UKRAINIAN DIGITAL ART DURING THE FULL-SCALE RUSSIAN-UKRAINIAN WAR

[a]ANDRIY SYDORENKO, [b]ASMATI CHIBALASHVILI, [c]IHOR SHALINSKYI, [d]SVIATOSLAV BERDYNSKIKH, [e]VIKTORIYA MAZUR

[a,b,c]*Modern Art Research Institute of National Academy of Arts of Ukraine, 18D, Yevhena Konovaltsia Str., Kyiv, 01133, Ukraine*
[d]*KROK University, 30-32, Tabirna Str., 03113, Kyiv, Ukraine*
[e]*The National Academy of Fine Arts and Architecture in Kyiv, 20, Voznesenskiy Uzviz, 04053, Kyiv, Ukraine*
email: [a]sydorar.t@gmail.com, [b]A.smati@ukr.net, [c]amu.igor@gmail.com, [d]Sviatos1av_BO@krok.edu.ua, [e]viktoriyamazur@naoma.edu.ua

Abstract: The purpose of the article is to find out how the full-scale Russian-Ukrainian war and today's technological innovations affected the artistic community, the themes and the creative methods of Ukrainian digital art. The authors of the investigation, on the one hand, consider the digital works of Nikita Titov, Albina Yaloza, Kateryna Lisova, Mykhailo Rai, Oksana Chepelyk, Yulia Shibirkina, Zibra AI, ZViT, Beata Kurkul and Maria Sharlai, and others, and on the other hand, they highlight the biggest events related to the demonstration of digital art, in particular, "Artists support Ukraine", "Meta History: Museum of War", "Peace Letters to Ukraine", "Art on the battlefront", "UBIENNALE", "Ukrainian wartime poster", and others. The analysis of the collected material revealed that the vast majority of war posters are works of digital art, which in general has become one of the leading media in the work of Ukrainian artists. On the one hand, this was the result of a number of steps taken by the Ukrainian authorities aimed at liberalizing the cryptocurrency market, and encouraging computer game developers to fundraise with the help of NFT in support of Ukraine, on the other hand, the threat of Russian air attacks prompted representatives of the creative class to transfer a significant part of their activity to online, and see the benefits of digital art, which, compared to most traditional media, requires significantly less effort and resources to create, securely store, sell and display. The use of neural networks as a tool to create digital art has become one of the trends in war-themed art, but no catastrophic changes for visual art and design have been detected yet. A significant historical event after February 24, 2022 was the unprecedented support of Ukraine from the world cultural community, in particular, international developers of computer games, as well as famous artists of contemporary art, including Marina Abramovych, Ron Arad, Banksy, Francesco Vezzoli, Nan Goldin, Douglas Gordon, Ivan Messak, Lorenzo Quinn, Luke Tuymans, and others.

Keywords: Ukrainian digital art; Russian-Ukrainian war; neural networks; NFT.

1 Introduction

The Russian-Ukrainian war became the cause of the biggest political, economic, and cultural crisis since the victory over Nazism. The future of the whole world depends on how these crises end. At the same time, this war has not only a worldview', but also an existential component, which is reflected today in visible art, cinema, literature, music, theater, etc.

Analyzing everything that is created today in world culture in this thematic field is a difficult problem, but at the same time it is a challenge that has already been accepted by many art historians and cultural experts who write about certain types of art, authors, and works.

The subject of research of this article is Ukrainian digital art, and the goal is to reveal how the full-scale Russian-Ukrainian war and technological innovations affected the artistic community, the themes of works and creative methods of Ukrainian digital art.

2 Method

The data used in the article were collected as a result of studying periodical printed and online publications, official websites and social media pages of artists, institutions, and state authorities, which contain information about art and events related to the topic of supporting Ukraine during the war. Also the authors of this article had the opportunity to personally observe the artistic life of Kyiv from inside, being witnesses of its events in physical and virtual space. First, the article examines and analyzes the work of individual artists, and then the most significant projects and cultural initiatives related to digital art during the full-scale war. In this way, the subject of research is revealed first, and only then - its connection with the historical context of events, current technological innovations and role in social relations.

