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From real spaces to virtual spaces: The metaverse and decentralized cinema

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Abstract

Developments in computer and communication technologies, which constitute the starting point of concepts such as decentralization, virtuality, simulation, augmented reality and metaverse, have also brought new forms of expression and designs in art to the agenda. In addition to the decentralized data architecture and metaverse areas that emerged in parallel with the development of network technologies, applications that increase the user's interaction and beleaguered experience such as virtual reality, augmented reality and mixed reality have increased their effectiveness in this field. The metaverse spaces that emerge with the cooperation of software, art and architecture offer their users a more similar life simulation of natural life through augmented reality vehicles or screens. Here, users can perform new experiences for artistic production and consumption as well as daily life practices such as socialization and communication. Metaverse spaces, which include the design of a three-dimensional virtual universe that can be supported by augmented reality, are free from all the constraints of the real world as a cinematic plateau. It is seen as a great advantage that the real film set can create a cinematic work without expensive equipment such as cameras, lights, and sound away from all the negativities of the natural shooting conditions. The fact that the production, distribution and screening of cinema works can be realized within this field brings a new understanding of decentralized cinema to the agenda. Decentralized cinema, which has begun to rise in the expanding virtual geography of the metaverse virtual space with its advantages such as virtual characters and scenes and creative space fictions, is an art form worth examining. This study focuses on the possible future transformations of cinema in terms of production and representation in the context of the relationship of virtual and augmented reality technologies with developing metaverse areas. The emergence of a new cinematic ecology; The opportunities and obstacles it provides to producers are examined with the philosophical criticism method through concepts such as virtual and augmented reality, web 3.0, metaverse in terms of audience experiences it offers for screening. As a result of the study, it was concluded that the metaverse area has many advantages in terms of the production of cinema works, democratization of the production and distribution of works, digital privacy and security for metaverse artists, and recognition of ownership for digital works of art.

*Keywords: a*ugmented reality, cinema, decentralization, metaverse, virtual reality.

1. Introduction

With visual applications with decentralized network architecture on the rise, modern man is surrounded by virtual and augmented reality-based images produced through movies, computer games, and metaverse spaces. The concepts of Blockchain, Starlink, Web 3.0 and metaverse, which are frequently heard every day, have started to bring about many radical changes in the daily life practices of ordinary people. Web 3.0, the decentralized data structure that Network and blockchain technologies form the infrastructure of has combined the field of art and architecture in the creation of three-dimensional virtual and augmented reality-based simulation universes.

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Developments in computer and network technologies have facilitated the production of three-dimensional works in the field of visual design and led to the emergence of concepts such as virtuality, simulation, augmented reality. As a result of the spread of Web 3.0 applications based on decentralization, especially related to virtuality and augmented reality, and their interaction with the field of architecture, reality and de-space have begun to be questioned. Virtuelism, which was conceptually discussed in many different scientific disciplines much earlier, has risen again with metaverse projects where different users from many parts of the world can come together, socialize, produce works of art and experience in a way similar to that in the real world.

Projected by developers, third-dimensional designers and architects away from the constraints of the real world, the metaverse spaces carry unprecedented opportunities for creatively contributing professionals and users. While designers are taking their digital creativity to the highest level without any shortage of materials and space, users have started to discover many new ways of experiencing artistic experience alongside their daily lives in this new virtual universe. Metaverse spaces, which allow users to do what they want in a way similar to the real-world perception of space by connecting through their three-dimensional avatars, have also brought innovation in terms of artistic expression. The fact that the production and performance of cinema works can be realized within these areas brings a new and decentralized understanding of cinema to the agenda. The relationship that the audience establishes with the cinema narrative in the metaverse has evolved towards a new understanding of cinema based on interaction and co-production philosophy within the digital culture where concepts such as convergence, symbiosis and hybridization have risen.

Metaverse cinema is rising as an art form that centers on user unity such as virtual characters and scenes, creative space fictions and is worth examining in the expanding geography of the metaverse virtual space. This study focuses on the possible future transformations of cinema in terms of production and representation in the context of the relationship of virtual and augmented reality technologies with developing metaverse areas. The emergence of a new cinematic ecology; The opportunities and obstacles it gives to producers will be examined through concepts such as virtual and augmented reality, web 3.0, metaverse in terms of the audience experiences it offers for screening. The emergence of a new cinematic ecology; The opportunities and obstacles it gives to the producers are examined with the philosophical criticism method in the axis of concepts such as virtual and augmented reality, web 3.0, metaverse in terms of the audience experiences it offers regarding the screening.

