5th Asia Pacific Conference on Industrial Engineering and Operations Management Tokyo, Japan, September 10-12, 2024

Publisher: IEOM Society International, USA DOI: 10.46254/AP05.20240123

Published: September 10, 2024

## Raising Awareness of Dengue Fever Using Augmented Reality: A Study for Better Understanding Among Primary School Children in Kuala Lumpur

Nur Hazwani Dzulkefly, Bazilah A.Talip and Delina Beh Mei Yin Universiti Kuala Lumpur, Malaysian Institute of Information Technology 50250 Kuala Lumpur, Malaysia nurhazwani@unikl.edu.my, bazilah@unikl.edu.my, delina@unikl.edu.my

## **Abstract**

This paper explores the potential of Augmented Reality (AR) as an engaging educational tool to enhance the awareness of dengue fever among primary school children in Kuala Lumpur. Motivated by the alarming rise in dengue cases in the region, the study emphasizes the importance of beginning awareness efforts with young children. An AR-based educational tool was proposed due to its interactive and appealing nature, which is particularly effective for young learners. A quantitative methodology was employed, dividing the study into two sections: an entry survey and an exit survey. The entry survey assessed the children's initial awareness of AR technology and dengue fever. The study involved eighty primary school children aged seven to twelve, who were introduced to an AR-based activity book designed to be a visually engaging instructional resource about dengue fever. The exit survey evaluated improvements in the children's awareness of both AR technology and dengue fever after using the AR-based activity book. The findings indicate a significant improvement in awareness of both AR and dengue fever among the children, demonstrating AR's effectiveness as an educational tool for primary school students. This study highlights the potential of AR technology to enhance public health education and proposes a viable method for future dengue awareness initiatives.

## **Key words**

Augmented Reality (AR), AR Technology in Education, Quantitative Study, Interactive Learning, Young Children Educational Tool, Case Study

## **Biographies**

Nur Hazwani Dzulkefly (Dr) currently serves as Programme Coordinator and senior lecturer at the Informatics and Analytics section, Universiti Kuala Lumpur, Malaysian Institute of Information Technology, Malaysia. Nur's areas of interest and specialisation include Human Computer Interaction (HCI), Business and IT Management and also in Management Information Systems (MIS). She has taught post and undergraduate students and actively carry out research in these areas.

**Bazilah A.Talip (Ass.Prof Dr)** currently serves as Deputy Dean, International, Industrial & Institutional Partnership and Senior Lecturer in the Informatics and Analytics section at Universiti Kuala Lumpur, Malaysian Institute of Information Technology. Her research interest greatly involve in information science and information systems inclusive online information grounds, information experience, co-experience and digital ethnography. She teaches research methodology course and passionate in systematic literature review approach as well as bibliometric.

**Delina Beh Mei Yin (Dr)** currently serves as Final Year Project Coordinator and senior lecturer at the Cybersecurity and Technology Convergence section, Universiti Kuala Lumpur, Malaysian Institute of Information Technology, Malaysia. Her research interests include information security, data hiding, data privacy, biometric access control and user interface design.