3 Results and Discussion

During the war, many high-tech items have a dual purpose. Thus, a drone can turn into a surveillance device, and a smartphone - into a means of information warfare.

The dual purpose of modern technologies became especially noticeable during the Russian invasion of Ukraine. Thanks to the fact that the smartphone with a built-in camera has become one of the most common household items, probably no other war of this scale has been so comprehensively documented.

Today it is covered by private and state mass media journalists, as well as military personnel, volunteers, independent photographers, videographers, and civilians who found themselves on the front line, in occupation, bomb shelters, or in places of temporary residence for internally displaced people. We can also observe the diversification of information media, which includes, in addition to television, radio and periodicals, also profiles, pages and groups in social networks, channels and chats in video hosting, messengers, group, audio-video conferences, etc. All this has already prompted to make many corrections in the tactics and strategy of the war both on the battlefield and in the information space.

Modern technologies change not only the culture of society's interaction with information, but also with art. First of all, during the war, it becomes obvious that cyberspace in Ukraine is a more convenient place for the demonstration of artistic creativity than the exhibition halls of museums and galleries. And the point here is not only that Ukrainian cultural institutions are now not protected from Russian missiles, but that social networks and profile sites create more favorable conditions for the rapid and widespread popularization of digital content around the world, allowing artists to show works dedicated to current events of the war within hours of their occurrence.

Nikita Titov is one of the first artists who reacted with his works to the beginning of the Russian invasion of Ukraine. The most popular was his poster published on Facebook on February 26, 2022, which depicts a Russian warship[1], reminding the viewer the history of the defense of Snake Island by the Ukrainian military. This poster became prophetic because after its appearance the Navy of Ukraine sank the cruiser "Moscow" on April 14, 2022 [25]. The poster depicts a half-sunken red ship on the deck of which there are two towers and battlemented walls of the Moscow Kremlin, and it also contains an inscription with profanity. This poster became one of the most popular, its reproduction was spontaneously spread not only in social networks, but also on street walls, billboards and surfaces of cars [13]. Another work by Nikita Titov created on June 22, 2022 is called "Ukraine – the shield of Europe!" [21] (Figure 1): in an allegorical form, it shows the geographical silhouette of Ukraine, which, like a shield, stands in the way of Russian missiles aimed at the European continent. This poster was later transformed into a mural for the exhibition dedicated to the Russian-Ukrainian war "Ukraine – Crucifixion" [33] on the front wall of the exhibition center of the Museum of the History of Ukraine in the Second World War [29].

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[1] https://www.facebook.com/photo.php?fbid=4930298103703971; https://war-art.mkip.gov.ua/wp-content/uploads/2022/10/%D0%9D%D0%A2_26.02-2.jpg

Figure 1. Artwork "Ukraine – the shield of Europe!", by Nikita Titov

Albina Yaloza's war posters convey the emotional tension of the new terrible reality in which society has found itself. On the one hand, they clearly reveal the topic of traumatic awareness of mass murders and tortures carried out by followers of ruscism[2] against the Ukrainian civilian population, and on the other hand, there is a call to reject anxiety and fear and help the Armed Forces of Ukraine to expel the occupiers. The first thematic line should include posters signed with the following comments: "The atrocities of the Ruscists stick out like a needle in memory"[3], "Little angels fall asleep, hearts are clamped in a vise"[4,] "I used to be able to forgive everything, now I can't say that"[5]. The second thematic line includes the posters "Ruscist ships are on fire and raise the mood nicely"[6], "Ukrainian women and men walked around the land united and together suppressed the Ruscist"[7], "Heavy weapons on the way victory at the doorstep"[8.] It is worth noting that the inscriptions used by Yaloza are not typical for war posters, they are something in between a slogan and an author's comment in a poetic form. In her work, Albina Yaloza has been rethinking the heritage of Ukrainian sculpture and graphics for many years. Among the museum exhibits that inspire the artist, there is a lot of religious art of Western Ukraine, so in her works one can find angels with broken wings, seraphim, as well as crucifixes that appear in vector images on a plain background. So it is no coincidence that her war posters also contain elements of ancient wooden sculptures, as well as the human body or its parts, which seem to be drawn with engraving strokes.