2. Concepts of Reality and Virtuality

The concepts of reality and virtuality are an ontological issue that has been discussed by many sciences, arts, and disciplines since the first ages when people began to express themselves. The sense of doubt about man's own existential reality and the reality of the data he receives from his environment through the sense organs has inspired many works of art and science throughout the ages and has been questioned in the works produced in the fields of literature, theater, and cinema, especially philosophy. The concept of reality has been discussed by many philosophers and thinkers in the period starting from Ancient Greek natural philosophy and cosmology to Descartesian dualism, who doubted the reality of the world grasped by the senses. When we come to the present day, W.J. Mitchell states that one of the most important developments and virtuality is the 'pictorial turn' (Mitchell, 1986). According to him, with the second half of the twentieth century, unprecedentedly powerful new forms emerged, and with the era of video and cybernetic technology, illusions, and visual simulations in the age of electronic reproduction proclaimed dominance. Visuality and image production have developed and become widespread in a way to create an alternative to reality.

In the literature, it is possible to come across different definitions of the concept of virtuality, which we can translate as virtuality or virtual reality. The origin of the concept is mentioned in various sources dating back to the 1950s and Ray Bradbury, but the term 'virtual reality' or 'virtual

space' was first used by William Gibson in his novel Neuromancer in 1984. In the context of the effects of post-industrial social life in the novel, he defines virtual space as a place without space or 'non-space' (Gibson, 1998). This state of in space is the common hallucination of users who connect to the environment. As an aesthetic delusion of reality, virtuality replaces embodied beings and encounters with other individuals with interaction through avatars (Robins, 1999). Virtual space combines the real world with unlimited possibilities.

According to McLuhan, technology forces any of the human senses to stand out; at the same time, other emotions are either weakened or temporarily eliminated altogether (McLuhan & Powers, 2001). In this sense, in connection with the rise of the visual paradigm imposed by modernity with the help of technology, it is possible to talk about an eye-centered perceptual revolution in which vision and the 'eye' stand out from the other senses. At the point of perception of this fact, it has increased the reference of seeing compared to other emotional organs. Giovanni Sartori, in his book The Power of Seeing, emphasized that the image of homo sapiens (the man who knows), which is the product of written culture under the influence of intense and very fast visual technological tools, has been replaced by homo-videns (the person who sees) by reducing the sound from power (Sartori, 2004). Homo videns perception of reality has changed and changed considerably according to the perception of human beings with the technologies of our time. Emphasizing rising virtuality, he tells Baudrillard that truth today is now produced by miniature cells, matrices, memories, and instruction models, making it possible to reproduce reality in infinite numbers (Baudrillard, 2003). Virtual reality refers to the copy of a real life created by the computer in three dimensions. When we search for virtual reality (VR)-related visuals on Google today, we can see a clear idea of what the world is currently understood by VR. With the advent of special virtual reality devices such as the "Oculus/Vive", the concept of VR has made futuristic space designs interactively experienced. Users from all over the world can interact physically or seemingly with three-dimensional designs through a variety of applications and specialized equipment.

Virtual reality, on the other hand, is a fictional environment in which three-dimensional simulations designed digitally through computers can be experienced with special equipment and that make people experience the real error at the highest level. Since all new media objects are composed of digital codes, they are essentially represented numerically. That is, all new media objects can be mathematically identified and manipulated through algorithms. According to Manovich (2001:10), the main difference between old and new media is that new media can be programmed through the numbers and formulas that make it up. Virtual reality experiences and applications have started to be used in many areas such as education and art, starting from the entertainment sector. Nowadays, increasingly developed augmented three-dimensional virtual reality systems offer the feeling of reality in an augmented way to stimulate many senses such as smell, hearing, touch, movement, heat sensation as well as the sense of sight of the users. Virtual reality applications aim to bring the person together with the three-dimensional virtual space created through technology and to make the person feel that they have become a part of that environment.

