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Abstract

In this contemporary era, technology has become quite important in the field of art. Recent innovations include the phenomenon of combining Art X Technology with Instagram filters, in which artists create 2D artworks and filters through Instagram that can be used by the audience to see 2D artworks that are transformed into real or moving (3D) objects through the phone screen. The purpose of this study is to examine the impact of the use of technology (Art X Instagram Filter) on the audience at exhibitions. The Data was collected by 49 respondents via an online survey via a Google Form link for visitors to the exhibitions "Age Quod Agis" by Liquid Color Community and "Memanen Angin" by Lully Tutus Solo Exhibition in Jogia Gallery. The final result shows that Art X Instagram filters have had a significant impact on how art is created, consumed, and perceived in the digital age. They offer a range of tools that alter the visual appearance of images, allowing users to experiment with different styles, colors, and effects. This is certainly a new media innovation in presenting artworks to be closer to the audience, and the audience has a new way to enjoy and see artwork, where the audience can not only experience 2D artwork but can also use other alternatives to enjoy the artwork by using a phone camera. So the audience also eventually makes a personal choice to enjoy the artwork as a painting or animated by Instagram filters according to their preferences.

Keywords: Art X Instagram, Aesthetic Experience, Impact, Audiences

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Introduction

What is Art? As a visual culture, Art's position can be understood through various aspects, such as Art as a physical manifestation, Art as a System, and Art as a Value (Pamadhi, H 2012). Understanding these three aspects is crucial in determining Art's contemporary stance. Art as a physical manifestation helps us comprehend the physical representations of concepts and ideas that can be perceived by human senses, such as paintings, sculptures, and installations. Art as a system helps to integrate the position of art as a mechanism that constructs and fosters a 'behaviour.' Art as a Value is related to aesthetics, where the notion of "value" in art resides in every human being, including the artist who creates the work and the audience as consumers of the work.

What is Technology? Tepstra and David (1985) suggest that technology as a cultural system concerned with the relationships between humans and their environment. From the systems perspective Afriyie (1988) defines technology as encompassing: 1) the basic knowledge sub-system; 2) the technical support system (software); and 3) the capital-embodied technology (hardware). This perspective views that technology recognizes the need to identify the different elements of a particular country's technology that are complementary and mutually reinforcing Abd Wahab, Sazali & Che Rose, Raduan & Osman, Suzana (2012).

The relationship between art and technology can be affected by a wide range of factors; for example, when a new technology creates a new form of society, or when new materials are produced from industrial technology, they can both inspire new types of artistic expressions. (Hatanaka, 2016) Recent advancements in augmented reality (AR) technology have begun to position the medium for widespread adoption and cultural impact (Tinnel, 2014).

Tomiuc, A (2014) Augmented reality (AR) technology is an emerging area that can potentially provide museums or art galleries with numerous valued and distinctive chances to raise access to their collections and increase people's learning and enjoyment. It was first introduced in the 1900s as an idea for a digital presentation that overlaps data onto the physical world (Gongz Zhe et al. 2022). According to Azuma et al. (2001), there are three characteristics of augmented reality: (a) integrate real and virtual objects into reality, (b) collaboration between real and virtual objects, and (c) real-time interaction between real and virtual objects. Therefore, the images and sounds generated through augmented reality can significantly enhance the visual and auditory experience in real life (Chen C-A, Lai H-I. 2021).

Instagram should best be understood as a conduit for communication in the increasingly vast landscape of visual social media cultures. The visual image, video, and other combinations of these elements in stories are first and foremost about communicating with one another. Moreover, as the platform amassed over a billion users, platform-provided filters have given way to socially-driven norms and what we argue is the templatability of visual social media Instagram. Instagram is more than app, more than a platform, and more than a jewel in the facebook 'family'. Rather, Instagram is an icon and avatar for understanding and mapping visual social media cultures, whether on Instagram itself, or through the many ways the material world has sought to become 'Insta-worthy' in redesigning practices, cultural institutions and material spaces (Leaver, T, et al 2019).

