

Final Report: CS5934 Capstone Project

Team Everest

Easy Ecommerce

An e-commerce website for selling Nepalese and Indian Ethnic Wear

Team Members

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Product description

This is an e-commerce platform which is a unique and innovative solution for customers seeking Indian and Nepali ethnic wear. By specializing in this niche market, our platform offers a curated selection of clothing items that customers won't find anywhere else. Not only does the website's user-friendly interface make it easy for customers to search for and purchase their desired products, but it also provides a personalized shopping experience through features like saved items and discount notifications. The powerful admin dashboard allows for efficient management of the website, giving the admin complete control over products, categories, and customer communications. In a market saturated with generic e-commerce options, our platform stands out by offering customers a specialized and tailored shopping experience. From the easy-to-use interface to the robust administrative tools, our e-commerce platform is truly one of a kind and sets the bar for similar products in the market.

Product functionalities

Our website is designed for two different users: admin and customer. This walkthrough of our website's features will highlight the functionalities available to both customers and administrators.

Customer Functionalities: The customers can view all the products and its details such as size, price, sale price, and description added by an admin. They can save these product items to wishlist for future purchase or add items to cart and securely checkout. The customers can also track their orders and will be emailed by the admin if the order was shipped or canceled. These are the functionalities of a customer:

View all the products:

Kanchans Choice Men Women Kids Misc Search Swati Wishlist Cart

NEW ADDITION

- Yellow Kurtha** \$95
- Blue Lehenga** \$130
- Pink Lehenga** \$200
- Red Saree** \$170

33% off 70% off 70% off 15% off

View an individual product with all the details:

Kanchans Choice Men Women Kids Misc Search Swati Wishlist Cart

Red Kurtha

\$80

Price Inclusive of all taxes

Select size:

34 36 38 40 SS

Add to Cart Wishlist

Red Kurtha

Filter all the products by their categories and price:

← → ↻ kanchan-website.herokuapp.com/Women/products/kurtha-girls

Kanchans Choice Men Women Kids Misc Search Swati Wishlist Cart

Saree \$100 and more



Red Saree
\$170



15% off
Green Saree
\$110 ~~\$130~~

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Add items to wishlist:

← → ↻ kanchan-website.herokuapp.com/wishlist

Kanchans Choice Men Women Kids Misc Search Swati Wishlist Cart

My Wishlist

	Red Kurtha	\$80	
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Add items to cart:



Kanchans
Choice

Men Women Kids Misc

Search



Swati

Wishlist

Cart

My Cart

Clear Cart



Yellow Kurtha

Size: 38
Qty: 1
Price: \$95
Sub total: \$95



Green Saree

Size: M
Qty: 1
Price: \$110
Sub total: \$110



Make a payment and place an order:

**Kanchans Choice** [Men](#) [Women](#) [Kids](#) [Misc](#) [Swati](#) [Wishlist](#) [Cart](#)

CheckOut

Total amount is: **\$205**

Pay with card      

Card Number
4242 4242 4242 4242 

Expiration Date (MM/YY) CVV (3 digits)
06 / 28 458

Choose another way to pay

[Buy](#)

Delivery Address:
12300 Foxridge Ln, Apt G,
Blacksburg, Virginia, 24060

[Change Address](#)

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[Facebook](#) [Instagram](#) [TikTok](#)

Track Orders:

**Kanchans Choice** [Men](#) [Women](#) [Kids](#) [Misc](#) [Swati](#) [Wishlist](#) [Cart](#)

My Orders

Status: Order Received
(We are preparing to ship your order)
Total: \$205.00
Date: 2023-05-01
Products:



1. Yellow Kurtha | Size: 38 | Qty: 1 | Price: \$95



2. Green Saree | Size: M | Qty: 1 | Price: \$130

Leave a review:

Men Women Kids MiscAdminWishlistCart

Leave a Review!

Rating: 

Comment:

Men Women Kids MiscAdminWishlistCart



Pink Sherwani
\$100 ~~\$150~~



Floral Blue Saree
\$30 ~~\$99~~



SS11
\$30 ~~\$99~~



Green Saree
\$110 ~~\$130~~

Reviews

Everything to love about Kanchan's Choice


"Great purchase. Very affordable prices!"

