

# Designing a Digital Space for Indian Craftsmen to Flourish

Rakesh Sah<sup>1</sup>, Anirban Chowdhury<sup>1</sup>, and Agam Agarwal<sup>1</sup>

<sup>1</sup>School of Design, University of Petroleum and Energy Studies,  
P.O. Bidholi Via-Prem Nagar, Dehradun-248007

## ABSTRACT

At present scenario, Indian craftsmen are facing challenges to sell their handmade products as they always don't have opportunities to display their products in appropriate market; as they mostly involve to sell their product through traditional way of business for example craft or general fairs. In addition, middle man or NGOs they work as a mediator to sell products of craftsmen. This article states about the design of user interface of an e-commerce portal for selling handmade glass products of India. Designing assisted interactions that helps user to conduct their business smoothly where they will get support to use the e-commerce platform. The designed interface that re-moves the middle man from the picture and the make the vendors self-reliant.

**Keywords:** Design, E-Commerce, Handmade, Interface, Trustworthiness

Date of Submission: 03-07-2022

Date of Acceptance: 16-07-2022

## I. INTRODUCTION

Designing the user interface of an e-commerce portal for selling handmade glass products of India. Selling of handcrafted product in e-commerce platform is not new. However, craftsmen are not getting much benefit after selling products in online platform because of middle-men. These middle men are purchasing the handcrafted products from artisans in low cost and selling the same in high price through online platform to get the maximum benefit. Now the question is - can we remove the middle men and design a portal for craftsmen to sell their product directly to consumers?

Literatures suggest that if we design the e-commerce portal considering aesthetic, usability and trustworthiness by reducing the complexity system, there is a chance to increase of selling products through online platform. It also disrupts the market to enhance business. [1-4]

Aim of this study is to design a simple, user friendly, bilingual (Hindi and English), visually good, and trustworthy e-commerce platform for selling handmade glass products. With this intension, a detailed literature review was conducted on e-commerce web application interface design.

## II. LITERATURE REVIEW

### 2.1 Literature on e-commerce platforms

Eglash et al. in his paper says that with the onset of AI driven e-commerce platforms, the growth rate has been tremendous for seller that have

the necessary skills to take advantage of these features but it has proven rather non-productive for the artisans that relied on in-person sales. For this, there are people actively working to find a sustainable way to carry the forward [5]. Literature suggests that website quality influences product purchase intension from the e-commerce website. Website quality refers to visual appeal, online purchase experience, product presentation style and adequate product information etc. [6] Chowdhury et al. suggest that graphic user ratings are more important element for understanding of product qualities than retain user reviews provided there is a time pressure.[7]

### 2.2 Literature on Extinction of Indian crafts

There has to be a democratization of technology among all sections of society in order for anything to grow sustainably [8].

Indian crafts for example are complex eco-system of products and people that is being driven to extinction due to these newer e-commerce platforms not able to accommodate the indigenous goods produced by them [9].

### 2.3 Literature on Current Technologies

This is the era of application of artificial intelligence (AI) in the context of e-commerce and other types of web application design. [10-12]. It is now possible to understand buying behavior of users using various web analytics methodologies. As demonstrated by various authors, [13-16] the product information can be displayed in the e-

commerce platform as a suggestion for purchase based on such behavior of users. In addition, related products offered by different e-retailers can also be suggested by cloud-based e-commerce system in an efficient way using the concept of AI and data analytics. [17- 20] In a similar manner, it might be possible to implement these advanced technologies for promoting hand crafted product to increase the possibility of consumer acceptance and, thus, the selling of handmade products in e-commerce platform. There is huge potential for these technologies to be adopted and do really good in the long run trickling down to the most niche sectors [21].

#### 2.4 Literature on Understanding of Indian Art and Craft

Assessing and understanding the decolonisation of our Heritage in our crafts needed to be understood for us to take on this endeavor [22].

Different craft documents helped us designed a system that took the cultural and creative identities of artisans under consideration and their backgrounds as well to design a system that suited them well [23,24].

Arts and crafts are a huge economic booster both in the public and private sectors, they are essentially a competitive advantage when it comes to both education and commerce, now considering the future viability is also crucial to create both an established framework and scalable platform [25-29].

