Augmented Reality

SEAMOLEC ASSISTANCE PROGRAMME

SEAMEO SEAMOLEC
SEAMEO REGIONAL OPEN LEARNING CENTRE | 2021

General Explanation

The technology utilization in the information delivery process has experienced rapid development. One of the technologies is Augmented Reality (AR). AR is a technology that combines 3D virtual objects into a real environment. In AR technology, users can visualize objects in 3 dimensions. AR is interactive and real time so it can be implemented in various fields. AR works based on the detection of marker images. The calibrated camera will detect targeted markers. After recognizing and marking the marker pattern, the application will display additional information in the form of 3D objects, video, sound, and text on an object. Therefore, AR has the opportunity in the development of attractive learning media based on mobile with the Android operating system.

In education, AR is used as a learning media. Learning media is a bridge between educators and students in learning process that is able to connect, provide information and distribute messages in effective and efficient way.

Objectives

The main objective of this training is the participants can develop augmented reality-based learning media and AR marker book design as a hyper content learning media by integrating STEAM (Science, Technology, Engineering, Art, Mathematics) learning concepts.

Benefits

1. For teachers / lecturers / educators
   As reference material for improving the quality of learning and adding the inventory of attractive learning media to students in learning process.
2. For students
   Increase the interest of students to learn further, provide insight into virtual reality technology that can be used for learning media, and provide alternative learning resources through augmented reality-based learning media in more attractive and easier way to understand. In addition, it also develops the potential of students in seeking independent learning experiences.

Requirements & Qualifications

A. Device

a. Laptop

Minimum requirement of device:

- System requirement: Microsoft® Windows® 10 Versi 17++ (32-or 64-bit)
- 4 GB RAM
- 16 GB of available disk space (32GB recommended)

b. Viewer device

Minimum requirement of viewer:
Android smartphone system, Lollipop
5 – 6 inch display
2 GB RAM

2 GB of available disk space (4GB recommended)
Gyroscope, Accelerator, Compass sensor system
Example of benchmark devices:
https://www.gsmarena.com/xiaomi_redmi_note_3-7863.php

c. VR Cardboard

B. Participant at least has:

a. Basic knowledge of graphical based application
b. Basic knowledge of programming

Stages