The application of AR in art is still quite new in Indonesia. In December 2022, WIR Group subsidiary AR&Co collaborated with Celsius to present interactive and immersive visuals of

paintings to visitors through the support of augmented reality (AR) technology. AR&Co developed an Instagram filter that can bring interactive visuals in the form of animated trimatra (3D) that can move and provide a unique experience of historical paintings from three Indonesian painting maestros, namely Affandi Koesoma, Basoeki Abdullah, and Antonio Blanco. This exhibition activity was displayed through the El-Maestro event, which was the launch of the latest fashion collection from Celsius and took place at the Sarinah shopping center in Jakarta (Andaresta, 2022).

The "Age Quod Agis" Exhibition by Liquid Color Community and Lully Tutus' "Memanen Angin" Solo Exhibition at Jogja Gallery are two art exhibitions in Jogja that use Instagram filters to incorporate augmented reality into 2D visual artworks. The same concept is used in both exhibitions to present augmented reality in art, where artists use Instagram filters as a brand-new alternative media for viewers to view and engage with artworks. The goal of this study is to determine how much the Art X Instagram Filters affect how much art exhibition visitors love the pieces on display.

Methodology

Netnography (Kozinets, 2010) is an ethnographic approach to study communities that exist primarily online. Engaging in online participant observation, the netnographer connects to the online community through a computer screen, and the field is located inside the screen. Onal, D (2015). Survey approaches inform us about the relative population, demographic constitution, and frequencies of behaviours of online community members. Social psychological and experimental approaches hypothesize about and test suggested causal relations between important individual and group level variables such as atti tudes, memory, and belieft. The application of surveys using web-pages or other online formats is called the online survey method. Online survey methods have grown rapidly in the last decade (Andrews et al. 2003; Lazar and Preece 1999). From practically a standing start, online surveys have become the major method for investigating a wide variety of social questions. Online surveys are an excellent way to gain a particular kind of understanding about online communities and culture (Kozinets, 2010).

In this study, data was collected using a Netnography approach and an online survey via a Google Forms link. Following criteria were used to choose the respondents: a.) Use Instagram as a social media b.) Have been to one of the Jogja Gallery's "Age Quod Agis" by Liquid Colour Community or "Memanen Angin" Solo exhibitions by Lully Tutus. 49 participants completed the online questionnaire that the researcher designed for this study. The qualitative analysis of the data was done with the use of graphs and descriptions.

Findings and Discussion

The review of Art X Instagram's impact on audiences through the Google Form Survey link is created using a combination of different questionnaire models, such as Choice, Fill-in, and Scale, as the criteria chosen by researchers to assess the level of consistency in respondents' responses to research questions. As a result, the opinions expressed by respondents in the research survey demonstrate the variables that support and provide an argument for the decisions made by respondents.

The Typical Respondent Who Attends the Exhibition

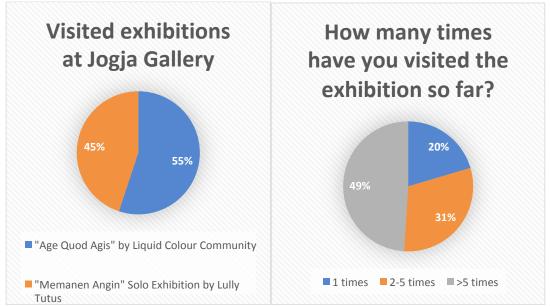


Figure 1. The Typical Respondent Who Attends the Exhibition

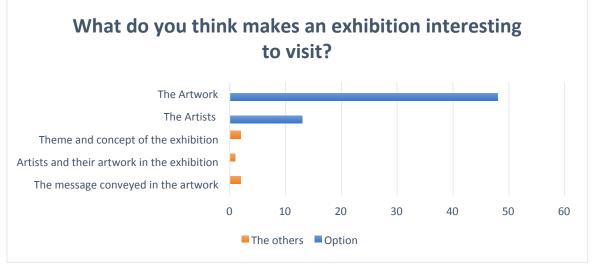


Figure 2. Chart What Make An Exhibition Interesting to Visit

When the author posed the question of what attracts people to art exhibitions, the respondents were given two choices: the first was the artwork, and the second was the artist. The author additionally included a different field that respondents could complete. A lot of respondents said that the main factor determining whether or not an exhibition was interesting or not was the artwork on display, followed by the artist who organized the event. Some responders also added additional information, such as the exhibition's theme and concept, the artwork and its artist, and the artwork's message.



