

How to See the Beauty That Is Not There : The Aesthetic Element of Programming in the Computer-Based Media Art

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Abstract. This study is to define aesthetic elements of the programming in the computer-based media art. It can be explained as the totality of the concept and reality in the respect of collaboration of art and science. The programming as aesthetic object deconstructs the traditional notion of art that the aesthetic value is determined by the aesthetic attitude. The code is not just for the computer programming, but for the pleasure. The artistic and creative 'Open Code' must be at the cost of the death of the code closed in a signified, and it lives, improves and changes through additional new functions or algorithms. Like the conceptual art, the programming is both a dematerialization of the object and an immaterialized meaning. It leads us to change the seat of a subject as a signifier. Therefore, 'The beauty of program that is not there' becomes more viable when it involves the application of aesthetics.

Keywords: beauty, aesthetic object, code reading, open code, subject.

1 Introduction

The goal of this study is to define aesthetic elements of the programming in the computer-based media art. It calls for a reconsideration of the art and the beauty in new media, and leads to the central research questions: What is the beauty of the computer-based media art? , Is there an aesthetic in the programming? , How to combine art and science?

The computer-based media art implies no internal constraint on what works of art and the beauty are, so that one can no longer tell if something is a work of art or not. Theodor Adorno states, the computer-based media art is "self-evident that nothing concerning art is self-evident any more, not its inner life, not its relation to the world, not even its right to exist."¹ Adorno's recognition does not mean that it is arbitrary whether something is a work of art, but only that traditional criteria are no longer applied.² Therefore, the computer-based media art has only self-evident so far as an endless losing of self-evident.

¹ Theodor W. Adorno, *Aesthetic Theory* (Minnesota: Minnesota Univ. Press, 1998) 19.

² Arthur C. Danto, *The Abuse of Beauty* (Illinois: Open Court Publishing Company, 2003) 17.

TX-Transform is one of examples for losing of self-evident. This digital film art work makes the time axis (t) and the space axis (x) to be transposed each other (Fig.1 and Fig.2). Generating filmic sequence of the objects is no longer fixed through spatial presence but rather as a condition over the time. As a new technique converging art and science, *TX-Transform* shows us ‘time-images’ that we can never see. Furthermore, it is more upgraded with installation art work, so called automat, *TX-Transformator* creates an interactive and astonishing new perception in real time (Fig.2).



Fig. 1. 1. Concept and Idea: Martin Reinhart and Virgil Wiedrich, 2. Software: Georg Dorffner, 3. Hardware: Georg Hirzinger, *TX-Transform* , 2000

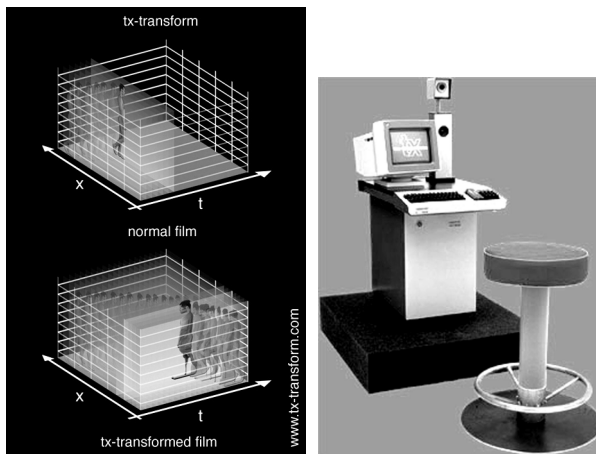


Fig. 2. The fundamental notions of TX-programming and *TX-Transformator* , 2000

In these computer-based media art, what has changed is that the art cannot be identified as a restricted set of objects, since anything one can think of might be a work of art, and what accounts for this status cannot be a matter of simple recognition. It is the reason that many people say ‘there are not there,’ and put aside the beauty of the computer-based media art as unconceivable something. The beauty, however, can be thought as a topic that is understandable, since it is only specific way of expressing and representing the object, and stands open throughout every respect of

conceptual thinking. Thus, the computer-based media art and the beauty are consistent with the radical openness that has overtaken the traditional domain and definition, and it absolutely depends on a level of philosophical discourses.

