

Umbrella Billing System

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Umbrella Billing System

1. Project Introduction

The **Umbrella Billing** system is a centralized billing and inventory management application designed for wholesale and retail businesses. It automates the entire business lifecycle, including master data management (Items and Parties), order tracking, purchase and sale transactions, financial ledger maintenance, and stock reporting.

2. Folder and File Structure

1. Root Directory

The root directory contains the core controllers and the application entry point.

- **index.php:** The main entry point that manages session checks, initializes database connections, and dynamically loads view pages based on URL parameters.
- **action.php:** The central AJAX handler that processes all asynchronous requests, such as adding items, saving bills, and calculating party outstanding balances.
- **login.php:** Handles user authentication by verifying credentials against the database.

2. view/ (UI Modules)

This folder contains the individual functional pages of the application.

- **Master:** create_item.php, create_party.php, rate_list.php.
- **Transactions:** sale_product.php, purchase_product.php, sale_return.php, purchase_return.php.
- **Orders:** sale_order.php, purchase_order.php, sale_order_list.php, purchase_order_list.php.
- **Financials:** receive_payment.php, party_payment.php, party_ledger.php, day_book.php.

3. print/ (Generation & Reporting)

Contains scripts specialized for generating printable versions of documents.

- printsale.php, printpurchase.php, printreceipt.php, printpartyledger.php.

4. db/ (Database Logic)

- **connect.php:** Establishes the MySQLi database connection using defined constants.
- **constant.php:** Defines database credentials (DB_HOST, DB_NAME, etc.) and timezone settings.
- **operations.php:** A comprehensive class (DBOperations) containing reusable methods for CRUD operations, currency formatting, and file uploads.

5. inc/ (Reusable Components)

- **constant.php:** Defines global application variables like the base Home Link
- **header.php:** Contains the navigation menu and global styling/script includes.

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3. User Authentication

- **Login:** Users must authenticate via login.php. The system checks the username and password against the admin_tbl.
 - **Session Management:** Successful login initializes \$_SESSION['username'] and \$_SESSION['usertype']. Every page access through index.php requires an active session; otherwise, the user is redirected to the login page.
 - **Access Control:** The application distinguishes between "Admin" and "User" types to control access to specific administrative functions.
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4. Master Management

- **Create Item:** Allows the definition of products with an associated name and default rate.
 - **Create Party:** Manages the profiles of suppliers and customers. Parties are categorized by type: Purchase, Sale, or Both.
 - **Opening Balances:** Administrators can set or update initial opening balances for parties to ensure accurate ledger starting points.
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5. Order Management

The system tracks orders independently before they are converted into finalized bills.

- **Sale Orders:** Records customer requirements including item details and quantities.
- **Purchase Orders:** Tracks orders placed with suppliers.
- **Status Tracking:** Specialized reports like order_sale_details.php and order_purchase_details.php help monitor which orders are pending or fulfilled.

6. Purchase & Sale Management

This module handles the core transactional data entry.

- **Bill Headers:** Tracks billno, billdate, partyid, and transport details like biltyno and dispatch.
- **Line Items:** Supports detailed entry for each product, including quantity across three units: **Bundles, Dozens, and Pieces**.
- **Charges & Discounts:** Allows adding bundlecharge, othercharge, and discount to the total bill amount.
- **Inventory Impact:** Finalizing a sale or purchase record updates the related detail tables (sale_detail or purchase_detail) for inventory tracking.

7. Payment & Receipts

Manages the financial relationship with parties.

- **Receive Payment:** Used for recording incoming cash or bank transfers from customers (linked to pay_tbl).
 - **Party Payment:** Used for recording outgoing payments to suppliers (linked to partypay_tbl).
 - **Discounts:** Financial entries also support recording settlement discounts alongside the actual payment amount.
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8. Reporting & Analytics

- **Party Ledger:** Generates a detailed statement showing every transaction (Bill, Payment, Return) for a specific party to calculate their current balance.
 - **Day Book:** A chronological log of all transactions occurring on a specific date.
 - **Item Availability:** Provides real-time stock levels by calculating the difference between total purchased items and total sold items.
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9. Formulas & Logic

1. Unit Conversion Logic

The system uses a three-tier quantity system (**Bundle**, **Dozen**, and **Piece**) to calculate the total base quantity for an item.

