motion and music

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motivation

music —— —— —— —— —— motion

dance to the music / play to the motion

2010 sigmad animation festival's best technical video award
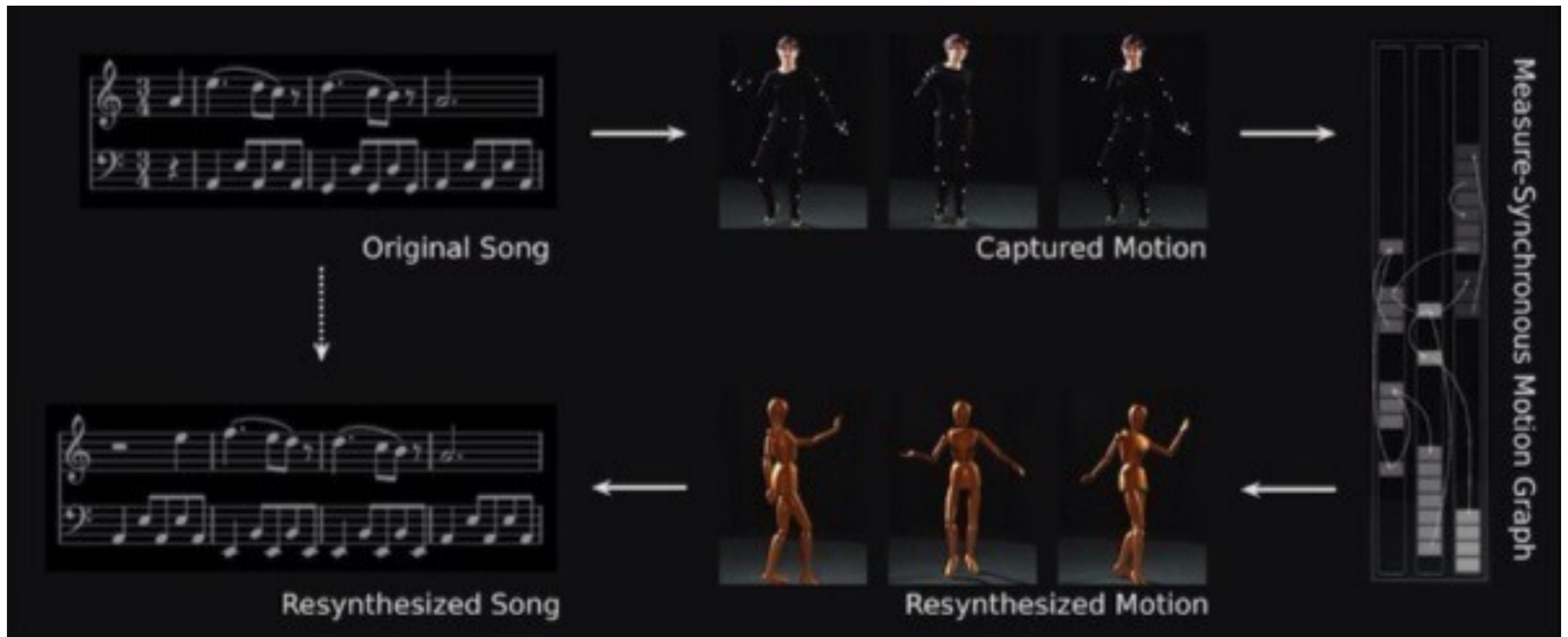
how to relate motion to music beats?
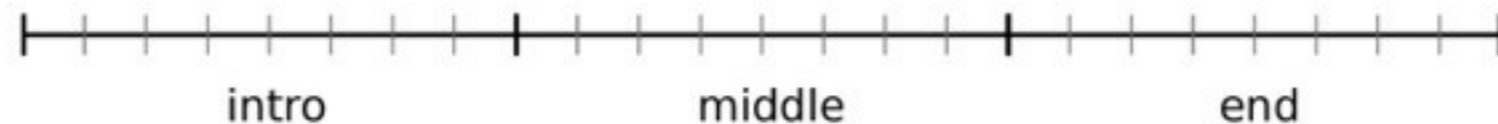
how to relate motion to music beats?

