

## INTERACTIVITY BEING A CONTEXT FOR THE LANGUAGE IN DIGITAL ARTS

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### 1. Introduction

The massive use of computers and information technologies are a vital issue in our age, which influence many areas of life and culture, as well as bringing new tendencies in the formation of the contemporary art by artists.

As we look at the relationship between science and art, in the past, before Renaissance time, we see that science and technology were united. Science was called natural philosophy which reflected truth and religion, in which the philosopher and the artist were mostly the same person. After Renaissance, science developed as a segregated set of processes and worldviews, while art continued to progress in its own direction as being presented in a limited set of contexts and intended for to purposes like beauty, religious glorification and representation of people in places. The Industrial Revolution and The Age of Enlightenment not only separated science and art more, but also build up an environment in which those in humanitarian and arts and those in science developed different languages and worldviews that did not meet with each others (Wilson, 2002).

Due to an overwhelming demand from entertainment industry, digital art is born. So, within this century, a chance is born for experimenting and testing of boundaries, in the frame of technology, science and art. With the addition of new technological forms to media, like photography and cinema, art and science once more began to relate to each other. Technology, which is also called as applied science, tends to seek “knowing how”, where science seeks “knowing why”. Science and technology constantly

work together as each one creates the path for the development of the other. The main difference between science and technology lies in “intention”. Technology developers usually focus on specific goals, while scientists search for knowledge that is more abstract (Wilson, 2002). Artists do not necessarily engage with science as science deals with understanding principles, but they make use of technology as technology is interested in making things or refining processes. Within these circumstances, digital art is born, which can simply be defined as an area of application created using hardware and software tools in digital environment. It is believed that digital art can be totally computer generated like an image drawn by using vector graphics software with a mouse or taken from another source, like a scanned photo. Digitized text, raw audio, visual data and video recordings are not usually considered as products of digital art, but they can be part of larger projects. The aim of this study is to show how techno-scientific studies and art are integrated to create an own unique style and in what ways this integration can be improved in a cross-disciplinary way that represent itself.

### 2. Digital Environment and Art

With the beginning of 21st century, the concepts of the Internet, computer, World Wide Web, digital technologies, robotics, cyberspace, telecommunications and etc. are very well known by all of us and the developments within these areas are no surprise to anyone. With the possibilities of digital medium, Doug Engelbart (Moggridge, 2007) points out that the human capabilities are improved in four distinct areas:

- 1 – Artifacts: The use of physical objects to provide comfort, for management of things or operations, for manipulation of symbols.
- 2 – Language: The way of classifying the picture of the world into concepts, that are connected to symbols and can be manipulated.  
Methodology: The solutions used for a
- 3 – problem including methods, procedures and strategies
- 4 – Training: The condition needed by the individual to bring his skills.

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We can understand that besides training and owning the computer skills, digital art is the integration of artistic talent and computer technology. As Xu points out, the digital artist is required to know the basic knowledge of design and perception, together with creativity, skill, effort and patience (Xu, 2006).

Hand drawing, painting and similar contexts still have their own unique taste, appeal, gives freedom for the artists imagination through the use of hand sketches. The digital environment is an outcome of technology, which is enhanced by science where the digital medium is simply based on pixels and 1/0 digital coding system performed by computers, together with the software and different input devices that also offer advantages through their technological qualities. The advantages of the digital environment is described by Manovich (2001) as follows:

- a – modularity: The modularity of new media makes such deletion and substitution of parts particularly easy, because of its algorithmic structure, so new media objects can be accessed, modified or substituted without affecting the overall structure of the object
- b – automation: The system of a computer and its software, which are based on templates, filters and simple algorithms help the artists to create, generate or modify new media objects, within an automated environment.
- c – variability: the modularity of the system also offers variability to the artist. As it keeps the original created piece stored digitally in a fixed medium, the parts being represented with separate identity can be changed or customized.

These three advantages are based on the fact that the data can be manipulated in the digital environment with respect to the users needs, which also creates the concept of interactivity where the user controls the works or the products, rather than the creator. In the area of art and design, partial control was sometimes passed to the observer, who becomes both the creator and the participant.

