

Abstract

Master's dissertation:

52 page, 13 images, 2 tables, 3 additions, 24 sources

Relevance of the topic of the master's study: today the most popular content management systems (CMS) do not take into account the challenges of the present. Most systems are based on classic relational databases and have weaknesses that are relatively low in performance when working with large volumes of data or when working with data that has a complex network structure (with a large number of ties among themselves).

Therefore, the task of structuring large volumes of data, as well as data that have a complex network structure, in content management systems is quite relevant.

The work is devoted to the development of data structuring methods for the management of partially structured content.

The aim of the study. The purpose of the master's thesis is to study existing data management approaches and to improve data structuring methods when solving the problems of partially structured content management to improve the performance of content management systems while working with data that has a complex network structure.

Objectives of the study. To achieve this goal, the following tasks must be solved:

- to investigate existing management methods when dealing with large volumes of partially structured content;
- explore existing database models for managing partially structured content;
- adapt a graphical database model to manage complexly structured content;
- develop a content management system with the implementation of the proposed method of structuring data.

The object of the study is the processes of managing partially structured content and the process of structuring content.

The subject of the study is the models for the representation of partially structured data as the basis for the design and implementation of a content management system.

Research methods. Theory of graphs, database theory, modern models of research and data representation.

The scientific novelty of the results obtained is to develop and implement a method for structuring data that has a complex network structure, using graph databases and dynamically creating their own data types, which increases the structuring of the content and, as a result, accelerates the search and selection of data.

The practical significance of the results. As a result of the completed master's study, a modified model of graphical representation of data is proposed. On the basis of the proposed model, a program system was developed and implemented on the basis of which the following projects were implemented: <https://coin.ua>, <https://homeinvesting.ru>

Publications Materials of work are published in the theses of conferences "INFORMATICS AND COMPUTER TECHNOLOGY - IOT-2018" and "XIX International Conference on Mathematical Modeling - MKMM-18" (Kherson, KhNTU, 2018)