User Interface Design Principle (PROG8150) | Fall 2023

Section 3 Group 4

Team Members

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A) The description of the application:

Our project involved developing a versatile e-commerce web application akin to popular platforms like eBay and Amazon. On this assignment, our team focused on creating a user-friendly interface to facilitate navigation, product discovery, information access, and hassle-free checkouts.

To refine our design, we researched two competitor web applications, eBay, and Le Offer e-commerce websites. This research helped us identify strengths and weaknesses that guided our development.

Throughout the project, we developed sketches, wireframes, and a high-fidelity prototype to illustrate all aspects of the application. Our prototype details the user journey from the homepage to the checkout.

Our design adhered to industry-standard design patterns, metaphors, and usability principles to create an intuitive and visually pleasing interface. In addition, we conducted usability tests in collaboration with students from other groups, collecting valuable feedback that allowed us further refinements to our platform.

In conclusion, our e-commerce web application aims to provide a general online shopping experience that combines user-friendliness, security, and engagement.

B) Tools used:

The tools which are used to develop this job was:

- Adobe XD
- Microsoft Word
- Microsoft Teams

C) The UX strategy of your project:

Our approach revolved around clear and intuitive navigation, user reviews and ratings, a user-friendly shopping cart, and A/B testing.

As a UX strategy we prioritized a clear and intuitive navigation system to ensure that users can easily find their way around the website. This involved structuring our website's header with logical and standard buttons, providing a well-organized pathway for users. Additionally, we included breadcrumb navigation on some pages to help users understand their current location within the site.

User-generated product reviews and ratings were integrated into product pages. This allowed customers to share their experiences and provided valuable feedback about the sellers. Reviews and ratings serve as social proof, empowering users to assess the quality of products and seller reliability based on real customer experiences.

We also implemented A/B testing, which involved conducting controlled experiments with website variations to gain insights into what resonates most effectively with our audience. Based on the results, we made design and content changes to ensure that our website layout remained user-friendly and content was optimally structured.

These strategies have been integrated throughout the development process, and our goal was to create a digital shopping platform that is both functional and user-centric.

D) Competitive research:

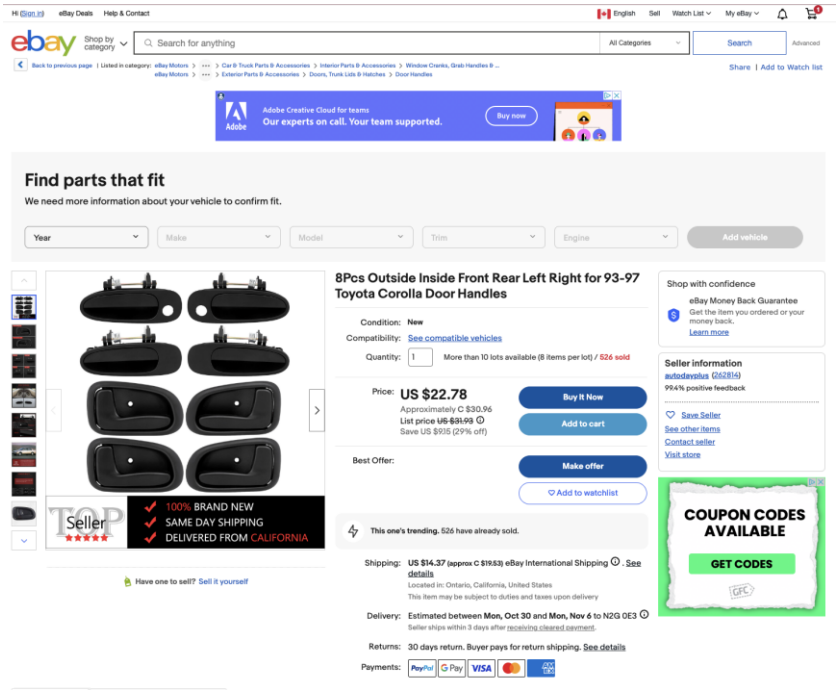
To refine our design, we researched two competitor web applications, eBay, and Le Offer e-commerce websites. This research helped us identify strengths and weaknesses that guided our development.

- **Ebay:**

In UI/UX design, the placement of key elements can significantly impact user experience. A case in point is eBay's decision to position the "Sign In" button on the left side of their webpage, deviating from the widely accepted norm of right aligned "Sign In" buttons.

This departure challenges **Don Norman's Affordances principle**, which advocates for intuitive design elements that guide users in interactions. The familiarity of right aligned "Sign In" buttons aligns with users' expectations, making it more accessible.

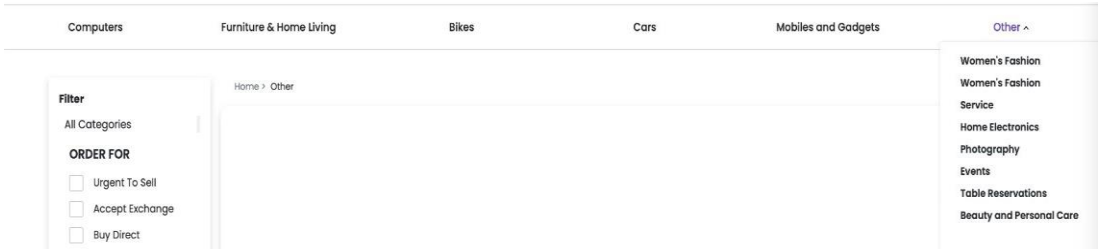
While innovation can be valuable, adhering to established design patterns often ensures a more intuitive user journey. In this context, placing the "Sign In" button on the left may introduce cognitive friction for users accustomed to the convention, potentially affecting the overall user experience. We can also mention one of the ten **usability heuristic principles: consistency and standards**, which advocate following established standards to reduce the customer's effort in learning something new while navigating the application.



Furthermore, we have identified that eBay's homepage contains an excess of information, resulting in a cluttered page with numerous distractions. This approach does not align with **usability heuristic principles: aesthetic and minimalist**, which aim to reduce visual clutter and distractions, thus allowing core elements to stand out.

- **Le Offer:**

In UI/ UX design, right images play a vital role as user will understand that what is this page and on click of that image which page will open. The case is daily deals image beside notification image. This approach does not align with **usability heuristic principles: match between system and the real-world** which aims that the user can quickly understand, and it should be familiar to the user.



Furthermore, we have identified that Le Offer's homepage contains a lot of spacing between categories. This approach does not align with **Gestalt Principle - Proximity**, which aim that when objects are put together, the viewers start associating them with one another. This is the base principle of UI grouping.

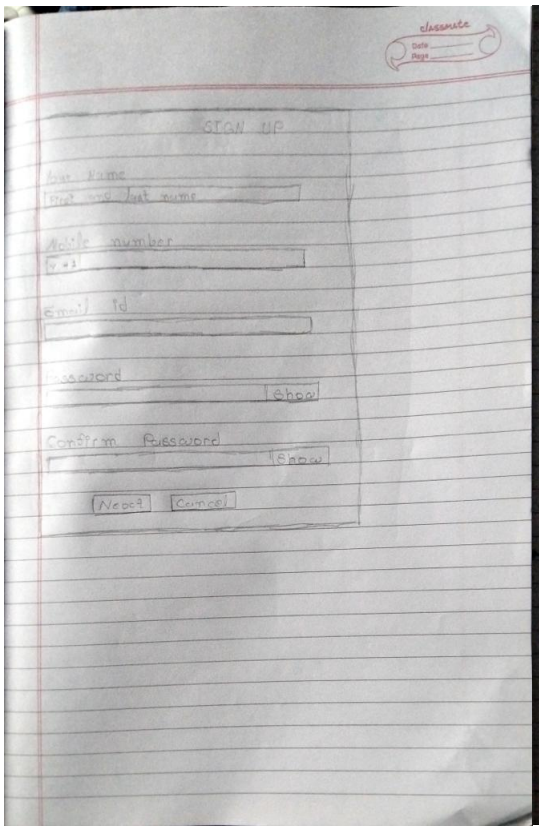
In summary, embracing user expectations and established conventions can enhance UI/UX by improving the intuitiveness of web interactions.

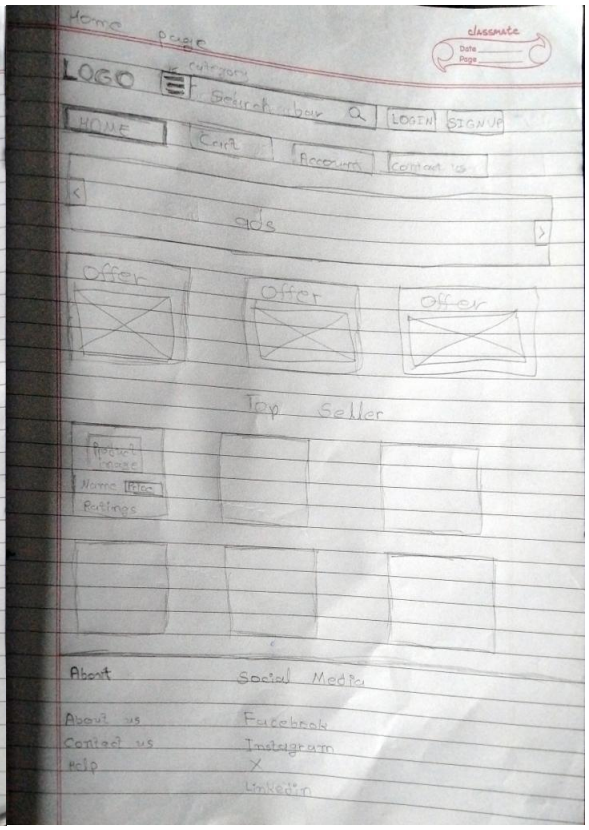
E) Sketches, wireframe, and prototype:

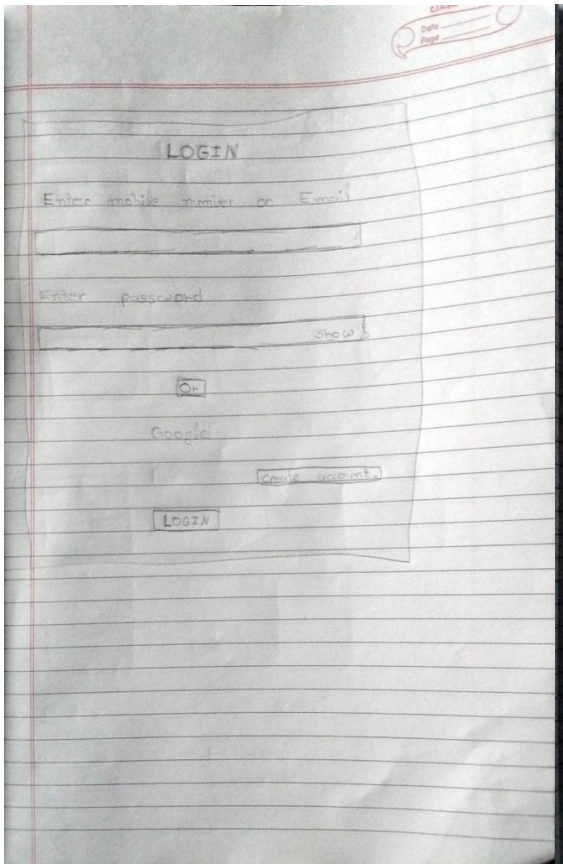
a. Sketches:

