Editorial

In this edition of our journal, we feature two remarkable research papers that address cutting-edge advancements in augmented reality (AR) technology and computational thinking in early education. These studies offer significant contributions to their respective fields, providing innovative insights and practical applications that can transform how we interact with technology and how we educate future generations.

The first paper explores the use of augmented reality (AR) headsets across various industries, including oil, healthcare, and the military. Despite the widespread adoption of AR technology, there has been a notable gap in research and design recommendations for presenting information effectively in AR headset displays to aid situational awareness. This study conducts two essential investigations: one on the perceptibility of visual stimuli (color, text, shapes) for critical information, and another on the effectiveness of different presentation styles (Display, Environment, Mixed Environment) for secondary textual information. The findings reveal that existing visual perception principles can be applied to AR headsets, establishing a hierarchy of salient visual features. For secondary information, the Display and Environment presentation styles significantly enhanced participants' perception and comprehension compared to the Mixed Environment style. These results provide valuable design recommendations for AR headset displays, crucial for safety-critical domains such as the military [1].

The second paper addresses the growing importance of computational thinking, often referred to as the "new English," in school curricula worldwide. Recognizing the need to introduce coding concepts at an early age, the researchers implemented a training program starting from kindergarten. The program's primary objective is to teach coding to children as young as three, leveraging their inherent logical thinking abilities. Over three years, the program has been refined and expanded, showing impressive results in children's understanding and engagement. By gradually increasing the complexity of concepts based on previously learned material, the program optimizes learning time while minimizing the required hours and resources. Moreover, the program's cost-effectiveness ensures it is feasible for any school, making it an accessible and practical solution for integrating computational thinking into early education [2].

The two papers presented in this edition exemplify the innovative and impactful research that our journal strives to publish. From enhancing situational awareness with advanced AR technology to revolutionizing early education with computational thinking, these studies provide valuable contributions to their fields. We are honoured to share these insights with our readers and anticipate that they will inspire further advancements and research.

References:

[1] J. Woodward, J. Smith, I. Wang, S. Cuenca, J. Ruiz, “Designing Critical and Secondary Information in Augmented Reality Headsets for Situational Awareness,” Journal of Engineering Research and Sciences, vol. 2, no. 3, pp. 1–15, 2023, doi:10.55708/js0203001.

[2] E. Benetti, G. Mazzini, “Coding: First Steps from Kindergarten up to Primary School,” Journal of Engineering Research and Sciences, vol. 2, no. 3, pp. 16–30, 2023, doi:10.55708/js0203002.

Editor-in-chief

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