What is Augmented Reality?

Rajaa Mahdi Al-Musawi*

Department of Prosthodontics, University of Kufa, Iraq

*Corresponding author: Dr. Rajaa Mahdi Al-Musawi, Department of Prosthodontics, University of Kufa, Iraq, Email: rajaa.almusawi@uokufa.edu.iq

Editorial

Nowadays, most of dentists have use CAD/CAM technologies and become familiar with them, while VR and augmented reality (AR) techniques, which are going to find their place in learning and dental exercising, are not as much known until now.

Augmented reality refers to "superimposition of computer-generated graphics over a real-world scene". AR plays a preponderant role in the real environment and it is not completely restrained unlike VR simulators.It aims to add synthetic additives like images to the real world (or to a live video of the real world) instead of engaging a person in a virtual world, which is completely generated by a computer.
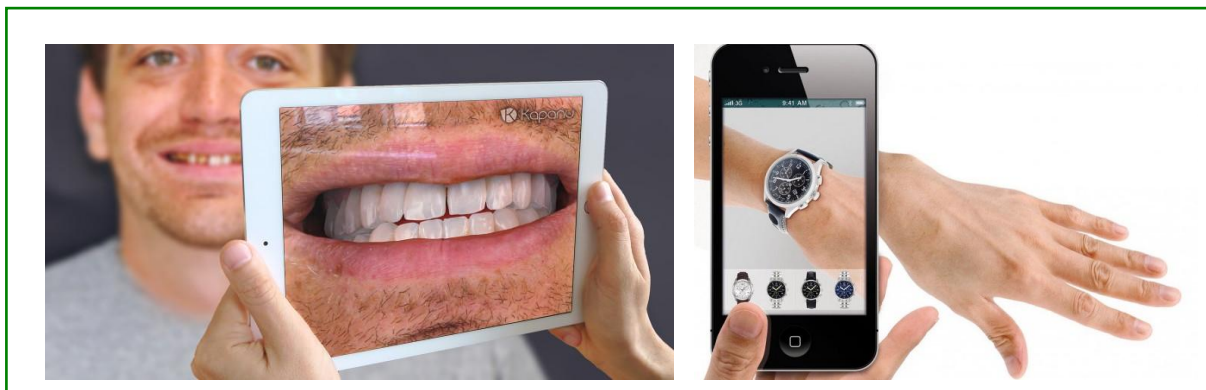
It is widely used in image guided surgery, where real and virtual objects need to be composed, integrated, presented or manipulated simultaneously in a single scene. It is also applied in dental implantation, maxillofacial surgery, temporomandibular joint motion analysis and prosthetic surgery. One of the main uses of AR in oral and maxillofacial surgery is in visualization of deep masked structures. Before surgery, the surgeon would be able to map the surgical plan on the 3D image of the site and consider any necessary modifications. During surgery, the surgeon sees and follows the mapped image overlaid on the surgical site by use of special glasses. This system can be developed for root canal therapy as well.

The AR systems seem promising, but there are still technological challenges that researchers and developers must face in order to fulfill these promises. Assisted skill acquisition in conjunction with traditional training would enable students to practice repeatedly, with constant assessment and force feedback, which is not routinely possible with resin models. In the surgical fields, simulation systems enable the students to practice in real mode on virtual subjects. They also offer visual information about the surgical site, which is of great use for the surgeons.