**BidCommerce: Integrated Online Marketplace**

**1. Introduction**

BidCommerce is an integrated online marketplace that combines the features of an e-commerce website and an auction platform. The platform offers dual functionality where products can be sold directly at a fixed price or put up for auction based on the seller’s preference. It also includes a built-in bid system and a public chat during auctions.

**2. User Roles**

BidCommerce will have five types of users:

**Customer**: Buys products at a fixed price or participates in auctions.

**Seller**: Lists products for sale or auction.

**Worker**: Assists in maintaining the platform’s operations.

**Moderator**: Creates worker accounts and verifies sellers.

**Admin**: Creates moderator accounts.

1. **Features**
   1. **E-commerce**

**Product Listing**: Sellers can list their products with details like name, description, price, and images.

**Shopping Cart**: Customers can add products to their shopping cart and proceed to checkout.

* 1. **Auction**

**Auction Listing**: Sellers can list products for auction with a starting bid.

**Bidding**: Customers can place bids on auction items. The highest bid at the end of the auction wins.

**Public Chat**: A public chat feature is available during auctions for participants to communicate.

1. **System Architecture**

BidCommerce will be developed as a web application with a front-end user interface and a back-end server handling data management and business logic.

* 1. **Front-End**

The front-end will be developed using modern web technologies like Next.js, Material UI, and Tailwind CSS. It will be responsible for displaying the user interface and handling user interactions.

* 1. **Back-End**

The back-end will be developed using Node.js and Express.js. MongoDB will be used as the database for storing user data and product information.

1. **Deployment**

Deployment The application will be deployed on **Netlify** and **Render**, both popular platforms for deploying front-end applications. The back-end server will be deployed on a suitable platform that supports Node.js applications.

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1. Front-End The front-end will be developed using modern web technologies like **Next.js**, **React.js**, Material UI, and Tailwind CSS. It will be responsible for displaying the user interface and handling user interactions.
2. Back-End The back-end will be developed using Node.js and Express.js. **MongoDB** will be used as the database for storing user data and product information.
3. **Future Enhancements**

Future enhancements may include advanced search capabilities, seller ratings, and more.