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A Mini Research Weekly Report (Week 5)
on
“Improving the UI/UX Design of Nepal Stock Exchange Trade Management
System”
[COMP 341]
(For partial fulfillment of 3rd year/ 2nd semester on Computer Science)

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5.1 Conduct Persona, Ethnography or other techniques to find out the impact of your work. Develop final UI Design addressing the suitable methods relevant in your case.

Persona development and ethnographic research are valuable methods to understand users and their needs when improving the design and user interface of the NEPSE TMS website. Let's explore how these techniques can be conducted:

User Persona:

User persona play a vital role in improving in the design of the website of our research. It provided a realistic representation of the target users, their goals, motivations, and pain points. By having a clear understanding of the users' needs and preferences, our team was able to design the UI with a user-centered approach. The persona helped in identifying the specific usability issues and challenges that the users may face while interacting with the current website. It has enabled our team to focus on addressing the pain points and improving the overall user experience. User persona has also aided in feature prioritization by highlighting the functionalities that are most important to the target users. By aligning the UI enhancements with the users' expectations and requirements, the project can ensure that the improvements effectively meet the needs of the users and result in a more intuitive and user-friendly NEPSE TMS website. A user persona for our research project is shown below:



Rajesh Sharma

Pain points

- . Inconsistent layout
- . Lack of clarity
- . Slow performance of website

Demographics

- . Male
- . 25
- . Unmarried
- . Financial Analyst

Needs and Goals

- . Efficient trading
- . Values professionalism & reliability
- . Tech savy and embraces technology

Ethnographic Research:

User ethnography played a crucial role in improving our research mini project of enhancing the UI design of NEPSE TMS. Through ethnographic research, we conducted in-depth observations and interviews with actual users of the website, gaining valuable insights into their behaviors, needs, and pain points. This research approach allowed us to understand how users interacted with the current UI design, identify usability issues, and uncover specific areas for improvement.

By observing users in their natural environment, we were able to witness the challenges they faced while navigating the website, executing trades, and accessing information directly. This ethnographic research helped us uncover hidden usability issues that may have been overlooked through other research methods. It provided us with rich qualitative data, enabling us to gain a deep understanding of the users' experiences and perspectives.

These insights were invaluable in guiding our UI design enhancements. We could identify pain points and areas of confusion, leading us to make informed decisions on how to streamline the navigation, improve the clarity of information, and

simplify complex processes. The user ethnographic research also helped us validate our proposed solutions, as we could observe the impact of the design changes on users' interactions and gauge their feedback and reactions

Overall, user ethnography served as a foundation for our research mini project, ensuring that our UI design enhancements were grounded in real user needs and behaviors. It allowed us to create a more user-centered and intuitive NEPSE TMS website that better meets the expectations and requirements of its users.

Both persona development and ethnographic research provided valuable insights into users' needs, behaviors, and pain points. By integrating these findings into the design process, we ensured that the improved NEPSE TMS website catered to the specific requirements of its target audience. This resulted in a user-centric and effective user interface that better met the users' needs and expectations.

Develop final UI Design addressing the suitable methods relevant in your case.

In order to create a concise and minimal viable product design for the TMS website, we have applied various principles of Human-Computer Interaction, which are outlined below:

i) **Consistency:** We have placed great emphasis on maintaining consistency in terms of visual elements, layout, and alignment throughout the website. For instance, we have reorganized the menu icons, aligning them in a single column instead of the previously scattered arrangement.

ii) **Clarity:** To ensure clarity and ease of use for novice users, we have incorporated Frequently Asked Questions (FAQs) and tutorial links. These resources serve as valuable guides, enabling users to navigate and utilize the functions of the TMS website accurately and preventing inadvertent financial losses.

iii) **Gestalt Psychology:** Taking cues from Gestalt psychology, we have strategically grouped the FAQs and tutorial links together. By doing so, we emphasize their functional similarity, presenting users with a coherent and easily accessible source of information on how to effectively utilize the TMS website.

iv) **Sensory Management and Perception:** To enhance the users' sensory experience and aid in visual navigation, we have employed shading techniques on the menus. By applying shading to the active menu, we provide users with a clear indication of their current location within the website, facilitating better spatial awareness and enhancing user perception.

v) **Flexibility and personalization:** We understand that users have different preferences when it comes to the appearance of the interface, so we have incorporated the option to choose between light and dark modes. This feature allows users to personalize their browsing experience based on their visual preferences or environmental conditions. By offering this flexibility, we aim to enhance user satisfaction and ensure that the TMS website caters to a wide range of user preferences and needs.

Furthermore, we have incorporated some of **Schneiderman's Eight Golden Principles** into our design approach. These principles include:

i) **Strive for consistency:** To ensure a consistent user experience, we have made significant improvements in the alignment of icons within the menus. Previously, the menus had a zig-zag arrangement, but now they are aligned in a more orderly manner, promoting visual consistency and ease of use.

ii) **Offer informative feedback:** Feedback is crucial for users to understand the system's response to their actions. In our design, we have implemented shading techniques in the menus to provide users with clear visual feedback. This shading indicates the user's current position, allowing for better orientation and navigation within the website.

iii) **Design dialogs to yield closure:** Closure in dialogue design refers to providing users with a sense of completion or finality in their interactions. In our design, we have implemented a dialogue box on the buy/sell page. When users click on "Buy" or "Sell" buttons, a dialogue box appears, explaining that the market is currently closed. To further inform users, we have incorporated a countdown timer, indicating when the market will reopen. This approach helps to provide closure and manage user expectations effectively.

By incorporating these principles into our design, we aim to enhance the user experience, promote consistency, provide informative feedback, and offer a sense of closure in user interactions with the TMS website.