An Educational Material on the Abstraction of Visual Art: A New Extension of Touch Designer's Digital art in Contemporary Interactive Media Art

Nie Shengxuan [a], Sastra Laoakka [b] [1]

[a] *Faculty of Fine-Applied Arts and Cultural Science, Mahasarakham University, Mahasarakham 44150, Thailand*
[b] *Faculty of Fine-Applied Arts and Cultural Science, Mahasarakham University, Mahasarakham 44150, Thailand*

Abstract

Current period, called "information age," is increasingly becoming "intelligent age." Rapid digital technological breakthroughs fuel this shift. Internet and mobile networks have changed jobs and pleasure. Artificial intelligence (AI) has also transformed production and daily life. Material culture and philosophy evolve. Modernism diversified and decentralized artistic activities, connecting art to people's lives. Digital and AI technology have hastened the creation and dissemination of video art, improving its visual language, expression, and lifestyle. Video interactive art uses unique communication methods. The interactive installation work experience is adaptable and dynamic because it incorporates cultural, historical, natural, and philosophical artist meanings, which lead to varied audience interpretations. Numerous uncontrolled elements also contribute to its dynamic character. However, painting is fun. Entertainment inspires creativity. Interactive video, the most popular form of digital media art, permeates business and society. Interactive visuals are widespread in virtual reality, online exhibitions, e-commerce, gaming, and public and natural environment displays. Interactive and digital video can be found in print, film, and TV. We're learning about "interactive images," "reading pictures," "digital imitation," and digital image art generalization. Due to economic recovery and network expansion, media interactive art displays have taken a "fast food" approach to their production process and conceptual framework. This trend has caused a technological bottleneck, copying, and artistic devaluation like poor nutrition. Thus, popular desire for visual effects over traditional painting has changed, necessitating a critical analysis and study of other artistic forms. This study aims to create a valuable resource for the students of fine arts departments.

Keywords: Touch designer; Interactive media art; Digital; Visual

1.   Development of Visual Culture in China

The emergence of image art may be traced back to the 1990s, mostly encompassing the realm of Video art. The advent of image-based art serves as a notable emblem that differentiates the artistic landscape of the 1990s from that of the preceding decade, specifically the 1980s.

[1] Corresponding author name: Sastra Laoakka. ORCID ID.: https://orcid.org/0000-0000-0000-0000
    E-mail address: hugna.studio@gmail.com

The artistic movement known as the avant-garde in China throughout the 1990s can be delineated into two distinct phases. During the period spanning the mid to early 1990s, there was a notable prevalence of intensive experimentation and utilization of several artistic mediums, including installations, performances, photography, and video recording. During the latter part of the 1990s, there was a notable emergence of utilizing various forms of media experimentation as a vehicle to convey themes of social and cultural criticism that had already begun in the mid-1990s. While there were some instances of experimentation in installation art and performance throughout the late 1980s, it was not until the early 1990s that a conventional medium truly emerged to challenge the conventions of painting and sculpture on a significant scale inside the media. An further attribute pertaining to the widespread appeal of installation art and performance throughout the early 1990s was its integration with conceptual art.

During the mid-1990s, a notable and innovative exploration in the realm of new media art emerged, namely the emergence and prominence of video art. During the late 1990s, the proliferation of computer vision technology led to the integration of various technologies, including interactive technology, network technology, Flash technology, electronic game technology, three-dimensional vision technology, and computer digital editing technology, into the realm of Video art production. A significant shift that occurred in the late 1990s involved the presentation of video art, which transitioned from being solely regarded as a technological and conceptual experiment to a medium employed for reflecting the cultural metamorphosis within Chinese society. This shift was marked by the utilization of video art to convey themes of social and cultural criticism, including but not limited to female art and youth art. Furthermore, during the late 1990s, video art started to incorporate elements of multimedia avant-garde drama, clay animation, and electronic gaming.