Developments in computer and communication technologies, which constitute the starting point of concepts such as virtualism, simulation, augmented reality and simulation, have also brought new forms of expression and designs in art to the agenda. As a form of production with cybernetic properties, virtuality enables the re-discussion of reality in the field of art and the questioning of the purification from space. Unlike photography, cinema, and painting, in which there is a scene and a look, visual works containing virtual reality have started to offer a mutual and interactive experience with the viewer to their users. Visual design, which was initially based on printed material, has become virtualized in image size with today's virtualization technologies.

3. Augmented Reality and the Third Dimension

Virtualism, which can simulate all possible positions of objects and space, has given artists a great deal of freedom during the production phase. Virtual environments consist of artificial visual

copies of spaces and objects that exist or are designed such as 3D (3D), high-resolution photographs and moving images (videos) (Ferhat, 2016). Digital technologies have pioneered three-dimensional designs that are more palpable and experiential instead of the illusion on two-dimensional surfaces and the third dimensional effect that has been tried before in the field of art.

There are many different applications for a three-dimensional virtual reality experience in the field of visual design. One of the first design applications to emerge in this field is stereoscopic perception. Stereoscopic 3D is the three-dimensional perception of the image watched by showing different image signals for the two eyes to its users at the simplest level. It was first applied in the late 1890s by British film producer William Friese Greene (Braun, 1992). The application of three-dimensional stereoscopic is used by many visual designers and artists.

Towards the end of the 1980s, three-dimensional virtual reality technologies entered a rapid development process at the point of the computer's ability to produce visuals with various software. These developments have opened opportunities to experience new interaction opportunities within the framework of the human-technology relationship. As a result of technological developments, data have started to be converted into numerical categories by computer. The ways in which computers transform data and organize databases showcase how we, as a culture, organize and store our data. Transcoding this information now allows media content and cultural texts to be re-expressed as seen in the way websites, DVDs, or computer games use new ways of organizing/systematizing the experience and engaging users (Manovich, 2001: 45). With all these developments, not only data but also emotions have begun to transform. Units such as vision, touch, time, and distance have been modified through new tools, making reality possible in a completely different form. With the 1990s, the concept of augmented reality was introduced. Augmented Reality and Virtual Reality or VR, also known as AR, are new technologies that shape human life by offering a new world. Augmented reality refers to a digital technology that intelligently places images, text, or videos on top of real-life objects (Alexander, 2017). It's like being inside and outside of a video game at the same time. The main difference between augmented reality and Virtual reality is visual access to reality. Virtual reality literally closes users' eyes, restricting visual access to the real world. Augmented reality, on the other hand, aims to make the experience interactive with the real world.

The advanced dimension of augmented reality that is harmonized with virtual reality technologies is called mixed reality. Mixed reality is a new form of experience that allows computer-aided data to interact with the visual, auditory, tactile, olfactory senses and the somatic nervous system that processes them (İpek, 2020). The resulting mixed and augmented reality applications have increased the interaction of technology with the human body with a number of technical apparatuses such as helmets that offer different visual data for each eye and gloves for tactile stimuli in order for users to experience the feelings in this environment more, and in this way, the experience of reality. The Varjo brand, headquartered in Helsinki, produces a variety of VR glasses with high-end resolution. When you put them on, you start to see the virtual world so realistically that your brain can't tell the difference between virtual and real. In a way, this creates a concept called Phantom Sense. If the virtual glasses are produced at a resolution equivalent to reality or very close, you begin to feel the virtual assets that are not there at that moment with a realistic response (Alemdar, 2022). The hardware in today's virtual and augmented reality systems is as follows (İpek, 2020):

1) Displays: HMD and OHMD,
2) Glasses: Smart Glasses
3) Head Up Display: HUD
4) Handhelds: Tablets and Phones
5) Spatial Systems: Projection
6) Motion Tracking: Sensors (Wearable technology)
7) Computer.

Augmented reality is often confused with virtual reality. In augmented reality, visual digital content can be added to the real environment and the objects in that environment. Virtual reality is based on a simulation designed entirely digitally, while augmented reality relies on several interactions that will complement the real world. Mixed reality, on the other hand, consists of a combination of virtual and augmented reality.

