ONTOLOGY-BASED SOFTWARE SYSTEM ABOUT THE SYMBOLIC IN NATIONAL REASONS IN THE DIFFERENT GEOGRAPHICAL REGIONS OF EUROPE AND ASIA

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Аннотация

Древние артефакты хранят информацию о доисторических корнях народов. Качественное изучение скрытого в них символизма требует создания информационной системы для национальных мотивов в разных географических регионах Европы и Азии. Онтология является наиболее подходящей структурой для описания формально представленных знаний, основанных на некоторой концептуализации. Это было бы ценным ресурсом для будущих масштабных математических и алгоритмических исследований, связанных с автоматическим распознаванием фольклорных образов.

Abstract

The ancient artifacts store information about the prehistoric roots of the peoples. The qualitative study of symbolism hidden in them requires the creation of an information system for national motifs in the different geographic regions of Europe and Asia. Ontology is the most appropriate structure for describing a formally presented knowledge based on some conceptualization. It would be a valuable resource for future large-scale mathematical and algorithmic research related to the automatic recognition of folklore images.

Keywords: ontology, cultural-historical heritage, methodologies, information system, knowledge

Introduction

The ancient artifacts store information about the pre-historic foundations of the peoples, give information about our ancestors' knowledge of the world, and where we come from and where our place is in the world. The rich folklore information lies in the ancient symbols in the envelope. Over time, the width has undergone many changes passed from generation to generation, but some of the main symbols have been preserved to this day.

The common symbols in Bulgarian, Russian, Ukrainian, Indian, Chinese and others, which are of interest to a number of folk artists, but the lack of a quality and systematized database makes it harder for their research to limit their perimeter.[2]

Fig. 1 The Goddess on Two-Head Horse - Embroidery from Bulgaria, Russia.

The development of an **information system** (IS) with a focus on preserving, processing and popularizing the national embroidery knowledge base with the messages it carries would be of interest to both ethnologists and historians as well as to professionals and amateurs in various scientific fields - computer specialists, designers, embroiders, artists from different fields of application, etc., and correct approaches and methods for systematizing the accumulated knowledge base for national embroidery are almost absent.

Knowledge management technologies

Since, according to the scientific field of artificial intelligence ontology, the most appropriate structure for the description is formally presented knowledge based on some conceptualization of a number of objects and concepts, knowledge about them and relationships between them, describing the knowledge base describing the subject area for the national embroidery was chosen ontological structure.

Conceptualisation is one of the most critical activities in ontological design. It is based on the RDF standard, which is the basic infrastructure of the semantic web and related data. RDF is presented with the data model. Data and data models are stored in a single environment in which SPARQL creates rules for processing and retrieving information. Semantic Web technologies set data semantics and provide reasoning on the data scheme and the data itself. Ontology engineering technologies allow upgrading to existing data management systems and provide unified, unified and unified access to data in them without changing or duplicating them.[1]

The information retrieval process aims to derive certain information from certain criteria set in the ontological knowledge [3].

The proposed approach provides an opportunity to build a semantic library of national embroidery knowledge; creating a method for their semantic, unambiguous description, as well as an opportunity for ontological search for factual information through a systematic description and structuring of semantic knowledge. This approach has been realized thanks to an in-depth thorough study of the sources of cultural and historical heritage and, in particular, of the embroidery of the peoples. It provides the opportunity for future large-scale mathematical and algorithmic research related to automatic recognition of folklore images and generating L-grammars describing the various elements of symbolism and ornamentation of the embroidery.

Conclusion

The creation of an information system containing a huge base of embroidery and describing its semantic meaning, with the ability to search by certain criteria, is a necessity as all authors who write a number of works on the meaning of embroidery are not engaged in creating a comprehensive and thorough work on the subject area. Usually, they analyze a particular embroidery item or describe and analyze only embroidery from a particular area.

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