

Screenshots as New Materials for Media Art Archaeology

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Abstract. In the digital age, media art is developing rapidly, constantly expanding the boundaries of artistic expression and bringing new opportunities and challenges to artistic creation and dissemination. As an emerging field of research, media art archaeology is dedicated to exploring and studying the history of media art, revealing its development trajectory and internal laws. It provides a historical perspective and theoretical support for our understanding of the development of contemporary media art through in-depth exploration of media art works, technologies, and cultural backgrounds from different historical periods. At present, media art archaeology mainly focuses on traditional art works and historical documents. However, with the rapid development of digital technology, a new form of media - screenshots - is gradually entering our field of vision and has had a profound impact on media art archaeology.

Keywords: screenshot; Archaeology of Media Art; media environment.

1. Introduction

In today's era of digital information explosion, the media environment has undergone earth shaking changes. Screenshots, as an emerging form of media, are gradually penetrating into every aspect of people's lives. From personal daily social sharing and information recording, to commercial advertising and product display, to academic research data collection and case analysis, screenshots are everywhere. This convenient image capture method can quickly freeze the information on the screen and transform the momentary image into visual data that can be saved and disseminated.

With the popularity of the Internet and mobile devices, the number of screen shots is growing exponentially. On social media platforms, users frequently share interesting and valuable screenshots, making them widely spread in cyberspace; In the workplace, screenshots are used for work reporting, problem communication, project collaboration, and other aspects, becoming an important tool for information transmission; In the field of academic research, scholars have also begun to pay attention to and use screenshots as research materials to explore social and cultural phenomena, media development trends, etc. in specific periods. Screenshots, with their unique form and rich connotations, provide a new research perspective and material source for media art archaeology, and are expected to reveal previously overlooked media history and cultural information.[1]

2. Analysis of the Characteristics of Screenshots

2.1 Convenience and immediacy

In the current era of rapid development of digital technology, screenshot operations are extremely simple. With simple button combinations, clicking on icons, or specific gestures, it is easy to capture screen content. Taking smartphones as an example, most phones only need to press the power button and volume down button at the same time, or use gestures such as three finger swipe to quickly complete screenshots; On the computer side, the Windows system can freely select the screenshot area by pressing the "Windows+Shift+S" key combination, while the Mac system can use shortcut keys such as "Command+Shift+3" (full screen screenshot) or "Command+Shift+4" (select area screenshot). This convenient operation method enables users to instantly record important information on the screen without the need for complex devices and tedious steps.[2]

The immediacy of screenshots has significant advantages in information acquisition and dissemination. In the era of information explosion, various types of information flood in like a tide, constantly updating news, social media updates, academic materials, and more. Screenshots allow

users to capture this information in the first place without missing any important content. For example, in sudden news events, users on social media can quickly take screenshots of the news report page and share the latest news with family and friends, achieving rapid dissemination of information; In academic research, scholars can immediately take screenshots and save valuable viewpoints, data, or charts when browsing electronic literature, providing material support for subsequent research. This immediacy makes screenshots an efficient tool for recording and disseminating information, meeting people's needs for quick access and transmission of information.

2.2 Information carrying diversity

Screenshots have strong information carrying capacity and can cover various forms of information such as text, images, data, charts, etc. On social media platforms, a chat screenshot not only contains the text conversation between the two parties, but may also include emoticons, images, links, and other content. These rich information elements can vividly showcase the communication scene and the emotional attitudes of the participants; In electronic documents or web pages, screenshots can capture text paragraphs, image descriptions, data tables, etc., integrating different types of information into one screen and providing users with comprehensive information display. Taking product page screenshots on e-commerce platforms as an example, they contain not only textual introductions, prices, specifications, and other information about the product, but also physical pictures, detailed display images, and user evaluation chart data. Through a screenshot, consumers can obtain various information about the product and make more accurate purchasing decisions.[3]

The characteristic of carrying diverse information makes screenshots of great value in media art archaeology. It can provide researchers with rich research materials. By analyzing different information elements in the screenshots, researchers can gain a deeper understanding of the social culture, aesthetic concepts, technological development, and other situations of a specific period. For example, by analyzing screenshots of movie posters from historical periods, not only can we study the artistic style and image design techniques of the film at that time, but we can also understand the theme, cast, and promotional slogans of the film from the textual information on the posters, thereby revealing the development status and socio-cultural background of the film industry at that time.

2.3 Editability and ease of dissemination

Screenshots have strong editability, and users can use various image editing software to crop, annotate, add text, adjust colors, and other operations to highlight key information, express personal opinions, or meet specific communication needs. In the workplace, employees may use annotation tools to circle key data and add annotations when sharing screenshots of work reports, making the information conveyed clearer and more understandable; In online social media, users may add creative edits such as doodling and adding emoticons to screenshots in order to increase their interest or express specific emotions. This editability enables screenshots to better adapt to different communication contexts and audience needs, enhancing their communication effectiveness.