### 3. Language as the Context of Digital Design

So we can understand that digital tools have now

become an integral part of the process of making art. But actually, art community finds difficult to accept the digital products as digital art for many reasons. One reason is the perception of digital prints being endlessly reproducible and repeatable. Another impression is related with the use of computer as it is perceived as computer is creating the artwork itself by its techniques. As editing the products created in digital environment is quick and easy, this advantage also makes it possible to steal, alter and copy the artwork of others.

The questions that bring the conflict are,


What gives the unique taste to the product of digital art?

In what ways does digital environment manifest itself through art?

With reference to Engelbart, as the *artifact* are the computer software and hardware, *methods* are based on the traditional art and *training* is the skill needed to use the artifacts, "language" gives us a clue to understand in what ways digital medium can have a unique appearance through language.

With the use of photograph manipulation software, scanned drawings, paintings, collages, photographs or lithographs can be manipulated using custom made brushes, filters, visual effects and similar editing tools within the digital environment. Digital sculptures created with the help of computers are either plotted 3 dimensionally or displayed with projection with in galleries or exhibitions. The possibility to manipulate any raw data also helps to create electronic music. Digital photography and digital printing, which has combined traditional techniques and adapted to this new environment, are now an acceptable medium of creation and presentation by major museums and galleries and the work of digital artists are gaining ground through installations, net art and software art.

As Ascott (2000) points out, the language is not a merely device for communicating ideas about the world but rather a tool for bringing the world into existence. Art is a form of world building, of mind construction, of self creation, whether through



interactive systems, molecular modeling or nano engineering. As a matter of fact we can consider art a search for new language embodied in forms and behaviors, texts and structures.

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In the process of the traditional art, the products are created by artists, where the audience can watch, observe or at most touch the end product. The computer medium brings the concept of interaction by making use of manipulation capability of data, within the frame of digital art, which is the most coming forward feature of digital environment. So the possibility for the observer to become both the creator and the participant by manipulating the design comes true, as this technology can allow for collaboration through lending itself for sharing and augmenting by creative efforts of both parties.

#### 4. The use of Interactivity as a Context for Language in Digital Art

With reference to Engelbart, language gives us a clue to understand in what ways digital medium can have a unique appearance through language, as the artifacts, methodology and training have important status in traditional mediums. We choose among artworks of which most of the pieces form a coherent

hybrid of different media, which is also referred as multimedia. The most important common aspect of these works are to represent and disseminate information form which they receive from a chosen other source. The works are as follows:

##### I. D-TOWER by Lars Spuybroek/NOX (architect), Q.S.Serafijn, V2 Lab, Netherlands

Our first example is D-TOWER by Lars Spuybroek / NOX (architect), Q.S.Serafijn and V2 Lab, of which includes and installation and a website as the whole of the project. The zoomorphic-looking permanent public tower was opened in Doetinchem, in Netherlands, with the aim of conducting individuals' emotional status of expressing your innermost feelings through an architectural medium.

A website was also launched together with the opening of the tower, involving questions like that test the intensities of the participants' feelings about love, hate, happiness and fear evoked in the process. The tower converted these answers into color, transmitting "the state of the town" every evening. After running one month, architects concluded that it often had been blue (for happiness) or red (for love), sometime green (for hate) and never yellow (for fear). It is planned for each six months a different group of 50 inhabitants will participate.

We see that the art not only lies in the beauty of the sculpture-like form or the colors or the web site, but this physical virtual communication is a good example of articulated mix of different media, where architecture is part of a larger interactive system of relationships.

