Development of Augmented Reality Mobile Apps for STEM Education

ABSTRACT

This paper presents the design and development of mobile apps with the integration of augmented reality technology to support science, technology, engineering and mathematics (STEM) learning in the experiential learning context. A preliminary study on user experience testing was conducted towards 16 respondents of age between 6 - 9 years old. Based on a quantitative methodology and interpretative approach, it is found that the learning is more interesting and efficient in capturing student's attention and promotes STEM learning with the use of the Augmented Reality (AR) technology. Prototyping methodology was used to develop the Fun with STEM mobile apps. This AR-TESG (AR Technology for Eco-Science Garden) project is a community-based project which aims to bridge the digital divide as well as to provide exposure in the usage and building AR-based content to SK Kundasang students in particular. They will be imparted with ICT skills which will improve their ICT literacy and STEM knowledge through AR applications.