Figure 3. The Purpose of Visiting an Exhibition

Next, there is **question about The Purpose of visiting an exhibition.** The author discovered various answers to this question. Every person who visits the Exhibition has a different reason for "why they come to the exhibition and what they are looking for". However, out of all the responses provided by 49 individuals, The author identified several frequently used phrases from the responses given by respondents, including "Seeing the artworks." @yantioctere, @anniafirrd, @dailyofqueenz, @puteridk, @ziyahanafau, @sintanurindah, @__61files, and @nabillaarahma._ are all female users. Next is the word "refreshing." @anangprayitno (m), @prima_agustian (m), @clarestade (f), @voicebyputri (f), @queenta (f). "Like" the following accounts: @fitriindahwati (f), @ddhilah (f), @eiydze (m), @vikalnt_(f), @anitadessy_(f), "Entertainment" @honeyvha_(f), @ariffahningtyass_(f), and @sholaaprica (f). "Curious" @caninaydl, @novian_tiandini, as well as additional keywords like "Healing", "Contemplation", and "making content."

The Impact of Art X Tech for Artist, Artwork, and Audience

Leo Tolstoy answered these questions in "What is Art?" (1897), his most comprehensive essay on the theory of art. Tolstoy's theory has a lot of charming aspects. He believes that art is a means of communicating emotion, with the aim of promoting mutual understanding. By gaining awareness of each other's feelings we can successfully practice empathy and ultimately unite to further mankind's collective well-being. (Chaliakopoulus, 2020). According to this statement, the artist, the piece of art, and the audience represent the three fundamental components of art. The Artist is the person who creates the artwork, the artwork is a medium of Communication, and the Audience is the agent or subject matter of Communication since these three fundamental components are connected. These three factors will definitely be impacted by technology. The author also wants to discover how artists, works, and audiences are impacted by the relationship of technology and art through Art X Instagram.

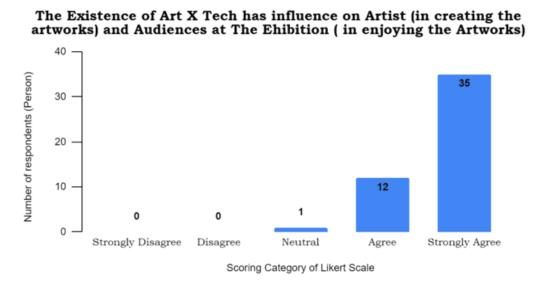
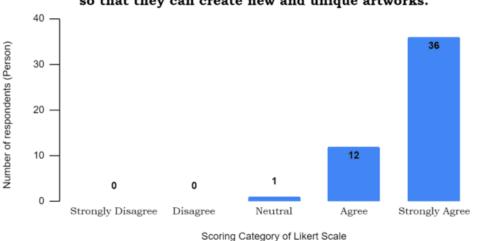


Figure 4. Art X Tech Influence on Artist and Audience

With statement clauses and ratings on a Likert scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree, the author created a questionnaire type form. "The statistics indicate an evaluation based on respondents' perceptions of the impact of art X technology: 35 respondents (72.9%) highly agree, 12 respondents selected agree (25%) (love visit Exhibition, Seeing artworks, refreshing, entertainment, contemplation) and 1 respondent selected neutral (curious).

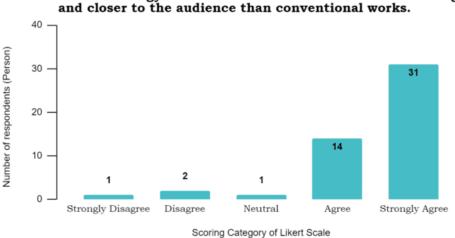


The role of technology in Art influences artists to explore the media so that they can create new and unique artworks.

Figure 5. Art X Tech Influence Artist to Create Artwork

The graph displays opinions about how art and technology affect artists' production of unique and innovative artworks. From the perspective of the audience, 36 respondents (73.5%) strongly agreed with the statement, followed by 12 who agreed (24.5%) and one who responded "Neutral" (2%), according to the study (healing).

