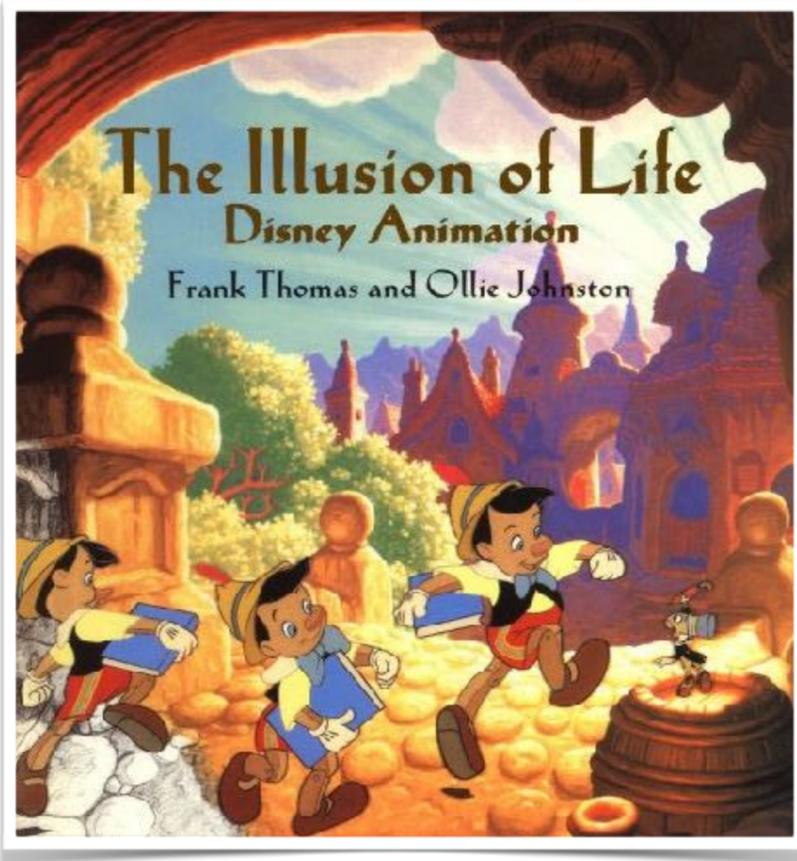


Animation

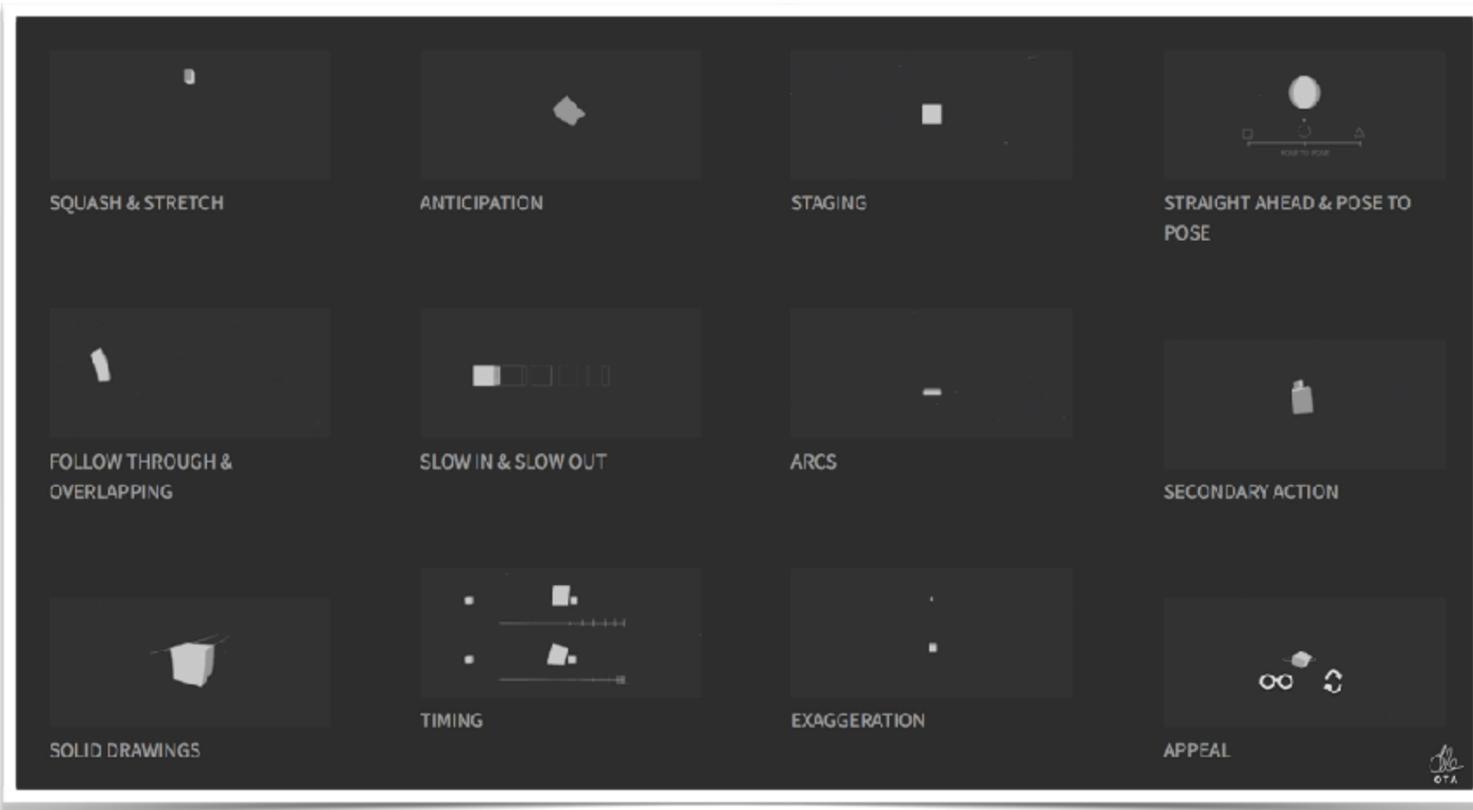




Olli Johnston; Frank Thomas (1981): *The Illusion of Life: Disney Animation*

12 Principles of Animation

1. Squash and Stretch
2. Anticipation
3. Staging
4. Straight Ahead Action and Pose to Pose
5. Follow Through and Overlapping Action
6. Slow In and Slow Out
7. Arc
8. Secondary Action
9. Timing
10. Exaggeration
11. Solid drawing
12. Appeal



Sprite

ZERLEGUNG EINES SPRITES IN BYTEWERTE

ZEILE	BIT NR.			BYTEWERT		
	76543210	76543210	76543210	1	2	3
1				0	0	0
2				0	24	0
3				0	128	0
4				1	255	128
5				7	255	224
6				30	102	120
7				54	102	108
8				54	102	108
9				31	255	248
10				7	255	224
11				1	255	128
12				1	128	128
13				3	0	192
14				3	0	192
15				6	0	96
16				6	0	96
17				12	0	48
18				127	0	254
19				0	0	0
20				0	0	0
21				0	0	0



Eine im Speicher codierte Bitmap,...

