

# BUSINESS REQUIREMENTS DOCUMENT (BRD)

## Clinic Management System (CMS)

**Project Name:** Revive Hospital CMS

**Architecture:** Web-based (Desktop / Tablet)

**Database:** Single Centralized Database

**Access Control:** Role-Based (RBAC)

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## 1. CORE SYSTEM PRINCIPLES

### 1.1 Visit-Centric Architecture

- Patient is a permanent entity
- Every interaction happens inside a **Visit**
- One Visit = one episode of care
- All charges must link to VisitID

Modules linked to Visit:

- Doctor consultation
  - Lab tests
  - Pharmacy sales
  - Casualty
  - Billing
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## 1.2 Identifiers & Data Integrity

- Patient phone number = unique identifier
  - All tables use UUID as primary key
  - Soft delete (is\_deleted) mandatory
  - Full audit trail required
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## 1.3 Security

- Role-based access to modules & actions
  - Roles:
    - Admin
    - Reception
    - Doctor
    - Lab
    - Pharmacy
    - Casualty
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## 2. USER AUTHENTICATION & AUTHORIZATION

### Table: users

Field	Description
u_id	UUID

Field	Description
username	Login name
password_hash	Encrypted
role	User role
is_active	Enable / Disable

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### 3. RECEPTION & PATIENT MODULE

#### 3.1 Patient Registration

- Search by phone number
- If exists → retrieve
- If not → create new patient

#### Table: patients

Field	Description
p_id	UUID
full_name	Name
age	Age
gender	M / F / O
phone	Unique
address	Address

Field	Description
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id_proof	ID
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### 3.2 Visit Management

#### Table: visits

Field	Description
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v_id	UUID
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p_id	FK
------	----

doctor_id	FK
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status	OPEN / IN_PROGRESS / CLOSED
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vitals	JSON (BP, Temp, etc.)
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## 4. DOCTOR MODULE

### Features

- View assigned visits
- Enter diagnosis
- Prescribe medicines
- Order lab tests

#### Table: doctor\_notes

Field	Description
note_id	UUID
v_id	FK
diagnosis	Text
prescription	JSON
notes	Text

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## 5. LABORATORY MODULE

### Features

- Test ordering from doctor
- Stock tracking (reagents)
- Auto billing

### Tables

#### lab\_inventory

Field	Description
item_id	UUID
item_name	Name
category	REAGENT / KIT
qty	Quantity

Field	Description
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reorder_level	Alert
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### lab\_charges

Field	Description
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lc_id	UUID
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v_id	FK
------	----

test_name	Test
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amount	Charge
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## 6. PHARMACY MODULE (FULLY ENHANCED)

### 6.1 Scope

The Pharmacy module shall manage:

- Supplier management
- Stock IN (bulk upload)
- Stock OUT (barcode-based sales)
- Batch & expiry tracking
- Visit & walk-in sales

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## 7. SUPPLIER MANAGEMENT

## Table: pharma\_suppliers

Field	Description
supplier_id	UUID
supplier_name	Supplier
phone	Contact
address	Address
gst_no	GST
is_active	Status

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## 8. STOCK IN – BULK UPLOAD (PURCHASE INVOICES)

### 8.1 Requirement

- Stock must enter system **only via supplier invoices**
  - Manual stock creation is not allowed
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### 8.2 Purchase Invoice Upload

## Table: pharma\_purchase\_invoices

Field	Description
purchase_id	UUID
supplier_id	FK

Field	Description
supplier_invoice_no	Invoice No
invoice_date	Date
credit_days	Credit
purchase_type	CASH / CREDIT
total_amount	Total
created_by	User
created_at	Timestamp

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**Table: pharma\_purchase\_items**

Field	Description
item_id	UUID
purchase_id	FK
product_name	Medicine
barcode	Barcode (if available)
batch_no	Batch
expiry_date	Expiry
qty	Purchased qty



Field	Description
free_qty	Free qty
purchase_rate	Rate
mrp	MRP
ptr	PTR
manufacturer	Manufacturer
hsn	HSN

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### 8.3 Flexible Column Mapping (MANDATORY)

- Excel/CSV field names may differ
  - System provides mapping UI
  - Mapping saved per supplier & format
  - Auto-applied on next upload
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### 8.4 Stock Update Logic

- Match by: product\_name + batch\_no + expiry
  - If exists → increase qty
  - Else → create new stock record
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## 9. PHARMACY STOCK MASTER

**Table: pharmacy\_stock**

<b>Field</b>	<b>Description</b>
med_id	UUID
name	Medicine name
barcode	Barcode
batch_no	Batch
expiry_date	Expiry
mrp	MRP
selling_price	Price
qty_available	Qty
supplier_id	FK
is_deleted	Soft delete

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## 10. STOCK OUT – SALES (BARCODE BASED)

### 10.1 Sales Modes

- Patient sale (linked to Visit)
  - Walk-in sale (no Visit)
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## 10.2 Barcode Sales Flow

1. Scan barcode
  2. System fetches medicine + batch
  3. Auto-select nearest expiry (FIFO)
  4. Reduce stock in real-time
  5. Push item to billing
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## 10.3 Pharmacy Sales Table

**Table: pharmacy\_sales**

Field	Description
sale_id	UUID
v_id	FK / NULL
sale_date	Date
total_amount	Total
payment_status	PAID / PENDING

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**Table: pharmacy\_sale\_items**

Field	Description
item_id	UUID

Field	Description
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sale_id	FK
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med_id	FK
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qty	Quantity
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unit_price	Price
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amount	Total
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## 11. CASUALTY MODULE

### Features

- Minimal patient entry
- Emergency visit creation
- Movement tracking

### Table: casualty\_logs

Field	Description
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log_id	UUID
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v_id	FK
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transfer_path	Path
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treatment_notes	Notes
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## 12. BILLING & REPORTS MODULE

### 12.1 Billing Logic

- One invoice per Visit
  - Aggregates:
    - Doctor
    - Lab
    - Pharmacy
    - Casualty
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#### Tables

##### invoices

Field	Description
inv_id	UUID
v_id	FK / NULL
total_amount	Total
payment_status	PAID / PENDING
created_at	Timestamp

##### invoice\_items

<b>Field</b>	<b>Description</b>
item_id	UUID
inv_id	FK
dept	Source module
description	Item
amount	Charge

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## **13. REPORTS & AUDIT**

### **Reports**

- Stock IN / OUT
- Expiry report
- Supplier-wise purchase
- Sales by barcode
- Visit billing summary

### **Audit**

- User
  - Date/time
  - Action
  - Source file (for bulk uploads)
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## 14. FINAL SUMMARY

**This BRD supports:**

- ✓ Bulk Stock IN (supplier invoices)
- ✓ Barcode-based Stock OUT (sales)
- ✓ Visit & walk-in sales
- ✓ Unlimited suppliers & formats
- ✓ Real-world pharmacy workflow
- ✓ Scalable hospital operations