2006 | Volume 9 | Issue 5

Methodology and technology for creating of the multi-purposed information environment T-System based on the digital library with flexible full-text search

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Abstract

We describe hereby the methodology and technology for creating of the multi-purposed information environment ‘T System’ based on the extension of the digital library T-Libra. The environment is destined for the integration of resources and services, which a typical for digital library with flexible full-text search, virtual museum, digital archive, research laboratory and educational server. The methodological basis this sort of extension is a hybrid two-level ontology based on interaction of functional systems (top level), concepts library and thesauri library (lower level). The technological basis of extension is an administrative division, which has tools for flexible set-up of T-System’s, as well as an unified search system includes the mechanisms of nonlinear cascade inquiries, which of that generate a relevant functional systems and combine the results of full-text search, related thesauri and concepts, text metadata and non-text objects of different modalities (graphics, sound, video etc.). The above-mentioned environment is designed in three-tier architecture (Web-browser / Web-server + Application server / DB server) with using of special indexing system for increase of search effectiveness, as well as of external logic which is built-up in Application Server.
