

E-COMMERCE APPLICATION ON IBM CLOUD FOUNDRY

Phase 1: Problem Definition and Design Thinking

Team:

Lathika D (211521104078)

Jebil R Sharon (211521104061)

Jaya Varsha R (211521104059)

Pavithra N (211521104104)

Jayapriya T (211521104058)

Problem Definition:

The project is to build an artisanal E-commerce platform using IBM Cloud Foundry. The goal is to connect skilled artisans with a global audience, showcasing their handmade products and providing features like secure shopping carts, payment gateways, and an intuitive checkout process. This involves designing the e-commerce platform, implementing necessary features, and ensuring a seamless user experience.

Project Objectives:

The objective is to deploy a storefront shopping application that displays a catalog of antique handicraft products where customers can make purchases and review comments. Explore the web and mobile interfaces, which rely on separate Backend for

Frontend(BFF) services to interact with the back-end data. Use DevOps tools to build and deploy the application and to implement resiliency techniques, such as high availability, failover and disaster recovery.



Fig. 1 IBM Cloud

Project Scope:

- The proposed eCommerce website will provide artists with an easy-to-use platform to sell their artwork and provide buyers with a convenient way to discover and purchase artistic products
- Online platforms have given artists an opportunity to showcase and sell their artwork to a global audience, creating new revenue streams and expanding their reach
- The site allows artisans to create an account and upload their products to the platform
- This site also allows customers to browse and purchase products from different artisans

- In the future, we wish to add some intricate features like an AI chatbot in order to enhance the user's experience and multiple events to gain coupons and offers etc

