Chapter 7

Interactive Technologies and Audiovisual Programming for the Performing Arts: The Brave New World of Computing Reshapes the Face of Musical Entertainment

Eirini Markaki
Aristotle University of Thessaloniki, Greece

Ilias Kokkalidis
Aristotle University of Thessaloniki, Greece

ABSTRACT

While many scientific fields loosely rely on coarse depiction of findings and clues, other disciplines demand exact appreciation, consideration and acknowledgement for an accurate diagnosis of scientific data. But what happens if the examined data have a depth of focus and a degree of perplexity that is beyond our analyzed scope? Such is the case of performing arts, where humans demonstrate a surplus in creative potential, intermingled with computer supported technologies that provide the substrate for advanced programming for audiovisual effects. However, human metrics diverge from computer measurements, and therefore a space of convergence needs to be established analogous to the expressive capacity of musical inventiveness in

DOI: 10.4018/978-1-5225-0264-7.ch007
terms of rhythm, spatial movement and dancing, advanced expression of emotion through harmony and beauty of the accompanying audiovisual form. In this chapter, the new era of audiovisual effects programming will be demonstrated that leverage massive participation and emotional reaction.

INTRODUCTION

It was inevitable that the awakening of digital technology as a substrate for global progression would have its ramifications influencing all sectors of human activity. In the space of arts and visually striking performances the tendencies of modern-day technologies would guarantee the creation of original and impressive spectacles asserting accomplishment in music, whether these advances concern the awareness of music and rhythm or the musicality of stage performances in general. The growth of computer systems and the developments in computer music offer the possibility of producing more and still more ostentatious works that bolster the theatrical-like character of live performances with significantly lower costs.

The term “performing arts” is used interchangeably for the description of a wide category of events of human expression: it may indeed engulf performance in the flesh, with the artists seen on stage, but it may also include a perforated event, where some parts of the musical scene are prerecorded or performed by automata, while the remaining rest is indulged with live enactment of artists, technicians, DJs or the participating public itself (Cox, 2003).

In this sense musicality is considered to be a basic axis for theatrical enactments since every major performing activity, from voguish fashion exhibitions up to the movies, relies on the arousal of fantasy that influences the audience’s strong emotions. With this manner spreads out a tree-like lineage of spectacles that indomitably promote its ritualistic essential substance, even though sometimes in its modern expression globalized forms of music masquerade this persistent underground. Despite the big differences that occur in music performances in the synchrony of our world, the common denominator is the presence of a live public, which vibrates and reacts according to the streamed or performed music. (Figure 1).

The participation of the public during a performance is of vital importance for its own success story. Every stage incarnation initiates a unique relationship between the artist and its audience, and this relation (in computer science terms: a transaction) yields the human interaction to the event. In case some kind of machinery is involved, which is duly prompted nowadays, then we have