The emergence of video art in China first centered on conceptual and installation art, rather than developing a distinct visual framework for single-screen video art. The genesis of this phenomenon bears resemblance to the emergence of Western Video art. During this particular era, video art was not considered a recognized genre in its own right, but rather perceived as a mode of video utilization. The manifestation mostly occurs in two dimensions: firstly, video serves as a medium for documenting conceptual art, thereby translating conceptual art into literary form, or expanding and propagating it through video literature. Furthermore, video serves as a medium for conceptual artistic expression, namely within the realm of installation art. It functions as an integral component of the overall installation setting or conceptual installation.

During the early 1990s, video art in China emerged as a manifestation of conceptual art, capturing the process of conceptual expression through the medium of installed videos. As a result of prevailing technology and conceptual circumstances, this nascent iteration necessitated further experimentation with video pictures. The production of video pictures mostly relied on the execution of behavioral acts and the capture of footage on location.

The emergence of video art may be traced back to the period spanning from the mid to late 1990s. This phenomenon is seen in the growing prevalence of artists who are producing videos as a distinct form of artistic expression, rather than just utilizing video art as a medium for documenting and conveying conceptual and installation art. This phenomenon is evident in two distinct dimensions. Firstly, it places emphasis on conducting visual studies specifically pertaining to the video image, rather than depending only on performance and visualization.

1.1 The Development Path and Current Situation of New Media Art in China

The theoretical exploration of new media art in China has had a systematic progression since the 1980s, encompassing the identification and examination of various phenomena, the analysis and classification of relevant categories, and the development of corresponding theoretical frameworks. The research stage is transitioning from a state of spontaneous dispersion to one of deliberate integration. Currently, the primary area of research in China's new media art and its theoretical exploration pertains to its overarching characteristics. The key subjects of investigation should revolve around theoretical frameworks such as "object methods," "development laws," "artistic forms," "ethnic characteristics," and "disciplinary construction." It is crucial to emphasize research methodologies that integrate various disciplines, employ multi-dimensional comparisons, and foster interactive approaches to "creation appreciation criticism research." Since the late 1990s, the realm of modern new media art in China has witnessed a notable shift. This shift is characterized by a departure from the only focus on technological research and conceptual experimentation, towards a more individualistic artistic response to societal issues. This transformation is particularly evident in the representation of video and online art within the Chinese art scene. Nevertheless, there continues to be persistent criticism regarding the "low technological content," "circle-oriented" nature, and "congenital underdevelopment" of new media, which imitates television and movies, particularly single screen videos, while missing a distinct linguistic model. The advent of new media in the digital era not only offers individuals an additional avenue for self-reflection, but also amplifies the perceived disconnect between the physical and virtual realms. Furthermore, it is important to acknowledge that the technology upon which new media art is dependent continues to pose a potential risk of perpetuating a prevailing worldview.

The distinction between new media art and other forms of art is not of substantial magnitude, but rather pertains to the unique creative methodology employed. Contemporary artists has the freedom to employ a diverse array of tools and methodologies in their artistic endeavors, without being constrained by an excessive reliance on conceptual frameworks as a means of distinguishing themselves from their peers. In contemporary times, artists are actively seeking novel approaches and advancements within conventional modes of artistic expression. During the period characterized by swift advancements in technology, artists have adeptly incorporated various elements into their creative endeavors.

The trajectory of Chinese new media art's development, transitioning from imitation to invention in artistic techniques and from imitation to originality, aligns closely with the overarching principles governing artistic progress. The practical progression of new media art in China entails a transition from copying to the cultivation of originality. This artistic endeavor encompasses two distinct tiers: the replication of conventional art forms and the emulation of exceptional contemporary new media art originating from foreign sources. Chinese new media art begins with the premise of imitation. While the field of art is still developing, it is important to note that this does not imply a complete disregard for traditional artistic practices. Chinese new media art demonstrates a remarkable ability to derive inspiration from several conventional art forms, including movies, paintings, sculptures, architecture, and photography, in order to develop its unique artistic vocabulary.

