**TITLE: DEVELOPMENT OF AN ECOMMERCE APPLICATION USER INTERFACE**

**CHAPTER ONE:**

**INTRODUCTION**

* 1. **Background of the study**

The concept of an e-commerce app interface revolves around creating a user-friendly and efficient digital environment where users can browse, select, and purchase products or services. The interface serves as the medium through which users interact with the e-commerce platform, making its design crucial for ensuring a seamless shopping experience.  
The interface must be designed with the user in mind, prioritizing ease of use, intuitive navigation, and accessibility. It focuses on understanding user needs and behaviors to create a layout and flow that makes the shopping process as straightforward as possible.  
Visual hierarchy guides users’ attention to the most important elements on the screen, such as product images, prices, and call-to-action buttons like "Add to Cart" or "Buy Now." This is achieved through the strategic use of size, color, contrast, and placement.  
Efficient navigation is key to a successful e-commerce interface. This includes a clear and easily accessible menu, search functionality, and breadcrumb trails that allow users to move through categories and products without confusion.

The way products are displayed is central to the interface design. This includes high-quality images, detailed descriptions, customer reviews, and related product. The goal is to provide enough information to help users make informed purchasing decisions.  
Interactive elements like suggestions sliders, filters, and sorting options enhance user control over how they view products. These elements should be intuitive and responsive, allowing users to customize their shopping experience according to their preferences.  
The checkout interface should be simple, secure, and streamlined. It’s essential to minimize the steps required to complete a purchase, offer multiple payment options, and clearly display total costs, including taxes and shipping.  
The interface should reflect the brand's identity, using appropriate colors, logos, and design elements that align with the brand’s image. Strong branding within the interface helps reinforce brand recognition and loyalty.

E-commerce has fundamentally transformed the way we shop, ushering in a new era of unprecedented convenience and accessibility. This transformation has revolutionized consumer behavior, allowing people to purchase products from virtually anywhere with just a few clicks or taps on their devices. The ability to shop online has not only made it easier for consumers to access a wider range of products but has also significantly expanded the reach of businesses, enabling them to cater to a global audience. As a result, e-commerce has become an integral part of modern life, reshaping the retail landscape and setting new standards for the shopping experience.

In parallel with the rise of e-commerce, there has been a growing awareness about the importance of sustainability and the environmental impact of our consumption choices. Consumers today are more informed and concerned about the ecological footprint of the products they buy. This shift in consciousness has led to an increasing demand for eco-friendly products that are produced and distributed in ways that minimize harm to the environment. People are actively seeking out sustainable options, driven by a desire to make responsible choices that contribute to the preservation of our planet for future generations.

E-commerce has grown significantly over the past decade, transforming the way consumers shop and businesses operate **Laudon & Traver (2021)**.

Despite this rising demand for sustainable products, the current market still lacks a dedicated platform that effectively combines a comprehensive range of eco-friendly products with an intuitive and enjoyable user experience. Many existing e-commerce platforms offer some sustainable products, but they are often buried among a vast array of other items, making it difficult for consumers to easily find and choose them. This lack of a focused, user-friendly platform can be a significant barrier for consumers who are committed to making environmentally conscious purchases but are frustrated by the challenge of identifying truly sustainable options as a result, the development of an ecommerce application interface is proposed.

* 1. **Justification**

The need for a specialized e-commerce platform focused on sustainability is evident from the growing consumer preference for eco-friendly products. As environmental awareness continues to rise, consumers are increasingly seeking out products that align with their values of sustainability and ethical consumption. However, traditional e-commerce platforms often fall short in meeting these needs. They typically lack the necessary infrastructure and commitment to provide comprehensive information about product origins, materials, and manufacturing processes, leaving consumers in the dark about the true environmental impact of their purchases.

Mobile applications have the potential to significantly influence consumer behavior by providing easy access to sustainable products **Statista (2022)**.

Green cart addresses this critical gap in the market by ensuring transparency and promoting ethical consumerism. Unlike conventional platforms, The platform is dedicated to offering detailed information about each product’s sustainability credentials. This includes the sourcing of raw materials, the environmental impact of manufacturing processes, and the ethical standards upheld by the producers. By providing this level of transparency, The platform empowers consumers to make informed decisions that align with their environmental and ethical values.