The following graph claim indicates that the interaction between art and technology brings the artworks closer to the audience and makes them more exciting. According to the survey results, 31 respondents (63.3%) highly agreed, 14 agreed (28.6%), 1 selected neutral (2%), (love to visit exhibition), 2 disagreed (4.1%), (love to visit exhibition and contemplation), and 1 selected strongly disagreed (2%), (love to visit exhibition).



The role of technology in Art makes the artworks more interesting

Figure 6. Art X Tech Influence the Artworks

Technology in Art impacts the audience in terms of how to enjoy artworks in an exhibition, the audience ultimately has alternative choices in enjoying and viewing artworks according to their own desires and preferences, thus creating a new and unique

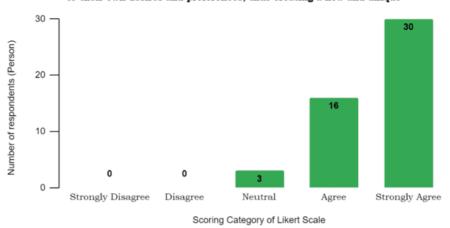


Figure 7. Art X Tech Impact the Audience

In response to a question concerning the role of Art X Tech for visitors, the author writes that technology in art influences how audiences appreciate the works on view by allowing users to make a different option based on their own preferences and desires, which in turn creates a unique aesthetic experience. Of the 49 participants in the study, 3 selected neutral (6.1%) (healing, explore, seeing artworks), 16 agreed (32.7%), and 30 strongly agreed (61.2%).

Audience's Aesthetic Experiences With Art X Instagram Filter in Exhibition

Q: How do you feel when technology is combined with art (through Instagram filters) in the 'Age quod Agis' Exhibition by Liquid Colour Community in the work of the artist?



OADYN CHOERODIN Gugur Gulita #2 Oil, Acrylic, On Canvas Diameter 190cm 2023 Please provide a description of your responses, impressions, messages, and experiences.

*credit photo: by Instagram, @liquid_color

Figure 8. OADYN CHOERODIN. Gugur Gulita #2

"Well, this is very, very woahh. Something new for me, although maybe for other people it's common. But for me, who is a newbie like this, I can know, Oh, it turns out that art can go so far. Really cool anyway." @yantiioctere (seeing artwork)

"It was impressive because even though it was just an Instagram effect, I had never encountered it before, so it was new for me and my friends who visited at that time."@anangprayitno_(refreshing)

"It's cool; Instagram filters have been popular for a long time, but this is the first time I've seen them integrated into an exhibition. So, if all this time visitors can only "see the exhibition". This time, visitors are "invited" to explore the exhibition more. So I salute this idea." @fitriindahwatii (love to visit exhibition)

"Very interactive and fun. It gives a special impression because you are taken as if you are swimming with the fish from his artwork." @honeyvha_(entertainment)

"It was my first time visiting an exhibition that combined paintings with Instagram fillers. I was very interested in trying it. Moreover, there is a barcode to make it easier to access the existing fillers." @rizkaa_97 (seeing artworks)

"To be honest, I came to this exhibition because I was curious about this 3D concept. How can there be moving pictures? And it turns out that this can move with the help of Instagram filters, and I think this is mind-blowing. It can be that beautiful. When I tried it on my phone, I felt like I was in the dimension that the artist described. Even though it only happened in the virtual world. But it's real. After all, we already live in a virtual world, don't we? Everything is digital." @ddhilah (love to visit exhibition)

"It was a pleasure to enjoy the artworks of Gugur gulita #2 and a new experience with an interactive exhibition like this. During the exhibition, many visitors queued up to try using the Instagram filter that made the fish image come alive and move. It also shows that, among other artworks, this innovation is so different that its uniqueness can attract visitors to come to this gallery." @Miftakhljnnh (seeing artworks)

"I was amazed because it was the first time I enjoyed a piece of art with such a breakthrough. I think combining technology and art will be an interesting innovation for the art world in the future. Such interactive artworks can also help artists increase awareness so that their artworks are more 'noticed' by the audience." @clarestadc (refreshing)

