

ELECTRONIC ART, ARTISTS ANALYSIS AND THEIR WORK

Quenon Richardson Anya (1), Villagomez Oviedo Cynthia Patricia (2)

¹ [Department of Mechanical Engineering, MIT Massachusetts Institute of Technology] | [quenona@mit.edu]

² [Department of Design, Division of Architecture, Art and Design, University of Guanajuato] | [oviedo@ugto.mx]

Abstract

The recourses that electronics provide at this time are expansive, so using this as a medium provides artists with seemingly unlimited opportunity to create works of art. However, there is also a lack of research that provides artists with the basic knowledge to utilize electronics. This limits what artists are able to accomplish to a basic level of manipulation instead of expanding upon the seemingly infinite capabilities of the hardware and software of electronic devices. To delve into the creation of digital art, Anya Quenon explored the option to code her art in Processing. Through this medium, she focused on remaining true to her identity as an artist while uncovering the capabilities of electronics as a way to create art. The basis behind this path provides insight into not only the abilities of coding to create art, but also a deeper understanding of the holistic process of creating electronic art.

Resumen

Los procesos de creación han sido poco estudiados y son importantes para la comprensión del arte electrónico, en parte porque dichos procesos se encuentran generalmente envueltos en un halo de misterio. El estudio de los procesos artísticos con el enfoque que aquí se presenta: a través de las cinco fases para la concreción de un producto creativo, contribuye al conocimiento del tema. Debido a esto, la investigación se concentra en el análisis de un caso de estudio creado *ex profeso* para la presente investigación por una de las autoras, a saber, Anya Quenon, quien realizó una profunda reflexión sobre sus propios procesos en el desarrollo de obra con el programa de libre acceso *Processing*, que permite la creación a través de un lenguaje para aprender código de programación enfocado a las artes visuales; por lo que también se busca contribuir al conocimiento de dicho software y su aplicación en el arte.

Keywords

Art; Electronic; Processes; Creation; Analysis.

INTRODUCTION

The medium of electronics to create art pushes an artist on a level to not only to manipulate the expansive abilities of electronics, but also to know how to release complete control as well. Electronic arts are capable of stretching the limits of art beyond what has been previously possible that have been limited to physically available objects. Artists who have understood the basis of electronics and how to utilize them to create works of art beyond human capability are Ani Liu, Arcángel Constantini, and Roman Verostko. They not only understood the medium they were working with but allowed the electronic aspect to carry the project to a higher level that couldn't be created by human precision.

Reality suggests that each individual has their own conception of creative development according to their own experience. However, even though everyone has their own way of working, there are threads that could constitute what we call phases for the realization of a creative product. These stages are not linear, and the real creative processes are developed interspersed, so you can be in the stage of the evaluation or even incubation and have intuitions about the work. In any case, the vision of the creative process occurs in five stages. Although simplified, they offer a valid and straightforward way to organize this complex process. The following phases are the combination of the vision of Csikszentmihalyi, Romo, and Rodríguez [1], which have been joined because they are considered complementary: Preparation occurs when the artist has interests that arose from diverse thoughts. Incubation and intuition are thoughts inspired by diverse motivations. Evaluation is when the artist determines if an idea is worth making or not. Elaboration ensues when the artist makes the idea a reality. Communication is when the artist shows his work to the public.

As time goes on, electronics have become more prevalent and accessible. Likewise, they have also provided an incredible amount of recourses for the creation of art, so artists have recently incorporated electronics more often in their works of art. However, not much is known about the capabilities of electronics which limits what artists are able to create. It also hinders the accessibility of electronics in art even though electronics may be plentiful. Without a likewise abundant amount of knowledge and research on the way electronic art can be created, each artist must begin from a basic level of understanding rather than focusing their time and efforts on the creation and expression of their art. Due to the abilities of electronics, many projects are now able to be completed that couldn't be before. Still, these projects often deal with very complex processes, so a record of previous research and artwork able to come into fruition through the help of electronics provide this basis to allow for these ideas to actually be created.

