UNIVERSITI TEKNOLOGI MARA

PERSONA MODELLING USING MIX METHOD SEGMENTATION IN CHILDREN COMPUTER INTERACTION EDUCATIONAL GAMIFCATION

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ABSTRACT

Gamification has been widely used to solve issues in motivating and engaging students using technology for educational purposes. It is fun with regard to children's nature. However, designing the gamification is more complicated than simply adding some game aspects to the kids-friendly application. Children computer interaction (C-CI) was developed to cater to children's particular demands. According to studies, lack of research on gamification for students ranging from 6-12 years old makes it difficult to see the positive effect of gamification on their educational achievement. Thus, this research aims to model user persona via identified game elements for the middle childhood. The use of persona optimize the usability of the designed system rather than focusing on users to change their way of acting. It focus on user's behaviors, goals and attitudes when using gamification for learning. This research adopted a five phase's methodology. First phase is to understand the behaviour of the middle-aged children in educational games. A preliminary data collection via interview and observation sessions were conducted. Twenty-seven Malay students, ranging from 7-11 years old were chosen randomly to play five different games. Feedbacks and comments on each game were recorded. In the second phase, the data is analysed using quantitative segmentation and qualitative observations. Based on the analysis, three clusters were identified. In the third phase, user personas (Play for Fun Cluster, Learning Cluster, and Competitive Cluster) were created from the segmentation, matching/mapping, empathy mapping, and narrative writing process. As a proof of concept, one gamification prototype name Jungle Escape was developed using the personas. In the final phase, a usability test on Jungle Escape was conducted using the SUS technique among twelve children aged 7 to 11. Two experts also tested each game element on the personas via usability questionnaire. The result shows that both children and experts have positive experience with the gamification. The SUS results 71.9 specify that the Jungle Escape was acceptable (good) and above average. While, the passive Net Promoter Score (NPS) shows that users were satisfied with the product but not enthusiastic enough to promote the product to others. This conclude that the proposed personas were acceptable to be used in the future with some improvement based on different project requirements. Thus, stakeholders may benefit from the selection of game elements in each persona to improve their product design according to the need of middle childhood. This result in increasing the students' motivation on using technology for better education improvement. This research contributed to the field of C-CI in proposing the persona-modelling framework for middle-childhood educational gamification.

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