Augmented reality interface for complex anatomy learning in the central nervous system: a systematic review

ABSTRACT

The medical system is facing the transformations with augmentation in the use of medical information systems, electronic records, smart, wearable devices, and handheld. The central nervous system function is to control the activities of the mind and the human body. Modern speedy development in medical and computational growth in the field of the central nervous system enables practitioners and researchers to extract and visualize insight from these systems. The function of augmented reality is to incorporate virtual and real objects, interactively running in a real-time and real environment. The role of augmented reality in the central nervous system becomes a thought-provoking task. Gesture interaction approach-based augmented reality in the central nervous system has enormous impending for reducing the care cost, quality refining of care, and waste and error reducing. To make this process smooth, it would be effective to present a comprehensive study report of the available state-of-the-art-work for enabling doctors and practitioners to easily use it in the decision making process. This comprehensive study will finally summarise the outputs of the published materials associate to gesture interaction-based augmented reality approach in the central nervous system. This research uses the protocol of systematic literature which systematically collects, analyses, and derives facts from the collected papers. The data collected range from the published materials for 10 years. 78 papers were selected and included papers based on the predefined inclusion, exclusion, and quality criteria. The study supports to identify the studies related to augmented reality in the nervous system, application of augmented reality in the nervous system, technique of augmented reality in the nervous system, and the gesture interaction approaches in the nervous system. The derivations from the studies show that there is certain amount of rise-up in yearly wise articles, and numerous studies exist, related to augmented reality and gestures interaction approaches to different systems of the human body, specifically to the nervous system. This research organises and summarises the existing associated work, which is in the form of published materials, and are related to augmented reality. This research will help the practitioners and researchers to sight most of the existing studies subjected to augmented reality-based gestures interaction approaches for the nervous system and then can eventually be followed as support in future for complex anatomy learning.