Meanwhile, screenshots have the characteristic of easy dissemination on various platforms. With the popularity of the Internet and mobile devices, social media platforms, instant messaging tools, etc. provide convenient channels for the spread of screen shots. Users can share screenshots on social media platforms such as WeChat, Weibo, QQ, or send them to friends and groups with just a few clicks. Moreover, screenshots presented in the form of images are more intuitive and attractive compared to pure text content, and can attract the audience's attention in a short period of time, triggering their attention and discussion. In hot online events, relevant screenshots can often quickly spread on the internet, triggering widespread social attention and becoming an important carrier of public opinion dissemination.[4]

The editability and ease of dissemination of screenshots have had a profound impact on their application in media art archaeology. On the one hand, edited screenshots may alter the presentation of the original information, which requires researchers to carefully discern their authenticity and reliability when using screenshots as research materials to avoid being misled by edited information;

On the other hand, the widespread dissemination of screenshots has enabled more people to access this information, providing richer samples and broader research perspectives for media art archaeology research, while also promoting communication and exploration of media art among different regions and groups.

3. Screenshot applications on social media platforms

3.1 Archaeological research on network emoticons

WeChat emojis, as a typical representative of online emojis, play a crucial role in people's daily social interactions. The process of their emergence and popularity contains rich cultural and communication phenomena. Through the analysis of relevant screenshot data, it can provide a unique research perspective for media art archaeology. The birth and development of WeChat emojis are closely related to the rise and popularity of social media. With the widespread use of smartphones, people's social media has gradually shifted from offline to online. WeChat, as a social app with a large user base, provides a broad platform for the dissemination of emoticons. Early WeChat emojis mainly consisted of simple static expressions, such as smiling, crying, anger, and other basic emotional expressions. These emoticons were concise and clear, which could meet users' basic emotional communication needs in daily communication. From the chat screenshots at that time, it can be seen that these static emoticons were often used to assist in textual expression, making the chat content more vivid and interesting.[5]

With the development of technology and the continuous changes in user needs, the forms and contents of WeChat emoticons are becoming increasingly diverse. Dynamic emojis, anime character emojis, celebrity emojis, and more are constantly emerging, meeting the personalized needs of different user groups. For example, some popular anime works' emojis present classic characters and scenes in the form of emojis, which are deeply loved by anime enthusiasts; Celebrity emojis quickly spread among fan groups by leveraging the popularity and influence of celebrities. These emojis not only have entertainment value, but also carry specific cultural connotations and values. Taking the "well behaved baby" emoji as an example, its cute image and humorous caption express a relaxed and playful attitude towards life, reflecting the cultural psychology of contemporary young people's pursuit of individuality and emphasis on emotional expression. By analyzing chat screenshots containing the "well behaved baby" emoji, it can be found that this type of emoji frequently appears in young people's social interactions, becoming an important tool for them to express emotions and regulate the atmosphere, while also reflecting their unique aesthetic tastes and cultural pursuits.

The popularity of WeChat emojis is closely related to the spread of online culture. Some emojis have quickly become popular due to online hot events and popular phrases, becoming symbols of online culture. For example, after the emergence of the internet buzzword "blue thin mushroom", related emojis were widely spread on the WeChat platform, and users expressed their feelings of depression, helplessness, and other emotions by sending these emojis. These emojis are not only popular in China, but also spread abroad through the internet, becoming a special way of cross-cultural communication. From the perspective of communication studies, the popularity of WeChat emojis is a typical viral transmission phenomenon. During the chat process, once users discover interesting and novel emoticons, they will quickly share them with their friends around them, forming a chain reaction that allows emoticons to gain a large amount of exposure and spread in a short period of time. At the same time, the social attributes of WeChat platform also provide convenient conditions for the dissemination of emoticons. The strong relationship network between users enables emoticons to more accurately reach the target audience, enhancing the dissemination effect.

Archaeological research on WeChat emojis can not only reveal the development and evolution of emojis themselves, but also delve into the cultural and dissemination phenomena behind them. By analyzing screenshots of WeChat emojis from different periods, we can understand changes in social culture, aesthetic concepts, and internet trends, providing vivid and lively materials for archaeological research on media art.

3.2 Value mining of social interaction records

As an important form of social interaction recording, screenshots of chat records contain rich information and can provide strong support for studying social interaction patterns and the construction and evolution of interpersonal networks. In terms of social interaction mode, screenshots of chat records can visually display people's language style, communication style, and interaction frequency during the communication process. Taking WeChat group chat as an example, by analyzing screenshots of chat records, it can be found that different groups have different characteristics in communication. In the work group, communication mainly revolves around work tasks, project progress, etc. The language expression is relatively formal and standardized, and the frequency of interaction is usually related to the urgency and workload of the work; In family and friend groups, communication content is more diverse, including daily trivialities, interests and hobbies, emotional sharing, etc. The language style is more relaxed and casual, and the interaction frequency is relatively high. In addition, from the screenshots of chat records, nonverbal elements such as emoticons and tone words used by people in communication can be observed, which can convey rich emotional information and further reflect the atmosphere of social interaction and the emotional state of participants.