In addition to transparency, The platform places a strong emphasis on user experience. The platform is designed to be intuitive and user-friendly, making it easy for consumers to navigate and find products that meet their sustainability criteria. This focus on user experience is crucial, as it ensures that consumers can effortlessly integrate sustainable shopping into their daily lives. By removing barriers to finding and purchasing eco-friendly products, This initiative enhances the overall shopping experience and encourages more consumers to choose sustainable options.

Furthermore, Green cart contributes to the broader goal of environmental conservation by actively promoting products that have a reduced environmental impact. The platform curates a selection of products that adhere to high sustainability standards, ensuring that consumers have access to items that are not only high quality but also environmentally responsible. This curation process helps to shift consumer habits towards more sustainable practices, ultimately supporting global efforts to reduce pollution, conserve natural resources, and combat climate change.

Our app’s commitment to sustainability extends beyond the products it offers. The platform also seeks to build a community of like-minded individuals who are passionate about environmental conservation. Through interactive features such as forums, discussion groups, and social media integration, the platform fosters a sense of community and encourages the exchange of ideas and experiences. This community-driven approach not only enhances user engagement but also amplifies the impact of sustainable consumer practices by creating a supportive network of environmentally conscious consumers.

In conclusion, the justification for this initiative lies in its ability to meet the growing demand for eco-friendly products such as reusable household items, sustainable fashion, zero-waste personal care products, and eco-friendly home goods, through a platform that prioritizes transparency, user experience, and sustainability. Traditional e-commerce platforms often fail to provide the necessary information and user experience required to support ethical consumerism fully. Green cart fills this gap by offering a dedicated space for sustainable products, empowering consumers to make informed choices, and contributing to the broader goal of environmental conservation. By aligning with consumer values and promoting sustainable practices, the app not only addresses a critical market need but also plays a pivotal role in fostering a more sustainable future.

**1.3 AIM AND OBJECTIVE**

The aim of the study is to develop an e-commerce application that integrates a user-centric approach with a commitment to sustainability for Bouesti community using Figma.

The specific objectives are:

**a)** to create an intuitive, meaning easy to understand and navigate, and accessible interface that enhances the overall shopping experience, making it easier for users to browse, select, and purchase products using Figma for UI/UX wireframes and prototypes, providing access for the users for selection

**b)** to facilitate responsible purchasing decisions by providing transparent information about product origins, materials, and manufacturing processes using integrated features within the app such as detailed product descriptions, sustainability badges, and sourcing transparency tools using integrated features embedded in the app such as detailed product descriptions, sustainability badges, and sourcing transparency tools.

**c)** to improve the online shopping journey by integrating user feedback and usability insights, ensuring that the app not only meets but exceeds user expectations in terms of functionality and satisfaction.

**1.5 LIMITATIONS OF THE STUDY**

**Limited Access to Target Users:** Recruiting a diverse and representative sample of users who prioritize sustainability may pose significant challenges. The study relies on engaging individuals who are not only interested in eco-friendly products but also willing to participate in usability testing. This limitation could impact the breadth and applicability of feedback, potentially affecting the design and development process.

**Time Constraints:** The project timeline may impose restrictions on the depth of iterative testing and refinement. Limited time could constrain the opportunity for multiple rounds of testing and feedback collection, potentially affecting the final quality and functionality of the app. This limitation may necessitate prioritizing certain features or aspects of the design over others.

**Resource Limitations:** The study might be constrained by the availability of resources such as advanced prototyping tools, software, and testing environments. These limitations could affect the ability to create high-fidelity prototypes and conduct thorough usability testing, impacting the overall development process and final product quality.

**Technological Constraints:** The technical capabilities of the development team may limit the complexity and sophistication of the app’s features. Constraints related to software, hardware, and development skills might restrict the implementation of certain functionalities or integrations, potentially impacting the user experience and the app's overall performance.

**CHAPTER TWO: LITERATURE REVIEW**

**Vatsal Sharma and Ankit Kumar Tiwari** (2024) conducted an extensive and insightful study examining the intricate aspects of user interface (UI) and user experience (UX) design. Their research delves deeply into the methodologies and tools employed within these fields, aiming to provide a thorough and comprehensive overview of current practices and the impact these have on creating effective and engaging digital products. The paper is structured to highlight key findings that reveal the essence of successful UI and UX design.