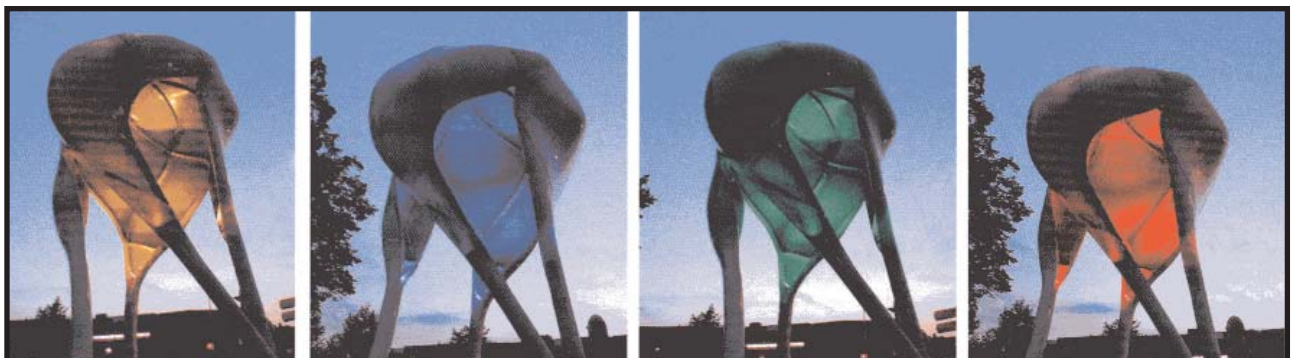


Figure 1. Different colors of D-TOWER

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## **II. BRUIT ROSE (Pink Noise) by Helen Evans, Heiko Hansen, Netherlands**

Bruit Rose is a public installation, created by Helen Evans, Heiko Hansen, in 2005 in Rotterdam. Installed within a street light-box usually used for advertising, 'Bruit rose' displays numerically formatted information that is inspired by street activities; namely ambient sounds in the environment as well as the movements of the passerby.

Bruit Rose ("Pink Noise" in English) is a musical term that describes a random electronic noise across all sound frequencies which sounds tolerable to the human ear. Installed within a street light-box usually used for advertising, the installation adds a function that is inspired by street activities. The advertising panel suggests an inversed relationship whereby it becomes the receiver to what happens in its immediate environment.

The light emitting panels of the installation are mostly used to divulge numerically formatted information. Here, they are instead detached from this didactic function and serve as an animated visual; disengaged from all the gloss that usually occupies this urban advertising space. The interaction of this installation is based on visualizing the ambient sounds in the environment as well as the passerby.

## **III. THE LISTENING POST by Ben Rubin, Mark Henssen, New York**

The installation named "The Listening Post" is a collaboration of visual and audial pieces and based on explorations of the communication flows in Internet chat rooms and forums. It is made up of over 200 small electronic screens on a suspended grid, that display array of conversations in chat rooms, bulletin boards, public forums, while giving out vocal form of music chosen from 6 different themes, to express the emotion in the conversation.

The audience identifies the emotional qualities of chat, from the kind of music emerged, listening to the different arrangements of visual, aural and musical elements of six movements. Chat data is received in real time, so the irregular time dilemma of these arriving messages forms the visual and audible rhythms of the work (Ascott, 2005)

## **5. Conclusion**

With the advances in technology, digital art has been gaining more importance and popularity everyday. We can see that digital works have strong roots coming from traditional fine arts. This causes conflicting ideas for digital art like being called "imitation" or "the computer does it for you", which actually is definitely wrong. The digital artist also needs to have the same creative intuitive thinking, training, skills, the knowledge of light, shadows, forms, shapes, color, anatomy and concepts that the traditional art is based on. The problem is to bring out the essence of specific feature(s) that digital medium has, possessed by its own nature.

The digital art is still going through the process of discovering itself with slight differences from its formers. Language is guide to understand the new state, which is a tool for bringing the world into existence, where interactivity can act as a context to reflect the fundamental nature of digital medium. We believe that if the artist is able to get the essence of the digital medium, he will find the own unique language for that medium

With reference to exemplary projects, physical virtual communication is a good example for articulated mix of different media, where architecture, sculpture, graphics or sound become part of a larger interactive system of relationships.

As Ascott points out, the art of 20th century was about self expression and response to experience, the art of 21st century will be about self construction and the creation of experience, with no clear distinction between the maker and the viewer.

As the language of art develops, we can see that it can speak to individuals in all kinds of social settings, not surviving against their political complexion or cultural constraints. These individuals in turn will contribute to the formation of a universal language through their experiences formed by interacting with the creation of digital artists. We believe that the nature of interaction created by the artist in terms of the product with the use of necessary tools, will build up the different and unique language of its own.