Identity can be used to bring people with similar experiences together, yet also create a way of differentiating oneself from the rest of a population. With each type of one's identity, there often is an associated connotation that affects how that person is treated in society. As travel and communication across large distances becomes easier with each passing day, there has been a greater rate of exchange and combination of cultures and traditions. Therefore, it has also become difficult for people who have multiple ways to identify themselves, to constrict themselves to only one, or even both categories. The goal of the artwork created in this research is to represent the uneven and complicated combination of cultures, and that this makes the result no less beautiful. This artwork was specifically inspired by an identity created by the combination of Ukraine and the United States. The final artistic images were created with Processing through the adaptation of code originally written by Makio135 at openprocessing.org/sketch/74380. Without any loss to aesthetics, the resulting images expressed how difficult it is to completely separate, define, and explain the components that contribute to an identity created from a fusion of representations of Ukraine and the United States.

MATERIALS AND METHODS

The investigation began by establishing the approach to the problem, which consisted of detecting the way in which more aspects could be discovered about the creation processes in electronic art, in order to contribute to a better understanding about the topic. As an objective, the possibility of creating a digital work through the Processing software was raised and, in turn, the registration of the entire process was carried

out in order to discover and identify the different phases of creative production. As a finding, it was identified that the justification to the subject was in contributing to the understanding of electronic art through the analysis of a production process carried out by the artist and also the author of the present research work: Anya Quenon. The referential framework of the research was found in the previous research work by Dr. Villagomez on artists who use technology, so they could investigate the different concepts that gave rise to the conjectures made. The research instruments have been theoretical and field documentation.

RESULTS AND DISCUSSION

Art Project: Beauty in Turmoil / Artist: Anya Quenon / Process of creation:

Context. The combination of cultures directly effects identity and vice versa, as culture and one's identity are intertwined [2]. Throughout the author's life, she has often struggled with defining a clear identity of herself from the combination of heritage from Ukraine through her mother and the United States from her father. She was born in the United States, but she feels much more attached to her Ukrainian half due to the US political climate and foul treatment of those who are not straight, white, and male. Still, she has never lived in Ukraine and knows that she does not possess much of the shared experiences of those who have lived there that contribute to creating a Ukrainian identity. Because she was exposed to Ukrainian music and television as a child, she had access to physically accessible aspects of this culture, but was unable to adopt a Ukrainian mentality because she grew up in an American Society [3]. Therefore, it has become difficult to not only process, but also explain to others the complicated nature of who she identifies to be. Research shows that people who belong to more than one culture do not all have a shared opinion on how they define their identity [4]. Instead, a person individually grapples with two aspects of the cultures: their similarity and their compatibility [5]. Additionally, even if the cultures that make up one's identity are very different, it is unfair to define a clear distinction of which culture explains what section of one's identity [6]. What complicates an individual's thoughts further is the prejudice in society towards those who are different from society's expectations expressed as racism, sexism, xenophobia, homophobia, and transphobia. Someone whose identity is combined from multiple cultures will always be exposed to some form of prejudice no matter in which dominant culture they currently reside. Society as a whole does not accept multiculturalism, and its presence can even provoke further prejudice [7]. Therefore, society forces an individual who belongs to multiple cultures to choose to identify as the one that is more acceptable to society. However, even if a person identifies with the more palatable culture by society, those who cannot hide the physical appearance of "other" are still exposed to prejudice, as they are automatically associated with a different culture. An individual who belongs to more than one culture is left to analyze their identity on their own with the added pressure that identifying with more than one culture is not an option even though their existence is a combination of more than one culture. Stemming from her own and others who belong to multiple cultures, the author aimed to represent this inner turmoil through art.

Preparation: Identity is an important component in the work that Ms. Quenon creates whether it is a direct or indirect aspect of her designs. She has constructed a lamp inspired by the foothills in her hometown directly connecting to her identity as a Coloradan, but she has also created an electronic timer based on water flow and its conductive properties that more indirectly related to her identity as a person with a passion in math and sciences. Relating to her identity, she also draws inspiration from her passion for social justice and the fight against racism, sexism, homophobia, xenophobia, and transphobia.

Incubation, Intuition: Being introduced into the Mexican culture stimulated thoughts on her own cultural identity as a Ukrainian and a citizen of the United States. These thoughts combined with her passion for social justice inspired this project, as she became determined to visually represent a common bicultural experience to provide a greater awareness and acceptance of differences in society.

