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Travelers' preferences for mobile information services

The purpose of this study was to investigate travelers' mobile information needs and their preferred interface functions. The sample consisted of 370 students, randomly selected from a university in central Taiwan, who responded to a self-administered questionnaire. Results indicated a desire for information in regards to lodging, transportation, directions, weather, and itinerary. Respondents indicated the desired interface should be easy to use, provide on-line help, and allow customized set up. Functionally, the services provided should allow the customer to maintain easy contact with friends, provide instant localized information, and provide intelligent browse functions.

Keywords: tourism, wireless communication, mobile information service, interface design

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Introduction

One of the tasks when planning a trip is to search for information regarding the destination, transportation, lodging, attractions, events, etc. Research has shown that tourists spend a great amount of time searching and collecting pre-trip related information. Snepenger and Snepenger (1993) claim the effort of searching, gathering, and evaluating information is an integral part of the tourist's travel experience. Recent developments in information technology and the Internet have provided yet another channel that not only allows tourism businesses to provide more information, but also reduces the tourists' anxiety when searching for travel information (Tjostheim, 2002). Unfortunately, while access to pre-travel information is improving, access to information once the tourist has reached his/her destination is lacking. This problem becomes even more severe when a tourist is visiting an unfamiliar or remote destination.

Current development in mobile communication technology, which combines wireless communication, global positioning system (GPS), and geographic information system (GIS) technologies, has created a new opportunity that allows tourists instant access to the Internet through the handset (Eriksson, 2002; Oertel, Steinmuller, & Kuom, 2002). With this new technological development, it is possible for the tourists to access destination information or any information sources from any location at anytime. However, Eriksson (2002) and Wilhelmsson (n.d.) note that most technological services and applications were developed from a technical perspective. There is still a need to study how the technology will be applied from the users' perspectives. Furthermore, Internet access through a handset is quite different from access using a personal computer (Schackel, 1991). The difference between a handset and a personal computer is especially germane when considering that information delivered through a handset has a smaller display screen that is impossible for multiple windows to present information concurrently. Thus, the users' needs and perceptions of the function of the interface served should be considered when developing mobile information services. As a result, this study attempted to examine tourists' needs for travel information when traveling away from home and further explore the functions served by the interface of a handset.

Methods

The sample for this study consisted of 450 students randomly drawn from a university in central Taiwan, who were at least 20 years old. Data was collected using a self-administered questionnaire that consisted of three sections. The first section required respondents to rank their top three choices of travel specific information from a list of 16 items, if this information was accessible from a handset. Items ranked "1" were considered the most desirable and given a score of 3-points. Items ranked "2" were considered the next most desirable, and given a score of 2-points. The third highest ranked item was given a score of 1-point. The total score for each travel information item was summed to indicate the relative importance of each travel-specific item. The second section consisted of a 45-item attitude scale used to measure the perceived importance for handset interface functions. The importance of each item was assessed using a five-point Likert-type scale that ranged from "1" not important, to "5" very important. The last section was composed of demographic related information. Of the 405 returned questionnaires, 35 were excluded because the respondents were either under twenty years of age or did not fully complete the questionnaire. Overall 370 questionnaires were retained for data analyses, which represented an acceptable return rate of 82 percent.

Results

Travel information

Results of the most desirable travel information analyses indicated that the top five travel-specific information items were lodging, with a total score of 367, followed by transportation, with a total score of 337, directions (190), weather (186), and itinerary (176). No significant differences were found between males and females preferences.

Handset interface functions

Using principal components analysis with Varimax rotation to condense the respondents' perceived importance of the 45 items related to handset interface functions, produced six factors that accounted for 66.1 percent of total variance. The first factor was interpreted as an "***easy to use***" dimension that included items, for example: "I can use common sense to operate," "don't need to read operational manual," and "easy to operate." The second factor referred to "***maintain contact with friends***" and included three items: "discussion group," "networking community," and "on-line game." The third factor was labeled "***on-line help***" and included four items: "on-line operation template," "Web template," "assisted selection," and "icon." The fourth factor referred to "***instant localized information***" that included three items: "transportation information," "mobile positioning," and "searching for the nearest place." The fifth factor refers to "***customized set-up***" and included three items: "personal page set-up," "selection of rings and animation," and "personal selection of tools." The sixth factor was named "***intelligent browse functions***" and included "intelligent browse," and "analysis of usage."

Discussion

As indicated by most tourists, findings from this study confirmed the tourists' desire for mobile information services regarding a destination's lodging, transportation, directions, weather, and itinerary. It is possible to provide this localized information by integrating wireless communication, geographic information system, and global positioning system technologies into a handset. However, some of the respondents replied in follow up interviews that they were not ready for the mobile information services due to the high costs and slow speed of data transmitting.

Results from the desired interface functions suggests that the interface should be easy to use, provide on-line help, and allow customized set up. Functionally, the services provided should allow the customer to maintain easy contact with friends, provide instant localized information, and provide intelligent browse functions. These findings corresponded to Oertel, Steinmuller, & Kuom's (2002) point that many customers viewed a handset as a "personal assistant." They were interested particularly in those services that were tailored to their own needs.

New technologies have created a great impact on the tourism industry. Although new services can be developed as the result of technology development, it is also important to note that new technology has to be useful and acceptable to the customers. The nomadic nature of tourists and needs for localized information provides the best test ground of mobile information technology. This study explored the interface needs from the user perspective. In an era that

customization is stressed in the business world, further studies might investigate information and interface needs from a market segmentation perspective.

Reference

Eriksson, O. (2002). Location based destination information for the mobile tourist. In K. W. Wober, A. J. Frew, & M. Hitz (Eds.) *Information and Communication Technologies in Tourism 2002* (pp. 255-264). New York, NY: Springer Wien New York.

Hsun, E.S., et al. (2002). The N generation. *TechVantage*. Retrieved February 20, 2003, from http://www.techvantage.com.tw/content/020/020001.asp. (in Chinese)

Oertel, B., Steinmuller, K., & Kuom, M. (2002). Mobile multimedia services for tourism [work in progress]. In K. W. Wober, A. J. Frew, & M. Hitz (Eds.) *Information and Communication Technologies in Tourism 2002* (pp. 265-274). New York, NY: Springer Wien New York.

Schackel, B. (1991). Usability, context, framework, definition, design, and evaluation. In B. Schackel & S. Richardson (Eds.). *Human Factors for Information Usability* (pp. 21-37). Cambridge, UK: Cambridge University Press.

Snepenger, D. and Snepenger, M. (2002). Information search by pleasure travelers. In M. A. Khan, M. D. Olsen, & T. Var (Eds.) *VNR's Encyclopedia of Hospitality and Tourism* (pp. 830-835). New York, NY: Van Nostrand Reinhold.

Tjostheim, I. (2002). The Internet in competition with the traditional information sources: A study of vacation planning for package vs. non-package travel. In K. W. Wober, A. J. Frew, & M. Hitz (Eds.) *Information and Communication Technologies in Tourism 2002* (pp. 166-176). New York, NY: Springer Wien New York.

Wilhelmasson, J. (n.d.). Today's competitive edge is rounded, Creating successful value added services for the mobile phone. Retrieved March 1, 2003, from http://www.gmcforum.com/uploads/download/Value_Added_Services.doc