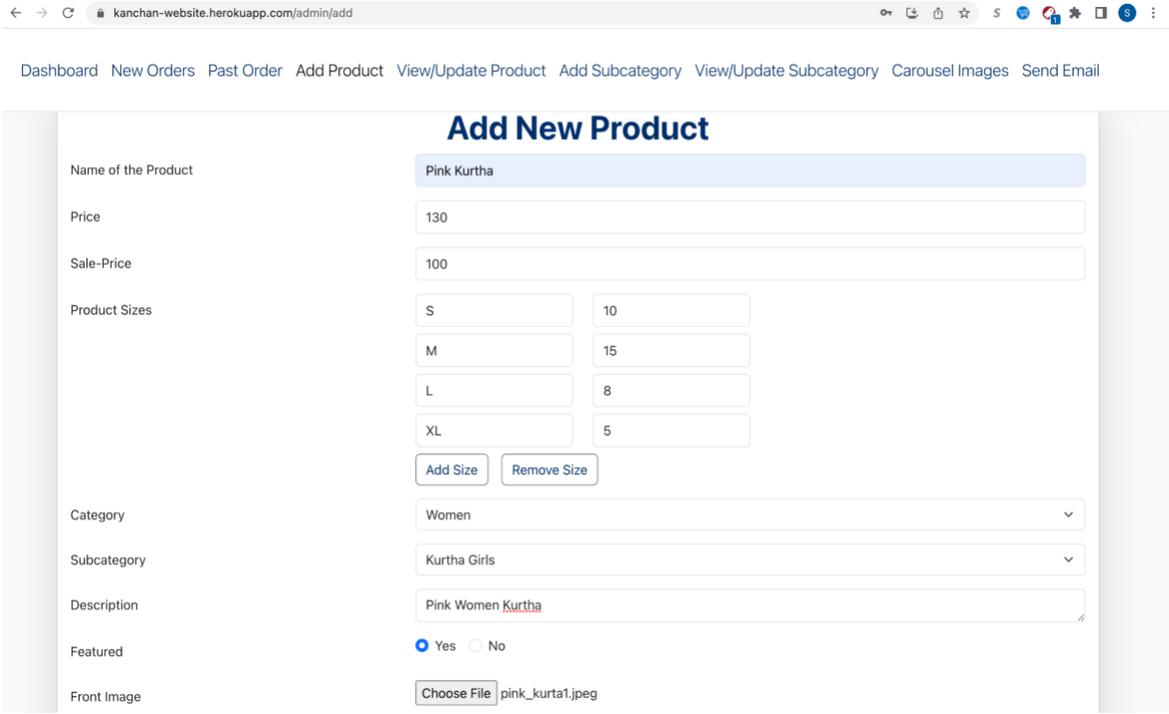
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Admin Functionalities: An admin can add a product, update the details of the product, delete the product, add and update the subcategories under which the products are added, and can also track all the past and current orders. An admin can also add carousel images that are displayed on the homepage directly from the admin dashboard and send bulk emails to customers regarding any sale or discount offerings. These are the functionalities of an admin:

Adding a New Product:



Updating a new product:

Edit Product

Name of the Product	<input type="text" value="Pink Kurtha"/>								
Price	<input type="text" value="130"/>								
Sale-Price	<input type="text" value="100"/>								
Product Sizes	<table border="1"><tr><td><input type="text" value="S"/></td><td><input type="text" value="10"/></td></tr><tr><td><input type="text" value="M"/></td><td><input type="text" value="15"/></td></tr><tr><td><input type="text" value="L"/></td><td><input type="text" value="8"/></td></tr><tr><td><input type="text" value="XL"/></td><td><input type="text" value="5"/></td></tr></table> <p><input type="button" value="Add Size"/> <input type="button" value="Remove Size"/></p>	<input type="text" value="S"/>	<input type="text" value="10"/>	<input type="text" value="M"/>	<input type="text" value="15"/>	<input type="text" value="L"/>	<input type="text" value="8"/>	<input type="text" value="XL"/>	<input type="text" value="5"/>
<input type="text" value="S"/>	<input type="text" value="10"/>								
<input type="text" value="M"/>	<input type="text" value="15"/>								
<input type="text" value="L"/>	<input type="text" value="8"/>								
<input type="text" value="XL"/>	<input type="text" value="5"/>								
Description	<input type="text" value="Pink Women Kurtha"/>								
Featured	<input checked="" type="radio"/> Yes <input type="radio"/> No								
Current Front Image									

View New Orders:

New Orders

Change Status:

Total: \$100.00

Date: 2023-04-28

Buyer: Simanta Shn

Email: simantstha@vt.edu

Address: 1230 University City Blvd, Apt G76, , Blacksburg, Virginia-24060, USA

Products:



1. Pink Sherwani | Size: S | Qty: 1 | Price: \$150

View Past Orders:

← → ↻ kanchan-website.herokuapp.com/admin/past-orders

Dashboard New Orders Past Order Add Product View/Update Product Add Subcategory View/Update Subcategory Carousel Images Send Email

Past Orders

Status: Canceled
Total: \$170.00
Date: 2023-04-28
Buyer: Bibek Sharma
Email: bibek.12345@yahoo.com
Address: 1230 University City Blvd, Goat101, Blacksburg, Virginia-24060, USA

Products:



1. Red Saree | Size: free size | Qty: 1 | Price: \$170

Add/Update Carousel Images:

← → ↻ kanchan-website.herokuapp.com/admin/carousel-images

Dashboard New Orders Past Order Add Product View/Update Product Add Subcategory View/Update Subcategory Carousel Images Send Email

Carousel Images

Choose Files No file chosen

Upload Images



The carousel contains three images: 1. A group of women in pink and red saris sitting on a stone bench outdoors. 2. Three women in light blue and white saris standing in a row. 3. A group of women in various colorful saris (pink, orange, red) standing in a circle outdoors.

Send Bulk Email to all registered customers:

Dashboard New Orders Past Order Add Product View/Update Product Add Subcategory View/Update Subcategory Carousel Images Send Email

