METAVERSE AS A PROMISE OF A BRIGHT FUTURE? SOCIAL INTERACTIONS IN A WORLD OF ISOLATION, MARCH 12, 2022, ONLINE WORKSHOP; 29TH IEEE CONFERENCE ON VIRTUAL REALITY + 3D USER INTERFACES

The vision of using the metaverse as a social area used to be at best a sci-fi concept. However, nowadays the metaverse has become a real alternative for online communication. It uses the achievements of modern technology such as virtual reality to create space for realistic dialogue and interactions. The COVID-19 pandemic proved that humanity must create an alternative for long-distance relations such as online meetings and video-calls. Self-isolation and lockdowns have increased the value of online relationships and virtual reality enabled us to create contacts on a new common ground.

On 12 March 2022, a workshop took place called "The metaverse as a promise of a bright future? – social interactions in a world of isolation" took place. The Laboratory of Media Studies (LMS) at the University of Warsaw, organized the workshop as part of the IEEE Conference on Virtual Reality + 3D User Interfaces. The organizer of the workshop was selected in the international competition hosted by the IEEE, the world's largest technical professional organization. It was a very popular part of the whole conference, because it was attended by 45 participants from dozens of academic centers from around the world. The workshop was divided in two parts: a panel discussion chaired by Professor Anna Mierzecka (Faculty of Journalism, Information and Book Studies, LMS UW) and an interactive game in VR Chat hosted by students from the University of Warsaw.

Prof. Mark Billinghurst (Empathic Computing Laboratory, University of South Australia) started his presentation *Empathic Computing, going beyond the metaverse* by explaining growing popularity of the metaverse, which is directly connected with developing products of Mark Zuckerberg's Meta. However, Billingshurst returned to the roots of the metaverse concept, which was first described in Neal Stephens's book "SnowCrash". He also admitted that the metaverse is the convergence of virtually enhanced physical reality and physically persistent virtual space. In his speech, Billingshurst underlined that there are three trends in modern communication, which also contribute to the metaverse development. At first, he focused on metamorphose in video-calls. Many of us are more interested in capturing the experience of being with somebody not just seeing each other faces on FaceTime or Messenger. This trend can be also visible in apps that allow

the users not only to share faces, but also share places – like on VR Chat, where we can share virtual space.

The second trend is natural collaboration between users, which is more effective due to high video streaming standards or sending photos to each other by online communicators. The third trend is the evolution of technological systems, which recognize the users behavior or emotions. All these trends combined led to emphatic computing. This idea is based on sharing the users' feeling, image and sound. To put these assumptions into practice, you need tools that use biometric measurements, such as eye tracking glasses or brain synchronized VR equipment. By using these devices, we can experience the empathic tele-existence, which allows us to move from the role of user to participant. In the summary of the paper presentation, Billinghurst concluded that we should go beyond the metaverse and focus on emphatic computing systems that can in future lead to the development of emphatic tele-existence technology.

Prof. Matthew Cotton's (SSSHL Department of Humanities and Social Sciences, Teeside University, UK) presentation concerned the E*thical decision-making and virtual environments*. It is a very important topic in the discussion about social aspects of the metaverse because in this digital world the users can be influenced by the technology more than ever. Cotton focused on ethical challenges that the metaverse is going to face in the future. In his presentation he highlighted the most important aspects of ethical dilemmas; such as user privacy, data management and control, using NFT's or cypto-currency and possible changes in social interactions or lifestyle that can be caused by the metaverse. He also admitted that these problems are not new and have already appeared in technological industries. It's hard to disagree with this approach to the subject.

The answer for most of questions raised by the speaker is about the intentions of brands providing social VR experience. Prof. Cotton also stated that deepfakes and disinformation can be used more effectively in virtual worlds due to the difficulties of verifying the content. However, it is not about only about the disadvantages of the metaverse but of the whole modern media sphere and the lack of protection regulation.

In the summary of his speech, Cotton talked about the Collingridge dilemma, which is a choice between two attitudes towards technology. The first possibility is to allow technology to live develop without any human control. The other option is to control technology from the start and observe its development. Unfortunately, the solutions for ethical problems described in the paper are in my opinion unrealistic because creating new legal solutions for protect users' rights is very often ineffective. Besides, it is difficult to define the limits of virtual reality, which develops much faster than new legal or ethical codes.

The next presentation was dedicated to the impact of the metaverse on the education sector. Carlos J. Ochoa Fernández (CEO in ONE Digital Consulting.

President VR/AR Association Madrid Chapter, Global Co-Chair VR/ARA Education Committee), focused on the whole complex ecosystem of new technological solutions for humanity (presentation entitled *Impact of Metaverse in Education and Training in the Virtual Twin Society)*. He stated that we can't only talk about the metaverse without including other similar technologies that are involved in the whole process such as applications, augmented reality etc. A huge change in this area can be seen due to the COVID-19 pandemic. Nowadays we have many platforms that can be used as learning spaces but these solutions are not as interactive as the metaverse.

