Project Description:

AeroSports is a cutting-edge e-commerce application designed specifically for badminton enthusiasts, developed by LinTech. The app aims to provide a seamless shopping experience, offering a comprehensive range of badminton gear and accessories. AeroSports stands out by delivering superior features compared to other similar applications, ensuring that badminton players of all levels can easily find and purchase the equipment they need to elevate their game. Innovatively designed user interfaces and intuitive navigation pathways ensure a seamless shopping experience, distinguishing AeroSports from its competitors. Advanced search functionalities allow users to quickly locate their desired products, while personalized recommendations based on browsing history and preferences enhance discoverability and user engagement. Additionally, robust security measures safeguard user data and transactions, instilling trust and confidence in the platform.

The application is more than just a marketplace; it is a community hub for badminton enthusiasts to connect, share experiences, and stay updated on the latest sports trends and developments. Integrated social features enable users to interact with like-minded individuals, participate in discussions, and access exclusive content, fostering a sense of belonging and camaraderie among the user base. Driven by a commitment to excellence and innovation, AeroSports continues to push the boundaries of what is possible in the realm of badminton e-commerce. With a relentless focus on customer satisfaction and continuous improvement, AeroSports strives to be the ultimate destination for badminton players seeking to elevate their game and unleash their full potential on the court.

Requirements Summary

MINIMUM REQUIREMENTS	Processor Cores	Single Core
	OS	iOS 9.0 or later
	RAM	2 GB

RECOMMENDED REQUIREMENTS	Processor Cores	Quad Core
	OS	iOS 13.0 or later
	RAM	4 GB
OTHER REQUIREMENTS	Permissions	Location, Notifications, and Storage

Table 1. System Requirements

The application is compatible with a wide range of iOS devices and requires a minimum of a single-core processor, 2 GB of RAM, and iOS 9.0. We recommend a quad-core processor, 4 GB of RAM, and iOS 13.0 for optimal performance. Additionally, the application relies on permissions for notifications and storage. Our aim is to develop a user-friendly eCommerce platform that accommodates the varying capabilities of different iOS devices.

Prototype Description:

In creating the prototype, we used Figma as our primary tool. Figma is a versatile and interactive prototyping software that allows smooth collaboration and sharing among team members and testers. Developers can easily share prototype links generated within the platform with testers, streamlining the feedback collection process and enabling efficient testing and validation of the prototype's design and functionality.

AeroSports Figma Link:
https://www.figma.com/proto/HXimeAY1wa8v0WInE2X0eX/Untitled?node-id=0-1&t=Hki5Fgc7ME0DxUgt-1

User Scenario:

Daniel, a dedicated badminton player, struggles to find high-quality, specialized gear at local stores and through e-commerce apps, which often lack detailed specifications like string tension and grip size. This leaves him frustrated and hinders his progress. Without a trustworthy source for quality equipment, Daniel's ability to compete at a higher level is compromised.

Cecilia, a university badminton team captain, needs to outfit her entire team with new gear but is constrained by a limited budget. She finds that local stores offer either overpriced or low-quality equipment, making it difficult to provide her team with the necessary gear. Without affordable, high-quality options, Cecilia worries that her team will be underprepared for the upcoming season, potentially affecting their performance and morale.

AeroSports Mock-up/Prototype:

Home Screen

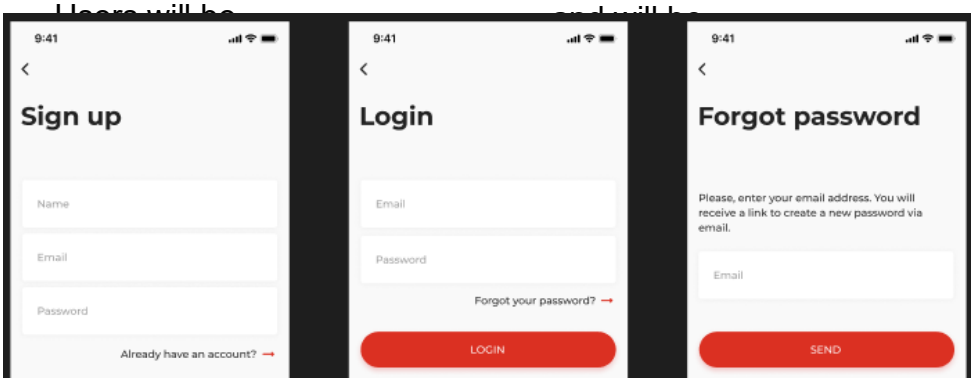
The app logo will be found in the home screen. Users will be

Startup Screen

The Startup Screen contains the app's logo and will be

Main Menu

The Main Menu enables users to navigate and access the



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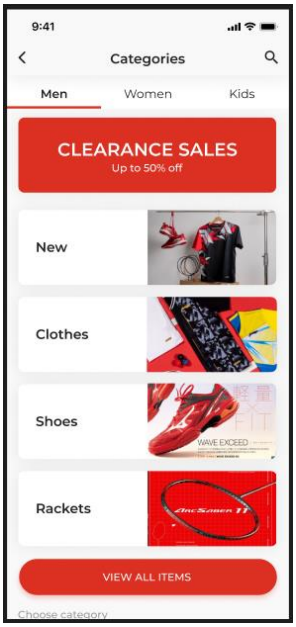
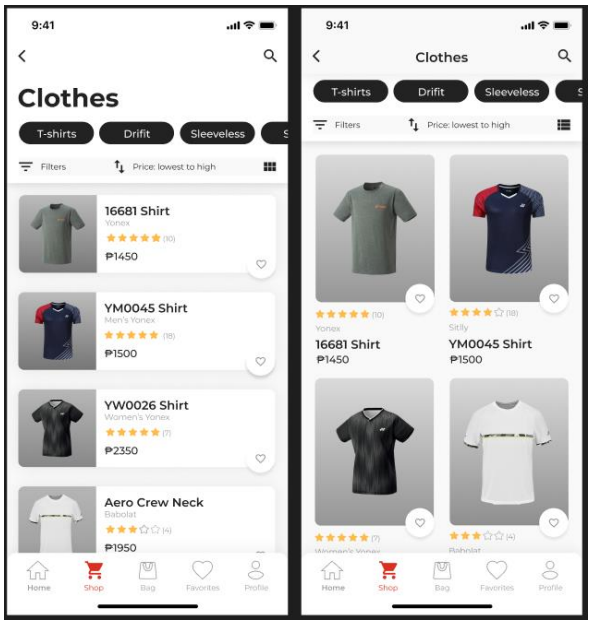
Sign Up/ Login/ Forgot Password

These sections enables users to either sign up or login into an account or retrieve one's password by accessing the



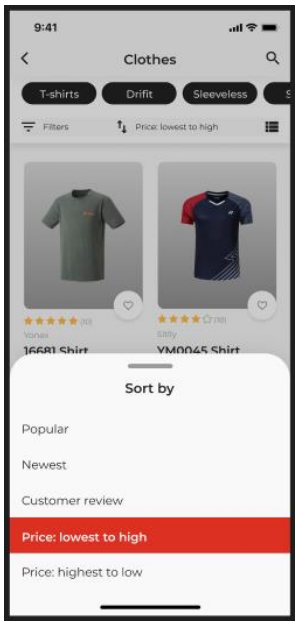
Categories Menu

The Categories Menu is where users are able to choose and sort certain products to their liking.



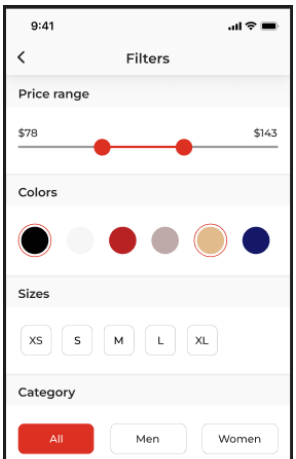
Catalog

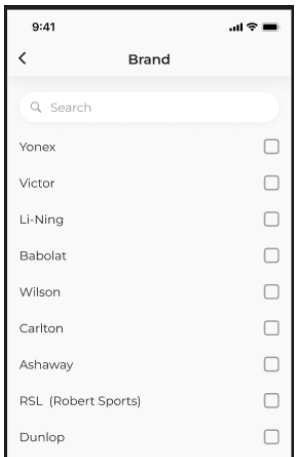
The Catalog is where users will navigate to the list of products. The products can be viewed through block view or in a list view.

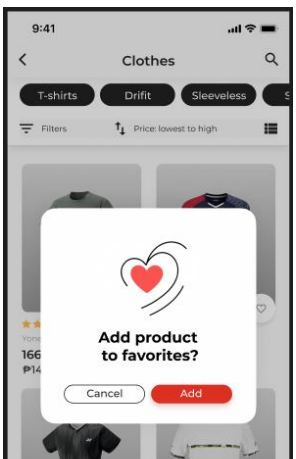


Catalog – Sort By (Overlay)

The Catalog can be sorted based on the user's preference through the sort by overlay.

