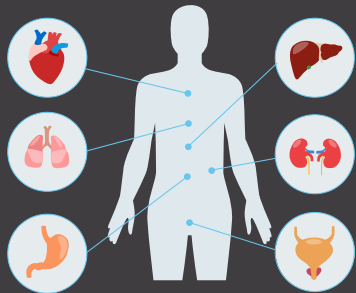


Redesigning Assessment with Generative AI:

Augmented Reality (AR) Based Learning: Bringing Authenticity and Immersion in Assessments

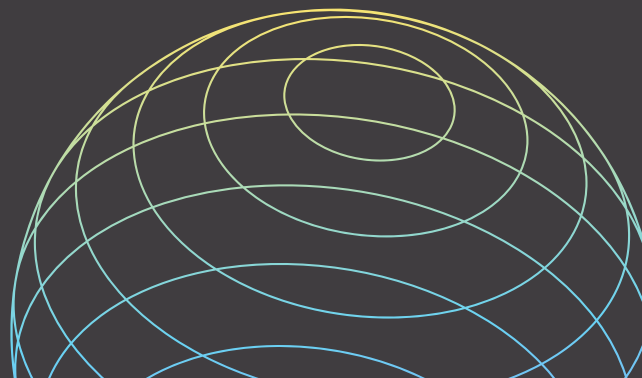
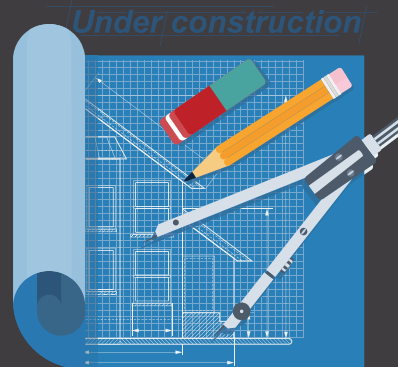
CASE SCENARIO 1:

A course on human anatomy, students are tasked with using an AR application that overlays 3D models of different bodily systems onto a mannequin. Their task is to identify different parts of the system, demonstrate their understanding of system functions, and explain how systems interact with each other. For example, students might need to identify the pathway of blood through the circulatory system and how it supplies oxygen to the muscles.



CASE SCENARIO 2:

In an architecture class, students are given a project to design a small community park. Using AR, they build their design in a 3D space, placing trees, benches, playground equipment, and other features. They must consider accessibility, environmental impact, and community needs in their design. AR allows them to walk through their park, getting a sense of space and practicality of their design.



INTRODUCTION

AR-Based Learning involves students interacting with augmented digital elements integrated into real-world environments. These digital elements, such as 3D models or interactive simulations, can be experienced through AR devices like smartphones or specialized AR glasses.

Digital technology has immense potential to enhance learning experience. AR provides a unique blend of the digital and physical world, creating immersive experiences that can be incredibly powerful tools for learning and assessment.

RATIONALE

AR-based assessments enable students to interact with learning materials in ways not possible with traditional methods. They can see, manipulate, and experiment with digital 3D models and simulations overlaid onto the physical world. The use of AR in assessments also enables an element of authenticity as the real-time interaction, decision making, and understanding of spatial and contextual relations that AR requires are areas where GenAI has limitations.

HOW DOES IT WORK?

Students are given a task or challenge that requires them to interact with digital elements in a real-world context. This could involve manipulating a 3D model of a human heart to understand its functioning or participating in a simulated archaeological dig. Assessments can focus on the understanding demonstrated during these interactions, the outcomes achieved, or even the creative use of AR tools for a project.

Assessment criteria can include:

- Understanding of Subject Matter: Demonstration of understanding of the topic presented in the AR environment.
- Interaction with AR Elements: Depth and correctness of interactions with the AR elements in context of the given task.
- Application of Knowledge: Ability to effectively apply learned knowledge in the AR environment.
- Creativity and Innovation: Uniqueness and novelty in approaching the given task.
- Reflection: Ability to reflect on learning experience, providing insight into the process, as well as the challenges faced and how they were overcome.

BENEFITS & CHALLENGES

Benefits

- Engagement: AR creates a highly engaging and immersive learning environment, increasing motivation.
- Understanding: The approach enables a deeper understanding of complex concepts through visual and interactive experiences.
- Real-world Context: AR brings a real-world context to learning, enhancing the relevance and application of concepts.
- Creativity and Problem-solving: The approach encourages creativity, exploration, and problem-solving.

Challenges

- Accessibility: Not all students may have access to the necessary AR technology.
- Technical Difficulties: AR technology can sometimes face technical issues that could interrupt learning.
- Learning Curve: There may be a learning curve for both teachers and students in effectively using AR technology.
- Content Creation: Creating meaningful and high-quality AR learning experiences can be time-consuming and require specific expertise.