The construction and evolution of interpersonal networks can also be reflected in screenshots of chat records. On social media platforms, people expand their social network by adding friends, joining groups, and other means. Screenshots of chat records can capture the process of these social behaviors and the changes in interpersonal relationships during the communication process. For example, by analyzing screenshots of chat records between two users, we can understand their process from initial acquaintance and communication to gradually becoming familiar and building trust; In group chat, by observing the interaction between members, it is possible to determine the core characters, small groups, and the relationship between members within the group. Over time, interpersonal networks will constantly change, and screenshots of chat records can provide longitudinal data support for studying these changes. For example, when a user's interaction with other members gradually decreases or even stops participating in group chats, analyzing screenshots of chat records can explore the underlying reasons, such as job changes, changes in living environment, interpersonal conflicts, etc., in order to gain a deeper understanding of the influencing factors of the evolution of interpersonal networks.

In order to further explore the value of chat screenshots, data analysis and visualization techniques can also be used. Through text analysis of a large number of chat screenshots, keywords, topic words, and other information can be extracted to understand the main topics and hot events of social interaction; By using social network analysis methods, an interpersonal relationship network diagram can be constructed to visually display the structure and characteristics of the interpersonal relationship network, such as the strength and centrality of connections between nodes (users), and further analyze the stability and cohesion of the interpersonal relationship network. In addition, machine learning algorithms can be combined to conduct sentiment analysis, behavior prediction, and other research on chat screenshot records, further expanding the depth and breadth of research.

As an important carrier of social interaction records, screenshots of chat records have extremely high research value. Through in-depth analysis, the characteristics and laws of social interaction patterns can be revealed, and the construction and evolution mechanisms of interpersonal relationship networks can be explored, providing rich data support and empirical evidence for research in disciplines such as sociology, communication, and psychology.[6]

4. Future prospects

With the continuous innovation of digital technology, the application prospects of screenshots in the field of media art archaeology will become increasingly broad. From the perspective of technological development trends, the continuous advancement of artificial intelligence and machine learning technologies will bring new breakthroughs to the analysis and utilization of screenshots. In

the future, intelligent screenshot tools will be able to more accurately identify various elements in screenshots, such as people, scenes, items, etc., and automatically classify and annotate them. Through artificial intelligence algorithms, it is possible to quickly analyze a large number of screenshots, explore their potential artistic value and cultural connotations, and provide more efficient and accurate support for media art archaeological research. With the popularization of virtual reality (VR) and augmented reality (AR) technologies, the forms and contents of screenshots will become more diverse and abundant. In VR and AR environments, users can capture immersive screenshots that not only record visual information but also capture multidimensional information such as space and interaction, providing a new perspective for research.

In terms of expanding research fields, screenshots will provide possibilities for archaeological research on more emerging media art forms. With the continuous emergence of new media technologies, new forms of media art such as interactive art, immersive art, artificial intelligence art, etc. continue to emerge. These art forms have unique forms of expression and dissemination, and traditional archaeological materials and research methods are difficult to meet the research needs for them. Screenshots can record in real-time the creative process, display effects, and user interactions of these emerging media arts, providing key information for their archaeological research. In interactive art exhibitions, the interaction process between users and artworks can be recorded through screenshots, which can reflect the characteristics and charm of interactive art, as well as users' participation and understanding of artworks. Screenshots can also be used for cross media art archaeology research, by comprehensively analyzing screenshots on different media platforms, exploring the dissemination and evolution laws of media art between different media, and providing support for building a more comprehensive media art archaeology system.

In order to better utilize the role of screenshots in media art archaeology, it is necessary to strengthen relevant theoretical research and methodological innovation in the future. On the one hand, it is necessary to delve into the theoretical foundations of semiotics, communication studies, and cultural studies of screenshots, and reveal their inherent mechanisms and cultural significance in media art expression and dissemination. Through semiotic analysis, study the combination and expression of symbolic elements such as images, text, and colors in screenshots, as well as how they convey the themes and emotions of media art. On the other hand, it is necessary to continuously innovate research methods, combine big data analysis, visualization technology, etc., and develop more scientific and effective screenshot analysis methods. Using big data analysis technology to statistically analyze massive screenshots and uncover patterns and trends within them; Using visualization technology to present the information in screenshots in intuitive forms such as charts, images, etc., to help researchers better understand and interpret. It is also necessary to strengthen interdisciplinary research, integrate theories and methods from multiple disciplines such as history, archaeology, art, and computer science, and form a multidisciplinary collaborative research model to provide more solid theoretical and methodological support for the application of screenshots in media art archaeology.

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