"Something extraordinary combined with technology that I have never seen before is one of the new things for me about art that can be combined with technology." @abdrrrm (explore)

"Very interesting, it must develop anyway. Because the era is getting more advanced, with Instagram filters, it can also make promotional media." @vinarizqiyyy (seeing aertworks)

"It was fun and exciting. The paintings are already very beautiful and complex. Plus, the IG filter technology makes it more interactive. I like the work that makes visitors active; it feels like being brought into the painting." @Voicebyputri (refreshing)

"So far, the work of this artist is the most memorable because it carries the theme of fish and is animated with Instagram filters. This makes its own appeal to various levels of society, from those who understand fine art to those who are beginners." (a) ariwi (healing)

"The color combination is just perfect by using modern technology so that it attracts attention and encourages millennials to come and try Instagram filters and take pictures with the work."@eiydze (love to visit exhibition)

The following photographs and videos were posted by individual accounts and tagged on the Instagram account of @Jogja Gallery as proof of viewers' engagement with Gugur Gulita's artwork at the "Age Quod Agis" exhibition by Liquid Color Community.

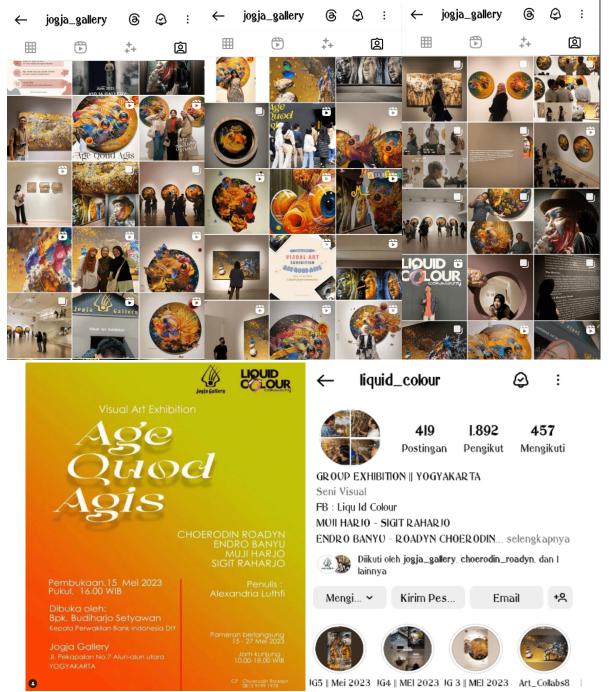


Figure 9. The Proof of Audiences Engangement With Art X Instagram Filters

Q: How do you feel when technology is combined with art (through Instagram filters) in the Solo exhibition Memanen Angin" by Lully Tutus in the work of the artist?



Lully Tutus LANGLANG JAGAD 2023

Please provide a description of your feedback, impressions, messages, and experiences.

*credit photo: by Instagram, @jogja_gallery

Figure 10. Lully Tutus. LANGLANG JAGAD. 2023

"Very funny. as though the piece were alive and well, which, in my opinion, made it more interesting and exciting. Additionally, the filters work well and are simple to use (no crashes or other difficulties)." @anniafirrd (seeing artworks)

"More of a green photograph, old beauty enhanced by history." @Chelianovita (seeing artworks)

"I really like this work. It's not boring, and it's really cool to be able to combine art and technology, especially with an easy way to get filters and use them." @ichanafilah_

"It's fun because the object used as a filter is a dragon painting, where dragons are usually depicted as monsters, so visitors can be creative with the filters made, for example, like being chased by a dragon, pretending to fight a dragon, etc."@Voicebyputri (refreshing)

"It's very interesting to help visitors enjoy new and unique artworks through contemporary Instagram filters." @rizkinurfiaa_ (apresiasi)

"I truly enjoy and admire Lully Tutus's artwork Langlang Jagad, which appears to show a dragon painting flying in front of us thanks to Instagram filters." @nabillaarahma. (love to visit exhibition)

"Very interesting since we can actually sense what the artist drew on the canvas then added Instagram filters to, allowing us to understand the significance of the artwork." @muhjanuardo (curious)

