박물관 모바일 애플리케이션의 사용성에 대한 잠재력과 문제점

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Potentials and Challenges of the Usability of Museum Mobile Applications

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The biggest challenge of managing mobile interpretative device is encouraging visitors to have the mobile experience. Thus, in the research of the mobile application of the Leeum, a short orientation session as a treatment was provided to survey participants to make them use of a mobile experience and to solve the problem of hesitancy. Based on the research data, their satisfaction with visiting experience and with using the application appeared to be relatively high. However, several problems such as intrusiveness, isolation, head-down effect and technical problems needed to be improved to have a promising future.

키워드: museum experience, mobile application, usability, staying time, viewing time, degree of satisfaction

I. Introduction

Mobile technologies have the potential to support visitors' meaning-making by framing and focuing their activities and interactions with ojbects and companions. The objectives for a mobile project is to provide additional interpretation, to experiment with visitor engagement and to provide a more interactive experience [1]. Such effects will inarguably keep higher growing trend of applications of smartphone and tablet computer in the near future.

II. Related Work

Very preliminary data has shown that those who make use of a mobile application find that it enhances their museum experience [2] and they have more in-depth experiences and longer stay time [3]. Despite their great potentials and the pervasiveness of applications, there are still many doubts with regard to their effectiveness for enhancing museum experience with new challenges. Some researchers claim about the lure of the screen to cause head-down effects, isolation, intrusiveness and information overload along with technology fatigue [4].

Recent studies have revealed that visitors have user perception problems in terms of hesitancy for engagement. For instance, the usage of the application in the Walker Art Center was merely 17% due to user's negative perception of using smartphones [5]. The Denmark National Gallery figured out that 86.4% of iPhone users have not utilized the application [6]. In the case of Chungwadae Gallery, only 6% of survey participants made use of the application [7]. This article analyzes how the museum mobile application can be used to enhance experiences. It also sheds light upon the issues related to the management of applications from the perspective of potentials and challenges.

III. Key Findings

In the case of Leeum, a new mobile guide was created by the cooperation with Samsung Electronics, using the Samsung GALAXY NOTE II in 2013. This mobile guide is highly valued its excellence in terms of function and design. The 'Highlight Tour' provides a wealth of information of the masterpieces with the function of 360° view in three dimensional order. In this study, a quantitative research for usability of the application was implemented with 57 participants in twenties in 2014. The

survey consisted of 30 questions about usability of the application. A short orientation session as a treatment was provided to the participants to make them use of a mobile experience and to solve the problem of hesitancy. Survey data shows that their satisfaction with museum experience at the Leeum appeared to be very high (75.4%). 92.9% participants stayed 40 minutes or longer at the museum and their staying time were almost consistent with the total viewing time. Their staying time and viewing time are higher than those of average time in other museums.

As for the usage of the application at the Leeum, 50% of participants used the application in 10 minutes, 80.3% engaged in each exhibit with the application in less than 1 minute and 59.6% used the application for less than 10 objects. More than half of participants agreed that the application was easy to understand and to control. More importantly, 92.7% expressed that the application was helpful and useful to understand the exhibitions and the degree of satisfaction of using the application was relatively high (87.2%). Despite of the high satisfaction degree, almost 90% of the participants were aware that the application hindered to engage to objects and companions at the same time in terms of isolation. Moreover, almost 90% of participants complained about the head-down effect of the device along with the several technical problems such as the lengthy loading time of the information and the frequent malfunction of IR sensor. On the other hand, the same percentage, 90% of the participants were satisfied with using the application and they felt the application ultimately enhanced the museum experience.

IV. Conclusion

Mobile applications are truly having meaningful effects on visitor's personalized meaning-making, interpretation, immersion, participation and learning effect. Participants' satisfaction with museum experience at the Leeum appeared to be very high. More importantly, the usability and the degree of satisfaction of using the mobile application were also relatively high. In this research, the orientation session played a crucial role not only in mitigating the participants' metal burdens including the problem of hesitancy, but also in encouraging visitors to have a mobile experience. However, several problems such as intrusiveness and detraction to visitors' engagement with exhibits, isolation, head-down effect and technical problems needed to be improved to have a promising future. To sum up, key to the success of using mobile applications in museum setting is a detailed understanding of visitors' needs, expectations, behaviors, satisfactions and other issues through ongoing visitor feedbacks.

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