ARHA-CONNECTING ARTISANS

(AN E-COMMERCE PLATFORM)

PROBLEM DEFINITION:

Handicrafts are still today a vibrant aspect of Indian culture and society. Handicraft is rightly described as craft of the people and in India it is not just an industry as the word is commonly understood but is the aesthetic expression of the artisans which not only fulfils the daily needs of the people but also satisfies their aesthetic desire. Crafts have been interwoven with the culture of the people in India from the beginning of human history. Crafts have been an integral part of daily life in villages, towns, courts, and religious establishments. There are approximately 70 lakh handicraft artisans in the country. As a largely unorganized sector, handicrafts face problems such as a paucity of professional infrastructure such as work sheds, storage space, shipping and packing facilities. Due to their low education, artisans often cannot identify potential new markets for their products, nor do they understand the requirements for interacting with these markets.

This project is to build an artisanal e-commerce platform using IBM Cloud Foundry. The goal is to connect skilled artisans with global audience, showcasing their handmade products and providing features like secure shopping carts, payment gateways and an intuitive

checkout process. This involves designing of e-commerce platform, implementing necessary features, and ensuring a seamless user experience.

The e-commerce app designed by us would enable people buy unique products from multiple authentic artisans and allow local artisans increase their customer base.

The foremost objective is to provide local artisans with an easy-to-use online platform wherein they can register and sell/promote their products. The requirements include an online marketplace focussed on purchase and sale of artisanal and handcrafted goods, intuitive and interactive user interface, integration of multiple payment gateways, etc…There are many challenges such as fluctuation and inaccuracy of the requirements. The solution goes by the development of easy-to-use e-commerce dashboards for all stakeholders, implementation of easy registration and robust authentication and incorporating social sharing feature for artisans.

The benefits are numerous such as one stop access to local artisanal goods, pleasing and appealing UI and UX, effective e-commerce analytics tracking, reduced business transaction costsand better income for local artisans.

PROJECT OVERVIEW

PROJECT NAME:

ARHA - CONNECTING ARTISANS

PROJECT DESCRIPTION:

ARHA - CONNECTING ARTISANS is an e-commerce platform that connects artisans and customers. It provides artisans with a platform to showcase and sell their handcrafted products while allowing customers to discover unique and authentic artisanal items.

PROJECT GOALS:

1. Create a user-friendly and visually appealing e-commerce platform.

2. Enable artisans to easily list and manage their products.

3. Provide customers with a seamless shopping and checkout experience.

4. Ensure the security of user data and payment transactions.

PLATFORM DESIGN:

PLATFORM LAYOUT:

The platform layout will consist of the following sections:

1. Homepage: Featuring featured products, categories, and artisan highlights.

2. Product Categories: A section where users can browse products by category.

Fig: Product Categories

3.Individual Product Pages: Detailed pages for each product with

images, descriptions, prices, and artisan information.

Fig: Product Description

4.Shopping Cart: A dedicated section to manage selected products.

5.Checkout: A streamlined process for users to complete their purchases.

6.Payment: Integration with secure payment gateways for transactions

PRODUCT SHOWCASE

DATABASE DESIGN

A robust database will be designed to store product information efficiently. We plan to use SQL Database as the backend database. The database schema will include the following tables:

1. Products Table: Stores product details such as product name, description, price, availability, and artisan ID.

2. Categories Table: Manages product categories for better organization.

3. Artisans Table: Records information about artisans, including their names and contact details.

4. Users Table: Contains user information for both artisans and customers.

5. Orders Table: Keeps track of customer orders, including order details, status, and payment information.

USER AUTHENTICATION

The app will implement a user registration and authentication system. The authentication will be using JWT bearer tokens. An Authentication API can be created and consumed by our app. This helps in modular design and the API can be used by multiple data sources like a Mobile app or a Desktop app. It will be a single window for authenticating users to the ARHA database. Users will have the option to register as artisans or customers. Key features include:

- User registration with email verification.

- Password reset functionality.

- Secure storage of user data and passwords.

- Role-based access control for artisans and customers.

SHOPPING CART AND CHECKOUT

SHOPPING CART FUNCTIONALITY

The shopping cart will enable users to:

- Add products to the cart.

- Update quantities and remove items.

- Calculate the total cost.

- Proceed to checkout.

SMOOTH CHECKOUT PROCESS

The checkout process will be designed to be user-friendly and secure:

- Gather shipping and billing information from user's profile information.

- Review order details.

- Choose payment methods.

- Receive order confirmation details via email.

PAYMENT INTEGRATION

To facilitate transactions, the app will integrate with secure payment gateways, ensuring the protection of sensitive payment data. Commonly used payment gateways such as PayPal, Stripe, and Square will be considered.

USER EXPERIENCE

The focus of the user experience (UX) design will be to:

- Create a clean and visually appealing user interface.

- Ensure responsive design for various devices (desktop, tablet, mobile).

- Implement user-friendly navigation and search features.

- Optimize page loading times for a smooth experience.

Bootstrap framework will be used for development of the UI for ARHA application during phase 3.

APPLICATION FLOW DIAGRAM: