FPT ACADEMY INTERNATIONAL

FPT – APTECH COMPUTER EDUCATION

Wireless World

Supervisor: *NGUYỄN HẠ VY*

Semester: *01*

Batch No: *T1.2302.M0*

Group No: *03*

Order:	**Full name**	**Roll No.**
1.	*ĐẶNG ĐẠI DƯƠNG*	Student1455772
2.	*HUỲNH TUẤN DUY*	Student1455048
3.	*PHẠM ANH VŨ*	Student1455055
4.	*PHẠM ĐẮC AN*	Student1455062

***Month**: 6 **Year**: 2023*

This is to certify that

Mr. **ĐẶNG ĐẠI DƯƠNG**

Mr. **HUỲNH TUẤN DUY**

Mr. **PHẠM ANH VŨ**

Mr. **PHẠM ĐẮC AN**

Have successfully Designed & Developed

Wireless World

Submitted by:

Ms. NGUYEN HA VY

Date Of Issue:

Authorized Signature:

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1. Acknowledgements

In the process of implementing this project, we would like to express our sincere gratitude and appreciation to the individuals and organizations who have supported and facilitated the smooth completion of this project.

First and foremost, we would like to thank our project supervisor, Ms. Nguyen Ha Vy, for imparting her expertise and providing guidance throughout the project. Her valuable instructions and directions have helped us overcome obstacles and stay on track. We appreciate her dedication and commitment to enlightening and guiding us towards the progressive civilization of human society knowledge.

Next, I would like to extend my gratitude to the team members of the project. Despite the challenges in communication among team members at the beginning, we managed to find ways to overcome them and create an efficient and positive working environment for the majority of the project timeline. I appreciate the collaborative support, efforts to meet deadlines, and valuable contributions from each of you, which have played a significant role in the success of this project.

I would also like to express my thanks to our families and friends. It is through their encouragement and understanding that we have found the motivation to overcome challenges and difficulties during the project implementation. Thank you for always believing in and supporting us.

Furthermore, I would like to express my gratitude to the authors collaborating with APTECH India who have shared their materials and knowledge on C programming language, HTML, CSS, JavaScript, AngularJS. These resources have provided essential information to establish a solid foundation before participating in the eProject. Another invaluable resource that cannot be overlooked is the YouTube videos. Thanks to these videos, our team has gained a deeper understanding of the learned concepts and their practical applications. We are grateful to the YouTube creators for their efforts in sharing valuable knowledge with the community.

Finally, I would like to thank all those who have supported and contributed to the success of this project.

2. eProject Synopsis

a. Brief Overview of eProject

The eProject was created to address the difficulties and challenges that IT students face in applying the knowledge they learn in the classroom to real-life situations. Participating in eProject is a way for students to experience and become familiar with the real-world work environment right in the classroom by following a laddered approach.

The main objective of eProject is to provide students with practical experience in building large and robust applications that can be applied in real life. By breaking down a large project into smaller, more manageable issues and concepts, it is easier to manage and enables students to gradually build their understanding and skills, starting from simple concepts to more complex ones, and then applying them in stages. This helps students to improve their skills and build a strong foundation of practical knowledge and experience, enabling them to achieve their learning goals sooner.

The scope of eProject includes many aspects of application development, where students can work on real-world projects and face the complexity and demands of the IT industry. eProject meets the real needs of a learning environment that can keep up with the fast pace of technology. It provides students with a flexible solution and removes barriers of geography and busy schedules of students to improve learning effectiveness and implement concepts at their own pace.

Overall, eProject revolutionizes the way of learning, equipping students with the tools to meet the demands of the IT industry, stimulating a desire for learning, and enhancing practical skills and applicability to achieve success in the field.

b. Objective of this eProject

The objective of this eProject is to develop a Single-Page-Application and responsive website for Wireless World, an international consumer electronics company. The website aims to provide an attractive and user-friendly platform for customers to explore and purchase electronic products. The website will be built for the Windows platform using HTML5, JSON, Angular JS, JavaScript, and Geolocation. It should be compatible with leading browsers such as Chrome, IE, and Firefox.

Key Requirements:

1. Design and Layout: The website will be designed as a visually appealing Single-Page-Application with proper sections, graphics, and a company logo. It should incorporate attractive fonts, colors, and animations to enhance the user experience. The layout should be responsive, adapting to different screen sizes.

2. Menu and Categorization: A comprehensive menu will categorize the available information about the features provided on the site. This includes menus for various cell phone brands, features of cell phones, and more. The information should be organized based on brand names, allowing users to explore specific brands or view all available mobile phones.

3. Featured Sections: The website should include sections showcasing the top-selling mobile phones, best budget smartphones (under $200), and best offers on mobile phones. Each section should display relevant information and accompanying images.

4. Individual Phone Details: The website should provide detailed information about individual cell phone models, including their features and images. This will allow users to make informed decisions when selecting a phone.

5. Phone Comparison: Users should have the ability to select and compare up to three mobile devices. A dedicated comparison section will present a tabular format comparing the features of different phone models within the same brand or across different brands.

6. Visual Appeal: The website's color schemes should be soothing, with the option of using pastel colors. Additionally, when displaying specific brand phones, the background image should feature the logo of the corresponding brand.

7. Additional Pages: The website should include essential pages such as About Us, Site Map, Gallery, and Contact Us. These pages will provide additional information and enhance user engagement.

8. User Registration: The website will support two types of users: registered and non-registered. Registered users will have the ability to add products to their cart, while non-registered users can browse the products without the option to purchase.

Functionalities to Implement:

In addition to the requirements mentioned above, the website should incorporate the following functionalities:

- Continuous Scrolling Ticker: Display a ticker at the bottom of the page, continuously updating with the current date, time, and location using the geolocation features of HTML5.

- Visitor Count: Show a visitor count at the top right corner of the page, next to a logo image, indicating the number of visitors to the website.

- Interactive Menu: Change the color of menu options on hover and after clicking to provide visual feedback to users.

- Fade-In/Fade-Out Effects: Utilize fade-in and fade-out effects for menus, enhancing the visual appeal and transitions on the website.

By implementing these features and functionalities, the eProject aims to create a user-friendly and visually appealing Single-Page-Application and responsive website for Wireless World, enabling customers to explore and purchase electronic products conveniently.

3. eProject Analysis

3.1 User Requirement

In today's era, browsing the web on mobile phones has become more prevalent than ever before. This creates a growing demand for speed and user-friendly experiences on websites

Users expect mobile phone e-commerce websites to provide smooth and fast interactions, with an interface that is easy to use and compatible across mobile devices. They aim to efficiently find relevant information while minimizing the encounter with irrelevant information or complex transaction processes.

Another important aspect that users care about is the registration process. They desire a simple, uncomplicated registration process that doesn't involve too many steps. Users want to be able to create an account quickly and easily to continue exploring and utilizing the website's features.

Information security is also a critical concern for users. They want assurance that their personal information and transactions are securely protected. Mobile phone e-commerce websites need to implement effective security measures, including password encryption and authentication mechanisms, to ensure user information is safe and secure.

3.2 Functional Requirements

- Search and Filtering: The website should provide users with the ability to search for specific products based on keywords, categories, brands.
- Product Display: The website should present detailed information about each product, including product images, descriptions, specifications, and pricing. The display should be visually appealing and user-friendly, allowing customers to easily view and compare different products.
- Shopping Cart Functionality: Users should be able to add products to a shopping cart, view the contents of their cart, and modify quantities or remove items as needed. The shopping cart should provide a seamless and intuitive experience, enabling users to proceed to the checkout process smoothly.
- Payment Methods: The website should support various payment methods, such as credit cards, debit cards, digital wallets, and other secure online payment options. The integration with a trusted payment gateway or service is essential to ensure secure and reliable transactions.
- Wishlist: The website can incorporate a wishlist feature that allows users to save products they are interested in for future reference or purchase. This feature enhances user engagement and facilitates easy access to desired products.

3.3 Responsive Design

Responsive design is essential for the success of an e-commerce website. With the expansion of various devices such as smartphones, tablets and desktop computers, customers access websites from different screen sizes and resolutions. It is crucial to ensure that the website is optimized and adapts seamlessly to these devices, providing a consistent and user-friendly experience.

A significant advantage of a responsive website is that its layouts and elements will automatically respond and reposition themselves appropriately based on the screen size of the user. This ensures that users can easily navigate and interact with the website regardless of the device they are using. By adopting responsive design techniques, the website can offer a consistent user interface, enhancing usability and reducing the need for zooming or horizontal scrolling.

From a business perspective, responsive design is crucial for maximizing conversions and sales. When the website is optimized for different devices, users are more likely to stay longer, explore products, and make purchases. With the increasing trend of mobile shopping, a responsive design ensures that potential customers can access the website on their smartphones and tablets, resulting in increased traffic and potential revenue.

3.4 Single-Page-Application (SPA)

The Single-Page-Application (SPA) approach offers numerous benefits and considerations for an e-commerce website, enhancing the user experience by providing smooth and fast interactions without the need for full page reloads, lead to increasing user engagement and satisfaction.

Unlike traditional multi-page websites, where each click results in a full page reload, an SPA loads the initial HTML, CSS, and JavaScript resources only once. Subsequent interactions, such as browsing different product categories, adding items to the cart, or applying filters, are handled dynamically by making asynchronous requests to the server for data updates. This eliminates the need for reloading the entire page, resulting in faster response times and a smoother user experience.

However, it is important to consider some considerations when adopting an SPA architecture. Since proper handling of browser history, deep linking, and SEO optimization can be challenging in SPAs.

3.5 Constraints and Limitations

The design and implementation of a selling phone e-commerce website may be subject to various constraints and limitations that could impact the project.

One of the constraints is that the team members lack a designer background. This limitation may affect the visual aesthetics and user experience of the website. Without professional design skills, creating visually appealing layouts, choosing appropriate color schemes, and ensuring a cohesive overall design may present challenges. However, The team can mitigate these issues by searching for and learning these new skills online, mostly on Youtube.

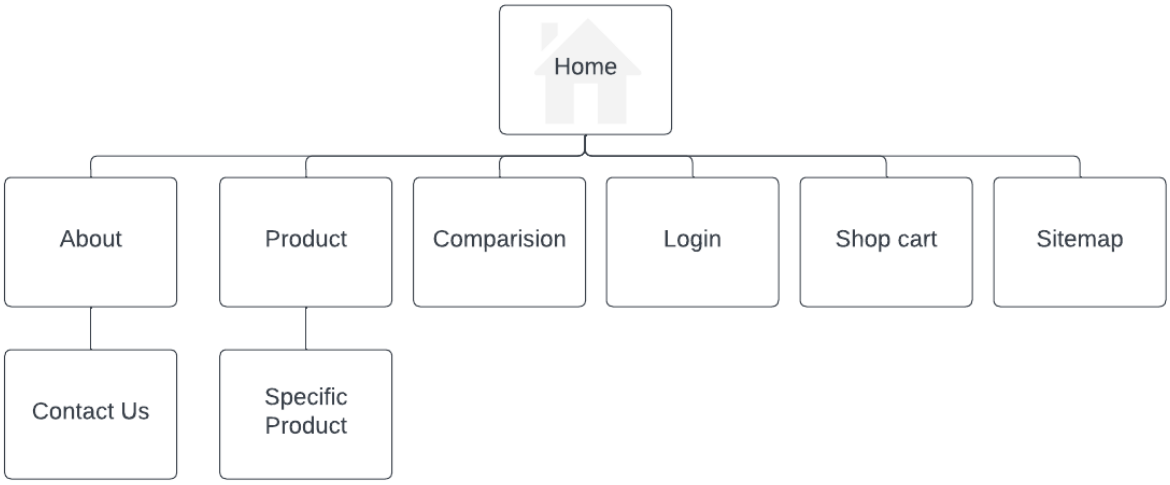
Another constraint is the limited timeframe of one month for the project. Developing a complete selling phone e-commerce website within such a short time frame can be demanding. It may require the team to prioritize essential features and functionalities, streamline the development process, and adequate planning, task prioritization.

With no financial resources allocated for the project, the team may face limitations in acquiring premium tools, plugins, or external services that could enhance the website's functionality or improve development efficiency. To deal with this we explore open-source and leverage free resources.

The team members having only a basic understanding of languages like C, HTML, CSS, and Angular may present a challenge. Limited experience with these technologies may slow down the development process and result in code quality issues. It is crucial to allocate time for learning, conducting research, and seeking guidance from online resources and mentors. These can help mitigate this limitation.

4. eProject Design

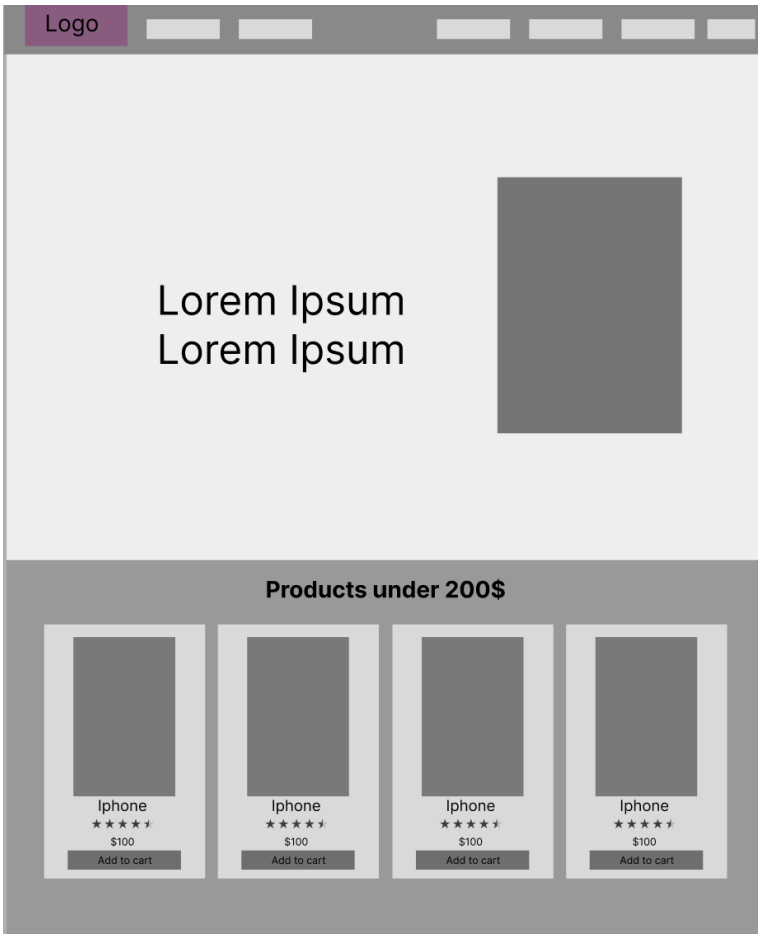
a. Sitemap

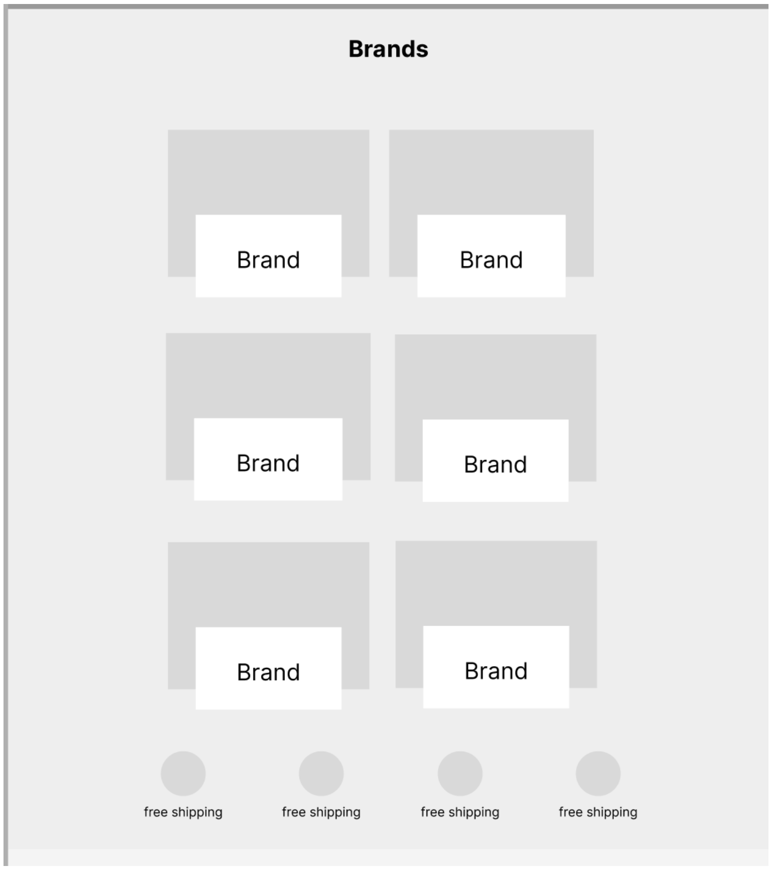


b. Wireframe

The design phase of the eProject involves creating the visual layout and structure of the website/application.

Homepage layout (desktop)

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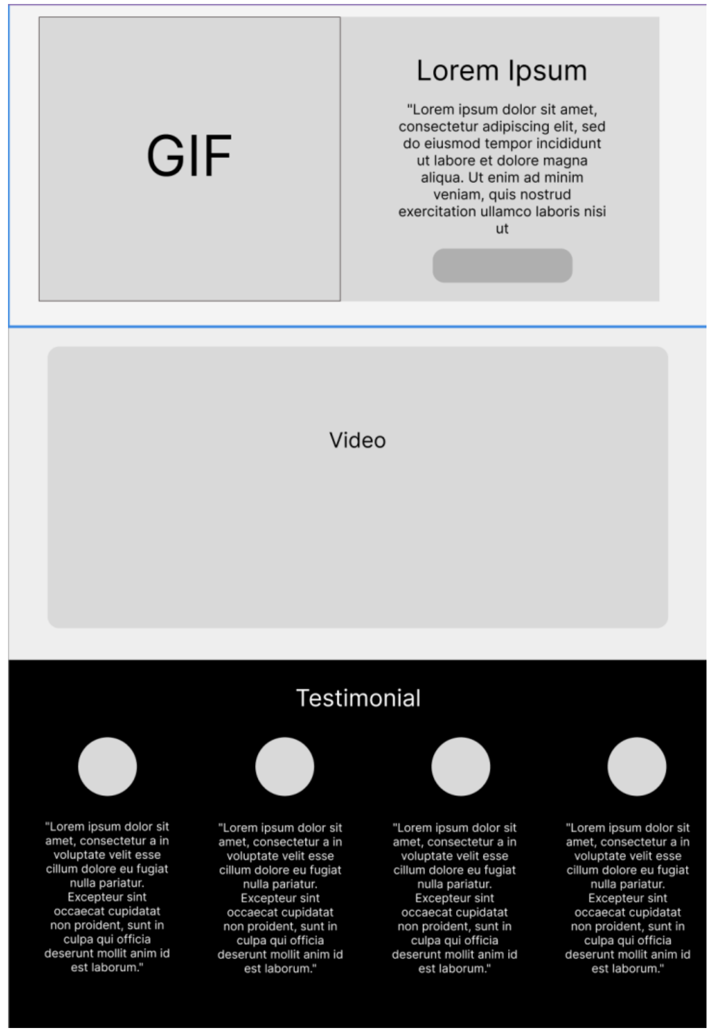
free shipping
free shipping
free shipping


GIF
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Video
Testimonial
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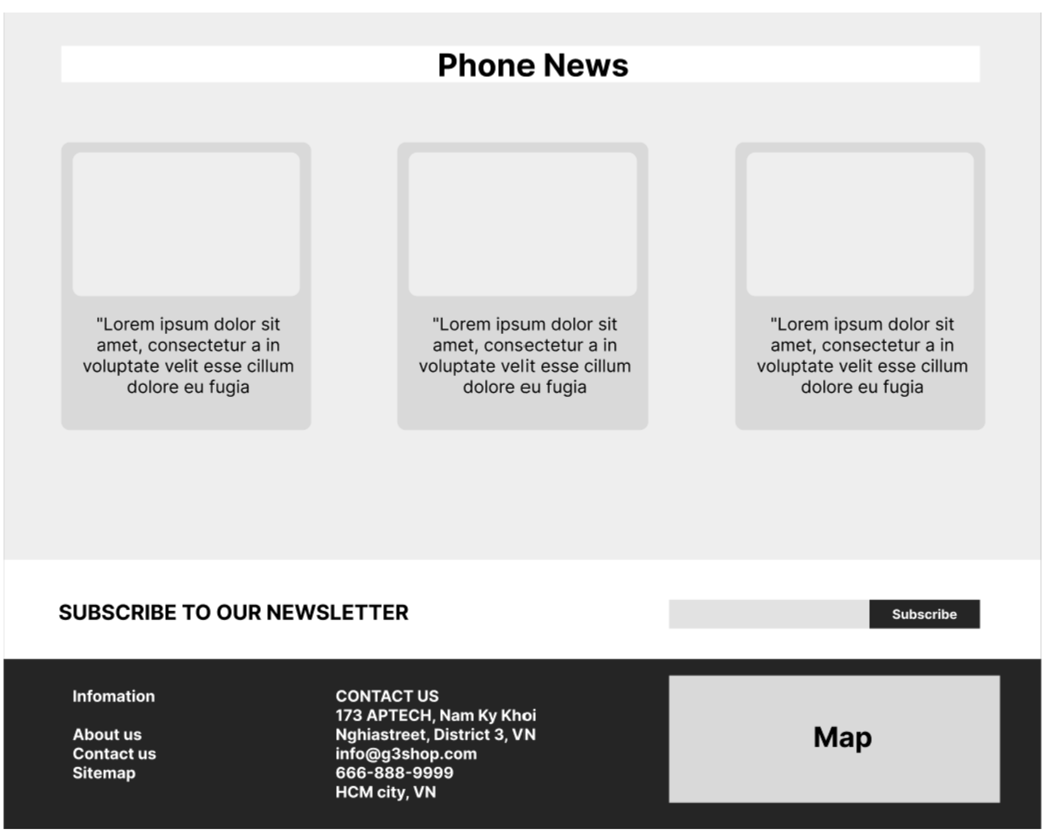
Phone News
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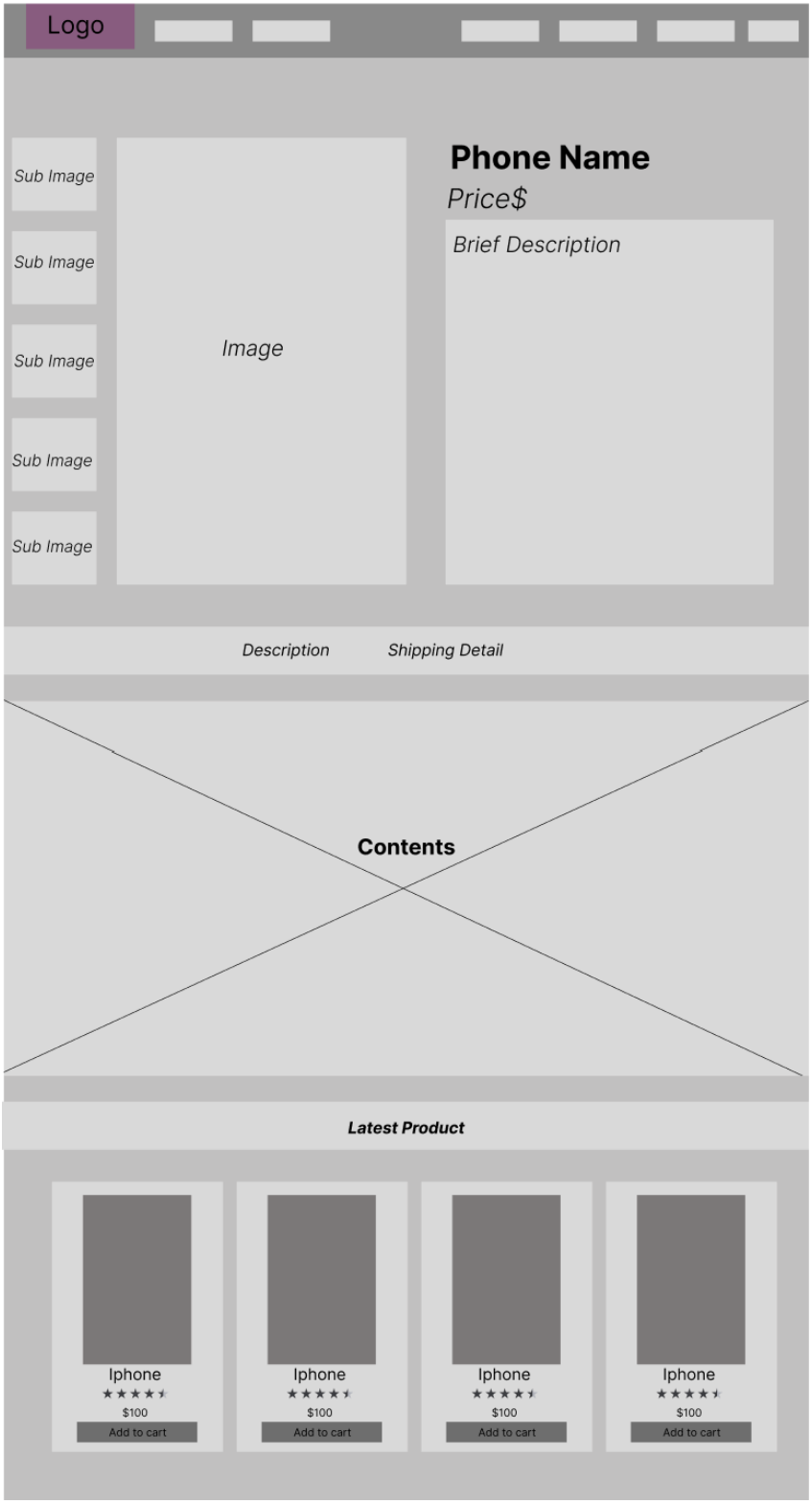
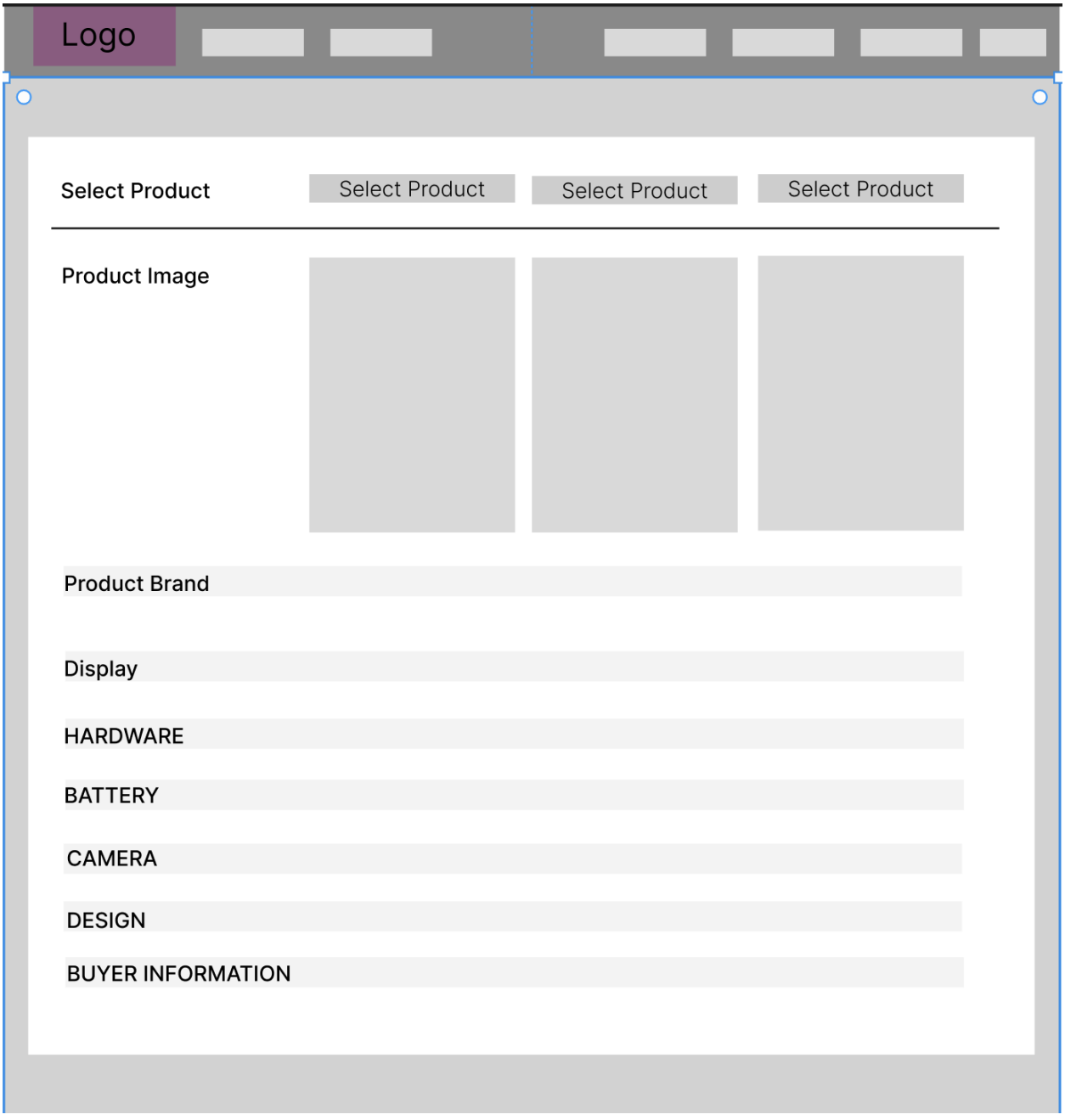
"Lorem ipsum dolor sit amet, consectetur a in voluptate velit esse cillum dolore eu fugia
SUBSCRIBE TO OUR NEWSLETTER
Subscribe
Infomation
About us
Contact us
Sitemap
CONTACT US
173 APTECH, Nam Ky Khoi Nghiastreet, District 3, VN
info@g3shop.com
666-888-9999
HCM city, VN
Map

General Product Layout (desktop)

Specific Product Layout (desktop)



Comparation Layout (desktop)



c. Flowcharts

The Flowcharts section showcases visual representations that illustrate the logic and flow of various processes and functionalities within the website. These flowcharts serve as a valuable tool to map out the user experience and provide a comprehensive understanding of how the website functions. By visually depicting the processes and decision points, the flowcharts offer insights into the overall structure and operation of the project.

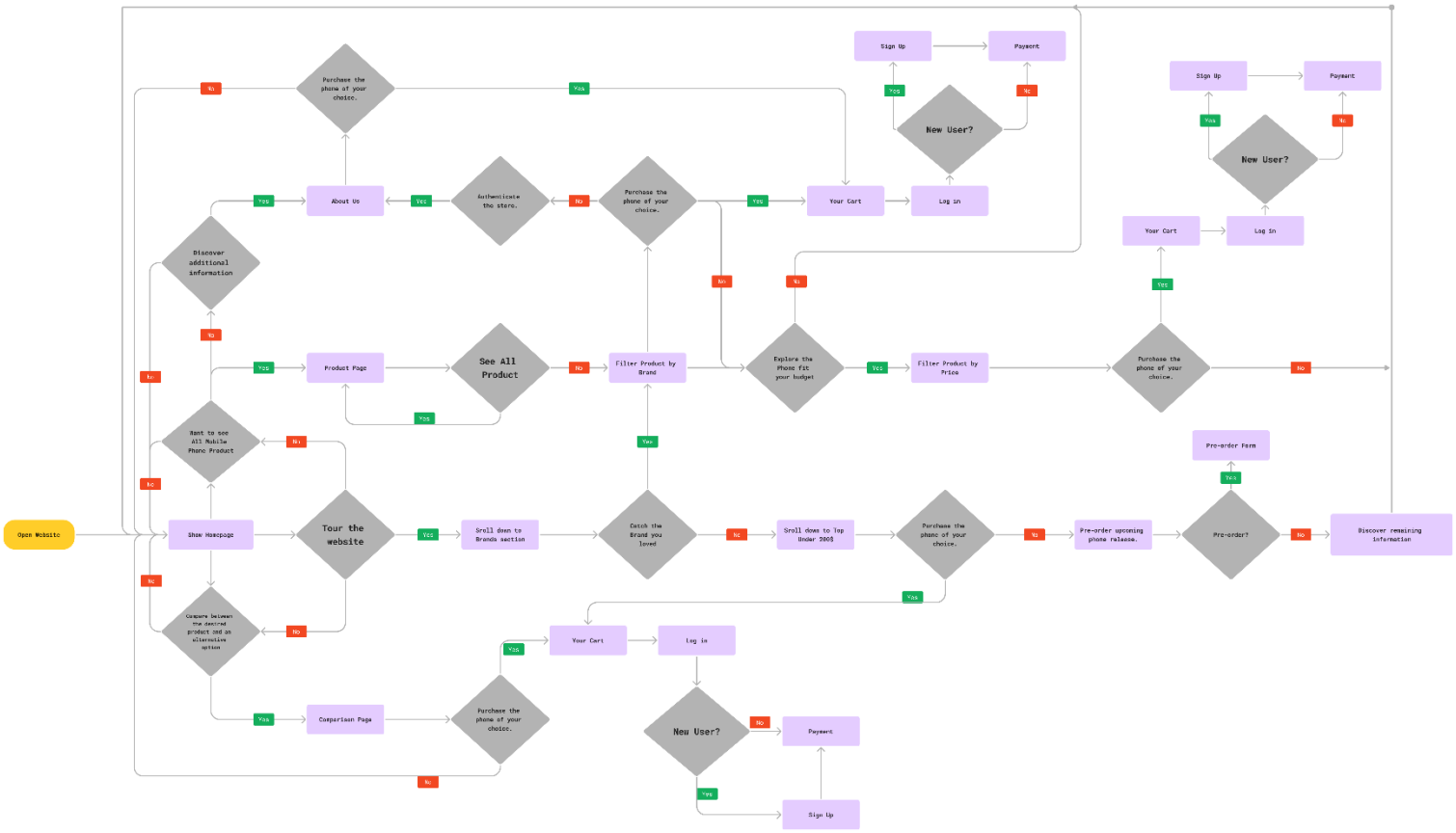


Figure 1. Whole Flowchart of the website

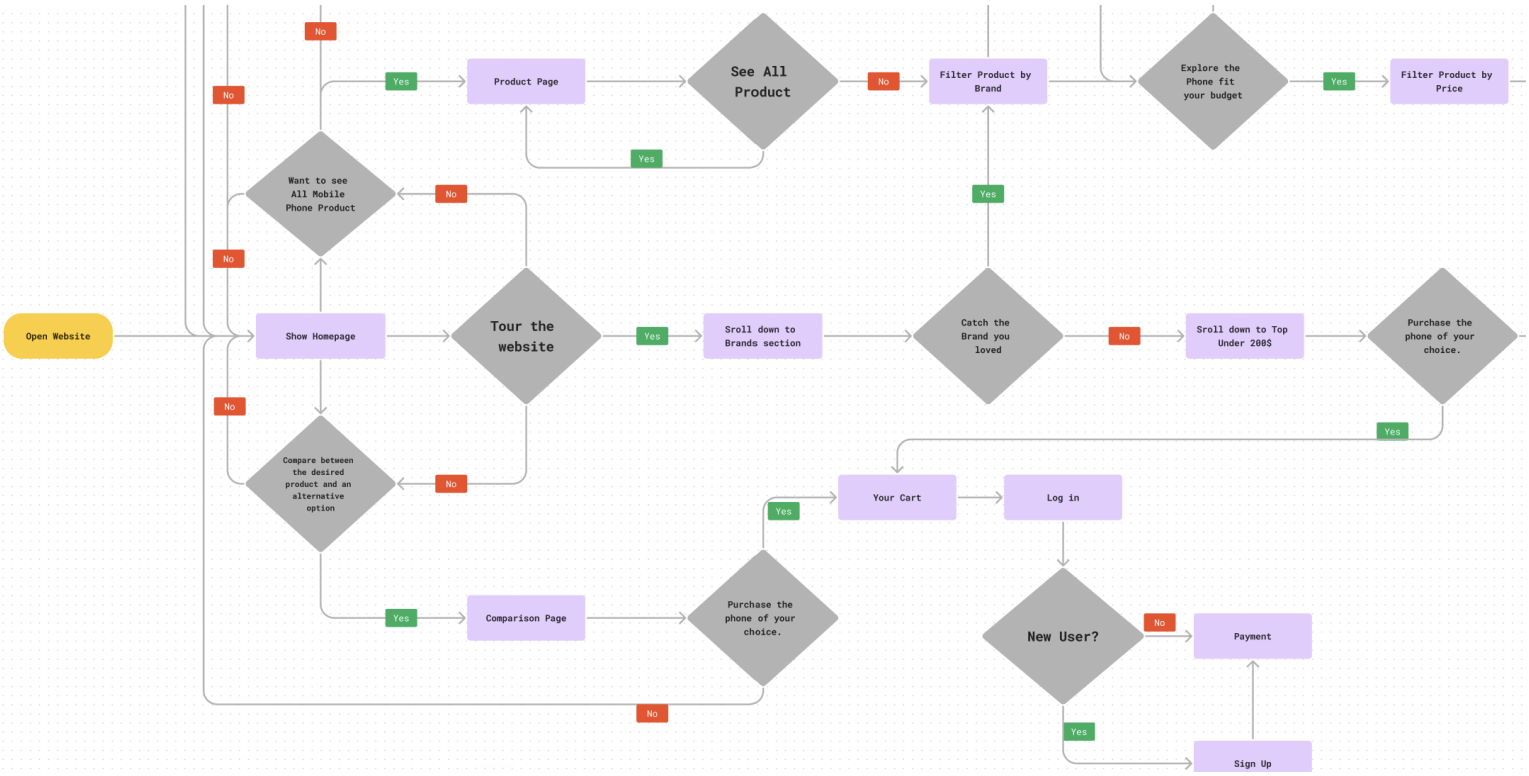
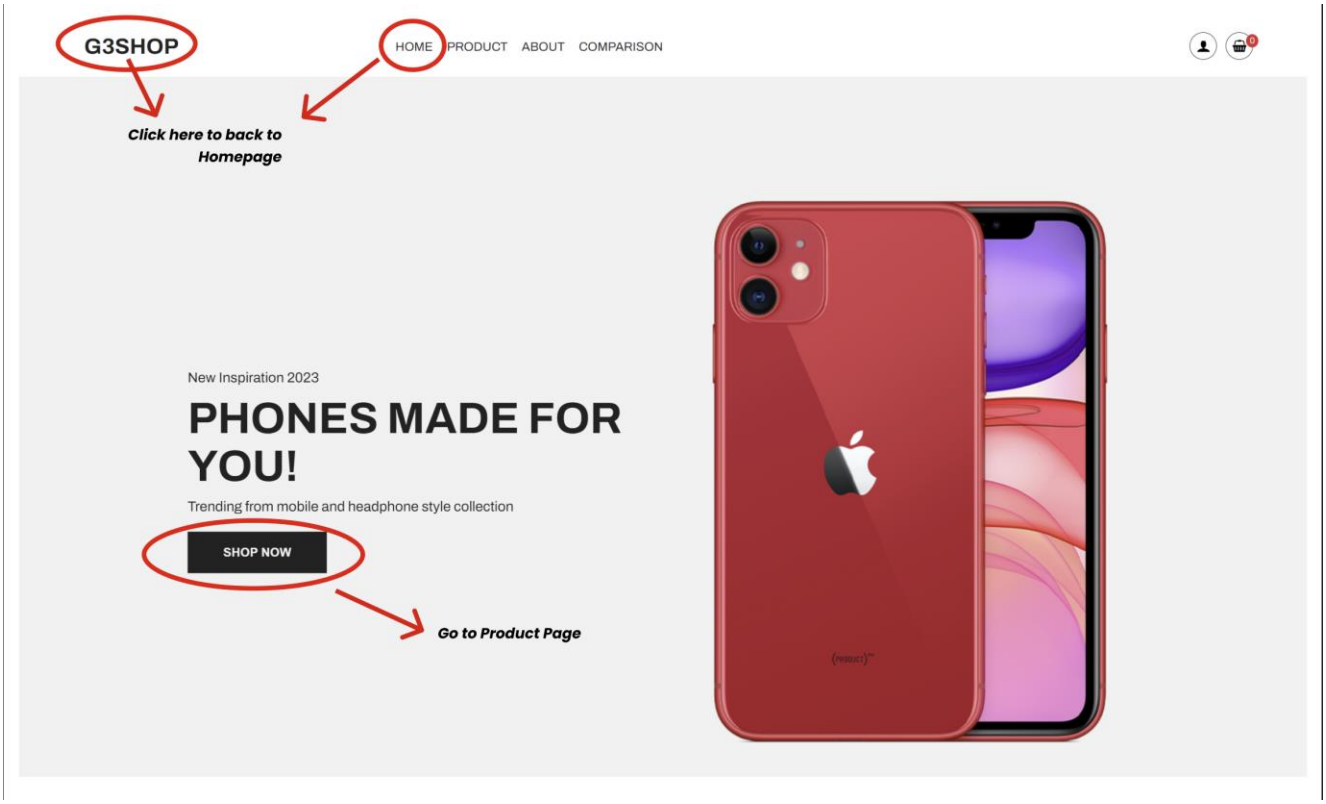
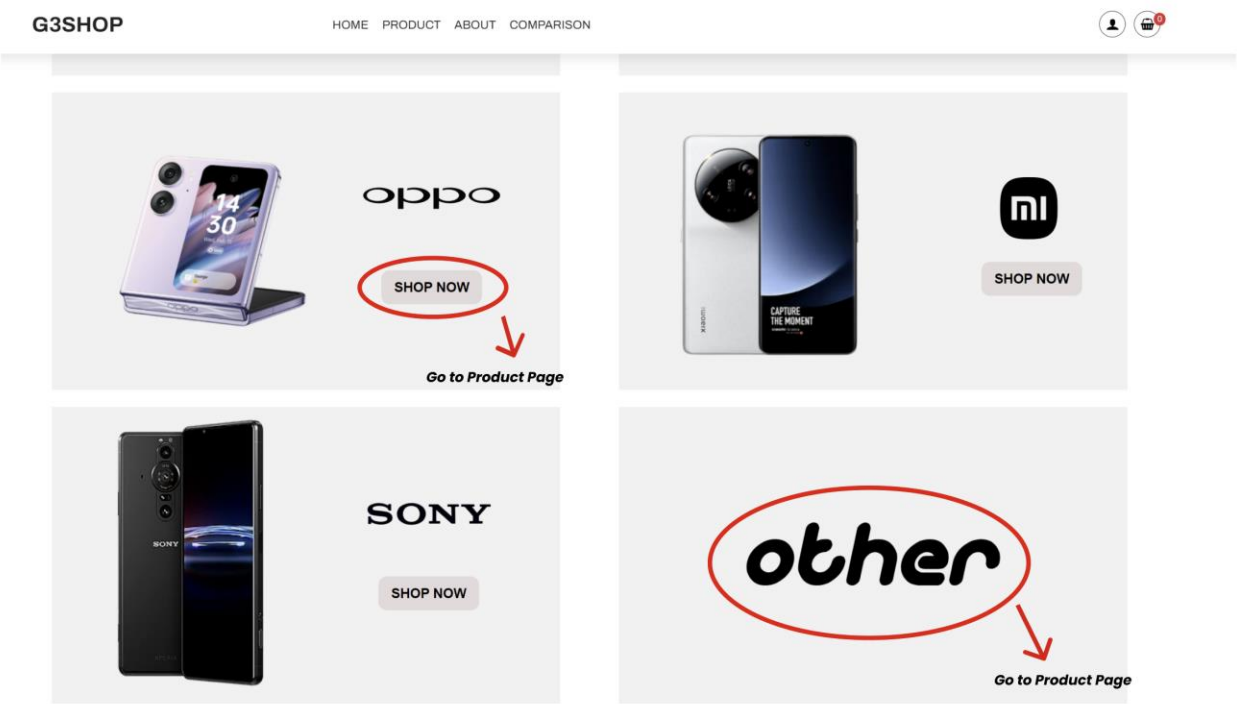


Figure 2: Main part from the Flowchart

5. Pages and Features





G3SHOP

HOME PRODUCT ABOUT COMPARISON

Pre-order Iphone 15

The iPhone 15 is set to revolutionize the way you connect, create, and explore. Be at the forefront of this technological marvel by pre-ordering now. Don't miss your chance to own the future of mobile technology – reserve your iPhone 15 today!

ORDER NOW

Registration Form to Pre-order

▣ Phone News

Google announces new Android

Components make up only a

81% of all iPhones are running

PAYMENT

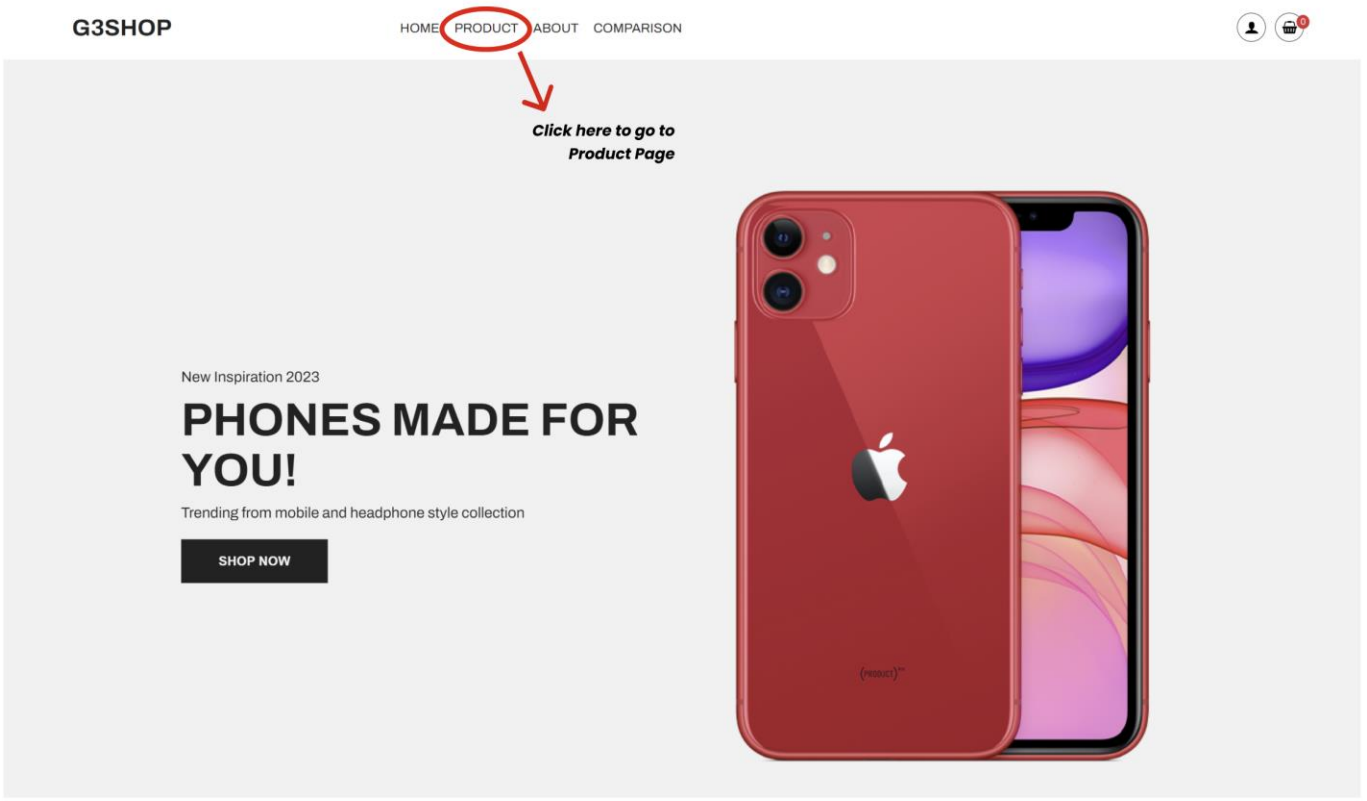
ZaloPay VNPAY moca Grab

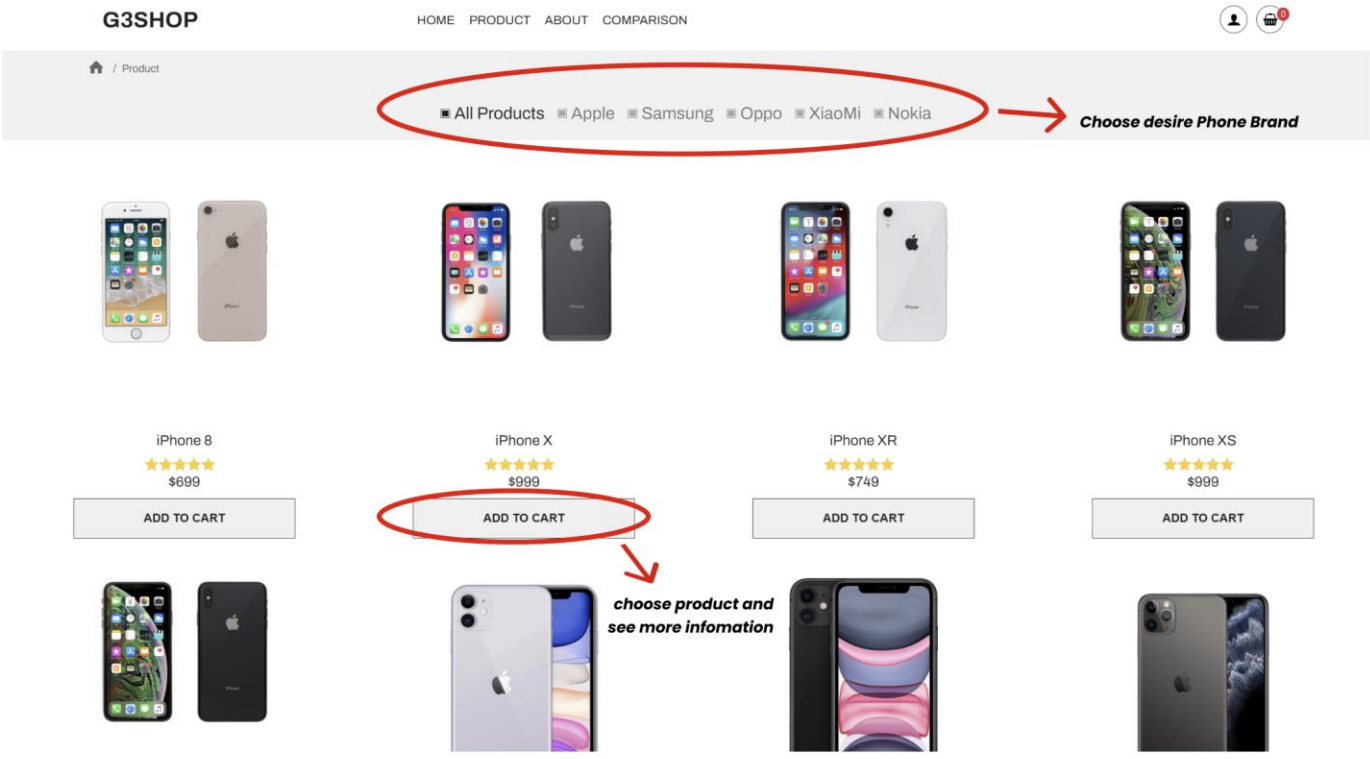
INFORMATION

About Us
Contact Us
Site Map

CONTACT US

173 APTECH, Nam Ky Khoi Nghia street, District 3, VN
info@g3shop.com
666-888-9999
HCM city, VN


G3SHOP
HOME
PRODUCT
ABOUT
COMPARISON
Click here to go to Product Page
New Inspiration 2023
PHONES MADE FOR YOU!
Trending from mobile and headphone style collection
SHOP NOW


