

Making and research of art work 'FUG' which expands the concept of life

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Abstract. Life concept is researched and applied consistently with technology's development. In biology, research on organic structure as well as its application to other areas for humanity's sake using organism's function and information. Along with this, artistic expression is expanded by genetic algorithm. It gives esthetic expansion in a way of generating life which lives in virtual reality, or making virtual life in reality. This article studies art work 'FUG' which was created on the basis of conceptual theories on life and in an interaction between machine life form and audiences, the expanded life concept was conceived. Hopefully this study would contribute to the expansion of life concept through digital media.

Keywords: Art installation, Interactive art, Machine life, Concept of life, Genetic algorithm, life

1 Introduction

In media art, life concept has been expanded in terms of esthetics by creation of works based on innate expressional source in life. Modern artists express artistically the life's fundamental attributes with the support of media, while having expanded concept on life. By applying genetic algorithm to computer which has ability of automated calculation and output, artists provide autonomous character to machine. As life form has autonomous control and adjustment on itself through feedback, machine does. Supported by advanced technology, research on sense, which had been a difference between organism and machine, revealed secrets, and the living of organism is also studied. High-technology's evolution has guaranteed future-oriented basis of biology, as well as has contributed to reduce people's concerns on ethical issues on life. Thus, life concept has been consistently studied along with technological development. Media art which is blended with technology to use media as its artistic channel needs to be continuously considered because there has been tries to render autonomously moving machine in artistic way.

2 Expression of artificial life

Life only existed in imagination of artist gets its flesh and bones with the support of technology. The technology had been used to provide movement to art became independent entity as it had life, and is newly getting life in artistic expression. As artificial aspect applied to human body has been explored, new approaches to life in art have emerged. The combination of sophisticated technology and organism has brought harmony rather than conflict. The identity of combined form is sometimes confused as it is considered as a outcome of technology rather than independent life, but it offers a fresh perspective for the transitional phase.

An good example is comparison between sense organs which function as channel for energy's in and out as a character of life, and the production of replaceable circuit components. Artists don't stay at making only controllable media but are making works similar to life's energy flow. Birth of life in cyberspace which imitates ecosystem, or visual, structural imitation as artistic activity can be examples. Work itself is evolving as an autonomous individual which has been generated and evolved as opening all organic connection with all creatures which interact with human, and by interaction as intervention of audiences. In virtual reality generated by computer, audiences contact artificial evolution technology as interacting with new creatures.

3 Art work 'FUG'

3.1 Purpose

My work 'FUG' is a machine life which lives in artificial environment and acquire its energy for activity from the sound power of audiences. As all sound has energy, it emanates energy as forming energy wavelength which leads human's emotion. John Cage, a master of sound installation, had considered invisible sound as material to be turned to music. And it was enough to shift the viewpoint of people. Thus, sound destorys 2 dimensional concept only with its generation, and it proves that various sounds acts with their own different energy.

Light also has it's explosive energy along with visual function. As an example, solar energy permits lives to have sights for perception and recognition but it also emanates limitless energy.

As mentioned above, light and sound have special role as physical environments in ecosystem. Whereas, this energy has forcing character which intervenes directly in change of individuals. In biospeleology, we can see the degraded functions like atrophy of eyes, lost value of skin color as protective color. It influence greatly in evolution of lives. Rapid environmental change can cause death to creatures. In a word, energy is an important factor which cause vast effects on individuals

3.2 Hardware configuration

Inner structure has mic and speaker and appearance imitates lotus flower's figure. Flower's stamen is exceedingly enlarged to show the flow of energy erupted, and inside light was used as an expression of energy. Materials are metal like aluminium, stainless and PVC. And painted color was selected as one which evokes wariness in audiences as toadstools are colorful. At the end of stamen 5 LEDs are installed with mic, which will record sound. Recorded sound is played via programming which reconstructs it, and motor will be operated at the same time. Motors are installed in 10 skins which are equipped with speakers, and they make petals move. Speakers are not actually for their own purpose but for visual effect with LED. In exposition, FUG is opened as default state, if it receives sound higher than certain level, it is closed, and after some time it is opened slowly. And the recorded sound will be played in a musical way with background sound. The played sound will have rhythm with the repetitive pattern of audiences' voice, and on the beat of pre-registered sound. It imitates lotus flower but shows flower's movement in a short time, and new life concept was applied with the support of media.

3.3 Implementation of work

Audience input sound into stamen of work, and the work feeds back with light, sound and movement. It exists as a flickering lights as living creature, and suddenly emanates light as a result of interaction, to guard itself. At the same time audience's sound is output after being mixed by programming in work.

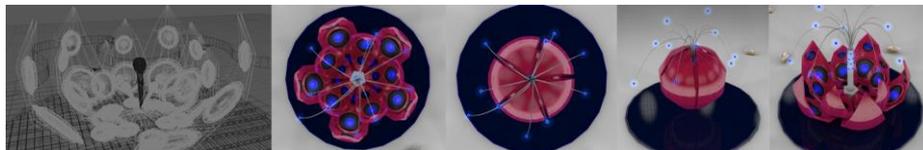


Fig. 2. Fug

4 Conclusion

This article expanded life concept into ecosystem in virtual space by making art work 'FUG', and enabled communication through audience's energy and interaction. The evolution process on autonomous ability, as interaction is made between audience and work. Symbiosis with human which the technology has brought finally make new connections in various level. The machine life created by technological combination after analysis on life's attributes should be continued to consistent research of artificial life art area.

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