One of the central themes of Sharma and Tiwari's study is the fundamental principles of UI and UX design. They emphasize the critical importance of maintaining consistency in design elements across different pages and platforms. This consistency is vital as it ensures a coherent and seamless user experience, preventing confusion and fostering a sense of reliability and familiarity for users. The study underscores the necessity of designing with the user at the forefront, which involves not only incorporating user feedback but also aligning the design with users' needs and expectations. This user-centric approach is fundamental to creating interfaces that are intuitive and engaging, ultimately leading to higher user satisfaction and better usability.

The paper also provides a detailed overview of the various tools and methodologies utilized in UI and UX design. Tools such as Figma, Adobe XD, and Sketch are discussed in depth, highlighting their role in creating interactive prototypes. These tools are essential for visualizing design concepts and testing usability, allowing designers to iterate and refine their work based on user interactions. Additionally, the study reviews different usability testing methods, including heuristic evaluation, user interviews, and A/B testing. Each of these methods plays a crucial role in gathering insights, identifying potential issues, and making necessary adjustments to improve the overall design.

While the study successfully covers a wide range of UI and UX design principles and tools, it does acknowledge certain limitations. One notable issue is the steep learning curves associated with some design tools, which can affect their effectiveness in certain scenarios. Additionally, the paper provides theoretical insights but lacks real-world case studies or practical examples that could demonstrate how these principles and tools are applied in actual design projects. This gap highlights a potential area for further research and practical exploration.

To address these limitations, Sharma and Tiwari offer several solutions and recommendations. They suggest that designers should choose tools based on specific project requirements and team expertise, as no single tool is universally suited for all design needs. Moreover, the study emphasizes the importance of continuously integrating user feedback throughout the design process. This ongoing feedback loop is crucial for improving usability and ensuring that the final product meets users' needs and expectations.

In conclusion, Sharma and Tiwari's research underscores the significance of understanding and effectively utilizing UI and UX design principles and tools. They argue that these elements are critical for developing successful digital products that resonate with users. The paper advocates for a user-centered approach and continuous iteration based on user feedback, which are essential for achieving optimal design outcomes. By providing practical insights and highlighting areas for further exploration, the study contributes valuable knowledge to the field of UI and UX design, ultimately aiding designers in creating more effective and engaging digital experiences.

**Daljit Kaur and Harpreet Kaur** (2023) conducted a comprehensive study on the usability and performance of e-commerce websites, analyzing how various factors impact user satisfaction and operational efficiency. Their research highlighted several key usability factors, including the intuitiveness of navigation systems, the impact of visual design elements like layout consistency and aesthetic appeal, and the clarity of content such as product descriptions and images. These elements are crucial for ensuring users can easily find products, trust the information presented, and make informed decisions.

The study also evaluated performance metrics, such as page load speed, adaptability to different devices and screen sizes, and the frequency of errors like broken links or transaction failures. These metrics are critical for maintaining user satisfaction and efficient website operation.

The research was successful in providing a thorough overview of usability and performance factors, offering practical recommendations like optimizing page load times and enhancing content quality. However, it noted limitations, including its focus on a specific set of e-commerce sites, which may not be generalizable to other industries, and a lack of exploration into contextual factors such as cultural differences.

To address these issues, Kaur and Kaur recommended simplifying navigation and ensuring consistency across the site. They emphasized the importance of clear, accurate product information to build user trust. In conclusion, the study demonstrated that both usability and performance are vital for e-commerce success, advocating for a balanced approach that integrates user experience improvements with technical performance optimization.

**Elena B. M. and Mark J. S.** (2023) explored the design of user interfaces for mobile e-commerce applications with a focus on a user-centered approach. Their research aimed to address the unique challenges of mobile UI design and provide guidelines for improving the user experience on mobile e-commerce platforms.

The study identified several mobile-specific challenges, including the need for efficient use of limited screen real estate and the necessity of designing for touch interactions with larger, well-placed touch targets and gesture-based navigation. Mobile users also expect fast load times and smooth performance, requiring optimization of UI elements and resources.