Send Email

Subject

Message

Search in mail Active ? ⚙️ ☰

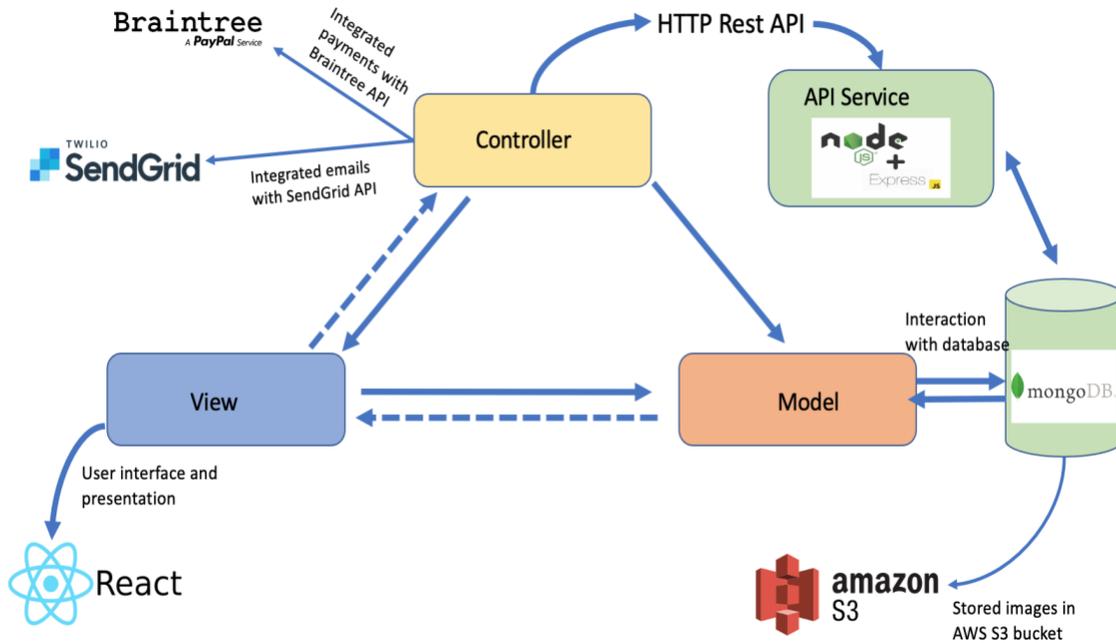
8 of

Sale for winter Break External Inbox x

 **kanchanschoice@gmail.com** via sendgrid.net to me 3:43 PM (3 hours ago)

Dear Customer,
There is a sale for Sarees!!

Design



Architecture diagram of our system

Our system is built on a robust Model-View-Controller architecture, leveraging the power of the MERN (MongoDB, Express.js, React.js, Node.js) stack. With this stack, we have chosen the most suitable tools for our needs, allowing us to efficiently handle our unstructured e-commerce data. MongoDB, as our database of choice, seamlessly accommodates this type of data, providing the necessary flexibility and scalability.

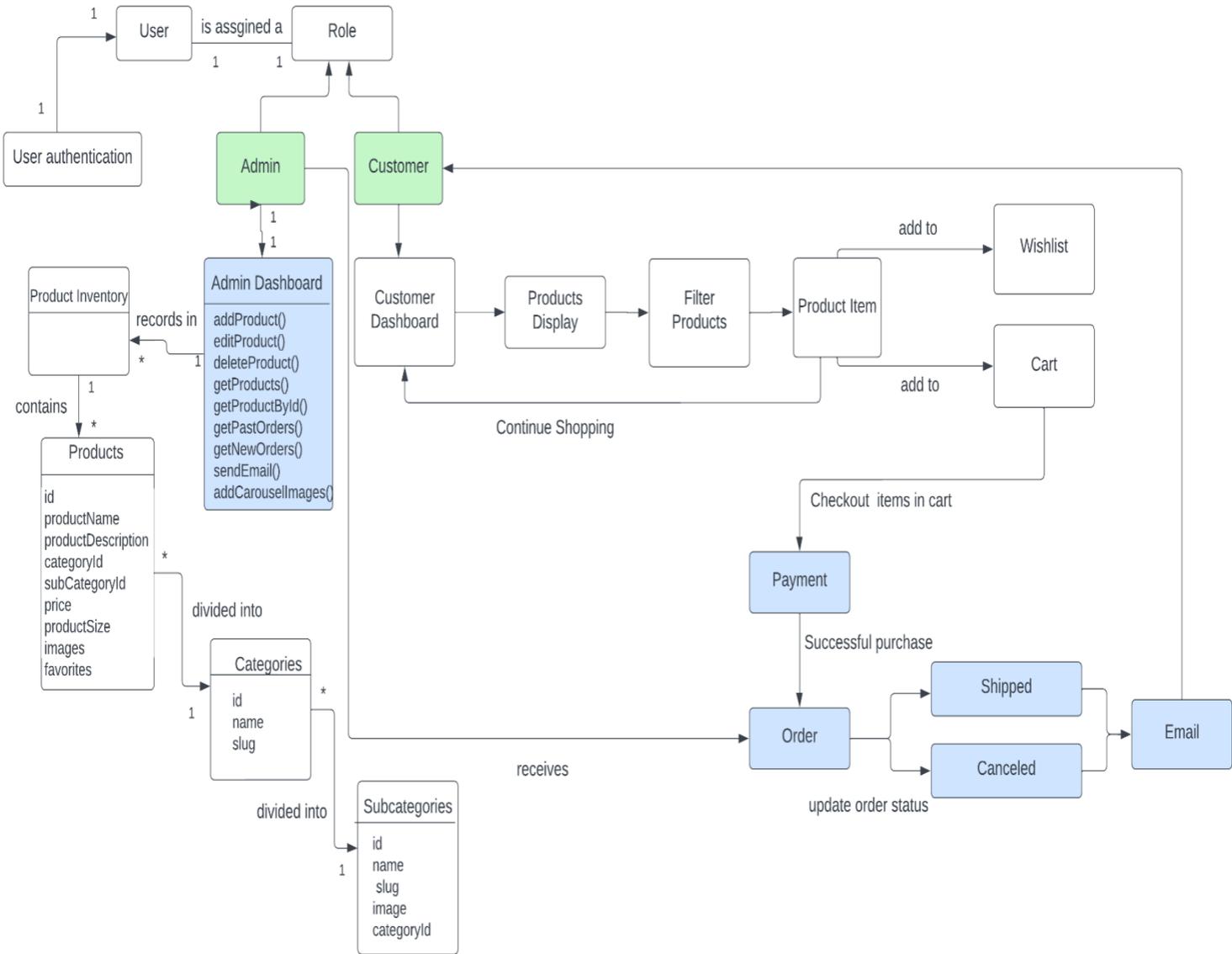
On the frontend, we utilize React.js to create a dynamic and responsive user interface, enabling smooth interactions and an enhanced user experience. With its component-based approach, React.js simplifies development, making it easier to maintain and update our application over time. To facilitate smooth communication between the frontend and backend, we rely on Express.js and Node.js to build our APIs. This powerful combination enables efficient routing, handling of requests, and processing of data, ensuring seamless data flow throughout the system. In addition to our core stack, we leverage the advantages of external APIs to enhance specific functionalities of our system. For sending emails to our customers, we utilize the SendGrid API, which offers reliable and efficient email delivery. Furthermore, we employ the Braintree API to

