

# Phase 1: Problem Definition and Design Thinking

## Problem Definition:

In today's era of technology, the global marketplace is going through changes. Both consumers and artisans face challenges when it comes to buying and selling products. These challenges encompass.

1. Limited Reach: To a Global Market Skilled artisans often located in underserved areas find it difficult to connect with an audience for their exquisite handcrafted goods. They lack a platform that can effectively showcase their craftsmanship.
2. E commerce Development: Creating a user-friendly e commerce platform from scratch can be intricate time consuming and expensive for artisans and small businesses. This hampers their ability to compete effectively in the expanding realm of commerce.
3. Ensuring Payment and Transaction Security: The utmost concern, for both buyers and sellers is guaranteeing payment processing while safeguarding customer information. Building a foolproof payment system can present challenges.
4. User Experience: Today's consumers have come to anticipate a user-friendly shopping experience. Unfortunately, numerous e commerce platforms currently available either lack the features. Have convoluted checkout processes that can be off putting.
5. Marketing and Promotion: Beyond the hassle of setting up a shop, it's tough for artisans to get their work seen in the first place. Standing out in a crowded online marketplace takes serious marketing. These talented folks need a way to get their products in front of the right audiences. Otherwise, they're just one more needle in an endless digital haystack.

These are some of the obstacles faced by individuals involved in the handmade products industry amidst our advancing world.

## Our Solution:

To provide an e-commerce platform, built on the IBM Cloud Foundry framework aims to tackle these hurdles by providing a secure and user-friendly solution. It offers artisans the opportunity to Showcase their handcrafted products, to an audience. Access an intuitive and ready to use e-commerce infrastructure that is easy to navigate. Ensure secure payment processing and

safeguarding of customer data. Provide customers with an enjoyable and straightforward shopping experience. Reduce the technical complexities and resource demands of managing an online store. Comply with data protection regulations for added security measures. Utilize marketing tools and features to promote their products effectively. By addressing these challenges head on the e-commerce application, on IBM Cloud Foundry empowers artisans and small businesses to thrive in the marketplace while connecting with a customer base.

## Design thinking:

1. Platform Design: The platform aims to solve several challenges, including limited market access, complex e-commerce development, payment security, and user experience issues. Key components of the platform include user-friendly design, product listings, a shopping cart and checkout process, secure payment options, user profiles, reviews and ratings, marketing tools, analytics, data privacy compliance, customer support, and continuous improvement. The platform's goal is to provide a seamless and secure shopping experience for both artisans and customers while promoting handmade products worldwide.

2. Product Showcase: The product showcase is a central element of the artisanal e-commerce platform. It serves as the digital storefront where skilled artisans can display their handmade products to a global audience. Key features for product showcase we include in our application are high-quality product imagery, detailed descriptions, transparent pricing, category organization, artisan profiles, robust search and filtering options, product recommendations, user reviews and ratings, featured product highlights, responsive design, fast load times, SEO optimization, inventory management tools, security measures, and customer feedback mechanisms. The product showcase aims to create an engaging and informative shopping experience, fostering a connection between artisans and customers while facilitating the discovery and purchase of unique handmade items.

3. User Authentication: User authentication is the process of verifying the identity of individuals or entities seeking access to digital resources. We implement user authentication with robust password protection and consider optional multi-factor authentication for added security. Provide password recovery options and enable users to manage their profiles and permissions through role-based access control. Prioritize security measures, including encryption and regular updates, while ensuring compliance with data protection regulations. Thorough testing, monitoring, and user support are essential

components of a successful user authentication implementation, enhancing the overall user experience and platform security.

4. Shopping Cart and Checkout: We going to provide shopping cart that allow users to easily add, view, edit, and remove products while displaying pertinent details. The checkout process should streamlined, collecting necessary information such as shipping and billing details, and integrating with secure payment gateways. We provide Features like real-time shipping quotes, order confirmation, inventory management, error handling, and security measures are essential components. We will do regular testing and optimization, along with mobile responsiveness to ensure a seamless user experience, ultimately boosting successful transactions and customer satisfaction

5. Payment Integration: This process involves selecting a reputable payment gateway, setting up a merchant account, and integrating the payment gateway's API into your platform. It's crucial to prioritize security by encrypting payment data, complying with PCI DSS standards, and implementing error handling for failed transactions. We Offer various payment methods, support multiple currencies, and optimize the payment flow for a user-friendly experience. Regular testing, mobile responsiveness, and clear customer communication. So that we can ensure a successful and compliant payment integration that enhances the overall shopping experience for your customers.

6. User Experience: We prioritize intuitive navigation, responsive design, and fast loading speeds to enhance accessibility across devices. Implement effective search functionality, clear product presentations, and a streamlined checkout process for user convenience. We also ensure secure payment handling, personalize content, and provide customer support with transparent policies. Enable mobile payments, monitor performance, and maintain accessibility standards while regularly updating the application based on user feedback and A/B testing to optimize the overall shopping experience, fostering customer loyalty and brand reputation.