

# A study of user experience in Tsinghua Wireless and Mobile Digital Library System (TWIMS)<sup>①</sup>

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**Abstract** Tsinghua University Library recently launched Tsinghua Wireless and Mobile Digital Library System (TWIMS) to meet users' need for wireless access to library services. A survey of user experience about TWIMS was carried out for the purpose of studying its users' behavior and their level of satisfaction about the system design and its various performance indicators. Based on our research findings, we concluded our research paper with a set of evaluative comments and suggestions. Those remarks are aimed at furthering the TWIMS' functionality and reconstructing a more sensible questionnaire survey appertaining to the system users' experience as well in the next phase of our extended research.

**Keywords** Tsinghua Wireless and Mobile Digital Library System (TWIMS), User experience, Questionnaire survey about systems' user experience

## 1 Introduction

Tsinghua Wireless and Mobile Digital Library System (TWIMS) is an information service platform for hand-held digital devices developed by Tsinghua University Library. Its development is based on the existing digital infrastructure on campus to meet the changing information needs of the Library users<sup>[1]</sup>. Tsinghua University Library has been supplying service with a user-centered philosophy. Soon after TWIMS was formally launched, the System Division of the Library conducted a questionnaire survey for the dual purposes of collecting users' comments and suggestions for the improvement of the system on the one hand and for a better designed questionnaire for the furthering of the TWIMS related issues in the future on the other hand.

The questionnaire survey of user experience in TWIMS is a part of the TWIMS evaluation project and continued from September 2009 to October 2009. The



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questionnaires were designed and formulated by the researchers of the Library's System Division, including librarian teachers, graduate students, and staff. Moreover, we got help from those who are conversant in psychology and/or sociology for the analysis and interpretation of the data collected. We also delved deeply into technological issues related to the service system of mobile digital libraries. We believe that this survey will undoubtedly provide valuable first-hand source materials for our overall research objectives and lay a solid foundation for our more in-depth follow-up research to be conducted subsequently on those uncovered grounds. In addition, we believe that our current survey undertaking will also pave the ground for us to develop a more sensible and sophisticated questionnaire survey. It is hoped that, through our continuous research efforts, the scant record of published materials in this subject area both at home and abroad will be ameliorated to some extent.

### 1.1 A quick glance at some similar projects being undertaken at other reputable libraries

Prior to the conduction of our survey on the captioned topic, we did a survey on relevant literature and noticed that a host of other major domestic and foreign libraries had already started investing a significant portion of their budget and human resources in the development and application of WAP (wireless application protocol)-based information service. These libraries included but not limited to the National Library of China, Beijing Institute of Technology Library, Shanghai Library, Tokyo University Library, and New York Public Library. A few scholars, through the questionnaire surveys<sup>[2]</sup> and experimentation<sup>[3]</sup>, have obtained statistics on the usability, effectiveness, and user satisfaction of such systems. We may summarize their research findings as follows. Firstly, more than half of the surveyed cell phone users could not achieve their intended objectives quickly when using their library's WAP system. The WAP service system could neither provide clear warnings for users' wrong operations nor could it clearly tell users how to get those problems on hand fixed<sup>[2]</sup>. Secondly, the functionality of the cell phone is relatively inferior to that of a lap-top computer due to its limited size for displaying a sufficient amount of useful tips for getting back to normal. This happens even if the small screen of the cell phone may not necessarily be a significant factor in jeopardizing users' ability of comprehension for the screen reading, as these users are not often accustomed to the need of scrolling down the screen in order to continue their unfinished reading being carried over to the next screen. This device maneuvering habit may often let their needed information slip through their fingertips unknowingly<sup>[2-4]</sup>. Thirdly, the table contents sorted by thematic relevance are easier to understand and more easily acceptable by users than otherwise sorted by a hierarchical order of textual narration, such as articles, chapters and sections<sup>[3]</sup>.



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