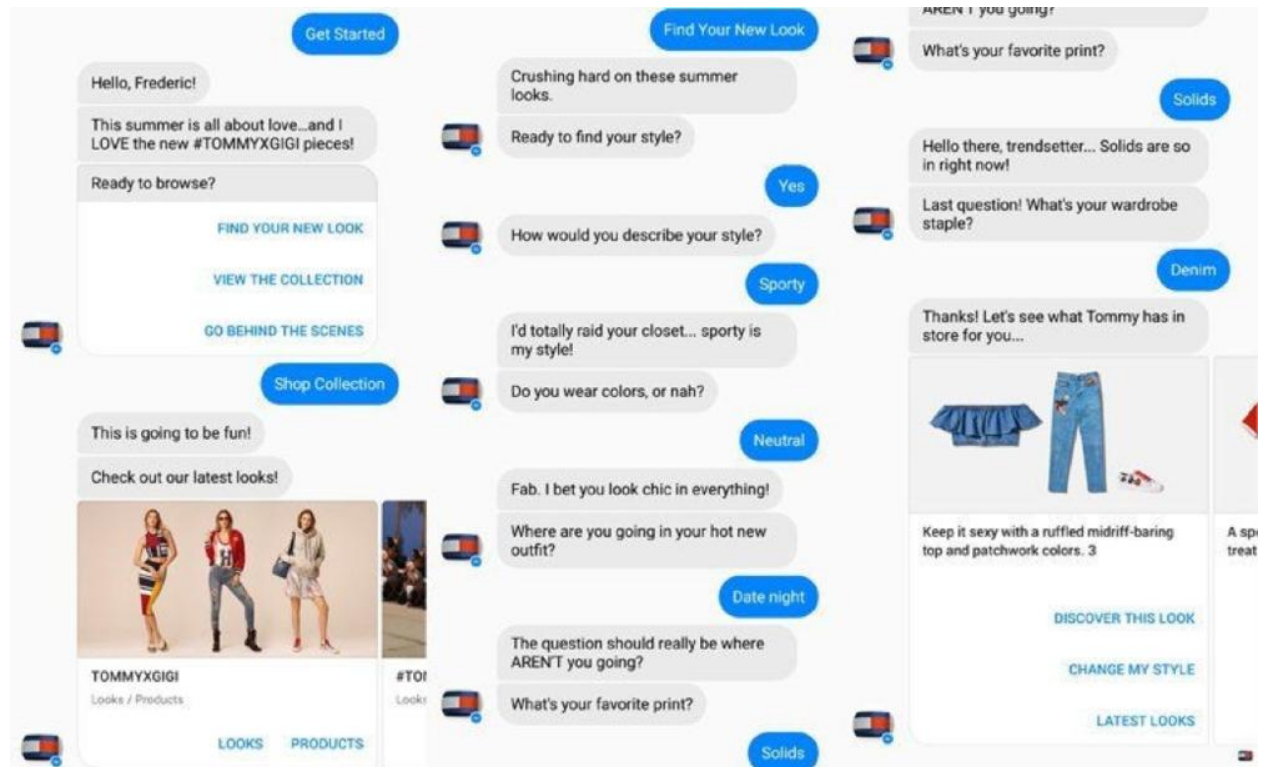


Fig.2 AI Shopping ChatBot

User Experience:

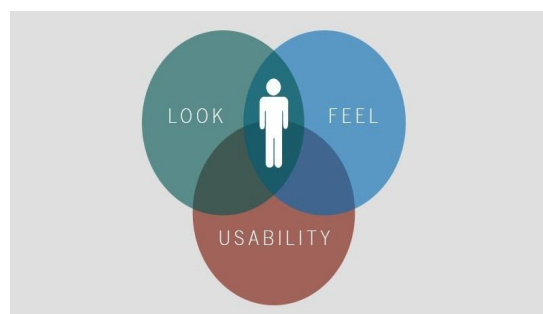


Fig. 3 User Experience

The platform satisfies all the basic aspects of user experience such as:

- **Useful:** The content of the website is original and fulfills the need of the user
- **Usable:** The site is provided with components that are easily usable
- **Desirable:** Images, brands, identity and other design elements are used to make the site desirable to use
- **Findable:** The contents of the site is easily navigable and locatable
- **Accessible:** The content of the website is also easily accessible by people with disabilities
- **Credible:** The site is trustworthy and believable by the users
- **Valuable:** The site deliver value to both the sellers and buyers

Design Thinking:

- The platform is provided with options that would enable artisans to sell their handmade products to buyers all around the world and for customers to buy unique, creative products
- Settings such as **Location and Currency** can be configured to user's needs

Homepage

- At the top of the Homepage, **Search bar** and various **Categories options** would be displayed for easier navigation to the user's desired products

