

Heuristic Evaluation Report for E-commerce Website

Introduction

The purpose was to design an E-Commerce platform that is user-friendly and attractive visually, as it delivers a pleasant shopping experience. We utilized Shneiderman's Eight Golden Rules as the major principles for our design and development process. Moreover, I received some very useful suggestions about what could be done better from one of my friends. Thus, the present paper delineates the designing choices, testing methods, and modifications applied following the heuristic evaluation.

A user-friendly e-commerce platform is essential for businesses to remain competitive and effectively engage with customers in the backdrop of today's digital landscape where online shopping has increasingly taken root. User-friendliness for E-commerce platforms does affect businesses as it directly influences customer satisfaction, retention rates, and ultimately the success of the business. Here are some brief points to highlight the significance of user-friendly design in e-commerce platforms.

1. **Enhanced User Experience:** The ability for e-commerce platforms to quickly give users access to all their products to buy or complete any transaction in a seamless manner that will create a comprehensive user experience. The basics of Customer interaction of this value addition are twofold; it helps companies develop new relationships with their customers by making things easier and increasing key areas of their business's accessibility.
2. **Increased Conversion Rates:** Streamlining the purchase process and overcoming shopping cart abandonment should be a priority to achieve higher rates of conversion on a strong website owing to its user-friendly design. Such an approach has a positive effect on company performance via higher retention rates that lead to higher revenue growth because of the ease of navigation, item descriptions, and the smoothness of the check-out process.
3. **Brand Reputation and Trust:** Slick and easy-to-use interfaces enhance users' perception of the brand and show the brand's quality. A shopper-friendly platform strewn with technical glitches, complex layouts, or intricate processes deters trust and credibility causing customers to reconsider repeat purchases and give out negative referrals.
4. **Mobile Accessibility:** As the number of smartphones and mobile devices continues to increase, the mobile operation of e-commerce platforms is becoming a singular most important issue. Mobile - Friendly UI elements that fit different screen sizes and resolutions make sure that people can access your business at any time from anywhere in turn increasing the scope of your business.

Methodology

Shneiderman's Eight Golden Rules were mobilized to conduct the heuristic evaluation of the e-commerce platform which looked at such interface-related aspects as consistency, availability of the shortcuts, informative feedback, dialogs' completeness, software-induced error protection, the possibility of the undoing of the actions, user's control privileges over the interface, and reduction of the user's mental efforts. Throughout the whole evaluation, a ton of usability issues were identified, for example: inconsistency of UI elements, absence of shortcut options, and error

handling inconclusiveness. This research was used for engineering the modifications of the interface that aimed at ease of use and user-friendliness sophistication, such as improving navigation consistency, employing shortcut features, and editing error messages. Therefore, evaluation of the e-commerce platform layout and performance has given us a broad perspective on customizing the functionality and design of the shopping platform to give maximum comfort and ease to end users.

Early Stages:

During the early stages, the focus was primarily on understanding the requirements and establishing the foundational elements of the platform. At this point, I had the criteria from my professor, which included a total of 10 items spread across three categories: Clothing, Electronics, and Food. And to use localStorage to save the relevant data from the website.

At first, the colour scheme of the website was decided using [colorhunt](#).

```
--primary-color: #63372C;  
--secondary-color: #C97D60;  
--accent-color: #ffbc5;  
--background-color: #f2e5d7;  
--text-color: #262322;
```

These colours were maintained throughout the website ensuring design consistency. Similarly, consistency with font type and size was maintained throughout.

```
--body-font: 'Lato', sans-serif;  
--second-font: 'League Spartan', sans-serif;  
--h1-font-size: 2.75rem;  
--h2-font-size: 2rem;  
--h3-font-size: 1.75rem;  
--h4-font-size: 1.3rem;  
--normal-font-size: 1rem;  
--tiny-font-size: 0.6rem;
```

- **Development of the Home Page:**

The navigation bar was one of the first elements created, it included the logo and name of the company, a navigation menu for effortless navigation for users, and a shopping cart button with live update functionality for the number of items in the shopping cart.

Next, a captivating headline, accompanied by a visually compelling photo in compliance with the colour scheme of the brand, was strategically placed to immediately captivate users and convey the essence of the brand. Complementing these elements, a prominent "Shop Now" button was incorporated to prompt user engagement and facilitate seamless navigation to the categories section of the website. Together, these features create an immersive and enticing user experience, encouraging users to explore the diverse range of products available on UrbanCart with a single click.

Middle Stages(Scrum Sprint):

Individual category pages were created and the implementation of item cards within each category page was made using a function developed in the Javascript called **generateShop()**; The item cards were dynamically generated, streamlining the process and ensuring consistency across categories. This function facilitated automation in adding or deducting the number of products from the **data.js** file, laying a strong foundation for future updates and modifications. Scalability and maintainability were ensured, empowering seamless management of product inventory and updates in the long term.

After adding items to the cart, localStorage facilitated the storage of each item's ID and quantity, ensuring persistence even after the page refreshes. This functionality was crucial for enhancing user experience by preventing cart emptying upon refresh, thus mitigating potential customer frustration, and allowing for uninterrupted shopping sessions.

In the cart.js file, the **generateCartItems()** function is utilized to dynamically create item cards for products added to the basket. This function generates individual cards displaying key details such as product name, quantity, price, and total cost, ensuring users have a clear and comprehensive view of their selected items within the cart.