Wang Jianwei, an artist at the forefront of the new media movement, commenced his exploration of video as an artistic medium in 1994. Notably adept at translating localized encounters and historical references into pertinent contemporary themes, Jianwei's artistic practice demonstrated a keen ability to bridge temporal and spatial contexts. In the year 2000, he assumed a pioneering role in the exploration of multimedia drama, advocating for the

advancement of new media in the pursuit of a holistic "total art" encompassing many technologies.

During an interview, the individual expressed the viewpoint that multimedia art serves as a means of vocal expression, specifically aiming to challenge and critique dominant discourses that rigidly adhere to binary oppositions. Since the May Fourth Movement, a series of subsequent movements have emerged, characterized by a consistent pattern of uncompromising conflict between preceding and succeeding movements. Indeed, this nonsensical game in which past actions dictate the destiny of subsequent generations ought to have ceased its existence in the distant past, as it imposes limitations on our comprehensive examination of the issue at hand. In my perspective, multimedia art places significant emphasis on establishing a connection and interdependence, so distinguishing itself from other forms of art. It encompasses not just a subjective disposition but also a systematic approach.

1.2 The Cultural Value of Touch Designer

The emergence of Touch Designer art has occurred within a multifaceted setting, particularly in the present era. Touch Designer art represents a convergence of scientific and artistic disciplines, facilitating a bridge between conventional artistic practices and contemporary artistic expressions. This art form incorporates advanced technology into its framework, thereby allowing for the expression of its distinctive artistic language within a novel context, but still retaining the core of conventional art. The incorporation of Touch Designer art holds significant relevance in contemporary art practice and programming methodologies, as it enables the utilization of advanced technology as a novel artistic medium. Touch Designer art serves as a medium for current art, effectively embodying the defining features of modern art, including high information density, compression of space and time, and amplified collective impact. The field of Touch Designer art is undergoing continuous development alongside the ongoing advent of new technology. The evolution of technology has transformed the nature of communication, rendering it more than just an artistic expression. Instead, it has assumed the role of a conduit connecting individuals with vast amounts of information, so establishing itself as an indispensable component of modern culture. To enhance comprehension of Touch Designer work and imbue it with fresh connotations, individuals must also establish connections between this art form and the broader world.

The advancement of technology will lead to the increased sophistication of artistic methods in new media, resulting in a stronger integration with individuals' everyday experiences. In the forthcoming era of Touch Designer art, there will be a notable shift towards the prioritization of culture as the central theme in interpersonal connection. The complete utilization of the artistic capabilities of Touch Designer can only be achieved through the organic integration of the physical and digital realms. The novel circumstances can engender heightened interest in the realm of Touch Designer art, so prompting individuals to engage in recurrent contemplation, selection, and interpretation, drawing upon their distinctive perspectives. The utilization of Touch Designer art is exerting an influence on individuals' behavior and cognitive processes in a novel manner. During the developmental phase, it facilitates efficient communication between the domain of art and other disciplines, while concurrently fostering the popularization of art. The expanding advancements in technology have facilitated the integration of Touch Designer art into several domains, hence exerting influence beyond the realm of art and extending into diverse fields.

1.3 The connection between the humanistic value of Touch Designer and new media art

The convergence of meanings and the comparative autonomy of disciplinary systems:

The contemporary global landscape is characterized by a rich tapestry of diversity, wherein many industries and professions can be seamlessly amalgamated. The significance of science and technology in our daily lives cannot be overstated. When the integration of these two notions occurs within the context of my personal experiences, the demarcation between science and art becomes rather indistinct. Nevertheless, it appears that the humanistic and technological conceptions are relatively compatible in the current day. Nevertheless, as technology continues to advance, the distinction between humanistic and technological conceptions will become further ambiguous. Touch Designer technology not only gives convenience to us, but also emphasizes the issue of ambiguity. It is imperative to establish a clear distinction between the concepts of art and science in order to avoid any confusion. In order to produce improved works with a strong foundation in humanistic abilities, it is imperative to differentiate between these two concepts, remain vigilant regarding emerging technological trends, and consistently acquire proficiency in cutting-edge technology.

