AsianCollege

PROJECT DOCUMENTATION

GUIPRO

GRAPHICAL USER INTERFACE PROGRAMMING

Instructor

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Asian College

Asian College of Science and Technology (Asian College) is a CHED and TESDA-accredited tertiary educational institution dedicated to the success of its graduates in their chosen field of study. With campuses in Dumaguete and Quezon City, Asian College has produced thousands of high-quality graduates with globally relevant skills and knowledge.

Vision, Mission and Core Values

Vision

To be a transformative educational institution committed to the success of its graduates through quality instruction, relevant research, and strong community engagement.

Mission

To educate and develop globally competitive future leaders.

Values

Academic Excellence, Integrity, Self-Leadership.

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ACKNOWLEDGEMENT

We would like to extend our deepest gratitude to our instructor, Sir Fredwil Jucom, for his unwavering support, guidance, and dedication throughout the duration of this course. His clear instructions, insightful feedback, and patient mentorship played a vital role in deepening our understanding of Flutter and elevating our skills in user interface design. His passion for teaching inspired us to push our creative and technical boundaries. We would also like to thank our fellow classmates who were able to help us in some parts of these project.

Our sincere thanks also go to the College of Computer Studies and Engineering at the Asian College of Science and Technology for providing us with the resources, platform, and opportunity to explore the dynamic world of mobile application development through the Graphical User Interface Programming (GUIPRO) course. The environment fostered by the institution encouraged us to innovate, collaborate, and grow as future developers.

This project has not only strengthened our technical abilities but has also taught us the importance of design thinking, problem-solving, and user-centric development. We are truly grateful for the knowledge, experiences, and support we have received throughout this meaningful journey.

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PROJECT OVERVIEW

This project aims to create Periphora, a modern and user-friendly e-commerce mobile application dedicated to selling tech peripherals such as gaming mice, mechanical keyboards, audio headsets, and other accessories. The app provides an immersive and engaging shopping experience with intuitive navigation, interactive product presentations, and seamless checkout flow, targeting tech enthusiasts and gamers.

Objective and Purpose

- To design and develop a sleek, visually appealing mobile application that showcases tech peripherals with innovative UI/UX features.
- To enable users to easily browse, filter, and personalize products with real-time interactive elements.
- To implement a smooth shopping cart and checkout process that ensures convenience and reliability.
- To enhance user engagement through animations, parallax effects, and personalized touches like recently viewed products and welcome messages.
- To deliver a scalable and maintainable codebase using reusable widgets and consistent design principles.

Requirements

- Develop the app using Flutter for cross-platform compatibility.
- Include the following key screens: Home, Product Detail, Cart, Checkout, Order Confirmation, Profile, and Splash Screen.
- Implement custom reusable components such as quantity selectors, parallax product cards, and filter tags.
- Ensure responsive design with smooth animations and intuitive gestures (e.g., swipe to delete, pinch zoom).
- Provide a consistent dark-themed color palette focused on accessibility and modern aesthetics.
- Enable product filtering by categories like Mouse, Keyboard, Audio, Wireless, Mechanical, and RGB.
- Integrate local state management for product selections, cart updates, and checkout validation.
- Include appropriate error handling and user feedback mechanisms (e.g., snackbars, disabled buttons).

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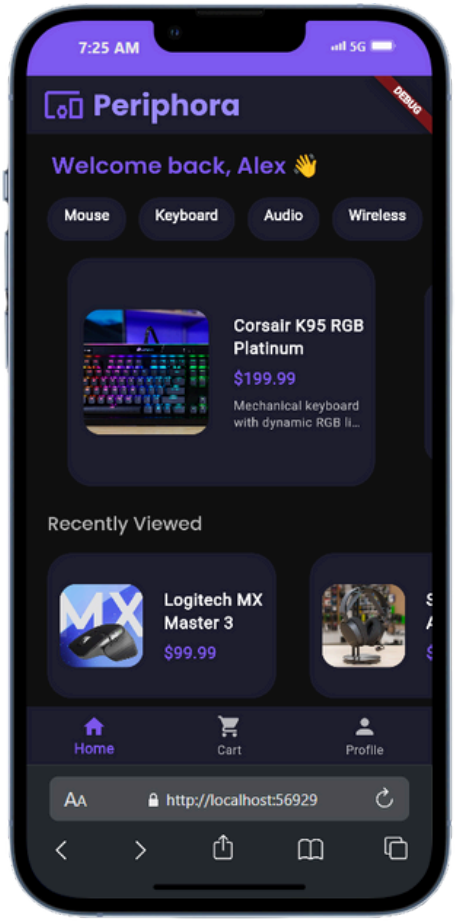


Home Screen

Description:

The Home Screen welcomes users with a personalized greeting, a horizontally scrollable product carousel with parallax scaling, and interactive filter tags for quick product category selection.

Functions / Capabilities:

- Animated parallax effect that scales product cards dynamically based on scroll position.
- Filter tags act as toggles to refine product listings instantly.
- “Recently Viewed” section to remind users of previously seen products.
- Smooth horizontal scrolling with bounce physics for intuitive navigation.

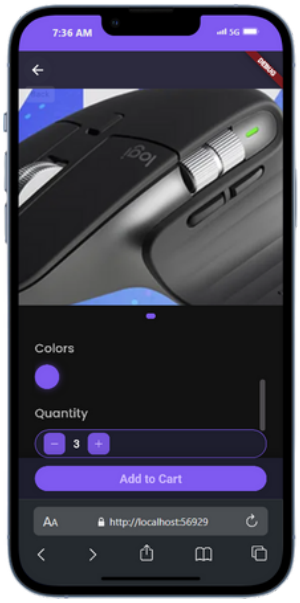
Product Detail Screen

Description:

Displays detailed product info with pinch-to-zoom images, animated color selectors for variant selection, and a reusable quantity selector for purchase amount adjustment.

Functions / Capabilities:

- Pinch and double-tap to zoom product images with smooth reset on image change.
- Color selectors highlight chosen color with animated border and shadow effects.
- Quantity selector widget that prevents invalid inputs and smoothly animates quantity changes.
- Sticky “Add to Cart” button with immediate feedback via snackbars.



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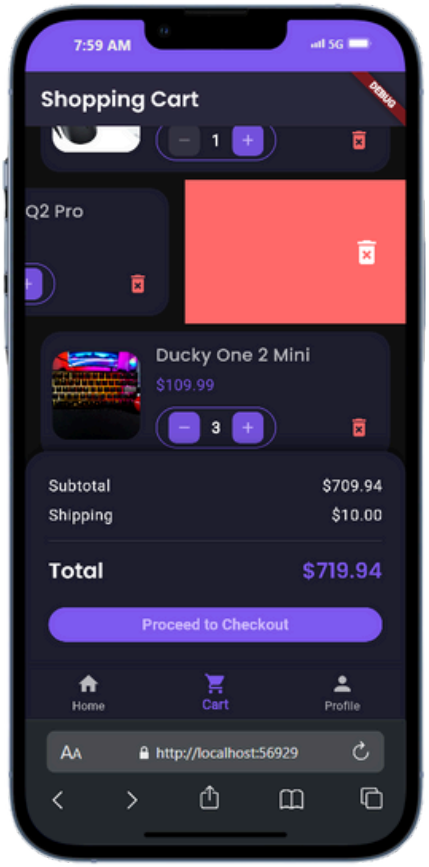
Cart Screen