2 Beauty of Aesthetic Object

G. W. F. Hegel defines that “the beauty is the Idea of the beauty” and “the beauty can be grasped as the Idea.”³ He distinguishes sharply between the Idea and the Concept. The Concept is the absolute unity of specifications, the mediated ideal unity of particular factors. The Idea reveals itself in the real (actual) existence of the Concept, and it is the immediate totality (including the infinity in itself) of the Concept with its reality. Therefore, the beauty becomes the Idea as the totality of the Concept and reality.

The computer-based media art also can be explained as the totality of the Concept and reality in the respect of collaboration of art and science. Since, the beauty has respect of the shape in its rest as well as movement, regardless of its purposed fullness in the satisfaction of needs, and the accidental nature. From this point of view, we will say not that what will be called beauty lies in our subjective consideration of the object, but that we find out the object beautiful. The programming in the computer-based media art exactly represents this term that the beauty is obtained in the shape.

Sigmund Freud spoke, “the love of beauty is a perfect example of a feeling with inhabited aim...the genitals themselves, the sight of which is always exciting, are hardly ever regarded as beautiful.”⁴ It implies that the beauty is separated from the aesthetic attitude and the aesthetic object, and that we only get the beauty when we do not depict the site of sexual pleasure directly. Today, the beauty, however, is being originating from genitals themselves. The programming as an invisible and immaterial aesthetic object in the computer-based media art is the genital, and the beauty entirely dues to it. This term deconstructs the traditional notion of art that the aesthetic value (the beauty) is determined by the aesthetic attitude (experience).

In other word, the beauty is not the artist or the viewer, but the object creates values or meanings. Furthermore, the reversed attest can be found in Jacques Lacan’s assertion, “the pre-existence to the seen of a given-to-be-seen” as the subversion of the Cartesian Cogito (the certainty of the existence) which the subject apprehends himself as thought.⁵

3 Pleasure of Code

3.1 From Code Writing to Code Reading

For a long time, the program has been regarded as a practical tool. Every program was code writing and it was merely the expression in computer language of a series of

³ G. W. F. Hegel, *Aesthetics*, trans. T. M. Knox (London: Oxford University Press, 1975) 106.

⁴ Sigmund Freud, *Civilization and Its Discontents*, trans. James Strachey (New York: W.W. Norton & Company, 2005) 33.

⁵ Jacques Lacan, *The Four Fundamental Concepts of Psychoanalysis*, ed. Jacques-Alain Miller, trans. Alan Sheridan (New York: W.W. Norton & Company, 1998) 74.

actions that the computer needed to take in order to solve a problem. And what is really important in the programming was always how efficiently they ran on a computer.

Since the growth of open source software, the view has been changed gradually from writing codes to reading codes. That is, the code is not just for the computer. It can be enjoyable, and some programmers are emerging as artists using those codes. Actually, many programming artists show us both ways of art works and of their codes. We can enjoy them at once and furthermore, make others own the art work through downloading their opened source codes (Fig. 3).



Fig. 3. Art work and code download: 1. Osman Khan, *Net worth*, 2004, 2. Aleix Fernandez, *Yo Soy La Juani*, 2006, <http://processing.org>

We can read the code purely for our own pleasure. The pleasure corresponds to Roland Barthes’s ‘the Pleasure of the Text’. The shift from writing codes to reading codes is related to Barthes’s “from literature work to text as arbitrary signs.”⁶ It defines that the text itself plays as one plays a game and the reader plays twice over as a practice which re-reproduces it. In short, the text requires that one tries to abolish the distance between writing and reading.⁷

These ‘development of literary criticisms’ show us how to expand the code, and how to recognize and appreciate the beautiful as well as the useful. Like the text, the program consists of codes. The code can be treated as a sign that follows the

⁶ Roland Barthes, *The Pleasure of the Text*, trans. Richard Miller (New York: Hill and Wang, 1975) 51.

