

## СЕКЦІЯ 2

### КОМП'ЮТЕРНІ МЕТОДИ І ЗАСОБИ ІНФОРМАЦІЙНО-КОМУНІКАЦІЙНИХ ТЕХНОЛОГІЙ ТА УПРАВЛІННЯ

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#### Підсекція 2.1

##### 1. DEVELOPMENT OF A MODULE FOR SORTING THE IP-ADDRESSES OF USER NODES IN CLOUD FIREWALL PROTECTION OF WEB RESOURCES

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In connection with the expanding field of application of cloud services, there are new tasks that they solve. For example, there are known solutions for using cloud-firewalls. Their essence lies in filtering incoming requests. One of the problems of the implementation of such subsystems is the use of knowledge about the history of the use of IP-addresses. Therefore, the urgent task is to develop a software module for sorting IP addresses depending on their geolocation and on the level of trust in the IP address on the Internet. In this case, the request to the web server will go through several stages of verification: the higher the trust in the IP address, the fewer the verification steps. The paper proposes to use the online database of GeoLite2 IP addresses to check their geolocation online. Since providers can georegionally transfer blocks of IP addresses among themselves, this makes it necessary to check the actual location of the user from whom the request came. Thus, this solution simplifies user access to a web resource, which ultimately will lead to faster communication between the server and the user terminal. For a cloud-based firewall system, having such a module allows you to quickly sort IP addresses by preferences.

##### 2. PARAMETRIC MODEL OF THE INFORMATION SYSTEM DETERMINATION OF PROHIBITED PRODUCTS FOOD

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This work is a continuation of the topics of the development of the information system for the interaction of family physicians and clients within the framework of the Ukrainian model institute family doctors. The report deals with a number of integration-related tasks some known and open to use software modules in an information system for defining prohibited food use food. To this end, it is proposed to consider the information model as a parametric model. This approach allows you to establish a quantitative relationship between functional and auxiliary parameters of the information system with using Hoar's logic. The developed parametric model is base at Further work of integration of software modules within the framework of the general concept information system.

##### 3. COMPENSATIONAL REGULATOR OF THE INTELLECTUAL CONTROL SYSTEM

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The efficiency of operating gas pipelines is largely determined by the quality of operation of compressor stations (CS). The tasks of controlling the technological processes of the compressor station consist in regulating the flow rate, pressure and temperature of the gas of gas pumping units. The report considered the possibility of using inverse models with a fuzzy description of the source data and a fuzzy inference for compensation control of the CS. A fuzzy CS control model has been developed on the basis of a deductive output circuit, which allows determining the values of the elements of the vector of output parameters of gas pumping units depending on the fuzzy values of the vector of input parameters. A method of controlling the CS using expert information, presented by a system of fuzzy monotonous statements of the second kind, is proposed. It should be noted that the intelligent control