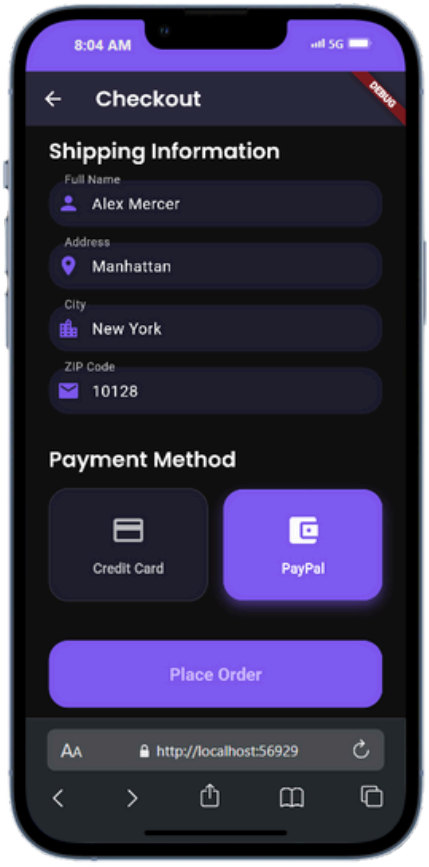


Description:

Shows all items added to cart, allowing quantity adjustments via reusable selector widget and swipe-to-delete for easy removal.

Functions / Capabilities:

- Swipe an item left to delete with a red background and delete icon confirmation.
- Quantity selector embedded per item updates total price instantly.
- Pricing summary with subtotal, shipping fee, and total price calculation.
- “Proceed to Checkout” button to continue the purchase flow.



Checkout Screen

Description:

Users enter shipping info and select payment methods through visually distinct cards, with validation and smooth transitions.

Functions / Capabilities:

- Validated text fields for name, address, city, and ZIP code.
- Selectable payment method cards with animated selection effects.
- Large “Place Order” button that activates only when form is valid.
- Clear layout designed for quick data entry and error prevention.

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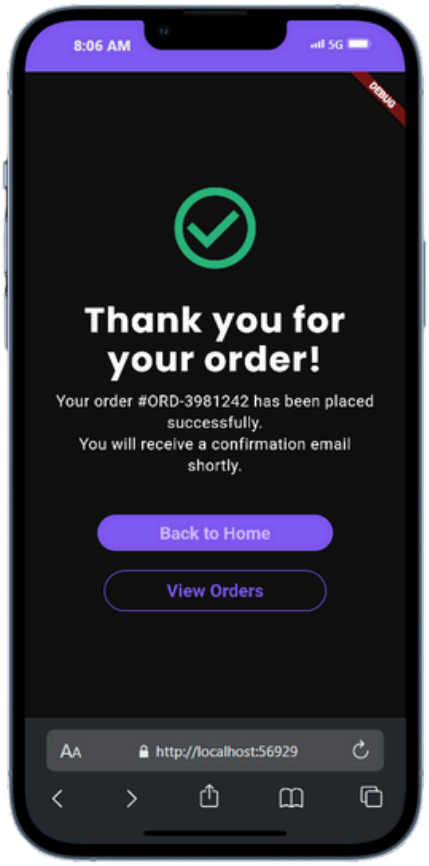
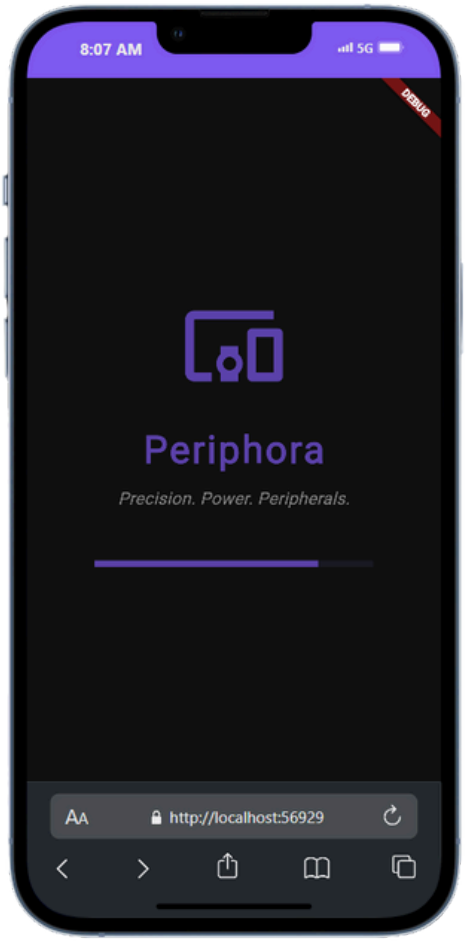


Order Confirmation Screen

Description:
Confirms order placement with a large success icon, order number, and options to return home or view orders.

Functions / Capabilities:

- Generates unique order number based on timestamp.
- Clear thank-you message with next steps guidance.
- Buttons to navigate back to Home or to a (future) orders page.
- Clean layout with emphasis on positive user feedback.



Splash Screen

Description:
Initial loading screen featuring fade-in logo, tagline, and a progress bar indicating app loading.

Functions / Capabilities:

- Fade-in animation for logo and text using Flutter's animation framework.
- Progress bar fills over 3 seconds before navigating to main app.
- Uses brand colors to reinforce identity from the start.

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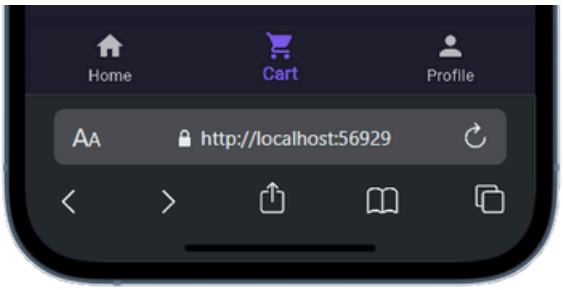
Main Navigation

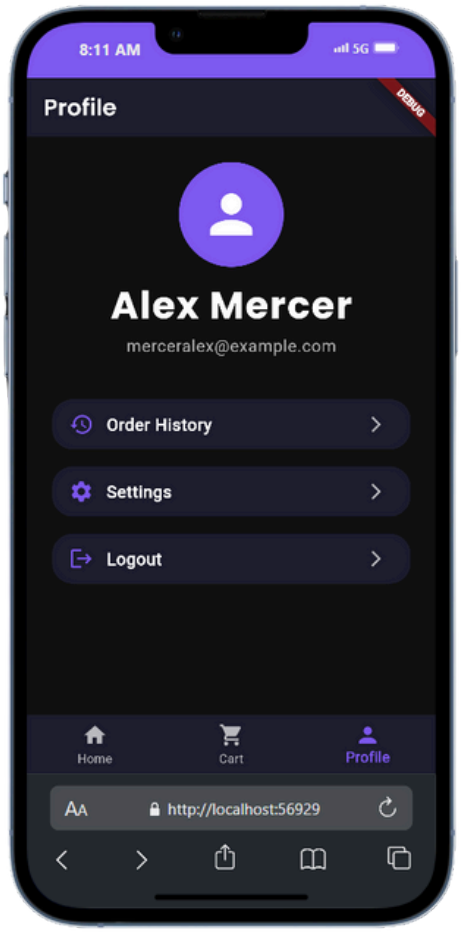


Description:

Enables seamless switching between Home, Cart, and Profile screens via a persistent bottom navigation bar.

Functions / Capabilities:

- Highlights the selected tab with color change.
- Maintains state and scroll positions per tab.
- Uses recognizable icons and labels for clarity.



Profile Screen

Description:

Displays user avatar, name, email, and quick-access cards for order history, settings, and logout.

Functions / Capabilities:

- Rounded avatar with placeholder icon.
- Cards with icons and text for navigation placeholders.
- Clean and accessible layout matching app style.