"I did not attend this exhibition in real time. But I see the same concept in the presentation of this painting as I found in Lully Tutus' "Memanen Angin", which is the utilization of Augmented Reality features. I see this as a complementary collaboration. Both have a specific visual power. Painting on canvas presents more real textures and color gradations. We can examine the composition and other details as a unified visual aesthetic that is not simple (complex). Meanwhile, augmented reality offers another visualization in the form of motion, which can actually be maximized into narrative power by adding other fragments (such as fragments of burning forests, rainfall, or the appearance of other entities in the augmented reality "Langlang Jagad") so that the artwork can speak more to the viewer. I see that augmented reality, as an idea in this painting, has not been able to bring that power except as an alternative to visual entertainment. Of course, I realize that for artists, this is not an easy thing to do. But there is nothing wrong with making it a challenge to actualize wild ideas. However, as a collaborative step utilizing the latest technology, "Gugur Gulita" and "Langlang Jagad" deserve a thumbs up." @minggulegit (contemplation).

"The paintings feel so alive and I'm delighted. And this effectively attracts people to spend time at the gallery immediately." @sintanurindah_ (refreshing)

"This is my first experience while visiting the exhibition; I think it is very interesting and very unique, and I really support it because painting can be more advanced."@ tegessekar (love to visit exhibition)

"The filter is very interesting, and I think it's cool because it gives visitors a new experience. The modern artwork is unique and makes visitors more enthusiastic. The audience can enjoy art in a different way." (a) harvironikal2 (making content)

The following photographs and videos were posted by individual accounts and tagged on the Instagram account of @Jogja Gallery as proof of viewers' engagement with Langlang Jagad Artwork at The "Memanen Angin" Solo Exhibition by Lully Tutus.

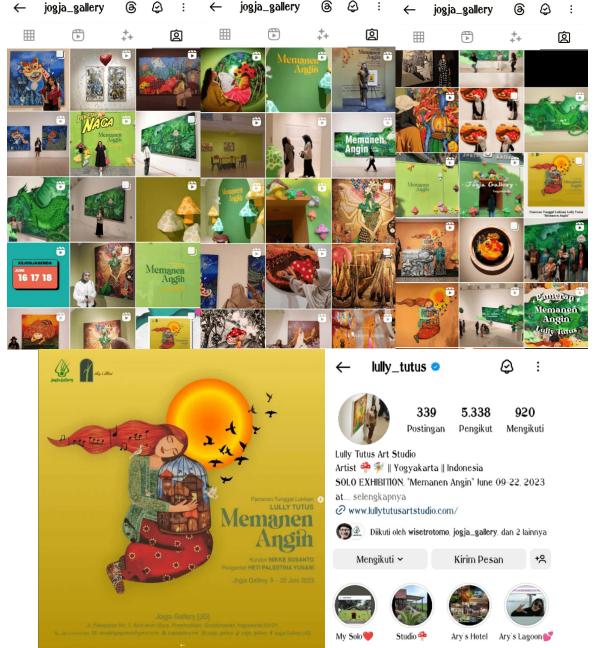


Figure 11. The Proof of Audiences Engangement With Art X Instagram Filters

Q2: Expectations and Suggestions for the Utilization of Technology in the Arts

"Hopefully, in the future, there will be more painting exhibitions with technology such as Instagram filters or so on, because this is one way that visitors can explore further in enjoying art." @sintanurindah_

"I wish many young people will enjoy learning about art, because art is endless. It is suggested that Indonesian art can be more contemporary if you open an art gallery." @monicanyaa

"Hopefully there will be more digital art exhibitions held. Through digital technology that continues to develop, it becomes a way to expand the perspective of art itself and, of course, in accordance with the times as well." @Miftakhljnnh

"More artists want to explore themselves to produce cool artwork." @mariaabenita

"Visitor education is more comprehensively, so people who weren't sure how to do it at first will know since not all visitors are familiar with how technology is used in art." @ ziyahanafau

"I hope that technology in art will be used frequently, rather than simply at special occasions. Because visitors are interested in visiting when it happens. Keep up Indonesian art's success." @ariffahningtyass_