After February 24, 2022, cyberspace was quickly filled with documentary photos and videos. Among the authors of photos that often appear on the page of the international mass media, there are Nazar Furyk, Pavlo Itkin, Dmytro Kozatskyi, Kostyantyn and Vlada Liberov, Yefrem Lukatskyi, Yevhen Maloletka, Serhii Mykhalchuk, Mykhailo Palinchak, Yevgen Zavhorodniy [30].

Also, during the full-scale Russian invasion of Ukraine, hundreds of documentaries were shot, among which the most famous are "20 DAYS IN MARIUPOL"[9] by Mstyslav Chernov, "Mariupol. Unlost Hope", by The Organization of Ukrainian Producers[10] and "Year"[11] by Dmytro Komarov. These films are an important source for the detailed reconstruction of historical events, awareness of the causes, consequences, and realities of the war. The goal of Ukrainian documentarians who risked their lives in the Russian-Ukrainian war is to strive not only to show

photos from the scene of hostilities, but also to collect evidence of the crimes of the Russian army against the civilian population, which can later be used in court.

Specialists in VR and XR technologies joined the creation of the documentary. For example, the VR MUSEUM OF WAR IN UKRAINE project by the War up Close Project team on the war.city website contains a gallery of documentary spherical photo panoramas. The project gives site visitors the opportunity to study the consequences of the destruction caused by the Russian invasion in the cities and villages of Ukraine with the help of VR technology. The film "Fresh Memories: The Look" [15] by directors Ondrej Moravec, Volodymyr Kolbasa, in which VR technology is used, focuses not only on the destruction, but also on the video portrait of people who suffered as a result.

Continuing the theme of museification, the Ukrainian team of ZviT developers created a VR museum "Ukraine. War. Genocide XXI" [35], which contains photos, videos, audio, spherical panoramas, satellite maps and animation in a three-story virtual room with a total area of 8,500 square meters.

Photography and video in Ukrainian war-themed art are presented not only as a document, but also as an auxiliary material in the creation of collages, assemblages, paintings, installations, etc. The collage technique has gained considerable popularity, because the processing and combination of photographs allows the artists to more easily introduce a certain narrative into their work using signs, allegories, and metaphors.

In the works from the series of digital collages "Power of memory" (Figure 2) by Kateryna Lisova, photographs of destroyed residential buildings and factories are in the same space as old family photographs and elements of traditional Ukrainian embroidery. In this way, the artist shows that the increased brutality of the Russian military is caused not only by the desire to seize the land, but also by the intention to destroy everything Ukrainian [23, p. 425]. Their goal is to make people who preserve their Ukrainian identity wary of new colonial genocides and censorships, which were already abundant during the 20th century. Recently, the amount of destruction suffered by cultural monuments in Ukraine became known: "As of July 26, 2023, UNESCO confirmed the damage to 274 objects since February 24, 2022 - 117 religious objects, 27 museums, 98 buildings representing historical and/or artistic interest, 19 monuments, 12 libraries, 1 archive" [12]. In addition, in the occupied territory, all major museums whose collections were not destroyed by rocket strikes were looted [2, p. 18]. Kateryna Lisova also considers historical parallels with the tragedies of the 20th century in her series "Dark times"[12.].
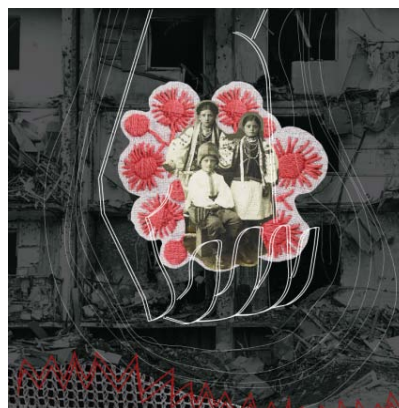