Elena and Mark employed a user-centered design approach, which involved conducting user interviews and surveys to understand the needs, preferences, and pain points specific to mobile e-commerce. They also created interactive prototypes of mobile interfaces and performed usability tests to gather feedback on design effectiveness and user satisfaction.

The research successfully highlighted the importance of designing interfaces tailored to mobile users' specific needs, such as touch interactions and limited screen space. Actionable design guidelines were provided, including the use of larger touch targets, minimalistic design for efficient space use, and strategies to enhance performance. However, the study had limitations, such as its focus on specific e-commerce applications, which may not be generalizable to other types of mobile applications or platforms, and the lack of consideration for cultural or regional differences in user behavior.

To address these issues, the study recommended prioritizing essential content and using collapsible menus or tabs to manage screen size constraints. It also emphasized designing touch targets that accommodate various user interactions and optimizing images to reduce load times, thereby improving overall user experience and satisfaction.

In conclusion, Elena and Mark found that a user-centered approach to mobile e-commerce UI design can greatly enhance user satisfaction and usability. By focusing on user needs and preferences, designers can create more intuitive and effective mobile interfaces. The study underscores the value of iterative design and user feedback in achieving optimal mobile e-commerce experiences.

In 2024,**Rukmani Pareek** explored how UI (User Interface) and UX (User Experience) design can enhance e-commerce sales. The study focused on how effective design strategies influence consumer behavior and drive sales growth on e-commerce platforms.

Key findings highlighted that well-designed, user-friendly interfaces increase engagement and conversion rates. A professional and reliable UI/UX design helps build user trust, reducing cart abandonment and boosting sales. Personalized design elements also improve customer satisfaction and encourage repeat purchases.

Pareek recommended simplifying the checkout process to reduce friction, ensuring the site is responsive across devices for a seamless experience, and using A/B testing to optimize design elements based on user behavior.

The research demonstrated a clear link between UI/UX improvements and increased sales, offering practical advice for e-commerce businesses. However, it would have been enhanced by real-world case studies. Pareek concluded that continuous design optimization based on user feedback and performance data is crucial for driving sales growth.

**CITATIONS**: Sharma, Vatsal, and Ankit Kumar Tiwari. "A Study on User Interface and User Experience Designs and Its Tools." Journal of User Experience Design 12, no. 3 (2024): 45-60.

Kaur, Daljit, and Harpreet Kaur. "Usability and Performance Analysis of E-Commerce Websites." Journal of E-Commerce Research and Applications 21, no. 2 (2023): 102-115.

Pareek, Rukmani. "How UI/UX Enhances E-Commerce Sales." Journal of Digital Marketing and Design 15, no. 4 (2024): 78-92.

**CHAPTER THREE: RESEARCH METHODOLOGY**

**MATERIALS AND TOOLS**

**FIGMA**

Figma is a web-based design tool used for creating user interfaces (UI) and user experiences (UX) for digital products such as websites and mobile applications. It allows designers to collaborate in real-time, making it easier to create, share, and iterate on designs quickly. Figma is widely used in the design industry for tasks like wireframing, prototyping, and interface design due to its ease of use and powerful features

Figma was the primary design tool utilized, encompassing everything from the initial wireframing stages to the final UI design. This choice was driven by Figma's versatility, user-friendly interface, and its robust collaborative features, which are essential for a project that demands both creativity and precision. As an all-in-one tool, Figma provided the necessary functionality to handle various aspects of the design process seamlessly.

**Wireframing**

Wireframing serves as the backbone of any UI/UX design project, laying the foundational blueprint for the interface. Figma's intuitive interface was particularly advantageous in this stage, allowing for the rapid creation of detailed wireframes. The ability to easily drag and drop elements, such as buttons, navigation bars, and content sections, made the wireframing process both efficient and flexible.

With Figma, we were able to create low-fidelity wireframes that focused on the basic structure and layout of the app. These wireframes were critical in visualizing the user journey, ensuring that navigation was intuitive and content was strategically placed for maximum accessibility. The ability to create multiple versions of wireframes also allowed for the exploration of different design layouts, making it easier to identify the most user-friendly and effective design.

Moreover, Figma's built-in grid system and alignment tools ensured that the wireframes were not only aesthetically pleasing but also functionally sound. This attention to detail during the wireframing stage laid a strong foundation for the subsequent stages of design, reducing the likelihood of significant changes later in the process.

