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ENTERING THE METAVERSE

Digital reality is currently progressing with the speed of light as we are on the verge of entering the metaverse. The metaverse is defined as the convergence of physical, augmented, and virtual reality in a shared online space [1]. The metaverse is an interconnected digital world that allows you to create a virtual identity, or avatar, which will represent you in every space you visit.

Although it may seem a novel and very recent term, it was coined as early as in 1992 in Neal Stephenson's science fiction novel, "Snow Crash" [1]. Since the appearance of the concept numerous companies have tried to make it a reality, but they were not successful, as the technology was not sufficiently advanced. Then the idea was on the sidelines, and people were not particularly focused on it until the company Facebook announced heavy investments in the concept and rebranded as "Meta" (all of their platforms: Facebook, Instagram, WhatsApp, and other subsidiaries). After that tech giants started building and investing in the Metaverse. However, even today we do not have everything necessary to build one, because it is a complex digital environment that relies on distinct characteristics:

1. Interactivity;
2. Interoperability;
3. Corporeality;
4. Full-fledged economy [1].

But why are businesses embracing such a far-flung concept? A simple answer is that it is the next step in digitizing our lives, which will enable us to immerse in the world of video games. It is impossible to say whether the Metaverse will exist in the way it is described today; but we can already see its fruit, for it is revolutionizing the digital reality. In order to try to understand all the complexity and significance of the Metaverse for the world, we deem it necessary to examine the ways commercial giants have started exploring the Metaverse world.

The overall aim of the research is to study through what means and activities big companies are entering the Metaverse. In this research the term "big companies" refers to those with the largest revenue and those who are highly promising and innovative in the field.

Let us start with the companies that have already created a kind of metaverse: Microsoft (Mesh), Nvidia (Omniverse), Epic Games (Fortnite), and some other pioneers. They are strikingly different and pursue distinct goals. Fortnite (Epic Games), for instance, is a video game that has currency – V-bucks, which allow players to level up their avatars and purchase property; the game enables users to communicate with anyone in the world; and has already hosted virtual concerts, partnered with the fashion house Balenciaga. Mesh by Microsoft, on the contrary, has a more work-focused environment, which makes collaboration and teamwork appealing and engaging with the use of holograms, 3D avatars, audio cues, and multi-device compatibility [2]. Nvidia's

Omniverse allows creators and game developers to coordinate and work on projects together in real time in a shared virtual space; Nvidia is developing Omniverse Avatar at the moment.

Alibaba Cloud, Active Theory, Unity Software are the companies that are building Metaverse for other brands by providing technology, data service, computer power, and advanced tools. The latter company has recently introduced a new feature, The Metaverse Minute, on their website, where they are celebrating their accomplishments in the sphere. The article “Introducing the Metaverse Minute” suggests that Unity Software has created numerous digital twins and tells the readers about Hyundai’s Meta-Factory, Rezzil’s training app, Samsung’s digital twin store, Dress-X & H&M collaboration, Fetal Heart VR [3].

Two other major categories are companies that are creating equipment for the Metaverse, and those who have a unique idea of the concept and are developing it. Google, Microsoft, Oculus VR, Apple, and some other companies are working on VR gear for immersive experience. Intel is developing software that will bring together all the worlds within the Metaverse; they are laying out the basis. Meta is focused on developing a record-breaking supercomputer to power the Metaverse – reaching quintillions of operations per second [4]. Disney has the idea of a projection device and tracking system that will provide a personalized experience without any VR devices. Niantic is working on the new AR platform, which will prepare us for the real-life Metaverse.

Despite all the support and exposure that the concept receives, there are opponents to it. The Ascent Robotics’ (Sony) CEO believes that it is pointless to create a pseudo world; he claims that VR headsets are not worthy of the attention they are receiving. They are concentrated on advancing robotic systems development.

To conclude, the Metaverse is a complex idea that requires numerous trials and changes. It is easy to compare our current understanding of the Metaverse with the early assumptions of how the Internet and websites would look like. Almost all of them were incorrect as we were unable to comprehend how it should work or how it would look like. As the Metaverse is a convergence of physical, augmented, and virtual reality, companies need to work in all of these directions in order to broaden the possibilities of us having a true interconnected digital world. Most likely, it will take years of hard work to perfect the technologies and create the new ones. However, the intricacy of the matter makes development of the concept rewarding. The business that will achieve it first will possibly acquire eternal fame.

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LESSONS LEARNT FROM COVID-19 INDUCED STUDIES FROM HOME

The world has undergone considerable changes on account of Covid-19, which is “a disease caused by a coronavirus that was first reported in 2019 and became a pandemic” [1]. Precautions to prevent the spread of the disease include the wearing of masks, the need to wash hands after visiting public places, and social distancing. The disease paralyzed all spheres of society, made adjustments to their functioning, and education was not an exception. The lockdown led to closures of schools and universities in most countries of the world.

The Covid-19 outbreak created a serious disruption of educational systems around the globe. The necessity to prevent the pandemic and to maintain social distancing upended the traditional pattern of classroom education, and digital remote learning was quickly launched. Universities had a limited period of time to decide how they would embrace the new reality and integrate digital learning into the education process.

Digital remote learning has become a solution to delivering quality education using various online platforms. Educators were compelled to adopt the “Education in Emergency” approach, for which they were not fully prepared. The virtual classroom platforms like videoconferencing (Google Hangouts Meet, Zoom, Slack, Cisco, WebEx) and customizable cloud-based learning management platforms such as Elias, Moodle, BigBlueButton and Skype are increasingly being used [2].

Weaknesses in the development of digital remote learning led to difficulties in adapting for teachers and students. Among the most common challenges were the following: access to the platforms, flexibility and affordability; issues with an Internet connection; shortage of digital devices. Teachers found it difficult to adapt to the changes without proper support, technical or psychological, to understand the features of online learning, to create a favorable, stress-free, and productive environment for students.

Based on the phenomena mentioned above, the overall aim of the study is to analyze how the transition to digital remote learning has affected students’ perception of the process of education. In the course of research, literature on the topic of digital remote learning was analyzed, as well as the education conditions for Belarusian University students receiving their first University degree – those who underwent distance learning