G3SHOP
HOME
PRODUCT
ABOUT
COMPARISON
/ Product
All Products
Apple
Samsung
Oppo
XiaoMi
Nokia
Choose desire Phone Brand
iPhone 8
$699
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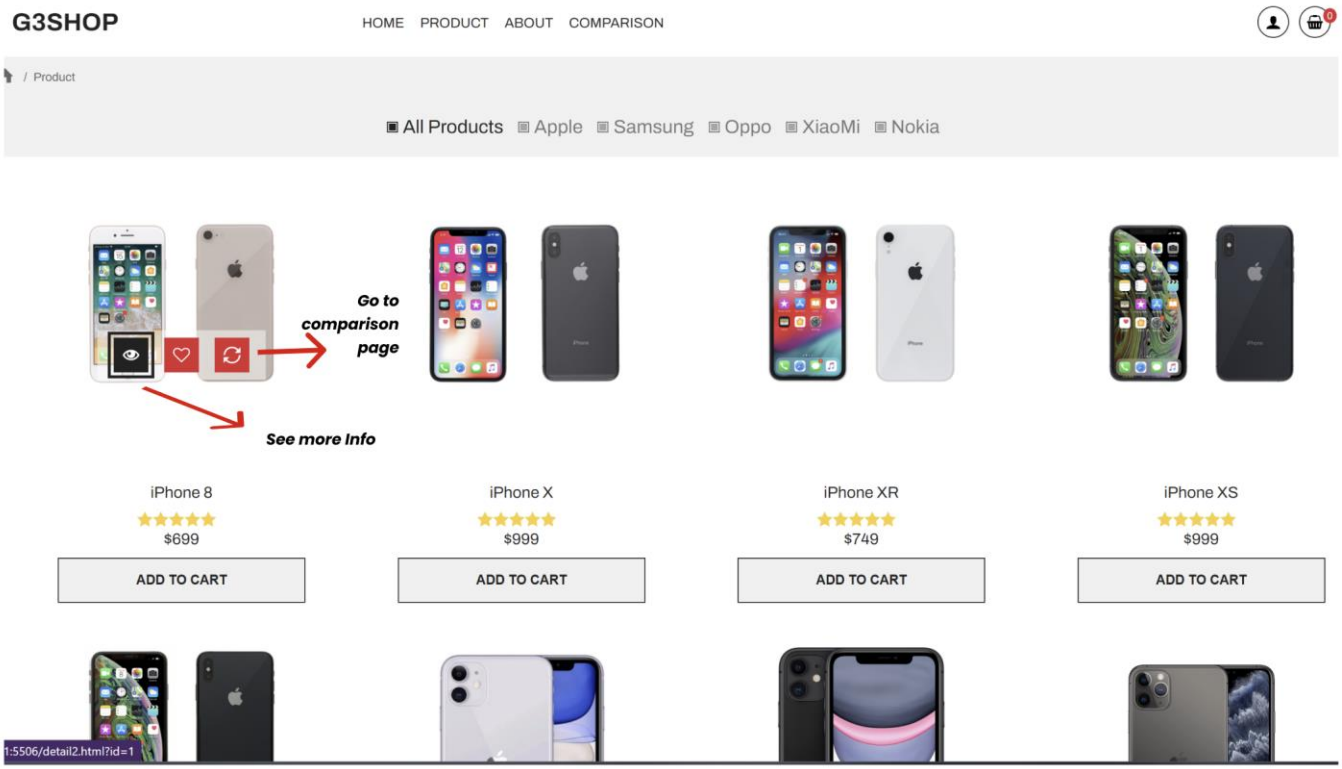
choose product and see more infomation


G3SHOP
HOME PRODUCT ABOUT COMPARISON
/ Product
All Products Apple Samsung Oppo XiaoMi Nokia
Go to comparison page
See more Info
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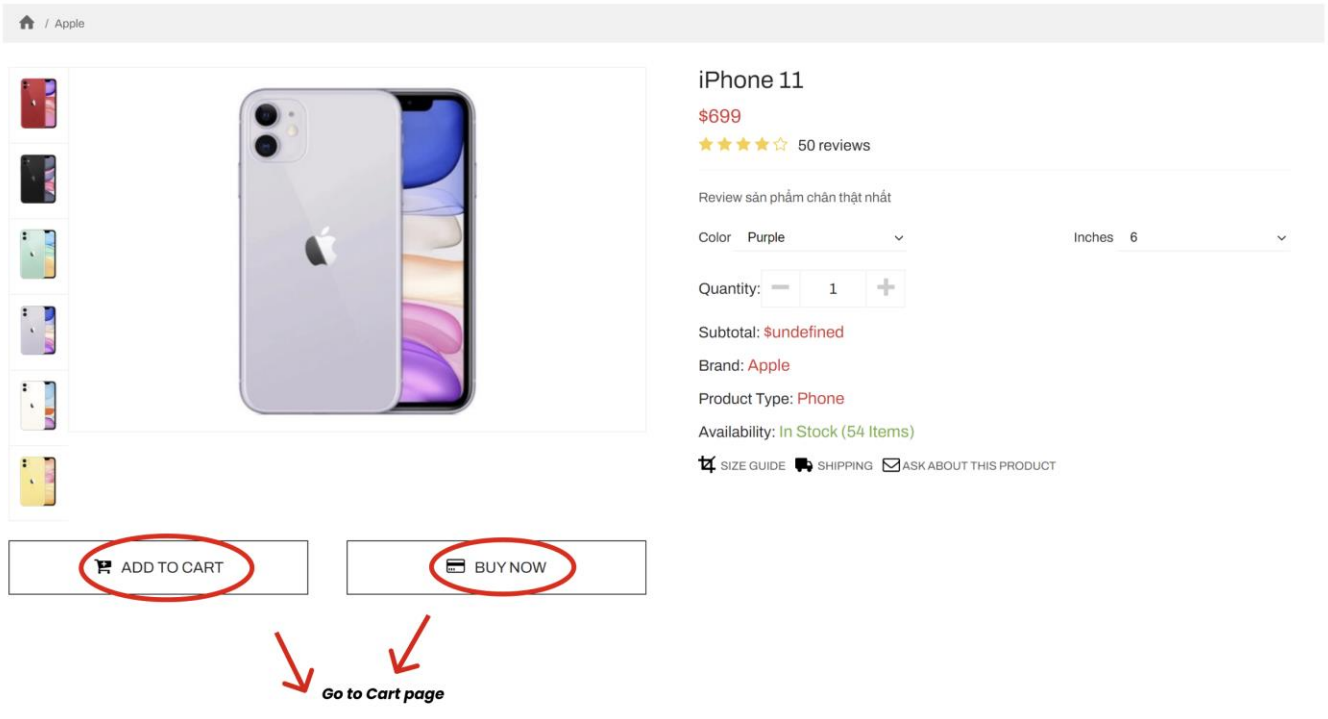
/ Apple
iPhone 11
$699
50 reviews
Review sản phẩm chân thật nhất
Color Purple
Inches 6
Quantity: 1
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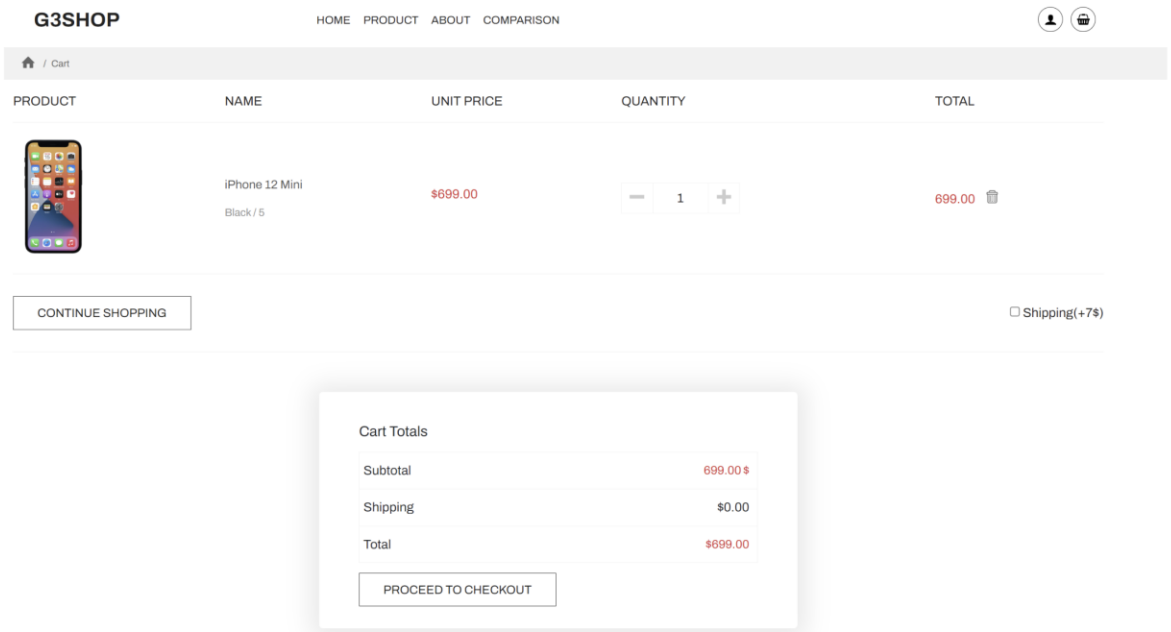
SIZE GUIDE SHIPPING ASK ABOUT THIS PRODUCT
ADD TO CART
BUY NOW
Go to Cart page


