

Memeweaving the FourFathers: From Muybridge, Marey, Fleischer and Theremin Down the Long and Winding Road to Live Digital Performance.

Stephen Jacobs
Associate Professor
Game Faculty
Department of Information Technology
Golisano College of Information and Computer Sciences
Rochester Institute of Technology

Contact Info:

585-475-7803 W
585-278-6118 C
sj@mail.rit.edu

Bio: Stephen Jacobs is an Associate Professor of Information Technology at the Rochester Institute of Technology, where he directs the Lab for Technological Literacy and teaches graduate courses in Computer Game History and Analysis, Interactive Narrative, Game World Design and On-Line Community. An executive member of the IGDA Writer's SIG, he wrote and edited chapters for the SIG's book "Game Writing: Narrative Skills for Videogames." Jacobs has had an extensive career as a technology and popular culture journalist creating and writing the Public Radio show "What The Tech!," positions as contributing Editor for CNET, Television 2.0 and Videomaker and writing freelance pieces for Game Developer Magazine, Wired, the Washington Post's Fast Forward and others. In the late 1980s he programmed and ran conferences for AmiEXPO, the Amiga trade shows in cities across the US, Germany and the United Kingdom. He's currently serves on the organizing committee for the ACM's "Sandbox Symposium" on Computer Games, the scientific committee for iDiG – International Digital Game Conference in Portugal and the advisory board for the New Media Consortium's Virtual Campus in Second Life. He's been a presenter for the Game Developers Conference, The Serious Games Summit, The Media Ecology Conference, SIGGRAPH and others.

Proposal: Memeweaving the FourFathers: From Muybridge, Marey, Fleischer and Theremin Down the Long and Winding Road to Live Digital Performance.

Scratch any *Eye Toy* “party” game, motion capture driven performance or even “Home Land Security” gait recognition system and you’ll find some combination of the art and technology of these four luminaries underneath. Not only that, but you’ll find recurrences of certain visual memes and technological innovations repeating like intellectual echoes over the course of roughly 135 years. Compare any motion capture “cat suit” and you’ll not only find Marey’s identical suits for photographic work in the 1880s but Lee Harrison’s analog performance animation system from 1969. Look at any motion capture performance and you’ll find not only Fleischer and either Marey or Theremin but also David Rokeby’s *Very Nervous System*, Vincent John Vincent’s *Mandala* and many more.

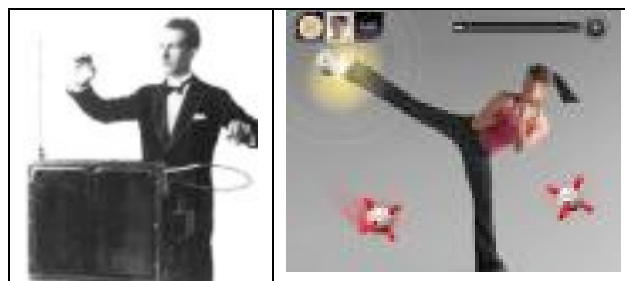
Memeweaving the FourFathers will be a traditional paper submitted to the conference. The concepts it discusses will be presented in/supported by a multimedia blitzkrieg bop through more than a century’s worth of still and moving imagery.

The paper will first quickly establish the “FourFathers” and then explore Digital Live Performance related memes it will entitle *Trails*, *Smooth Moves* and *With a Wave of the Hand*.

Trails: There is something inexplicably captivating about motion trails and blurred, lingering superimposed movements. This type of imagery begins with Marey’s Chronophotographie, trickles down into Deuchamp’s *Nude Descending a Staircase #2*, jets into McLaren’s optically printed dance films and boogies into the Jackson 5’s Scanimate driven *Blame it on the Boogie* music video until it is hard-coded into professional and prosumer video equipment like the Fairlight Video Instrument and recalled at the flick of a switch. Trails are a piece of the basic grammar of digital live performance.



With a Wave of his Hand: A simple gesture that can mean “hello,” “goodbye,” or “here I am.” It can be encompassing or dismissive, and that’s even before we start to talk about magic. The phrase “with a wave of his hand” into Google and you get over 61,600,000 hits. References range from Vedic Literature to DC Comics heroes to the House of Seven Gables, to Star Trek and much more. “With a wave of his hand” is an ancient meme so its not surprising that gestural, and even full body computer interfaces should have evolved. Technologically the road winds from the analog music instrument, the Theremin and motion capture sensors of Marey through the Animac to evolve into the current generation of performance tools and Eye Toy performance games by way of *Mandala* and other video and sensor driven interfaces.



Smooth Moves: Fleischer invented the Rotoscope to bring more realistic motion to the animated cartoons of 1915. But it almost immediately evolved into a system that allowed for “skin-changing.” Andy Serkis’

performances as “King Kong” and “Gollum” in recent feature films are the direct descendant’s of Cab Calloway’s appearance as a walrus-tusked ghost in 1932’s “Minnie the Moocher” from Fleischer Studios. Historically its been used for both, from stripped down animations where the imported motion of minimalist lines convey volumes to Bakshi’s blending and transposition from live to animated in a significant portion of his catalogue to the real-time digital performances of humans skinned in anything the human-mind and the digital computer can create.



As part of the paper and its visual support a taxonomy for live performance applications will be developed that examines the base technology, application and domain of a given motion-capture driven.