Chapter 3
Multimedia, Scientific Information, and Visualization for Information Systems and Metrics

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ABSTRACT

We present the main aspects of the importance of carrying out quality measurements in multimedia/interactive systems in the current era of expansion of communicability. Besides we disclose the first key elements to carry out techniques and/or methodologies to discover the quality attributes of an interactive system, such as the realization of quality metrics and the process of a heuristic evaluation. A set of examples online and off-line complete the current research work. In this set is stressed the economic importance of the process of evaluation in services and products related to the software, as well as some of the human factors to gain the hegemony of quality control.

INTRODUCTION

In the process of communication among people, the 20th century has boosted audiovisual and interactive communication: a communication where new technologies have generated a continuous and uninterrupted process of
feedback between users and digital contents. However, instead of speaking of new technologies, it is better to define them as “latest” technologies from a temporal point of view in view of the changes that take place at every passing second in the R&D (research and development) international sector aimed at ICT (information and communication technology).

Now with the latest technologies, in the 90s., there was a process of greater democratization of those digital contents, easier and more extensive, towards the base of the population pyramid, than in the current era of expansion of communicability (Cipolla-Ficarra, 2014). The digital divide has been boosted from the end of the first decade of the new millennium because the potential enjoyers of those digital contents cannot afford the new technologies. Consequently, there are now three groups in relation to potential users of such technologies and the interactive systems for those digital contents. In the former, are those who stay with the traditional systems, that is, they take years to update the hardware and/or software, for instance. In the latter, there are a few users who purchase vertiginously the latest technological breakthroughs (they keep up with the fashion of the latest novelties). Finally, there is the third group that situates itself between both, they are users of the new technologies (they wait for the drop of costs to interact with the new devices, after a few months have passed since the presentation of the new hardware and/or software. In other words: the cost factor and services purchase and/or products in the ICT have split access to digital contents into three areas.

In the 90s, there was a bipolarization between users and non-users of the interactive systems of the off-line multimedia, for instance. The PCs of most users in the south of Europe were adapted for interactive multimedia, through the internal or external connection of CD-ROM readers in the first place and later DVDs. It was also the time in which the massive digitalization process of the information in paper support was started. Those were excellent contents whose fruition was limited by the hardware, the software to create interactive multimedia systems, the lack of training of the multimedia sector professionals, etc. An example are the first interactive multimedia commercial systems for the works of art, such as the off-line multimedia system CD-ROM Art Gallery by Microsoft in the mid 90s (Microsoft, 1993; Cipolla-Ficarra & Cipolla-Ficarra, 2008). Those were excellent contents, but in the interactive design failings in the programming of the contents could be seen deriving from the lack of control in their productive process. For instance, in the Art Gallery multimedia system (Microsoft, 1993) there are
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