...die auf dem Bildschirm an variablen Koordinaten ausgegeben werden kann

Sprite Animation



Dynamisches Wechseln der Sprite-Bitmap

Sprite Scaling



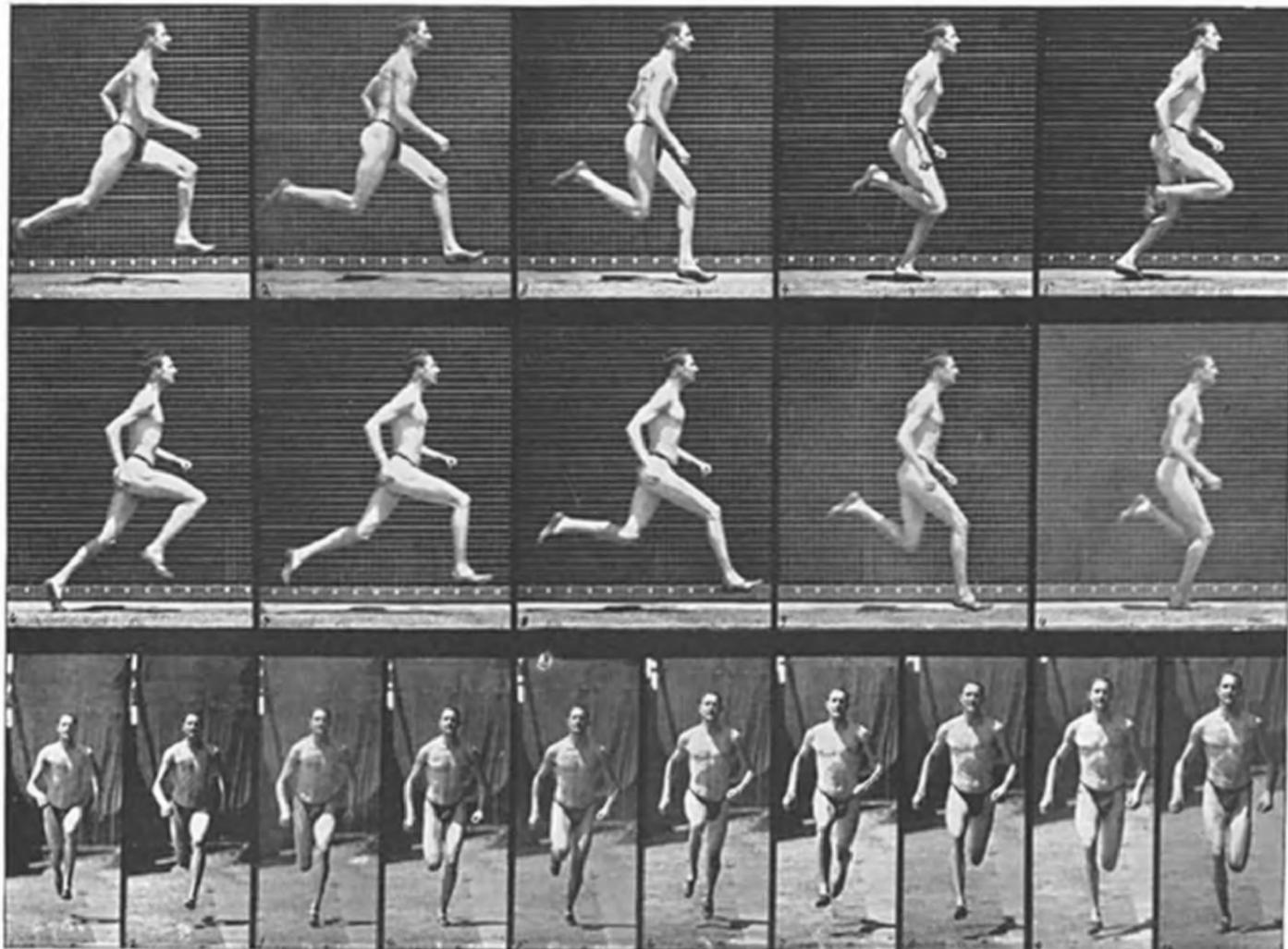
After Burner 1987



Doom 1993

Rotoscoping

THE HUMAN FIGURE IN MOTION.



Copyright, 1887, by Eadweard Muybridge.

ATHLETE. RUNNING.

→ SERIES 10.

PHOTOGRAPHED SYNCHRONOUSLY FROM TWO POINTS OF VIEW.

Model 37.

Time-intervals: $\frac{1}{242}$ second.

For some similar phases, from the original work, see page 201.

Edward Muybridge (1907)

Games with sprites (possibly) based on Eadweard Muybridge motion study photography

Decathlon, Microsoft 1982



START

Summer Games II, EPYX 1986 (flipped horizontally)

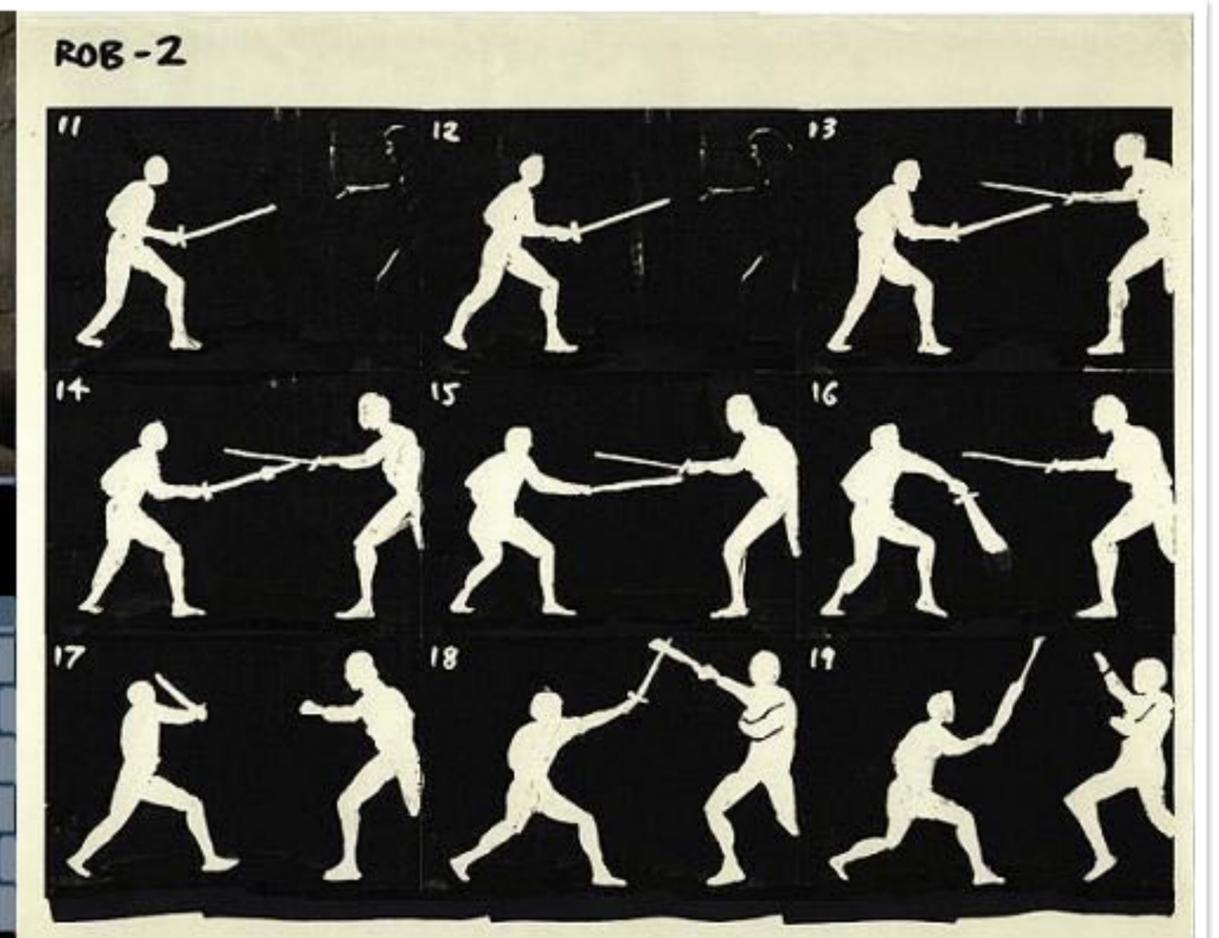


Impossible Mission II, EPYX 1988 (EGA graphics)