Evaluation: After detailing important aspects of art and culture in Ukraine and the United States, the artist decided that a representation of Ukrainian cross-stitching and American stripes would mesh well with each other while additionally tie to an important aspect of the respective country. Both could also be represented by the visualization of 3 colors. Ukrainian cross-stitching most commonly uses red, white, and black while the United States prides itself in its national colors which are red, white, and blue. Changing the use of

either black or blue would be the key to changing the country that was represented in the drawing. This would allow for the ability to easily change how much of a country played a part in the authors identity at a particular moment.

Elaboration: Ms. Quenon first began her coding efforts by searching on openprocessing.org for code previously written that resembled lines crossing each other. The images created from the code that the artist encountered are represented by Image 1, and the code simply chose random locations for the creation of the lines. This code also had a copyright that allowed for the manipulation and utilization of the code for further use.



IMAGE 1: The initial code downloaded from open processing produced images that slightly resembled her desired aesthetic

By manipulating this code, the artist was able to manipulate the images created so that they closer resembled the cross-stitching and striped aesthetic to represent Ukraine and the United States.

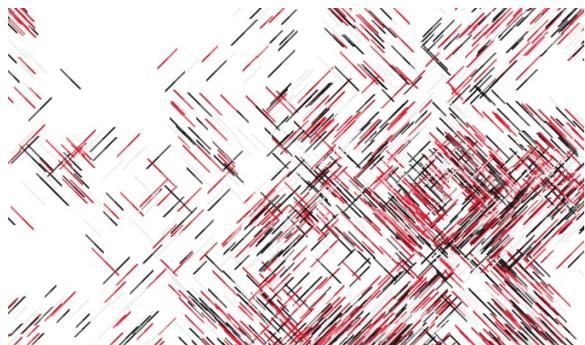


IMAGE 2: The initial images made did not produce an aesthetic that quite represented cross-stitching or stripes

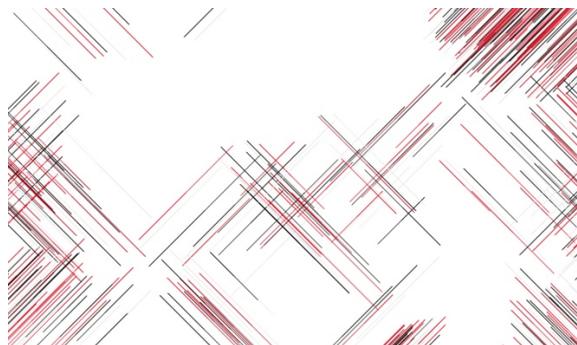


IMAGE 3: The second iteration produced more of a cross-stitch aesthetic but did not represent stripes as much as I had hoped

Communication: The final code produced created lines that for each new canvas randomly allocated the colors that would be displayed. The code could produce a varying density of blue vs black lines. Once the canvas is created, the production of the lines follows the location of the mouse allowing for artistic freedom.

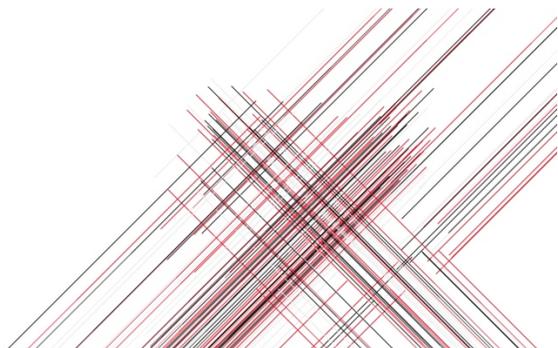


IMAGE 4: A predominantly Ukrainian representation of identity

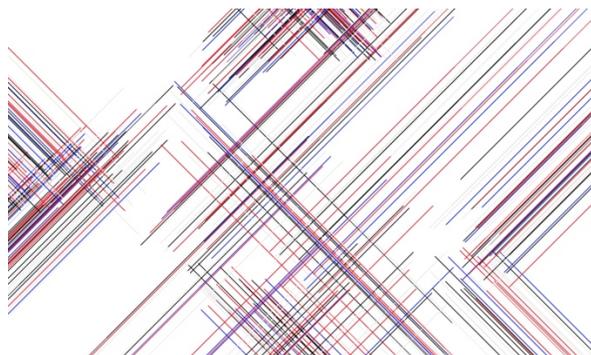


IMAGE 5: A majorly Ukrainian representation, yet still obviously incorporates aspects that represent the United States