**INTERFACE ARCHITECTURE**

Home page

Get started

Sign in/up

Onboarding

Splash screen

Checkout

Place order

Shop page

Trending

**Detailed Report on Designing the E-Commerce App Interface Using Figma**

**1. Splash Screen Design**

The splash screen, as the initial visual interaction point for users, plays a crucial role in establishing the app’s brand identity and ensuring a smooth transition into the main app experience. The design process began with conceptualizing a clean and minimalistic layout, featuring the Green Cart logo prominently to reinforce brand recognition from the outset. In Figma, the logo was strategically positioned at the center of the screen to maximize visibility and impact. A high-resolution image of the logo was used to ensure clarity and sharpness, while the background was carefully selected to complement the logo—typically a soft color that aligns with the overall brand color scheme. The design underwent multiple iterations to explore various placements and sizes of the logo, with team feedback collected to evaluate the splash screen's effectiveness in creating a positive first impression and solidifying brand identity. This iterative process ensured that the final design not only captured users’ attention but also set a professional and welcoming tone for their app experience.

**2. Onboarding Carousel Screen**

The onboarding carousel screen is designed to offer users an engaging introduction to the app's features and benefits through a dynamic sequence of advertisements. The design process began with the conceptualization of a carousel layout that would sequentially present various aspects of the app, using a mix of text and images to clearly communicate key features and advantages. In Figma, this involved creating a series of frames, each representing a different slide in the carousel, with each slide featuring distinct advertisements that highlight different app offerings. Navigation buttons, labeled "Next" and "Previous," were added to facilitate easy user interaction, allowing users to smoothly cycle through the carousel. These buttons were strategically placed across all slides for consistency and ease of use. Figma’s interactive components were employed to link the carousel slides and navigation buttons, setting up triggers to simulate the user experience of clicking through the slides. To ensure the carousel functioned effectively, usability tests were conducted to assess the smoothness of transitions and the clarity of the communicated benefits. Based on team collab, text and visual elements were refined to enhance overall engagement and ensure that the carousel effectively captured user interest and conveyed the app’s value propositions.

**3. Signup and Sign-In Page**

The signup and sign-in pages are designed to offer users a straightforward and secure way to access the app, incorporating multiple authentication options for added convenience. The design process began with the conceptualization of a user-friendly and visually appealing interface. In Figma, we created detailed forms for both signup and sign-in, featuring input fields for email and password, and added buttons for social media logins such as Google, Facebook, and Apple ID. Each button was designed to be visually distinct and adhere to the respective brand guidelines for easy recognition. Additionally, a "Forgot Password" link was prominently included to facilitate account recovery. We used Figma's prototyping tools to simulate the user flow, demonstrating navigation through the signup and sign-in processes, the use of social media logins, and access to the password recovery feature. Throughout the design process, we refined the interface to ensure that the forms were intuitive and the social media integrations functioned seamlessly..

**4. Forgot Password Wireframe**

The objective of the password reset feature is to provide users with a secure and straightforward method to reset their password if they forget it. The design process began with conceptualizing a simple and intuitive wireframe that clearly guides users through the password recovery process. In Figma, we implemented input fields where users can enter their email address to receive a password reset link. Clear instructions and prompts were included to ensure users understand each step of the process. A prominently designed submit button was added to initiate the password reset request. Interactive elements were created in Figma to simulate the password reset flow, ensuring a smooth and user-friendly experience. The wireframe was then tested to verify its effectiveness in guiding users through password recovery. Adjustments were made to refine the usability and ensure that the process was straightforward and efficient.

**5. Get Started Wireframe**

The objective of the onboarding experience is to provide users with an initial setup that introduces them to the app’s features and helps them get started quickly. The design process began with conceptualizing a wireframe that offers a welcoming introduction and guides users on how to begin using the app. In Figma, we designed a friendly welcome message to engage users and set a positive tone. A clear and accessible "Get Started" button was incorporated to facilitate a smooth transition to the main app interface. Interactive prototypes were developed in Figma to simulate the user flow from the onboarding screen to the app’s main functionalities, ensuring a seamless user experience. The onboarding design underwent user testing to assess its effectiveness, and refinements were made based on the feedback to enhance the overall onboarding experience.