4. The Rise of Decentralized Virtual Architecture: The Metaverse

With the rise of social morphology based on networks, for the first time in history, everyone has come face to face with thousands of different interfaces and avatars on the plane of a single entity that forms the infrastructure of millions of networks with themselves and others. Perhaps one of the most important concepts that will define the 21st century is virtuality, which we can translate as virtualization. In the literature, it is possible to come across different definitions of the concept of virtuality, which we can translate as virtuality or virtual reality. It comes from the origin of virtualis, which refers to the formation of the illusion that virtual or virtual does not exist but exists by directing perception (Şekerci, 2016).

New forms of visual/auditory thinking and methods of interaction, which have been revealed through countless experiments in the field of technology and art, have expanded the metaverse-post-truth or alternative field of reality to reality, allowing virtuality to be experienced in various ways. The metaverse, which we can translate as the other universe, is a word derived from the combination of the English words meta (beyond) and universe. The term metaverse first appeared by science fiction writer Neal Stephenson in his novel Snow Crash (1992). In Snow Crash, the Metaverse is a hugely popular virtual world experienced by users equipped with augmented reality technology (Ondrejka, 2004). The metaverse, which we can also express as a form of construction with cybernetic features, provides the reinforcement of space-free on individuals. The proliferation of social spaces ultimately gives rise to the logic of uneven geographical development inherent in capital accumulation. Cyberspace, which Baudrillard considers as a simulation world, takes on a utopian form of the individual's relationship with space. This situation has also severed man's connection with physical space. Now space is nowhere and at the same time in many places. "Nicole Stenger says cyberspace is a kind of Wizard of Oz. It is there, but it has no location" (Robbins, 2000). Cyberspace has established a new space of socialization and consumption in the transverse or metaverse, reshaping the conventional way of establishing common space-based relationships between individuals in a way that is unique to network architecture

The metaverse points to the virtual reality universe where we can communicate with real-life individuals, passing through works of art, virtual products, and objects through NFTs, with emphasis on the permeability between different digital environments and the physical world (Wallace et al., 2021). In the metaverse based on virtuosity, the spaces have become more encompassed and have begun to offer an interactive work/space experience to viewers/users from all over the world in an innovative way. In this new environment, viewers can interact with stories with more perception by using special equipment. Virtual worlds established with multimedia facilities where graphics, motion graphics, text, sound, animation, photographs, and images are used together are presented with a richer content; Through virtual reality, it is ensured that people have information about objects and places that they do not have the opportunity to see (İnceelli, 2005). Many metaverse projects that refer to virtual spaces with decentralized architecture are emerging in collaboration with crypto finance and NFT (Non-fungible token) technologies. NFTs, which regulate the ownership of units of non-substitute properties such as artworks, films, and images through smart contracts, have revolutionized the work experience. NFTs, which are produced for wider use in the metaverse, give great privileges to individuals in the virtual space.

Metaverse universes are basically based on virtual reality technologies. Nowadays there are many metaverse platforms that are built to consolidate multiple online spaces into a three-dimensional platform. These platforms are being developed to allow users to communicate in three dimensions (with virtual reality equipment within the possibilities), to participate in artistic

activities such as concerts and cinemas, to play games together, to organize meetings and trainings (Arvas, 2022). Many metaverse projects such *as The Sandbox, Decentraland* and *Axie Infinity*, which are mainly based on socializing and playing games, attract the attention of many users and investors around the world. NFT and metaverse projects are technologies that feed off each other. They are carried out in cooperation with many commercial organizations in order to have more possibilities and products. In July 2021, Coca-Cola launched red coats with the Coca-Cola logo as NFT so that people using a blockchain-based virtual reality platform called Decentraland could dress up on their avatars. Not only that, but he organized a fun rooftop party on this virtual platform. When we examine these examples, we can see that NFTs are slowly being integrated into the Metaverse (Albayrak, 2021).

Especially since 2020, due to the Covid-19 pandemic that has affected the whole world, physical meetings have been replaced by virtual meetings, conferences and trainings. Many institutions and organizations, especially public institutions, private companies, universities, have carried out their activities online with various software and applications. Many programs and software have become much more used in the public to perform virtual space and events. Many around the world have started to invest much more in metaverse projects as a virtual geography design. Mark Zuckerberg, the founder of Facebook, announced in October 2021 that he changed the name of his company from Facebook to Meta. Noting that the new name reflects the company's investment in the metaverse, Zuckerberg said that the new platform will be more immersive, that people can do anything they can imagine in the metaverse, and that it will be a tangible internet where people will not only look at it but be in the experience (Zengin, 2018). The Metaverse has become the embodiment version of the Internet, which includes a seamless integration of interoperable, immersive, and partless virtual ecosystems that can be navigated by user-controlled avatars or twins. At the same time, it has become more accessible due to its ability to be used anywhere with internet access and has started to be seen as a powerful and future-proof tool in business, art, and education (Demir and Değerli, 2022). Another area where metaverse spaces are used is emerging in the transformation of art galleries and museums.

