**Ideation Phase**

**Defining the Problem Statements**

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| **Date** | **26-09-2023** |
| **Team ID** | **4218** |
| **Project Name** | **E-commerce Application on IBM Cloud Foundry** |

**E-commerce Application on IBM Cloud Foundry**

**Problem Definition and Design Thinking**

**Introduction**

The task at hand is to develop a E-commerce application on cloud foundry based on a set of current features. In this digital era, where convenience meets E-commerce, our platform stands as a beacon of efficiency and reliability. We ensure top-notch performance, security, and flexibility for your online experience.

In this document, we will outline the problem statement, the steps involved in solving it, and the design thinking approach that will guide our project.

**Problem Statement**

Objective: Develop a E-commerce Application on IBM Cloud Foundry with optimization performance , scalability and High security .

Data: We have a dataset containing various E-commerce applications along with the corresponding customer’s requirement. This data will be used to train and evaluate our E-commerce application.

**Key Challenges:**

1. **Data Security:** Implementing robust security measures to protect sensitive customer information, including payment data, and ensuring compliance with industry regulations.
2. **Scalability:** Ensuring that the application can handle fluctuations in user traffic, particularly during peak shopping seasons, and that it can scale both vertically and horizontally to accommodate growing demands.

3. **Performance Optimization:** Tuning the application for optimal performance, including reducing page load times and minimizing downtime.

4. **User Experience (UX):** Designing an intuitive and engaging user interface that encourages users to browse, select, and complete purchases smoothly.

5. **Payment Integration:** Integrating with various payment gateways to offer a seamless checkout experience while maintaining security and reliability.

**Design Thinking Approach**

**Empathize:**

Before diving into solving the problem, it's crucial to empathize with the users and understand their needs. We need to gather insights into what factors are most important to them when considering E-commerce applications.

**Actions:**

- Conduct interviews and surveys with artisans to understand their needs, challenges, and aspirations.

- Research potential customers to learn about their preferences and expectations when shopping for artisanal products.

- Analyze the existing artisanal E-commerce platforms to identify pain points and areas for improvement.

**Define:**

Based on our understanding of the problem and the users needs, we will define clear objectives and success criteria for our project

**Objectives:**

- Create a problem statement that addresses the specific challenges faced by artisans in connecting with a global audience and by customers when shopping for handmade products

- Create a user-friendly E-commerce application for best experience to the user.

**Ideate:**

Brainstorm potential solutions and approaches to address the problem. This phase involves thinking creatively and considering various algorithms and techniques for E-commerce application.

**Actions:**

- Brainstorm innovative solutions that address the defined problems.

- Encourage a diverse team to generate creative ideas for features, user interfaces, and technical solutions.

- Prioritize ideas based on their feasibility, impact, and alignment with the project's goals.

**Prototype:**

Create a prototype for E-commerce application using cloud foundry.

**Actions:**

-Develop low-fidelity prototypes ( wire frames, sketches) to visualize concepts.

- Build interactive prototypes to test user interactions and gather feedback.

**Test:**

Evaluate the prototype

**Actions:**

- Conduct user testing sessions to evaluate the prototypes and gather user feedback.

- Iterate on designs and functionalities based on user insights.

**Implement**

Develop the prototype that have passed the test.

**Actions:**

- Translate the refined prototypes into functional features and workflows.

- Implement robust security measures to protect customer and artisan data.

**Test Again**

Test again the developed prototype.

**Actions:**

- Perform comprehensive testing, including load testing, security testing, and usability testing.

- Continuously validate that the application meets user needs and adheres to quality standards.

**Launch:**

Launch the E-commerce application

**Actions**

- Deploy the E-commerce Application on IBM Cloud Foundry with a well-defined release plan.

- Promote the platform to artisans and customers through marketing and outreach efforts.

**Feedback and Iterate:**

Collect feedback from user’s and based on the feedback's collected, evaluate it accordingly.

**Actions:**

- Collect user feedback after the launch and make iterative improvements.

- Monitor the platform's performance, security, and user feedback post-launch.

**Scale and Evolve:**

Evaluate the solution for the feedback’s given by users.

**Actions:**

- Stayupdated with the latest technology trends and E-commerce best practices.

- Explore opportunities for partnerships, collaborations, and expanding the platform's offerings.

**Conclusion**

In the development of our E-commerce Application on IBM Cloud Foundry represents a transformative journey in the digital marketplace. Leveraging the power of cloud computing and robust infrastructure, we've created a secure, scalable, and feature-rich platform. Our commitment to user-centric design has ensured a seamless shopping experience, while adherence to high-performance standards guarantees reliability. As we continue to refine and adapt to changing market demands, we are confident that our E-commerce Application will empower businesses, delight customers, and stand as a testament to the possibilities that arise from the fusion of cutting-edge technology and user-centered design.