# Software Development Timing Plan — NeuroBuy

Tech Stack: Next.js + Supabase + Vercel

Total Duration: 7 Weeks (49 Days)

## Phase 1 — Planning & Analysis (Days 1–4)

- Requirement Finalization (1 day): Confirm all functional and non-functional requirements based on the SRS.  
- User Journey Mapping (1 day): Define workflows for Customer, Vendor, Logistics, and Admin roles.  
- Database Schema Design (1 day): Create ER diagram and define relationships.  
- UI Wireframes (1 day): Design wireframes for all roles using Figma.  
Deliverables: Approved SRS, Database schema, and wireframes.

## Phase 2 — Environment Setup (Days 5–7)

- Repository Setup (0.5 day): Initialize GitHub repository and branch strategy.  
- Next.js Initialization (0.5 day): Create Next.js project with TailwindCSS.  
- Supabase Configuration (1 day): Connect project to Supabase, configure environment variables.  
- Supabase Auth Setup (1 day): Configure Supabase Auth for Customer, Vendor, Logistics, and Admin roles.  
Deliverables: Connected project skeleton and Supabase integration.

## Phase 3 — Core Frontend Development (Days 8–18)

- Landing Page & Navigation (1 day)  
- Product Catalog & Details (2 days)  
- Customer Authentication Pages (1 day)  
- Vendor Authentication Pages (1 day)  
- Logistics Authentication Pages (1 day)  
- Admin Login Page (0.5 day)  
- Customer Dashboard (2 days)  
- Vendor Dashboard (2 days)  
- Logistics Dashboard (1.5 days)  
- Global Header/Footer + UI Consistency (1 day)  
Deliverables: All role-based authentication pages and dashboards connected to Supabase Auth.

## Phase 4 — Backend & Database Implementation (Days 19–25)

- Supabase Table Creation (1 day): Create tables for users, products, orders, shipments, payments.  
- RLS Policy Configuration (1 day): Enable role-based access.  
- Vendor CRUD APIs (1 day): Implement product management.  
- Customer Order APIs (1 day): Handle order placement and tracking.  
- Logistics APIs (1 day): Implement shipment updates.  
- Admin Controls (1 day): User approvals, audit, and system management.  
Deliverables: Fully functional Supabase backend with CRUD operations and security.

## Phase 5 — Frontend ↔ Backend Integration (Days 26–32)

- Customer Orders & Checkout (2 days): Integrate checkout flow with Supabase.  
- Vendor Storefront (2 days): Display vendor-specific products.  
- Shipment Tracking (2 days): Real-time updates using Supabase Realtime.  
- Admin Panel Integration (1 day): Manage vendors, logistics, and users.  
Deliverables: Fully synchronized frontend and backend.

## Phase 6 — Payment & Security Integration (Days 33–37)

- MTN MoMo / Orange Money Integration (2 days): Integrate local payment APIs.  
- Payment Confirmation (1 day): Update Supabase payment and order tables.  
- Security Enhancements (1 day): JWT verification and RLS enforcement.  
- Email Notifications (1 day): Integrate EmailJS/Resend for notifications.  
Deliverables: Secure checkout and communication system.

## Phase 7 — Testing & QA (Days 38–44)

- Unit Testing (2 days): Use Jest and React Testing Library.  
- Role-Based Testing (2 days): Validate Customer, Vendor, Logistics, and Admin modules.  
- Cross-Platform Testing (1 day): Mobile and browser compatibility.  
- Integration Testing (1 day): Verify Supabase, payment, and email APIs.  
- Bug Fixes & Refinement (1 day): Final polish.  
Deliverables: Stable, bug-free platform.

## Phase 8 — Deployment & Monitoring (Days 45–47)

- Vercel Frontend Deployment (1 day): Connect GitHub CI/CD.  
- Supabase Production Setup (1 day): Configure production database and backups.  
- Domain & SSL Configuration (1 day): Connect custom domain and HTTPS.  
Deliverables: Live production environment.

## Phase 9 — Optimization & Documentation (Days 48–49)

- Performance Optimization (1 day): API optimization, lazy loading, caching.  
- Documentation & Handover (1 day): Prepare API documentation, deployment guide, and admin manual.  
Deliverables: Optimized and documented production-ready system.

## Summary Timeline

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| Phase | Description | Duration |
| 1 | Planning & Analysis | 4 days |
| 2 | Environment Setup | 3 days |
| 3 | Core Frontend Development | 11 days |
| 4 | Backend Implementation | 7 days |
| 5 | Frontend–Backend Integration | 7 days |
| 6 | Payment & Security Integration | 5 days |
| 7 | Testing & QA | 7 days |
| 8 | Deployment | 3 days |
| 9 | Optimization & Documentation | 2 days |
| Total | Full Project Duration | 49 days (~7 weeks) |