Chapter I
The Computer Medium in Digital Art’s Creative Process

Adérito Fernandes Marcos
University of Minho, Portugal

Pedro Branco
University of Minho, Portugal

João Álvaro Carvalho
University of Minho, Portugal

ABSTRACT

Art objects might be described as symbolic objects that aim at stimulating emotions. They reach us through our senses (visual, auditory, tactile, or other). They are displayed by means of physical material (stone, paper, wood, etc.) and combine some patterns to produce an aesthetic composition. They convey some message, normally to suggest some state of mind or to induce an emotion and the consequent feeling on the side of the viewer. Digital art differs from conventional art pieces by the use of computers and computer-based artifacts that manipulate digitally coded information, inheriting the almost unlimited possibilities in interaction, virtualization and manipulation of information the computer medium offers. In this chapter the authors propose to analyze and discuss the concepts and definitions behind digital art, emphasizing how the computer medium is itself the tool and the raw material in its creation, especially if we stress the fact that the conception and design of artistic information content is at the heart of any artistic work. Furthermore the authors present a framework for digital art creation that consists of a common design space where digital artists can smoothly progress from the concept until the final artifact while exploring the computer medium to its maximum potential.
INTRODUCTION

Arts and culture are social phenomena, consequent of the social interaction, of the individual and collective imaginary manifestations, that together establish a common communicational and informational space embracing artifacts said to be cultural and artistic. These artifacts, where some are possibly non-tangible, constitute, in fact, the resulting product from the artistic and cultural phenomenon. They are expressions of our imagination.

In this respect, the common communicational and informational space is created by the process of collaboration among a group of people who communicate and operate together by sharing the same interests and goals. Information or information content, meaning the intended message of each artifact, is a central constituent of the common communicational and informational space. Accordingly, artistic artifacts, may these be of digital or physical nature can be defined as informational objects.

Art objects might be described as symbolic objects that aim at stimulating emotions. They reach us through our senses (visual, auditory, tactile, or other). They are displayed by means of physical material (stone, paper, wood, etc.) and combine some patterns to produce an aesthetic composition. Like any art object, digital art objects are informational in nature; they are symbolic and purposeful built. Their creator intends to convey some message, normally to suggest some state of mind or to induce an emotion and the consequent feeling. They differ from conventional art pieces by the use of computers and computer-based artifacts that manipulate digitally coded information, what opens unlimited possibilities in interaction, virtualization and manipulation of information.

The computer medium is defined here as the set of digital technologies ranging from digital information formats, infrastructures to processing tools that together can be observed as a continuum art medium used by artists to produce digital artifacts.

When we consider the creative process itself, we can establish its beginnings when the creator gets an hold of the first concept or idea resulting from his/her subjective vision, gradually modeled into a form of (un) tangible artifact. It constitutes the message, this about something, the artist wants to transmit to the world. When digital content is used in this process, it can be both the means and the end product. On one hand, the digital content can be explored as the means to create non-digital artifacts, as for instance, digitally altered paper-based photography, and, on the other hand, be the end-result intended as it is the case in animated comics (Marcos, 2007).

In fact, digital art applies the computer medium both as raw material (e.g. the digitally coded information content) and as a tool of enhancing creativity. Notice that raw material is related here to unprocessed (or in minimally processed state) material that can be acted by the human labor to create some product. Similarly, digitally coded information content can be manipulated by digital artists to create artistic objects. When in the creative process, digital artists apply information content along with technologies from multimedia, virtual reality, computer vision, digital music and sound, etc. as also the information and communication infrastructure available such are the internet, presentation devices, and storage arrays, among others, to create interactive installations and generate digital artifacts. Therefore, the computer medium traverses effectively all the stages of the creative process, from concept drawing until the final artifact production and exhibition. Today’s powerful editing and programming tools make it possible to an artist to modify, correct, change and integrate information content as valuable raw material in the creative process, that may be presented in several digital formats such are text, image, video, sound, 3D objects, animation, or even haptic objects.

Moreover, artistic communities need to have access to common technological infrastructures that facilitate collaboration (collaborative editing,
Related Content

Prejudicial Evaluation: Bias in Self-and-Peer-Assessments of Teamwork Contributions to Design
Richard Tucker (2017). *Collaboration and Student Engagement in Design Education* (pp. 76-104).
[www.irma-international.org/chapter/prejudicial-evaluation/165676/](www.irma-international.org/chapter/prejudicial-evaluation/165676/)

Augmented Reality in Informal Learning Environments: A Music History Exhibition
[www.irma-international.org/article/augmented-reality-in-informal-learning-environments/178511/](www.irma-international.org/article/augmented-reality-in-informal-learning-environments/178511/)

Haptic Interaction with Elastic Volumetric Structures
[www.irma-international.org/article/haptic-interaction-elastic-volumetric-structures/65082/](www.irma-international.org/article/haptic-interaction-elastic-volumetric-structures/65082/)

The Earth Sciences and Creative Practice: Entering the Anthropocene
[www.irma-international.org/chapter/the-earth-sciences-and-creative-practice/129310/](www.irma-international.org/chapter/the-earth-sciences-and-creative-practice/129310/)

District Resource: Culturally Creative Products Derived From a Local Legend
[www.irma-international.org/article/district-resource/116022/](www.irma-international.org/article/district-resource/116022/)