Ecommerce Site for Artisans with AI Assistance

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Abstract*: India, a country of great cultural heritage and India's cultural diversity in the form of art and craft products provides plenty of opportunities to the local artists. In today's world, most people are using technology for leading their lives and fulfilling their daily needs. In this generation most of us are using E-commerce websites for shopping clothes, groceries, and electronics. We will be developing one E commerce web application by using MERN stack technology. This application will be fully functional with different views for user and admin and it will also be integrated with payment gateway for checkout. Epicraft website aims to help creative entrepreneurs of handloom and handicraft sector*

Keywords: JavaScript, Software Stack, Framework, Library, Performance Analysis, React.js, MongoDB, Node.js, Express.js.

I. INTRODUCTION

Every state of India has a unique handloom product to offer such as jacquard from Uttar Pradesh, Chanderi from Madhya Pradesh, phulkari from Punjab, Brocare from Benares and Daccai from West Bengal. The Indian handloom sector employs 43.31 lakh weavers directly and indirectly throughout the country with 77% of them being women as per government data [7]. This sector through ecommerce will open up with new opportunities for the artisans.

Epicraft community includes creative entrepreneurs who sell on our platform, customers looking to buy Indian traditional and cultural art, goods in marketplace. Epicraft help them grow their business and the individual artist who wants to sell their creativity on our platform and employees who maintain our platform and nurture our ecosystem.

Epicraft is a web site to give employment and take it to a new level through an efficient manner and no time wasting for searching for a required phase of the job placements techniques. The main objective of Epicraft is to efficiently evaluate the sections of the society and identify the artists and craftsmen thoroughly through a fully developed system that not only saves a lot of time but also covers all the fields required to complete a product preparation**.**

II. METHODOLOGY

We have divided the project methodology into 5 modules which includes:

- Coding (Next JS)
- Database (mongo DB)
- Seller
- Customer
- Management
- Delivery and Payment

Complete Workflow Methodology is explained as follows with the help of workflow diagram:
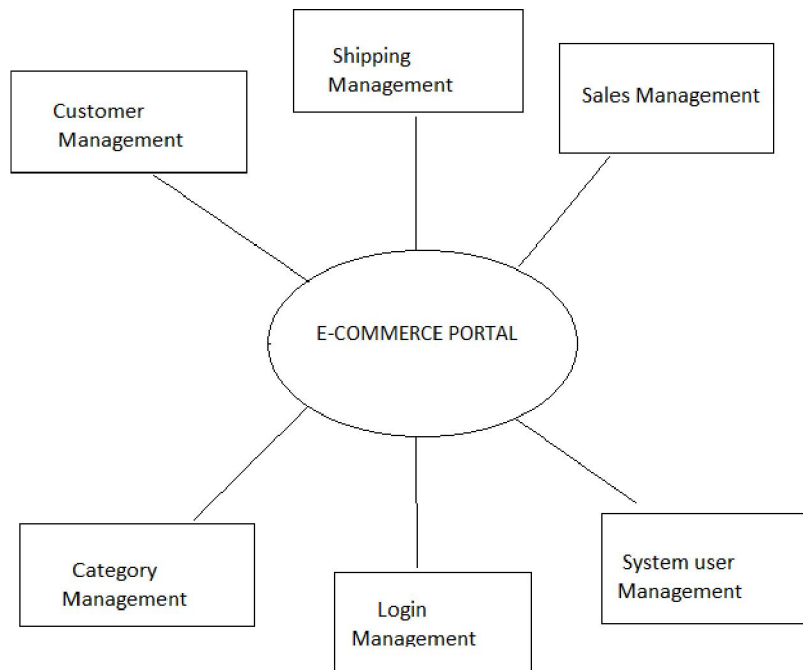
He has any issues regarding products, prices, and any other issues.

Dashboard: This page will be different for the user. Admin Dashboard will have a chance to create some categories and can add products to those categories, as well as admin can delete products and he can change prices also.

Sign in and sign up: These two-option redirects to the page where the user can find a form to fill either to create an account or to sign in to an account.

Cart: After selecting any product users can see their product on this page and here the payment will be carried on. Stripe Payment is included for the cart which is a third-party tool that helps users to make payment by some debit cards, credit cards, UPI's.