- **Formula:** Total Pieces = (Bundles * Dozens_Per_Bundle * 12) + (Dozens * 12) + Pieces
 - **Example:** If you are selling an item where 1 Bundle contains 10 Dozens:
 - **Input:** 2 Bundles, 5 Dozens, and 3 Pieces.
 - **Calculation:** $(2 * 10 * 12) + (5 * 12) + 3 = 240 + 60 + 3 = \text{303 Total Pieces.}$
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2. Row Net Total Calculation

This formula calculates the total value of a single line item within a bill before any invoice-level charges.

- **Formula:** Row Total = (Total Quantity In Primary Unit * Rate) (*Note: Depending on the item setup, the Rate may apply to Dozens or Pieces.*)
 - **Example (Rate per Dozen):**
 - **Quantity:** 24 Pieces (2 Dozens).
 - **Rate:** ₹120 per Dozen.
 - **Calculation:** $2 \text{ Dozens} * 120 = \text{₹240.00.}$
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3. Bill Grand Total Calculation

This logic determines the final amount the customer must pay for a finalized invoice, factoring in additional service charges and discounts.

- **Formula:** Grand Total = (Sum of all Row Totals + Bundle Charges + Other Charges) - Invoice Discount
 - **Example:**
 - **Total of Items:** ₹5,000.00
 - **Bundle Charges:** ₹100.00
 - **Other Charges:** ₹50.00
 - **Discount:** ₹200.00
 - **Calculation:** $(5000 + 100 + 50) - 200 = \text{₹4,950.00.}$
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4. Party Outstanding Balance Logic

The system dynamically calculates the real-time balance for any party (customer or supplier) by aggregating data from the opening balance, bills, payments, and returns.

- **Formula:** Outstanding = (Opening Balance + Total Net Bill Amounts) - (Total Payments Received + Total Settlement Discounts + Total Sales Returns)
- **Example (Customer Ledger):**
 - **Opening Balance:** ₹1,000.00 (Previous balance brought forward)
 - **Total Sales Bills:** ₹10,000.00 (New purchases by customer)
 - **Payments Received:** ₹5,000.00 (Cash/Cheque paid by customer)
 - **Settlement Discount:** ₹500.00 (Discount given during payment)
 - **Sales Returns:** ₹1,500.00 (Goods sent back by customer)
 - **Calculation:** $(1000 + 10000) - (5000 + 500 + 1500)$
 - **Process:** $11000 - 7000 = \text{₹4,000.00 (Current Outstanding)}$.

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10. Database Tables Overview

| S. No. | Table Name | Description |
|--------|------------------------------|---|
| 1 | admin_tbl | Stores system user credentials, including usernames, passwords, and assigned user types. |
| 2 | item_tbl | Serves as the master list for products, storing item names and their default rates. |
| 3 | party_tbl | Contains comprehensive profiles for all customers and suppliers, including contact info and opening balances. |
| 4 | sale_tbl | Stores the header information for finalized sales invoices, such as bill numbers and total amounts. |
| 5 | sale_detail | Itemizes the specific products, quantities, and rates included in each finalized sales invoice. |
| 6 | salereturn_tbl | Records the summary information for goods returned by customers, including return dates and totals. |
| 7 | salereturn_detail | Lists the specific individual items and quantities returned by customers. |
| 8 | purchase_tbl | Stores the header records for incoming inventory from suppliers, including transport details. |
| 9 | purchase_detail | Itemizes the individual products and quantities received in each purchase transaction. |
| 10 | purchasereturn_tbl | Records the header data for stock returned to suppliers. |
| 11 | purchasereturn_detail | Lists the specific items being sent back to suppliers. |
| 12 | saleorder_tbl | Tracks the primary details of customer orders prior to being converted into official bills. |
| 13 | saleorder_detail | Itemizes the products and quantities requested in a customer's sale order. |
| 14 | purchaseorder_tbl | Manages the main details of orders placed with suppliers. |
| 15 | purchaseorder_detail | Lists the specific items and quantities requested from a supplier in a purchase order. |
| 16 | pay_tbl | Logs all incoming payments and financial discounts received from customers. |
| 17 | partypay_tbl | Logs all outgoing payments made to suppliers for purchase settlements. |