In the checkout process, after users have filled in all required details, the system performs validation checks to ensure data accuracy. If any required fields are left empty or contain invalid information, users are prompted to fill them correctly before proceeding. Upon successful validation, users proceed to confirm their order by pressing the "Place Order" button. Upon clicking, a visual animation confirms the order placement, providing users with immediate feedback. Subsequently, all input fields are cleared, creating a seamless and tidy user interface for future transactions.

At last, I gathered critical feedback from peers and friends by showcasing my website to them. This process aimed to gather valuable insights and constructive criticism to identify areas for improvement and refine the user experience. By inviting external perspectives, I gained fresh insights into usability, design, and functionality, allowing me to address any overlooked issues and make necessary adjustments to enhance the overall quality of the website. Collaborating with peers and friends in this way ensured that the website met user expectations and provided an optimal browsing experience, ultimately leading to a more polished and refined final product.

Positive Remarks from Peers:

Visual Design and Navigation

The website exhibits several positive aspects in its visual design and navigation:

- **Colour Scheme:** The use of good, neutral, and contrasting colours enhances visual appeal and readability, contributing to an engaging user experience.
- **Simplicity:** The design adopts a simplistic and clean layout, avoiding clutter and distractions, which is crucial for guiding users' focus towards key content and functionalities.
- **Homepage:** The homepage is visually appealing and effectively showcases featured products and promotions, providing users with a captivating introduction to the website's offerings.
- **Logo Navigation:** Clicking on the logo to return to the homepage is a common and intuitive navigation feature, ensuring users can easily navigate back to the starting point of their browsing journey.

User Interaction

The website incorporates several interactive features that enhance user interaction and engagement:

- **Hover Effects:** Interactive elements such as product tiles change background and text colour on hover, providing users with immediate visual feedback and reinforcing the clickable nature of these elements.
- **Responsiveness:** The website demonstrates good responsiveness across various devices, ensuring a consistent and optimized experience for users accessing the platform from different screen sizes and resolutions.
- **Category Selection:** The inclusion of +/- buttons on category pages allows users to select multiple items and adjust quantities without navigating away, streamlining the shopping process and enhancing user control.
- **Real-time Feedback:** The live total displayed in the basket icon provides users with real-time feedback on their shopping cart contents, empowering them to make informed decisions during their shopping journey.
- **Error Handling:** Clear instructions are provided to users when required information is missing during checkout, such as prompting users to enter their card number, thereby minimizing user frustration and errors.

Areas for Improvement

Despite its strengths, the e-commerce website also exhibited areas for improvement:

Navigation

- **Category Switching:** The website would benefit from allowing users to switch between categories without returning to the homepage. This enhancement would improve navigation efficiency, enabling users to explore different product categories seamlessly.

Visual Design

- **Button Contrast:** Some buttons, such as Checkout/Clear cart, lack sufficient contrast with the background, reducing their visibility and hindering user interaction. Increasing the

contrast between text and background for these buttons would enhance their visibility and improve usability.

- **Input Field Alignment:** The alignment of input fields in the checkout process appears inconsistent, detracting from the visual consistency and aesthetics of the interface. Aligning these input fields would improve visual coherence and enhance the overall user experience.

User Interaction

- **Input Field Clearing:** Implementing functionality to clear input fields automatically after an order has been successfully placed would reduce user effort and streamline the checkout process. This enhancement would improve workflow efficiency and contribute to a more seamless user experience.

Recommendations

Based on the evaluation findings, the following recommendations are proposed for improving the e-commerce website:

1. **Category Navigation Menu:** Develop and integrate a category navigation menu to enable seamless switching between categories without returning to the homepage.
2. **Button Contrast Enhancement:** Adjust button styles to increase contrast and improve visibility for buttons such as Checkout/Clear cart.
3. **Input Field Alignment:** Align input fields consistently throughout the checkout process to enhance visual consistency and coherence.
4. **Input Field Clearing Feature:** Implement functionality to clear input fields automatically upon successful order placement to streamline the checkout process and improve user workflow.

Final Stage:

Several enhancements were implemented to improve the user experience of the website. Firstly, a category navigation was implemented by using footers which were created on each page with **href** links leading to the respective category HTML pages. For instance, on the clothing HTML page, a footer was added containing links to the electronics and food categories using anchor tags. These links allow users to easily switch between categories by clicking on the appropriate option, eliminating the need to navigate back to the homepage. This approach provides users with a convenient and efficient way to explore different product categories, enhancing the overall navigation experience on the website.

Secondly, button styles were adjusted to enhance contrast, improving visibility for critical actions such as Checkout and Clear Cart. Thirdly, input fields throughout the checkout process were aligned consistently to ensure visual coherence and enhance usability. Finally, functionality was added to automatically clear input fields upon successful order placement, streamlining the checkout process and optimizing the user workflow. These enhancements collectively contributed to a more intuitive and user-friendly experience, addressing the feedback received and enhancing the overall quality of the website.

Conclusion

In summary, the heuristic evaluation adhering to Shneiderman's Eight Golden Rules served as a pivotal tool in identifying usability strengths and weaknesses within the e-commerce website's interface. Through the implementation of recommended modifications and the integration of user-centered design principles, the website is poised to elevate its usability, enrich the user experience, and efficiently achieve its business goals. This iterative process reflects a commitment to continuous improvement and user satisfaction, ensuring the website remains competitive and resonates with its target audience.