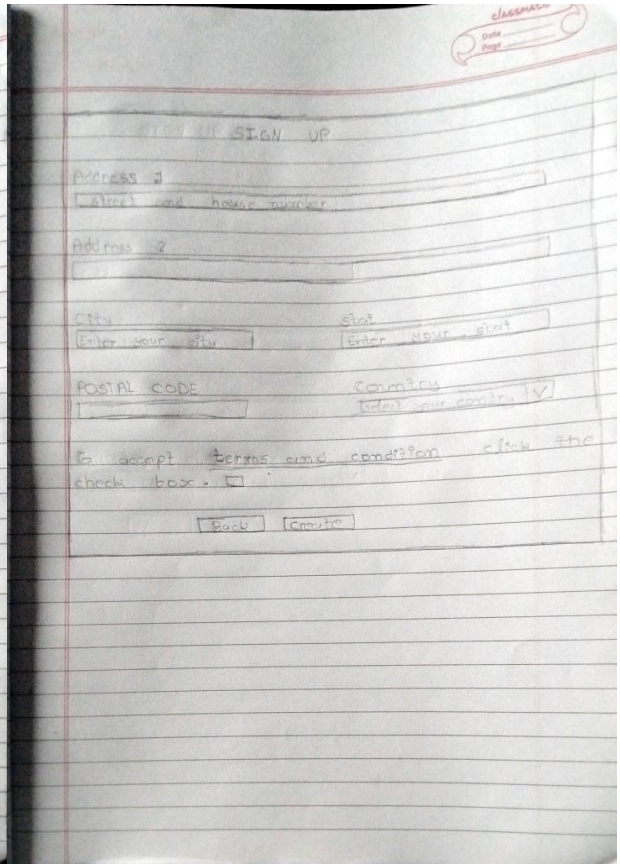
i. Gabriela Nascimento Oliveira Pereira:

