

29. Adoption of Augmented Reality (AR) and Virtual Reality (VR) in healthcare systems

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Subtheme: ICTs, Big Data, Artificial Intelligence, Mathematical Applications

Abstract

Virtual reality (VR) and Augmented reality (AR) are the cutting-edge technological innovations that is going to shape how members of the society live and interact in future. In recent years, such technologies have been successfully implemented in various sectors including, military, education, healthcare, gaming among others. In the same way, its explosion more so in healthcare sector has resulted to various research being done that have revealed potential benefits and challenges in its adoption. This paper aimed at researching and providing an understanding of the role of VR and AR in healthcare systems as well as investigating its applications, potential benefits and challenges. The article applied exploratory research design to review the future applications, benefits and provide solutions to the challenges of VR and AR in healthcare. The review revealed that despite the tremendous growth and potential of such technologies, challenges resulting from cost implication of the technologies, technical capabilities of devices, infrastructural issues have all impacted on adoption of VR and AR in healthcare sector. As a result of advancement in technology over years, most of the challenges have been addressed due to invention of computers with more processing power and screens with better resolution. However, the issues of data privacy and security of both healthcare professionals and patients need to be addressed. This can be achieved by stakeholders developing and implementing universally acceptable standards and procedures that will guide research, development, and implementation of such technologies. This calls for parties involved in the development and usage of this devices to be assured of data privacy and security in healthcare sector.

Keywords: *Virtual reality, Augmented reality, Mixed reality, Healthcare systems, Standards, Systems*