Abstract

Physical therapy exercise monitoring and human body motion is two disciplines with high level of research interest. Physical therapy is the treatment of disease, injury, or deformity by physical methods. Physical therapy exercises are mainly used by health care professionals to rehabilitate patients. Physical therapy rehabilitation suffers from less monitoring of patient movements in home environment. The study is carried out considering the physical therapy exercises for knee Osteoarthritis. Osteoarthritis is a joint disease that mostly affects cartilage. There are many physical therapy exercises that can be taken as treatments for the infections. This research paper presents the design, development and testing of a prototype application suitable for home rehabilitation process. The main objective of this thesis to create a methodology to evaluate the rehabilitation exercises performed at home. The prototype tool is implemented and tested with Microsoft Kinect Xbox-360 sensor as the motion detection device. The experimental results prove the accuracy and the correctness of the application.
Video Tracking based Rehabilitation Exercise Monitoring Tool for Osteoarthritis


Index Terms

Computer Science

Applied Sciences
Keywords

Physical Therapy, Kinect Xbox – 360, Osteoarthritis, Rehabilitation Exercise