ii. Arpit Sanjaybhai Dhaduk

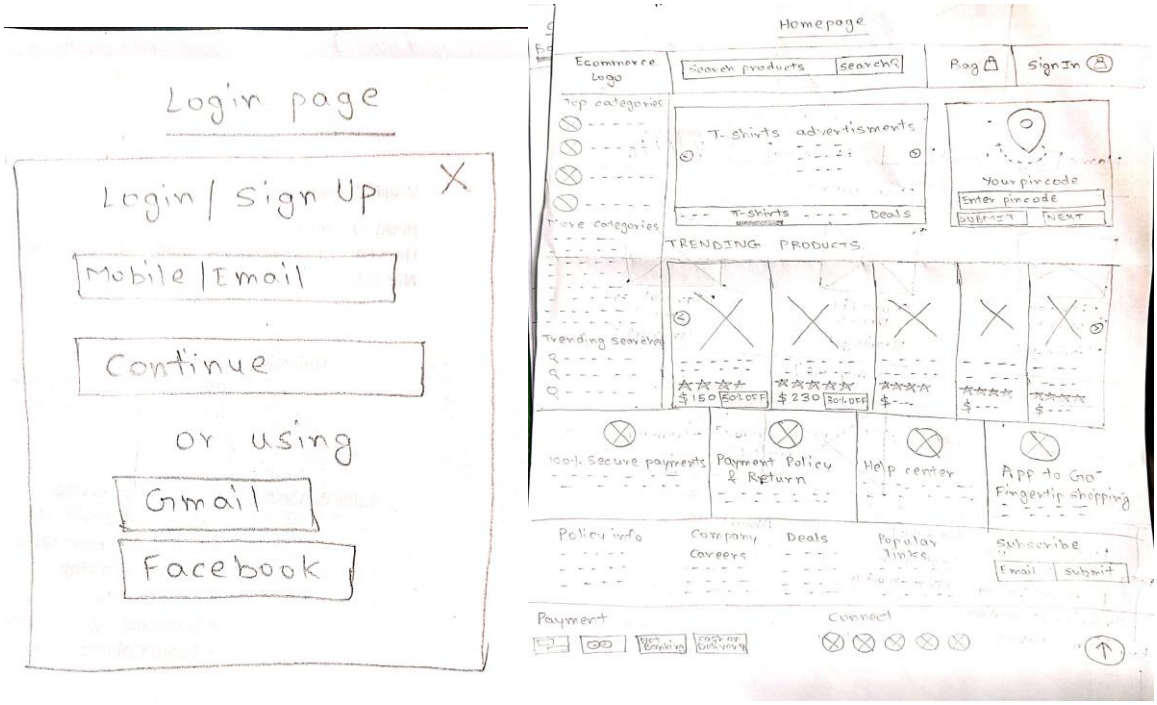


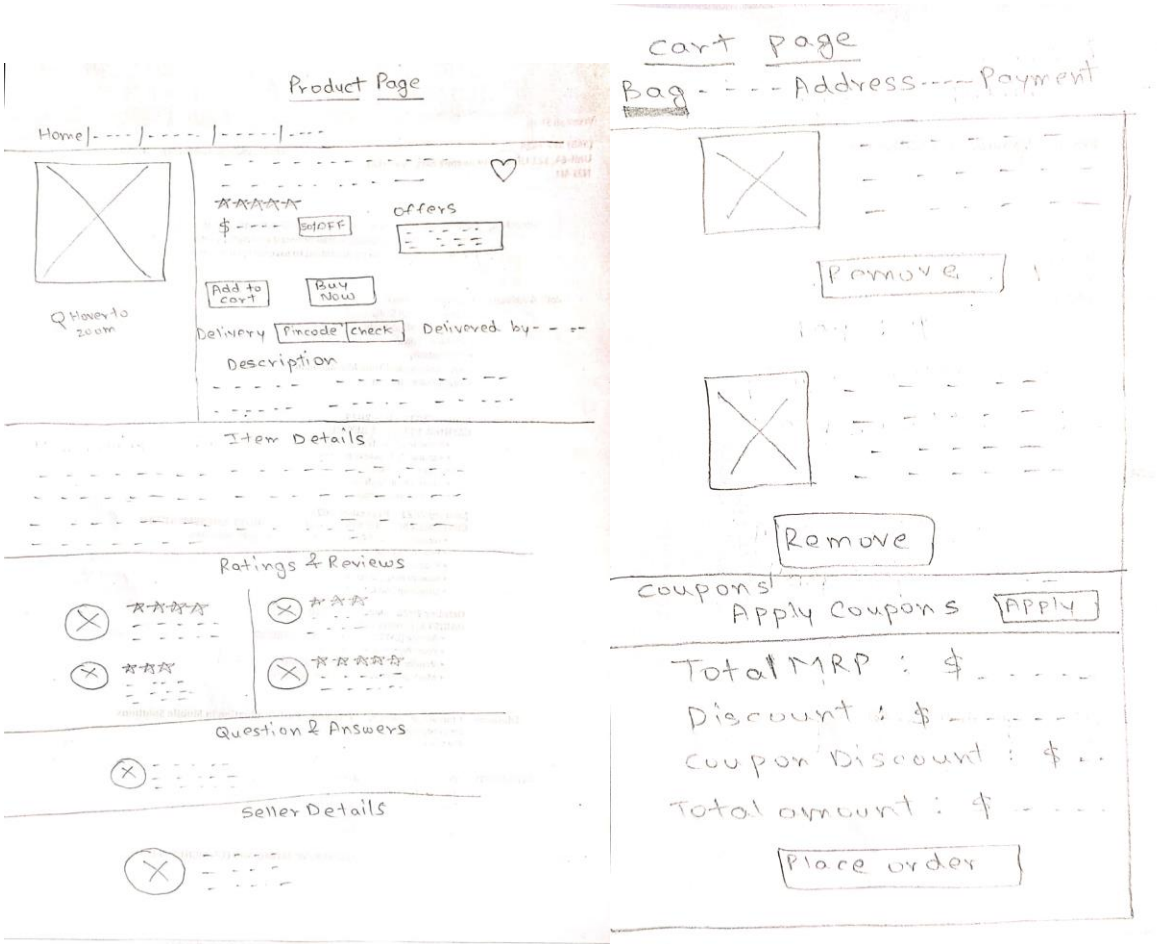




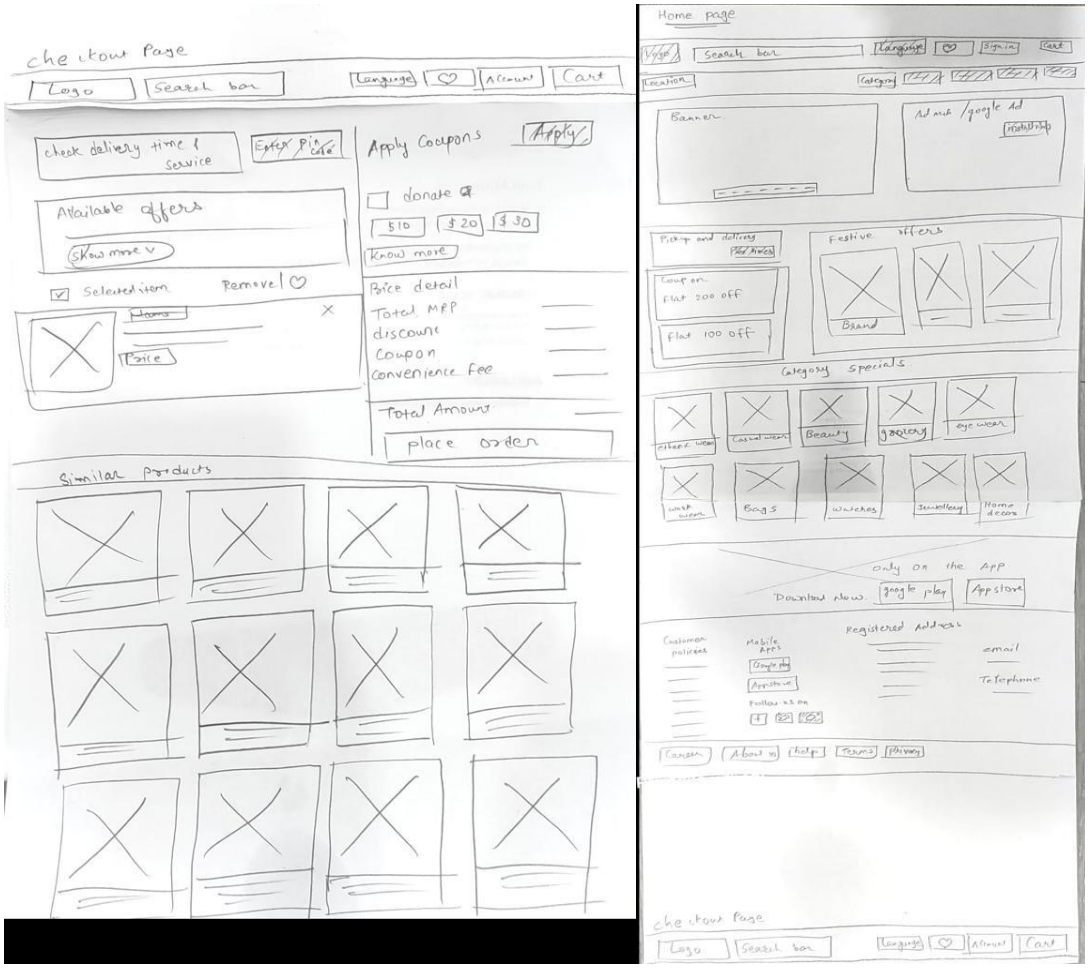


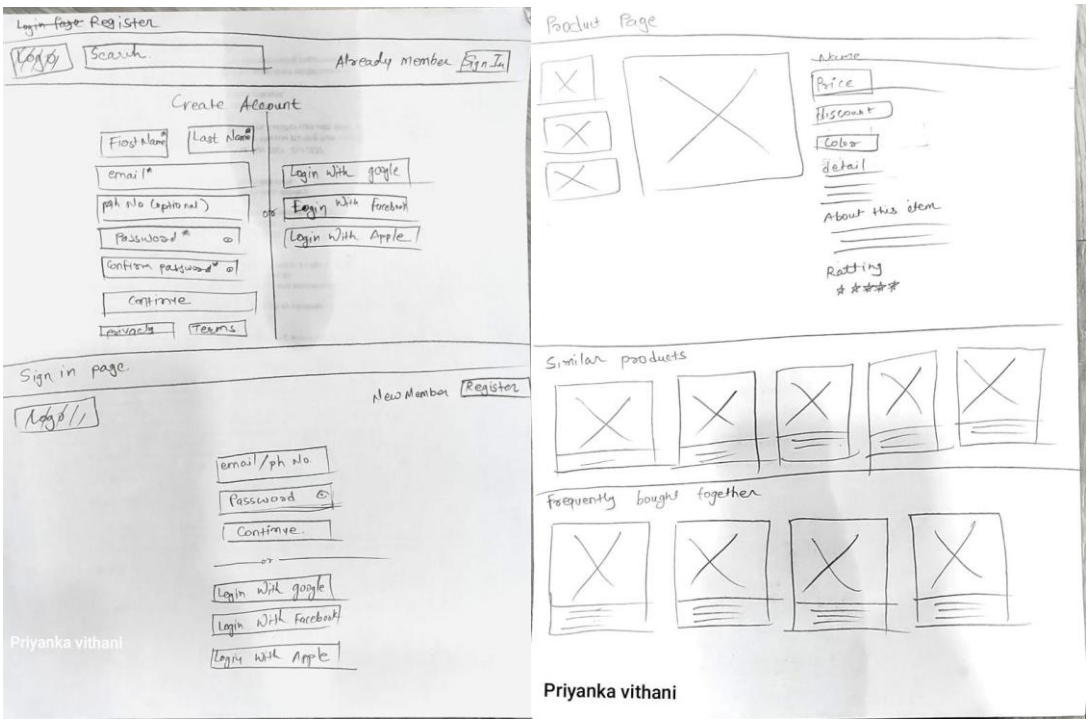
iii. Vrushali Shah





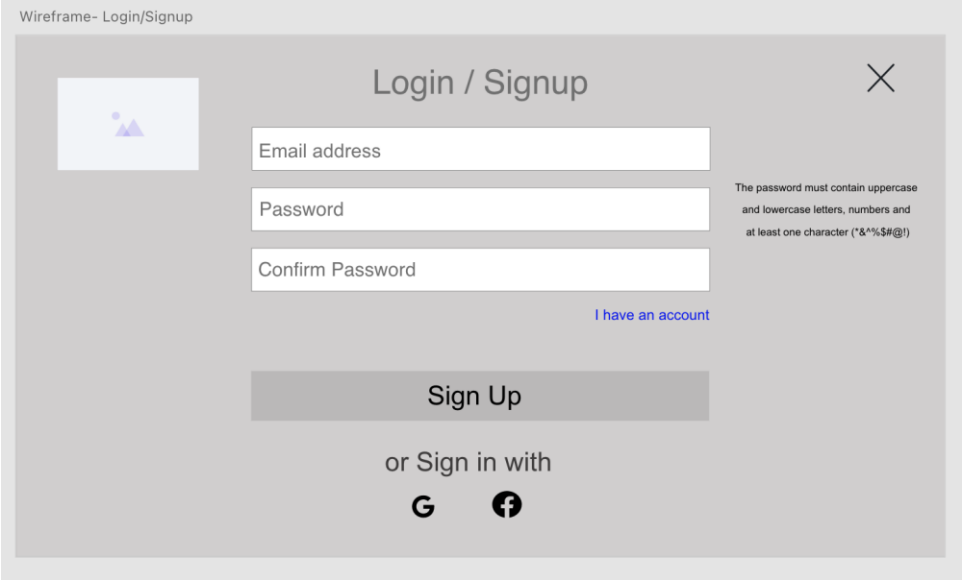
iv. Priyanka Jerambhai Vithani





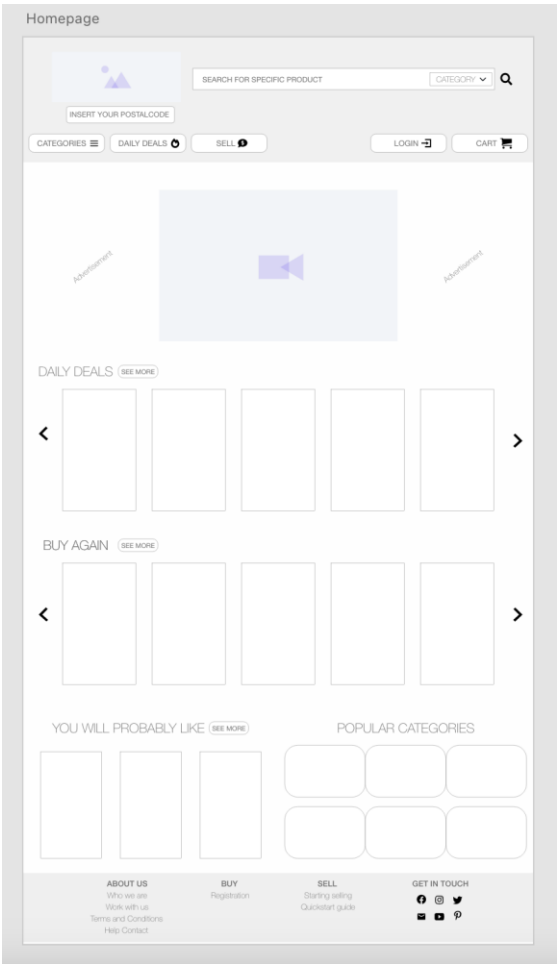
b. Wireframes:

i. Login page:



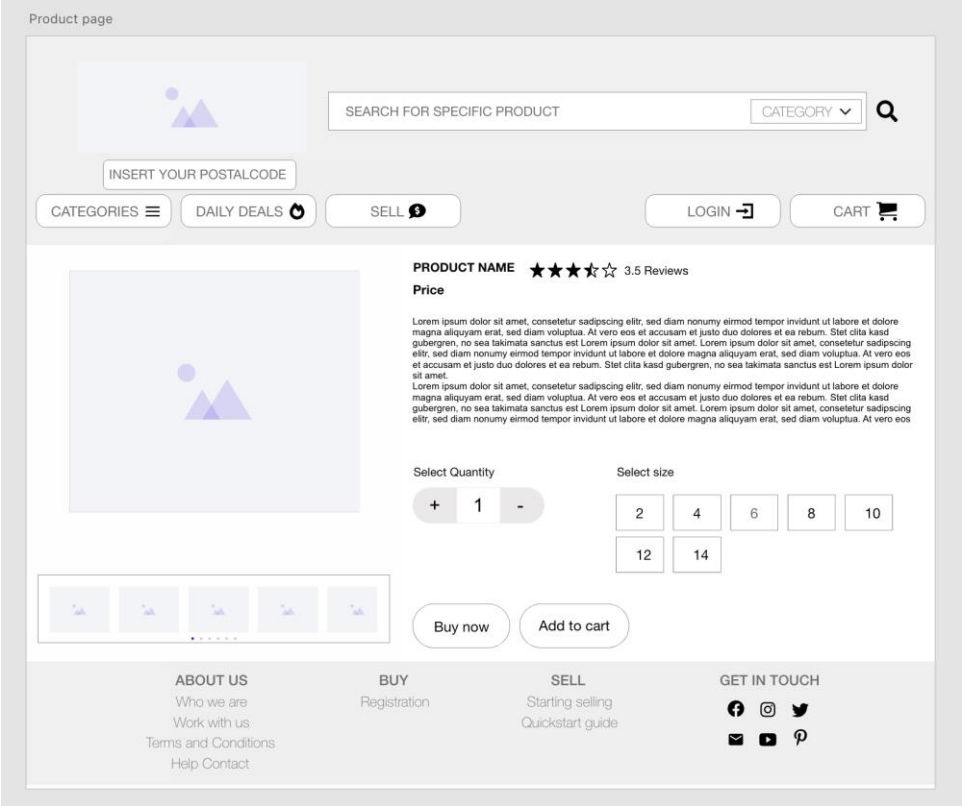
The first screen is the login page, where users can sign up or log in. There is one field to enter an email address, one for the password, and another to confirm the password. Additionally, there are buttons to finish the sign up or sign in using Google or Facebook accounts.

ii. Homepage



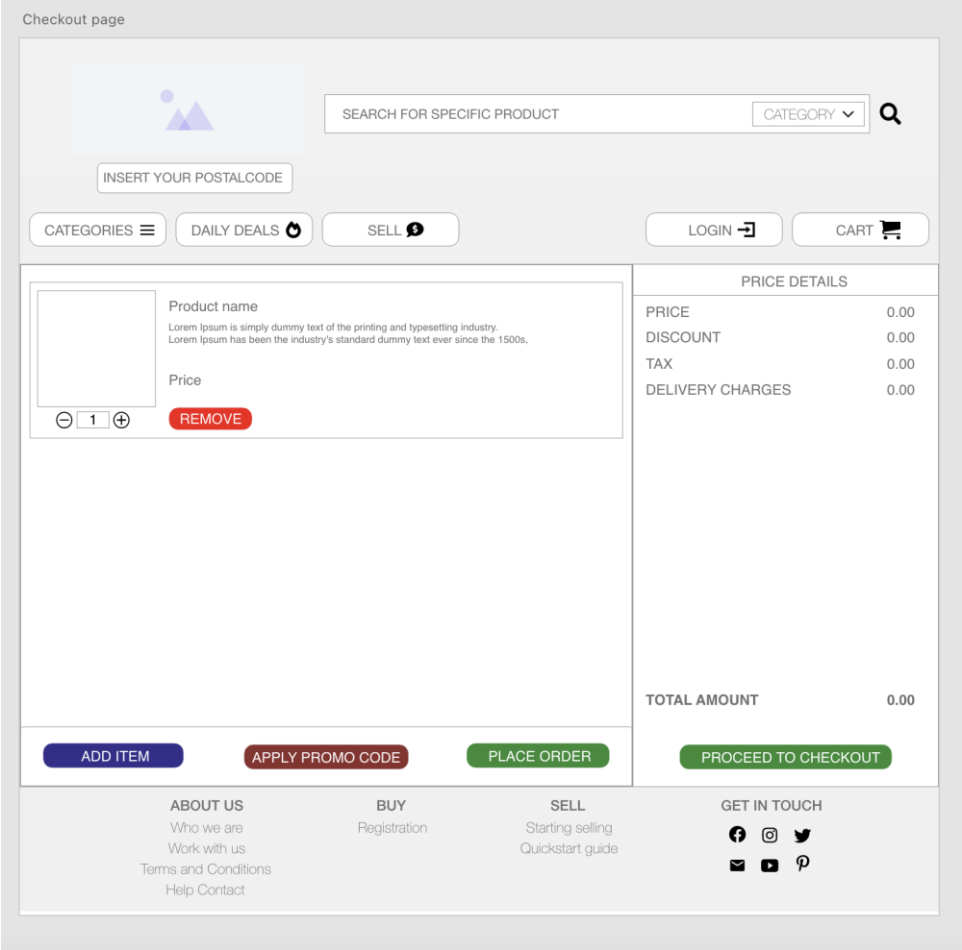
The homepage was designed with a clear and user-friendly header, featuring a postal code field, a search bar, and various buttons for users to navigate the website. Throughout the page, there are sections with general products, and at the end, there is a footer containing a wealth of information to assist users.

iii. Product page:



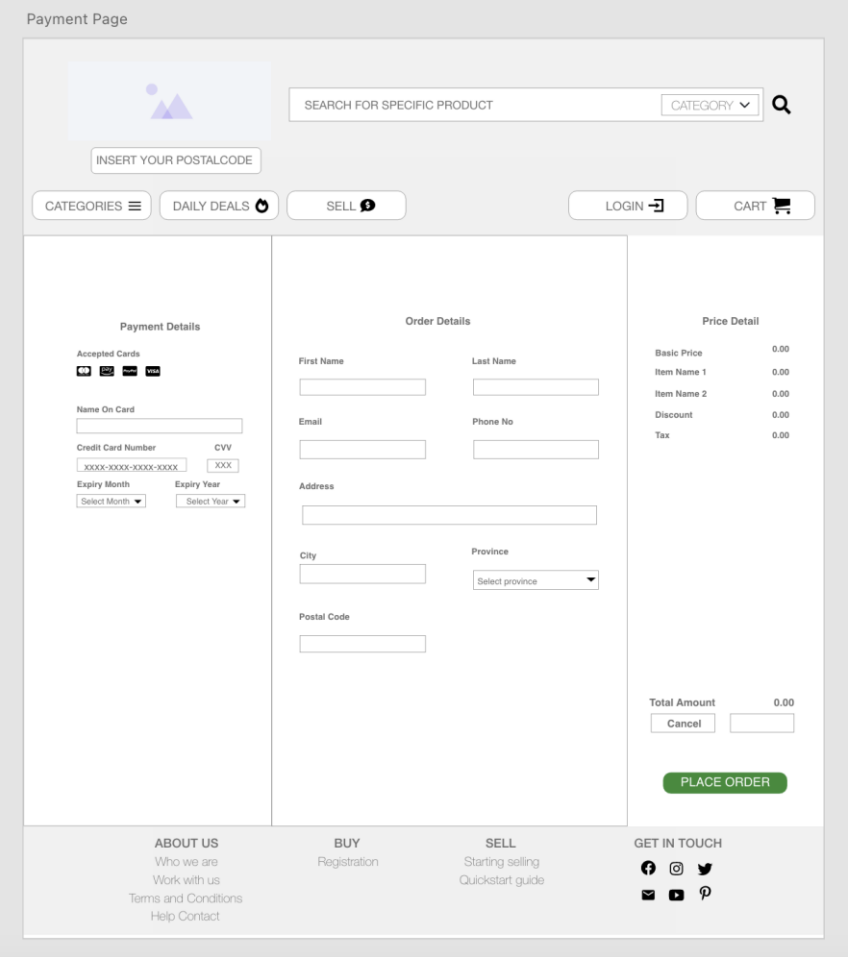
On the product page, as mentioned above, there is the same header and footer. Along the page, we have included product ratings, quantity selection button, size options, as well as 'Buy Now' and 'Add to Cart' buttons, to make the purchasing process easy for the customer.

iv. Checkout page:



