

References

Sturman, D., 1994. A Brief History of Motion Capture for Computer Character Animation. Character Motion systems, Siggraph.

The mocap research began with the History of Motion Capture. The initial test stages of Motion capture began with the test of Athletes motions. This were recorded as key frames and stored. Having acquired the knowledge and workings of Motion capture the next area was to find out what made the Mocap unique.

Elizabeth A. Rega & Stuart S. Sumida., Siggraph 2009. Anatomical Considerations in Facial Motion Capture, volume-43-number-2

To find out the difference between Mocap and Perfcap an interesting article by Elizabeth and Stuart describes about the muscles in the face which are involved in communicating realistic emotional responses. They were based on Darwin's theories. Although this brought a scientific aspect of Mocap it did not provide with complete details on the performances they produced substantial evidence on how the muscles in the human face define certain emotions. These emotions or cues are sub consciously generated. Furthermore the importance of blink, which brings a sense of believability into the character, is also touched upon in the paper.

Gleicher, M., Animation From Observation: Motion Capture and Motion Editing. Appeared in: Computer Graphics 33(4), p51-54. Special Issue on Applications of Computer Vision to Computer Graphics.

While the debate continues between Motion capture and performances Michael Gleicher interesting articles Animation From Observation: Motion Capture and Motion Editing Makes a noticeable comparison between Motion capture vs animation, Motion capture vs Animation from Observation. Although the subjects do a direct comparison between motion capture and animation, the important point to note is the presence of acting in both the captures Motion capture as well as Animation from Observation .

Kelly, S., Motion Capture Is Your Friend, 2010.

http://www.cgtrona.com/index.php?option=com_content&task=view&id=177&Itemid=33

Shawn Kelly co-founder of Animation Mentor and a Animator at ILM described the entire process on how performances play a vital role to get better emotional feedback.

Chuang, E., March 2004. ANALYSIS, SYNTHESIS, AND RETARGETING OF FACIAL EXPRESSIONS. Thesis (PhD). Stanford University

Having got into the artistic side of Mocap, a thesis produced by Chuang further researches on how the models need to be edge looped and rigged in order to produce a clean topology. This is needed for the deformation of subtle facial deformations.

Motion capture Society., 2010. James Cameron – Performance Capture re-invented.
<http://www.motioncapturesociety.com/resources/articles/miscellaneous-articles/84-james-cameron-performance-capture-re-invented>

Last but not the least the Performances of Avatar brings together Art and technology like never before and hence comparing the art and technology I come to understand and distinguish between Mocap and perfcap.