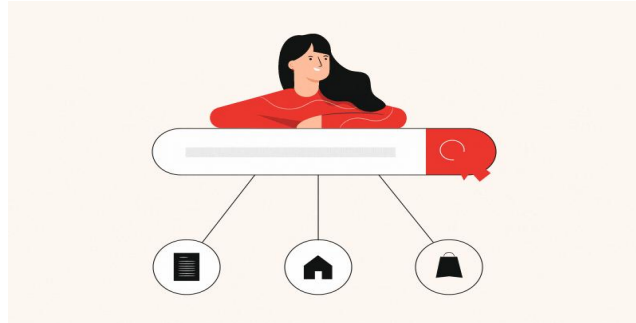


Fig. 4 Search Bar

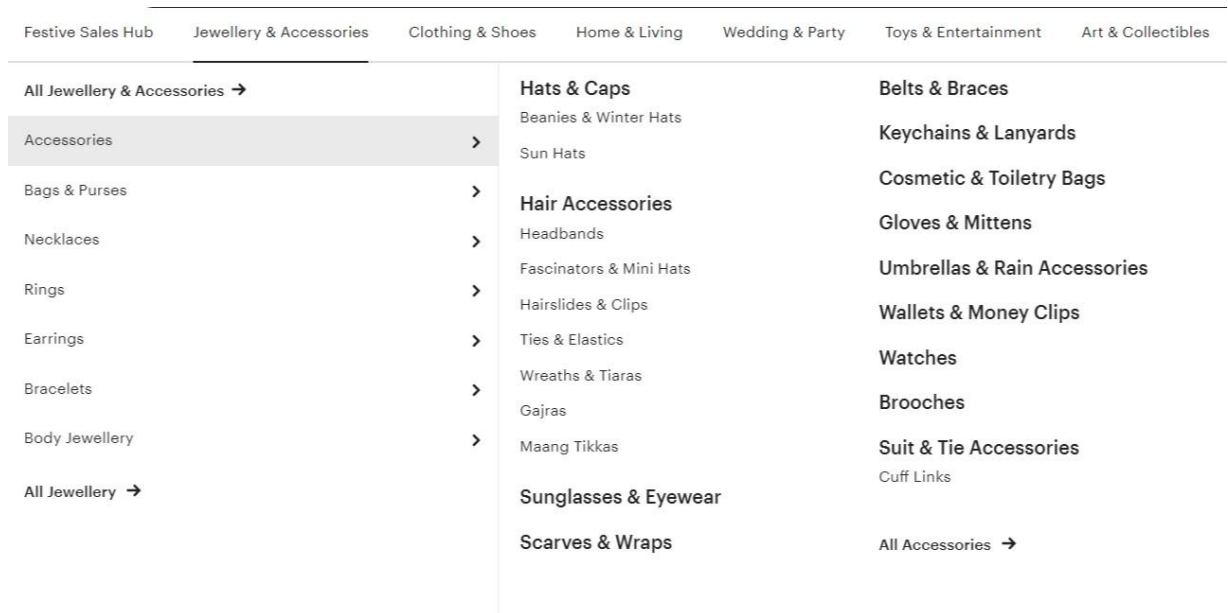


Fig. 5 Categories

- The **homepage** will display variety of unique products classified as:
 - **Deals of the day** - This promotes the products with best deals for 24 hours and these are the major offers provided by the platform.

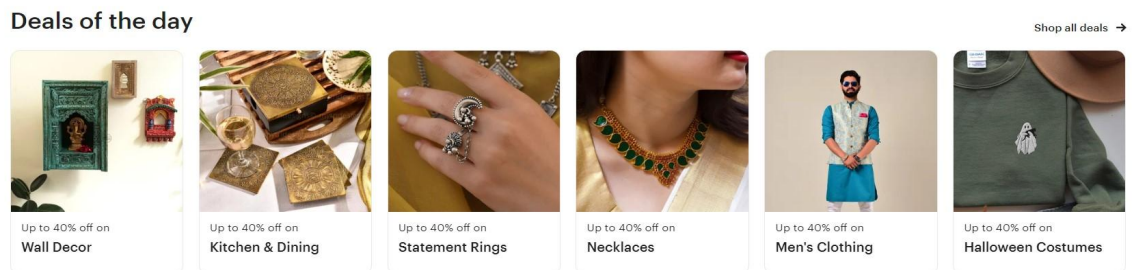


Fig. 6 Deals of Day

- **Editor Picks** - This section consists of bunch of well known handmade products made by high quality materials

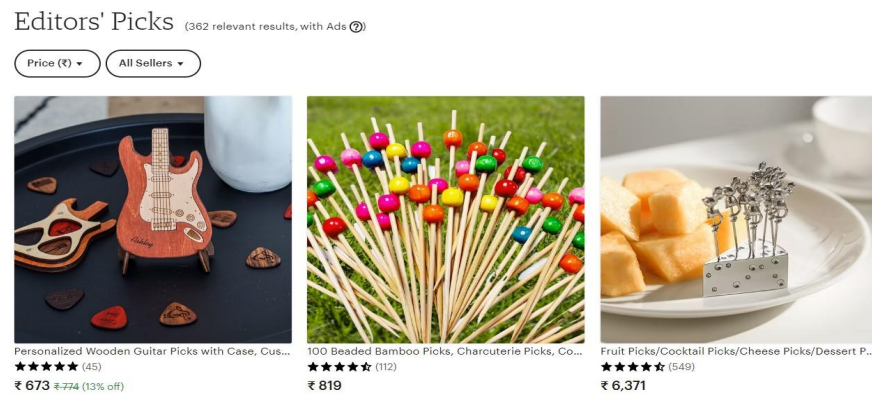


Fig. 7 Editor Picks

- **Recommended for you (Based on previously seen)** - Based upon user's previous purchase history, certain similar products will be displayed in this section