G3SHOP
HOME PRODUCT ABOUT COMPARISON
/ Cart
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1
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Total
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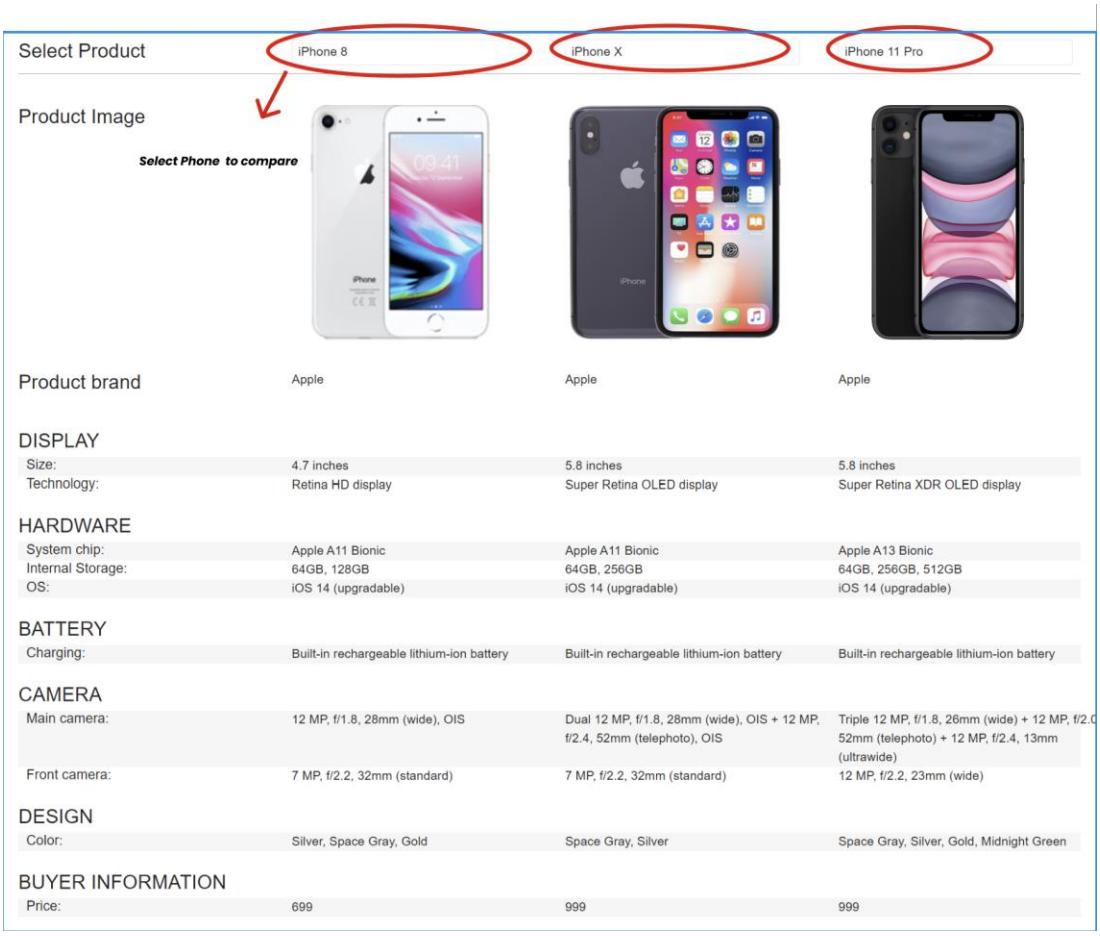
PROCEED TO CHECKOUT


Select Product
iPhone 8
iPhone X
iPhone 11 Pro
Product Image
Select Phone to compare
Product brand
Apple
Apple
Apple
DISPLAY
Size:
4.7 inches
5.8 inches
5.8 inches
Technology:
Retina HD display
Super Retina OLED display
Super Retina XDR OLED display
HARDWARE
System chip:
Apple A11 Bionic
Apple A11 Bionic
Apple A13 Bionic
Internal Storage:
64GB, 128GB
64GB, 256GB
64GB, 256GB, 512GB
OS:
iOS 14 (upgradable)
iOS 14 (upgradable)
iOS 14 (upgradable)
BATTERY
Charging:
Built-in rechargeable lithium-ion battery
Built-in rechargeable lithium-ion battery
Built-in rechargeable lithium-ion battery
CAMERA
Main camera:
12 MP, f/1.8, 28mm (wide), OIS
Dual 12 MP, f/1.8, 28mm (wide), OIS + 12 MP, f/2.4, 52mm (telephoto), OIS
Triple 12 MP, f/1.8, 26mm (wide) + 12 MP, f/2.0 52mm (telephoto) + 12 MP, f/2.4, 13mm (ultrawide)
Front camera:
7 MP, f/2.2, 32mm (standard)
7 MP, f/2.2, 32mm (standard)
12 MP, f/2.2, 23mm (wide)
DESIGN
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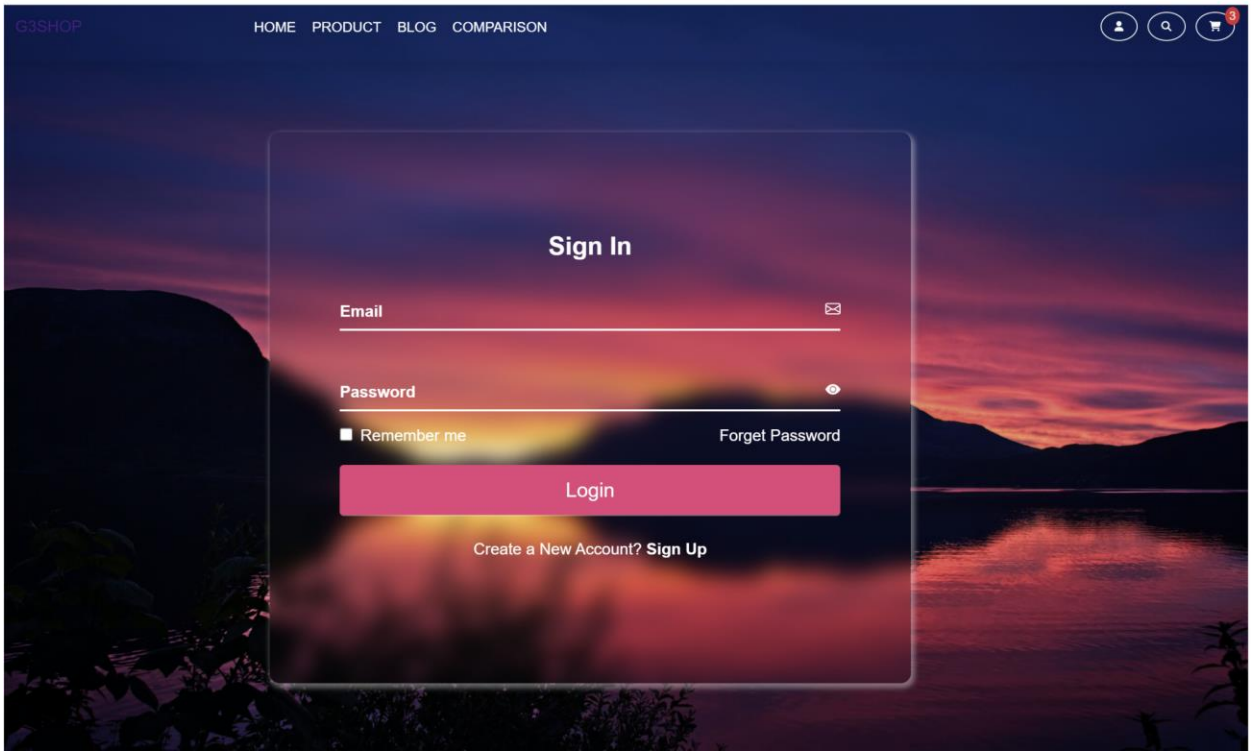
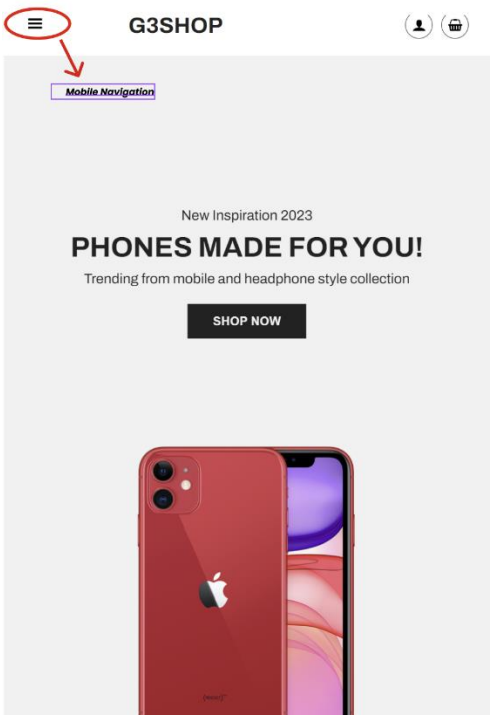
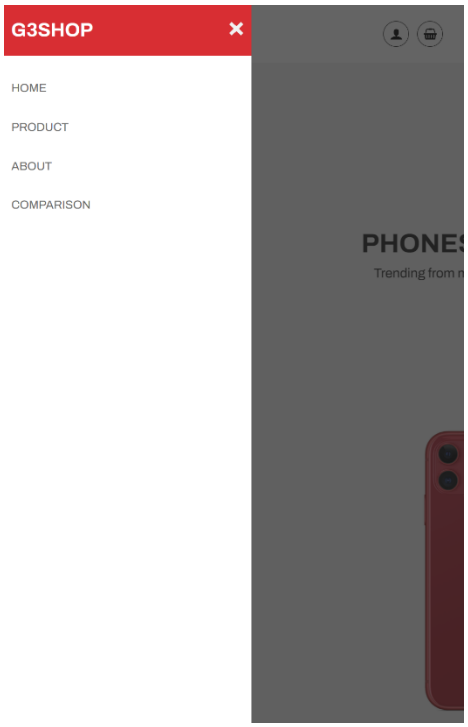
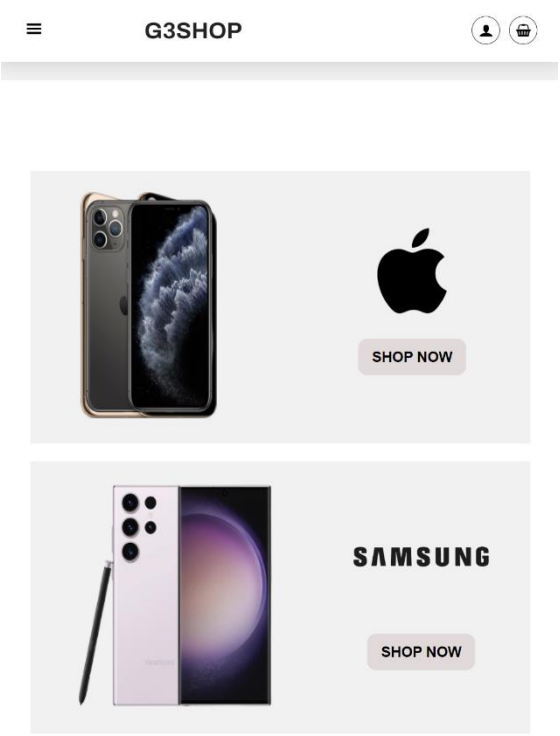
Space Gray, Silver
Space Gray, Silver, Gold, Midnight Green
BUYER INFORMATION
Price:
699
999
999