Four factors will be crucial in using the metaverse in education are: i) the sense of being in virtual space; ii) using non-verbal communication; iii) networking with other users in real time, and iv) having a human connection and sensorial exploration of worlds. These characteristics can be beneficial for students and teachers. An example of implementing this solution can be found in the United Arab Emirates. Schools there are using 3D printers, virtual worlds and augmented reality as a part of Smart Education Lab Project.

Yongwoog 'Andy' Jeon (Department of Marketing, Northern Illinois University, College of Business) in his paper *Reading Social Media Marketing Messages as Simulated Self Within a Metaverse* discussed the phenomenon of the metaverse's popularity. He conducted research on the metaverse trend in social media. He stated that we should study the metaverse because it gives an opportunity of creating anything we wish in the digital form as well as giving a space of free expression for every user. The researcher gave the example of VR Chat as a friendly space for users in which everyone can pick an avatar for themselves. An interesting observation is that young users may differentiate their online identity from their real identity.

The main conclusion of the paper was that we must perceive the metaverse the same way as new marketing channels. Marketers consider the metaverse as a new channel for persuasion. However, there is a need for creating a new media consumption model through metaverse. In the future it is possible that in virtual worlds, advertisements will be present as in real world. Thus, research in this area must continue. Yongwoog 'Andy' Jeon prepared a concept of study using a VR application. He wants to find out if using social media in VR we experience this content as a virtual-self.

The last panel's speaker was Prof. Tomasz Gackowski (Faculty of Journalism, Information and Book Studies, LMS UW), who presented a paper about meta-dillemas in future research on the metaverse (*Metaresearch in Metaverse – meta-dillemas in future research)*. He mostly focused on new paths in social study research that must be included when exploring the metaverse. Gackowski began his speech by explaining that the word meta means beyond boundaries. Thus metauniverse means a new dimension of being in technology.

Gackowski clarified that since the COVID-19 pandemic we can observe a massive growth of virtual reality users. It can be also named as the industry "boom" because in 2020 global spending on VR and AR devices and services rose USD12 billion, which is up to 50 % growth from 2019. We also used VR technology for telemedicine, educating professionals about COVID-19 or even as an assistance in palliative care of COVID-19 patients. However, VR technology is not only a huge opportunity for medicine but also for the education sector.

Gackowski presented the results from a research project about VR in education which focused on the process of learning about the human body through both analog and the modern way of teaching. He admitted that teaching with VR technology is still a work-in-progress and the effects of it are not yet satisfactory because there are still many questions to be answered about the purpose of using metaverse as a learning space. At the end Gackowski concluded there are three most important areas that must be included when studying the metaverse: metaknowledge, metaperception-metaunderstanding and the character and layers of the metaverse.

The panel was closed by a discussion, which Prof. Gackowski moderated. The participants talked about ethical aspects of the metaverse and modern technology. One of the main topics was the empathy of social media. Prof. Cotton believed the most important factor is who actually controls social media. This question is even more essential after Elon Musk bought Twitter.

After the discussion participants were invited to take part in a game called Prohibition in VR Chat. Some of them were gamers and the others were observing the game usiing the Zoom platform. Before the game started Dr. Karolina Brylska presented a paper called *Exploring in the VR Chat – community and VR experience.* Her speech was about VR Chat as a space for social interactions. She talked about the study that is coordinated by her at the University of Warsaw. The aim of the study is to observe and analyze how users of VR Chat are establishing social interactions in the app as well as to measure their risky behaviors. Parts of the scientific work in this project is done by students of the Faculty: Ligia Berwid, Jakub Chudzik, Katarzyna Harabin, Zuzanna Jankowska, Patrycja Kępka, Izabela Kołakowska, Kamil Kusztal, Maria Lipińska, Ryszard Niziński, Julia Płocka, Katarzyna Prądzyńska, Joanna Sudejko, Weronika Syliwoniuk, Paulina Wągrodzka. The game in VR Chat was led by one of the students – Mr Ryszard Niziński, who explained all the rules to the players.

Karolina Brylska with her team observed some characteristic feature for the VR Chat users. Most of players are young men who chose female avatars such as anime characters or furry animals. Moreover, players focus on virtual world exploration, conducting interactions with strangers as well; they tend to play various games in VR Chat.

Participation in the game was also a subject of a summary discussion. Scientists debated on various game strategies and choice of avatars in VR Chat. They shared their observations about taking risks in virtual reality and facing difficulties that appeared during the project. *Metaverse as a promise of a bright future? – social interactions in a world of isolation* workshop was a great opportunity to share experiences between people who conduct research about virtual reality. Furthermore, during the panel, participants from all over the world presented different points of view on VR possibilities and dangers. Many areas of future research were highlighted during paper presentations. It is irrefutable that further expansion of this technology is just a matter of time. Thus, it is important to realize how VR can effect society in various dimensions – relationships, leisure, entertainment and education.

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