Figure 2. Digital collages "Power of memory" by Kateryna Lisova

War documentaries have entered the information space so intensively that even video-art artists, who previously mostly avoided direct expressions in their works, today include the

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[2] Ruscism is the same as Russian fascism, the term given to the Russian state ideology that justifies wars of aggression on the territories of other states and mass murders of civilians in the interests of Russia
[3] https://war-art.mkip.gov.ua/wp-content/uploads/2022/08/279474864_102171283022 39017_76 12871348051317028_n.jpg
[4] https://war-art.mkip.gov.ua/wp-content/uploads/2022/08/291613976_10217339516 839250_5 250760379570163956_n-1.jpg
[5] https://war-art.mkip.gov.ua/wp-content/uploads/2022/08/Ялоза_17.03.jpeg
[6] https://war-art.mkip.gov.ua/wp-content/uploads/2022/08/Ялоза-16.04-1.jpg
[7] https://war-art.mkip.gov.ua/wp-content/uploads/2022/08/Ялоза_14.03.jpeg
[8] https://war-art.mkip.gov.ua/wp-content/uploads/2022/08/279788177_102171454326 67267_4326034127887933130_n.jpg
[9] https://20daysinmariupol.com/
[10] https://auv.org.au/mariupol-unlost-hope/
[11] https://war-art.mkip.gov.ua/?p=14939

[12] https://war-art.mkip.gov.ua/wp-content/uploads/2022/08/Wounds.-Dark-times-series.jpg

document in the work in various ways to show the inevitable presence of war. For example, in the video "Ukrainian Calvary"[13], Oksana Chepelyk mixes chronic footage of the war with photographs of her own screaming face. The frames, which change one after another as a slide show, contain an audio commentary by the authors and pop-up numerical indicators of the number of civilian casualties in cities such as Mariupol, Bucha, Irpin, Izyum as a result of the Russian invasion of Ukraine.

Another video, entitled "Idea of Life"[14] by Yulia Shibirkina, is a kind of animated archive of screenshots from feeds of social networks and news sites, which change each other several times per second. In this way, the author shares with the viewer her visual diary of interaction with cyberspace during the war.

The processing and combination of digital photographs provides a wide range of visual means to reveal the cognitive dissonance that a person can experience from the reality of war. This is quite clearly expressed today in the work of Mykhailo Rai, an artist who survived the terrible 9 months of the Russian occupation of Kherson. Mykhailo experienced not only a threat to his life, but a bottomless chasm between the narratives of Putin's propaganda and the terrible reality, which is full of violence, lies, and injustice. Creativity is his way of overcoming a traumatic experience and showing the viewer the power of how the horrors of war can unexpectedly break into the life of an individual and the city. "Mykhailo Rai's occupation diary" immerses the viewer in the chronology of the author's memories of being in the occupation. Almost every entry is accompanied by a visual piece. For example, a comment under the heading "February 24. The beginning" accompanies the work "Storyteller" (Figure 3), which depicts a male figure with a white liquid similar to milk pouring out of his neck. At a close distance from the work, one can see small warships, tanks, missiles and airplanes floating in this liquid. The symbolism of the work comes from two constant expressions, such as "speech flows like a river" and "milky rivers, jelly shores" which are used both in Ukrainian and Russian languages. The first is about good storytelling skills, and the second is about promises of a prosperous and carefree life, which in this case comes complete with Russian missiles and military equipment on the streets. Putin is easily recognizable in Storyteller's character, and this is also confirmed by the entries in the diary, for example: "Storyteller said that the "special operation" to destroy the country's sovereignty will continue until its goal is achieved. He did not say that the sanctions will also continue until their goal is achieved" [19].

