Digital Libraries and Portals Saving National Cultural Heritage (IMI–BAS Experience)

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Abstract. The current research activities of the Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences (IMI—BAS) include the study and application of knowledge-based methods for the creation, integration and development of multimedia digital libraries with applications in cultural heritage. This report presents IMI-BAS's developments at the digital library management systems and portals, *i.e.* the *Bulgarian Iconographical Digital Library*, the *Bulgarian Folklore Digital Library* and the *Bulgarian Folklore Artery*, *etc.* developed during the several national and international projects:
- "Digital Libraries with Multimedia Content and its Application in Bulgarian Cultural Heritage" (contract 8/21.07.2005 between the IMI–BAS, and the State Agency for Information Technologies and Communications;
- FP6/IST/P-027451 PROJECT LOGOS "Knowledge-on-Demand for Ubiquitous Learning", EU FP6, IST, Priority 2.4.13 "Strengthening the Integration of the ICT research effort in an Enlarged Europe"
- NSF project D-002-189 SINUS "Semantic Technologies for Web Services and Technology Enhanced Learning".
- NSF project IO-03-03/2006 "Development of Digital Libraries and Information Portal with Virtual Exposition "Bulgarian Folklore Heritage"".

The presented prototypes aims to provide flexible and effective access to the multimedia presentation of the cultural heritage artefacts and collections, maintaining different forms and format of the digitized information content and rich functionality for interaction. The developments are a result of long-standing interests and work in the technological developments in information systems, knowledge processing and content management systems. The current research activities aims at creating innovative solutions for assembling multimedia digital libraries for collaborative use in specific cultural heritage context, maintaining their semantic interoperability and creating new services for dynamic aggregation of their resources, access improvement, personification, intelligent curation of content, and content protection. The investigations are directed towards the development of distributed tools for aggregating heterogeneous content and ensuring semantic compatibility with the European digital library EUROPEANA, thus providing possibilities for pan-European access to rich digitalised collections of Bulgarian cultural heritage.

Keywords: digital libraries, information portals, cultural heritage