⁷ Roland Barthes, *Image-Music-Text*, trans. Stephen Heath (New York: Hill and Wang, 1977) 162.

semiological order. A sign's value is determined by both its paradigmatic and syntagmatic associations. Ferdinand de Saussure describes it as an associative relationship in which one sign enjoys all the other signs in the same system. On the one hand, the paradigmatic dimension can be predicated based on "a similarity between two signs at the level of signifier, the signified or both."⁸ The paradigmatic dimension is supported by the human memory system, not by the discourse. On the other hand, the syntagmatic dimension can be realized in discourse, and it is a combination of signs. In the computer-based media art, the program as associative relationship of codes also reveals those two dimensions simultaneously.

3.2 Closed Code and Open Code

Many studies have approached aesthetic elements of the program. In 2002, 'Aesthetic Computing Manifesto' was announced and aesthetic computing was defined as "the application of art theory and practice to computing."⁹ As early as 1974, the author of 'Art of Computer Programming,' Donald E. Kunth wrote, "when I speak about computer programming as an art, I am thinking primarily of it as an art form in an aesthetic sense. It can be like composing poetry or music."¹⁰ He firmly believed that programming can reach literary proportions and it is more artistic than most people realize. His pioneering approach evokes that the program doesn't originally have to be for the sake of utility.

However, classic notion of the code has not paid attention to these aspects of the code, and it was a completely blockade zone, since many software companies managed the source code with an industrial secret which all rights are reserved. Therefore, the pleasure of the code can be accomplished throughout abolition of the myth that the coder as the author is the only person in the program and the code only exist for the operation of the computer. As long as we merely view the code as something practical, we will never see a flourish of it.

The birth of artistic and creative 'Open Code' must be at the cost of the death of the code closed in a signified. This 'Closed Code' only operates in its function like that the work of the literary can be seen in a bookshop and can be held in one's hand. Whereas, like a literary text as an arbitrary signs in the movement of a discourse, the artistic and creative 'Open Code' lives, improves and changes through additional new functions or algorithms.

The interactive art work of Aleix Fernandez, *Yo Soy La Juani* was made using an open source software, *Processing* (Fig.4). It is exhibiting in the internet, and we can download the work's source code. The work is repeatedly creating more complex figures. Parameters for movements of line and camera directions are controlled in real time with the keyboard and mouse of the user. Moreover, the user can record it and have the recorded animation as an art work of one's own. Actually, one of them has been used for the beginning main title of a film.

⁸ Kaja Silverman, *The Subject of Semiotics* (New York: Oxford Univ. Press, 1984) 10.

⁹ The Dagstuhl Aesthetic Computing Workshop, "Aesthetic Computing Manifesto." (Leonardo36, No.4,2003) 225.

¹⁰ Donald E. Kunth, *Art of Computer Programming* (New Jersey: Addison-Wesley, 1979) 670.

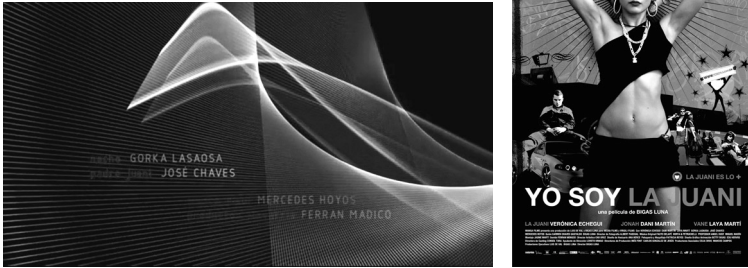


Fig. 4. Aleix Fernandez, *Yo Soy La Juani*, 2006. Still image and Film Poster.

3.3 Emptiness of Code

The code itself can be artistic. Since a textual section of the program has both denotative as well as connotative signifiers. Thus, the program structures and its mathematical orders even seem a kind of conceptual artworks. Conceptual art can be defined as the “appreciation for a work of art because of its meaning, in which the presentation of shape, colour and materials has no value without the intentions of the work.”¹¹ Therefore, ‘its meaning’ becomes the machine that makes the art.¹² It indicates that the idea behind the artwork or the mean of production is more important than the finished work or its fixed appearance.

