HCI tools implementation in the enhancement of UI/UX design and responsiveness of a job search project website

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ABSTRACT

Over the last decade, 'user experience' (UX) has become a buzzword in the field of human - computer interaction (HCI) and interaction design. As technology matured, interactive products became not only more useful and usable, but also the major source of communication on web platforms. In this research the user interface of a job search website we created was first analyzed and then modified for better interaction between users and the website. The older version of the website was tedious to navigate, and also was not responsive and compatible on different devices and screens. It was improved by making the website more responsive and compatible on every device. This helped in improving the user experience. The UI was hence now a more interesting and consistent format much more user friendly. The basic principles of accessibility, interactivity have been included in this project. Also modern features and interacting ideas have been included in this project. The main significance of this project is to bring a friendly environment between user and system. Users can feel comfortable while using this website.

Keywords: Human Computer Interaction, Web Design Guideline, User Interface/User Experience.

INTRODUCTION:

Information and communication systems have improved the accuracy, speed and reliability of many of the administrative and technical tasks which majorly include the interaction between people and services available. The job search website is a very good example of such a link between the service of the job search website and the job searcher i.e the user. The interaction of the user with the user interface of an application is an important thing. Lack of good interaction with the system may result in ineffectiveness in use of the system. Good interaction is defined via the significance of the functions the tool can be used to perform [1].Developers design the website but many a times they are unknown with the design principles to make a good interaction. Design Principles are widely applicable laws, guidelines, biases and design considerations, all reflecting researchers' and practitioners' accumulated knowledge and

experience [2].This makes system development and use ineffective. The design of the job search website has many flaws specifically regarding accessibility and user experience. The HCI goals and principles are not used and met while designing the website and as a result this makes the website less user friendly and difficult to navigate for the user of the website. The goals of HCI are to produce usable and safe systems, as well as functionalsystems [3]. So to overcome this, the use of HCI goals and principles are implemented in this project.

METHODOLOGY:

The method that we applied for this mini project is *Ethnographic Observation*. Ethnography is a qualitative orientation to research that emphasizes the detailed observation of people in naturally occurring settings [4].Ethnography is conducted to study cultures and groups through their history, routines and practices, discussion of their environment, languages etc. It can be conducted using a variety of methods. Participant observation is one of the many methods that an ethnographer uses. We all member participated and observed the existing problems and our needs. Beside this feedbacks were taken from the students and teachers who are the main user to the website.

The word "usability" also refers to methods for improving ease-of-use during the design process [5] From the user's perspective, usability is considered a very important aspect in the development process as it can mean the difference between performing and completing a task in a successful way without any frustration. Various principles need to be followed in order to support usability, making systems easy to learn and easy to use. Some principles given by [5] were implemented in the following manner in the application:

- **Utility:** Utility refers to the functionality so users can "do what they need or want to do" [6].The system was made with all the functionalities that a job searcher [customer] and job search website [employer].

- **Memorability**: The user interface was made consistent throughout the entire system to make it easy to grasp and memorize once the user uses it.

- **Satisfaction:** Thee user interface was designed in such a manner so that the user has a pleasant experience. The colors were selected in a manner so that it is pleasing to the eye and not irritating for the user.

The usability design principles were implemented in the following manner in our job search website so as to meet the user's expectations:

- **Affordance:** The design for the application was formulated in such a way that even a novice user would feel completely in control and feel no sense of ambiguity.

- **Visibility:** The layout was designed to make all the features visible within the dashboard in the top navigation menu. Hence, the user follows a menu sequence to explore the various features of the website.

- **Consistency:** The whole website was designed in a consistent layout with similarfashion so that the user doesn't get overwhelmed with all the different formats. Also, the interface was designed to have similar operations and use similar elements for similar tasks.

- **Feedback:** In order to provide proper feedback to the user when any task is performed, Error messages were displayed. For example: When hovered over the links and buttons, its color is changed as a feedback to that action.

If usability is highlighted in website design, it will keep the organization in a powerful position compared with their competitors, as: *"Usability = simplicity = user satisfaction = increased profit"* [7]. Web design guidelines given by [8] were implemented in this project. This includes simplicity, visual hierarchy, navigation, consistency, accessibility, conventionality, credibility and user-centricity.

RESULT:

