

# An augmented reality (Ar) marker-based application for smart campus: Unimap residential college

## **Abstract**

Augmented Reality nowadays is getting wide usage with all application in human daily life. This paper of research is about the design and development of Augmented Reality (AR) for smart campus urbanization using the student's residential college. The technique used in this application is marker-based. Then analyze the efficiency of positioning the object on the right place on display screen with the image processing to get the tag from the image and set as the image marker. The image triggered is analyze either it is projected on the image or slightly change from the actual position. The scope of this research is direct and specific as it will help newcomers or visitor to the hostel area to get information and direction easily with this application. There are many area and information inside as the users should know with the guidance of the application. This research is to make an Android-based application with the interfaces of Augmented Reality to demonstrate and testify the proficiency of virtual data and information shown on the device screen and the feasibility of the augmented object plotted and registered at certain places of hostel. Thus, by using this AR technology to enhance user experience in the hostel area with direction and right information instantly. The contribution of this research trying to reach were those first-time visitors when they arrived at the hostel as there is lack of information for them to locate themselves in such a large campus area and assisting them especially in the term of information and directions. Information is easier and capable to receive by the user as they require only a smart phone to operate the advance feature from the AR application. Furthermore, it does not need any of internet connection in order to use the application and can be operated in offline. With the specified and unique images, users are able to view the virtual object in an entertaining AR environment at the same time better presentation of info can also be delivered.

## **Keywords**

Android; Augmented Reality (AR); Marker-based; Smart Campus