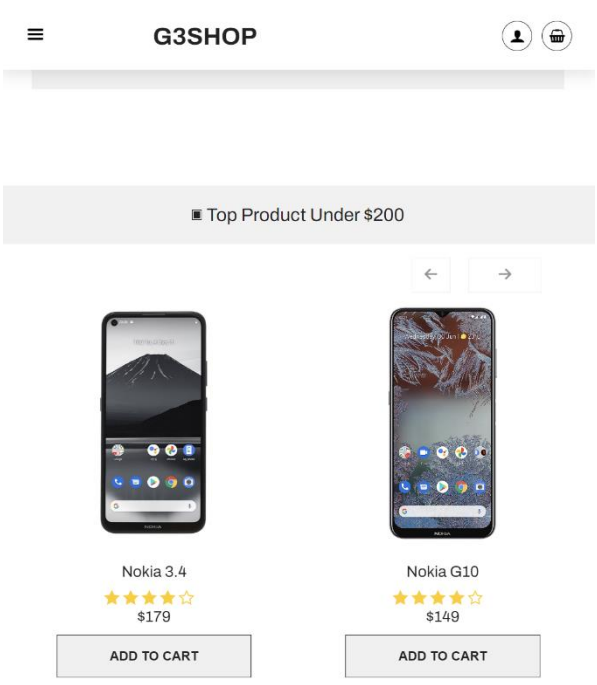

G3SHOP
HOME PRODUCT BLOG COMPARISON
3
Sign In
Email
Password
Remember me
Forget Password
Login
Create a New Account? Sign Up

Phone Responsive Interface









Select Product	iPhone 8	iPhone XS
Product Image		
Product brand	Apple	Apple
DISPLAY		
Size:	4.7	6.5 inches
Technology:	Retina HD display	Super Retina OLED display
HARDWARE		
System chip:	Apple A11 Bionic	Apple A12 Bionic
Internal Storage:	64GB, 128GB	64GB, 256GB, 512GB
OS:	iOS 14 (upgradable)	iOS 14 (upgradable)
BATTERY		
Charging:	Built-in rechargeable lithium-ion battery	Built-in rechargeable lithium-ion battery
CAMERA		
Main camera:	12 MP, f/1.8, 28mm (wide), OIS	Dual 12 MP, f/1.8, 26mm (wide) + 12 MP, f/2.4, 52mm

6. Source Code with Comments

The source code provided for the project includes extensive comments strategically placed within the code. These comments serve as annotations and explanations to enhance the comprehensibility and maintainability of the codebase. Viewer can navigate through the source code using an integrated development environment or a code editor like Visual Studio Code to easily access and review the comments.

7. User Guide

Purpose of website: The main purpose of this website is to provide users with an online platform that facilitates the purchase of mobile phone products. The primary objectives include:

- Product Acquisition: Users can effortlessly browse through an extensive array of mobile phones, accessing comprehensive details, vivid visuals, and in-depth descriptions for each product. This empowers them to make informed decisions and seamlessly add selected items to their shopping carts, facilitating a streamlined checkout process.

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In summary, the mobile phone e-commerce website endeavors to provide users with a convenient platform for efficient product acquisition, comprehensive product exploration, and informed decision-making, effectively catering to their unique mobile phone needs.

8. Developer’s Guide

In the development of this project, a comprehensive technology stack comprising various frameworks, programming languages, and libraries has been employed to ensure its successful implementation. The frontend aspect of the project utilizes the powerful combination of HTML, CSS, and the Bootstrap framework. These elements work in harmony to create a visually appealing and responsive user interface that seamlessly adapts to different screen sizes and devices.

To enhance the dynamic nature of the website, JavaScript is employed to handle data retrieval and manipulation. JSON, in conjunction with JavaScript, serves as the preferred data storage format, enabling efficient management and seamless integration of data into the application.

JavaScript plays a pivotal role in implementing event listeners and handlers, which capture user interactions and trigger corresponding actions, ensuring a smooth and interactive user experience. Additionally, the integration of the Glide framework, version 3.6.0, further enhances the website's functionality by providing carousel features. The Glide framework, accessible via a CDN link, ensures optimal performance and reliability.

Furthermore, the project incorporates the Bootstrap framework, a versatile and widely adopted front-end framework that facilitates the development of responsive and mobile-friendly websites. Bootstrap offers a rich set of pre-designed components and responsive utilities, enabling developers to build intuitive and visually appealing interfaces with ease.

Lastly, captivating animation effects are seamlessly integrated into the project using the "Animate On Scroll Library." This library, accessed through a CDN link, empowers the website with smooth and visually appealing animations as users navigate through its pages.

By leveraging this comprehensive technology stack, which includes HTML, CSS, Bootstrap, JavaScript, JSON, and additional frameworks and libraries, the project achieves a sophisticated and user-friendly web presence, providing a seamless and engaging experience for its users.

Here are the websites of the frameworks used in this project:

- Bootstrap: For more information about the Bootstrap framework, you can visit their official website at https://getbootstrap.com/.

- Glide: To explore the features and documentation of the Glide framework, you can visit their website at https://glidejs.com/.

- Animate On Scroll Library: For more information about the Animate On Scroll Library and its capabilities, you can visit their website at https://michalsnik.github.io/aos/.

These websites provide detailed information, documentation, and resources to further explore and utilize the functionalities of these frameworks.

Hardware Requirement

For optimal performance and a seamless user experience while using the website, it is recommended to have a hardware setup that meets certain specifications. Firstly, a modern processor with multiple cores, such as Intel Core i5 or AMD Ryzen 5, is advised to efficiently handle web-related tasks. Alongside this, a minimum of 8GB of RAM is recommended to ensure smooth multitasking and efficient handling of resource-intensive processes.

In terms of storage, it is preferable to have a solid-state drive (SSD) as it offers faster data access and improved loading times. A minimum capacity of 256GB is suggested to accommodate the necessary files and data. While a dedicated graphics card is not essential for general web browsing and development tasks, it may be beneficial for graphic-intensive work or advanced visualizations.

To fully appreciate the website's design and content, a high-resolution monitor with a minimum resolution of 1920x1080 (Full HD) is recommended. This ensures a clear and comfortable viewing experience. Additionally, a stable and reliable internet connection with sufficient bandwidth is crucial for smooth browsing and seamless interactions with the website.

9. Final Result

This project signifies our first foray into the field, and we are immensely thrilled to have completed the development of a fully operational website. Drawing upon our acquired knowledge and extensive research from various sources, we successfully implemented what we have learned into a practical application. Along the way, we familiarized ourselves with efficient team collaboration methods. Despite encountering challenges and obstacles during the project's execution, we ultimately managed to deliver the project, albeit with results that can be considered satisfactory for our initial undertaking.

User Experience:
The e-commerce website's functionality encompasses several noteworthy aspects. The overall interface exhibits an aesthetically pleasing and contemporary design, characterized by its minimalist approach. In terms of responsiveness, a significant portion, approximately 90%, of the website's content seamlessly adapts to diverse devices, ensuring an optimal user experience. While the user experience may not have perfectly aligned with the initial plans outlined above due to technical limitations, it still managed to fulfill approximately 70-80% of the envisioned objectives. The endeavor of creating a single-page application (SPA) website presented substantial challenges, primarily due to our limited proficiency in AngularJS. Consequently, we opted for JavaScript as an alternative solution, which posed subsequent difficulties. Devoting considerable time to address frontend issues and enhance responsiveness limited our focus on data management aspects. Nonetheless, the website boasts an alluring and captivating interface that, with further exploration of various frameworks and languages, holds the potential to deliver an enhanced, intuitive user experience.

Future Enhancements:
Moving forward, there are exciting opportunities to further enhance the functionality, user experience, and performance of our e-commerce website. Here are a few areas we can explore for future improvements:

- Smart Checkout Process: We aim to simplify the checkout process by optimizing form fields, incorporating guest checkout options, and integrating secure payment gateways. This way, we can reduce friction and make the final purchase journey smooth and hassle-free. Clear instructions and a visual progress indicator can guide users seamlessly through the checkout, reducing cart abandonment.

- Streamlined Checkout Process: We aim to simplify the checkout process by optimizing form fields, incorporating guest checkout options, and integrating secure payment gateways. This way, we can reduce friction and make the final purchase journey smooth and hassle-free. Clear instructions and a visual progress indicator can guide users seamlessly through the checkout, reducing cart abandonment.

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and hassle-free. Clear instructions and a visual progress indicator can guide users seamlessly through the checkout, reducing cart abandonment.

Lessons Learned:

Throughout the project's development, we encountered various challenges that provided valuable insights and lessons for future endeavors. Here are some key takeaways from our experience:

- Streamlined Checkout Process: We aim to simplify the checkout process by optimizing form fields, incorporating guest checkout options, and integrating secure payment gateways. This way, we can reduce friction and make the final purchase journey smooth and hassle-free. Clear instructions and a visual progress indicator can guide users seamlessly through the checkout, reducing cart abandonment.

- Time Management: One of the key challenges we faced was managing time effectively, leading to limited focus on certain aspects of the project. This experience highlighted the importance of project planning and setting realistic timelines.

- Continuous Learning and Growth: The project provided us with an opportunity to apply the knowledge and skills we had acquired, but also revealed areas for improvement and further learning. We have realized the significance of continuous learning, staying updated with emerging technologies, and honing our skills to deliver more sophisticated solutions in future projects.

By reflecting on these challenges and lessons learned, we are confident that we can apply these insights to future projects. The experiences gained have equipped us with a stronger foundation and a deeper understanding of project development processes. We eagerly anticipate utilizing these valuable insights to improve our effectiveness, teamwork, and overall achievements in future endeavors.

10. References

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