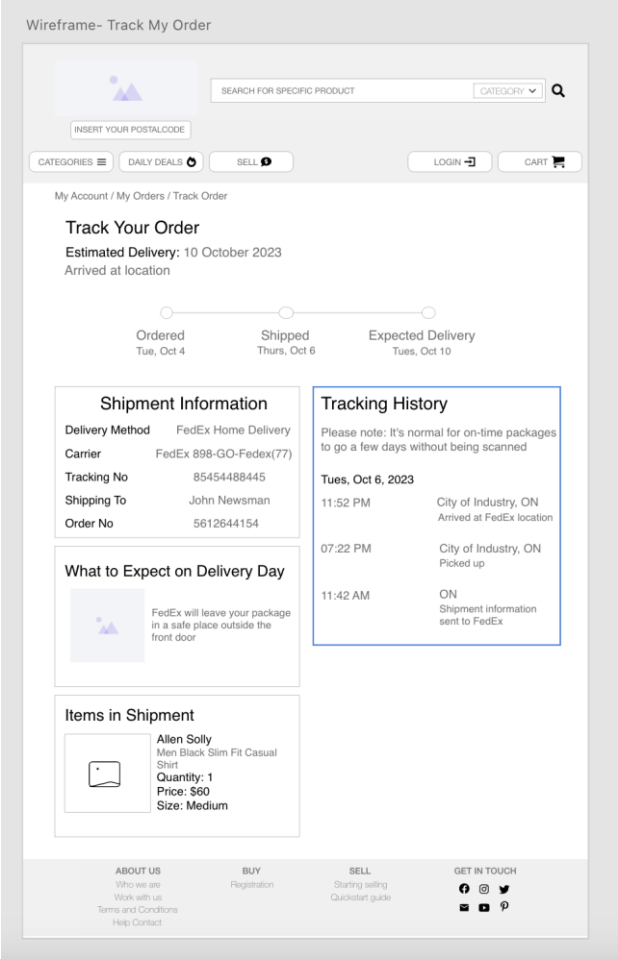
On the checkout page, we have included a product review, the option to increase the quantity or remove items from the cart. On the right side, you will find purchase information, including prices, taxes, and delivery charges. At the bottom, we have added buttons to guide the user through the process of completing their purchase.

v. Payment page:



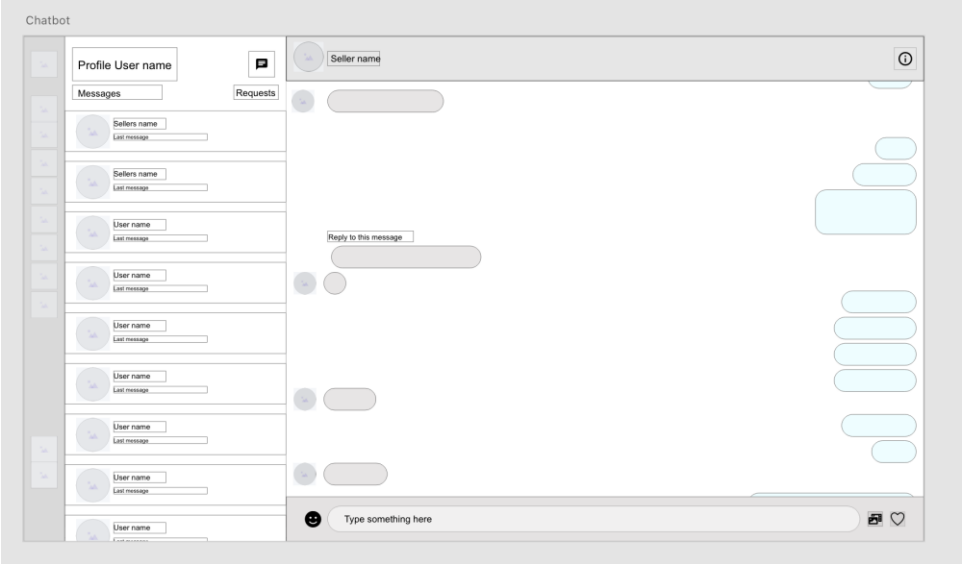
On the payment page, we have included several fields for users to enter their payment method information, along with a 'Place Order' button at the end of the page to complete the purchase.

vi. Tracking page:



On the tracking page, we have included breadcrumbs to help users understand their location, along with information about shipping, delivery date, and a delivery timeline. These elements are presented in separate boxes to enhance user visualization.

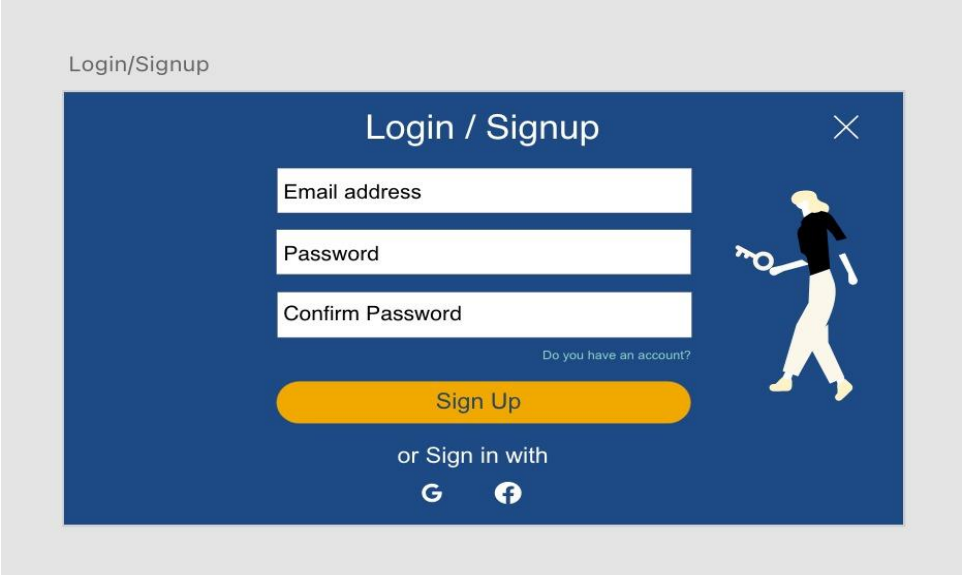
vii. Chatbot page:



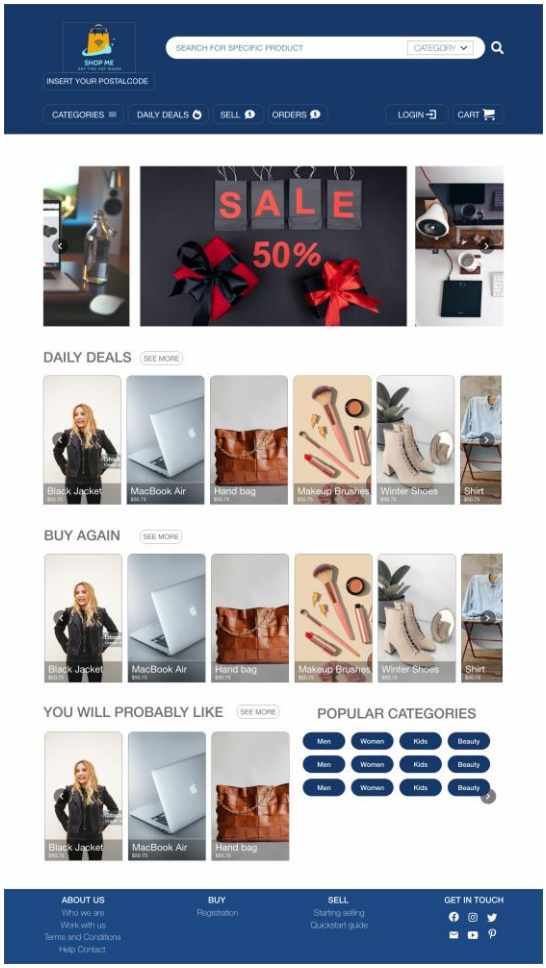
On the chatbot page, we decided to include a left menu displaying all chats, while on the other side, we have the selected chat, with a field below for inserting messages, images, and emojis.

c. Prototype:

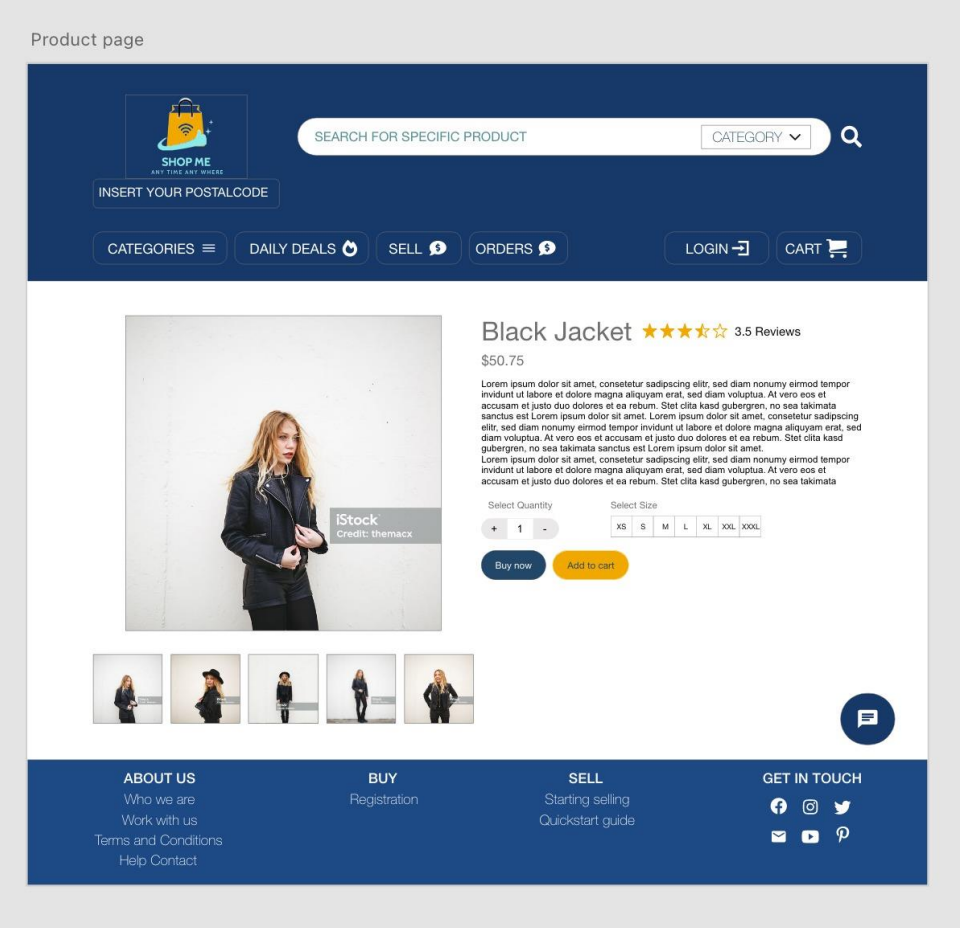
i. Login page:


Login/Signup
Login / Signup
Email address
Password
Confirm Password
Do you have an account?
Sign Up
or Sign in with

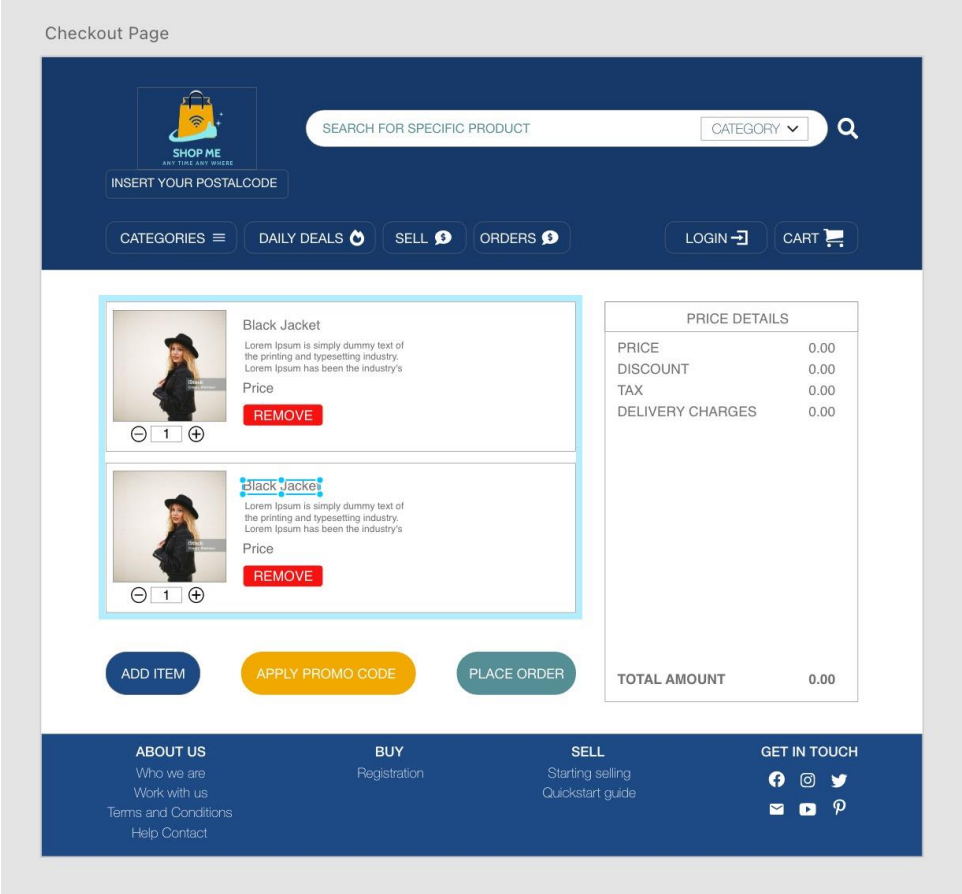
ii. Homepage:



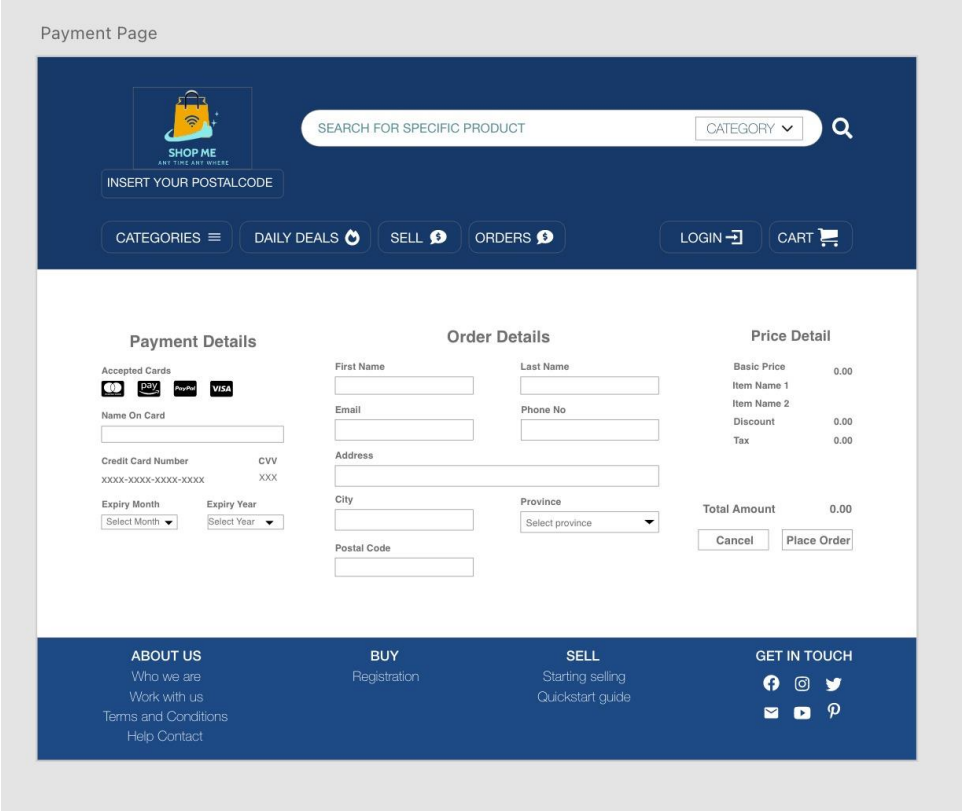
iii. Product page:



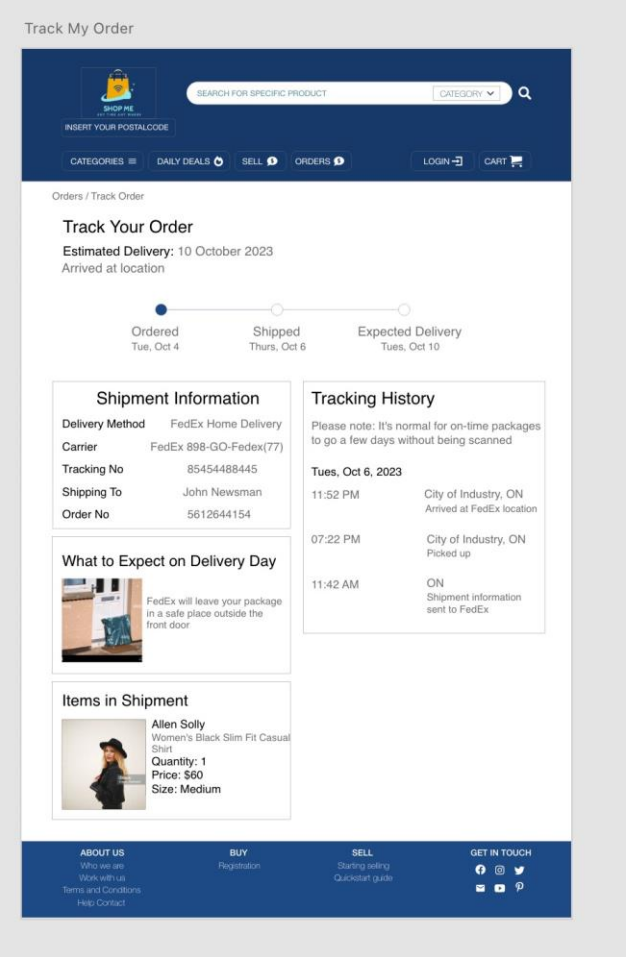
iv. Checkout page:



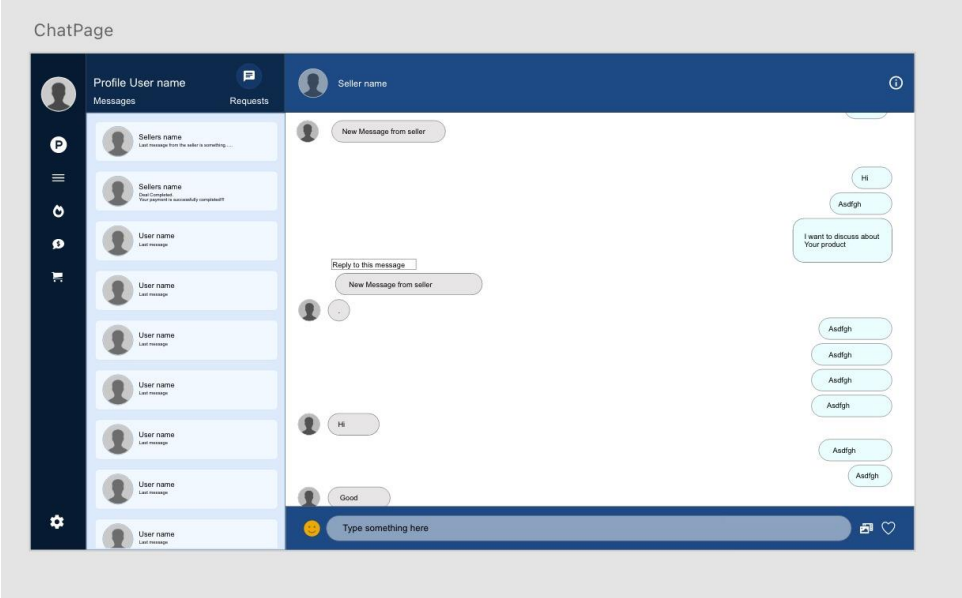
v. Payment page:



vi. Tracking page:

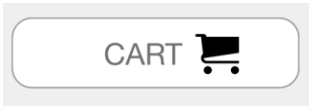


vii. Chatbot page:



F) Table or list showing where you implemented the:

a. Five metaphors:

i. 

The cart icon symbols the shopping cart section, where customers can view their selected products.

ii.

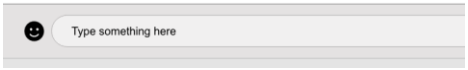
This icon indicates the login or sign-in function, prompting users to click to log in or sign in when logged out.

iii.

The hamburger menu icon signals users to click to access additional menu options.

iv.

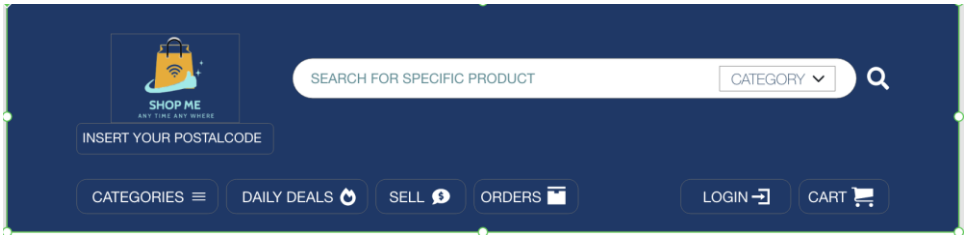
The magnifying glass icon invites users to click for search functionality.

v. 

The emoji icon allows users to click to search for a bunch of emojis and then add them to their message.

b. Five design patterns:

i. **Proximity:**

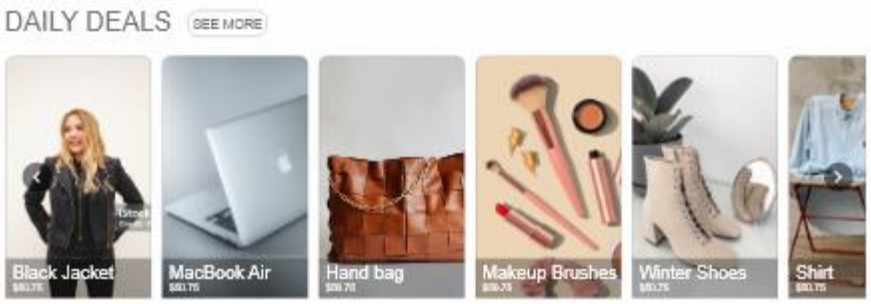


Grouping related items together using proximity helps users perceive them as a single unit. For example, in a Header above, placing Buttons close to the corresponding login and cart button helps users quickly understand which button corresponds to which functionality.

ii. Closure:

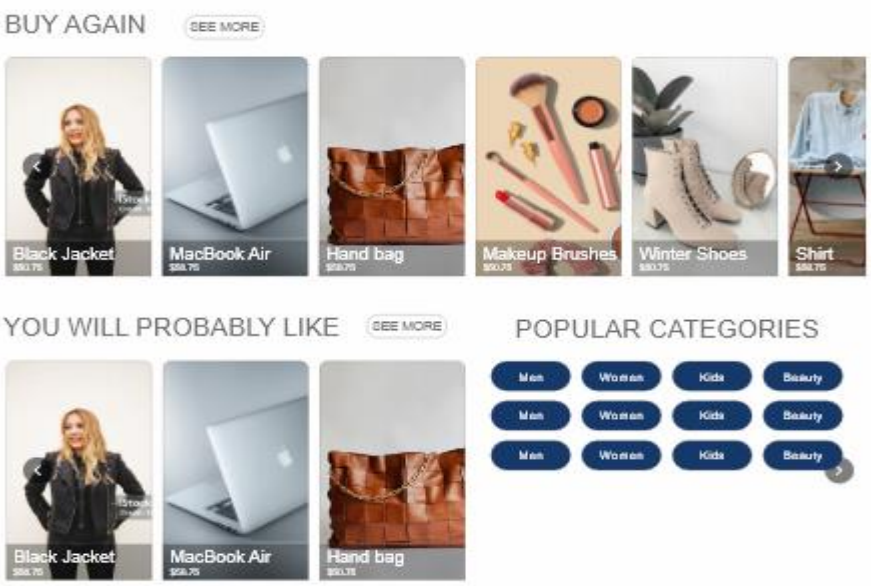
On Home page, User can see that there are additional advertisements available to view. Even though they cannot guess what is there, they can recognise that there is something to see. And they will have to swipe in horizontal direction.

iii. Similarity:



In the daily deal section, all the visual elements are displayed with uniform image sizes, font styles, and pricing formats to create similarity and make it easier for users to scan and compare products.

iv. Symmetry:



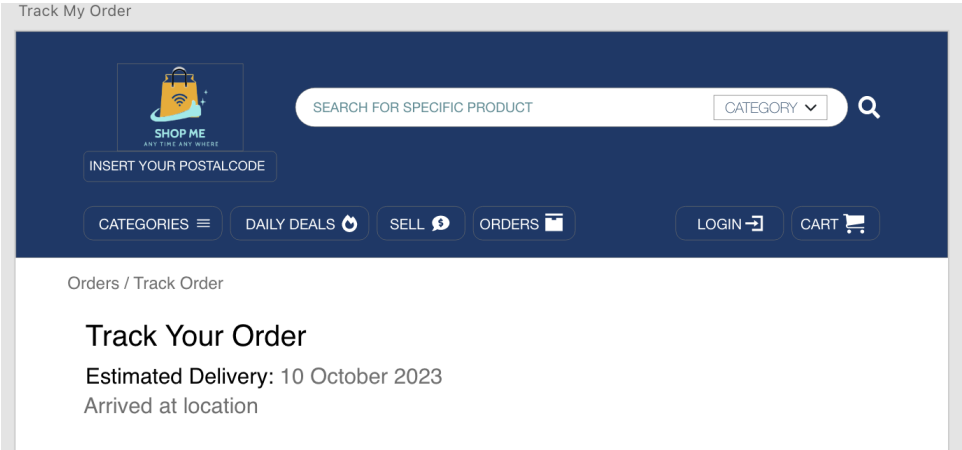
Symmetrical product grids were used to display items in sections such as 'Buy Again,' 'You Will Probably Like,' and 'Recently Viewed Items,' ensuring an organized and visually balanced appearance. This symmetry enhances the overall aesthetics of the e-commerce platform.

v. Continuation:

The 'Recently Viewed' section on the homepage enables customers to quickly revisit items they have previously viewed. This section is displayed as a horizontal carousel, allowing users to scroll through it. This design provides a sense of continuation, making it easier for users to explore additional options related to their current choices.

