

Exploring Cultural Usability: A Localization Study of Mobile Text Messaging Use

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ABSTRACT

The success of mobile text messaging poses many questions for usability studies. Considering the inherent usability weaknesses of mobile phones such as the small display, poor input methods, the moving environment, and noisy surroundings, this success is hard to explain with traditional usability theories that ignore the social-cultural context. A new model — cultural usability — is proposed for studying the intriguing processes of how cultural factors and contextual issues affect the consumption of mobile text messaging in contexts of use.

Keywords

Cultural usability, localization, text messaging, wireless phone, mediation

INTRODUCTION

Current usability studies are haunted by a common problem, i.e., a narrow focus on an artifact and its central functionalities. People tend to regard usability as an isolated quality and ignore the social-cultural context surrounding the artifact. Thus usually only the decontextualized uses of technology are studied. The real problem here is caused by the problematic concept of usability itself: “[I]t projects the qualities of an activity system into one of its components, a tool” during a transformation process [10]. Hales [3] further suggests that current design approaches highlight the “tool” aspect (the implementation) of human action while discounting the “text” aspect (the interpretation of the product from its social-cultural context of use).

The recent success of text messaging pushes us to think further of contextual and cultural factors in IT product design. More than 100 million short messages are sent per month in the US [2]. For Chinese users, even though text inputting is more difficult, text messaging is more popular. The monthly volume in 2002 is 7.5 billion messages [7]. Considering the inherent usability weaknesses of mobile phones such as the small display, poor input methods, moving environments, and noisy surroundings, the success of mobile text messaging is hard to explain with traditional

usability theories that ignore the social-cultural context and discount the ways that the product is interpreted by its users. Thus, a localization case study of use patterns and mediation practices of mobile text messaging between American and Chinese users can (a) help us explore the dynamic relationships between cultural contexts and usability and (b) shed light on how cultural factors affect product design and use.

RELATED WORK

The success of text messaging poses many questions for usability researchers, and two major trends have emerged from such questions. One trend focuses on the “text aspect” of this technology: Some researchers are exploring how messaging technologies affect people (especially teenagers) in the Western world by studying the process of social shaping and its implications for future design (e.g., [1]). Another group of researchers are interested in how ad-hoc chats could support collaborative projects and work conversations as a business *tool* (e.g., [6]). However, in light of the questions posed by people’s use of this technology, we see little research combining a focus on both the tool aspect and the text aspect of the technology.

CULTURAL USABILITY: AN INTEGRATED APPROACH

A model of cultural usability [8] is proposed here to examine contextual factors of mobile text messaging in situated use. This model distinguishes itself from other explorations on cultural dimensions of product design [5,9] in that it defines culture as a dynamic process and attends to both general and ethnic cultural factors. It is a developing response to the contextual problems in usability studies, which integrates methods and key concepts from activity theory, genre theory, and British cultural studies. This model demonstrates that usability is a diffusing mediation process across the network, consisting of a tool aspect (mediation of practices) and a text aspect (mediation of meanings) in contexts of use. Thus, product usability is related to both (a) the user’s material interaction with the artifact and its context and (b) the user’s interpretation process of this use activity.

Activity System

The concept of activity system comes from activity theory. It will be used to explore the situated mediation process of mobile text messaging influenced by immediate contextual factors such as hardware and software of the phone, the technological system, and the service network.

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Circuit of Culture

The circuit of culture [4] from British cultural studies will be used as a timeline to study the messaging technology in broad socio-cultural contexts. It identifies five key processes in the lifecycle of an artifact: representation, identity, production, consumption, and regulation. The circuit view suggests that consumption is interrelated with other processes, and it sheds light on the influence of the consumer culture in design practice. The circuit of culture is a good counterbalance to the individual, user-focused perspective of the activity system.

Genres

The genre concept [11] will be applied to examine how the genre of mobile messages provides affordances that other existing genres lack, and how the genre of wireless phones mediates our writing practices. Genres provide socially constructed interpretive conventions and thus connect design with use. I interpret IT artifacts in broad generic terms, in which IT artifacts function as genres providing clues (e.g., interface features) for use.

RESEARCH DESIGN

This exploratory empirical study is designed to more fully develop the model of cultural usability by addressing questions of mobile text messaging. My exploration will focus on use patterns and mediation practices.

Field Study

I'm interested in understanding how contextual and cultural factors affect the *use* of mobile text messaging. Thus most of the data will come from the consumption process of the circuit. Participants will be students from one American and one Chinese university who own cell phones. Varied methods will be used to collect data:

- A use pattern survey to learn about general experiences of mobile text messaging, use situations, and generic features of text messages
- A diary study of users who also participate in the survey to collect mobile messaging texts for a short period
- Contextual interviews with the diary study participants to learn about individual experiences and situated uses

For other processes of the circuit, I will collect primarily documents that are publicly available, such as marketing reports, technical reviews, promotional materials, and corporation research to explore contextual factors.

Data Analysis

I will analyze data through two stages— pattern-comparison and explanation-building— to understand how contextual and cultural factors are articulated in a localization process to help achieve usability goals in user's contexts. At the first stage, user data will be coded into patterns (use patterns, usability problems, and contextual factors) and compared across sites. At the second stage, coded patterns along with collected artifacts will be contextualized with the model of cultural usability.

Validity issues will be addressed through three levels of triangulations: the triangulation of different data sources, the triangulation of three analytic frameworks on the same data set, and the triangulation of qualitative methods (e.g., contextual interviews) and quantitative methods (e.g., surveys) for the research design.

CONCLUSION

Usability studies can be both a design mechanism and a critical research practice. By comparing the use patterns and mediation practices of mobile text messaging between two sites, this project suggests that IT product design and use is a complex and dynamic interaction with underlying contextual factors. It also provides insightful suggestions to current localization practices and research.

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