Figure 3. Art work "Storyteller" by Mykhailo Rai

Mykhailo Rai's works encourage the viewer to think about the differences between observing war from a safe distance thanks to the mass media and the personal experience of surviving in a combat zone, and how this affects the idea of freedom and justice.

For example, in the well-known work of the author – "Z – Zombi", there is a portrait of a person whose face, instead of eyes, nose, and lips, has a large surgical seam in the shape of the letter - Z, which the Russian troops used to mark their equipment. The author himself writes: "I often hear from people in the country of storytellers that they are not interested in what is happening in Ukraine, because they are "apolitical". And it seems that they simply do not believe us and tell us fairy tales heard in their official fairy-tale media. Of course, it is much more pleasant to believe that you are involved in the great cause of a great nation than in the military blackmail of neighboring countries and the killing of the civilian population. Not for the first time, millions of people have become like zombies, unable to see, hear, think, speak, and empathize" [2].

It is worth noting that among the witnesses of Russian war crimes, there are many not only Russian-speaking Ukrainians, but also those who have relatives or acquaintances in Russia. However, even family ties, shared memories in the past and the absence of a language barrier do not guarantee understanding between those who are now on different sides of the front line, even during a telephone conversation.

Since the beginning of the full-scale invasion, there have been several important events in the world of science and technology. Firstly, it is the launch of satellite Internet from Starlink[15,] and secondly, the opening of mass access to neural networks such as Midjourney and ChatGPT.

In Ukraine, Starlink has helped many military and civilians on the front lines and under occupation stay connected regardless of infrastructure destruction, and access to neural networks has had a powerful impact on visual digital culture. The ability to create high-quality images based on a text description in a few minutes has caused admiration on the one hand, and on the other hand, thoughts about the risk that artificial intelligence will replace designers, artists, writers, and copywriters. Discussions about the risks of artificial intelligence are still ongoing, but it is clear that despite the potential harm, digital content creators are quickly mastering neural networks as an auxiliary tool for performing creative tasks.

For example, Artist Maria Sharlai uses the MidJourney chatbot to visualize war scenes that have already become legendary for Ukrainians. In particular, she works with the topic of the defense of Mariupol and battles in the Kherson region. Her series of experiments with artificial intelligence "Ukrainian Harvest 2022" became especially popular, in which surrealistic forms, consisting mainly of watermelons, cabbage and corn, appear against the background of the fertile Kherson lands. Sometimes these forms of vegetables resemble dust clouds from explosions from shells and bombs. M. Sharlai's artistic experiments with neural networks combine the painting manners of Hieronymus Bosch, Zdzisław Beksiński and Ukrainian folk painting. According to Maria Sharlai, "Formally, all rights belong to the developers of artificial intelligence, but they do not limit anyone in the distribution of these pictures. With two caveats: if you don't sell them as NFTs or use them for commercial purposes by companies with a turnover of more than 1 million dollars" [8].

However, the problem of authorship of the generated images can be overcome if the artist himself is a co-author of the neural network. This is the path taken by the members of the team of Ukrainian game developers ZibraAI, who built their neural network Zibra Generation, and then with its help they created a collection of 1991 works dedicated to the war, which is called Sirens Gallery [26]. The works in this collection are organized by days from February 24, 2022. Each date is accompanied by a text description. Among them, there is also "Day X" — the victory of Ukraine, with sections "Ukrainians celebrate the victory in the war" and "Ukrainian families reunite after the war". The stylistics of the works is reminiscent of realistic painting of the late 19th and early 20th centuries, in particular, the work of the Ukrainian painter Mykola Pymonenko.

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[13] https://m17.kiev.ua/en/painters/ukrayinska-golgofa/
[14] https://m17.kiev.ua/en/painters/ideya-zhyttya/

[15] https://www.independent.co.uk/news/world/europe/elon-musk-helps-ukraine-satellites-b2024893.html

Works from Sirens Gallery are put up for sale in NFT format on the Open Sea marketplace, the proceeds of which go to humanitarian aid in the reconstruction of Ukrainian cities.

