소셜 네트워크 사이트의 사용자 행동 분석을 통한 사용성 결점 식별 및 효과적인 사용자 경험을 위한 상호작용성 프레임워크

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Interactivity Framework for Analysis of Social Network Sites User's Behavior for Identification of Usability Flaws and Effective User's Experience

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요 약

Due to the explosive growth of online social network users, large numbers of users discover these social network sites are a place where they can be able to spend their spare time, share feelings, ideas freely, and to search for new friends or partners. These web sites give an opportunity for its users to socialize with new people and to keep in touch or reconnect with current or old friends and families across disperse continents via these web sites, which traditionally replace the traditional methods. These social network web sites need careful investigations and findings on the usability for effective interactivity and more usability. However, little research might have previously invested on the usability of these on social network web sites. Therefore, we propose a new framework to study the usability of these social network sites. We namely call our framework "Interactivity". This framework will enable us to assess the usability of the social network sites. It will provide an overview of the user's behavior while interacting in these social network web sites. Measurement of the interactivity will be measured using Camtasia software. This software will entirely capture the interactivity of users including the screen and the movements, which the screen and the motion of the user action will undergo to analysis at the end of our research.

I. INTRODUCTION[1]

In the recent years, many small and huge business organizations have tended toward online business, which becomes conventional way to many Internet users. These organizations have developed numerous of social and commercial web sites to advertise and sell their products and to offer their clients more benefits. However, these organizations find the demand and the inclination of user for online social network is getting world's attraction. Popularity of social network sites environments has widely increased, which it provides a vibrant platform for many usability and sociality researchers who are seeking to find answer for issues related to the sociality and usability [1]. In other words, we can deem that, the development environments in online social network site have dramatically increased in the recent years.

The increase developments of online social network sites environments entail the effectiveness of these social network web sites to perceive user's satisfactions and attitude [2]. For example, Facebook facilitates the interaction between users, which allows individuals to articulate a list of other users with friend who share same connection and interest, allow individuals to share status, photos, and videos. Therefore, Facebook can enhance the relationship of the users in terms of construction of public and semi-public profiles and building even relationship with strangers. Despite the growing attention to online social network sites, little is underestimated in the social network site designs, which are the usability and the user's experience as well as the user's behavior in interacting with these social network sites. Therefore, many professional Web developer and Web designers have developed guidelines that work well for organization that have robust resources to implement extensive user studies and to hire specialist. In our research we use Interactivity framework to evaluate the usability of these social network sites and to study

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the user behavior for efficiency of user satisfactions. Interactivity framework is typically a mechanism of studying the interaction between users and systems. Interactivity provides an alignment with a mission and goals of the social network sites because they basically create a framework that is fair, communal, and freedom of communication.

2.1.0 LITERATURE REVIEW

2.1.1. Human Factors

The field of human-computer interaction in the recent times has revealed the increase interest of researchers and scientist in generating scientific and methodological theory and knowledge about the interactivity of design in any system for human. Since the development of many systems is increased dramatically, the human factors are greatly playing the role in the system or web site development environments. Generally, Human factor is concerned about the human's capability in interacting with computers. It involves the human's physical and mental abilities. These abilities are varying from one individual to another. In other words, it is concerned about the hardware or software design. Human Factors has its origins in the Industrial Revolution and emerged as a full-fledged discipline during World War II. It was recognized that aircraft cockpit design needed to consider the human interface for controls and displays. Design Engineers were focused on the technology while Industrial Psychologists worked to optimize the interface. In some cases, Human Factors design can affect bottom-line profitability or can be a life and death matter, e.g., you don't want to push the wrong button or mistake meters for kilometers in a spacecraft. Companies came to realize that a products success is dependent upon good Human Factors design. Human Factors is often used interchangeably with User Interface Design or Human-Computer Interface. There is a lot of overlap in these disciplines; however, arguably, Human Factors generally refers to hardware design while HCI generally refers to software design. Engineering Psychologist work in both disciplines and the overlap is considered greater than the difference. Human factor is considerably specialized to reveal more usability and interfaces problems in Human-Computer-Interaction (HCI). Human factors have been studied from many perspectives crossing sundry category of applications. Professor Robert J. Stone examines the human factors that affect the interactivity of online social games [3].