FRONT-END Development:

Home Page: The home page of the web Application mainly contains a list of the products which are saved in the database. And there are some options that will be in the menu bar if the user does not sign in/login in yet then "Sign in" and "Sign up" options will be there. The home page will show all type of products, if customer want to add another product, they can simply add a wide r, customers have the facility to add the product to the cart which they like, the customer will have another facility to contact the admin if

BACK-END Development:

Here we define the structure of the data that should be in the database. By using some models which help to store the data in the database like Creating the schemas by mongoose which can mention the names and type of the data. Routers: All the work related to the routing of the pages was done here. ExpressJS is a popular library for routing. CRUD operations and routing related code are saved in this folder.

III. MODULES

User Management Module:

This module manages all aspects of user interaction with the app, including account creation, login, profile management, and authentication. It ensures users can securely access their accounts and manage personal information, settings, and preferences. Key features include secure sign-up/sign-in processes, profile editing capabilities, and account recovery options.

Allow artisans to register on the platform by providing necessary details such as name, email, password, contact information, and artisan profile information. Implement validation checks to ensure data integrity and security. Optionally, enable social media or single sign-on (SSO) registration for a seamless user experience.

Product Management Module:

Artisans use this module to list their products, including details such as descriptions, categories, prices, and images. It facilitates easy management of inventory, allowing artisans to update product information and stock levels. The module supports bulk uploads and edits, making it easier for artisans with many products.

Allow artisans to create and manage product listings, including images, descriptions, prices, and inventory levels. Provide options for categorizing products into relevant categories and subcategories to facilitate navigation and search. Enable artisans to specify product attributes such as size, colour, material, and dimensions for each product variant. Implement customizable attribute options to accommodate variations in artisanal products. Track inventory levels and automatically update product availability based on sales and restocking. Set up low-stock alerts to notify artisans when inventory levels are running low, enabling timely restocking. Offer customization options for certain products, allowing customers to personalize their purchases with customizations such as engraving, embroidery, or colour choices.

Order Management Module:

This module oversees the entire order lifecycle from the shopping cart to delivery. It includes functionality for adding items to a cart, checkout processes, payment, order confirmation, and shipping management. The module integrates with the Payment and Shipping modules to process transactions and manage logistics.

Enable customers to browse products, add items to their shopping carts, and proceed to checkout to place orders. Provide a user-friendly checkout process with options for guest checkout or account creation. Notify artisans and administrators of new orders via email, SMS, or dashboard notifications. Allow artisans to review and confirm orders before fulfilment, including verifying product availability and updating order status. Automatically adjust inventory levels upon order placement to ensure accurate stock tracking

Send automated email or SMS notifications at key order fulfilment stages, such as order confirmation, shipment tracking, and delivery confirmation. Allow customers to modify or cancel their orders within a specified timeframe before shipment. Enable artisans to manage order modifications, cancellations, and refunds through an intuitive interface.

Payment Module:

It handles all payment transactions within the app, supporting multiple payment methods (credit/debit cards, online wallets, etc.). The module securely processes payments, manages transaction records, and handles refunds, ensuring compliance with financial regulations and security standards.

Integrate with one or more secure payment gateways such as PayPal, Stripe, Square, or Authorize.Net to process credit/debit card payments, digital wallet transactions, and other forms of online payments. Ensure PCI DSS compliance to protect sensitive payment information and minimize the risk of data breaches. Offer a variety of payment methods to accommodate diverse customer preferences, including credit/debit cards, PayPal, digital wallets (e.g., Apple Pay, Google Pay), bank transfers, and alternative payment methods Allow customers

to select their preferred payment method at checkout for added convenience.

Maintain a transaction history for each payment processed, including order details, payment status, transaction IDs, and timestamps. Enable artisans to view and manage transaction records through an administrative interface, allowing them to track payments, reconcile accounts, and generate financial reports. Send automated payment confirmation emails or order receipts to customers upon successful payment processing. Notify artisans of new orders and payments received through email, SMS, or dashboard notifications to facilitate order fulfilment and shipment