BAR 2013

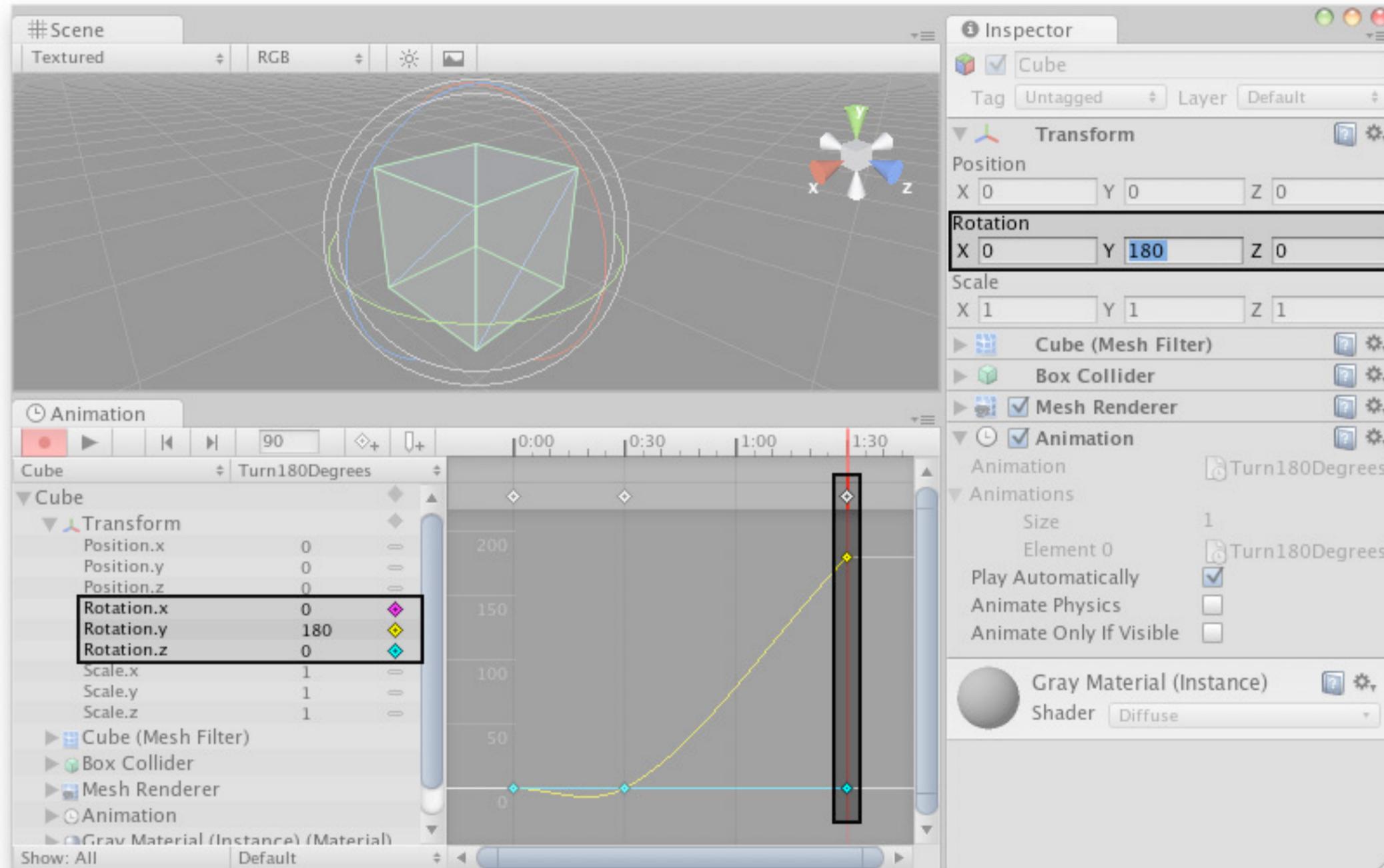
Rotoscoping



Prince of Persia 1989

https://archive.org/details/msdos_Prince_of_Persia_1990

Keyframe-Animation





WOLF

WIN [] []

TIME
26" 76



JEFFRY

WIN [] []