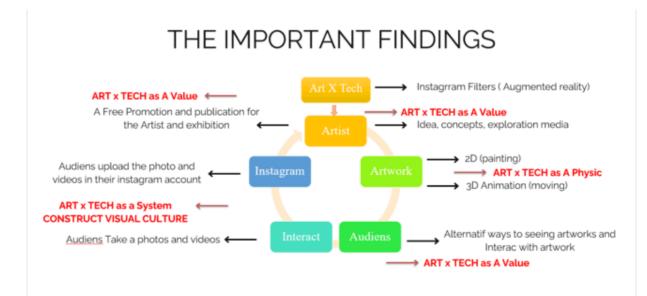
"The application of technology to art should increase, making it more engaging and interactive." @caninaydl

"I hope that this type of art be developed further. not just limited to traditional forms of art, but also able to transcend time and space. Yes, art has no bounds, just like the theme of this exhibition." @ddhilah

"Exploration of the use of technology to support the narrative power in artworks, so that artworks are richer in discourse and interpretation." @minggulegit

The Important Finding

Based on this research, I found an important thing that is described as a scheme below.



The three essential elements of art—artists, works, and audiences—are all impacted by Art X Instagram. First, the presence of Art X technology via Instagram filters will have an impact on the artist as the person who made the artwork. The things affected include the exploration of media, ideas, and work concepts. After the artwork is generated, Art X Tech converts it into two outputs: traditional works (2D) and animation (3D), each of which has benefits over the other. Paintings and other traditional artwork have the advantage of displaying object specifics, artist techniques, and brush strokes, whereas animated artwork displays effects and motion that can highlight and reinforce the concept's descriptional components. The use of Art X Instagram filters in the exhibition of artworks has given audiences another way to enjoy them through Instagram filter media, which is another way that audiences as art enthusiasts are impacted by the use of Technology X Art. In the past, the audience has only come and enjoyed the works displayed. On the other side, this new approach by Instagram Filters will encourage people to engage with the piece of artwork, giving them a unique and new aesthetic experience and bringing the work closer to them. According to this study, many visitors engage with the artwork on exhibit by snapping photographs and videos with Instagram filters. Some of them have even posted the images and videos on their personal Instagram accounts, perhaps as a form of self-expression or to showcase something wonderful and unique. It goes without saying that this (sharing on social media) eventually also indirectly helps artists through the use of promotion and publication made freely by the audience to attract more people (followers of their Instagram accounts) to the arranged exhibition.

Art X Technology as Physic

The diagram illustrates the connection between art and technology as a physical phenomenon, represented in two ways: (a) Two-dimensional painting on canvas, and (b) Augmented reality painting of moving objects using Instagram filters with the aid of technology. This indicates that artworks are not limited to a flat surface. Instead, technology enables further exploration of art in both space and time.

Art X Technology as a System

The role of Art and Technology as a system is to ultimately construct visual culture, particularly for the audience to enjoy and interact with artworks. The audience's traditional role has been passive, restricted to receiving and enjoying the artwork presented by artists and curators in exhibitions. The rule of not touching the artwork has created a distance between the art and the audience. However, through the use of technology, specifically augmented reality built into Instagram social media, the artwork can become closer and more interactive with the audience. The audience can ultimately decide whether to experience the work virtually or as a two-dimensional painting. It additionally creates a novel approach to appreciating art through social media platforms, particularly among young individuals passionate about art and aesthetics. This is particularly evident in the "Museum date/Art Gallery date" trend, which is expressed through photo posts and video "reels" on Instagram.

On the contrary, once it ceases to be novel and enters the mainstream, the fusion of art and technology will present new challenges for artists, requiring the exploration of different forms and media to stay innovative and engaging with the audience.

Art X Technology as a Value

Art has value in both the artist and audience. Art and Technology have a great value in these parties. For the artist, Art x Technology provides challenges when creating works of art and exploring media. Indirectly, Art x Technology is an avenue for "publication" and "promotion" when the audience uploads a related photo or video.

