**🎯 Priority Implementation Plan (4-Week Sprint)**

**Logical Decision Matrix**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criteria | Weight | Foundation | Business Logic | Frontend | Integration |
| Technical Dependency | 30% | Critical (10) | High (8) | Medium (6) | Low (4) |
| Business Impact | 25% | High (8) | Critical (10) | Medium (6) | High (8) |
| Development Risk | 20% | High (8) | Medium (6) | Low (4) | High (8) |
| User Value | 15% | Low (3) | High (8) | Critical (10) | Medium (6) |
| Time Complexity | 10% | Medium (6) | High (8) | Medium (6) | High (8) |
| TOTAL SCORE | 100% | 7.4 | 8.2 | 6.0 | 6.8 |

**Priority Reasoning:**

1. **Foundation (Week 1)**: Essential infrastructure - nothing works without it
2. **Business Logic (Week 2)**: Core functionality that delivers immediate value
3. **Integration (Week 4)**: Critical for production readiness
4. **Frontend (Week 3)**: Important for usability but can be developed in parallel

Week 1: Foundation & Core Setup (Days 1-7)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Priority | File/Component | Implementation Days | Dependency Level | Business Impact | Technical Risk |
| 1 | MongoDB Configuration | 1 | None | High | High |
| 2 | Docker Setup | 1-2 | MongoDB | High | Medium |
| 3 | Authentication Enhancement | 2-3 | Docker | High | Low |
| 4 | Core Models | 3-4 | Auth | Critical | Medium |
| 5 | Basic Migrations/Seeders | 4-5 | Models | High | Low |
| 6 | Redis Cache Setup | 5-6 | Docker | Medium | Low |
| 7 | API Routes Structure | 6-7 | Models | High | Low |

Week 2: Core Business Logic (Days 8-14)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Priority | File/Component | Implementation Days | Dependency Level | Business Impact | Technical Risk |
| 8 | Product Management | 8-9 | Models | Critical | Low |
| 9 | Inventory System | 9-10 | Products | Critical | Medium |
| 10 | Category Management | 10-11 | Products | High | Low |
| 11 | Supplier Management | 11-12 | Products | High | Low |
| 12 | Stock Movement Tracking | 12-13 | Inventory | Critical | Medium |
| 13 | Basic CRUD APIs | 13-14 | All Above | High | Low |

Week 3: Advanced Features & Frontend (Days 15-21)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Priority | File/Component | Implementation Days | Dependency Level | Business Impact | Technical Risk |
| 14 | Order Management | 15-16 | Products/Inventory | Critical | Medium |
| 15 | Dashboard UI Components | 16-17 | APIs | High | Low |
| 16 | Product Management UI | 17-18 | Dashboard | High | Low |
| 17 | Inventory Management UI | 18-19 | Product UI | High | Low |
| 18 | Reports & Analytics | 19-20 | All Data | Medium | Medium |
| 19 | Search & Filtering | 20-21 | UI Components | Medium | Low |

Week 4: Integration & Optimization (Days 22-28)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Priority | File/Component | Implementation Days | Dependency Level | Business Impact | Technical Risk |
| 20 | Performance Optimization | 22-23 | All Features | High | Medium |
| 21 | Testing Implementation | 23-24 | Core Features | High | Low |
| 22 | Error Handling & Validation | 24-25 | All Features | High | Low |
| 23 | Security Implementation | 25-26 | Complete System | High | Medium |
| 24 | Documentation | 26-27 | Complete System | Medium | Low |
| 25 | Deployment & Final Testing | 27-28 | Everything | High | High |

**📋 4-Week Development Plan**

**Week 1: Foundation & Setup**

* **Days 1-2**: Environment setup, Docker configuration, MongoDB connection
* **Days 3-4**: Authentication system, user management, basic models
* **Days 5-7**: Core database structure, migrations, seeders

**Week 2: Backend Core Features**

* **Days 8-10**: Product management, category system, inventory tracking
* **Days 11-12**: Supplier management, stock operations
* **Days 13-14**: Order processing, sales management

**Week 3: Advanced Features & Frontend**

* **Days 15-17**: Reporting system, analytics, dashboard APIs
* **Days 18-19**: Frontend components, dashboard UI
* **Days 20-21**: Customer management, integration features

**Week 4: Integration & Optimization**

* **Days 22-24**: Testing, Redis caching, performance optimization
* **Days 25-26**: Final integrations, documentation
* **Days 27-28**: Deployment, final testing

**📊 Week-by-Week Implementation Schedule**

**Week 1: Foundation (Days 1-7)**

1. **Environment Setup**
   * Docker configuration with MongoDB and Redis
   * Laravel with MongoDB package setup
   * Basic authentication with Laravel Breeze
2. **Core Models Creation**
   * User, Role, Permission models
   * Product, Category, Supplier models
   * Basic relationships setup

**Week 2: Core Features (Days 8-14)**

1. **Product Management**
   * CRUD operations for products
   * Category management
   * Image upload functionality
2. **Inventory System**
   * Stock tracking
   * Stock movements
   * Low stock alerts

**Week 3: Advanced Features (Days 15-21)**

1. **Order Management**
   * Order processing
   * Order status tracking
   * Invoice generation
2. **Frontend Development**
   * Admin dashboard
   * Product management UI
   * Inventory management UI

**Week 4: Integration & Optimization (Days 22-28)**

1. **Performance & Caching**
   * Redis implementation
   * Query optimization
   * API rate limiting
2. **Testing & Deployment**
   * Unit and feature tests
   * Docker deployment
   * Documentation