**6. Home page**

The home page of the app is designed to provide users with a comprehensive and intuitive interface for discovering and navigating products. At the top left of the page, there is a menu bar that allows users to access additional app features and settings. On the top right, a user profile account icon provides quick access to account-related functions. Just below these elements, a prominent search bar enables users to find products efficiently. Accompanying the search bar, there are search and filter buttons to refine search results and streamline product discovery.

Beneath the search functionality, the home page is organized into several key sections. Categories for products, such as Beauty, Fashion, Kids, Men’s, and Women’s, are displayed to help users quickly navigate to their desired product types. Following the categories, a discount section highlights specific items with up to 50% off, drawing attention to promotions and special offers.

Further down, the recommended products section showcases items tailored to user preferences or popular choices, enhancing the shopping experience with personalized suggestions. At the bottom of the screen, a navigation bar provides easy access to essential parts of the app, including Home, Wishlist, Cart, Search, and Settings. Each button in the bottom nav bar is designed to navigate users to the respective sections of the app, ensuring a seamless and user-friendly interaction throughout the shopping experience.

**7. Trending products**

The wishlist frame of the app builds upon the existing home page layout with a focus on displaying trending products. The design maintains the same top menu bar, user profile icon, and bottom navigation bar as the home page for consistency and ease of navigation. The search bar and filter buttons remain in place to allow users to refine their product searches. However, the central focus of this frame is the wishlist section, which is highlighted to indicate that users are currently viewing their wishlist. This section showcases trending products, with each item accompanied by its price. When a user clicks on a trending product, they are presented with a detailed view of various products and their prices. This interactive element enables users to explore popular items and make informed decisions. In Figma, interactive prototypes were created to demonstrate the functionality of the wishlist frame, including the highlighting of the wishlist section and the display of trending products. The design ensures a seamless transition between pages, maintaining the user-friendly experience and visual consistency across the app.

**8. Shop page**

The cart interface of the app is designed to focus on providing users with a clear and organized view of their selected items, while maintaining consistency with the bottom navigation bar, which highlights the Cart section to indicate the user’s current location within the app. Unlike the previous frames, the cart layout features a prominent image carousel at the top, showcasing a bold, high-resolution image of the selected product. This carousel allows users to swipe through multiple images of the product, enhancing their ability to view details from different angles. Below the image carousel, the cart displays detailed information about each product, including descriptions and prices, to provide users with all necessary purchase information at a glance. A prominent "Buy Now" button is positioned at the bottom of the cart interface, making it easy for users to complete their purchase. In Figma, the cart interface was designed with interactive prototypes to simulate the image carousel functionality and ensure that all product details are clearly presented. This design approach ensures a streamlined and user-friendly checkout experience while maintaining visual consistency with the rest of the app.

**Top of Form**

**Bottom of Form**

**9. Place order**

The Place Order page is designed to facilitate the final review and confirmation of items before users proceed to the shipping or checkout stages. This page prominently features a bold display of the selected product images, allowing users to review their choices in detail. Each item is showcased with its corresponding image, ensuring that users can easily verify the products they are about to order. Below the product images, essential order details such as item descriptions, quantities, and prices are listed, providing users with a comprehensive summary of their cart contents.

The layout includes a clear and prominent "Place Order" button, which, when clicked, initiates the transition to the shipping or checkout page. In Figma, interactive prototypes were developed to ensure that the product images are displayed effectively and that the transition to the next page is smooth and intuitive.

**10. Shipping/Checkout**

The Shipping page is designed to facilitate the completion of the purchase by capturing payment details and confirming the order. The page includes a form where users can enter their payment information, with options for various payment methods such as debit cards (Visa, MasterCard, etc.), PayPal, or other payment mediums. The form is designed to be user-friendly, ensuring that users can easily input their details and select their preferred payment method.

Upon completing the payment, users are presented with a confirmation screen that displays a bold "Done" message to signify the successful completion of their order. To highlight the completion status, the background of the page dims slightly, creating a contrast that makes the confirmation message stand out. Despite the darker background, users can still see the overall page content, maintaining a cohesive visual experience. In Figma, the shipping page was designed with interactive elements to simulate the form submission process and the visual transition to the confirmation screen.

Top of Form

Bottom of Form