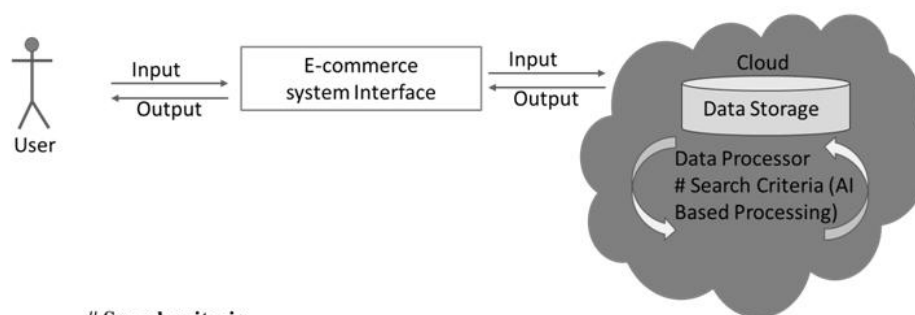
So, hereby, it is concluded from the literature review that from the heritage India has lots

of crafts which is involve in our day-to-day life. Though craftsmen and cluster are suffering in the present scenario due to traditional business approach and being not comfortable to use new technology and e-commerce business platform. Our craft sector plays vital role in our economy and its growth. Hence it is important to bridge the gap between craftsmen and users by using e-commerce portal as an unconventional business strategy.

### III. METHODOLOGY

#### 3.1 Design of the e-commerce platform for selling handmade products

The interface was designed for both the craftsmen and consumers considering simplicity, user friendliness, language (Hindi and English), aesthetics, and trustworthiness. As craftsmen are not highly educated, they only have primary education in National language (Hindi) and they understand symbolic languages: the interface of the dash-board for craftsmen is designed using infographics and Hindi language. On the other side, a minimalistic visually good interface language was designed for target consumers. The trustworthiness of the e-commerce portal was planned through implementation of following features – 1) Time to Time notifications for product delivery; 2) Cash on delivery option; 3) Doorstep replacement guarantee; 4) Product insurance option 5) AI based chatbot for handcrafted product stories and purchase assistance, 6) Within domain craft product search product optimization and AI based hand crafted product suggestion, etc. (see Fig.1) Please see Fig. 2 for samples screens of the designed interface.



#### # Search criteria

1. Frequency of craft/ handmade product search (K classifier can be added to achieve it)
2. Duration of visit to a particular crafts page (Prescriptive AI)
3. Last visited hand crafted product (Prescriptive AI)
4. Suggestion to purchase hand crafted product when searching for related other products (Prescriptive AI)

Fig. 1 AI based e- commerce system for suggesting and presenting hand crafted products

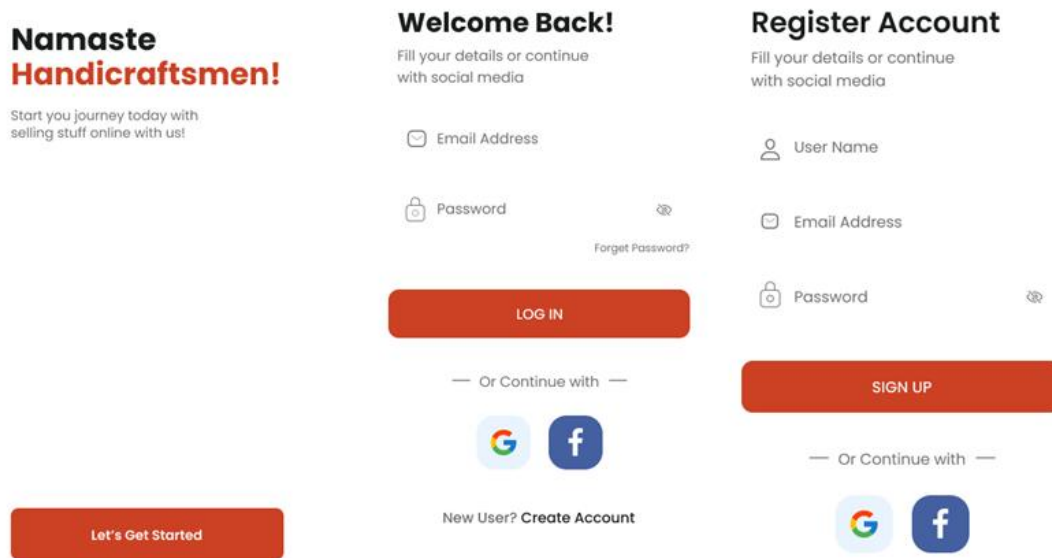


Fig. 2 The Greeting Screen (Far Left), The Login Screen (Middle) and The Sign-up Screen (Far Right)

### 3.2 Testing of Usability of the Designed Interface using Heuristics

The Heuristics Evaluation Method was used to determine usability of the designed interface prototype for the e-commerce platform. Nielsen's heuristics were used in the usability evaluation of designed interfaces for the desired application [30-32].

