| **Phase** | **Timeframe** | **Deliverables** | **Key Tech Stack / Tools** | **Notes** |
| --- | --- | --- | --- | --- |
| **1. Planning & Setup** | Week 1–2 | - Finalize specs - ER Diagram - Setup repo, environment - Project roadmap | Notion, GitHub, Lucidchart, MongoDB Atlas | Prep phase. Finish all planning here. |
| **2. Auth & User Roles** | Week 3–4 | - Sign up/login (email, social) - JWT-based auth - Role system (Admin, Vendor, Customer) | NextAuth, Node.js (Express), JWT, MongoDB | Reusable auth system |
| **3. Vendor & Business Profiles** | Week 5–6 | - Business listing creation - Profile management - Media uploads (logo, cover) | Next.js, **Amazon S3**, MongoDB | Amazon S3 used for image/file uploads |
| **4. Product Catalog & Inventory** | Week 7–8 | - Product creation/edit - Inventory management - Categories, Tags | MongoDB, Node.js APIs, Amazon S3 | Product images stored on S3 |
| **5. Booking & Scheduling** | Week 9–10 | - Service booking - Availability calendar - Notifications (email) | FullCalendar, NodeMailer, MongoDB | For service-based vendors |
| **6. E-commerce & Checkout** | Week 11–12 | - Cart - Checkout - Payment (Stripe) - Order history | Stripe API, MongoDB, Node.js | Launchable MVP milestone |
| **7. Search & Filters** | Week 13 | - Search by name, category, etc. - Faceted filters - Optional: Vector search | Meilisearch or Typesense, MongoDB *(Optional: MongoDB Atlas Vector)* | Use vector DB if AI recs needed |
| **8. Personalized Recommendations** | Week 14–15 | - Collaborative filtering - AI-driven suggestions - Recently viewed, similar products | MongoDB, OpenAI API or ML Model, **Vector DB** (e.g., Pinecone, Atlas Vector) | Optional AI/ML layer |
| **9. Analytics & Insights** | Week 16–17 | - Business dashboard - Traffic data (via Plausible) - Sales & conversion charts | Plausible Analytics, Chart.js, MongoDB | Add Plausible to frontend |
| **10. Community & Messaging** | Week 18–19 | - Forums - Reviews - Direct vendor messaging | Socket.io, MongoDB | Engagement features |
| **11. Admin Panel** | Week 20 | - User, business moderation - Reports - Revenue tracking | Next.js Admin UI, MongoDB | Needed for platform control |
| **12. Testing & QA** | Week 21–22 | - Unit & integration tests - Manual testing - Fix bugs | Jest, Cypress, Postman | Continuous QA |
| **13. Deployment & Launch** | Week 23–24 | - Host frontend/backend - Final polish - Soft launch | Vercel (Next.js), Railway or Render (Node.js), MongoDB Atlas, Amazon S3 | Final go-live milestone |