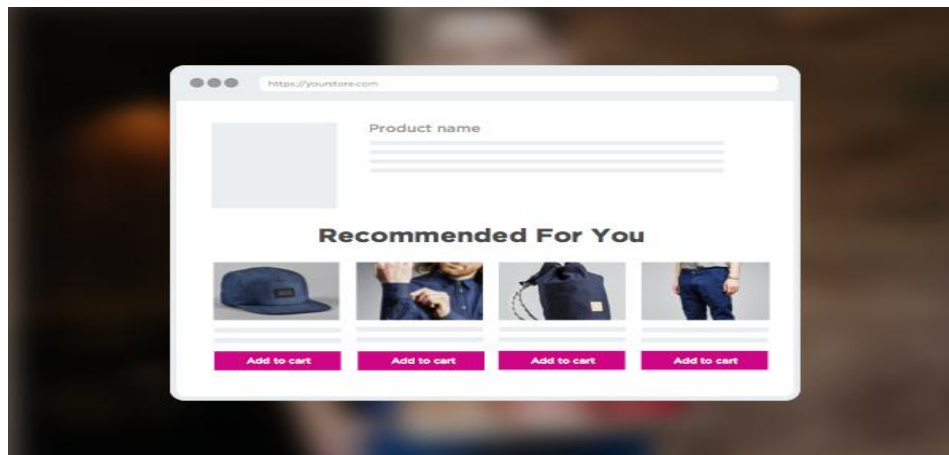


Fig. 8 Recommendations

- The home page also contains a **FAQ section** that allows the users to recognize how the platform is unique and preferable than other e-commerce platforms



Fig. 9 FAQ page

- **Footer** will consist of:
 - About us section, **Careers**, Blogs and **Social Media accounts** etc are also included to make the users aware of the work and services provided
 - **Customer service/help** desk link is provided to help the users to resolve their issues.
 - Various aspects(names of our webpages) of our website to make the navigation better such as Sell With Us etc
- **Sell With Us** is a separate web page to allow artisans to publish their products

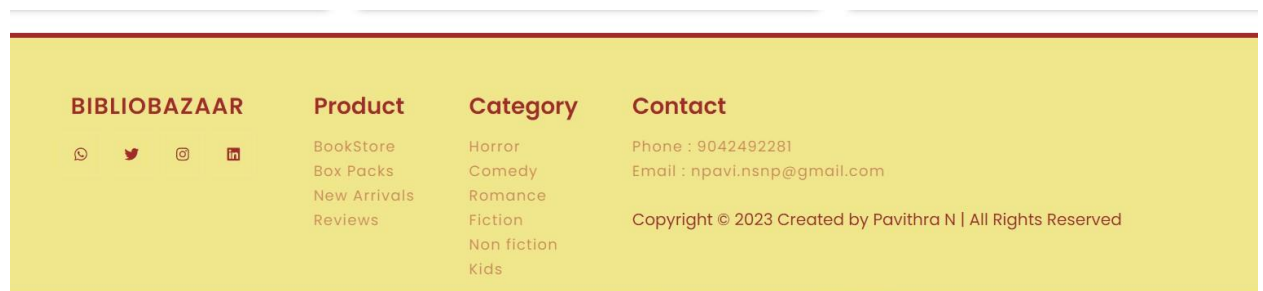
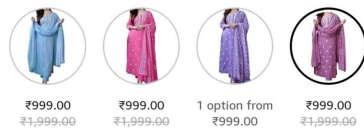