Before the Covid-19 pandemic, people could go to exhibition areas and museums and see the works produced by artists in their physical spaces. During the pandemic period, people's interaction with works of art has decreased considerably. However, with the application of Metaverse projects to artistic spaces and display spaces, users can interact more intensely and surrounded by the works of various artists in virtually reproduced spaces. Today, contemporary museums and galleries organize events and exhibitions with applications downloaded and directed via mobile phone. In virtual exhibitions, viewers can participate in the act of experimenting with a new reality by taking advantage of the bidirectionality and participation feature of digital technology. Visitors play an active role in the formation of a participatory, transparent museum/gallery image with their new identities that create content (Güner, 2022). As blockchain and NFT technologies transform the work of art itself as a digital asset, they have begun to uncover the spaces where these new forms of being will be shown, experienced, and consumed as metaverse projects. There is an organic link between blockchain, NFT and metaverse projects that have emerged in the creation of the decentralized consumption economy. As integrated technologies, they have moved production away from the physical and combined consumption with the possibilities of new decentralized digital economies.

5. The Rise of Decentralized Cinema

The relationship of the audience with reality through cinema has been discussed by many theorists in the history of cinema. Formalists have argued that cinema constructs a purely fictional reality. Following the formalists who claimed that cinema is a fictional narrative form, theories were put forward that questioned the relationship between cinema and reality. These theories focused on how much cinema can reflect reality itself. The pioneers of this theory are Andre Bazin

and Siegfried Kraucer (Girgin, 2019). Bazin's holistic perspective pointed to a perfect illusion, based on the idea that cinema should be a 'holistic and complete representation of reality'.

Bazin says that the way reality is expressed that is unique to cinema should be separated from the "reality of the subject or the reality of the expression" and related to the reality of space, and that he should consider the technique of deep shooting and plan-sequence as the basic form of this reality (2007: 112). Developments in today's computer and network technologies are moving the visual production framework to the next position, moving towards the closest position to the perfect illusion that Bazin mentions. The perception of storytelling and the fact that the production framework has reached a decentralized architecture based on networks has not only been limited to cinema or new generation viewing platform areas but has also begun to transform the audience or users themselves into storytellers.

The emergence of virtual and augmented reality technologies has brought a new viewing experience to the agenda for the audience, while offering new production areas for artists, filmmakers, game producers and storytellers who produce works on visuality. The limitation of design with physical materials and space has been eliminated, and people can visit art galleries, museums and film spaces from their homes within the framework of three-dimensional simulations. Dutch painter Vincent Van Gogh's paintings are simulated around virtual reality and presented to viewers sitting in their homes all over the world as a metaverse story. The spread of virtuality, or virtuality, through these technologies has led storytellers to question the concept of reality as well as new techniques, methods and modes of production.

The emergence of new metaverse spaces based on virtual reality has changed the use, experience and consumption habits of the individual and has made stories similar by establishing various associations with cinema and game universes. In addition to the reflection of the narratives that are the subject of computer games on the cinema screen, the technologies produced for the game have started to be used in the field of cinema. The game engine named Unity, which is used as a real-time simulation system, has started to make very important contributions to techniques such as pre-visualization and drafting in the field of cinema. The introduction of game visualization engines in the field of cinema has brought the similarity between the game and cinema story universes closer in the field of production.

Another innovation that has emerged within the framework of the technology-art relationship is the application of artificial intelligence algorithms to areas such as films and documentaries. The ability of artificial intelligence to understand stories and create structures through emotional arcs has two different effects on storytelling. The effect that can now be observed is that users strengthen their own narratives with the support of artificial intelligence applications. The long-term effect is that artificial intelligence can create its own meaningful stories and convince the reader (Anadolu, 2019). In addition to the fact that internet, mobile and network technologies offer very important opportunities for the field of cinema, applications that increase the experience of interaction and siege such as virtual reality, augmented reality and mixed reality have increased their effectiveness in this field.