ROUND 2

30" 22

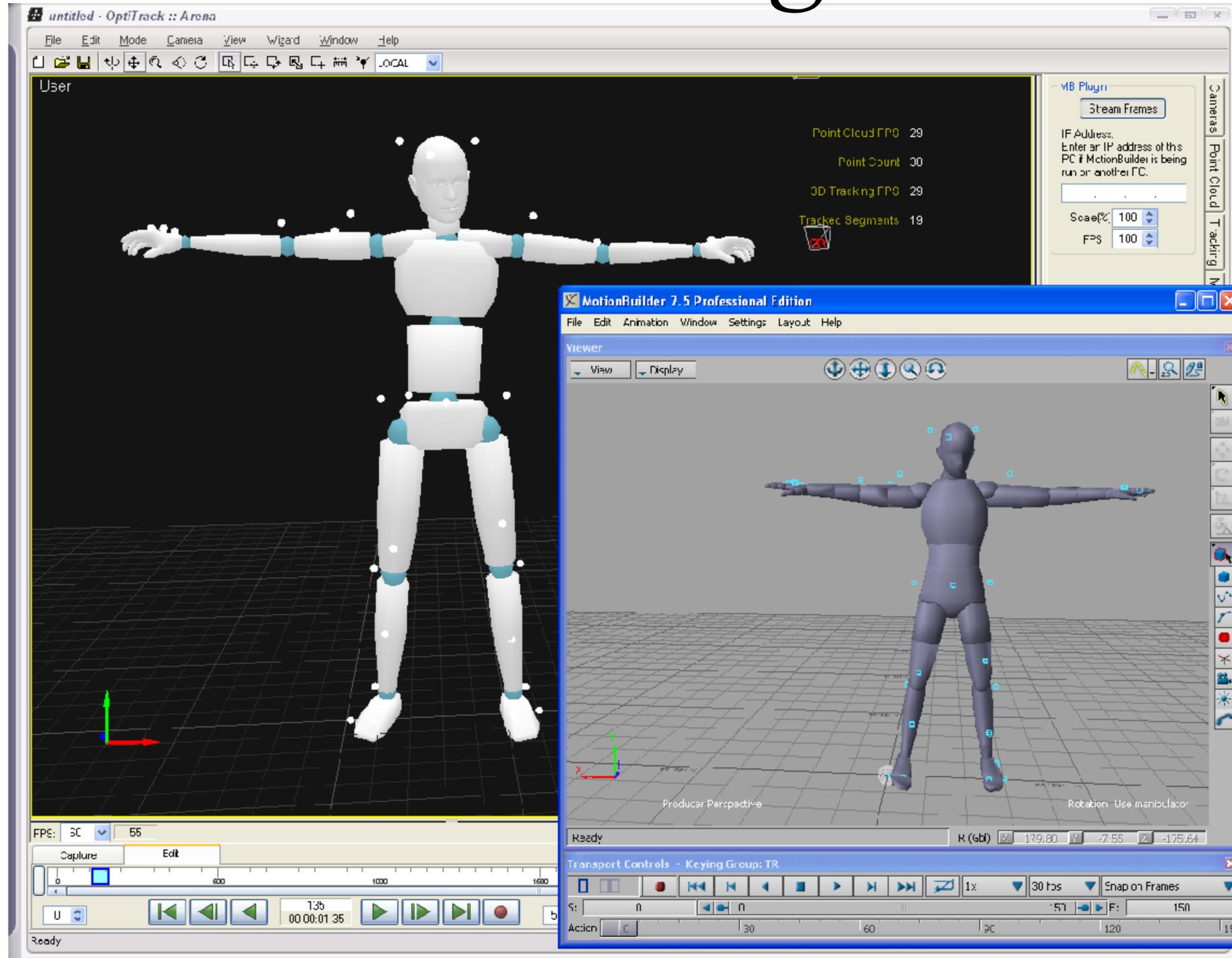
Motion Capturing



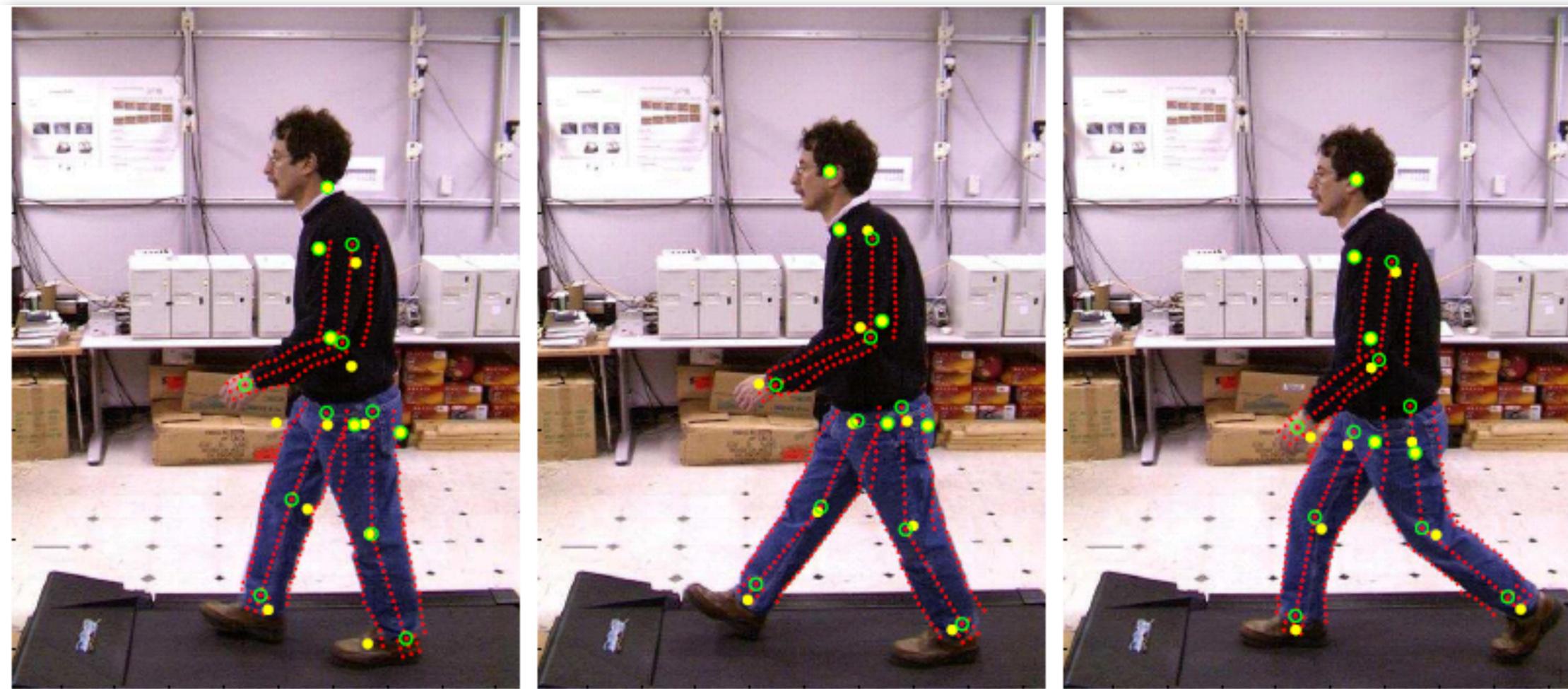
Rise of the Robots 1994

https://www.youtube.com/watch?