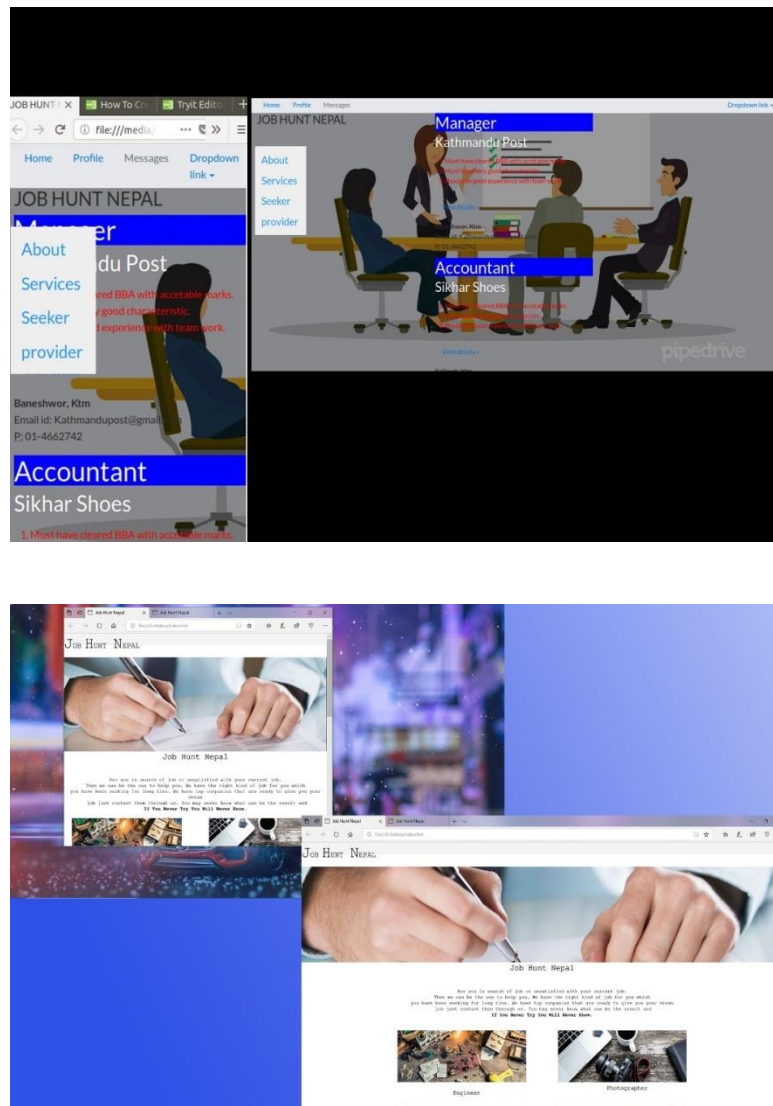*Figure 1 Comparison of website before and after adding responsiveness.*

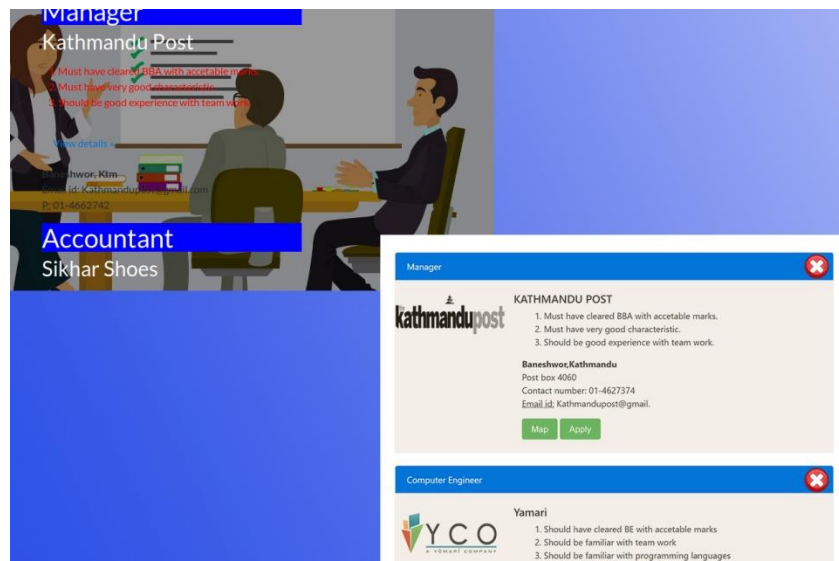*Figure 2 Visibility comparison between old and new website.*