Like conceptual art, the programming itself is both a dematerialization of the object and an immaterialized meaning, since it can both operate without materiality and can describe the material as well as the immaterial. Therefore, some programmers even define that “(the code) appears in the Buddhist teaching on Emptiness, which asserts that all things interdependently with all other things, both materially and conceptually.”¹³

The artistic and creative ‘Open Code’ is, however, not simply inserting well-written comments. To recognize the code as a pleasure is the key to success. Every programming language is a collection of words and symbols (syntax) with a set of rules defining their uses (semantics). It allows people to convert their ideas into codes in different ways. The artistic and creative ‘Open Code’ offers the possibility of activating our own models and inventing newness. It is needed not because commercial software tools are insufficient, but because someone has to “pick the meaningful signal from the noise.”¹⁴

¹¹ Joseph Kosuth, *Art After Philosophy and After: Collected Writing, 1966-1990*(Cambridge: MIT Press, 1991).

¹² Paul Fishwick, *Jane Prophet, Perspectives on Aesthetic Computing* (Leonardo, Vol. 38, No.2, P 133-141, 2005) 136.

¹³ John Maeda, *Creative Code* (New York: Thames & Hudson, 2004) 228.

¹⁴ John Maeda, *Creative Code* (New York: Thames & Hudson, 2004) 46.

4 Real Subject

Strange Convergence exhibition (2006) questions, who the real subject is in computer-based media art.¹⁵ The exhibition pronounced diverse discourses on convergence of art and technology. Every work was based on the programming, and completed by the interaction between the work and the participant.

In the computer-based interactive art, there are two ways of interaction. The first interaction is accomplished by ‘the visible’ as a direct (physical) movement of participant in a specific site (gallery or museum) (Fig.5), and the second interaction is originated from ‘the invisible’ as an indirect movement of unspecified individuals (information retrieval of the user in internet) (Fig.6). For example, *Human gets everything and loses everything* is using the computer vision system for the real-time processing. The camera recognizes a participant’s movement as the input source image, and the projector projects the result on the screen (Fig.5). *Dewey with 10 fingers* is continuously moving by counting how many *Google* users are searching for specific information in real-time. In short, the original input source of this work is information or amount of information retrieval result (Fig.6).

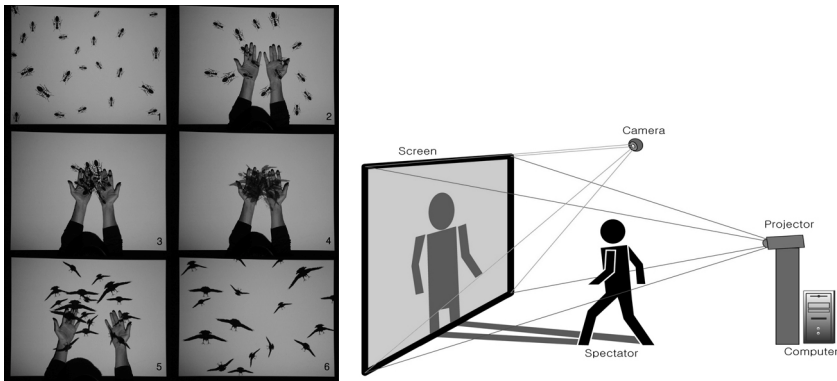


Fig. 5. Jaehwa Kim, *Human gets everything and loses everything*, 2006

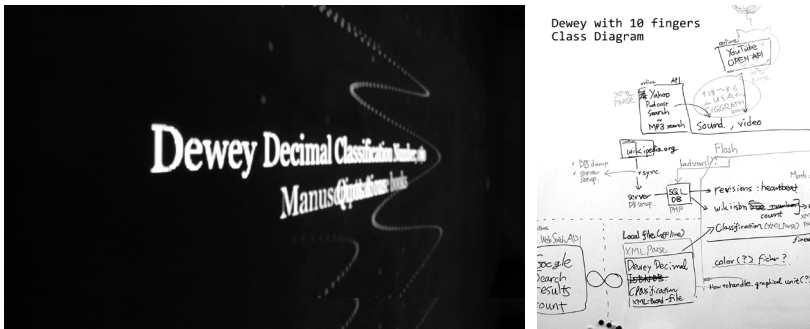


Fig. 6. Yonggeun Kim, *Dewey with 10 fingers*, 2006

¹⁵ ‘Strange Convergence’ Exhibition, Space Mass, Seoul, Korea, 2006.

