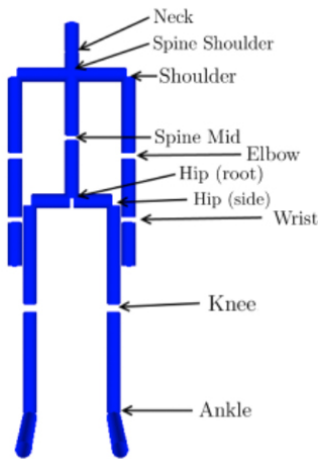


Physically based skeleton tracking

Lopez-Garcia, Axel; Susin, Antonio



Skeleton tracking has multiple applications such as games, virtual reality, motion capture and more. One of the main challenges of pose detection is to be able to obtain the best possible quality with a cheap and easy-to-use device. In this work we propose a physically based method to detect errors and tracking issues which appear when we use low cost tracking devices such as Kinect. Therefore, we can correct the animation in order to obtain a smoother movement. We have implemented the Newton-Euler Algorithm, which allow us to compute the internal forces involved in a skeleton. In a common movement, forces are usually

smooth without sudden variations. When the tracking yields poor results or invalid poses the internal forces become very large with a lot of variation. This allow us to detect when the tracking system fails and the animation needs to be inferred through different methods.