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Drobná, Ježek,
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Dataville and Computing Pre-conceptions of Primary School Children: or the Voyage into the Computer and Back Again

Little attention is given in primary schools to the topic of how computing devices work. Little is known about what pre-conceptions children have about basic computing concepts, including the internet, the wifi, computer viruses and antiviruses, and data size and data storage. Together with the Czech Television, we created a new, educational, animated series for children on how computers work; broadcasted in May 2020. The series' children protagonists can magically enter the world inside a computer, depicted using the metaphor of a city, which is a functional model of the insides of a computer and computer networks. As part of this project, we have started to map the mentioned pre-conceptions among 2-9-graders (N > 300; from 27 classes; interviews and classroom observations). So far, we have got the following insights: a) there is a large degree of heterogeneity in levels of understanding among children (not necessarily related to age); b) children's understanding is often incomplete and fragmented (even for 9-graders); c) a recurring misconception is that internet is loaded on the child's device; d) even older students regularly think that mobile phones communicate directly to each other or just via one satellite/tower; e) the youngest children have no notion of data size; f) 2-3-graders know almost nothing about computer viruses and antiviruses; g) 5-graders know about existence of viruses, but rarely about antiviruses. The talk includes discussion of our future plans.

Vladyslav Platonov,
Tsokota, Smelyakov,
Tovchyrechko

Efficiency of professional psychological selection for risky jobs using computer technology

The use of a computer form expands the possibilities of psychological testing. The Armed Service Vocational Aptitude Battery ASVAB selection tests and their modification form AFQT are used in the US and European law enforcement agencies. A computer version of the ASVAB test (Oleandr M., Caplinger J. T. 1989, Rafacz B. A. 1995) has been developed to reduce resource consumption during psychological selection. The screenings of the rescuer's psychological state are conducted during the service (Groeller H., Fullagar H., Sampson J, A, 2012). The use of computer-based forms of testing for psychological selection shows their effectiveness.

The system for psychological selection for first responders with the prediction of their future professional efficiency is in the process of development. Data for prediction of professional efficiency through psychological testing analysis was collected with the help of the State Emergency Service of Ukraine for further data processing by neural networks. The use of a neural network and online platform will provide an opportunity to be tested on the computer and mobile platforms and predict the efficiency of recruits' service, display and store results in a database, quickly present the interpretation, in the form of tables and graphs.

It will simplify the testing procedure, predict the effectiveness of the first responder's staff on the basis of an array of psychological data.

28th November (Saturday) 14:30 - 16:00 (CET)

Law: Cybersecurity, Cyber-Warfare

Jozef Andraško

Application issues of Cybersecurity Act in Slovakia

The author deals with application issues of the Act No. 69/2018 Coll. on Cybersecurity and on Amendments to Certain Acts (hereinafter referred as the "Cybersecurity Act") which is the result of the transposition of NIS Directive.

First of all, according to Cybersecurity Act all information systems of public administration are directly identified as essential services and their operators as operators of essential services even they do not meet three cumulative criteria for identification according to Art. 5 (2) of the NIS Directive. In practice, identified entities do not provide a service which is essential for the maintenance of critical societal and/or economic activities (the first condition). Furthermore, the third condition, an incident would have significant disruptive effects on the provision of that service, is not considered.

Moreover, if the National Security Authority (the authority that is responsible for Cybersecurity in Slovakia) will identify entity as the operator of essential service, only notice will be sent to operator of essential service. It is not an individual legal act like a decision. As a result, entity cannot appeal to this notice.

The author will discuss more application issues, in particular notification of cybersecurity incidents according to Cybersecurity Act and other legal acts relating to incidents notification. Furthermore, author will focus on the issue of publishing of list of operators of essential services publicly.