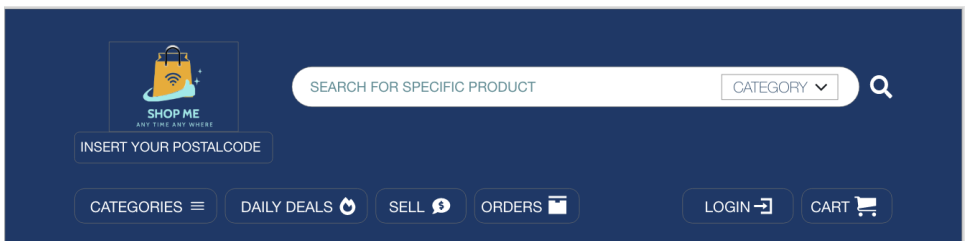
c. 10 Usability principles:

i. Visibility of system status:



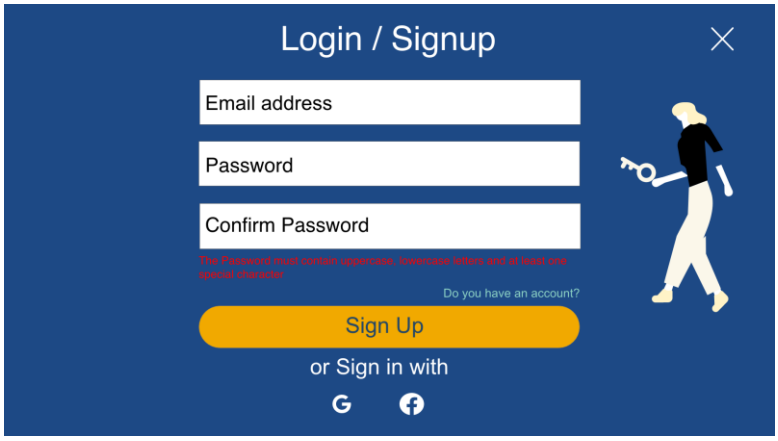
In the order tracking design, breadcrumbs were used to provide customers with an accurate status of their location, for example: 'Orders / Track Order'.

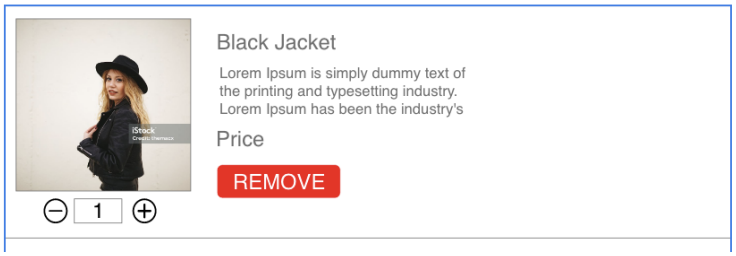
ii. Match between system and the real world:



From the header section, users can easily recognize categories, daily deals, selling, login, cart, and search with both real names and metaphorical icons matching with the real word vocabulary.

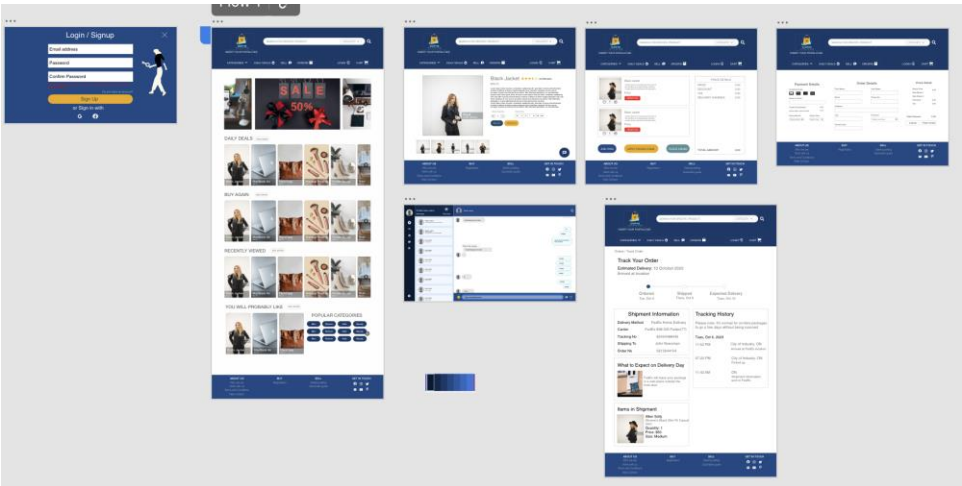
iii. User control and freedom:





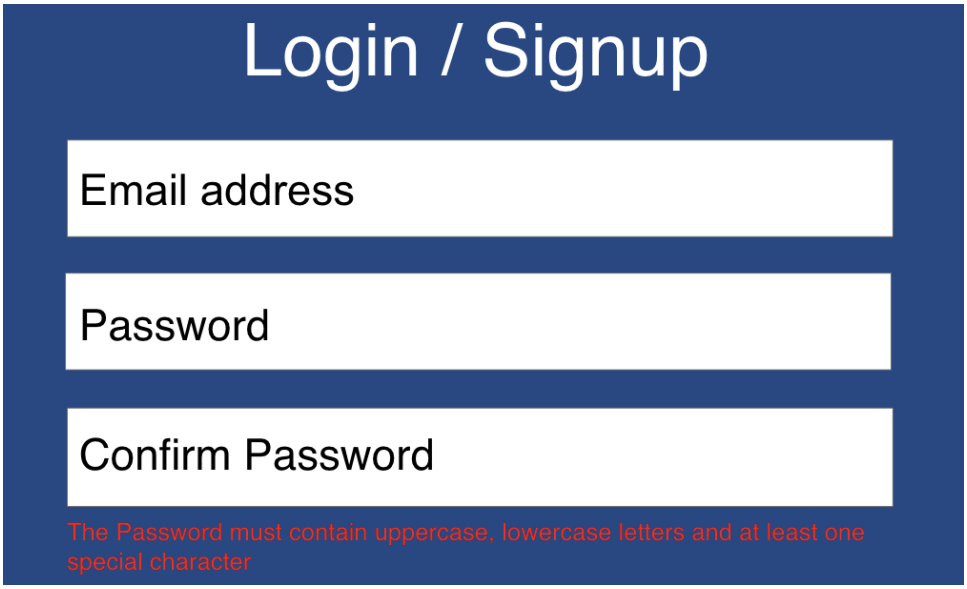
On the login page, customers can return to the homepage by clicking the 'x' icon at the bottom right of the screen, giving them the freedom to decide whether to log in or not. Additionally, on the cart page, customers can add or remove items as they wish.

iv. Consistency and standards:



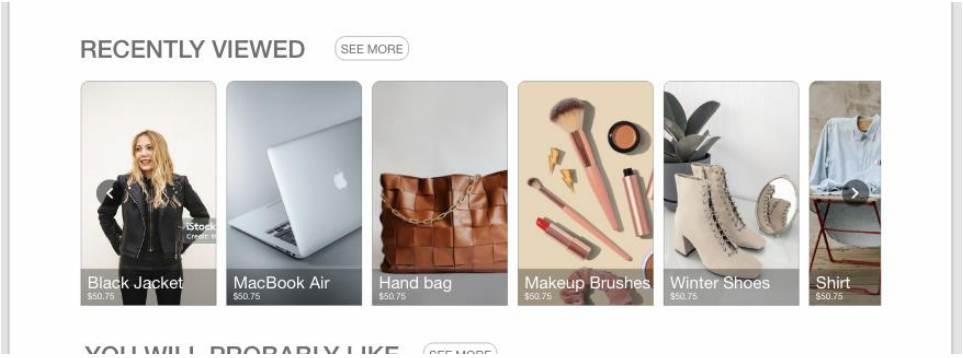
All the pages with the same color palette, identical header and footer, and buttons with a consistent shape and style adhere to principles of consistency and standardization.

v. Error Prevention:



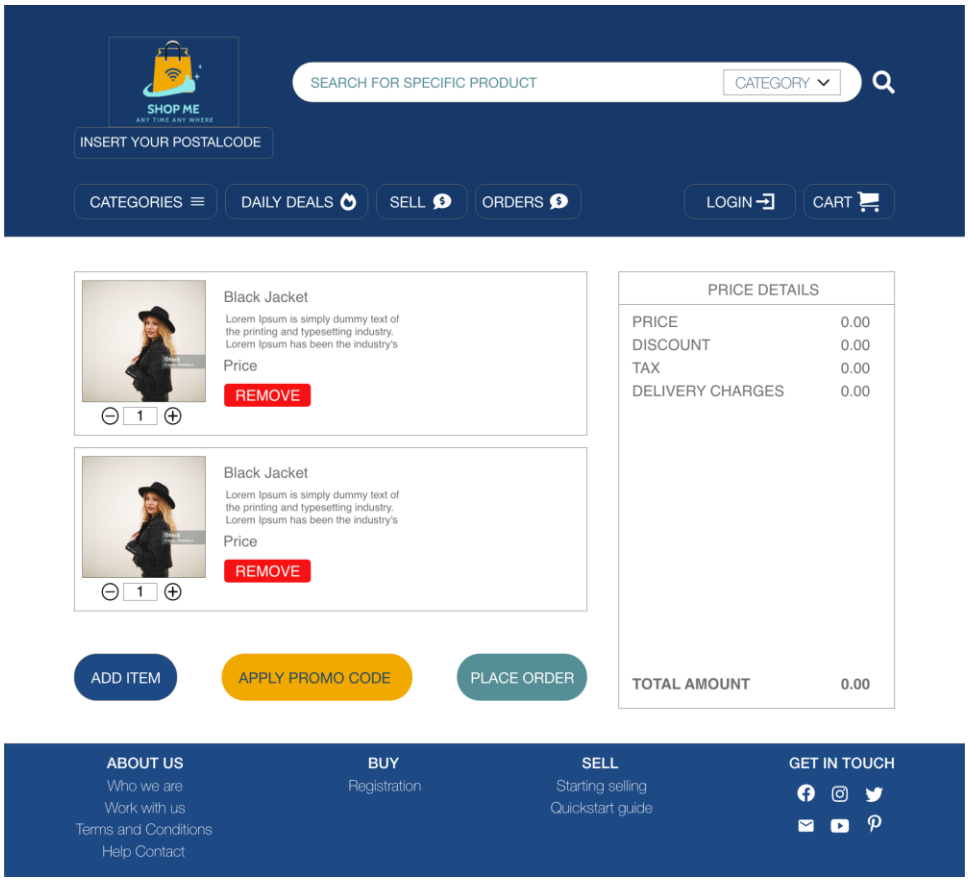
A message above the password field is displayed when the customer is registering, guiding them to create a password that complies with system requirements.

vi. Recognition rather than recall:



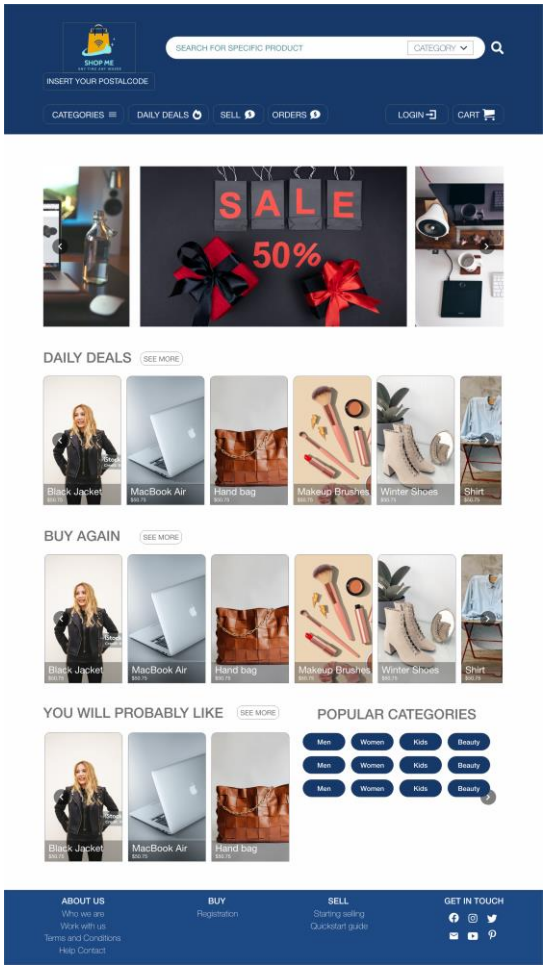
On the home page, a section with recently viewed items is displayed to help the customer review previous items, combining with recognition rather than recall, allowing customers the ease of viewing previous items.

vii. Flexibility and Efficiency of use:



On the checkout page, every step, frame, and piece of information is clearly described to efficiently guide new users in completing their cart payment.

viii. Aesthetic and minimalist design:

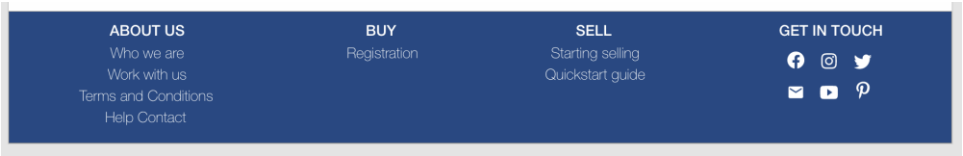


We aimed to design an e-commerce platform as minimalist as possible, enabling customers to navigate easily without distractions and enjoy an uncluttered visual experience.

ix. Help users recognize, diagnose, and recover from errors:

An error message will appear on the login page when the user's password is entered incorrectly. This message will guide the customer to where the mistake occurred.

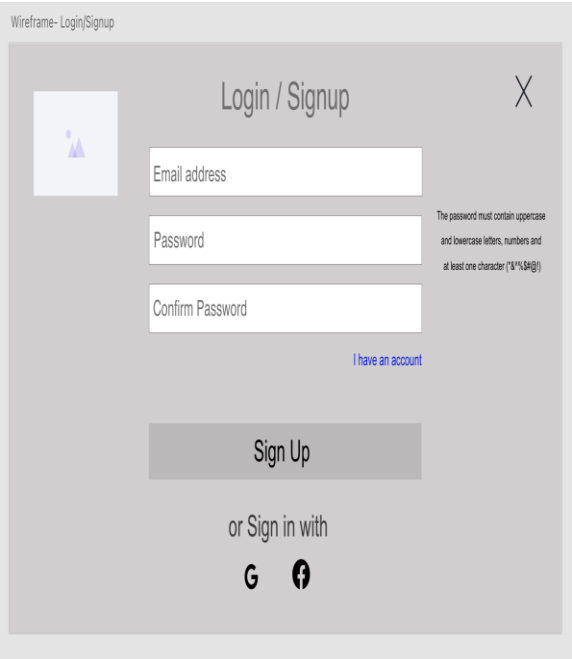
x. Help and documentation:

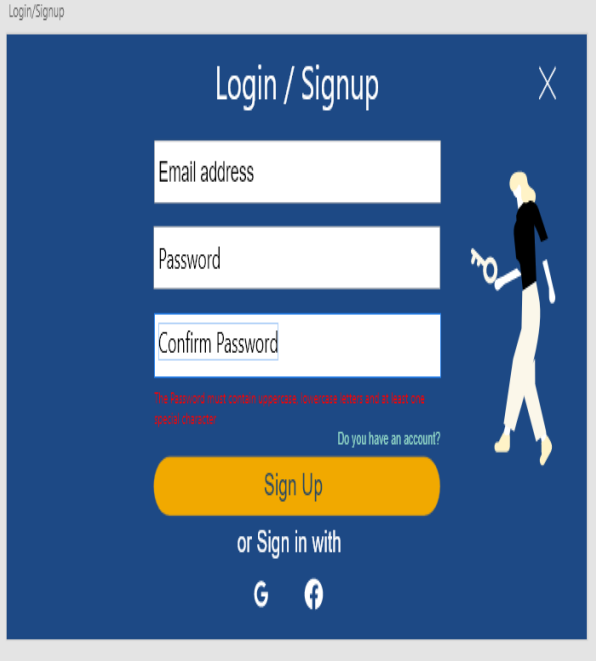


In the footer, a quick start guide is provided to new sellers, offering all the required information they need to begin selling on the e-commerce platform.

d. How the prototype matches the wireframe:

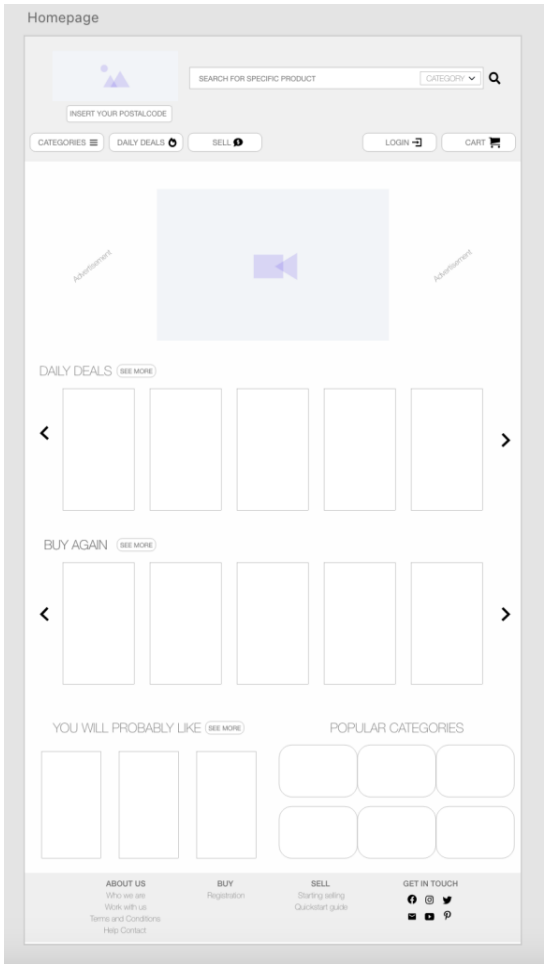
i. Login page:

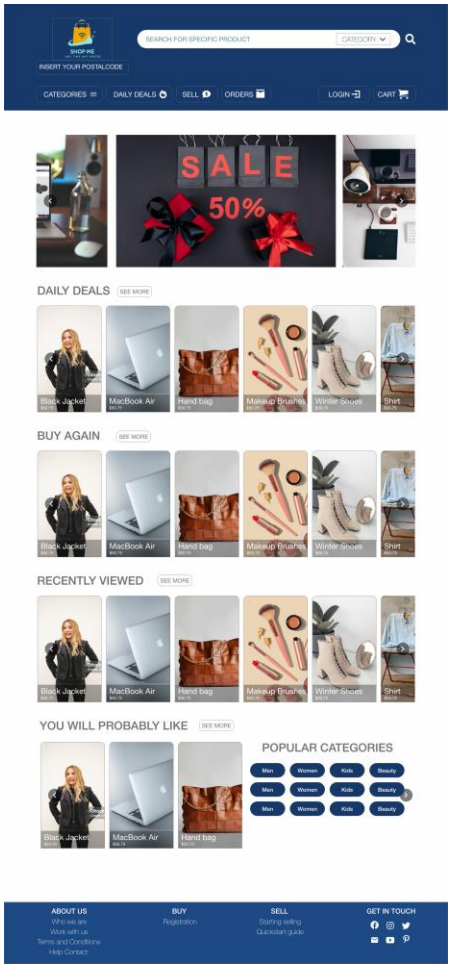




From wireframe to prototype, we made small changes, such as changing the "I already have an account" button, modifying the border of the sign-up button and adding a message about the password pattern.

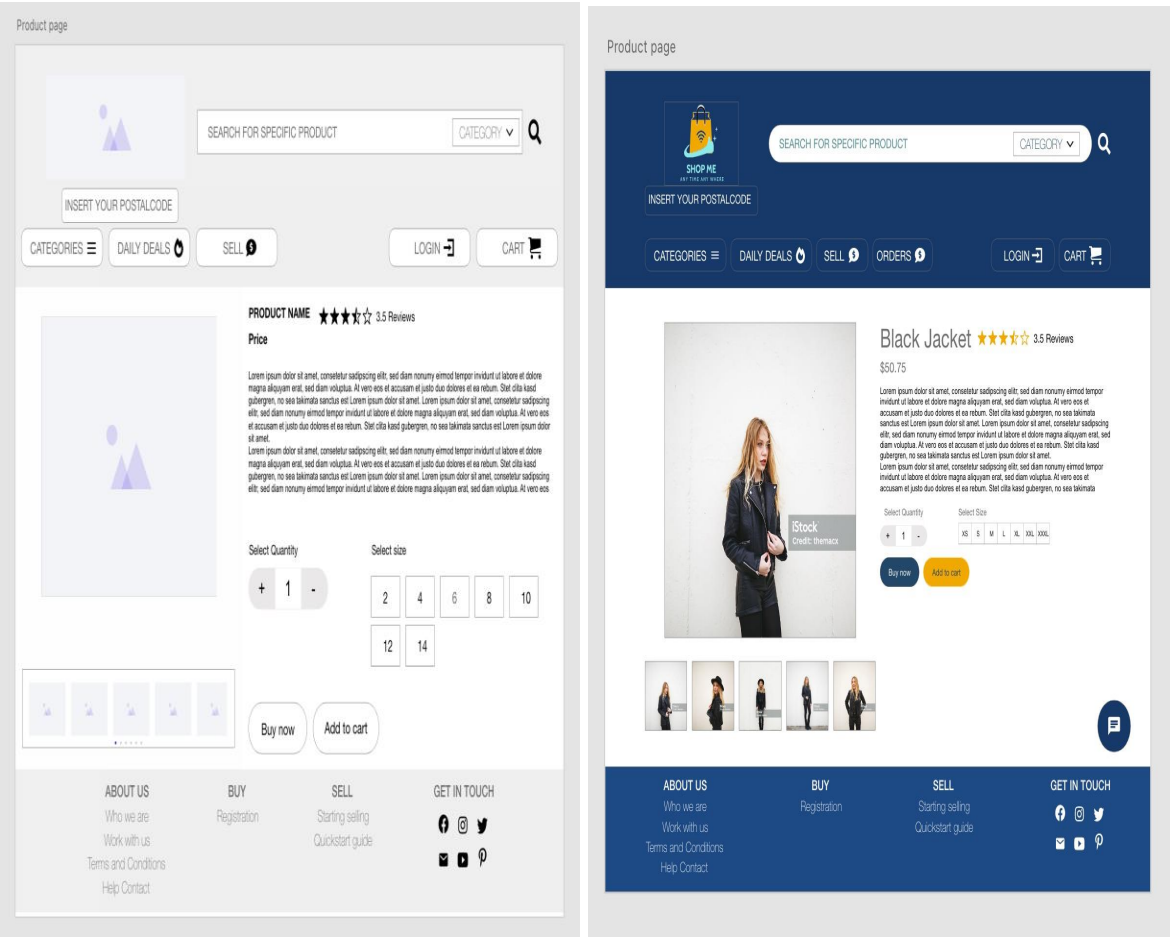
ii. Homepage:





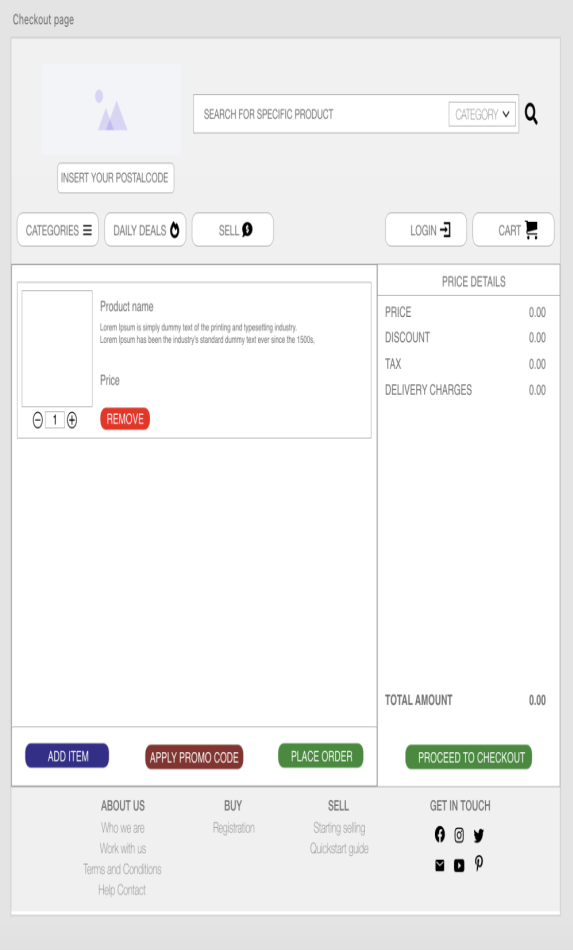
On the homepage, in the header, we added an additional button: the 'Orders' button. We also included the 'Recently Viewed' section

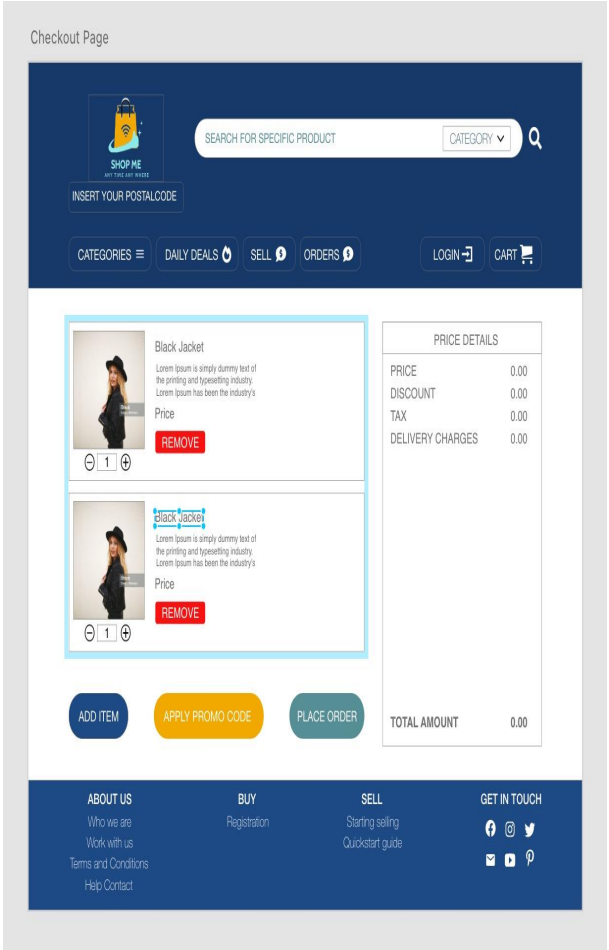
iii. Product page:



On the product page, we only moved the buy now and add to cart buttons to improve visualization.

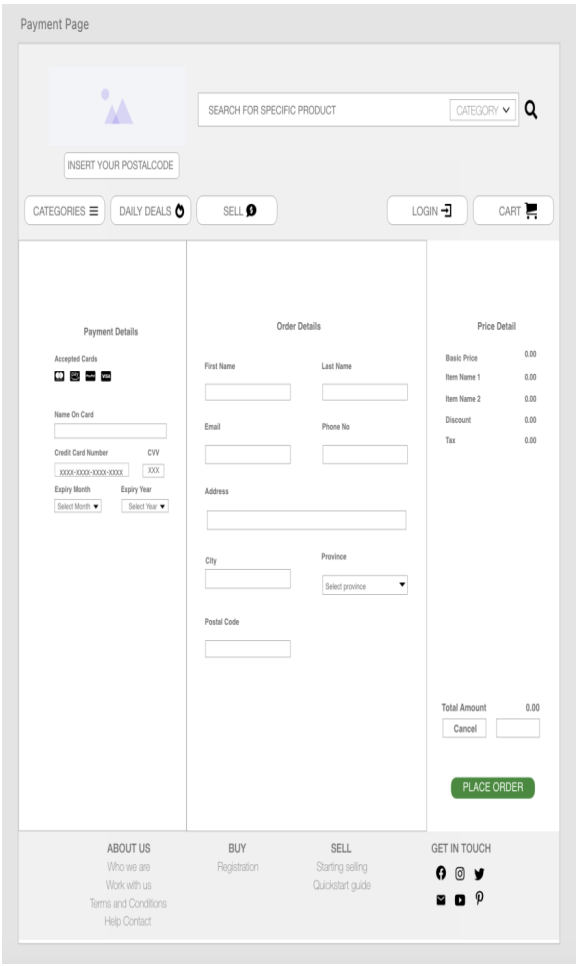
iv. Checkout page:





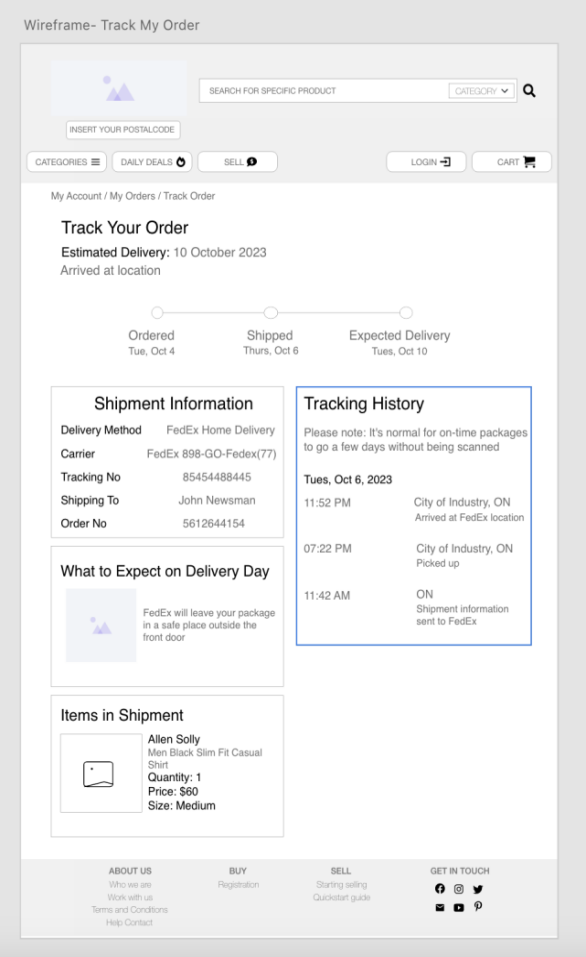
On the checkout page, we adjusted the button, removing duplicate buttons and improving visualization.

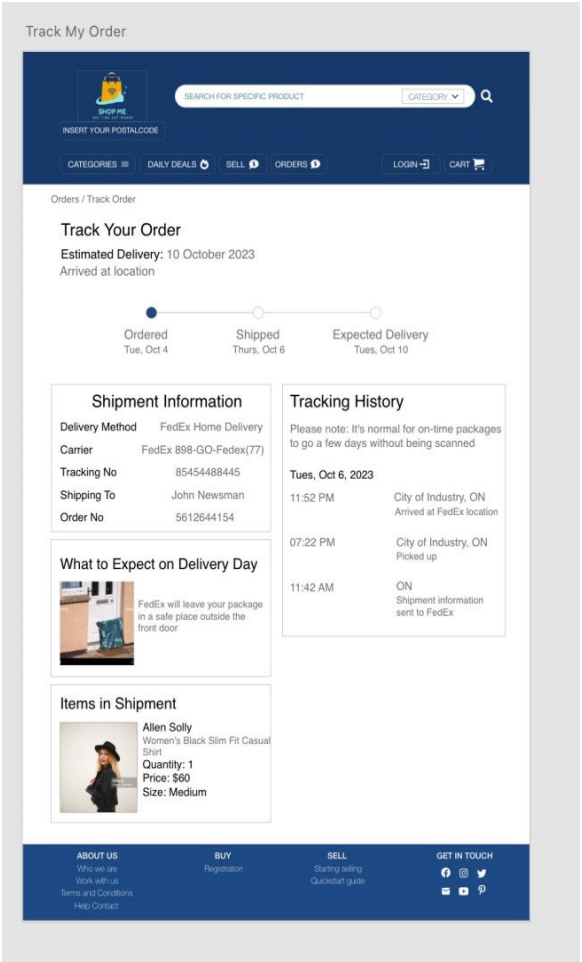
v. Payment page:



On the payment page, we only adjust the position of the fields and buttons.

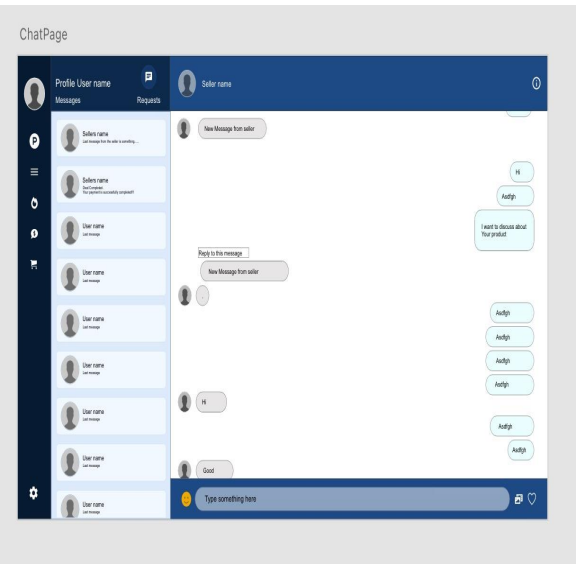
vi. Tracking page:

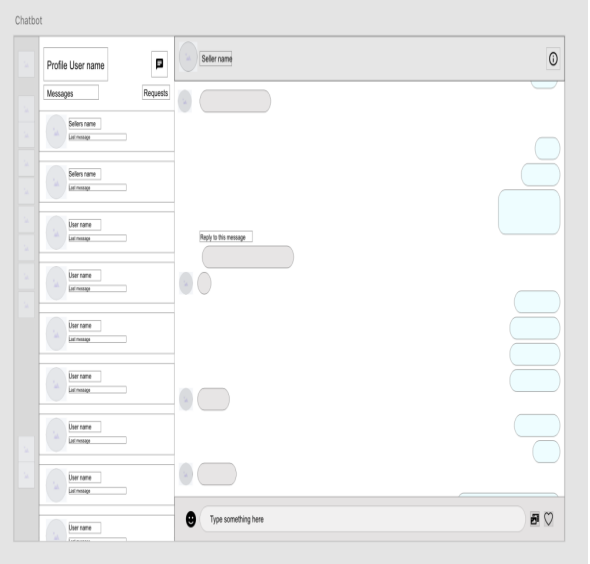




No changes needed to be made.

vii. Chatbot page:



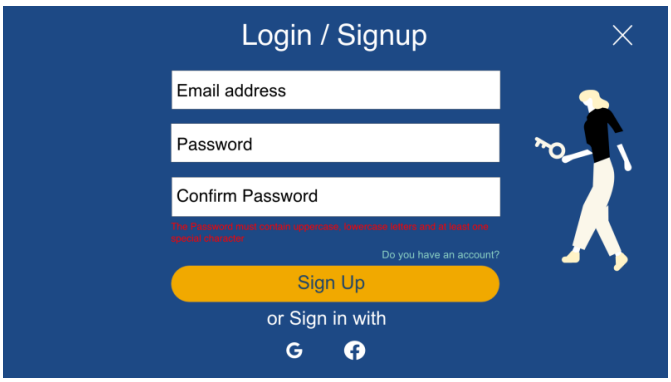


No changes needed to be made.

e. The usability tests results (A/B Testing) and Changes made based on the usability tests:

We conducted usability tests in collaboration with relatives and friends of each team member, collecting valuable feedback that allowed us further refinements to our platform. Here are some adjustments made to our prototype based on feedback:

- Include password pattern in the login page, to guide the user which type of password they need to create:



- Insert section with recently reviewed items, to enable client to see previous products:

RECENTLY VIEWED

SEE MORE

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