Beata Kurkul, an artist from Lithuania who now lives in Ukraine, also prefers a realistic manner in her work, a significant part of which is devoted to the depiction of combat operations and the memorialization of fallen soldiers. The epic atmosphere of her paintings reflects the solid experience of the artist in the development of video games. After the appearance of available neural networks, she started using the MidJourney chatbot in the Discord messenger [3]. The artist believes that artificial intelligence can really replace illustrators and designers, "but if the artist can include this tool in his arsenal, for example, as a generator of visual draft sources for future work, he has nothing to fear" [32].

The full-scale Russian invasion of Ukraine destroyed many plans of the organizers of cultural events, but the artistic life was not completely paralyzed [24, p. 40]. The most difficult were the first three months of the new stage of the war, when most of the initiatives were moved online or took place at the exhibition places of cities in western Ukraine such as Lviv, Uzhhorod, and Ivano-Frankivsk.

Among the important cultural initiatives that appeared in the first days of the full-scale invasion, the Instagram page "Artists support Ukraine" [6], as well as the tag of the same name #artistssupportukraine [7], created by the Port Agency, became especially noticeable.

This initiative attracted a huge number of artists from all over the world to create and distribute posters in support of the liberation struggle of the Ukrainian people. As of July 2023, more than 8,000 publications have this tag. Among the authors shown on the page, in addition to the mentioned Kateryna Lisova and Mykhailo Rai, there are also Beeple, Bohdana Davydyuk, Mari Kinovych, Albina Kolesnichenko, Mark Milazzo, NEIVANMADE, Lidia Swee, Klawe Rzeczy, Brian Stauffer, Vague Sadan, design studio Pentagramdesign, Serigraph, Agrafka.

One of the most successful fundraising projects involving digital art was a virtual NFT museum called "Meta History: Museum of War" created in March 2022 [9, p. 19]. The museum was organized by the Ukrainian crypto community, the Ministry of Digital Transformation of Ukraine, the Ministry of Culture and Information Policy, the Ministry of Education and Science, as well as UNITED24 [9]. The purpose of this project is to preserve and popularize Ukrainian art about the war, to increase the audience's awareness of the history of Ukraine, as well as to raise funds for the support of Ukraine through the sale of NFT. The collection is systematized according to the chronology of the serial number of the day of the war, and is available for viewing in the virtual space of the museum [9]. More than 200 authors [36] of digital art took part in the project, including Dmytro Ehrlich, Anton Abo, Dmytro Sheverev, IlonaDesignArt. One of the rules of participation in the project was the requirement to add to the finished work a small screenshot with news about the war dated the corresponding day. Therefore, each work was tokenized and placed on Open Sea [18] in the "Warline" collection, which contains such a screenshot. With the help of the sale of NFT, the organizers of the project managed to collect more than 1.3 million US dollars [5], which will go to the restoration of cultural heritage objects.

Despite the fact that the period of the largest infusion of investments in NFT was in 2020 - 2021, NFT marketplaces still remain popular places for trading digital art around the world [16, p. 29]. Unofficially, the cryptocurrency market has been operating in Ukraine since 2010, but after a full-scale invasion, the authorities, against the background of the financial crisis and inflation, decided to take a number of steps to remove it from the gray zone. On February 26, 2022, the Ministry of Digital Transformation of Ukraine published on Twitter the identifiers of crypto wallets for the collection of charitable assistance. In total, more than 179 million US dollars [34] worth of cryptocurrencies were collected.

March 15, 2022, when the President of Ukraine Volodymyr Zelenskyi signed the law "About Virtual Assets"[16,] is considered the final date of legalization of the cryptocurrency market. According to the research team Chainalysis [27], Ukraine took third place in the list of countries with the highest level of implementation of cryptocurrencies among the population.

