Abstract - theoretical work

In my work, I raise the issue of the future of the mixed reality medium in the context of art. This topic is the core of my reflections on the future of art and technology in the context of transhumanism. The work presents the current state of my research on the subject of the virtual reality medium, taking into account its place in history and society.

In the *Foreword* chapter, I highlight the basics of problems related to unequal access to technology and knowledge of how to use it. I juxtapose utopian visions of the near future extrapolated by science fiction authors and futurologists of the 1960s to the increasingly disturbing and disappointing realities of a world dominated by technological ochlocracy.

In the *introduction*, I describe the current state of the mixed reality medium, monopolized by megacorporations and subordinated to a very narrow vision of use as a channel for content consumption and product promotion. I also raise the problem of the lack of transparency of the technology underlying the devices produced by these corporations.

In the chapter *Holoagora - conceptual assumptions*, I present a number of inspirations and topoi that make up the artistic concept of Holoagora. He places it in the context of the utopian center of a holographic city presented in pop culture as a potential next stage of human development or a space to which humanity migrates when life in the physical world is no longer possible.

I use the topos of the "mad scientist" - read here as an intermediate state between the artist and the scientist - which pop culture often refers to in the context of the construction of transcendent technologies. In the further part of the chapter, I enumerate the technological, artistic and philosophical inspirations behind the Holoagora project.

The chapter *Relations between the noosphere and cyberspace* is devoted to the intuition that combines the concepts mentioned in the title of the chapter. In the following subchapters, I present the above-mentioned concepts in terms of mutual dependencies and connections. Especially the connection between the concept of the noosphere, i.e. the sphere of creations of the human mind and cyberspace, i.e. the sphere of purely rational abstractions existing thanks to these creations.

The next subchapter is devoted to the relationship between the beginnings of the first metaverse - called cyberspace by its creators - with the hippie counterculture and cyberdelia. In it, I presented the entheogenic potential of the virtual reality medium and its therapeutic possibilities.

In the chapter Medium of virtual reality as a space for exhibition and participation in the world of art, I describe examples of the use of the virtual medium and mixed realities to popularize art in the form of mediated exhibitions and galleries, and in the context of theater performances. The next chapter is devoted to the possible directions of development of virtual reality technology, taking into account the trends in the electronics industry and the developing techniques of machine vision. In the chapter Biological foundations of machine vision, I discuss the issue of similarities and

imitation of biological systems in the creation of virtual reality devices. I pay special attention to motion and object detection algorithms. The conclusion is devoted to the topic of open source philosophy and I emphasize the need to develop open source technology in the context of technological education and reducing the phenomenon of technological exclusion.

Abstract - artistic work

The form of the work is an ephemeral mixed reality installation inspired by street art. The installation was carried out in accordance with the idea of modularity, mobility and openness of the form, allowing for its continuous expansion. The Holoagor installation consists of two interpenetrating layers: digital and physical. The physical layer is represented here by cardboard boxes collected from local grocery stores, printed with a series of symbols, computer graphics and special ARUCO markers. The graphics are maintained in one-bit aesthetics (black and white). A hand-held digital printer is used to print the boxes. The digital layer is a set of mobile mixed reality devices worn by the participants. The sets of cameras found in these devices are designed to record the image in the user's field of view. The registered image is processed and detected by the markers printed on the boxes, in order to later display three-dimensional models on the recorded image. Another element is a networked virtual gallery implemented thanks to the webXR technology, i.e. a website containing a three-dimensional scene. The virtual gallery space allows you to visit it via a web browser on most modern devices or virtual reality goggles. The virtual gallery also allows you to explore simultaneously with other visitors who are not physically present at the exhibition site. During the presentation of the Holoagora, artifacts will be created in the form of successive printed cardboard boxes.