## IV. Results

The results of heuristics analysis showed there is a consistent design language of the solution followed throughout. The proposed design has a clean and standardized look which is helpful for both the customer and the sellers, to navigate the app back and forth. The Visibility of system status at all given times using primary colour to determine next steps helped to keep streamlined user flow in the Interface. This helped users further in recognizing the user interface and building consistent mental models for them. The feature called 'assisted flows' proved a great support for

users in order to prevent errors and pitfalls as it assisted users in completing the task at hand and redo certain tasks in case of wrong routes. The UX writing done reflects the real work terminology and linguistics making it easier to understand for the core audience of the chatbot based assistance. The product stories told using chatbot motivate consumer to purchase hand crafted products. In addition, the AI based hand crafted product suggestions might help user easy to search products and reduce the search time. These features made the app more interactive and interesting for the consumer as suggested by experts during heuristics evaluation.

Thus, the testing conclude that the planned interface is simple, user friendly, bilingual (Hindi and English), visually good, and trustworthy in nature (see Fig. 3). Craftsmen and consumers can utilize the e-commerce platform for selling and purchase process of handmade glass products & more.

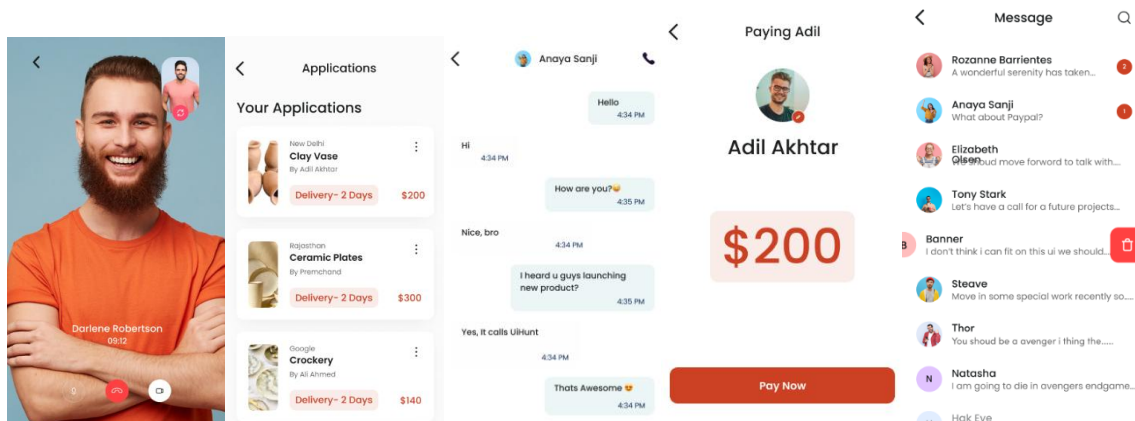


Fig. 3 Various UI screens of the designed application.

## V. PRACTICAL IMPLICATIONS

### 5.1 For Craftsmen

For craftsmen, the platform will serve as a way to uplift their craft products for sell at online avenues. It caters to the customers that are the core audience for handmade products, the user's flows have been setup in a way to avoid failure points and pitfalls, it will serve as a platform for their digital journeys.

### 5.2 For Organisations

Organisations can also use this platform to showcase their products not only sell them; the platform encourages any one especially non-profit to showcase the work they are doing with physical goods.

### 5.3 For Volunteers

Volunteers that wish to make a change can also sign up on the platform and work as help to fulfil their goals and help the artisans in the process as well.

## VI. Conclusion

This study demonstrates that how a user-friendly e-commerce platform is important for the craftsmen to avoid middlemen. It directly connects them to the users who like to buy product from them by using online platform. It also presents that a business platform may change their business strategy and present scenario of the cluster for its betterment.

This study will help further to improve the e-commerce platform for the craftsmen as well as user friendliness interface and experience for buyer and seller both. Which will create impact on cluster and craftsmen.

**Acknowledgments.** We would like to express our sincere gratitude to our supervisors for providing their invaluable guidance, comments and suggestions throughout the course of the project. This project could not have been accomplished without the support of Craftsmen.

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Rakesh Sah, et. al. "Designing a Digital Space for Indian Craftsmen to Flourish." *International Journal of Engineering Research and Applications (IJERA)*, vol.12 (07), 2022, pp 108-113.