The main advantages of using cryptocurrencies around the world are the ability to maintain anonymity, transfer funds directly without the services of an intermediary, as well as quickly conduct transactions with large sums of money, bypassing outdated, inflexible and long-term corporate mechanisms for accounting of income, expenses and restrictions of the banking system on one-time payment, etc. That is why, in practice, cryptocurrency transactions have become very convenient especially in charity for urgent needs. Successful examples of cryptofundraising convinced the Ukrainian authorities and a significant part of the creative community in the effectiveness of this method of accumulating money to strengthen Ukraine in the war.

In addition to the "Warline" collection, the organizers of "Meta History: Museum of War" created the NFT collection "Avatars for Ukraine" [10] from international artists with those worked on the films "Blade Runner 2049", "Fantastic Beasts", "Star Trek", and the games: "Rainbow Six", "League of Legends", 'Mortal Kombat", "Halo". It is worth noting that world-famous artists, including Maryna Abramovych, Ron Arad, Banksy, Francesco Vezzoli, Nan Goldin, Douglas Gordon, Ivan Messak, Lorenzo Quinn, Luke Tuymans [37] also joined the art sale events, including the NFT for humanitarian aid for Ukraine.

Among the events that mainly specialize in the display of video art, we should mention the international audiovisual art project "Peace Letters to Ukraine", which began on March 1, 2022. More than 250 artists from different countries of the world took part in the project organized by The New Museum of Networked Art. According to the organizers, "Initiated by the Cologne based media artist and curator Agricola de Cologne [1], The Peace Letters Project would not only like to honor the collaboration with Ukrainian artists, curators and cultural institutions since 2008, but contribute to Peace and defend the endangered freedom - freedom of the word, expression and movement as the foundation of free art and culture" [22]. The virtual space for showing video-art is implemented at the Alphabet Art Center in Cologne, and the physical component – in locations of Greece, Germany, Spain, Turkey, and the USA.

In July 2022, the exhibition "Ukrainian Wartime Poster" opened in the Ukrainian House. Most of the exhibited posters have already been published on social networks, but the exhibition gave the audience the opportunity to see and talk with the artists live, despite the dangerous time and constant air alarms. Among the 38 participants, there are Andriy Yermolenko, Oleksandr Grekhov, Oleksiy Sai, Tania Yakunova, Anton Logov, Ave Libertatemaveamor, Oleksiy Revika, and others [14].

The event that took place in the New York gallery of Mike Dupler in October 2022 had a similar name. However, at the exhibition "Ukrainian Wartime Posters" which was organized by The BIRUCHIY International Contemporary Art Symposium and the "Help Ukraine Center USA", 150 posters only from 10 participants, including Dasha Podoltseva, Mykyta Shalimov, Mykola Goncharov, and Anastasiya Gaidaenko, were demonstrated. According to the curator of the project, Olena Speranska, "Today, it is extremely important to show the world our current art that reflects on brutal events: bloody murders, torture, abuse of women, children and captives, destruction and demolition of our cities, outright genocide of the Ukrainian people" [14].

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[16]   https://www.kmu.gov.ua/en/news/ukrayina-legalizuvala-kriptosektor-prezident-pid pisav-profilnij-zakon

In the summer of 2022, VOGUE UA presented ART ON THE BATTLEFRONT - an international art project that combines both traditional and new media, aimed at supporting Ukrainians during the war. Maryna Abramovich, Zhang Huan, Sean Scully, Fred Tomaselli, and others took part in the first half of the project. The second part of the project brought together more than thirty Ukrainian artists, including Stepan Ryabchenko, Nikita Kravtsov, and Yulia Belyaeva. Vlada Ralko, Yuriy Syvyryn. The curators note that "The works of different scales explore the present, reflect the emotional state of the artists, their reaction on the topic of the new reality. They remind us that the struggle of Ukrainians now continues on all fronts — both military and diplomatic, as well as cultural" [4].