Surreal spaces related to the representation of augmented and virtual reality often appear in science fiction films. With today's building technology, the costly nature of such structures and the policies of states have caused surreal structures to be designed in science fiction films for the time being. Fictional locations and out-of-form entities have appeared in many science-fiction films. One of them, *Star Wars*, presented Futuristic locations by referring to the Ancient Greek, Victorian period at times, and surreal cities were created (Turan and Kavut, 2022). Surreal or futuristic places that are not in reality appear in many productions in the history of cinema. However, metaverses based on virtual reality, which are designed entirely by computer algorithms and offer users real-life similar experiences, have begun to change cinema practices in terms of both producers and viewers. In Steven Spielberg's *Ready Player One* (2018), the virtual reality universe called Oasis shared a great prediction about the future of today's metaverse projects. In the film, people are

included in the virtual reality universe called Oasis with various augmented reality equipment and reach the opportunities they want far away from the restrictions of real life.

The famous game developer nicknamed Player-unknown announced that he had established a virtual game world with a diameter of 64 km called Prologue and stated that this network would later turn into the Earth-scale Artemis virtual universe (Alemdar, 2022). The three-dimensional virtual world offers its users the opportunity to experience a new and unlimited space away from the limits and obstacles of the physical world.

The design field, which is open to innovations by nature, has included developing technology and opportunities in the production process throughout history. The idea of using the computer environment in the design development process was researched and implemented in the research centers of various institutions, including universities and large hardware manufacturers, in the early 1960s (Tüker, 2015). With the 1980s, the cheapening and widespread use of computer technology paved the way for the emergence of visual design software. This software has enabled three-dimensional design, modeling, and visualization to be done easily. Many designers have created many purposeful works in different fields such as animation, visual effects, and simulation, especially two- and three-dimensional drawing. The appeal of cyber or virtual spaces is not limited to the field of cinema. The emergence of virtual spaces is realized with the cooperation of many branches of science and art in terms of designing and modeling this space. For cyberspace fictions, not only software developers work, but architects also design spaces. One of them, Marcos Novak, is the "liquid" architecture he proposes for the cyber environment. Liquid architecture is an architecture that is materialized, not satisfied with real-world states such as light, space and form, undergoing metamorphosis, moving, fluid and in Novak's words, music-like architecture (Turan and Kavut, 2022). A convenient system and its structures can move by changing their shape and produce responsive 3D assemblies that respond to emotions in simple ways (Louro et al. 2009).

Metaverses allow users to do what they want in universes simulated in a way like natural life through augmented reality glasses or screens. While real-world films can be shown here, it also includes the ability to produce a film entirely within the metaverse. In the metaverse with a three-dimensional virtual universe design, users with various avatars can be transformed into players, technical staff or professionals who will work in creative processes. After shooting a film completely away from the restrictive obstacles of natural shooting areas, it is possible to edit it with NLE editing software and share it with the audience in the metaverse. Although the very expensive technical equipment such as cameras, sound and lighting that should be present in real sets reduces the construction costs, it is foreseen that the need for new technical expertise will increase to express the reality specific to this field in an artistic way. A report published in Forbes is a good example of this. In India, the production company Pooja Entertainment has announced that they will purchase virtual land in the Metaverse for their film project and shoot the first Indian film in the Metaverse, Bade Miyan, Chote Miyan, starring Akshay Kumar and Tiger Shroff. In addition, the trailer of the romantic drama film *Radhe Shyam* (2022) was released on the Metaverse and received its first comments from avatars who are users of this virtual universe (Ekmekçi, 2022).

Digital glasses/lenses provide the transition to metaverse-type virtual universes, and the digital copies that represent us in these universes are called Avatars. Of course, as the simulation progresses, our digital representations will also level up, and this role can be delegated to MetaHumans who can act identically with us in real time (Alemdar, 2022). Epic Games says *MetaHuman Creator* can be used in conjunction with modern motion capture and animation techniques to create realistic motions and scenes of human interaction designed for video games, movies, TV, and other formats. says (Erdem, 2021).