2.1.2. Interactivity Framework

Interactivity is the mainstay of any web site success. The interpersonal human communication is measured by the increase of the user autonomy, which a user can have control over the interaction and the navigation between the site pages. Ultimately, interactivity means the user is freely able to obtain the thing they want with a minimal time and effort and with the avoidance of external or internal destruction on the web. The significance of the interactivity of the web underlies the user-efficacy in having control over the contents of the web sites. The interactivity framework give an exposure to new feature that web developer adhere to implement during the development of web sites. In Figure 1.0 is merely structure of user interacting with a web server. Accessing the web needs a user interface. The user interface is the main communication platform between the system and users. However, user interface vary according to a web designer believe and interest or experience. But designing interface either web interface or application interface in regard to what web designer think is appropriate may result in failure of meeting a user acceptance. Interface should meet the interchangeable correlation of the clarity of interactivity and the user experience. Interactivity is an essential element, which it should be saliently emerged on the web design.

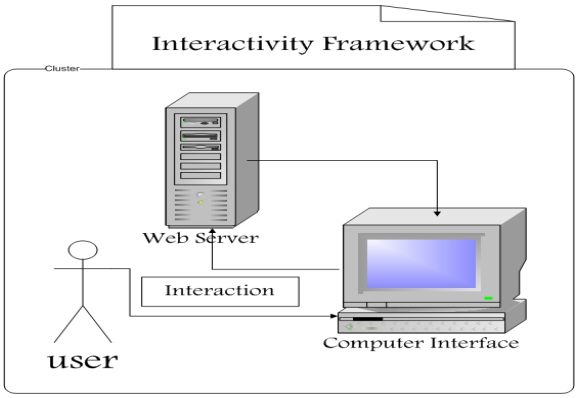

Figure 1.0 Structure of the interaction between users and system

2.1.3. Usability

Usability is the mainstay of any Web application that lead to user satisfaction and acceptance of the products. Our research is focusing on the usability of online social network sites that appears more robustly. Computer interfaces and applications are being mushroomed more robustly in the recent times. Optimized User Interface Design requires a systematic approach to the design process. But, to ensure optimum performance, Usability Testing and Evaluation are

required. However, the usability of the online social network sites has been center-focus of quite number of researchers. For example, Steve Cornett examines the usability problems encounter by various levels of new players of massively multiplayer online role-playing games (MMORPGS). He identifies that most of the usability issues present a critical obstacles for players who lack of experience with genre [4]. This empirical testing and evaluation permit naïve users to provide data about what does work as anticipated and what does not work. Only after the resulting repairs are made can a product be deemed to have a user optimized interface. Arguable, the success experiments depend on the numbers of the participants involved; however, Virzi (1992) observes four or five participants will allow a usability practitioner to discover 80% of a product's usability problems [5]. Therefore, we can elicit that a few numbers of participant can represent a certain society or particular organizations.

3.1. RESEARCH METHODOLOGY

Since the proliferation of online social network site is increasing dramatically, the usability evaluation of these applications need accurate findings and investigation. In the figure 2.0 is the procedure of our study to examine the usability of social network site and the interactivity for more efficient user experience. Our method in selecting the social network site is according to the popularity. We select Facebook and Twitter. These social network sites are quite famous. Our study will require subjects who are varied in the level of familiarity with these sites. We will involve participants from a different expertise to participate in our research. The contribution and sequence of actions of the participant will provide a clear identification to problems that encounter during the interaction of these two sites. In our method, the result of a sequence of user action will be gathered to discover and explore more usability flaws and to enhance the user experience in the category of interactivity.

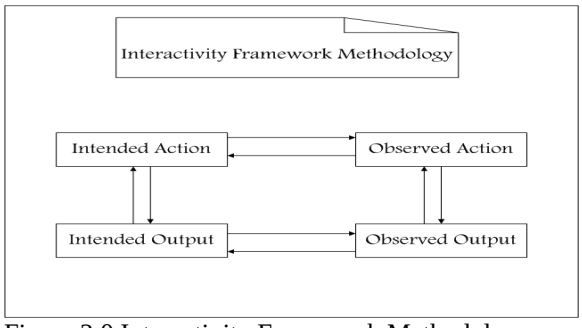

Figure 2.0 Interactivity Framework Methodology.

4.1. SOFTWARE USED

We plan to use Camtasia software, which is screen recording. In addition, it is a screen video capture. The presenter carries out all steps of the demonstration in sequence and is able to jump from one application to another without interrupting the recording process. Accordingly, this software records the interaction of the user while he/she engages in solving a problem. This software presents the performance of the experiments clearly. However, this software will help us to identify more flaws in the usability as well as the performance of the subjects in interacting with problems in the online social network sites.

5.1. CONCLUSION

In this paper, we present the interactivity framework methodology for effectively enhancing the user's experience in terms of interaction with the online social network sites and identification of more usability problems. The online social network sites have attracted many researcher attentions. Our methodology is technically and empirically effective, which it can vividly provide enhancement to the usability of the social network sites and the user experience. More significantly, we will present the implications of this research for the Web designer. Further study will be continued to enhance the paper research field.

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