

IMPLEMENTING ECHOIC IN MOBILE AUGMENTED REALITY FOR SCIENCE LEARNING

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ABSTRACT

Augmented Reality (AR) is an advance technology that has been recognized as a potential to various type of fields including education. A preliminary investigation has been conducted at the early stage of this study to identify the knowledge of AR among students. This research is to identify AR elements and introducing echoic as it can concretize the knowledge to be presented and help in making learning experience appear real, living and vital. Mobile platform is chosen as it is mainly used as a medium of communication and to find information among secondary school students. Therefore, it is suggested to integrate mobile and echoic in this project known as EMARA (Echoic Mobile AR Application). EMARA is design using principles of Mobile Interface Design and Gestalt theory and developed using Unity and Vuforia. Scope of EMARA focused on one of the topics in Science Form 3 subjects which is about "Blood Circulatory System". EMARA is evaluated using Expert Review by distributing questionnaires among seven experts and for thirty students aged fifteen, Quasi-Experiment, Technology Acceptance Model (TAM) questions are included. The result from the Expert Review shows that the EMARA is suitable to use but still needs refinement and improvement. Meanwhile, the results from the Quasi-Experiment and TAM indicated that the EMARA is efficient and helpful.

Keywords: Mobile Augmented Reality, Echoic, Science Learning, Expert Review, Quasi-Experiment, Technology Acceptance Model