enable secure and convenient payment processing on our website, allowing our customers to complete transactions with ease. To ensure efficient storage and retrieval of images, we utilize an Amazon S3 bucket. This storage solution offers unparalleled scalability, allowing us to handle a large volume of images without compromising performance. By leveraging the strengths of the MERN stack, along with the added advantages of external APIs and Amazon S3, our system is equipped with the necessary tools to deliver a seamless, secure, and scalable e-commerce experience.

Deployment:

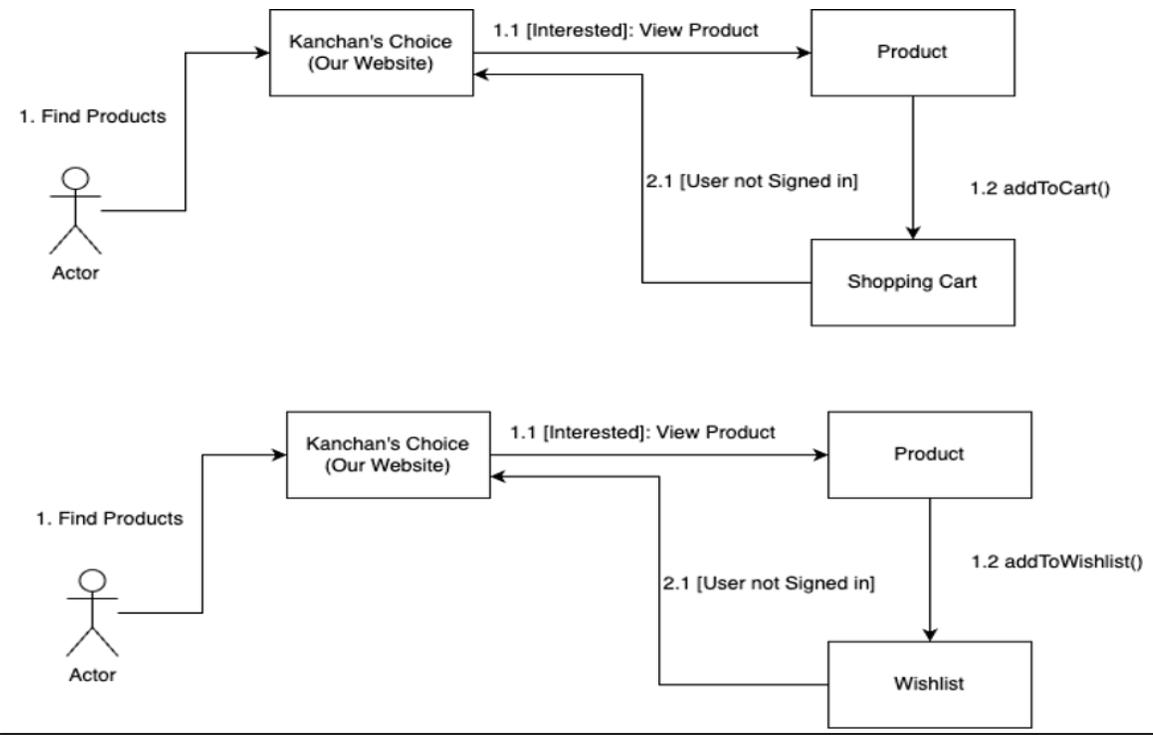
To make the deployment process easy we have built a continuous integration/continuous deployment pipeline. We are currently deploying our website on Heroku which is connected to GitHub. Any changes pushed to GitHub, triggers the automated deployment process which builds the application and deploys it automatically. If there are any errors during building when building fails, the previous version is restored which keeps the website up and running without any failure. The domain name has been purchased and linked with the Heroku server. SSL certificates have also been added for the security of the data of the users.

Domain Model:

