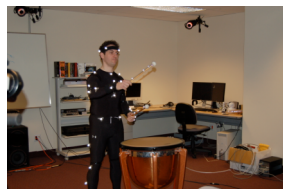

SMPC 2007 Satellite Workshop

*Vicon motion capture
for
computer animation*

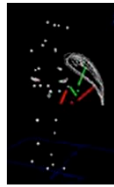
Alexandre Bouënard
IDMIL - McGill University
VALORIA - Université de Bretagne Sud

Context

- Dynamic computer animation
- Virtual agent interaction with audio-numerical systems
- Study of musical gestures, namely percussion gestures
 - Motion capture of percussion gesture : Vicon 460



From motion capture to computer animation



?



VST, VSK, C3D, CSV

BVH

BVH file format specification

```
HIERARCHY
ROOT pelvis
{
  OFFSET 137.977 -22.9915 876.467
  CHANNELS 6 Xrotation Yrotation Zrotation Xposition Yposition Zposition
  JOINT lfeemur
  {
    OFFSET 0 95.5861 0
    CHANNELS 3 Xrotation Yrotation Zrotation
    JOINT ltribia
    {
      OFFSET 0 0 -451.3
      CHANNELS 3 Xrotation Yrotation Zrotation
      JOINT lfoot
      {
        OFFSET 0 0 -409.339
        CHANNELS 3 Xrotation Yrotation Zrotation
      }
    }
  }
  ...
}

MOTION
Frame: 2974
Frame Time: 0.004
1.2806 0.246028 89.754 137.977 -22.9915 876.467 0 0 0 6.17008 4.56869 22.73
18.0409 0.304782 0 -6.76986 -27.3685 -9.1661 0 68.2604 0 -0.321701 14.125
12.5341 0 -75.096 -14.9492 4.14306 -11.4547 0 20.3434 0 6.31732 -43.2149 -3
1.3046 0.246096 89.7235 138.015 -22.8776 876.494 0 0 0 6.17802 4.62157 22.8
18.053 0 0.219256 0 -6.75993 -27.4079 -9.15435 0 68.5225 0 -0.313735 14.197
12.5733 0 -75.0497 -14.8161 4.14207 -11.404 0 20.2755 0 6.30913 -43.2783 -3
1.29958 0.242129 89.7162 137.995 -22.8535 876.427 0 0 0 6.17174 4.5991 22.2
18.033 0 0.22548 0 -6.74989 -27.4177 -9.14124 0 68.5067 0 -0.338456 14.2118
```

⇒ Hierarchical geometry

⇒ Motion