Fig. 10 Footer

Product Details

- Once a **product** is clicked, the user is redirected to a **different webpage** that contains the following information:
 - Product picture can be clicked and **zoom in and out** features will also be provided
 - The description consist of:
 - Product name and its price
 - Various available sizes and colors of the product
 - Description of the seller along with their profile
 - **Add to cart** option enables the user to add that product to cart and proceed for payment
 - **Estimated delivery time** of that product would be displayed if user's address is provided
 - **Return Policy** would also be mentioned
 - **Rating and review** of the product is displayed below

Colour: Gray



Size: M

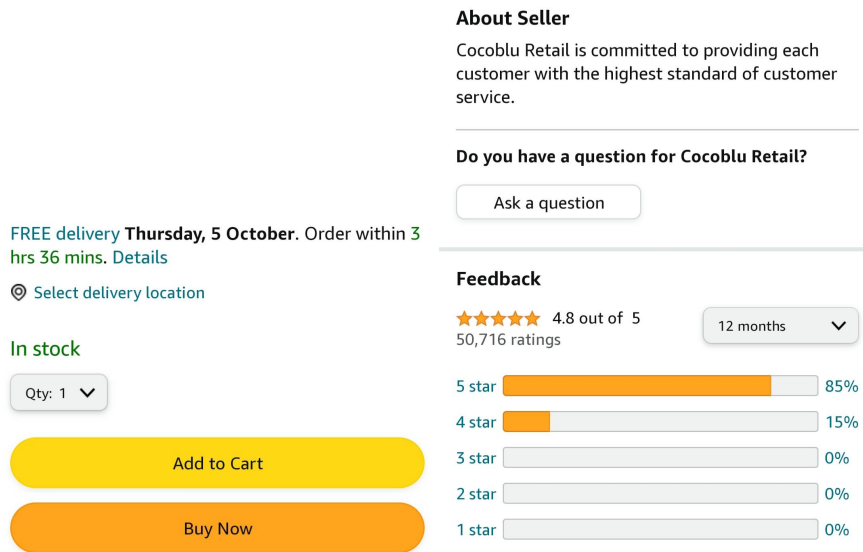


Secure transaction

Sold by Cocoblu Retail

Fig. 11 Choices

Fig. 12 Seller Name



Users Account

- The users have their own accounts to keep track of their purchases and the products they upload to the marketplace

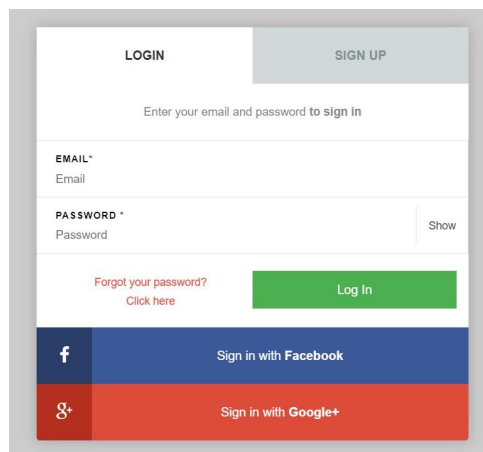


Fig. 15 Login Methods



Fig. 16 Sign in

- **User profiles** on a website allows users to customize their details
- Profile will be created by the user with general information such as:
 - Contact details
- Other components in-built in the profile will be:

- Order tracking
- Payment method
- Purchase history
- Other account settings(such as log off, remove account)
- By logging out of the profile, the data and information of the user cannot be accessed again until correct credentials are given for log in
- By removing the account, the user profile is removed from the database

Cart and Payment

CART:

- The **cart section** is used to stock the products which the customers are willing to purchase
- The cart contains:
 - Product's cost
 - Quantity of product purchased
 - Remove option
- In the footer section of the cart:
 - The total price of the products purchased
 - The number of items purchased is displayed
 - Will also contain the TAX provided for the individual products (total price may vary)
- Once the products are chosen, the payment option is to be chosen.