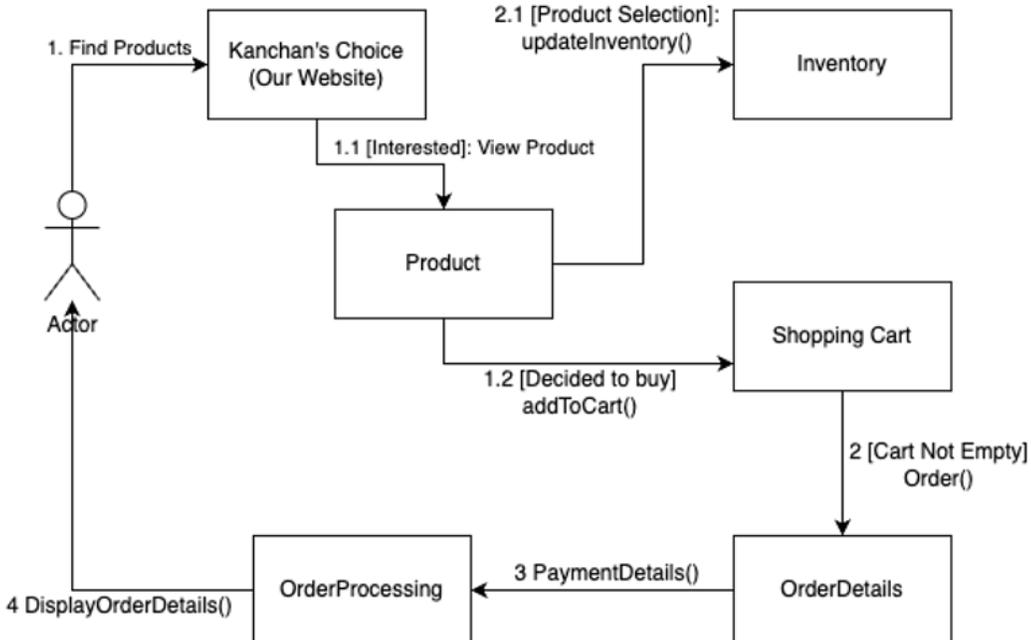


Collaboration Diagrams:

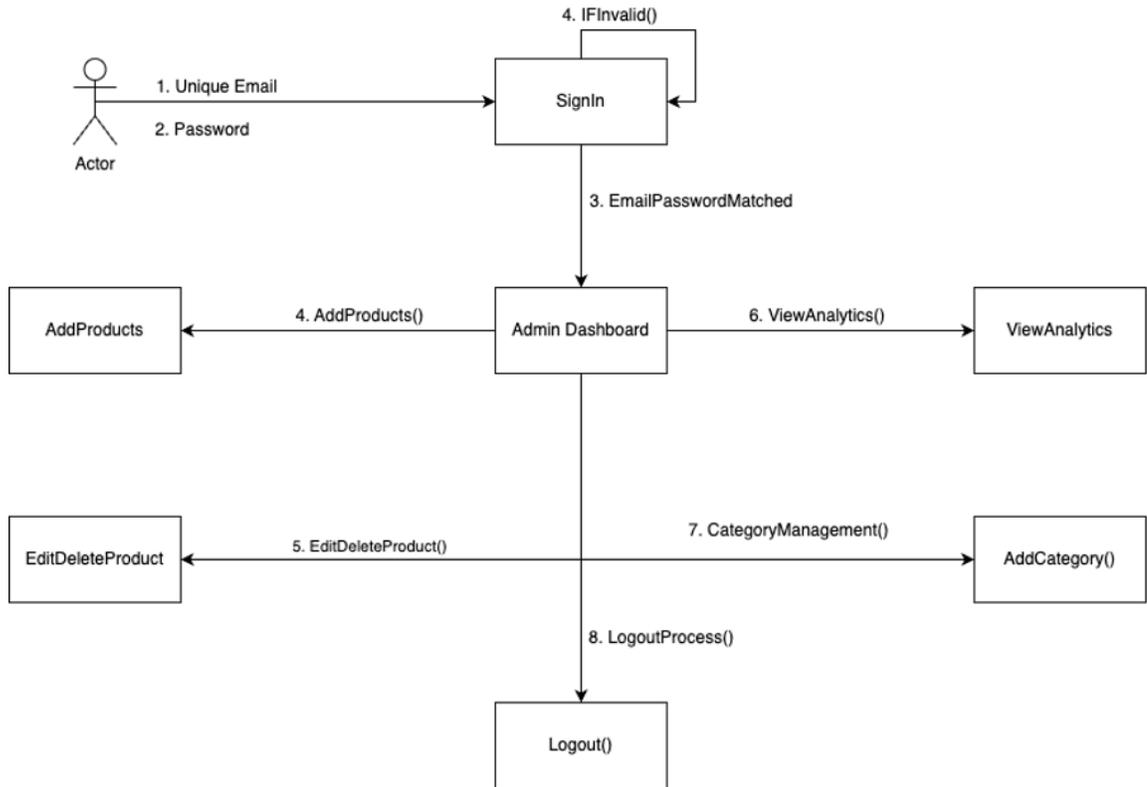
- Interaction Diagram for the customers to add products to cart and Wishlist.



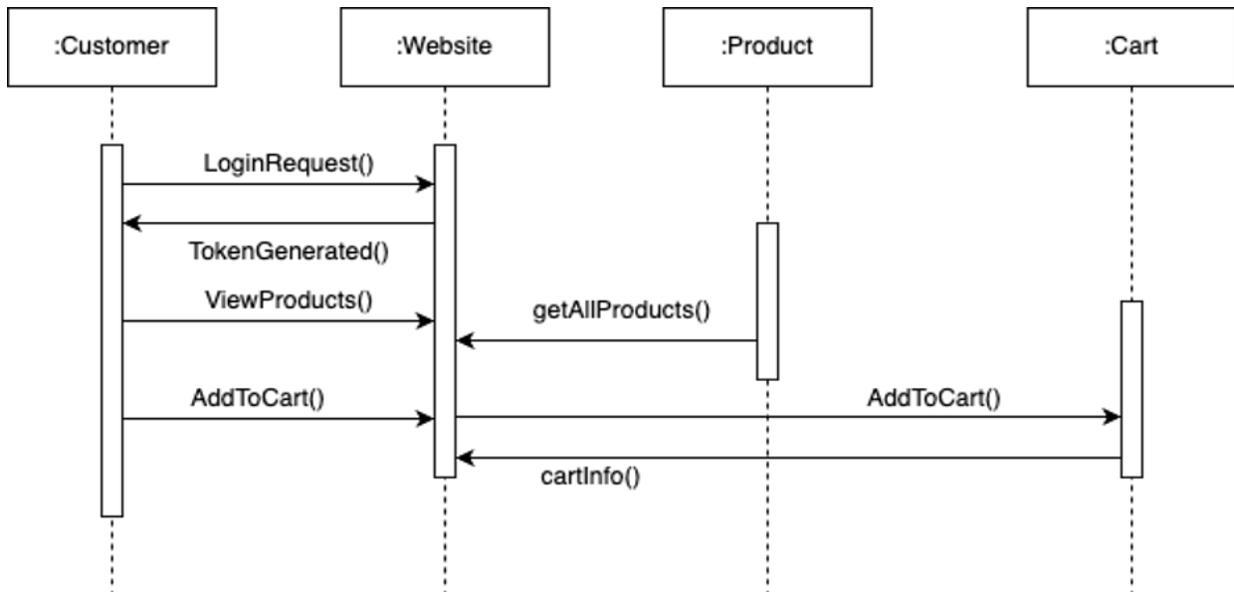
- Collaboration Diagram for a Purchase journey on our website