For the audience, the concept of "Art x technology" holds significance in terms of media and its ability to facilitate novel forms of interacting with and enjoying artwork at exhibitions. Additionally, through this convergence of art and technology, an innovative means of

appreciating artworks via Instagram social media emerges, allowing visitors to upload photos and videos of the exhibits during their visit.

Conclusion

Both artists and viewers can benefit greatly from art X tech in the future of the arts. At this instance, its use at an exhibition for artists, the role of Art x Tech through Instagram media serves to improve the debate surrounding their artworks by utilizing new media (the use of animation and motion to follow the discourse and produce interactive works with the audience). However, the implementation of Art X Instagram gives the audience options related to alternative ways of appreciating artwork in an exhibition, either in 2D physical form (directly) to see the strokes, textures, and details of the works created by artists, or through the use of Instagram filters to get a new, more interactive experience with artwork by turning 2D works into 3D with the help of prepared effects and motion animations. This enhances the work's vividness and audience proximity while also making it more interactive and engaging.

Art X Instagram filters have had a significant impact on how art is created, consumed, and perceived in the digital age. They offer a range of tools that alter the visual appearance of images, allowing users to experiment with different styles, colors, and effects. As a result, the usage of Art X Tech through Instagram filter media is quite relevant considering the abilities of exhibition visitors, who mostly enjoy documenting moments through photos and videos.

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References

- Abd Wahab, S. & Che R., Raduan & Osman, S. (2012). Defining the Concepts of Technology and Technology Transfer: A Literature Analysis. International Business Research. 5. 61-71. 10.5539/ibr.v5n1p61.
- Andaresta, L. (2022). Gunakan Teknologi AR, Pameran Maestro Lukis Ini Tawarkan Pengalaman Interaktif. Source: https://hypeabis.id/read/19833/gunakan-teknologi-arpameran-maestro-lukis-ini-tawarkan-pengalaman-interaktif
- Chaliakopoulus, A. (2020). "Without Art Mankind Could Not Exist"; Leo Tolstoy's Essay What is Art. https://www.thecollector.com/leo-tolstoy-what-is-art/
- Chen C-A, Lai H-I. Application of augmented reality in museums Factors influencing the learning motivation and effectiveness. Science Progress. 2021;104(3_suppl). doi:10.1177/00368504211059045
- Gong, Zhe, Ruizhi Wang, and Guobin Xia. (2022). "Augmented Reality (AR) as a Tool for Engaging Museum Experience: A Case Study on Chinese Art Pieces" *Digital* 2, no. 1: 33-45. https://doi.org/10.3390/digital2010002
- Hatanaka, M. (2016). The Transition of Art and Technology in Japan. International Symposium for Media Art Art & Technology: Changing Times, Contemporary Trends, Future Platforms
- [@Jogjagallery]. (2023, June 16). "Memanen Angin" Karya Lully Tutus [Photograph]. Instagram https://instagram.com/jogja_gallery/
- Kozinets, R. (2010). Netnography: Doing Ethnographic Research Online. London; Sage Publications Ltd. ISBN 978—1-84860-644-9
- Leaver, T. Highfield, T., Abidin, C. (2019). Instagram: Visual Social Media Cultures. Wiley Publisher. ISBN: 978-1-509-53439-5
- Liquid Color Community [@Liquid_colour]. (n.d). Post [Instagram Profile]. Instagram. Retrived September 20, 2023, from https://instagram.com/liquid_colour/
- Onal, D. (2015). Using Netnography to Explore the Culture of Online Language Teaching Communities. Calico Journal Vol. 32. 3 2015 p.426-448 issn 2056–9017 doi:10.1558/cj.v32i3.26636
- Pamadhi, H. (2012). Pendidikan Seni (Hakikat, Kurikulum Pendidikan Seni, Habitus Seni, dan Pengalaman Seni untuk Anak). Yogyakarta; UNY Press. ISSN: 978-979-8418-78-5
- Tinnell, J. (2014). Computing en plein air: Augmented reality and impressionist aesthetics. Convergence, 20(1), 69–84.
- Tutus, L. [@Lully_tutus]. (n.d). Post [Instagram Profile]. Instagram. Retrived September 20, 2023, from https://instagram.com/lully_tutus/

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