12.1 Recommended logical architecture

Layer	Recommended design
Client	React + TypeScript web application; responsive desktop/tablet UI; keyboard shortcuts and grid components.
API / backend	Laravel (PHP) or Node.js (TypeScript) modular monolith initially; REST/JSON APIs; versioned contracts.
Database	PostgreSQL preferred for transactional integrity, relational reporting and tenant/branch dimensions; MySQL is also viable if team expertise dictates.
Cache / queue	Redis for cache, rate limits, distributed locks and background job queue.
Document storage	Private object storage (S3-compatible) for original invoices, prescriptions and generated PDFs; encrypted and tenant-scoped.
AI worker	Separate asynchronous document pipeline for preprocessing, OCR, layout understanding, normalization and validation.
Reporting	SQL views/materialized aggregates initially; dedicated reporting warehouse only when scale requires.
Infrastructure	Cloud VPS or managed cloud services, reverse proxy/load balancer, containerized deployment and automated CI/CD.
Monitoring	Centralized logs, metrics, tracing, error alerts, queue monitoring and audit events.

12.2 Architecture flow

Browser UI → HTTPS API → Authentication & tenant/branch authorization → Domain modules (Sales, Purchase, Inventory, Accounts, Masters) → PostgreSQL transaction store. Long-running tasks (AI invoice extraction, PDF generation, notifications, imports and scheduled alerts) are dispatched to a queue and processed by workers. Original documents reside in private object storage; signed, short-lived access is issued only after authorization.

12.3 Cloud deployment requirements

- Production, staging and development environments must be separated.

- Use managed database or hardened database VM with private network access; do not expose database publicly.
- Use HTTPS, WAF/rate limiting where available, secure DNS and managed TLS certificates.
- Use automated deployment with rollback, database migration checks and release notes.
- Configure database backups, object storage versioning and tested restore procedures.
- Use background workers independently scalable from web/API servers.
- Tenant data isolation must be enforced at API/service and database query layers; do not rely only on UI filtering.

13. Data Model and Key Entities

Domain	Principal entities / relationships
Organization	Organization, Branch, Godown, Counter, FinancialYear, InvoiceSeries, TaxConfiguration
Identity	User, Role, Permission, UserBranch, Session, ApprovalPolicy, AuditEvent
Product	Medicine, Brand, Salt, Manufacturer, Category, Unit, UnitConversion, Barcode, PriceList
Trade parties	Supplier, Customer, Doctor, Salesperson, Contact, Address, CreditProfile
Purchase	PurchaseOrder, GoodsReceipt, PurchaseInvoice, PurchaseLine, PurchaseReturn, SupplierPayment
AI import	DocumentUpload, ProcessingJob, ExtractedField, ExtractedLine, MatchCandidate, MappingRule, ReviewEvent
Inventory	Batch, StockLedger, StockBalance, StockReservation, StockTransfer, StockCount, StockAdjustment
Sales	Quotation, SalesOrder, SalesInvoice, SalesLine, PaymentAllocation, SalesReturn, Delivery
Accounts	Account, Voucher, VoucherLine, LedgerEntry, CostCentre, BankAccount, Reconciliation
Compliance	PrescriptionAttachment, RestrictedSaleRecord, TaxReturnWorking, EInvoiceReference, EWayBillReference

Every transactional entity should include organization_id, relevant branch_id, created_by, created_at, updated_by, updated_at and status where appropriate. Financial and stock ledgers should retain source voucher references and immutable posting history.

14. Integrations and External Interfaces

- GST/e-invoice/e-way bill: integrate through authorized GSP/ASP or government-approved interfaces as applicable; credentials and eligibility are customer-specific.
- WhatsApp: approved WhatsApp Business provider/API for invoices and reminders; record delivery status where supported.
- Payment: UPI QR/payment gateway and reconciliation interface; support manual tender entry if provider is unavailable.
- Barcode: USB/Bluetooth scanners using keyboard-wedge mode; optional label printer integration.
- Email: SMTP or transactional email provider for statements, alerts and password workflows.
- AI/OCR: pluggable OCR/document AI provider behind an internal adapter so vendors can be changed without rewriting purchase workflow.
- Accounting export: Excel/CSV and optional Tally-compatible export subject to field mapping and customer requirements.
- Import/export: CSV/XLSX templates for medicine master, opening stock, parties and balances.

15. Security, Audit and Backup

- Role-based access control at organization, branch, module and action level.
- Strong password hashing, optional MFA, login throttling and secure session expiry.
- TLS for all client/server traffic; encryption for database backups and document storage.
- Secrets stored in a managed secret store or protected environment configuration, never in source code.

- Tenant isolation tests and authorization checks on every API endpoint.
- Audit log for login, master changes, price overrides, purchase posting, bill cancellation, stock adjustment, permissions and data exports.
- Posted vouchers and ledger entries must be immutable; correction via linked reversal/adjustment.
- Automated daily database backup with at least 30-day retention; object storage backup/versioning policy.
- Periodic restore drills and documented disaster recovery process.
- Privacy controls for patient/prescription information, including least-privilege access and retention policy.