The two phenomena mutually influence and facilitate one other's growth.

This phenomenon is primarily evidenced by the notion that a genuine work of art can only be deemed as such when it integrates human notions and distinctive modes of cognition. Dependence exclusively on technology for enhancement yields a work that is comparatively devoid of depth and emotional resonance. Touch Designer art refers to the artistic process wherein an artist, having established their unique style, expresses it using conventional artistic methods, and subsequently employs technology to manipulate and transform the artwork into a final artistic piece. The practice under consideration involves the act of re-creation. To illustrate, contemporary dance art is executed by dancers in a manner that adheres closely to established traditions, thereafter being captured and conserved through the use of television cameras. By engaging with the actual public, it has the potential to serve as a source of inspiration for future generations. The incorporation of current technology into the traditional art forms of calligraphy, painting, and murals introduces a departure from conventional artistic practices.

This amalgamation enhances the intuitive and authentic nature of dance art. The choreographic composition is a manifestation of the artist's individuality and cognitive processes, highlighting the humanistic ideology of artistic production. The presentation of dance art in innovative formats through television media has the potential to enhance its vibrancy and dynamism. Hence, the integration of traditional art with Touch Designer art forms a cohesive amalgamation that embodies the fusion of humanistic principles and technological advancements. If an artist exclusively produces conventional art without employing advanced technological methods for processing and modifying it, then such artwork can be classified solely as art. If the sole focus is on technological advancements without incorporating the distinctive cognitive processes of artists, art can merely function as a vehicle for self-expression and lacks the essence of human experience. In the realm of Touch Designer creation, the integration of humanistic and technical notions is an inherent and interconnected entity, wherein these concepts mutually shape and engage with one another. The development of new media art can be enhanced by the integration of traditional art with new technologies.

2.   Case analysis

2.1 Likewise, within the context of algorithmic implementation in Touch Designer, the instructional scenario encountered recurrent instances of plagiarism, wherein comparable algorithms were employed to attain analogous abstract patterns. This particular scenario was employed solely for instructional purposes, devoid of any artistic merit, and presented in the form of a solitary image. Case teaching enables students to attain tangible outcomes, while it does not allow for their existence as autonomous works of art.

Figure 1 Works of Lu Xun Academy of Fine Arts（2020）

2.2 The present work is likewise derived from the utilization of Touch Designer, whereby the creator has implemented alterations to the software's parameters. Nevertheless, it is evident that the source of this information can be traced back to the instructional case study of Touch Designer within the TEA community. This task exemplifies a common challenge seen in Touch Designer creations, wherein the programming of sequential visualization plays a decisive role in the occurrence of this problem. Moreover, this issue aligns with the normal nature of borrowing within such works.
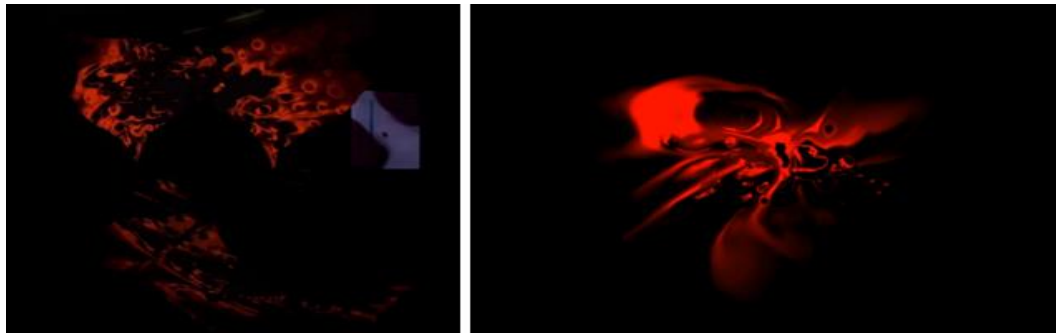
Figure 2 Works of Hebei Academy of Fine Arts（2022）

3.   Touch Designer Course Innovation Practice Teaching

The course will consist of 1-4 class hours. During this time, we will cover the introduction of TD software feature parameters and panels, as well as critique exemplary works.