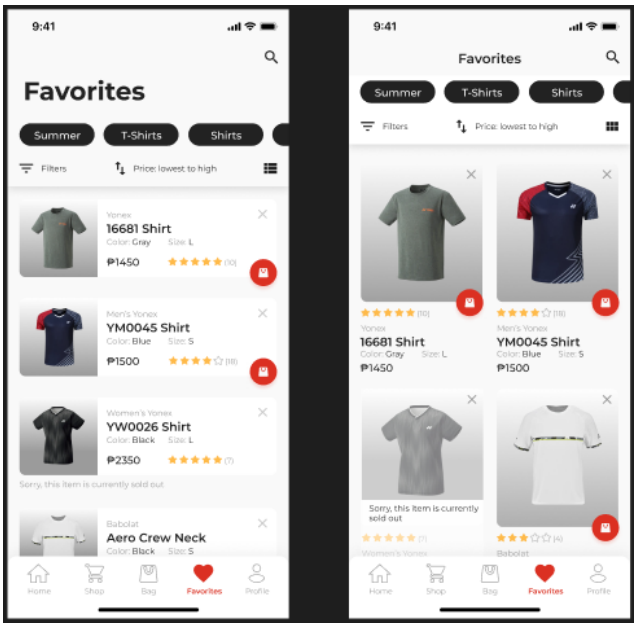






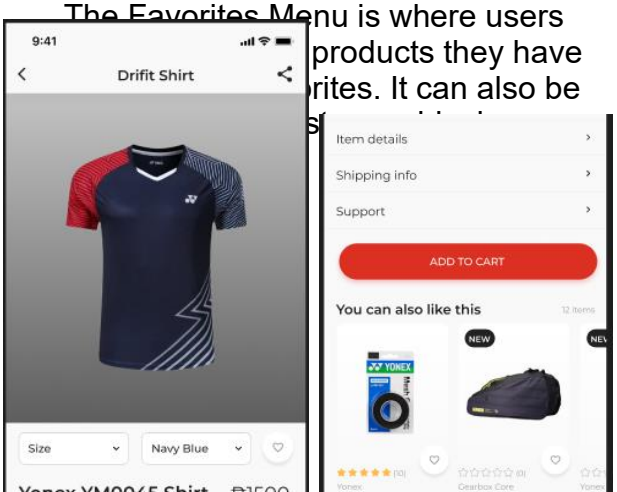
Catalog - Filters

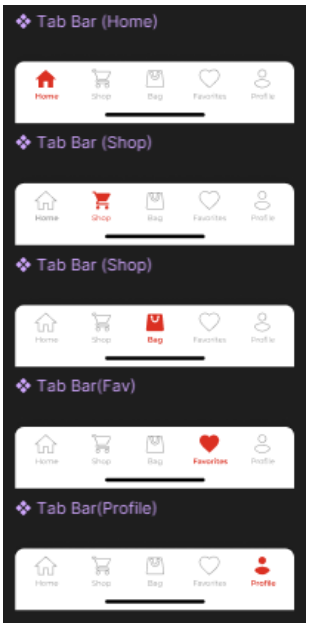
The Catalog – Filters is another way for users to sort the list of products based on their preferences.



Favorites Menu

The Favorites Menu is where users products they have rites. It can also be





Navigation Bar

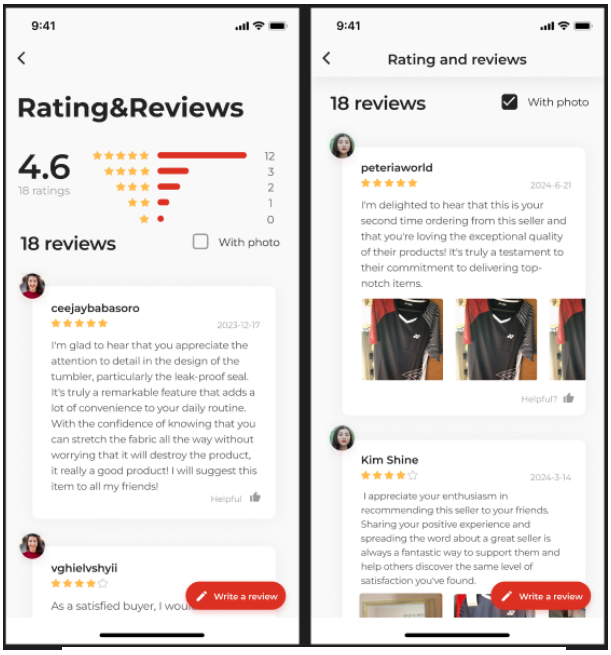
The Navigation Tab helps ess the ections of ation.

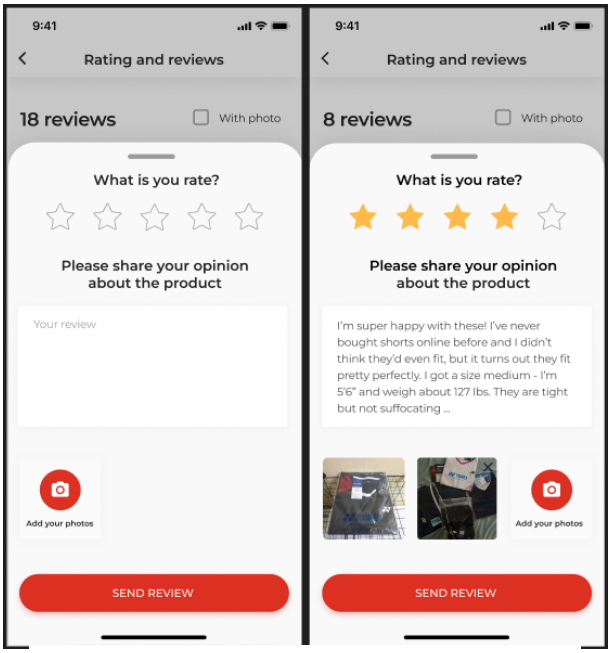
Product Card

The Product Card lets users add it to their bag and access all the information about a certain product.

Size/Color Select Overlay

The Size/Color Select Overlay helps users to select the size or color of the product that they want.





Reviews and Rating

The Reviews and Ratings lets
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Client Feedback

The Client Feedback lets users
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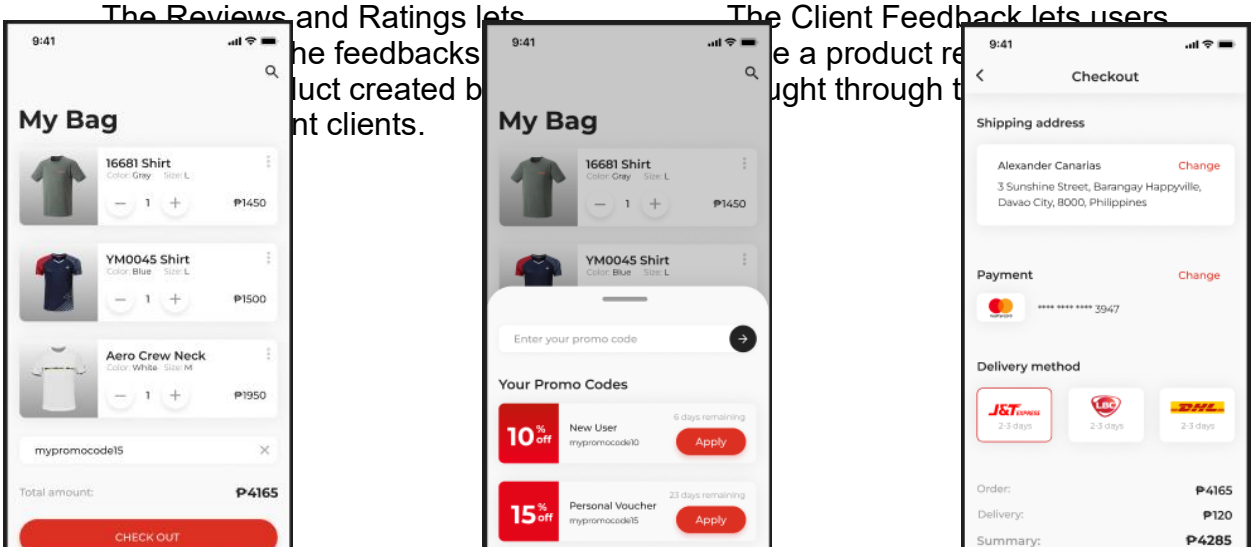


My Bag

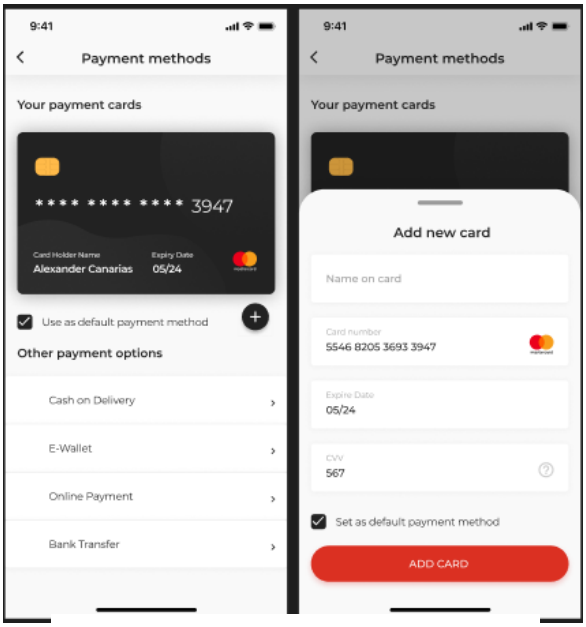
The My Bag section lets users access all the products they have added to their bag.

Vouchers Overlay

The Vouchers Overlay lets users choose and access different vouchers for their orders.

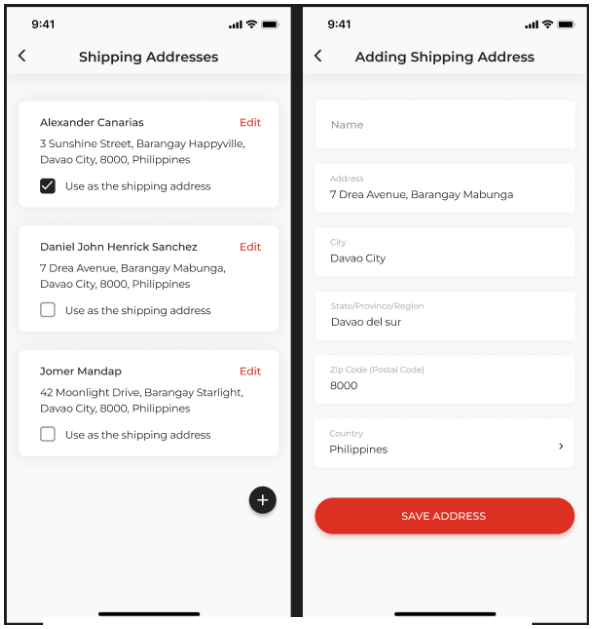
Checkout

The Checkout is where users choose their shipping address, payment and delivery method for their orders.



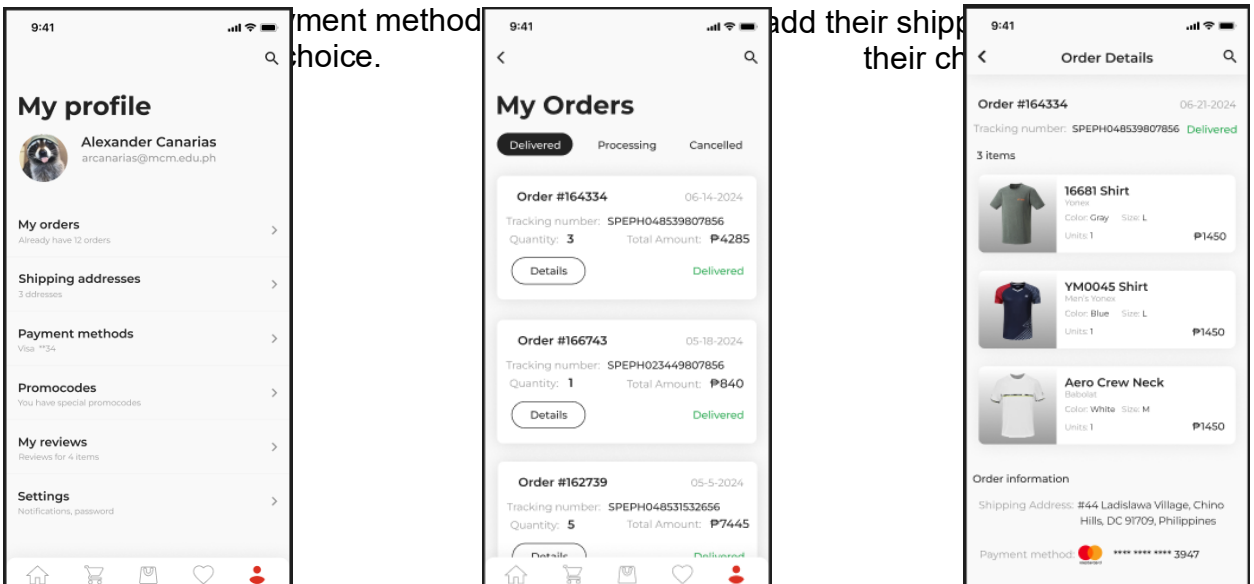
Select/Add Payment Method

This sections lets users choose ...yment method ...choice.



Select/Add Shipping Address

This sections lets users choose ...dd their shipp... their ch...



Profile Tab

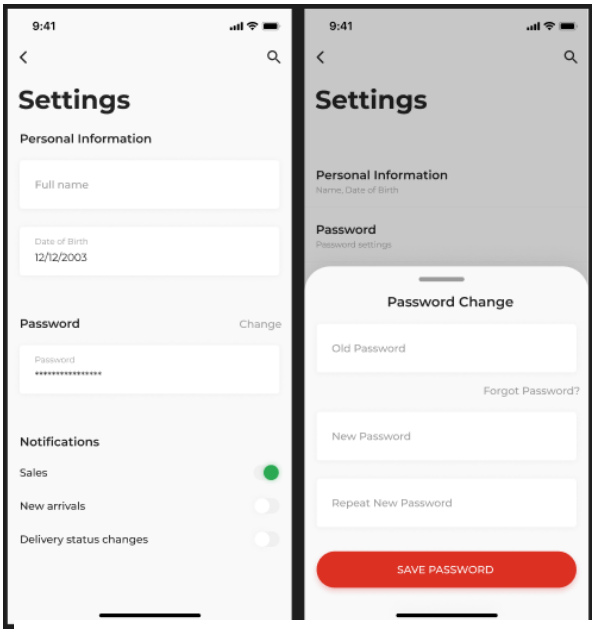
The Profile Tab lets users access their orders and different user settings.

My Orders

The My Orders lets users track their orders.

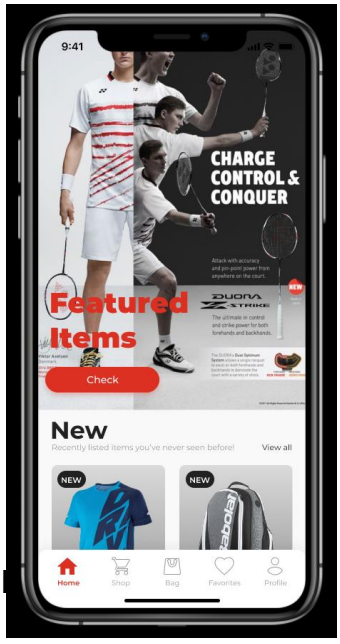
Order Details

The Order Details lets users access necessary information about a certain order.



Profile Settings/Change Password

The Profile Settings let users change certain information about their account and manage the application's notification system.



Prototype (Phone)

This is how the prototype will look on a smaller phone

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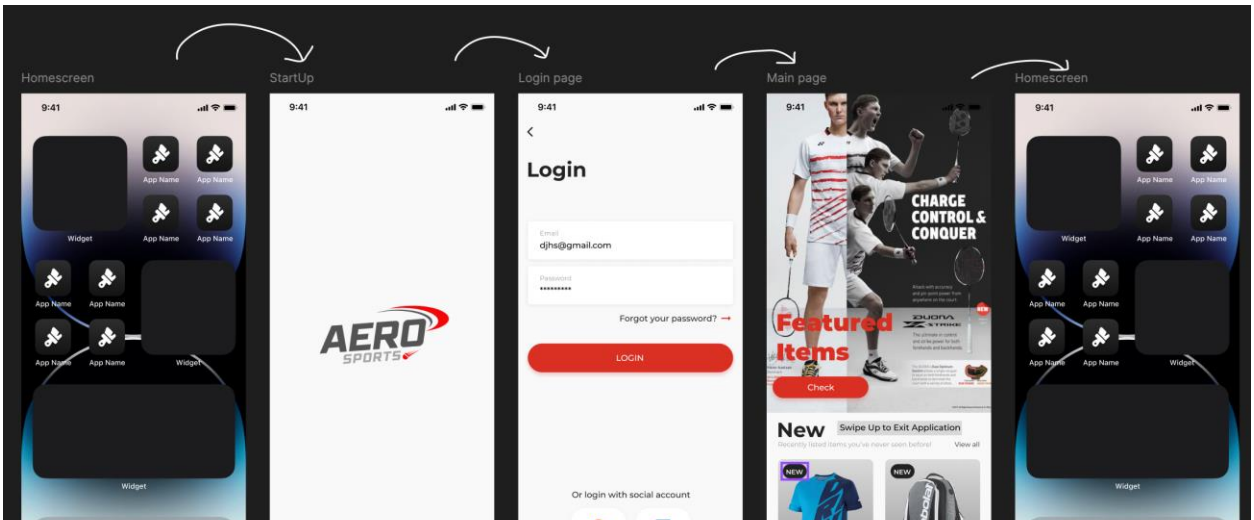


Figure 1.1 Entering and Exiting the Prototype

The figure shows how the user can enter and exit the application.

Login/Signup:

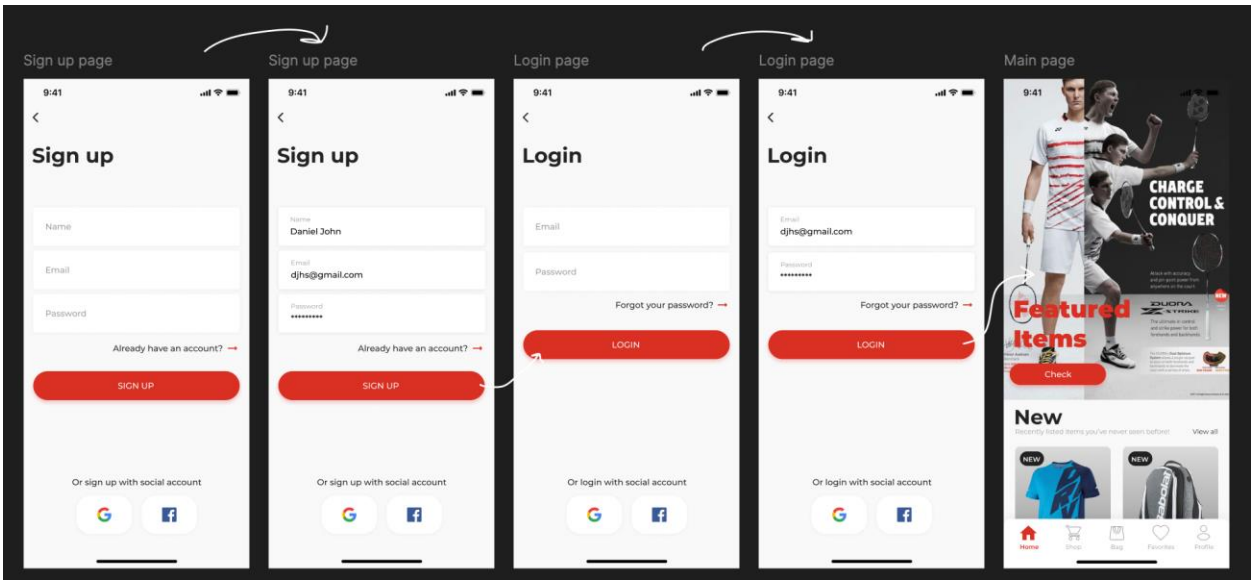


Figure 1.2 Creating and Logging in an Account

The figure illustrates the process of signing up for an account. If the user already has an account, they can click the arrow to proceed to log in using their account details or by using a social media account.

Forgot Password:

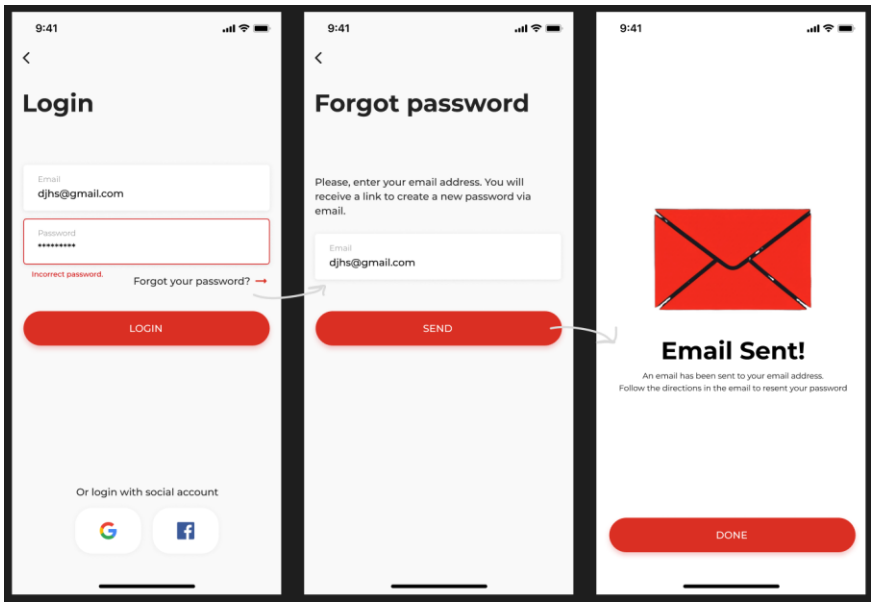


Figure 1.3 Retrieving Forgotten Password

The figure illustrates the process for users to reset their account password using the "forgot password" feature. A verification email will be sent to the associated account for confirmation.

Product Browsing - Featured:

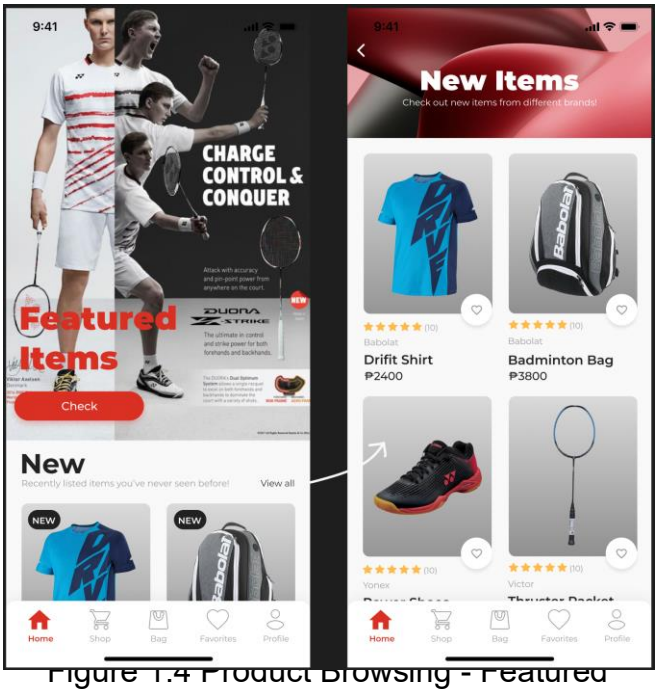


Figure 1.4 Product Browsing - Featured

The figure shows how the user can browse main menu of the featured products.

Product Browsing – Categories:

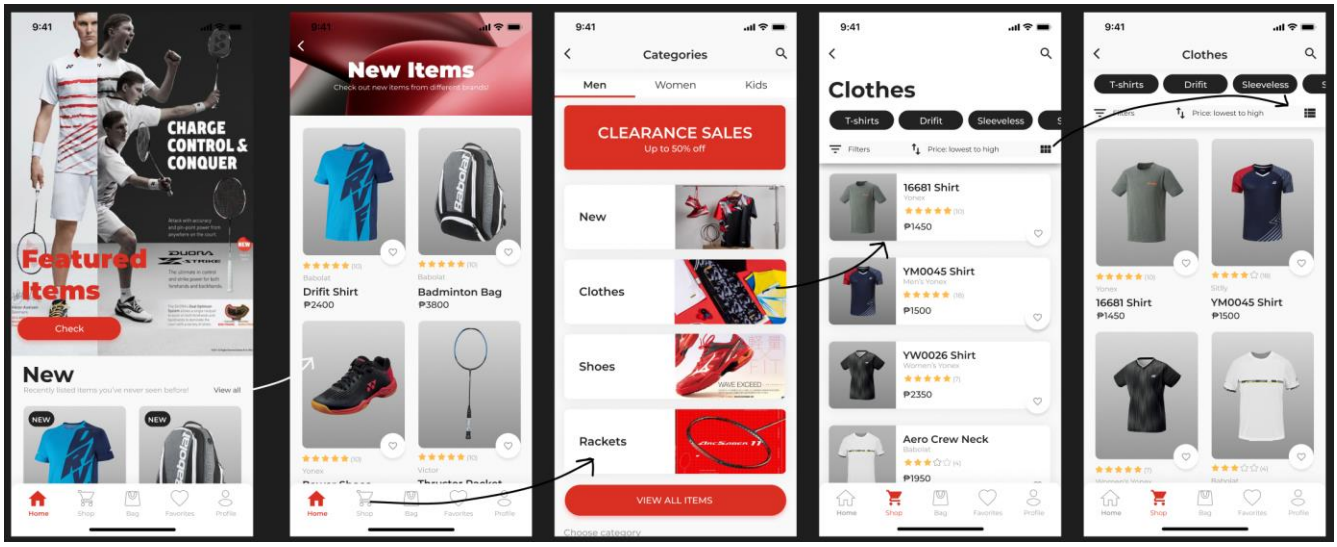


Figure 1.4 Product Browsing - Categories

The figure illustrates how users can browse products by categories. Users are redirected to the categories When they click on the shop logo in the navigation bar. Clicking on a category takes the user to a list of products within that category.

Adding Product to Favorites:

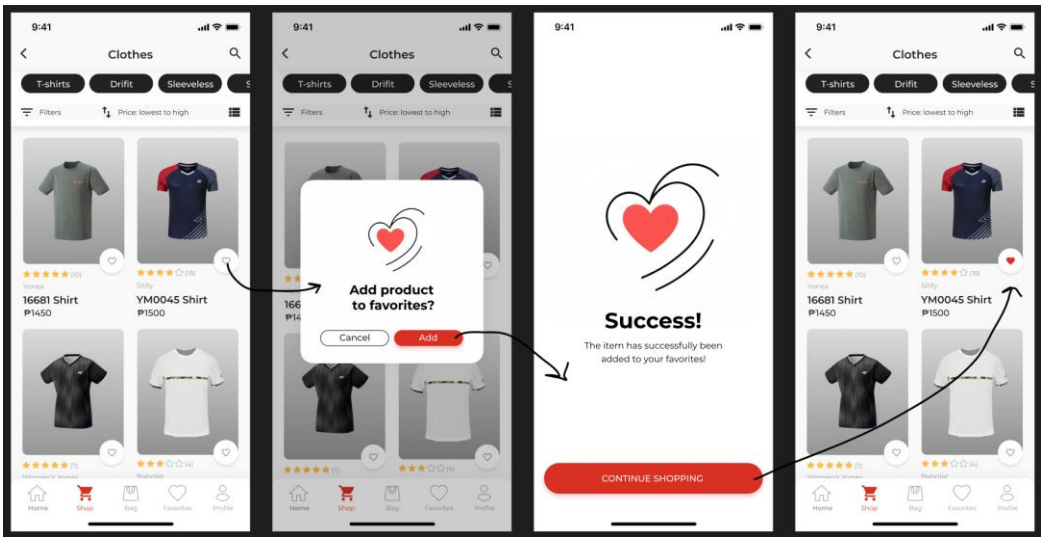


Figure 1.5 Product Favorites

The figure demonstrates how users can add a specific product to their favorites list. An overlay will appear by clicking the heart icon to confirm the user's decision to add it to their favorites tab. Once confirmed, the user can continue browsing the application.

Navigating to Favorites Tab:

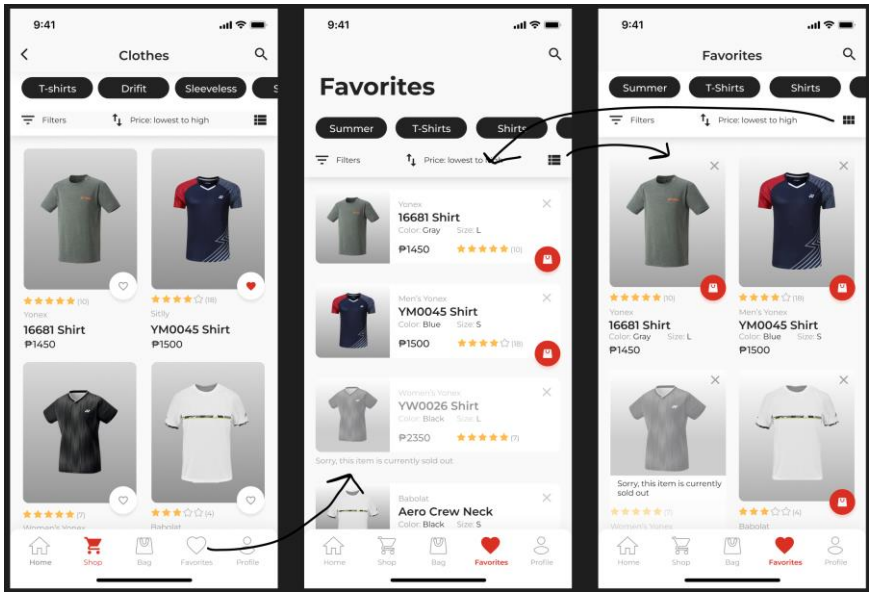


Figure 1.6 Favorites Tab

The figure shows how the user can navigate to the favorites tab. They can also delete certain products inside the favorites tab.

Sorting Product by Filtering and Sort By:

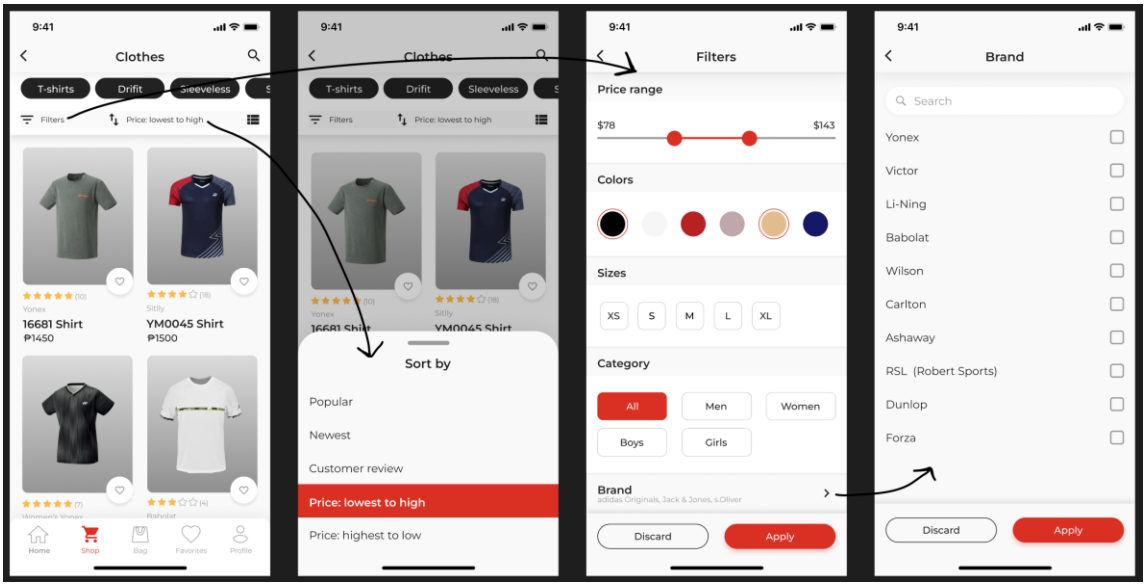


Figure 1.7 Sorting Products

The figure illustrates how users can sort products based on their preferences. There are two methods: sorting and filtering, each with its own set of rules.

Viewing a Specific Product:

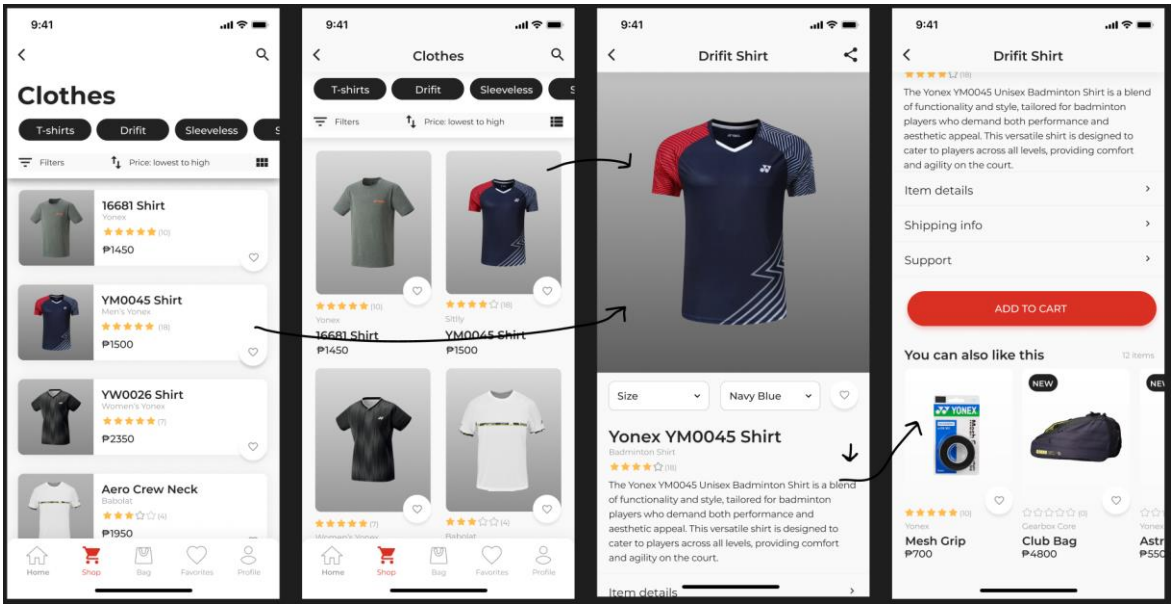


Figure 1.8 Product Card

The figure shows users how to navigate to a specific product card, allowing access to all necessary product information.

Selecting Product Color/Size:

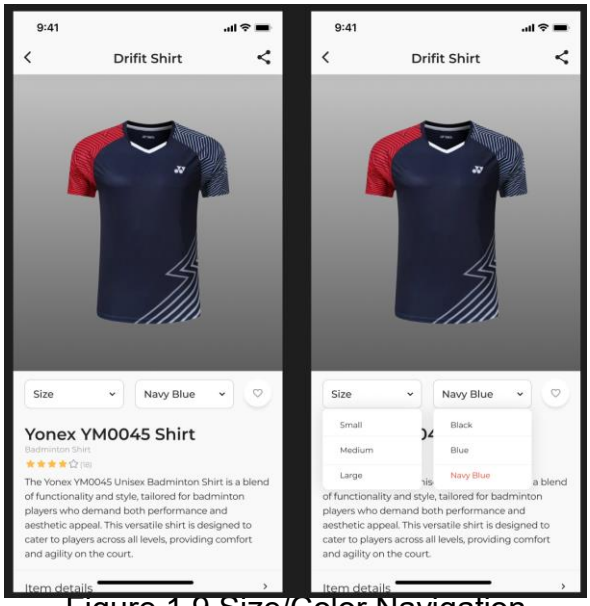


Figure 1.9 Size/Color Navigation

The figure illustrates how users can select available sizes or colors for a specific product they are viewing.

Adding Product to Bag:

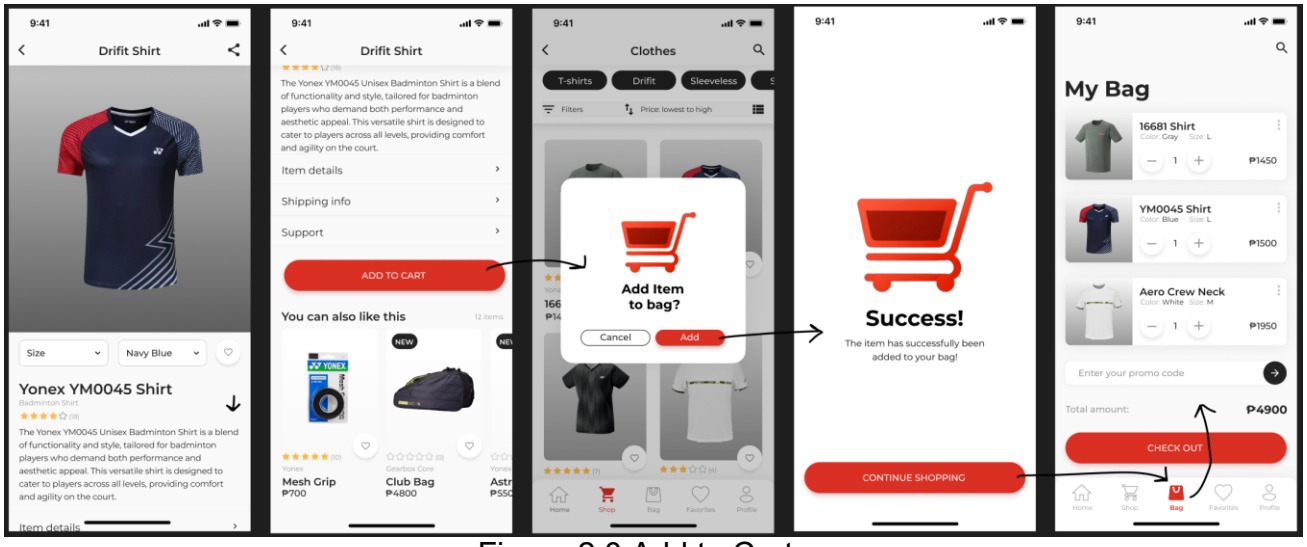


Figure 2.0 Add to Cart

The figure illustrates how users add a product to their shopping cart. It will ask for user confirmation before adding the product to the cart.

Checking Out an Order:

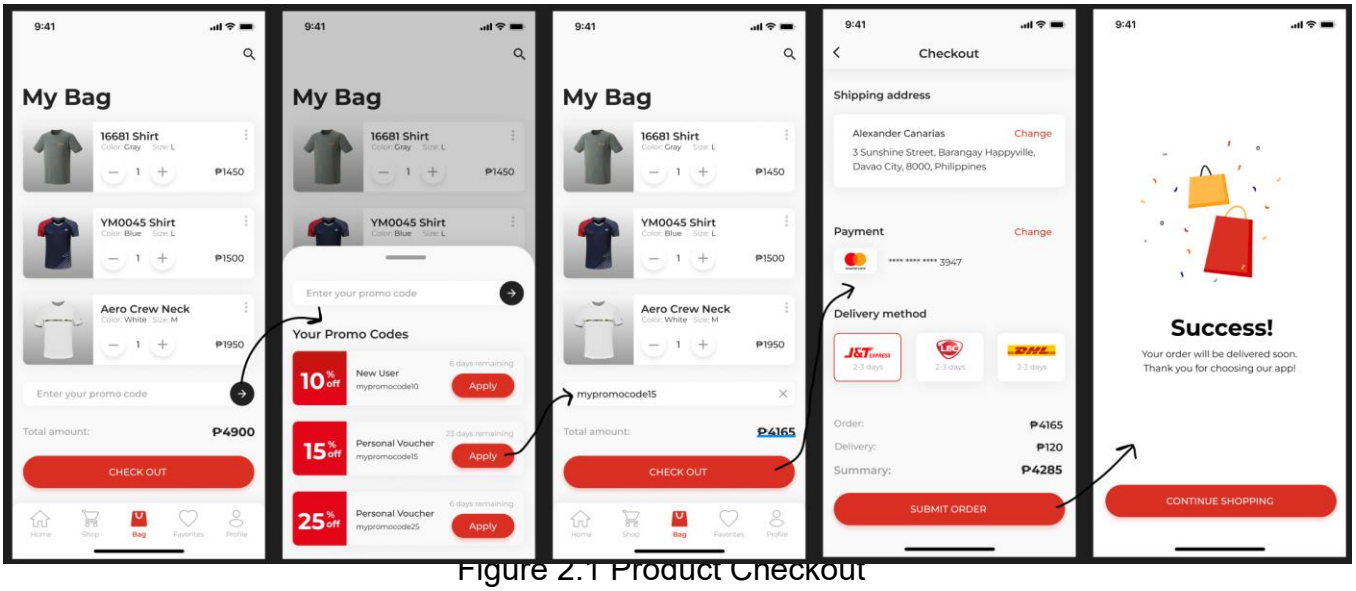


Figure 2.1 Product Checkout

The process for users to check out an order involves choosing a voucher, selecting a shipping address, payment method, and delivery method, seeing the order subtotal, and confirming the transaction.

Modifying Shipping Address:

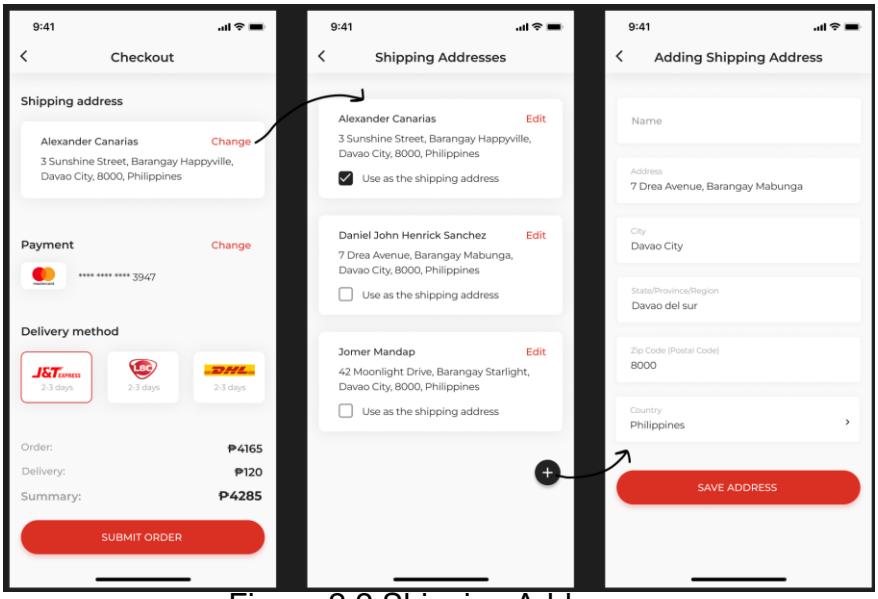


Figure 2.2 Shipping Address

This figure illustrates the process for creating, selecting, or updating a shipment address.

Modifying Payment Method:

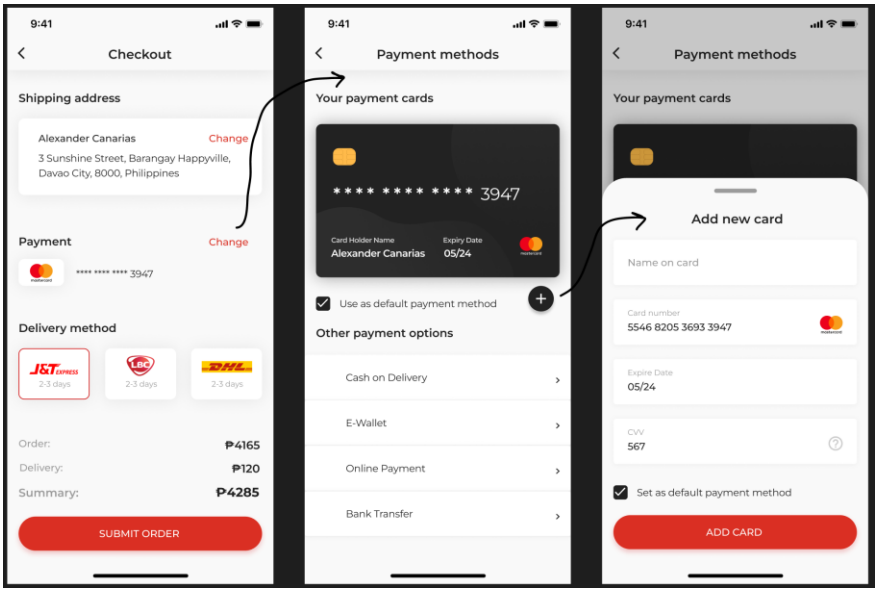


Figure 2.3 Payment Methods

The figure demonstrates how users can easily create or update their preferred payment method.