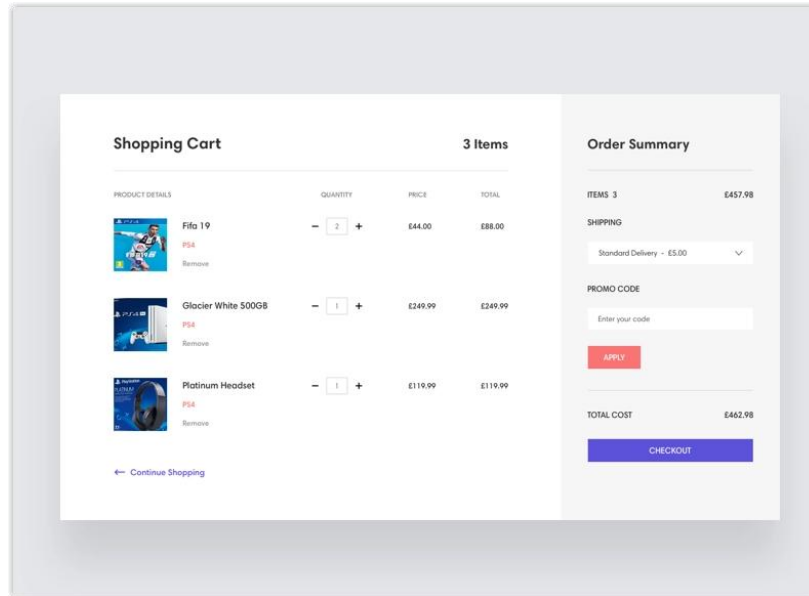
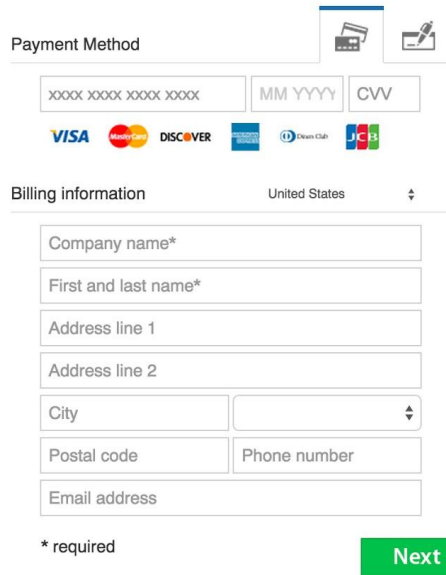


Fig. 17 Shopping cart

PAYMENT:

- The details for delivery such as name of the customer, residential address, email-id, contact number is to be provided.
- The payment section contains the type of payment to be chosen i.e cash on delivery/card/google pay etc.,
- If the payment is chosen to be **card type** , then the card number, branch name, transaction id is to be mentioned.
- If the payment is chosen to be **Google pay type** , then the available QR code is scanned and the payment process is completed



The form is divided into two main sections: "Payment Method" and "Billing information".

Payment Method: This section includes a header with a credit card icon and a document icon. Below the header are three input fields: a card number field (placeholder: XXXX XXXX XXXX XXXX), an expiration date field (placeholder: MM YYYY), and a CVV field (placeholder: CVV). Below these fields are logos for VISA, MasterCard, DISCOVER, American Express, and JCB.

Billing information: This section has a header with "United States" and a dropdown arrow. Below the header are several input fields: "Company name*", "First and last name*", "Address line 1", "Address line 2", "City" (with a dropdown arrow), "Postal code", "Phone number", and "Email address".

At the bottom left of the form is the text "* required". At the bottom right is a green button labeled "Next".

Fig. 18 Payment Methods

Conclusion:

Thus this document reflects on the objectives of the problem definition and design thinking process for building an artisanal E-commerce platform on IBM Cloud Foundry.

References

1. <https://okhai.org/>
2. <https://www.craftsvilla.com/>
3. <https://gocoop.com/>
4. <https://www.etsy.com/in-en/>
5. <https://www.amazon.in/>
6. <https://www.flipkart.com/>
7. <https://www.craftmaestros.com/>
8. <https://exclusivelane.com/>
9. <https://theindiacrafthouse.com/>
10. <https://www.ecraftindia.com/collections/handicraft-items>