IV. DESIGN

System Architecture
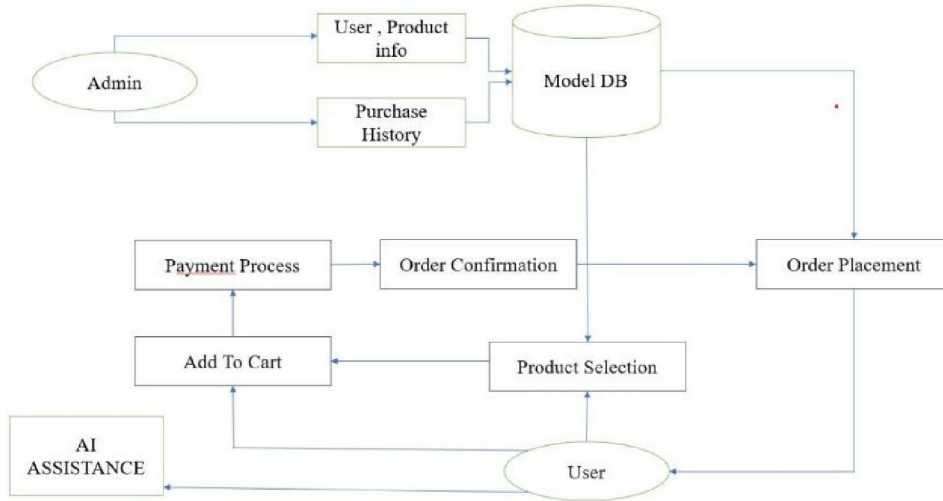
V. IMPLEMENTATION

Step 1: User Registration and Profile Creation

First customer need to do user registration and create our own profile

Step 2: About product information

If user need to know about Artisans product

Step 3: Goto AI Assistance

See the product details with the help of AI Assistance

Step 4: Else move to the step 5

Never need any product details directly move the product listing

Step 5: Product Listing

Many of the Artisans product are available to buy

Step 6: Search and Discovery

User search the product and find the interested product to buy

Step 7: User Experience Optimization

Understanding how users interact with our site and identifying opportunities to improve the user experience. Optimizing user experience can help ensure that users are more engaged, better understand our product, and are more likely to return.

Step 8: Transaction Processing

E-commerce transaction is a digital financial exchange that occurs when you buy and sell goods and services through online platforms. E-commerce transaction meaning involves the transfer of funds electronically in exchange for products or services, conducted via e-commerce websites or mobile applications.
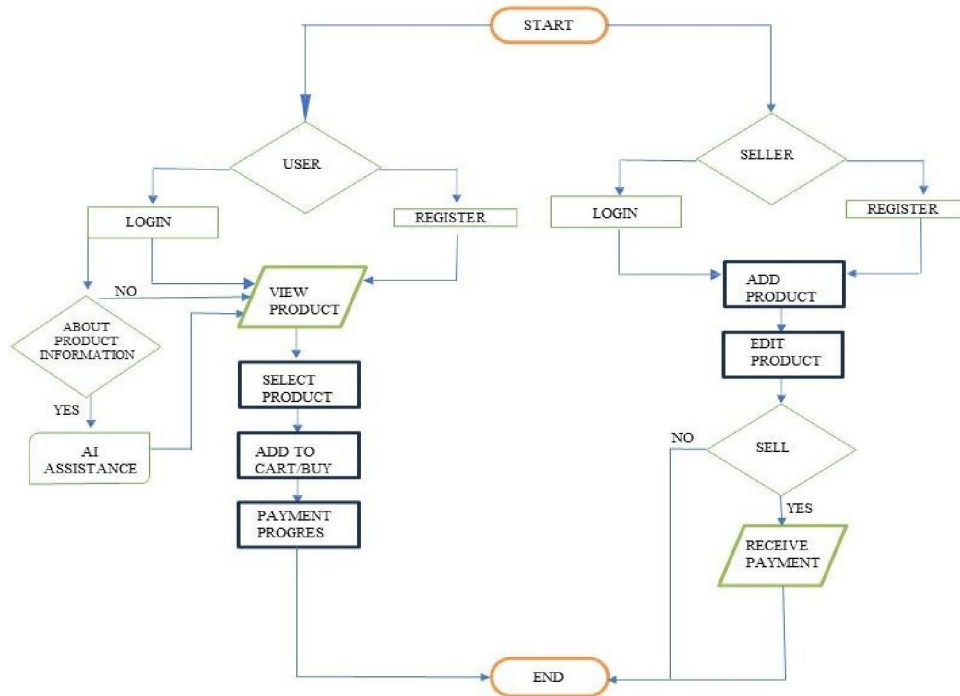
Step 9: Order Management

Order Management that maintains the order initiating, order processing and completion of the order.

Step 10: Feedback and Review System

Finally, customer have an option to give a feedback and review about our purchasing products

FLOWCHART

VI. CONCLUSION

Epicraft is an online handloom and handicraft portal which aims at giving employment to poor artists who are not able to sell their products online. This project helps in understanding the creation of an interactive website and the technologies used to implement it. The building of the project has given us precise knowledge about how MERN stack technology is used to develop a website, how it connects to the database to access the data and how the data and web pages are modified to provide the user with a shopping cart application.

VII. REFERENCES

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