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Multimedia big data environment for e-therapy

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Due to the low cost and high availability of wearable health sensors and motion tracking devices, home based therapy monitoring has come to a reality. In this paper, we propose a gesture controlled e-therapy online framework that can monitor physical and occupational therapy exercises using multimedia data produced by different sensors such as Kinect2, Leap, and Myo. The multimedia therapeutic data is then stored in a big data repository with proper annotation. We have developed analytics to mine therapeutic information from the big data platform such as finding the most appropriate therapy regime for a patient based on her age, ethnicity, gender, disability level and geo-spatial location. We will show different key queries that can be answered by our developed analytics.

Biography

Mohamed Abdur Rahman is a Professor in the Department of Computer Science of Umm Al-Qura University, Makkah Al Mukarramah, KSA. He received his PhD degree in Electrical and Computer Engineering from the University of Ottawa, Canada. His research interests include serious games, spatio-temporal databases, multimedia for e-Learning, multimedia for healthcare, ambient assisted living, and context-aware multimedia systems. He has authored and co-authored more than 75 publications including refereed IEEE/ACM/Springer journals, conference papers, and book chapters. He is a member of IEEE and ACM.

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