Smart STEM Challenge

Proposed Augmented Reality (AR) Application – Cam-AR in Cambodian High School Education

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ABSTRACT:

In the present day, it is observed that teaching high school students is conducted by using the traditional methodologies and tools with limited use of technologies. During this global COVID-19 pandemic, Cambodian students are using their mobile phones to study online. Hence, it is a good opportunity to integrate a great technology named "Augmented Reality (AR)" with mobile phones in the learning process. AR is an enhanced version of the real physical world that is achieved through the use of digital visual elements, sound, or other sensory stimuli delivered via technology[1]. AR helps a lot in our daily life. For example, AR is used in many sectors such as, healthcare, manufacturing, automotive, military, retail, gaming, real estate, architecture, education and more. AR applications are used to show reality pictures to students to make it easy for them to understand more clearly. For instance, in earth science, teachers use AR app to show students the digital pictures or 3D models of the space, the sun's layer, the 8 planets, the moon and more on the students' textbook.

This project is to propose a user friendly and practical solution of using AR technology in teaching Cambodian high school students. It is called Cam-AR. This project has two main objectives as follows:

(1) To introduce a proposed Cam-AR as a teaching tool for Cambodian high school students; and
(2) To illustrate how Cam-AR will be developed.

There are two phases for this project. The first phase will be the review of previous studies of AR applications in Cambodian education. The second phase will be the illustration of how Cam-AR will be developed.

It is expected that Cam-AR will be used in Cambodian high schools to enhance students's understanding of the lessons compared to current teaching approach, to make classroom more interactive and interesting, and to make students ready to the digital revolution.

In conclusion, Cam-AR will play an important role in making teaching and learning process more interesting and comprehensive. Besides, students will learn and understand the lessons faster with AR technology.