time_continue=118&v=dGUhpRW4fic

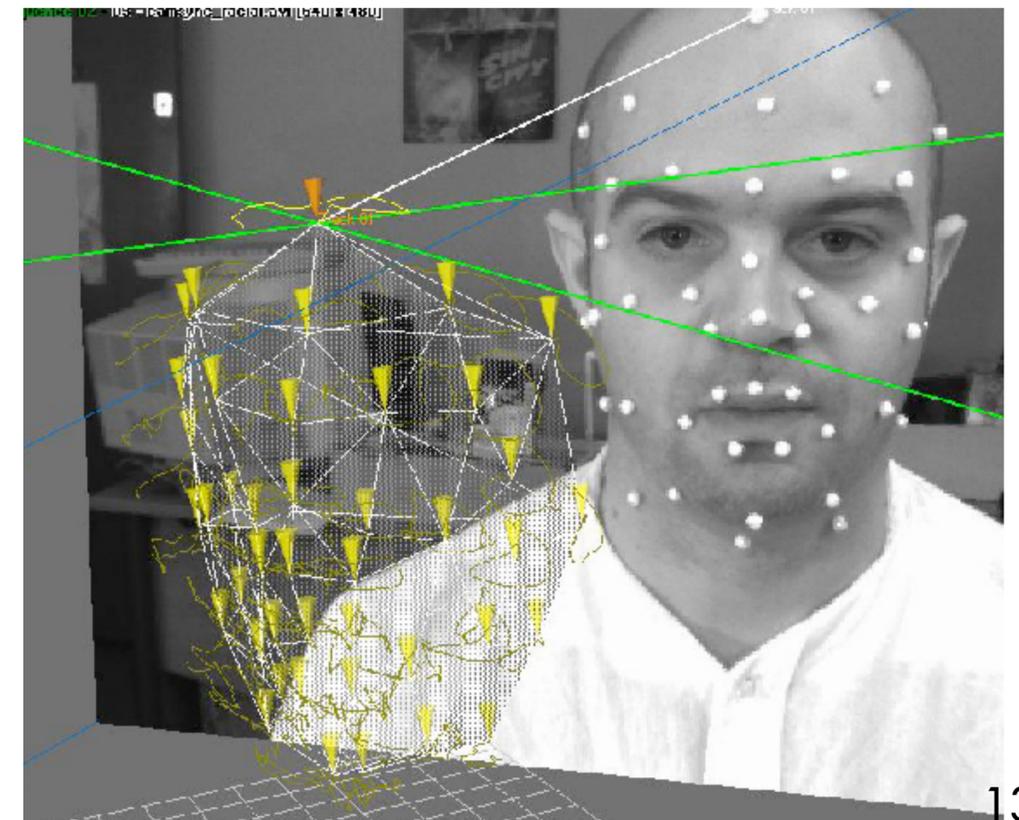
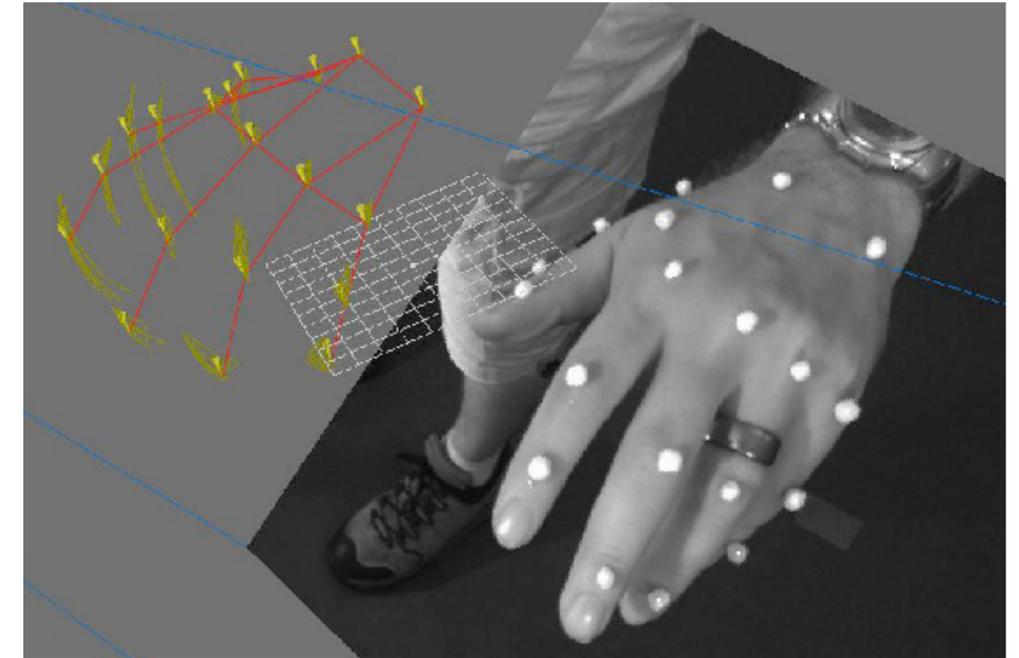
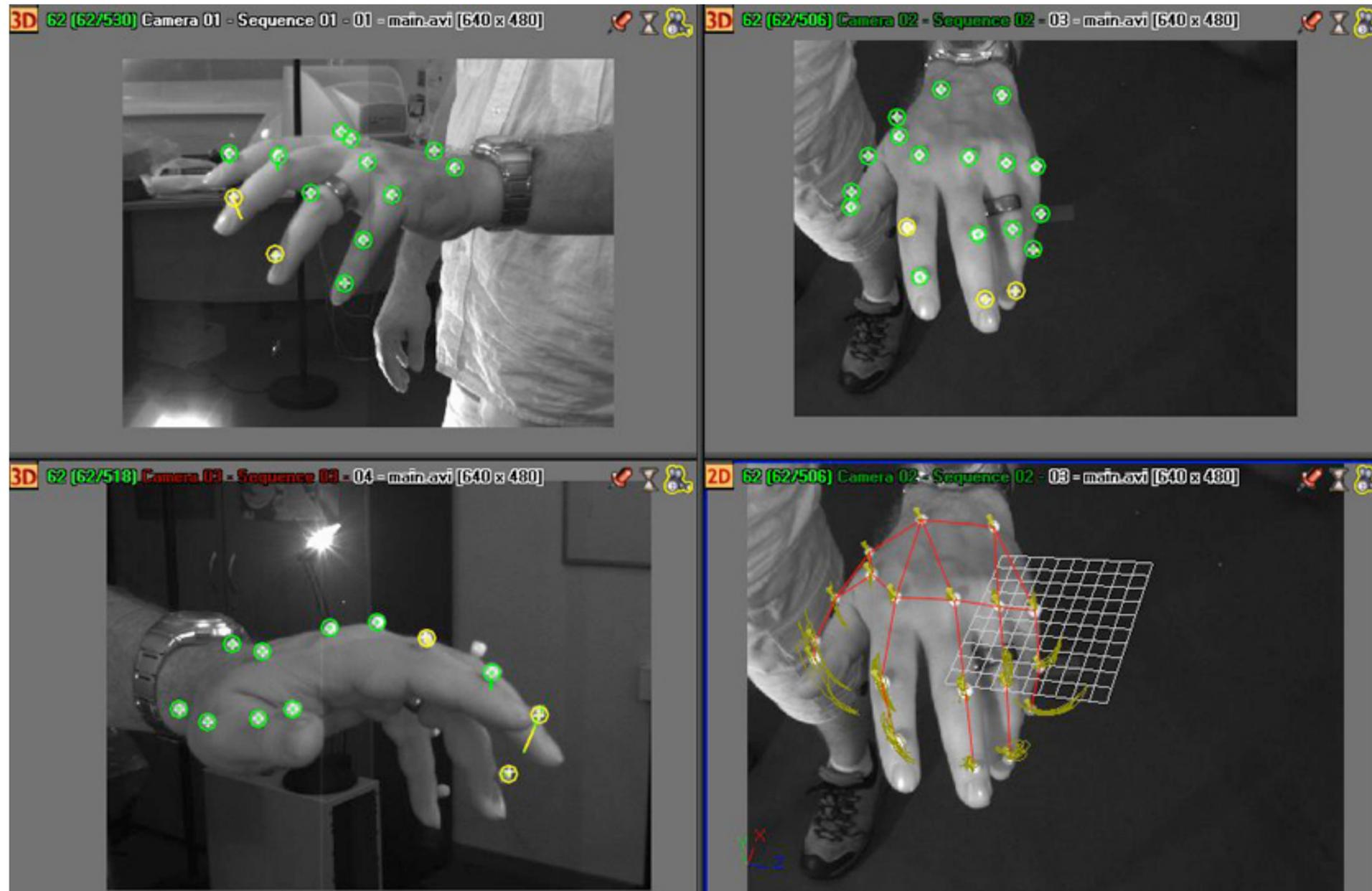
Motion Tracking