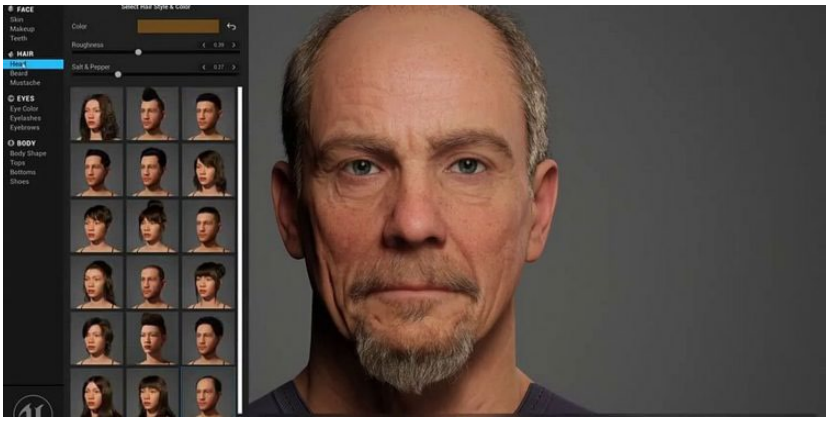

Figure 1 A shot from the interface of the *MetaHuman* software developed by Epic Games.

MetaHuman (Figure 1), developed by the game company Epic Games, allows users to create their own three-dimensional virtual copies on the metaverse in great detail. Again, with this and many similar applications, it is also possible to create actors and characters that are not found in real life and use them in cinema productions. To work with famous players in real life, it is possible with their avatars or NFTs in the metaverse. The Metaverse holds many potentials for new film genres and audience experiences that are unique to the new media aesthetic at the point of cinematic production. It seems possible in the near future that the traditional movie theaters we are used to will be replaced by the types that maximize the user experience in the metaverse architecture.

6. Conclusion

The metaverse fields, which emerged with the rise of social morphology based on networks, allow for the first time in history to confront thousands of different interfaces and avatars on the plane of a single entity in which everyone forms the infrastructure of millions of networks with themselves and others. Metaverse spaces, which allow users to do what they want in a way similar to the real-world perception of space by connecting through their three-dimensional avatars, have also brought innovation in terms of artistic expression. The fact that the production and performance of cinema works can be realized within these areas brings a new and decentralized understanding of cinema to the agenda. The relationship that the audience establishes with the cinema narrative in the metaverse has evolved towards a new understanding of cinema based on interaction and co-production philosophy within the digital culture where concepts such as convergence, symbiosis and hybridization have risen.

The perception of storytelling and the fact that the production framework has reached a decentralized architecture based on networks has not only been limited to cinema or new generation viewing platform areas but has transformed the audience or users themselves into storytellers. This new virtual/cyber platform, where users can create various stories through new sandboxes and tools, has brought the concept of metaverse cinema to the agenda. This understanding of cinema includes the ability to produce a film in the metaverse with all its creative processes, from the screening of films made in the real world here.

Users with various avatars in metaverse spaces with a three-dimensional virtual universe design experienced more besieged through augmented reality have the potential to turn into players, technical staff or professionals who will work in creative processes. From acting to creative technical elements, the fact that the natural shooting plateaus of a film can be shot away from restrictive obstacles makes this area very attractive. After the film production is carried out in this virtual universe, its editing and screening can also be done within these areas. Although the metaverse cinema concept offers many advantages in terms of production and screening costs, it

should not be forgotten that new technical expertise will increase in order to express the reality specific to this field in an artistic way.

In this fully digital virtual universe, the relationship of the story with cinema, entertainment, advertising, games, and social media applications has led to a more interactive structure and the viewer / reader to become more effective in this process. The blockchain technology, which forms the infrastructure of the decentralized data architecture, has many advantages in the production of works of art in cooperation with Web 3.0, democratization of the production and distribution of works, digital privacy and security for metaverse artists, and the recognition of ownership for digital works of art. The traditional relationship that the audience establishes with the cinema screen is transformed by technologies and types of experience based on decentralized network architecture. Virtual and augmented reality technologies are bringing a more beleaguered cruising experience to the agenda. Film viewing practices, which have evolved from movie theaters to the optional genre in the home, will take place in a more individualized and beleaguered form in the future.

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Resume

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