The course consists of 4-10 class hours and focuses on instructing students on fundamental mathematical operations and their practical applications in several modules.

The course will consist of 10-20 instructional hours, during which students will be instructed on how to create intermediate visualization data models.

The professor dedicates 20-30 class hours to completing a full TD work that is designed to challenge students at an appropriate level of difficulty. The TD work is tailored to align with the aesthetic thinking relevant to the student's major.

The course duration ranges from 30 to 50 class hours. It integrates interactive components that are tailored to students' individual learning progress, aiming to facilitate their creation process within the realm of experimental art.

The duration of the class is around 50 to 52 hours. The user's text lacks academic language and structure. It would be more appropriate to rewrite it as follows: In this section, we will provide a summary and offer some comments Throughout the duration of the course, each group or individual engages in meticulous work analysis. This involves the collection of data for the purpose of course design. In order to accomplish this, the utilization of TD visualization software and tools is employed. Additionally, each participant is tasked with autonomously completing a data visualization case that possesses both aesthetic and practical relevance.

Course direction (1) emphasizes the process of digital production, wherein video editing techniques are employed to integrate various elements into a cohesive visual composition. (2) Diverse interpretations of Touch Designer exist across individuals, leading to varying approaches and topics in artistic endeavors.

Course task (1) entails providing a systematic and comprehensive explanation of the TD software program in order to construct a practical and sustainable development lesson plan. (2) Facilitate the acquisition of visual thinking language skills among students by utilizing graphic programming tools. The objective is to foster students' capacity to autonomously generate and produce interactive projects, while also enhancing their collaborative aptitudes.

Course difficulty: In general, the course is characterized by a reasonably high level of difficulty.

(1) The implementation of a view framework is considered to be a reasonably straightforward process, and once frameworks are connected, the linkage is permanent. The incorporation of more functionalities into a system may give rise to conflicts, necessitating iterative debugging and the identification of individual solutions to address them.

In order to accommodate the data inside the designated framework, it is imperative to engage in data processing activities such as extraction, filtering, and modification of the original dataset in accordance with the specified criteria. This task can present considerable difficulties. There are several advantages to consider. By employing a limited number of data attributes, it is possible to extract a multitude of novel and important information through extensive data analysis. The utilization of several perspectives to establish connections between multiple data attributes at a comparable level allows for a comprehensive exploration of both the individual interactivity inside each view and the interactivity that occurs between different views. Limitations: The course design in question may not have completely used the available data, thus hindering its success in teaching second grade pupils. Additionally, the breadth of the design may not be optimal, considering both the teaching efficacy and the students' capacity for acceptance.

Other universities have also provided TD courses as a result of ongoing learning and observation. The student projects bear resemblance to the workshops previously conducted by

our educational institution, and exhibit a high degree of creativity. One recurrent issue is the inclination of students to employ unaltered instances as their own original work. I have observed numerous examples of students' academic endeavors on the internet. In both historical and contemporary educational practices, there remains a steadfast commitment to prioritizing student subjectivity. This is achieved through the meticulous regulation of academic works, as well as the utilization of students' videos and graphics to facilitate secondary creation. The ultimate goal of these efforts is to effectively get the intended outcome.

3.1 Exhibition of Works

The artistic conception of the piece titled "Beautiful New World" originates from a critical and doubtful perspective towards the burgeoning notion of the "metaverse". In my perspective, the current influence of the Internet on human society is insufficient to establish it as a platform for the spiritual realm of human souls. In the hypothetical scenario of its transformation into such a locale, I maintain the perspective that its evaluation should not be predicated solely upon economic considerations. Despite not being quantifiable in terms of financial wealth, neglecting the physical body and allowing it to decay in actuality is an unhealthy lifestyle choice. Human beings exhibit a notable degree of hubris as they have already initiated the pursuit of creative endeavors, although their understanding of the true nature of the cosmos remains limited. What is the potential trajectory of the metaverse as it is developed by human beings? The initial individual depicted in the movie can be characterized as a profit-oriented individual who engages in speculative activities within the realm of the metaverse. The second head depicted in the video represents a pioneering figure who remains unidentified and lacks the faculties of sight, hearing, speech, and vocalization. The metaverse was formed by a group whose goals remain unknown. The video depicts a figure with severe bodily mutilation, exhibiting signs of physical deterioration and a deteriorating sense of vitality within the context of contemporary internet exploitation.

