Information Technologies in Traditional Dance Analysis

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Abstract

The analysis, modelling, transmission and promotion of traditional dances are important areas where information technologies can make a significant contribution. In this paper, we focus on technologies related to the motion capture systems of human movement and present a methodology based on the use of multiple depth sensors. Specifically, the proposed method combines motion data from multiple sensors in order to increase the accuracy and address problems such as noisy data, occlusions of parts of a dancer's body, limited area of coverage, etc. Subsequently, pattern recognition techniques are applied to analyze the motion of the dancer, while for the learning and assessment of performance, fuzzy logic techniques in combination with three-dimensional graphics technologies are employed. The proposed methodology has been developed within the FP7 research project "i-Treasures", which aims to develop novel methodologies and new technological paradigms for the analysis and modelling of different forms of intangible cultural heritage and know-how transmission.

Keywords: Traditional dance, motion capture, depth cameras, motion analysis, dance notation