Tracking Orders:

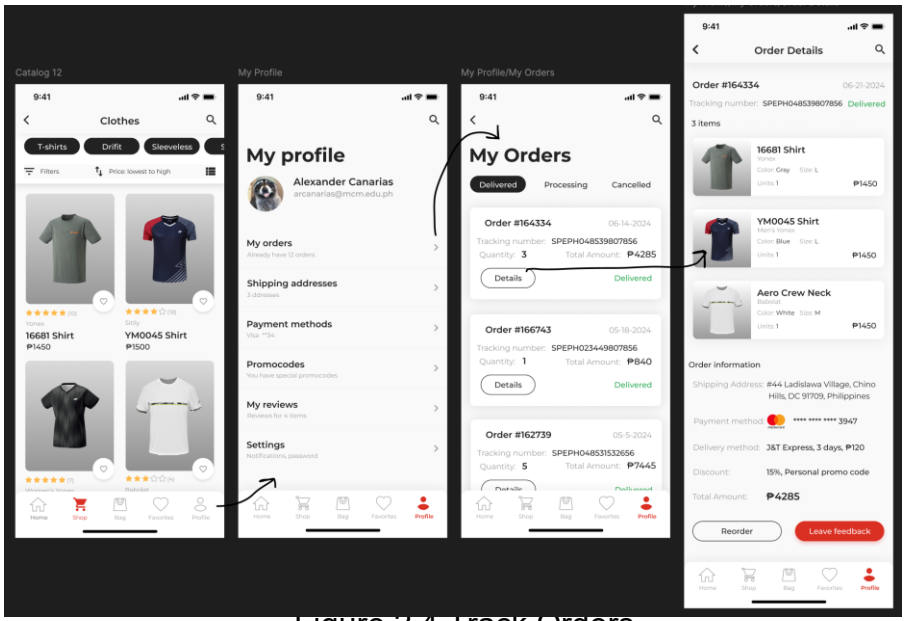
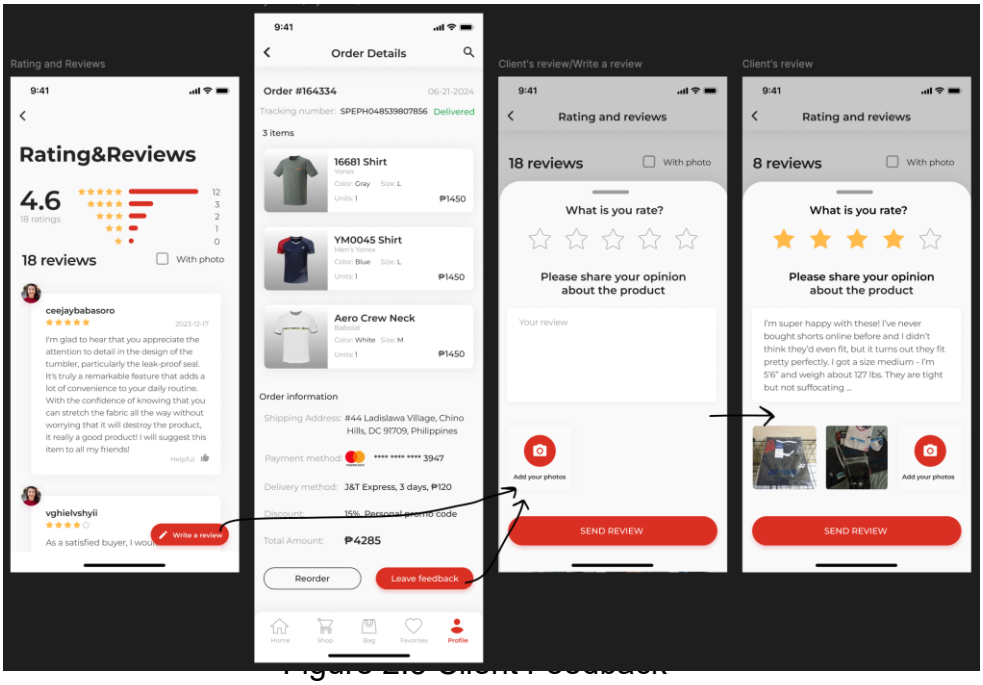


Figure 2.4 Track Orders

The figure illustrates the process for users to navigate and manage their orders, with the option to view specific order details.

Leaving a Product Review:



The illustration demonstrates the process for users to provide feedback on a specific order they've placed.

Accessing Settings/Modifying User Information:

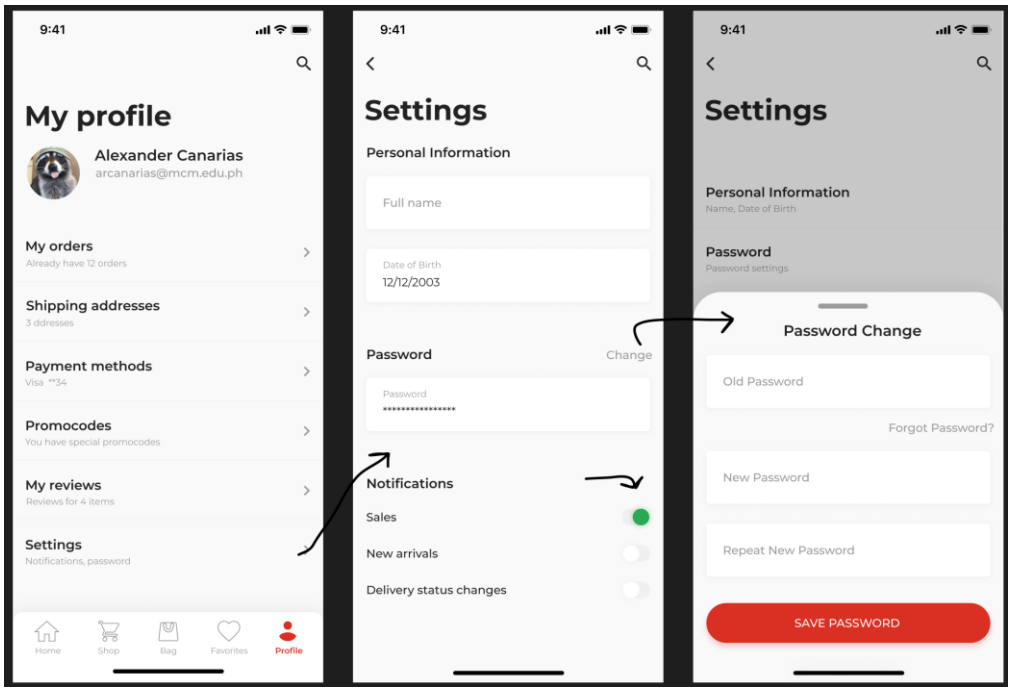


Figure 2.6 Profile Settings

The figure illustrates the system's application navigation, allowing users to modify notification settings and personal information, such as passwords.

Rationale:

The development of AeroSports is driven by the need to address several gaps and opportunities in the current market for badminton equipment and accessories. As the popularity of badminton continues to grow globally, so does the demand for a specialized, user-friendly, and comprehensive online shopping experience tailored specifically to the needs of badminton enthusiasts. The team has chosen Figma to create the prototype due to its free, interactive platform so that the team members can access to edit the design. Figma allows the team to showcase the final application design effectively upon launch. Additionally, it is highly convenient for presenting and sharing prototypes with remote users and can be easily updated based on feedback. However, Figma has drawbacks; it requires an internet connection to save edits, which can be a limitation if users need to work offline.

Changes to the Requirements:

AeroSports can benefit significantly from a few strategic changes to system requirements and usability criteria. Firstly, enhanced security measures should be prioritized. Implementing advanced security protocols, such as two-factor authentication and encrypted transactions, will protect user data and payment information, thus increasing user trust and confidence in the platform. Additionally, scalability is a crucial consideration. The app’s infrastructure should be designed to handle an increasing number of users and transactions as the user base expands, ensuring consistent performance and reliability. On the usability front, adopting a user-centric design approach can greatly improve the user experience. This involves refining the user interface to prioritize ease of navigation, intuitive design, and accessibility for users of all skill levels. By focusing on these aspects, AeroSports can ensure users have a seamless and enjoyable shopping experience. These changes will help position AeroSports as a

leading e-commerce app for badminton enthusiasts by providing a secure, scalable, and user-friendly platform.

Initial Evaluation Plan:

The team aims to thoroughly assess the usability, functionality, and user satisfaction of the app. The evaluation will involve various methods, including remote usability testing, heuristic evaluation, analytics analysis, and surveys/interviews. Participants will be chosen based on specific criteria to ensure a diverse representation of users. The evaluation process will include preparing evaluation materials, recruiting participants, conducting evaluation activities, analyzing data, and deriving actionable insights. Ethical considerations, such as obtaining informed consent and protecting participant privacy, will be prioritized throughout the evaluation process. The evaluation plan will follow an iterative approach, with findings informing continuous improvements to the app. Effective communication channels will be established to share evaluation results with stakeholders, enabling informed decision-making and driving enhancements to the AeroSports e-commerce app.

