Information support of data processing operations of Internet of things devices in automated information eco-monitoring system

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Abstract. This scientific article examines in detail the main approaches to creating an information description of the processing operations and intelligent analysis of data obtained from digital sensors – Internet of things devices in an automated environmental monitoring information system. A brief classification of data mining is given. A general description of the data obtained from Internet of things devices in an automated environmental monitoring information system is given. Based on structural analysis and a systematic approach, a formalized description of data processing operations in the environmental monitoring information system has been created. Based on the methodological principles of the structural description of systems, an analysis of information flows in an automated environmental monitoring system was carried out. A generalized visual information model of the process of environmental monitoring has been constructed. A functional decomposition of the generalized model has been carried out, and the constituent subprocesses have been identified. Based on the IDEF0 functional modeling methodology, visual functional models of data processing and analysis processes in an automated environmental monitoring information system were built in the form of structured diagrams necessary for detailing all stages and operations. During the decomposition, five functional blocks were identified. The development of information support for data processing and analysis processes in automated information systems for environmental monitoring was carried out using the example of processing data received from an Internet of things devices.

Keywords: formalization, data processing operations, data mining, Internet of things devices, environmental monitoring information system, structural system analysis

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