

Digital Archives of Folk Dances Using MotionCapture

Outline

Warabi-za is a professional theater company established in February 1951. We describe the modern human minds in various ways based on the Japanese traditions. Warabi-za locates its home base in Tazawako-machi, AKITA which is famous for its abundance of Japanese folk songs. Warabi-za has 5 performance groups. And they perform about 900 times throughout Japan every year. We have also successfully toured overseas. We have visited 16 countries such as USA, Brazil, countries in Asia and Europe.

This home base of Warabi-za is named "Tazawako Art Village" which is mixed art and resort together. Surrounded by beautiful landscape, we have the Warabi Theater (650 seats), Hot Spring Resort, Tazawako Brewery Pub, Wooden Craft Museum, Institute of Folk Performing Arts and Fossil Museum in this village. Especially at the Warabi Theater, visitors can enjoy Japanese Folk Dance, Japanese Drums WorkShop, Back Stage Tour, and Warabi-za's original Japanese folk tale musical throughout the year.



The Warabi Theater

Archives - Digital Data of Folk Dances Recorded by MotionCapture System

We have tried to record folk (or traditional) dances using motioncapture system since 1998. This system can capture human movement as 3-dimensional data of position and orientation. We chose magnetic wireless motioncapture system so that a performer can move freely and we can get the angular information of the movement.

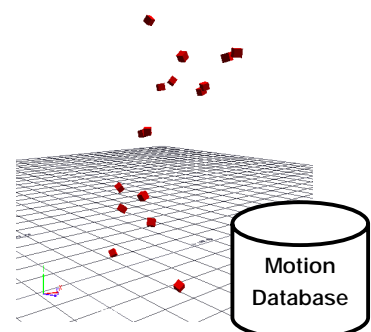
Capture point: 16 Sensors
Capture area: about 4m x 4m



Folk Dance



Capturing



Capture Data

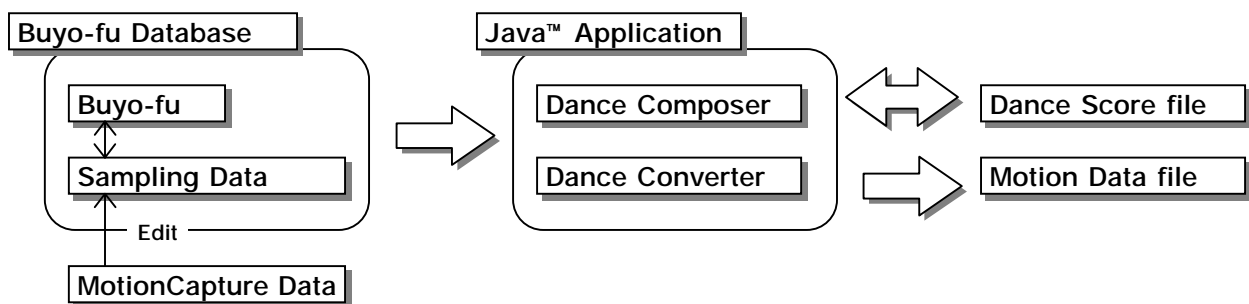
Creation - Description Method of Movement Using "Buyo-fu"

We have done the stage activity based on Japanese folk dances for fifty years, and tried to establish the systematic description method of these dances.

There exists a description method of a score for music, but a systematic description method has not been established for a human movement. This is because the human movement has not only the information of three-dimensional space but also the information of time, and so it is difficult to describe it two-dimensionally on a paper. Since folk dances have been originated in the life of people, it has the characteristics of multiplicity. This is why an existing description method (like Labanotation) is not suitable for folk dances.

We propose a new description method in order to describe human movement using "Buyo-fu" on the premise of the usage of a computer. The Buyo-fu is a symbol uniquely named to each series of human movement arbitrarily defined by a user. And we have developed a movement description system using the Buyo-fu and a motion capturing system. This description system proves to be a good candidate for archives and creation of such movement as folk dances.

Movement Description System



MotionCapture System we use*1

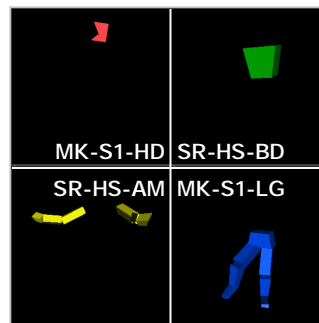
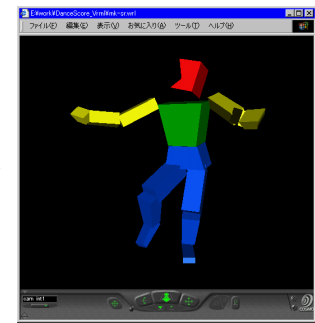


Image of Composition
White letter is Buyo-fu



Motion Data (VRML)

*1 Photo is STAR*TRAK®
 1998,1999 (STAR*TRAK®/POLHEMUS Inc.)
 2000- (MotionStar® Wireless/Ascension Technology Corp.)

More information is here: <http://www.warabi.or.jp/buyo-fu/>

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