High Dimensional Heterogeneous Data based Animation Techniques for Southeast Asian Intangible Cultural Heritage Digital Content

Karim Tabia (tabia@cril.fr)
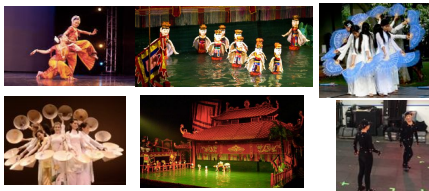
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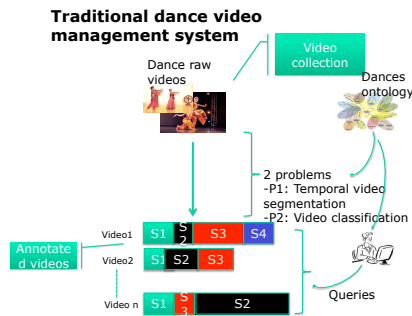Journée de lancement de la SFR « Numérique et Patrimoine »

Summary

▪ Marie Skłodowska-Curie Actions RISE (Research and Innovation Staff Exchange) H2020--MSCA--RISE-2015
▪ **Period**: 2016-2019
▪ **Objective**: Develop novel techniques and tools to reduce the production costs and improve the level of automation without sacrificing the control from the artists, in order to preserve the performing arts related ICHs of Southeast Asia.
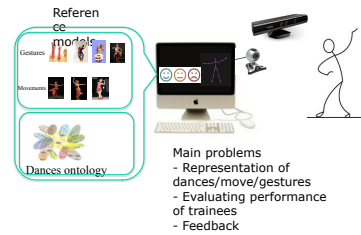
Data

Consortium

CRIL@artois at a glance

UMR CNRS 8188 - 59 members
Topics: Artificial Intelligence
- Knowledge Representation and Reasoning (RCR)
- Logics for Artificial Intelligence (Description Logics, Epistemic Logics, etc.)
- Uncertainty Models (Graphical Models, Uncertainty Networks, etc.)
- Belief Change (Revision, Update, Merging, etc.)
- Negotiation – Argumentation
- Machine Learning

- Constraints and Algorithms for Inference (AIC)
- Constraint Programming (CSP, MaxCSP, WCSP …)
- SAT
- MUS (Minimal Unsatisfiable Sets)
- Knowledge Compilation
- Data Mining
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Video management system

Traditional dance video management system

Dance raw videos

Video collection

Dances ontology

2 problems
-P1: Temporal video segmentation
-P2: Video classification

Annotated videos

Video1 | S1 | S2 | S3 | S4
Video2 | S1 | S2 | S3
Video n | S1 | S3 | S2

Queries

Dance notation & animation

Automatic dance notation from videos

Read/edit notations & play/animate in 3D

Work-packages

Dance training systems

Reference models

Gestures

Movements

Dances ontology

Main problems
- Representation of dances/move/gestures
- Evaluating performance of trainees
- Feedback
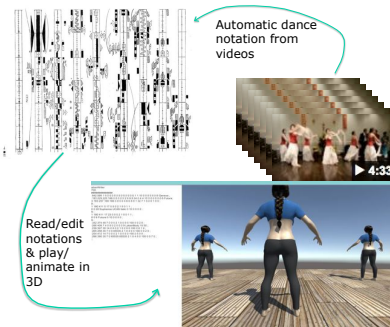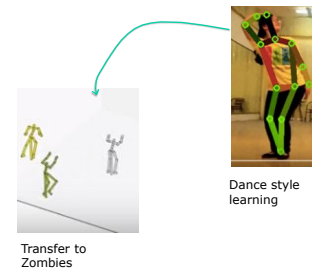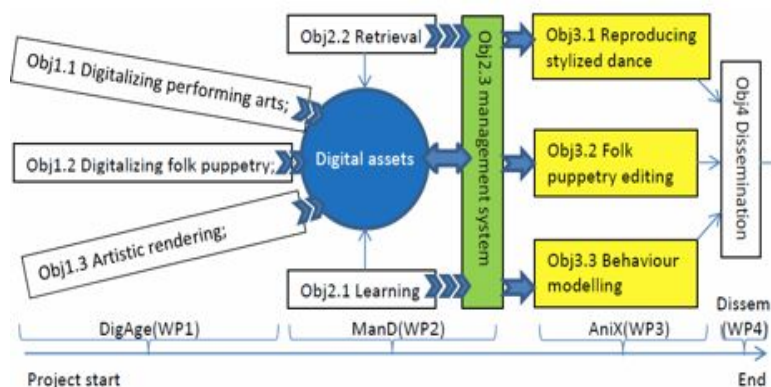
Ob-Orm Muangmoon, Pradorn Sureephong and Karim Tabia, **Dance Training Tool using Kinect-based Skeleton Tracking and Evaluating Dancer's Performance**, IEA/AIE'17 .

Style learning

Transfer to Zombies

Dance style learning

https://hmiuet.wordpress.com/aniage/

Bibliography

•Annotating Movement Phrases in Vietnamese Folk Dance Videos. IEA/AIE (2) 2017: 3-11
•Dance Training Tool Using Kinect-Based Skeleton Tracking and Evaluating Dancer's Performance. IEA/AIE (2) 2017: 27-32
•Annotating Movement Phrases in Vietnamese Folk Dance Videos. IEA/AIE (2) 2017: 3-11
•Automatic annotation of traditional dance data using motion features, ICDAMT 2017

More information

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