Usability Specifications:

The creation of this prototype will aim to achieve the following measures when it appeals to the user:

Usability

1. *User-Centric Design:*
    - The application should deeply understand and cater to the needs of badminton players, offering them not just products but solutions to their specific problems, such as difficulty finding high-quality equipment.

2. *Simplicity:*

- The application interface should be straightforward, with a clear path from product discovery to purchase. Complex navigations or excessive options should be avoided to prevent user overwhelm.

3. *Performance and Speed:*
    - How quickly screens load, images display, and actions complete are vital for user retention. The specifications should therefore ensure that the app is optimized for performance across various device types and internet speeds.

4. Accessibility:
    - Tailoring the application to accommodate all users, including those with disabilities, is crucial. This includes text descriptions for images, compatibility with screen readers, and ensuring colors and fonts are accessible.

5. *Personalization:*
    - Given the focus on badminton, the app could benefit from personalized recommendations based on user behavior, preferences, and past purchases. This requires collecting and analyzing user data to cater to individual needs efficiently.

Specifications

1. *Cross-Platform Compatibility:*
    - Secure Payments: Specifications must include the integration of secure, reliable payment gateways that support various payment methods, including credit/debit cards, e-wallets, and net banking.

2. *Product Information and Management:*

- Detailed specifications should exist for managing product listings, including descriptions, specifications, high-quality images, and possibly user reviews. This should be easily updateable to reflect stock levels, new items, and promotions.

3. *Social Integration:*
    - Allowing users to share products or their purchases on social media platforms can enhance user engagement and bring in potential customers through word-of-mouth.

4. *Analytics and Feedback Loop:*
    - Implementing analytics to track user behaviors, app performance, and feature usage. Feedback mechanisms like surveys or direct communication options can guide future updates and improvements.

5. *Technical Support and Updates:*
    - Clear protocols should be in place for providing technical support to users and rolling out regular updates to improve functionality, add new features, and address any emerging issues.

In summary, focusing on both usability and technical specifications ensures that the application meets its immediate functional goals and offers a compelling, efficient, and enjoyable user experience for badminton enthusiasts looking to purchase equipment.

Population:

Approximately 15 to 20 students from the Senior High School and College divisions will be selected to participate in evaluating the proposed prototype. These selected participants will be tasked with completing specific assignments designated for the

prototype, such as navigating the main menu. The AeroSports prototype must satisfactorily accomplish these tasks to be considered successful.

Prototype Tasks:

For the iOS ecommerce application prototype, we will categorize the tasks into three main sections: Home Screen Tasks, Product View Tasks, and Checkout Tasks. Here's a breakdown of the functions that selected participants will need to complete for each section to demonstrate the functionality of the e-commerce app:

- Enter and Exit the Prototype **(Main Menu Task)**
- How easy will the user be able to navigate while using the Prototype.
- **Home Screen Tasks:**
    - Navigate to different product categories from the home screen.
    - Add a product to favorites directly from the home screen.
    - Track a specific order from the home screen.

- **Product View Tasks:**
    - View detailed information about a product, including price, description, and reviews.
    - Add the product to the cart and proceed to checkout.
    - Save a product to the wish list for future reference.
- **Checkout Tasks:**
    - Proceed to the checkout page from the cart.
    - Edit the quantity of products in the cart.
    - Apply a discount code or promotion before finalizing the purchase.

These tasks were selected to evaluate the following aspects of the e-commerce app:

- **Easy Navigation**: Participants should be able to move smoothly between different app sections.

- **CRUD Functionality**: Users should be able to create, read, update (edit), and delete items from their cart easily.

Roles:

Developer / UI Design Member	**Tasks**
Jomer Mandap	Will monitor and record the duration of user interactions with specific task sections, meticulously document their experiences and feedback, and clearly communicate the task instructions to each participant.
Alexander Canarias	Will monitor and record the duration of user interactions with specific task sections, meticulously document their experiences and feedback, and clearly communicate the task instructions to each participant.
Daniel Sanchez	Will monitor and record the duration of user interactions with specific task sections, meticulously document their experiences and feedback, and clearly communicate the task instructions to each participant.

Table 2. Member Tasks

Home Screen Task	Within 3 minutes or below	Highly Acceptable	Successful
	Above 3 minutes	Not Acceptable	Unsuccessful

Product View Task	Within 5 minutes or below	Highly Acceptable	Successful
	Above 5 minutes	Not Acceptable	Unsuccessful
Checkout Task	Within 5 minutes or below	Highly Acceptable	Successful
	Above 5 minutes	Not Acceptable	Unsuccessful

Table 3. Time Interpretation

Table 3 outlines the criteria for interpreting the time spent with each participant in their tasks. It will be used as a guideline to evaluate the success of the design of a given task.

Heuristic Evaluation:

Evaluation of AeroSports will also use the 10 Usability Heuristic method of Evaluation.

1. *Visibility of System Status*
    - The application design should ensure that users are always informed about what is happening through appropriate feedback within a reasonable time. For instance, after adding a product to the favorites or cart, there should be a clear indication that the action was successful.

2. *Match Between System and Real World*
    - The app should use language and symbols familiar to the users, such as using badminton-related terminology and icons for intuitive navigation. The inclusion of a shuttlecock graphic in the logo is a good start, but this theme should be consistently applied throughout the app.

3. *User Control and Freedom*
    - Users may make mistakes or change their minds. The app should offer an obvious, easy way to undo actions or navigate back without having to go through a lengthy process. For example, after adding items to the cart, users should have a clear, simple way to remove them if needed.

4. *Consistency and Standards*
    - The app should follow platform conventions and sports equipment retail standards to prevent user confusion. For example, product categories, filtering options, and the checkout process should align with what users expect based on their experience with other e-commerce platforms.

5. *Error Prevention*
    - Careful design can prevent problems from occurring in the first place. For instance, before finalizing a purchase, confirm with users that their selected sizes, colors, and quantities are correct to reduce the likelihood of ordering errors.
6. *Recognition Rather Than Recall*
    - Make objects, actions, and options visible. Users should not have to remember information from one part of the dialogue to another. Implementing features like recently viewed items or saved searches can help with this.

7. *Flexibility and Efficiency of Use*
    - The app should cater to both inexperienced and expert users, allowing them to tailor frequent actions to their convenience. For example, advanced filters and search capabilities can expedite the shopping process for experienced users.

8. *Aesthetic and Minimalist Design:*

- Interfaces should not contain information that is irrelevant or rarely needed. Every extra unit of information competes with the relevant units of information and diminishes their relative visibility. Thus, the app's design should be clean, focusing on essential features to avoid overwhelming users.

9. *Help Users Recognize, Diagnose, and Recover from Errors*
    - Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution. For instance, if a payment fails, the message should explain why and offer steps for resolution.

10. *Help and Documentation*
    - Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. This information should be easy to search, focused on the user's task, list concrete steps to be taken, and not be too large. Consider including FAQs, tutorials, and live chat support for immediate assistance.

Participant Survey and Feedback (Zan):

Post-test assessment,

DATA GATHERING METHOD	DESCRIPTION
Survey (Quantitative)	Following the online or onsite testing, participants will receive a survey from the team to collect insights about their experience with the prototype. The team will analyze this data using a 5-point Likert scale, as outlined in **Table 4** for interpretative guidance.
Feedback (Qualitative)	The survey created by the team will include a Feedback section designed to enable users and participants to express any problems or concerns they have with the prototype that require attention.

Table 2. Data Gathering Methods

The table provided highlights the distinct methods of data collection that the team plans to employ during the online trial of the AeroSports Prototype.

QUESTION	METHOD OF ANSWER
SECTION 1	
How would you assess your experience with the AeroSports Prototype?	5-Point Scale
How would you evaluate your experience with the prototype's UI design?	
How easily were you able to navigate the UI?	
SECTION 2: PROTOTYPE FEATURES	
Login, Authentication, and Account Creation	5-Point Scale
Home Page and Catalog	
Navigate by Category and Product Filtering	
Product Review and Ratings	
Bag and Checkout	
Order Logging, Details, Status, and History	
Profile Section	
Favorites / Modules	
SECTION 3: FEEDBACK SECTION	
Your Feedback	Short Answer

Table 3. Survey Questionnaire

The table displayed above lists the questions that will be included in the survey for this Prototype. Participants will receive the survey via links after completing the Test. The survey can also be accessed through this link <www.loremipsum.com>.

SCALE	RANGE VALUE	INTERPRETATION	CLASSIFICATION
5	4.50 - 5.00	Highly Acceptable	Successful

4	3.50 - 4.49	Acceptable	
3	2.50 - 3.49	Moderately Acceptable	Neutral
2	1.50 - 2.49	Fairly Acceptable	Unsuccessful
1	1.00 - 1.49	Not Acceptable	

Table 4. 5-Point Likert Scale Survey Interpretation

This table outlines how the responses to the survey questions will be analyzed to determine the effectiveness and utility of the design and features of the presented solution.