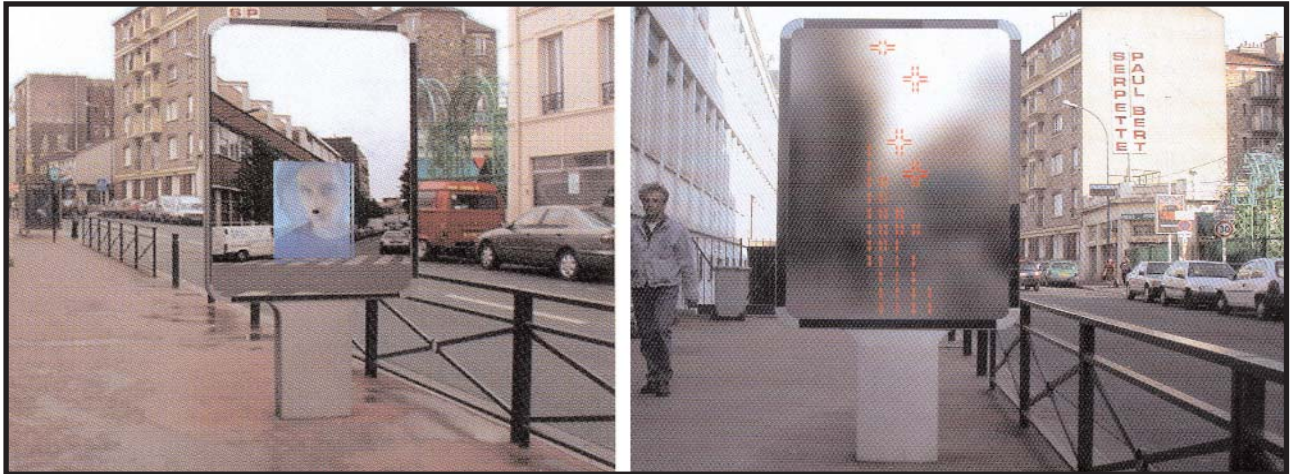


Figure 2. PINK NOISE on street



Figure 3. The panel of PINK NOISE reflecting the information on street

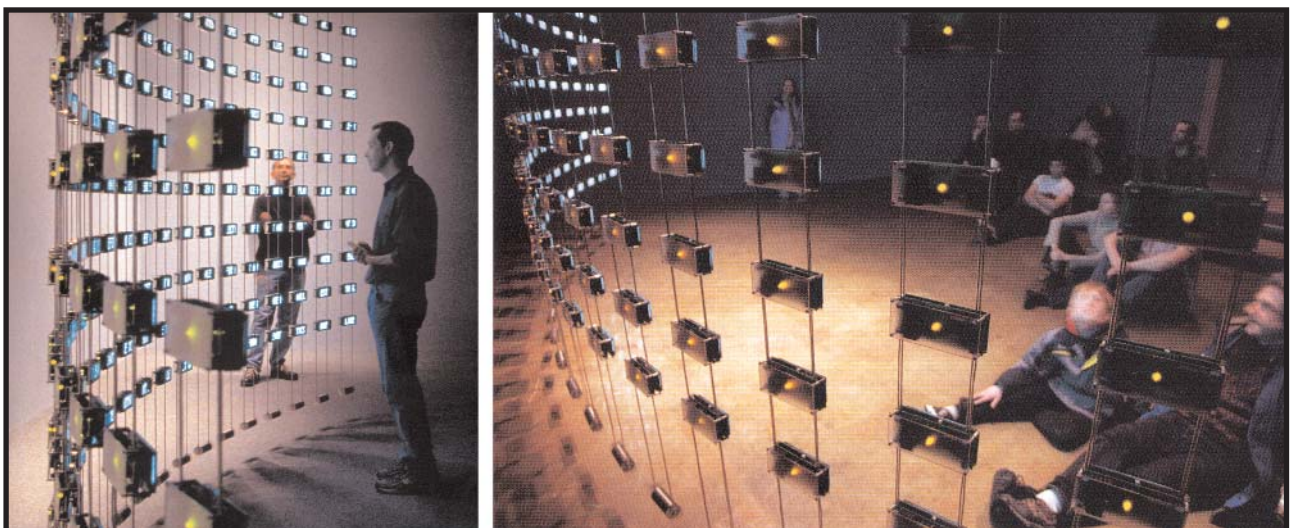


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