16. Regulatory and Compliance Considerations

The product is intended for the Indian market. The customer remains responsible for operating under valid licences and applicable laws. The software must provide configurable controls and records to support compliance; legal requirements should be validated by a qualified pharmacy/regulatory professional before release and periodically thereafter.

- Capture pharmacy drug licence and pharmacist registration information where relevant.
- Support configurable controls for Schedule H, H1, X and other regulated categories as applicable.
- Maintain required restricted-sale records and prescription attachments where legally required.
- Provide batch traceability, supplier/customer references and audit-ready transaction history.
- Prevent or warn on expired, recalled or restricted stock according to configured policy.
- Support GST workflows and tax reports in line with current rules.
- Do not hard-code legal interpretations or assume every medicine category has identical requirements; maintain configurable, versioned rules.
- Prescription OCR and generic/substitute suggestions are assistive only and do not replace pharmacist judgement or legal dispensing checks.

17. Acceptance Criteria and Test Scenarios

ID	Acceptance test	Expected result
AC-01	Create medicine with brand, salt, strength, pack, HSN, GST and unit conversion.	Medicine saves; duplicate warning works; stock unit conversion is consistent.
AC-02	Post retail sale using barcode and selected batch.	Invoice prints; stock reduces from correct batch; payment and ledger entries balance.
AC-03	Create wholesale order with credit limit and partial dispatch.	Reserved stock, dispatch, invoice and customer outstanding reconcile.
AC-04	Upload searchable PDF supplier invoice.	Header and line fields extracted; review screen shows source and confidence.
AC-05	Upload scanned multi-page invoice from an unseen supplier layout.	OCR/AI extracts supported fields or flags uncertain fields; no silent auto-post.
AC-06	Invoice contains a medicine alias matching an existing product.	Candidate mapping is suggested with evidence; user can approve or correct.
AC-07	Invoice contains unknown medicine, ambiguous batch or expiry.	Line is flagged; posting is blocked until required fields are resolved.
AC-08	Upload same supplier invoice twice.	Duplicate detection warns/blocks based on configured policy.
AC-09	Approve and post reviewed purchase.	Batch stock, supplier payable, tax and purchase ledger update exactly once.
AC-10	AI worker times out after upload.	Document remains available; retry is safe and does not create duplicate vouchers.
AC-11	Transfer stock between branches.	Dispatch moves stock to in-transit; receiving branch confirms receipt; no double count.
AC-12	Attempt sale of expired/quarantined stock.	System blocks or applies authorized configured exception with audit reason.
AC-13	Generate trial balance after transactions.	Debits equal credits; drill-down reaches source vouchers.
AC-14	User from Branch A requests Branch B data without permission.	API denies access; event is logged.
AC-15	Restore database and documents from backup.	Recovery meets approved RPO/RTO and restored data passes integrity checks.

18. Phased Implementation Plan

Phase	Deliverables
Phase 1 – Core foundation	Organization, branches, users, medicine/party masters, purchase, sales, batch stock, expiry, basic reports and invoice printing.
Phase 2 – Wholesale and accounting	Wholesale orders, credit controls, dispatch, returns, double-entry accounting, GST registers, financial statements and bank reconciliation.
Phase 3 – AI purchase automation	Multi-format upload, OCR, AI extraction, medicine matching, batch checks, review UI, approval, posting and exception analytics.
Phase 4 – Enterprise operations	Advanced multi-branch, stock transfers, central purchasing, approvals, WhatsApp, advanced reporting and audit tools.
Phase 5 – Intelligence and extensions	Demand forecasting, smart reorder, prescription assistance, mobile dashboard, online ordering and delivery management.

Recommended delivery approach: release a usable core ERP first, then introduce AI invoice scanning behind a feature flag. Pilot the AI module with real invoices from a representative group of suppliers, measure field-level accuracy and correction rates, and expand supplier coverage based on evidence.

19. Assumptions, Exclusions and Open Decisions

Baseline assumptions

- One organization can have one or many branches; single-branch customers use the same architecture.
- Online cloud operation is the only required deployment mode for this baseline.
- INR and Indian GST workflows are the initial market baseline.
- Both retail and wholesale are enabled within the same product, with configurable branch/business settings.
- AI invoice import is assistive and human-approved; automatic posting without review is not part of the baseline.
- Cloud hosting, AI/OCR usage and third-party API charges are operating costs to be estimated separately.

Items to confirm during discovery

- Expected number of organizations, branches, users, invoices/day and invoice pages/day.
- Whether each branch has separate GSTIN/legal entity or all branches operate under one GST registration.
- Required pharmacy-specific statutory registers and exact control policies for the target states/business model.
- Preferred backend stack based on the development team's skills (Laravel or Node.js); this SRS recommends modular architecture rather than mandating one language.
- AI/OCR provider selection, data residency, retention and whether invoice data may be processed by an external AI provider.
- Whether payroll, native mobile apps, online customer ordering, delivery tracking and Tally integration are in the first release.

Definition of done

A release is complete when its approved requirements are implemented, automated tests pass, role/branch security tests pass, transaction and accounting reconciliations are verified, backup restoration is demonstrated, user acceptance testing is signed off, and operational documentation/training is delivered.

End of SRS · This document is a development baseline. Final legal controls, tax configurations, hosting sizing and AI accuracy thresholds must be confirmed during discovery and user acceptance testing.