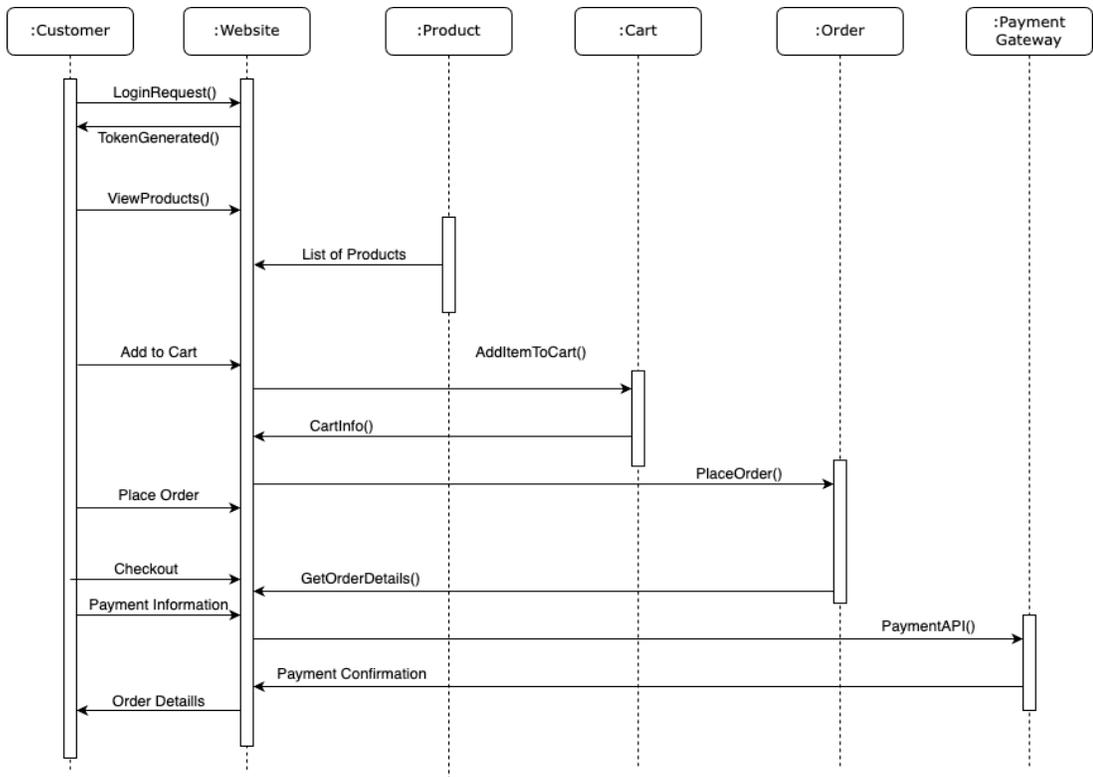
- Collaboration Diagram for Admin



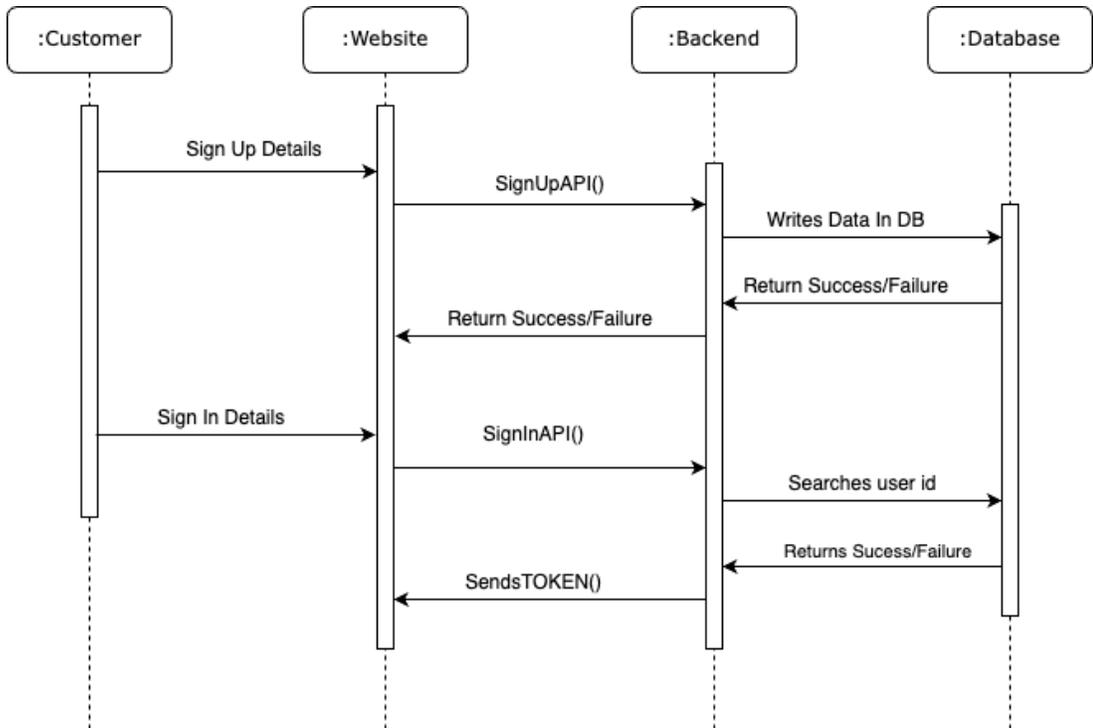
- Customer Add to Cart Sequence Diagram



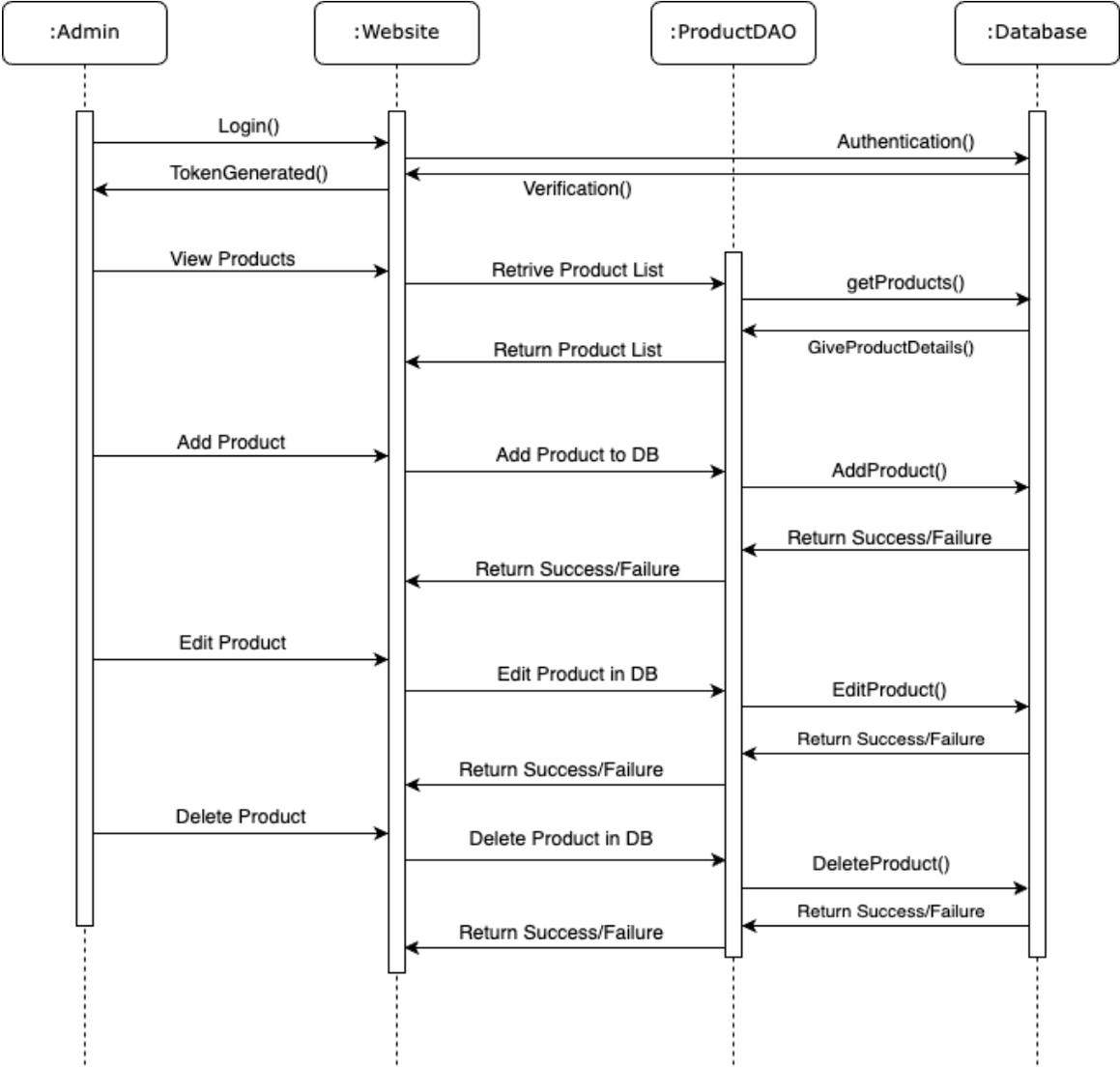
- Customer Buying Sequence Diagram



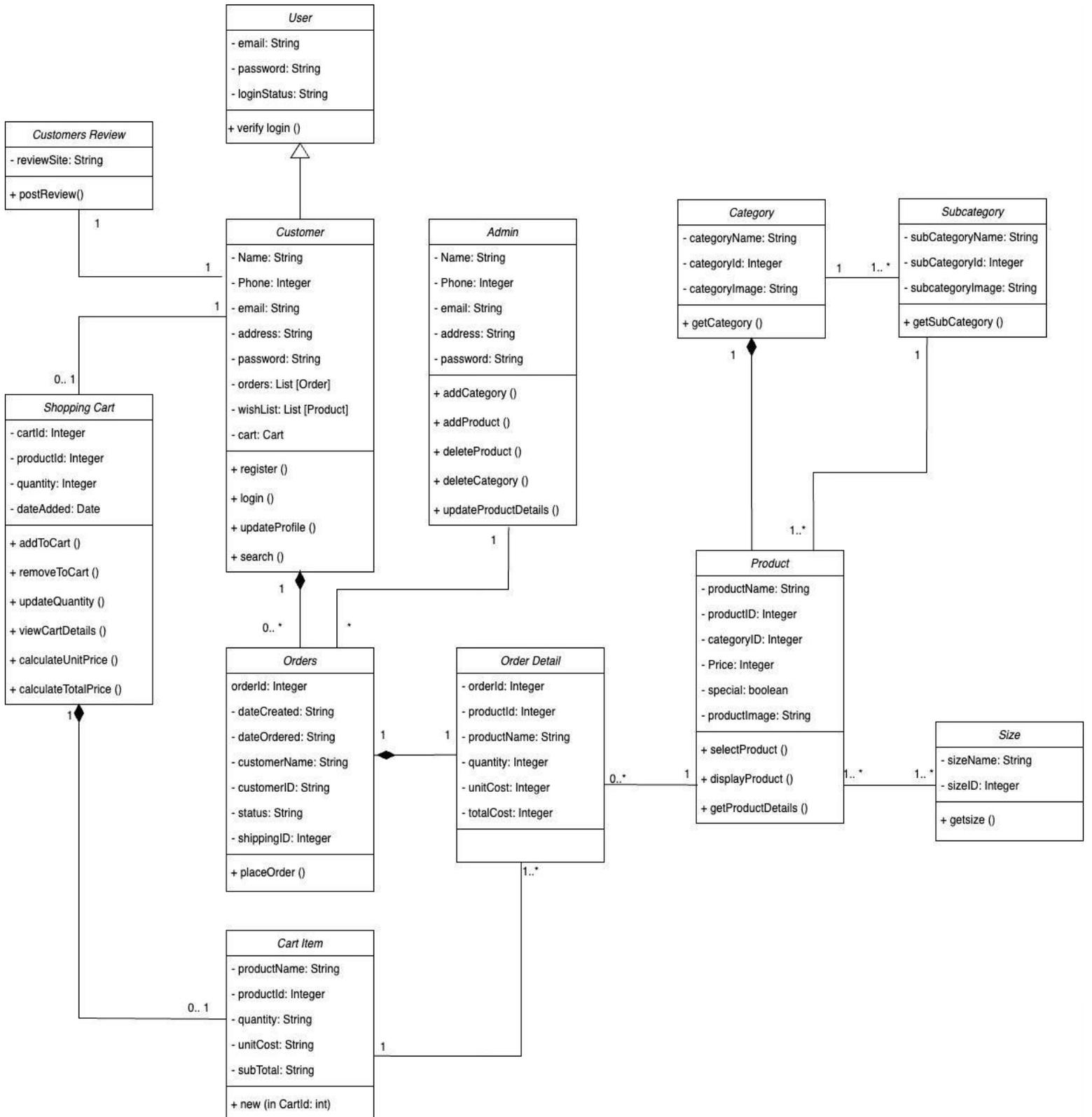
- Customer Sign Up and Login Sequence Diagram



Admin Sequence Diagram



Design Class Diagram:



Retrospection

What went well:

- Our team quickly and confidently determined the appropriate tech stack and selected the most suitable technologies for the project.
- We were able to design wireframes and implement the front-end in an organized manner.
- There was continuous improvement in team skills and knowledge through learning opportunities.
- We were able to collaborate smoothly amongst ourselves throughout the sprints.
- We were able to complete the most important features of our project and host our website.

What went wrong:

During the process of building the product, several challenges were encountered, including inadequate testing, lack of communication, issues with quality control, time management, and technical difficulties.

- Inadequate testing was a problem because it led to bugs and other issues that impacted the user experience.
