HOW IT HELPS FIGHT THE PANDEMIC OF COVID-19

Bondarkov D.V.

Belarusian State University of Informatics and Radioelectronics, Minsk, Republic of Belarus

Churzina E.A. – Lecturer

Annotation. This thesis contains a brief description of how IT helps in fighting the pandemic of COVID-19 in many areas of our life (working processes, education, medicine, and politics).

Keywords. COVID-19, pandemic, IT, struggle, studying, learning, infection.

Humanity has been struggling against the pandemic of COVID-19 for more than a year. New challenges push us to new adaptations in many areas of our life: medicine, education, work, and even everyday routine. And a big part of these adaptations is implemented by new IT solutions and innovations. Of course, the pandemic of COVID-19 is a real evil because of thousands of deaths and economic consequences. But we can say without any doubt that this pandemic has led to the acceleration of digitization. Let's consider how IT has changed various spheres of our life due to the pandemic.

Working processes

To stop the proliferation of COVID -19 infections, governments of many developed countries have decided to go into economic lockdown, which made workers leave their jobs and stay at home. The majority of these workers had to stop working and as a result earning money. And to minimize this impact people

have started to use IT technologies to communicate in the work process. Despite being at home, people continue to do their jobs by using apps such as Skype, Google Meet, and Zoom. Zoom has become very popular after the first wave of COVID-19, which can be proven by statistics [1]: Zoom had approximately 81,900 customers with more than 10 employees as of January 31, 2020; 89% of people are using Zoom for work, while 63% are using it for conversations with friends and family, etc. Since then, these numbers have risen over 5 times!

Education

- The COVID-19 has resulted in schools shut all across the world. Globally, over 1.2 billion children are out of the classroom.

- As a result, education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms.

- Research suggests that online learning has been shown to increase retention of information, and take less time, meaning the changes coronavirus has caused might be here to stay.

In response to significant demand, many online learning platforms are offering free access to their services, also universities and other educational facilities suggest their online platforms for remote studying. For example, when there was a big amount of COVID-19 cases per day in Belarus, BSUIR students had to study remotely at home and use the LMS platform to communicate with teachers [2]. This fact is most mentioned by students who participated in my survey about IT in the pandemic of COVID-19. The results of the survey are in the picture below.

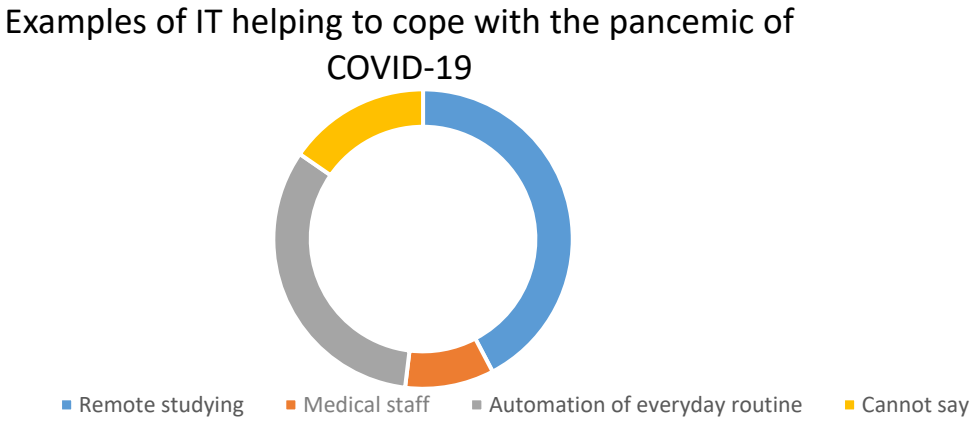

Figure 1 – results of survey among BSUIR students

Medicine

Health information technology presents numerous opportunities for improving and transforming healthcare, which include: reducing human errors, improving clinical outcomes, facilitating care coordination, improving practice efficiencies, and tracking data over time. COVID-19 is a tough disease, treatment of which demands good equipment and immunity. In process of finding better ways to fight against this disease we update our technologies and create new science solutions. The most used equipment for treatment against COVID-19 is a ventilator for lungs and of course researches in this area have been speeded up due to the pandemic. IT helps in medical imaging. Medical imaging is a broad term that covers technology used to create images of the human body for study and diagnosis. It includes magnetic resonance imaging (MRI), ultrasound, CT scans, and X-Rays. All of these devices are controlled by computers. It's important to say that COVID-19 has been speeded up researches on creating vaccines not only against COVID-19 but against other infections as well. Many COVID-19 vaccines, for example Phizer, AstraZeneca, Sputnik V were created using high technologies, and would be impossible without IT.

Politics

To avoid the possible COVID-19 health risks associated with large crowds at polling places many US states have moved to vote-by-mail [3]. The obvious example of such a system is the election in the USA in 2020 when more than 45% of voters voted by mail. Polling place electronic voting or Internet voting examples have also taken place in Australia, Belgium, Brazil, Estonia, France, Germany, India, Italy, Namibia, the Netherlands, Norway, Peru, Switzerland, the UK, Venezuela, the Philippines, and Russia. Such a system was even used in Russia during the voting for changes in the constitution.

In this thesis, we considered the aspects of how IT helps to fight the pandemic of COVID-19 in many spheres of our life. This work also has practical results as we made a survey among students of BSUIR on the topic of the thesis.

References:

1. Zoom User Stats, article [Electronic resource]. – Access mode: https://backlinko.com/zoom-users – Date of access: 01.31.2021.

2. BSUIR E-learning system [Electronic resource]. – Access mode: https://www.bsuir.by/en/ – Date of access: 01.31.2021.

3. How does vote-by-mail work and does it increase election fraud? Darrell M. West, article [Electronic resource]. – Access mode: https://www.brookings.edu/policy2020/votervital/how-does-vote-by-mail-work-and-does-it-increase-election-fraud/ – Date of access: 01.31.2021