Motion Tracking



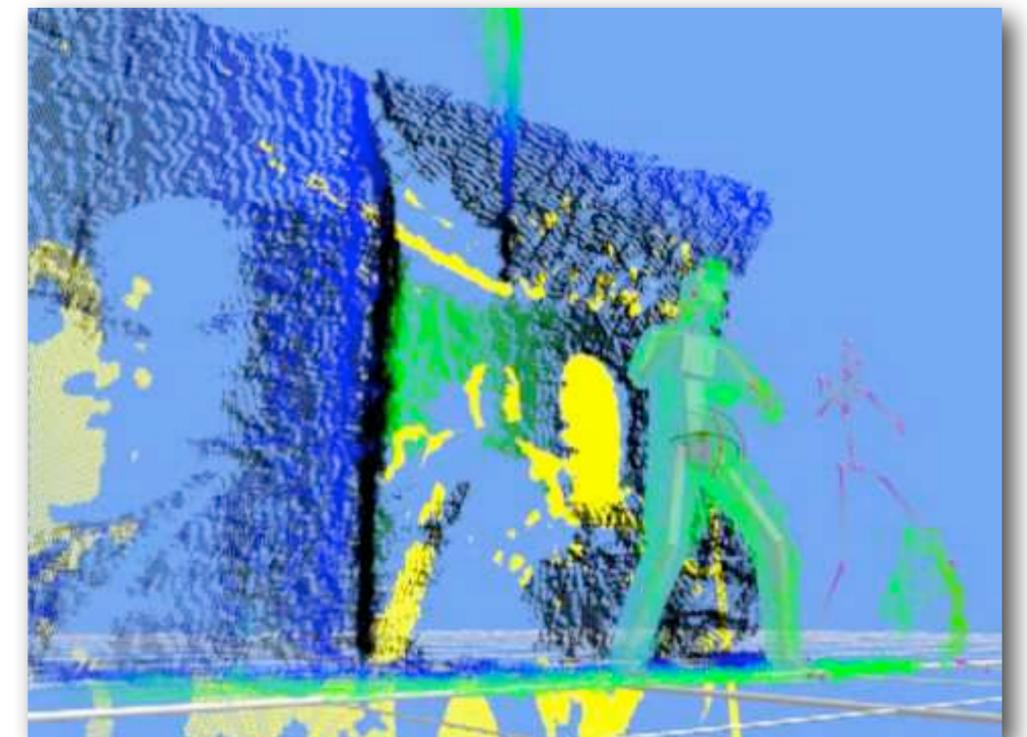
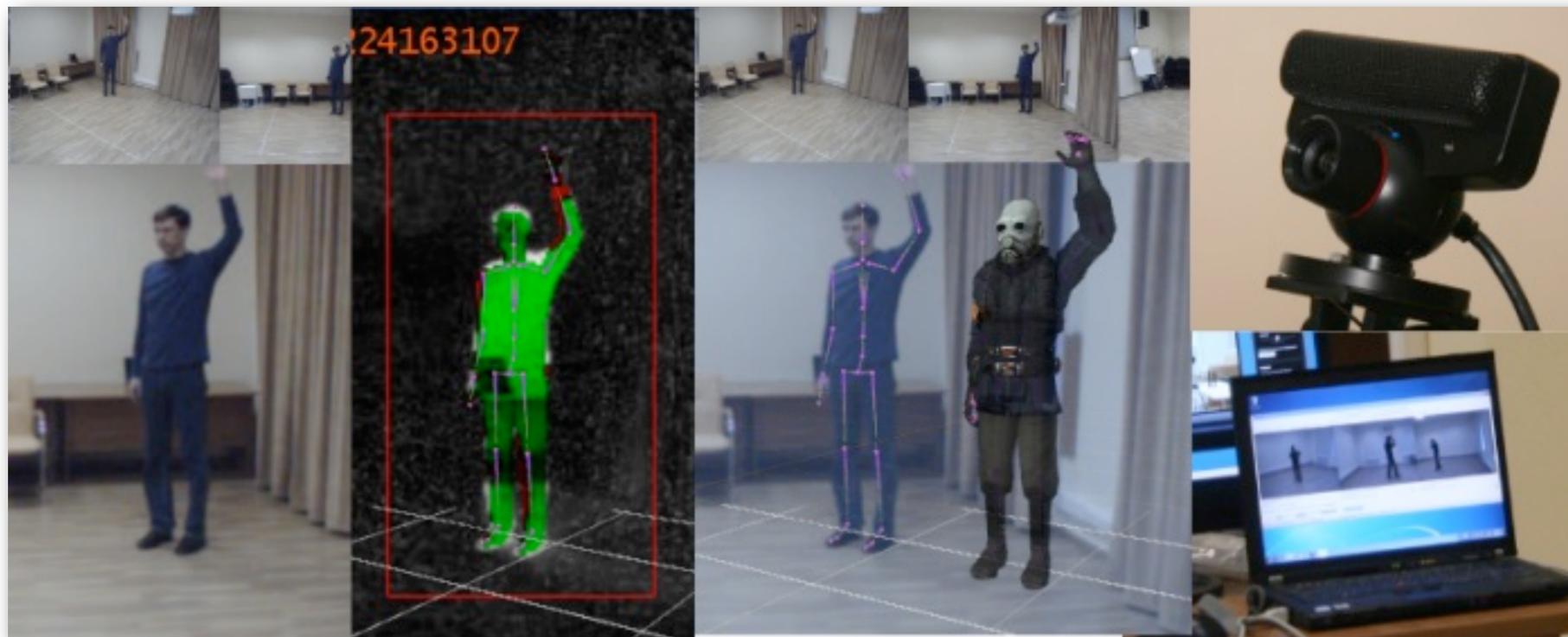
Hand/Face Tracking