- Lack of communication with the stakeholders was another challenge that impacted the process of building the product. Quality control was also a problem, leading to bugs and other issues that impacted the user experience.
- Time management was another big challenge, as the team struggled to balance the demands of the project and meet deadlines.
- Finally, technical issues were a challenge, as there were several new technologies that the team did not have experience working with and had to learn these technologies first.

We could have avoided these problems by:

- establishing clear testing criteria and ensuring that testing was done early and often.
- implementing a more rigorous quality control process, including regular code reviews and user testing
- implementing a more effective project management process, including better planning
- implementing regular check-ins and meetings to ensure that everyone is on the same page and to foster open and effective communication.

Working on this product was an extremely valuable learning experience for our team, as it provided us opportunities for growth and skill development in a number of areas. The

technologies used in the project, combined with the agile project management and SAFe practices that were followed, allowed the team to gain a deeper understanding of the software development process. From the initial requirements gathering stage to the final testing and deployment of the product, we were able to apply our knowledge and skills in a practical setting, allowing us to see the results of our work come to life.

Areas for improvement and further development:

To continue improving our product, there are several areas that we could focus on in the future. One of these is the implementation of an analytics dashboard, which would provide valuable insights into the sales performance of our products. The dashboard would allow the admin to view sales data and trends, identify which products are performing well, and make informed decisions about product offerings. Another area for improvement is the addition of a chat feature, which would allow customers to directly communicate with the admin and ask questions about products. This would improve the customer experience by providing a more personalized and convenient way for customers to get the information they need.

We also recognize the importance of gathering customer feedback and conducting acceptance and end-user testing to ensure that our product is meeting the needs and expectations of our customers. By incorporating these steps into our development process, we can identify areas for improvement and ensure that our product is functioning as intended with a large user base.