In these art works, who is the real subject? Marcel Proust's 'In Search of Lost Time' is a recollection of unconscious memories.¹⁶ While it is a first-person novel, the subject 'I' in the novel is a strange and ambiguous being. The speaker 'I' traverses the consciousness and the unconsciousness as an unconscious 'I'. In volume I 'Swann's Way' of the novel, 'I' feel an indefinable pleasure when 'I' eat a piece of madeleine. The pleasure comes from the memory that is immanent in the mental state rather than the taste itself, finally drawing 'me' the memory of childhood. As the unconscious 'I' of the novel, the program in the computer-based media art freely operates an aesthetic experience of the viewer.

Specially, the interactive art rightly reflects this situation. In the interactive art, the artist is replaced with 'the provider' that offers the interface and the playground, and that the viewer is the indispensable 'participant' as a part of the work. The art work becomes a result of interaction between the work and the participant. Whatever happens, it is alone a moment of endless change that has never a similarity so far as working. At that time, what produces and provides a real-time interaction is the program as a real subject of the work. The participant merely spends an aesthetic experience in the process of an input and output by the program.

The program as a real subject calls up Edgar Allen Poe's mystery, "The purloined letter" that the subject of the novel keeps changing by the letter as a real subject or a signifier.¹⁷ Like the letter, the program also leads us to change the seat of a subject as a participant; that is, so called, inter-subjectivity. Furthermore, the program as a real subject is a kind of signifier, and it builds "the synchronic network as it appears in the diachrony of preferential effects."¹⁸ In other word, the program of interactive art stands for the art work as synchronic network that consists of each different participant's experiences as diachrony. And it has both ways of the presence and the absence, the material and the immaterial.

5 Conclusion

Programming is a process of ultimate abstraction. It is the abstract representation of the programmer's thoughts on how to interpret and manipulate the real world. When a thought is translated into a program, it loses the ability to live with vagueness that thoughts normally employ. Conversely, the program, however, reflects our own patterns of thinking.¹⁹ It shows us the other side of ourselves that we have never seen. In this point, the aesthetic element in the program gets the originality. Hegel pointed out, "in one respect, the originality is the most personal inner life of artist, yet on the other hand it reveals the nature of object and the special character of thing itself."²⁰

The originality of the programming in computer-based media art should be considered as 'the nature of object' and 'personal inner life of artist' at the same time,

¹⁶ Marcel Proust, *In Search of Lost Time*, trans. C.K. Scott Moncrieff & Terence Kilmartin (New York: The Modern Library, 2003) 60.

¹⁷ Edgar Allen Poe, "The purloined letter" *Short stories of Edgar Allen Poe*(New York:Vintage Books,1975).

¹⁸ Jacques Lacan, *The Seminar of Jacques Lacan*, ed. Jacques-Alain Miller, trans. Sylvana Tomaselli (Cambridge: Cambridge Univ. Press, 1988) 67.

¹⁹ Daniel Kohanski, *The philosophical Programmer* (New York: ST. Martin's Press, 1998) 186.

²⁰ G. W. F. Hegel, *Aesthetics*, trans. T. M. Knox (London: Oxford Univ. Press, 1975) 294.

because the program is both a science and an art, and it makes them nicely complementary each other. Therefore, 'The beauty of program that is not there' becomes more viable when it involves the application of aesthetics. Within a 'technosphere' which we live in a technological context, looking for 'the beauty that is not there' is inevitable fate or reality.

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