Motion Capturing



IPISoft Kinect Motion Capture

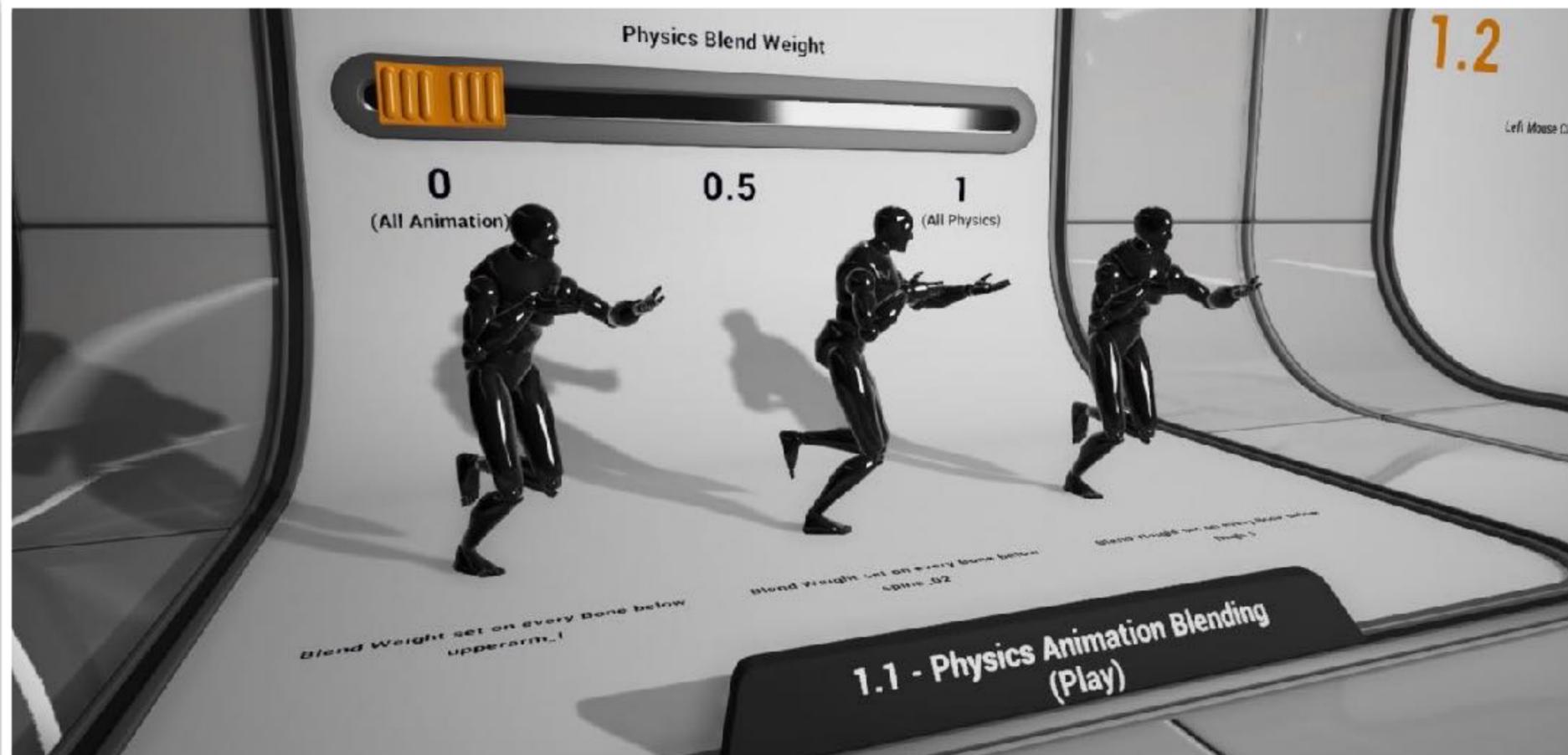


CMU Graphics Lab Motion Capture Database

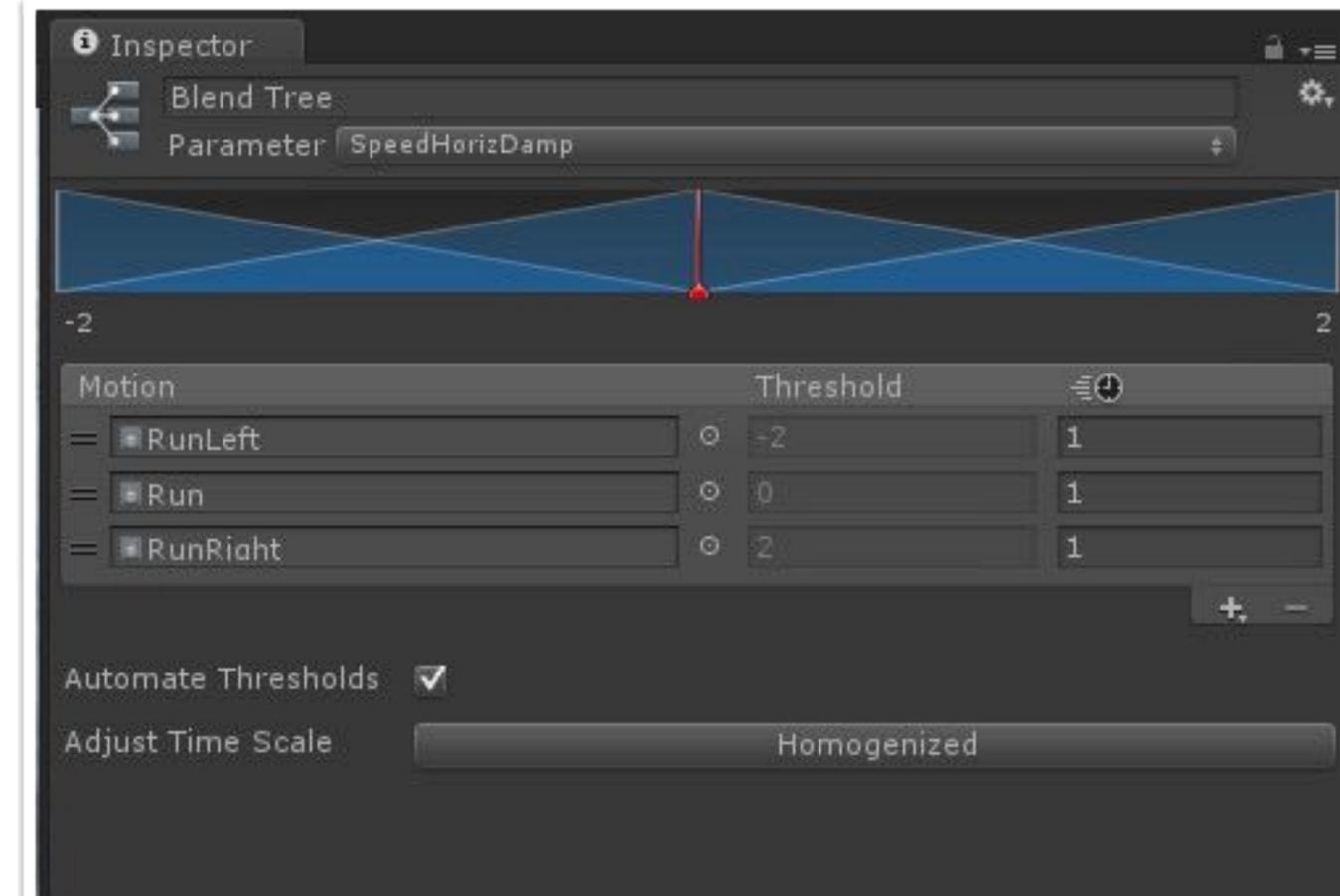


<http://mocap.cs.cmu.edu/>

Motion Blending

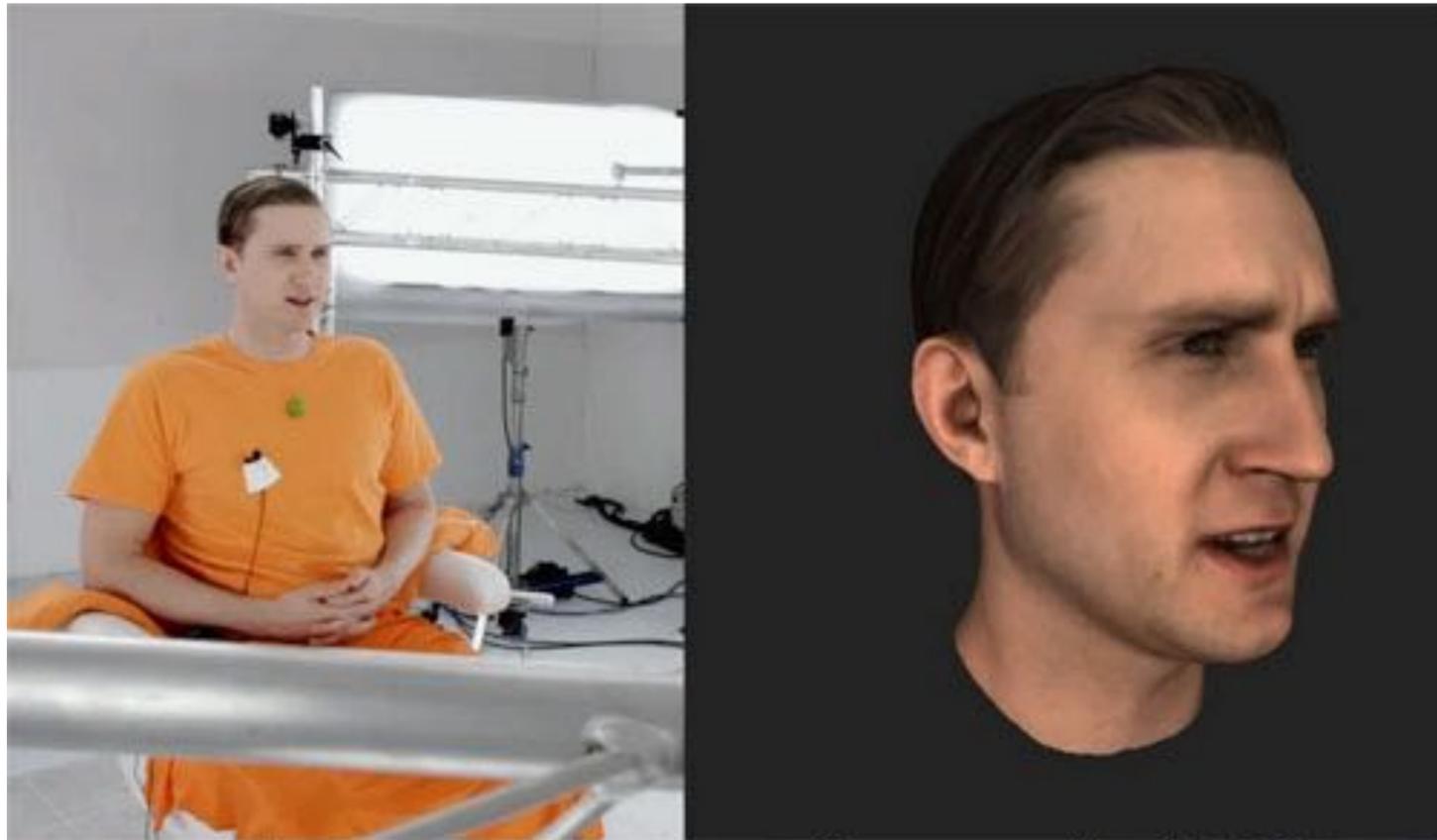


Unreal Engine



Unity 3D

Videogrammetrie



L.A. Noire

Prozedurale Animation



Jurassic Park: Trespasser (1998)



