

GIAIC: HACKATHON

TASK: 2

PLANNING TECHNICAL FOUNDATION FOR SWORLD

Project Architecture:

1. Tech Stack:

Frontend: Next.js - Used for Server-Side Rendering (SSR) and Static Site Generation (SSG), ensuring fast load times, SEO optimization, and an enhanced user experience.

Styling: Tailwind CSS - A utility-first CSS framework for rapid development and responsive designs.

Backend: Vercel - For easy and scalable hosting, perfect for Next.js projects. Ensures zero downtime and fast deployment.

Database: MongoDB or Firebase - To handle user data, product catalog, and orders.

Payment Integration: Stripe - Secure payment processing system to handle transactions efficiently.

2. Features & Functionality:

User Authentication:

Sign-up, login, and profile management for customers.

Integration with Firebase Auth or JWT (JSON Web Tokens) for secure, reliable authentication.

Product Catalog:

Categories like Sneakers, Formal Shoes, Casual Shoes, etc.

Product filtering options (size, price, type).

Product pages with detailed descriptions, multiple images, and customer reviews.

Search Bar:

Full-text search functionality with filtering options for fast product discovery.

Autocomplete for popular searches to improve user experience.

Cart System:

Simple cart interface to add products, modify quantities, and proceed to checkout.

Payment Gateway:

Stripe integration for secure and fast payments, including support for credit/debit cards, wallets, etc.

Order Management:

Customers can view order history, track orders, and manage returns or exchanges.

Admin Panel:

Dashboard to manage inventory (add, update, delete products).

Manage customer orders and track fulfillment.

Analytics for sales, revenue, and customer behavior.

3. Deployment:

Vercel Hosting:

Vercel optimizes Next.js applications for speed and scalability. The platform provides automatic scaling based on traffic, which is crucial for high-traffic e-commerce websites like Sworld.

CI/CD Pipeline: Integrated GitHub actions for continuous integration and deployment, ensuring smooth updates.

4. Performance Optimization:

Next.js Image Optimization:

Image optimization for faster load times and better SEO. Uses Next.js's built-in image component for responsive images.

Static Site Generation (SSG):

For product catalog pages, ensuring they load instantly and improve SEO.