pipeline

music composition

- 3 songs, each with a different melodic instrument

- deterministic percussion and harmony

- random melody, controlled by high level parameters

intro   middle   end

7

synchronisation

music

motion

measure-synchronous motion graph
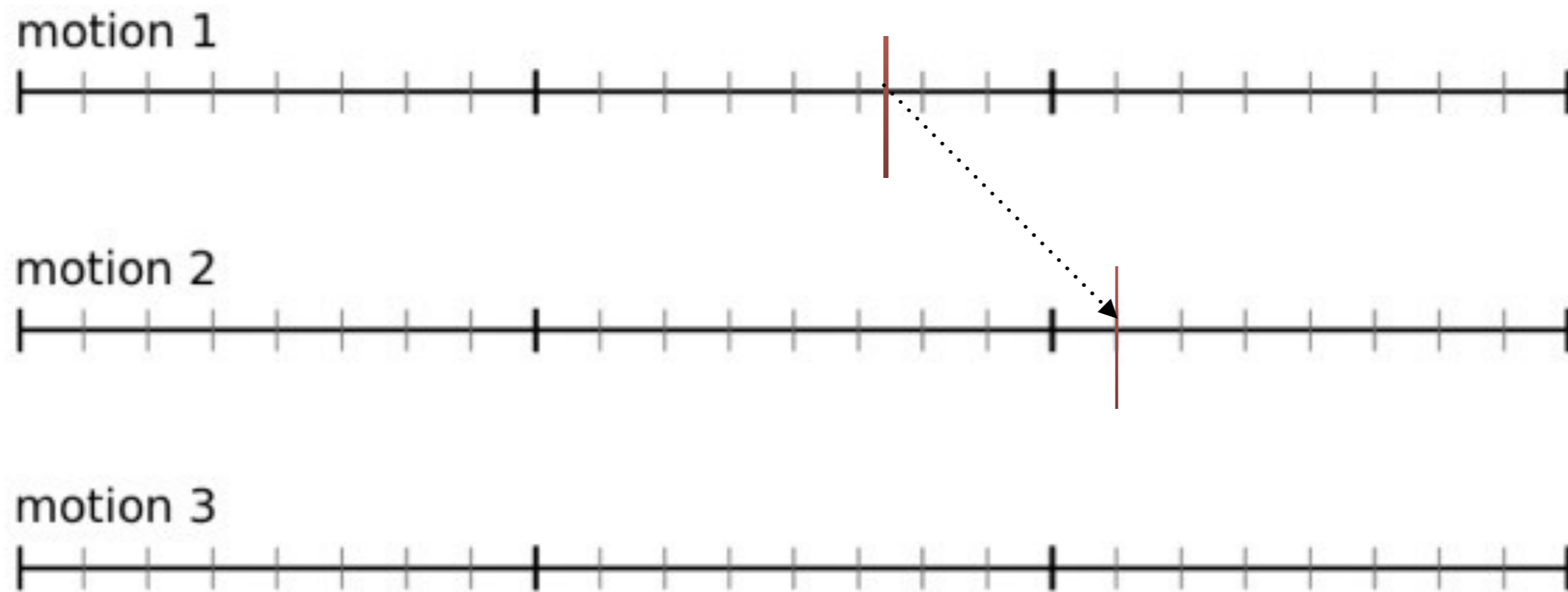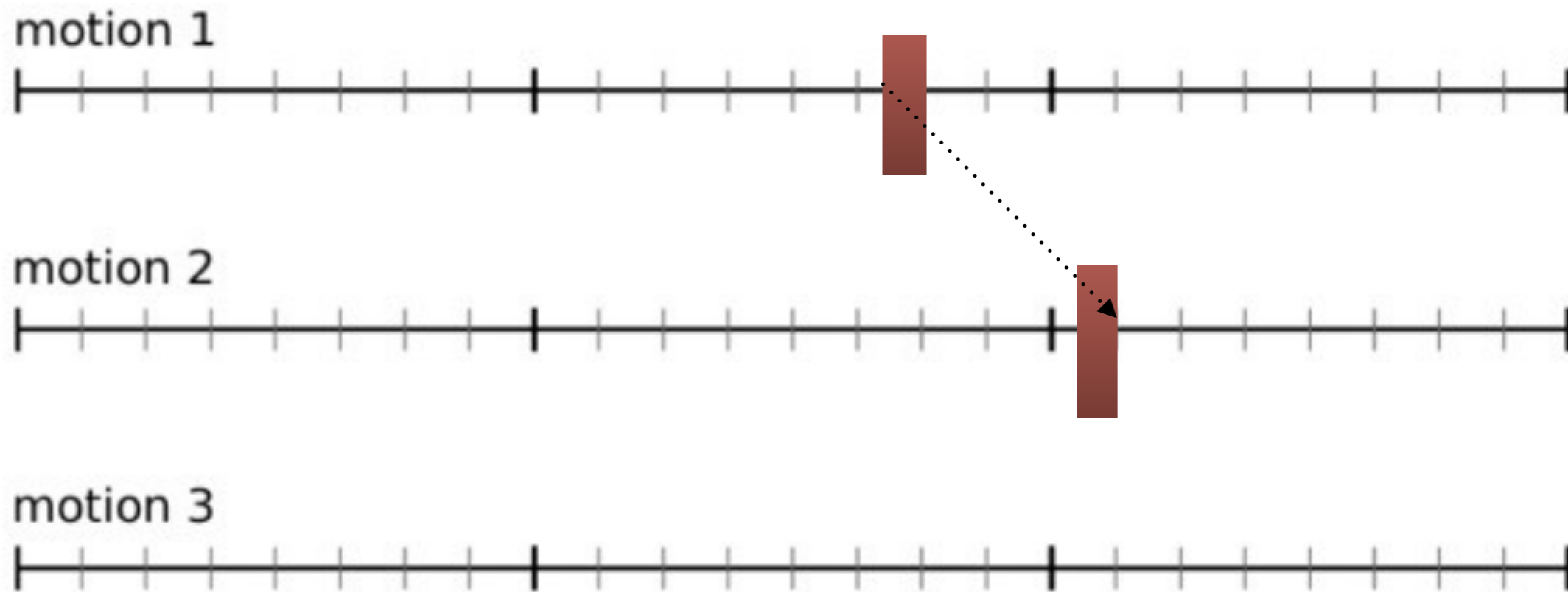
measure-synchronous motion graph
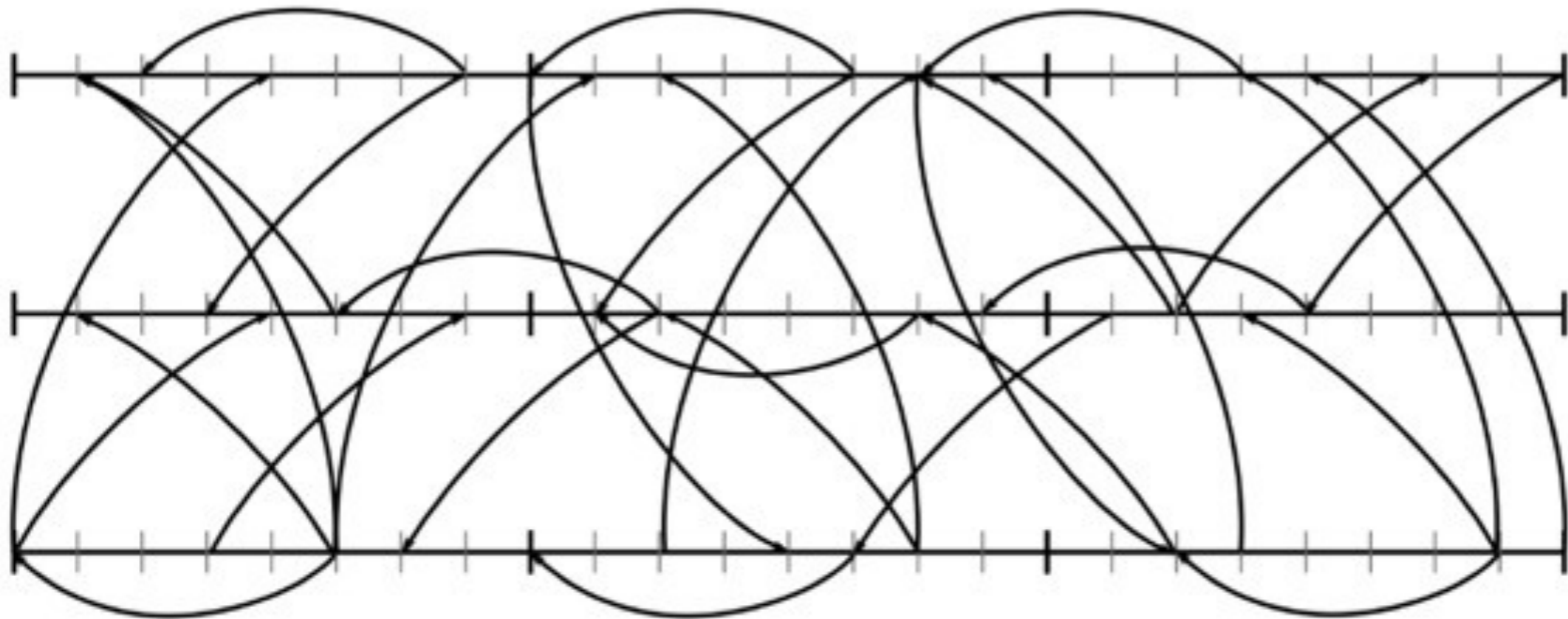
measure-synchronous motion graph

measure-synchronous motion graph

restricted random walk

- variation of musical instruments

- intensity variations between large music blocks

- reaching the final note / finishing pose

graph connectivity

- five nearest segments are connected

- directional weighted graph

- dynamical variation of weights

- restricted search to reach the end note

motion guided music composition

- high level parameters used in the synthesis phase correspond to those used in the capture phase

- number of notes per phrase (measure)

- percussion intensity (related with the dancer's feet movement)

future directions for motion scoring

- non trivial ways to create music from motion

- dictionary of motion-phrases

- capture of music-related features: tempo (number of beats per minute), rhythm, etc

- real time interaction

- a "band of dancers"

different future directions

- chorus lines compositions

chorus lines

- motion variations

- stage positions

- authoring environments