Sales Management System - Summary & Daily Plan

Sales Management System - Full Summary

1. Core Purpose

Build a smart, efficient sales management system that helps businesses:

- Track products and inventory
- Automatically update stock when products are sold
- Calculate profit and loss accurately
- Handle multiple payment methods (cash, POS, online payment gateways)
- Generate receipts for walk-in customers and invoices for online customers
- Use barcode scanning for fast and accurate product identification
- Manage both walk-in and online sales seamlessly

2. Key Features

- Product Registration: Add new products with details: name, barcode, cost price, selling price, quantity
- Barcode Integration: Use barcode scanning to quickly find products during sale or stock check
- Inventory Management: Automatically update product quantities on sales and restocks
- Profit & Loss Calculation: Calculate profits based on average cost price or latest cost price
- Sales Tracking: Record each sale with timestamp, payment type, products sold
- Multiple Payment Methods: Accept cash, POS (card), and online payments via Payment Gateway (Flutterwave, Paystack)
- Receipts & Invoices: Generate printable receipts for walk-in sales, invoices for online orders
- Order Management (Online): Handle online orders with barcode-assisted picking and packing
- Smart Payment Gateway Integration: Seamless payment process for online customers
- Reports and Analytics: Show daily/weekly/monthly sales, stock levels, profit/loss, low stock alerts

3. How Barcode Works in the System

- Barcodes are unique numeric codes linked to each product.
- Barcodes are either printed on product packaging by manufacturers or printed by the store for local items.
- During sale, scanning the barcode instantly fetches product details.

- Speeds up checkout for walk-in customers and ensures accuracy.
- For online orders, barcode scanning is used by warehouse staff to confirm correct items are picked.

4. Walk-in Customer Flow

1. Customer picks products with barcodes.
2. Cashier scans barcode to add product to cart.
3. System calculates total and applies prices.
4. Customer pays via cash, POS, or other accepted methods.
5. Receipt is generated and stock updated.
6. Profit/loss recorded based on sale.

5. Online Customer Flow

1. Customer scans barcode (via app or website) or selects products.
2. Products are added to online cart.
3. Customer pays using integrated payment gateway.
4. Order details sent to warehouse.
5. Warehouse scans barcodes to pick correct products.
6. Order is shipped, and system updates stock and sales data.
7. Invoice is generated and sent.

6. Payment Gateway Integration

- Integrate popular Nigerian-friendly gateways like Flutterwave or Paystack for online payments.
- Support cash and POS machine payments for walk-in.
- Track payment status and link payments to sales for accounting.

7. Profit & Loss Handling

- Use average cost price for more accurate profit calculation when supplier prices change.
- Track all expenses including non-product business costs (rent, utilities) separately to analyze true profit.
- Provide dashboard/report showing profitability over time.

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8. System Architecture & Technology

- Backend: Node.js with Express.js
- Database: PostgreSQL (or preferred relational DB)
- Frontend: EJS templates with HTML/CSS/Bootstrap
- Barcode Scan: USB barcode scanners (keyboard input)
- Payment: Payment Gateway APIs (Flutterwave, Paystack)
- Hosting: Cloud hosting (Render, Heroku, AWS, etc.)

9. Project Timeline & Milestones (Estimate)

Week 1: Setup project, database schema, product registration with barcode

Week 2: Build product scanning, cart, and inventory update flow

Week 3: Implement sales recording, payment integration (cash, POS, gateway)

Week 4: Build receipts, reports, and dashboard for profit/loss & stock alerts

Week 5: Online order system with barcode picking and packing

Week 6: Final testing, bug fixing, deployment, and documentation

10. Next Steps

- Start by defining your database tables with barcode fields.
- Build product registration flow including barcode input.
- Implement barcode scanning input and product lookup in sales page.
- Integrate payment methods (start with cash/POS, then add payment gateway).
- Add reports and analytics to track business performance.
- Expand to online order handling and warehouse barcode scanning.

Daily Target Plan to Complete Sales Management System

Day 1: Project setup, environment config, database design with product & barcode tables (4-5 hours)

Day 2: Build product registration form & backend API including barcode input & validation (4-5 hours)

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Day 3: Implement product listing, search by barcode, and update inventory logic (4-5 hours)

Day 4: Create sales page: scan barcode, add products to cart, update stock in DB (5-6 hours)

Day 5: Implement payment options (cash, POS simulation), generate printable receipts (5-6 hours)

Day 6: Integrate online payment gateway (Flutterwave/Paystack), test payment flow (6-7 hours)

Day 7: Build profit/loss calculation & reporting dashboard (4-5 hours)

Day 8: Develop online order system: cart, order submission, barcode picking for warehouse (6-7 hours)

Day 9: Add stock alerts and low inventory notifications (4-5 hours)

Day 10: Final testing, bug fixes, deployment setup (5-6 hours)