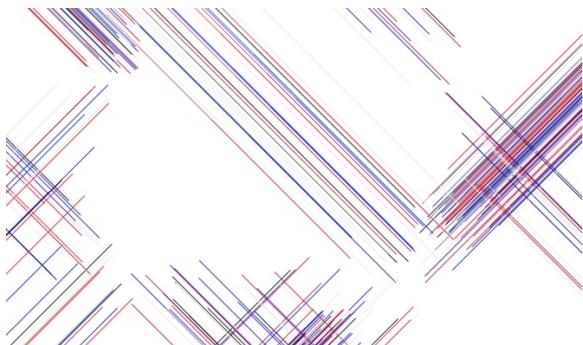


IMAGE 6: A representation of a majority of the United States, yet still incorporates aspects that represent Ukraine

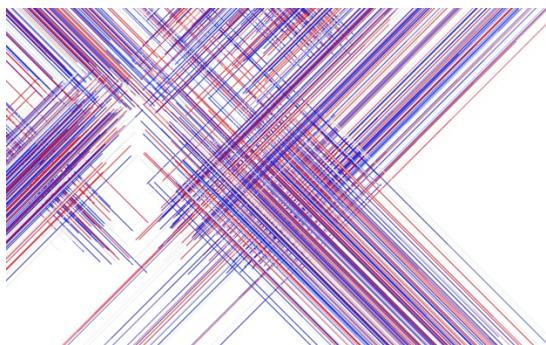


IMAGE 7: A representation of predominantly the United States

CONCLUSIONS

Because of the lack of knowledge of coding in processing, it was necessary to initially utilize a resource that collected previous works for others to be able to edit and create their own works of art in the future. This project would not have been able to accomplish what it had in a timely manner without the help of this website that records previous works and without the guidance of the process of creating electronic art. It could have been easy to get lost in the countless abilities of processing, but the guideline kept the author on her path towards progress because it provided a basic foundation on which to work efficiently. Therefore, she was able to focus on the aesthetics of her artwork and produce the artwork she imagined. Complete project available on: arquenon.cargocollective.com/Graphic-Design.

APPRECIATIONS

Anya Quenon: Much appreciation for Dr. Cynthia P. Villagomez Oviedo for her guidance in the process of creating digital art, the Universidad de Guanajuato for hosting my research, and the Massachusetts Institute of Technology for sponsoring my stay in Guanajuato.

Cynthia Villagomez: Thank you to Anya Quenon for her enthusiasm and professionalism, the Guanajuato University for the support received through all these years.

REFERENCES

- [1] Csikszentmihalyi, M. (1996) *Creatividad, el flujo y la psicología del descubrimiento y la invención* (1a. Ed.). Barcelona, España: Paidós / Romo M. (1997). *Psicología de la creatividad* (1a. Ed.). Barcelona, España: Paidós / Rodríguez, M. (1985). *Manual de Creatividad. Los procesos psíquicos y el desarrollo* (1a. Ed.). Ciudad de México: Editorial Trillas.
- [2] Gomzina, I. (2012). Multilayered Cultural Identity and the Perception of the Self. University of Jyväskylä.
- [3] *Ibid.*
- [4] Benet- Martínez, V., & Haritatos, (2005). Bicultural Identity Integration (BII): Components and Psychosocial Antecedents. *Journal of Personality*, 73(4), 1015-1050.
- [5] *Ibid.*
- [6] *Ibidem*, Gomzina, I. (2012).
- [7] Kauff, M., Asbrock, F., Thörner, S., & Wagner, U. (2013). Side Effects of Multiculturalism: The Interaction Effect of a Multicultural Ideology and Authoritarianism on Prejudice and Diversity Beliefs. *Personality and Social Psychology Bulletin*, 39(3), 305-320.