THE ENJOYMENT SCALE IN SPORTAINMENT GAMES: VALIDATION OF A MEASUREMENT MODEL

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Synopsis:

Abstract:
Aim of abstract
The rapid growth of the entertainment industry has produced a new market called sportainment, a combination of sport and entertainment. Along with the expansion of sportainment and the growth of the golf population, screen golf simulation is designed to create a game environment using a virtual reality. It is a game system in 3D and 4D Computer Graphic environments that not only designs golf courses based on real situations, but also allows the participant to use the same golf equipment for actual golf rounds and/or practices (Hwang & Kim, 2012). Recently, screen golf has been prevalent internationally since it can be enjoyed by any individuals without facing economic, seasonal, weather, or time constraints.
Screen golf has created a new game paradigm in the sportainment games because it has not only delivered unique features based on the main contents of golf, but also provided the usual golf elements and player enjoyment such as peer influence, game reviews, and social interaction through on-line networks (Hwang & Kim, 2012). Because there has been a growing demand for screen golf along with increased golf participation, many studies have focused on performance-oriented research (i.e., exercise adherence, skill development, motivation, etc.) in the game of screen golf. However, there have been few research efforts regarding various factors affecting screen golfers' enjoyment with the user interface. Therefore, the purpose of this study was to develop a model of enjoyment aspects based on the user experience design in the game of screen golf and to validate a suggested conceptual model.

Theoretical background or literature review
In terms of golf simulator interfaces that are based on the user experience

design, many scholars (Garneau, 2001; Malone, 1980; and Sweetser & Wyeth, 2005) agreed that ludologists and practitioners need to produce contents that, above all, satisfy users' needs such as ease of use factors. In addition, the interface of screen golf games should be based on the infotainment design factors such as physical, structural, and psychological factors. Physical factors show an enormous amount of information as icon or symbol metaphorically rather than text; structural factors express interaction factors incorporating fun features; and psychological factors arouse users' interest as diverse experiential aspects.
The heuristic gameplay experience model proposed by Ermi and Mayra (2005) is the widely accepted theoretical framework for interactive virtual reality games. Based on the model, this study developed a scale to measure the enjoyment variables that reflect the characteristics of the game of screen golf. The enjoyment model is categorized into three facets (sensory, cognitive, and social interaction enjoyment) that consist of 11 indicators.

Methodology, research design and analysis
Individuals who have had experience with the game of screen golf participated in this study. Regarding the sampling method, convenience sampling was used. Respondents voluntarily self-selected by responding to the electronic and on-site survey. Data were collected for 10 weeks and yielded a total of 436 questionnaires for data analysis. To check the appropriateness of design, content, and appearance of the current instrument, a pilot test was performed among 30 screen golf users after the Delphi technique was executed using information provided by a panel of experts. A total of 91 statements was developed after the content validity process. In order to test a model of enjoyment features, both exploratory and confirmatory factor analyses were performed using SPSS 20.0 and AMOS 20.0.

Results, discussion and implications
In this sample, 80% are male, age ranges from 21 to 60, 62% reported an average handicap between 81-100, and 36% reported an average of three to six rounds of screen golf per month. According to the results of the validation for the enjoyment model in screen golf, the model yielded a total of 11 factors including 57 items on sensory, cognitive, and social-interaction enjoyments. Among enjoyment factors of screen golf, sensory elements (λ =.74) were the most impacted enjoyment factors followed by social-interactions elements (λ=.68) and cognitive elements (λ=.65).
This study provided a theoretical framework for the enjoyment factors and validated the model based on user experience in screen golf. This study is significant because it was an empirical investigation to provide the enjoyment elements of play and informative directions on planning and developing of sportainment games. It assists the leisure sport industry in identifying how the enjoyment factors influence the revisit intention in sportainment games. The future advancement of screen golf to evolve in the sportainment game industry will be discussed.

References:
References
Ermi, L., & Mayra, F. (2005). Fundamental components of the gameplay experience: analyzing immersion. Paper presented at the Proceedings of

Digital Games Research Association (DiGRA), 1-14.
Garneau, P. (2001). Fourteen forms of fun. Gamasutra, 1-15. Retrieved from http://www.gamasutra.com/features/20011012/garneau_01.htm
Hwang, S. B., & Kim, H. (2012). An analysis of an infotaintment design in golf simulator interfaces. Journal of Korea Design Knowledge, 22, 97-106.
Malone, T. (1980). What makes things fun to learn? Heuristics for designing instructional computer games. Paper presented at the Proceedings of 3rd SIGSMALL & 1st SIGPC Symposium. 162-169.
Sweetser, P., & Wyeth, P. (2005). Game flow: a model for evaluating player enjoyment in games. Computers in Entertainment, 3(3) 3A.