

# **WEB-ORIENTED SYSTEMS MODELING AND WEB-RESOURCES DEVELOPMENT DIRECTIONS**

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Today there is developed a wide range of software and hardware for the web systems building. However, further development of web-technologies is impossible without a solid formal mathematical basis development, above all without creating of a web system formal model. Without such a basis it is impossible to develop methods for its design. As a consequence, there are no extensions for web technologies of the well-established methods and the analysis and design tools of information systems (in particular, of structural methodologies). The nonexistence of a web system mathematical model makes it impossible to develop the intellectual tools of their administration based on its optimization algorithms and the prediction of the time-dependent behavior.

The need for the modeling of the multiple level web-system of global nature leads to the need to develop their formal models and algorithms to optimize them as a basis for the qualitative development of the effective systems, regardless of their complexity and nature.

The diversity and multidimensionality of the research problem and the construction of these resources in the global information network has led to the emergence of a significant number of publications with have a direct or indirect relevance to the subject of this study. A number of papers [1-10] are focused on the features of the websites generation, touched on the issue of the information resources formation, including digital resources and search for the information through them and some aspects of the information technology of the web resources representation.

The subject of the research is the functioning of the websites, peculiarities of the information resources formation and maintenance, organization of access to them, the development prospects of these resources in conditions of the society IT penetration taking into account the modern historical stage of Ukraine development.

The methodological basis of the article is the general scientific approaches to the scientific knowledge (system, functional, structural, modeling). Methods of information analysis are used. It allowed explore the web sites specifics and development, delineate the complex of the topical scientific and technological issues of the site formation and its resources use.

The topicality is due to the issues of IT penetration, information and communication technologies implementation in the economic activities of the enterprises and familiarization with the basic models and information databases of web-oriented systems.

The purpose and objectives of the study. Today there is a variety of web technologies used for the websites creating and they continue to develop. The aim of the study is to develop methods and algorithms for the information systems modeling implemented on the basis of web-technologies, and the establishment of the procedures for the web systems structure optimization.

The article discusses a typical example of the web systems coordination. The main problems while building the effective web sites and approaches to solving these problems are described. In particular, the basic sites efficiency indicators are studied and the methods for their improvement are determined. There are analyzed directions for the development of information systems built on web-technologies. We have formulated the main approaches to web technologies implementing. We have considered a structurally functional model of a software package for the web-oriented systems designing and there is a description of the structural modules included in its composition.

Keywords - Internet, World Wide Web, HTML language, web technologies, web systems, web-oriented systems, website, programming language, technology, information systems, script, module.