In December 2022, the works of artists from more than 10 countries united by the theme "30 years of Freedom" were presented in Kyiv on UBIENNALE, also known as the Ukrainian Biennale of Digital and Media Art. Emphasizing the important role of art during the war, the curator of the exhibition Valery Korshunov notes: "Today we are watching the war in real time, which is unprecedented, because war has never been seen online in the history of mankind. Actively reacting to events in society, Ukrainian artists concentrate on the topic of war and document the war in their works" [31]. VR, AR, and video art were presented in the physical space of the Kyiv History Museum.

One of the largest cultural events in Ukraine, which explores the theme of the Russian-Ukrainian war, was the project "Concentration of Will" within the XV annual platform "Newest directions", started on May 11, 2023. The concept of the project raises an existential question about survival during the war and values for which Ukraine is fighting. On three physical locations in Kyiv at the Modern Art Research Institute, Contemporary Art Center M17 and National Academy of Fine Arts of Ukraine [11; 28], works made in both traditional and new media by more than 100 artists were shown. Among the participants of the project, there are Yuriy Denisenkov, Nikita Zigura, Yevhen Pavlov, Serhiy Popov, Viktor Sydorenko, Oleksandr Chekmenyev, and others. As part of the exhibition, the team of the Culture vs. War project presented a series of documentaries.

4 Conclusions

The terrible reality of the war, which Ukrainian artists have experienced personally, pushed them to take a clear civic position both in life and in creativity. Some of them willingly went to the front, while others became volunteers, using their creativity and the resources available to them to attract the maximum possible help in the Ukrainian liberation struggle.

Works of digital art in which authors reacted to a full-scale invasion appeared on Facebook and Instagram social networks from the first days after it had begun — February 24, 2022. Among authors, there are both professional designers and artists, as well as amateurs who have the skills to create digital content.

For many Ukrainian artists, social networks have become both a place for the first publication of a work and a place for its most active public discussion. At the same time, thanks to social networks, the viewer receives an additional stimulus in interacting with visual art, because the distribution of posts in which art is demonstrated has become a convenient way to prove oneself, manifest one's political or worldview position, and call on others to more actively participate in strengthening the Ukrainian resistance.

An analysis of works demonstrated at art events after February 24, 2022 revealed that the theme of war in the works of Ukrainian artists branches out into several dominant thematic directions. The first direction includes works that are aimed at showing the destruction and victims that are caused by the Russian invasion, the second direction combines satirical works that criticize the Russian leadership and their propaganda narratives, and finally, motivational posters created to raise morale express support for Ukraine, and express the collective experience of unity around the values of freedom and democracy.

According to the specifics of creative methods, works of digital art on the theme of war, which do not belong to documentary photography or cinema, can be classified into four groups: first include works full of allegories and symbols, in which instead of a realistic interpretation of forms, there are a graphic silhouette, color filling, contour line, and font, in second, photos and video war documents become material for further processing and combination with each other, in third, with the help of computer programs or artificial intelligence, a realistic image is stylized as a painting of well-known movements or genres and in the fourth group, the works have features inherent in the virtual space of computer games. The first group includes works by Nikita Titov, Albina Yaloza, the second – the works by Kateryna Lisova, Mykhailo Rai, Oksana Chepelyk, Yulia Shibirkina, the third includes works created by Maria Sharlai, Zibra AI, and the fourth - works by Zvit, Beata Kurkul.

An analysis of the events of artistic life in Ukraine after February 24, 2022 revealed that digital art has become one of the leading media for artists in comprehension of the full-scale Russian invasion of Ukraine. This is eloquently evidenced by the fact that the majority of war posters at exhibitions in physical space or demonstrations in online sites, archives and marketplaces during the specified period were created precisely with the help of computer technologies. Outlining further prospects for research into the impact of the Russian-Ukrainian war on digital art, it is worth noting that artists all over the world are working on this topic and their art needs further study, analysis and systematization.

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