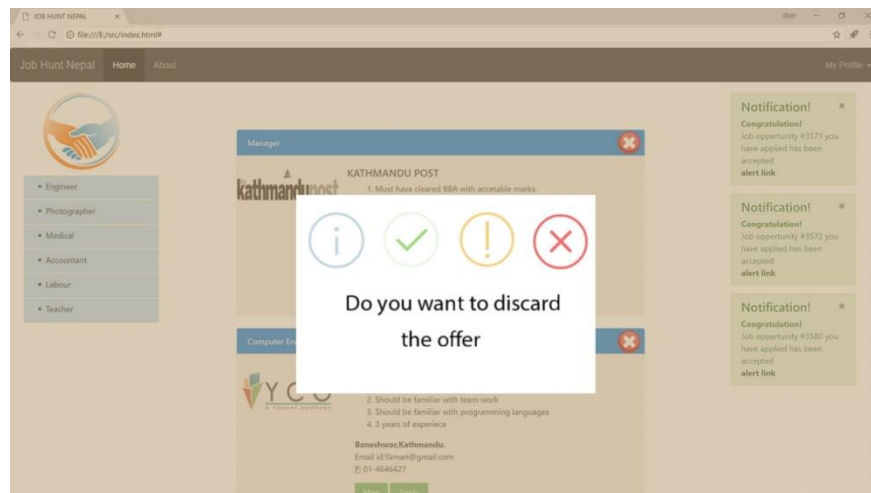*Figure 3 Alert dialog box for safety.*
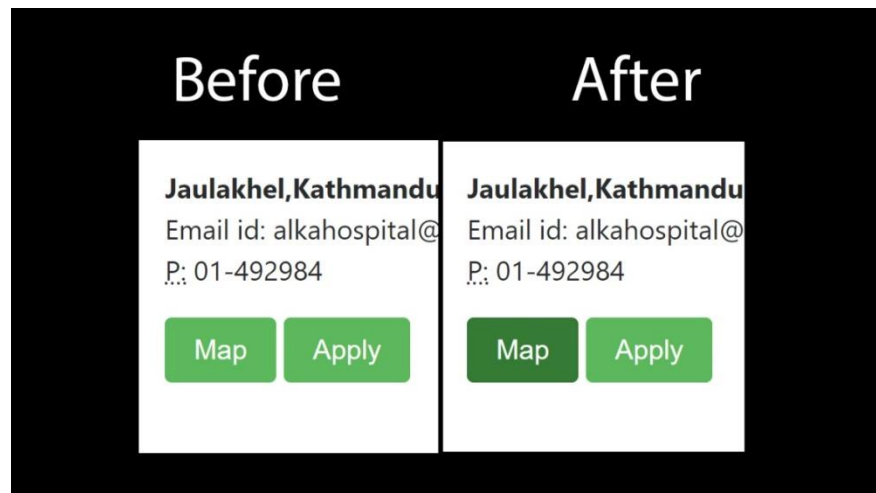

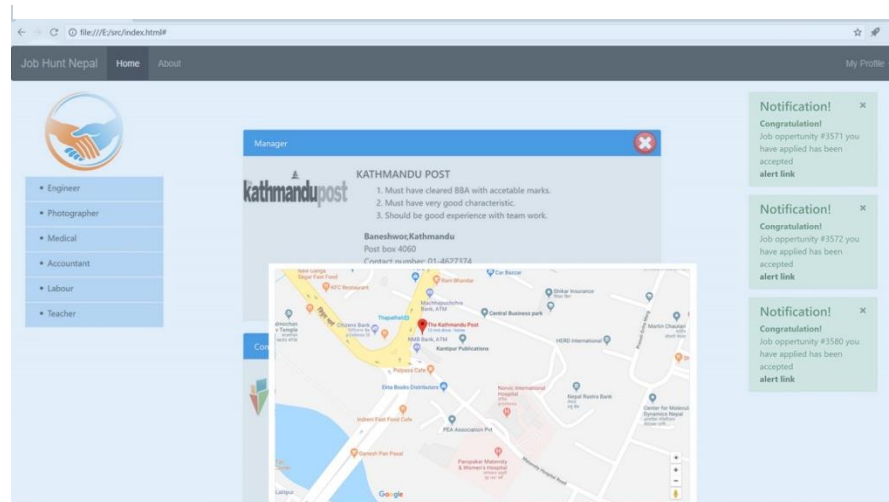*Figure 4 Feedback implemented on mouse hover.*

Figure 6 Map option for accessibility.

DISCUSSION:

Interactive web design guidelines and human computer interaction principles are not followed completely in the previous version of the job search website project. The website after a thorough observation and modification is now simplistic and yet conveys all the information. A minimalist design makes sure the website is not clunky. Also the use of images was low thus visibility is also poor in the beta website. Credibility and visual hierarchy are also not followed. The previous version of the website design doesn't looks a professional finish in design and information are not presented in hierarchical order. In order to achieve simplicity this project has provided solutions and implementations on the project for the above mentioned problems. Not only this but also conventionality is offered in this project. Feedback is provided when a user hovers over the link. The background color of the link gets changed and when user clicks that link response is shown after completing the action. Search box was absent to help user for easiness in their task. Many font size and font colors are removed and it has been limited to standard numbers. The problem of consistency is removed by providing the similar type of interface and navigation on each navigation tool. The new job search website is made strictly considering the various usability and visual principles to help users efficiently carry out their work. Without the use of HCI, understanding the requirements of suitable user interfaces for various types of users and user demographics, the interaction style to be used for a project and identifying the good and bad designs of an application to meet the needs of target users seems impossible. An application designed without the knowledge of HCI techniques is generally a badly designed application. In order to prevent our product failure we made effective use of HCI techniques. The system should be easy to use by people within their work settings because of its easy user interface and high functionality and responsive design. More ease of use leads to the frequency of use of the website to increase which eventually leads to the application meeting its target and becoming a truly user friendly communication tool between the employer and the potential employees.

CONCLUSION:

Human Computer Interaction is the future of product design because as technology penetrates our lives these interactions become vital for our day to day activities and into the very fabric of our socio economic system and HCI benefits us by optimizing that interaction process. It has been shown that a large percentage of the design and programming effort of projects go into the actual website design. The interface is a fundamental part of making the site more successful, safe, useful, and functional and in the long run, more pleasurable for the user. Therefore, the job search website has been made with careful understanding of user needs, accessibility, security, responsiveness to different device screen sizes and user centered designing of interface using the tools and techniques of HCI.

ACKNOWLEDGEMENT:

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