Figure 3 Artworks, 2023

The source of inspiration for this work derives from a time period characterized by the absence of internet connectivity. In the hypothetical scenario where the internet's source of power is attributed to a hamster propelling a wheel, the cessation of the hamster's activity due to fatigue or refusal to continue would result in a condition of complete immobilization for the internet. Despite the potential hindrance caused by the internet, species had already undergone evolution. As an illustration, giraffes have developed elongated necks in order to locate signals, whereas humans have adapted to holding up their phones and looking upwards to access signals, thereby contributing to their bipedal evolution. The entirety of the piece embraces a minimalist aesthetic, prioritizing the prominence of lines and presenting visually uncluttered compositions. This work employs black humor to envision the global response following the disconnection of the internet.
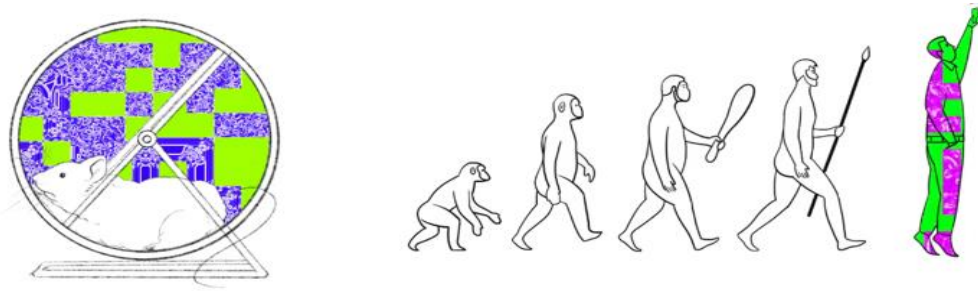
Figure 4 Artworks, 2023

4. Conclusions

Regarding the Touch Designer digital media art major, many Chinese design colleges lack professional knowledge. Interactive laboratory induction technology, needed for research on tactile and haptic contact devices, is lacking in instructional practice. Digital media art courses lack a defined curriculum and little possibilities for experimentation, making it difficult to build a research foundation for professional progress. Thus, resolving this issue is urgent. China's digital media art education research and talent development have reached a Touch Designer milestone. Design schools with solid engineering foundations lead this advancement. Tsinghua University emphasizes information art design, theoretical research, internet innovation, and intelligent communication. This design method blends humanized IT to enable networked human-computer interaction. Intelligent services include exchange, categorization, and communication processing. Hunan University prioritizes human-machine engineering and interaction and intelligent transportation application design.

High-end technical innovation fields depend on international talent development. The use of interactive technology innovation in communication intelligence begins with the design premise that producers need real-time input. Could you elaborate on your question? Do you mean Andrew Carnegie? Mellon University's School of Design studies "human computer" and "human machine" interaction and "narrative and discussion" strategies in information design. Additionally, the school examines the pros and cons of new technologies for information visualization and navigation. Massachusetts Institute of Technology Media Laboratory research addresses human needs and improves life quality. Modern studies of sensors, educational toys, and interactive films have shifted from technology-centric to direct relevance in everyday routines, including learning and enjoyment. Developed nations have a more proactive approach to digital media in higher education. Interactive media has grown from confrontational to complete physical involvement, raising the question of why future human-computer connection will be confined to single-finger operation when it may enable full-body movements. Digital media art and design is not a standalone art and design course. Instead, it is multidisciplinary and works with information, computer science, and psychology. Instructional system design should match.

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