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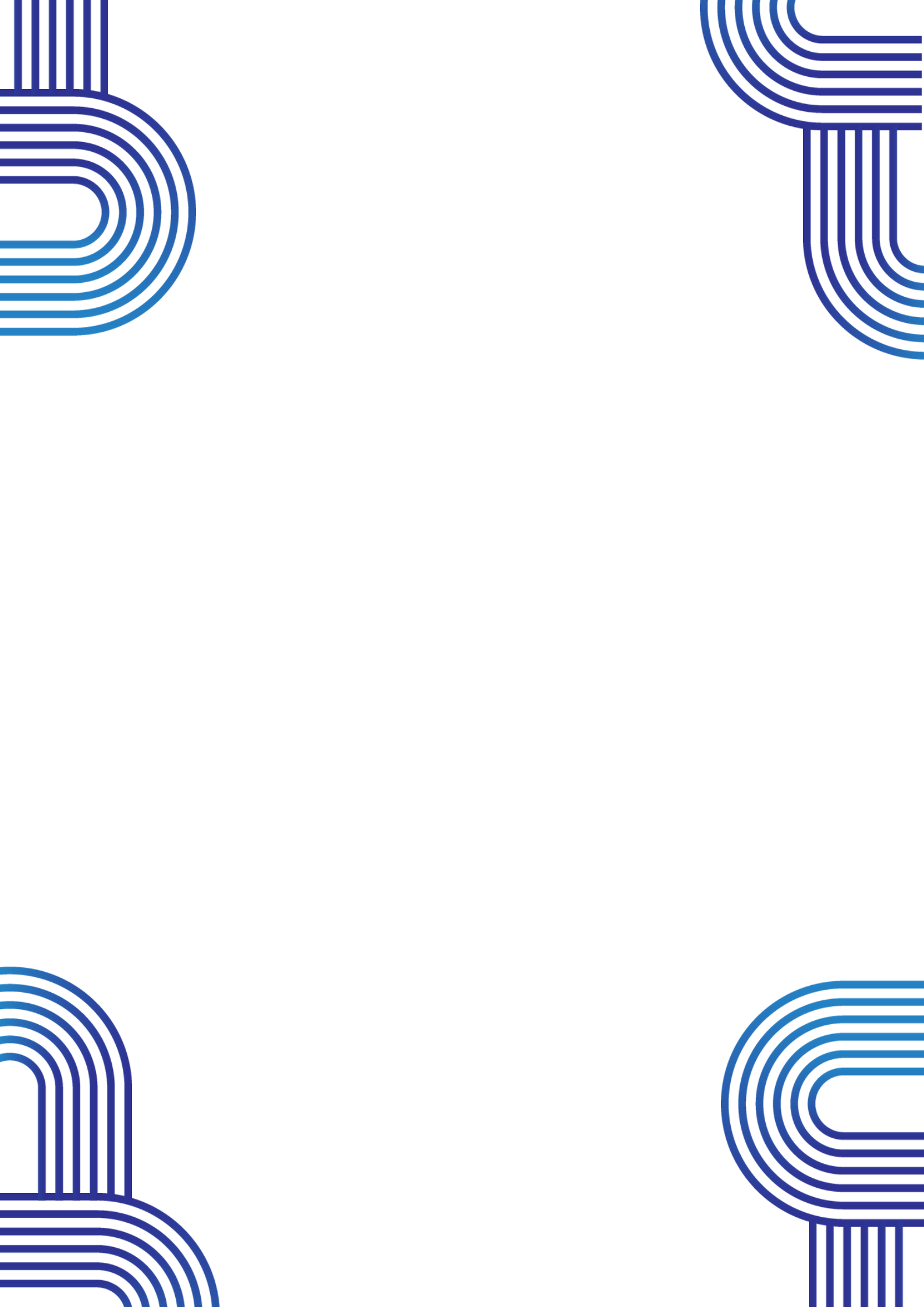
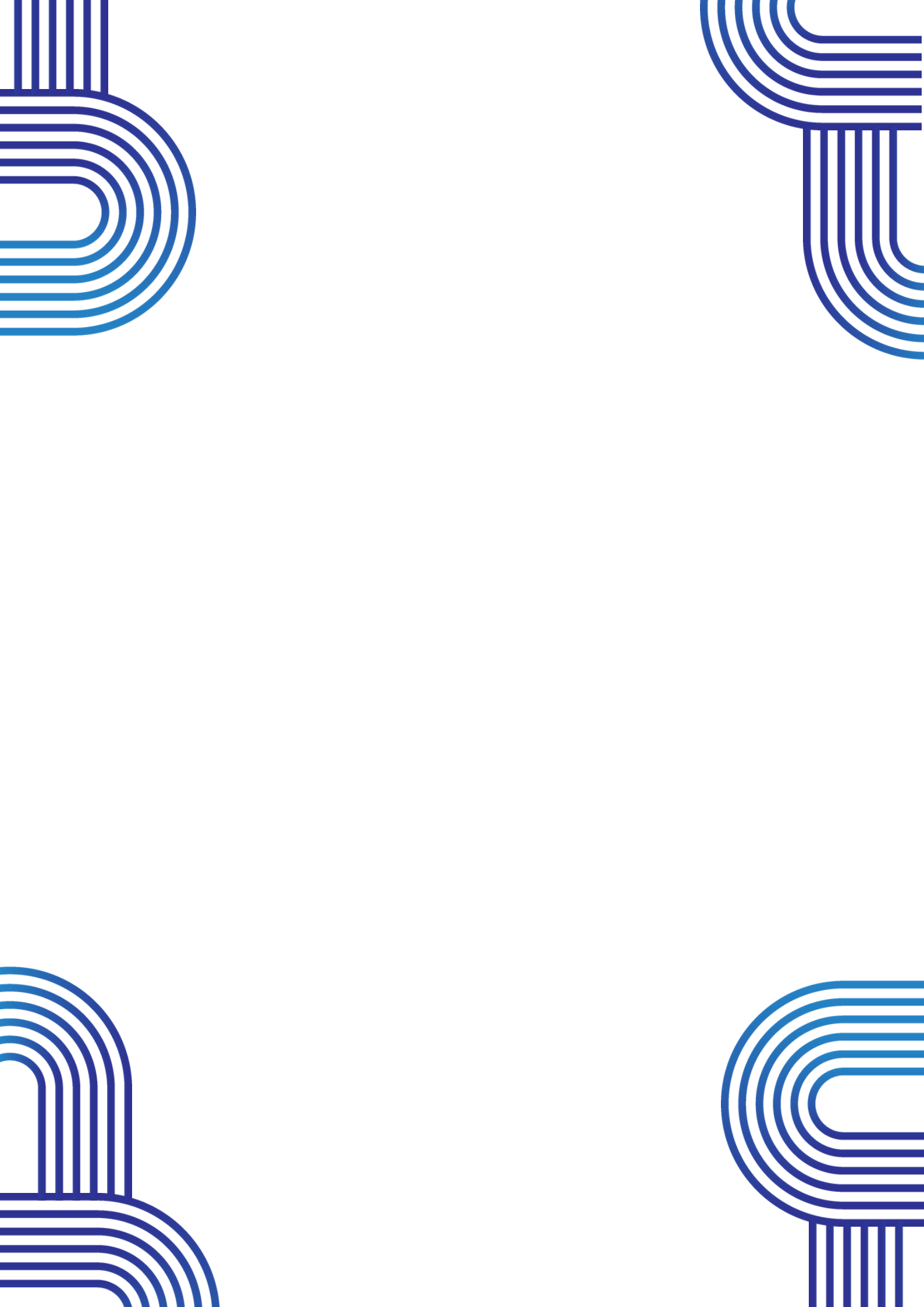
LEARNING HIGHLIGHTS

Throughout the development of this project, we gained significant knowledge and hands-on experience in building interactive mobile user interfaces using Flutter. We learned how to effectively manage state across multiple screens, allowing us to dynamically update product information, cart items, and quantity selectors. Crafting reusable widgets like CartItem, QuantitySelector, and custom tag filters improved our understanding of modular design and maintainable code structure. Navigating between screens using Flutter's routing system helped us grasp how data can be passed seamlessly across the app, while implementing animations such as parallax scrolling, interactive zoom, and animated buttons enriched our grasp of engaging UI/UX practices.

Beyond the technical aspects, we developed a stronger sense of visual design – paying attention to alignment, spacing, color balance, and user-centered layout choices. We realized that even subtle transitions and responsive feedback significantly enhance the user experience, and that design decisions must always serve the end user's needs. Through this process, we also deepened our appreciation for clarity in code structure, naming conventions, and UI hierarchy. More importantly, this project taught us how to think not only like developers, but also like designers – focusing on both form and function. It was a valuable learning experience that combined our creativity with practical application, and it gave us a glimpse into the real-world process of mobile app design and development.





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