Instant Replay

Score: 63239
High Score: 1490957

Character
Altitude
008 ft
Airtime
--: S

Vehicle
Altitude
005 ft
Speed
054 mph



Replay
Speed



0x

Festkörper-Animation
Turbo-Dismount



Weichkörper-Animation Octodad



Physikalische Animation



Cloth

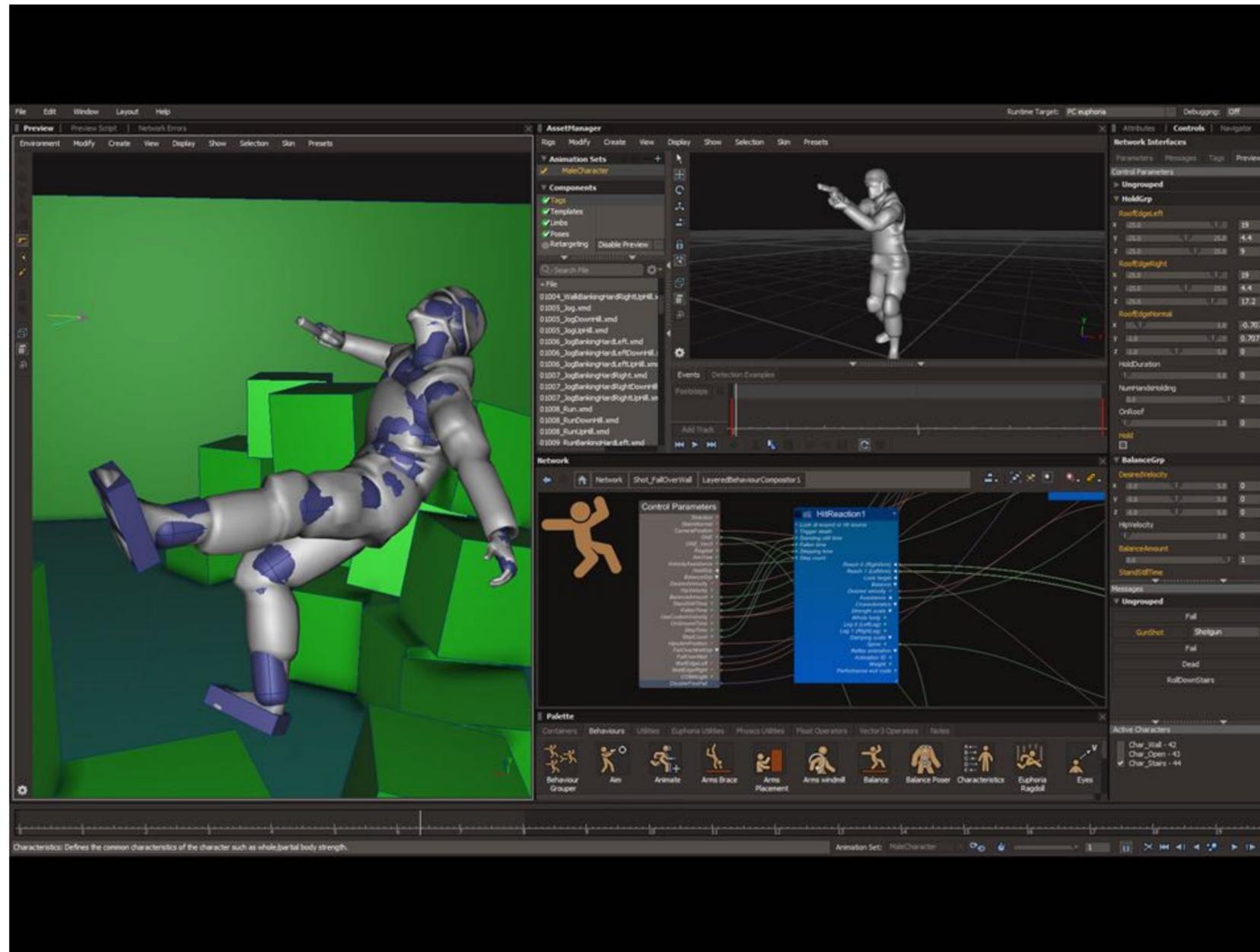
<https://www.youtube.com/watch?v=pQJlpMwyK5Q>



Hair

<https://www.youtube.com/watch?v=JNxvUg1lu0o>

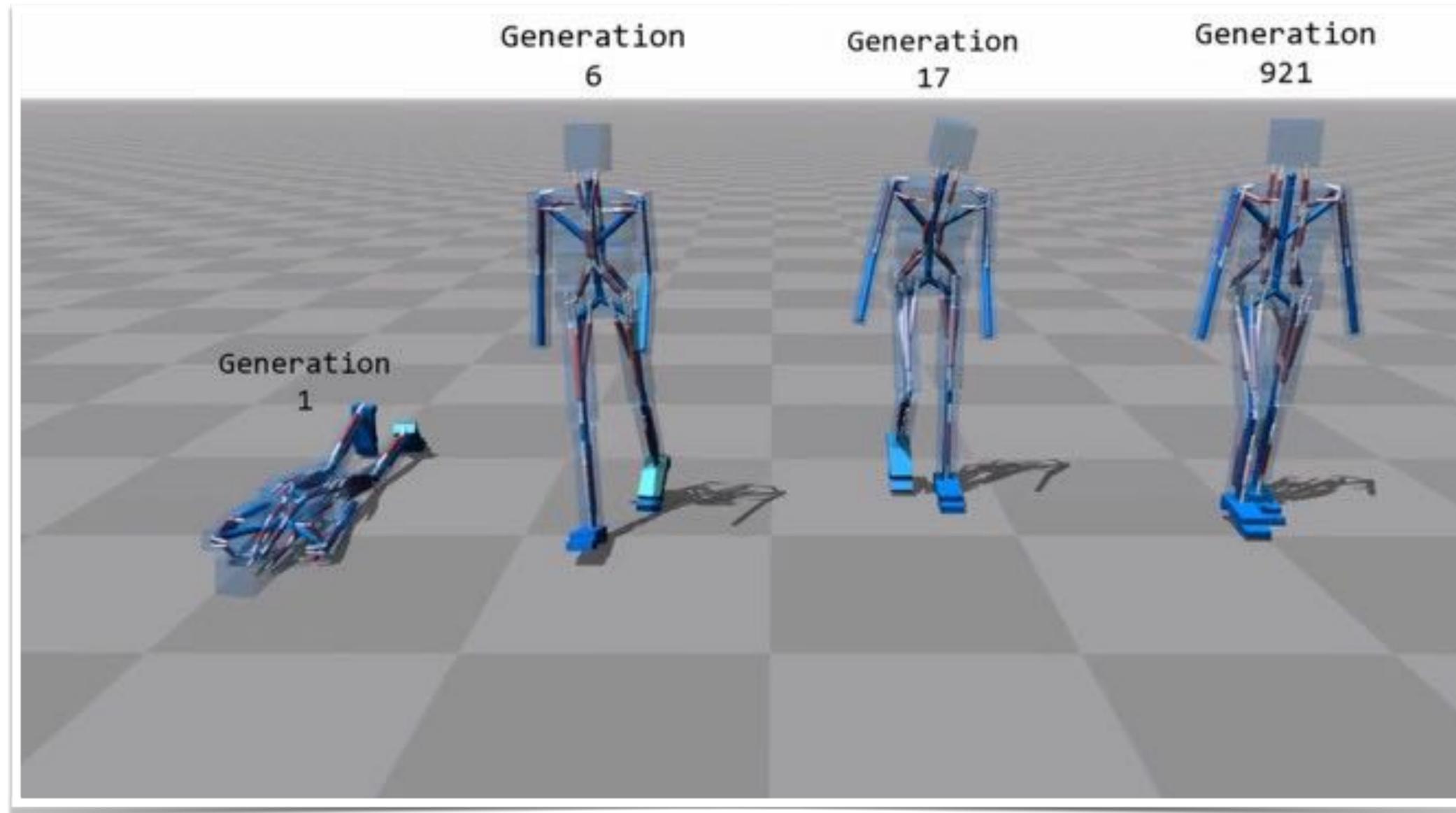
Middleware



Morpheme / Euphoria

<https://www.youtube.com/watch?v=0Pm0Cvm0zdl>

Machine Learning



<http://digg.com/video/watch-a-computer-try-to-learn-how-to-walk>

Crowd Simulation



<http://www.massivesoftware.com/>



<http://golaem.com/>