imdas pro 4.0 - Presentation of Cultural Data in Modern Design

Herwig Zeiner, Silvia Russegger
JOANNEUM RESEARCH
Institute of Information Systems & Information Management
Steyrergasse 17, A-8010 Graz, Austria
Tel.: +43 316 876 1185, Fax: +43 316 876 1191
E-mail: Herwig.zeiner@joanneum.at, Internet: http://www.joanneum.at

Abstract

Nowadays archive and collection management systems based on information technologies are widely used and have proven to provide valuable support for the management of objects in the cultural heritage domain. After several years of data entry into various databases, it is now possible and important for cultural institutions to keep track, develop and make real use of these data repositories. Using the world-wide-web as one of the most important channels to provide access to these objects - next to their physical presentation in museums and archives – is one of the best possibilities to make use of direct connections between the databases holding the scientific description of all objects and their public, visitor centred presentations on web sites. To make use of these direct connections it gives the opportunity to present background information – for instance by publishing collection objects together with geographical information and to publish information about objects on the Web. In this paper, we will briefly describe the technical possibilities of *imdas pro* 4.0. We will discuss the implications to modern collection management systems provided by modern Web technologies. Moreover, we will describe how to integrate geographical data in such integrated solutions. In particular, we will show how easy it is to bring static data to life in *imdas pro* 4.0 by using spatial information in the Map Module.

Introduction

JOANNEUM RESEARCH develops new and integrated presentation methods to organise the constantly growing flood of cultural heritage content (e.g. text, multimedia or maps). In fact, archive and collection management systems based on information technologies are nowadays widely used and have proven to provide valuable support for the management of objects in the cultural heritage domain. However, cultural heritage data and its representation are changing. After several years of data entry into various databases it is now possible and important for cultural institutions to keep track, develop and make real use of these structured data repositories. The great strength of our solution is the integrated access to the content. Typical

cultural heritage repositories no longer consist of only numbers, texts and pictures, but also do they increasingly offer audio, video and map data. The result leads us to new technologies and methods that help us to structure, to search and to find content in the repository. Our solutions are tailor-made to the client's needs and stand out due to their clear structure and their high level of user friendliness.

Modern data management in *imdas pro*

As museums and archives begin to transform their data management applications into smaller and more manageable application modules, it seems likely that data management will become more and more relevant. This is already considered in the *imdas pro* software package [*imdas pro* 2009] that was developed at JOANNEUM RESEARCH. The whole development process is supported by several research projects in the cultural heritage domain from the last few years. Hence, *imdas pro* 4.0 is an integrated solution for the modern museum management as it considers important standards and methods of the cultural heritage domain. The software package also supports many relevant business processes in a museum. These processes range from registration, cataloguing of the objects, scientific analysing and discovering interrelations between objects to the planning of exhibitions and creation of web sites. The programme can be customized to individual user needs and can be adapted to different types of objects and collections. Before a museum object has been registered, inventoried and scientifically documented, it must go through several departments. First an object goes through the incoming department where a rough description (or registration) of the object is done. After that, the object is sent to scientists, responsible for the research, analysis and data repository. This scientific analysis and documentation is a central part of the workflow. It assists the museum staff in their daily work.

One of the great strengths of the documentation system for museums is its flexibility by using the master data management (MDM) approach. Master data management comprises a set of workflows and tools that consistently define and manage the so called master data (e.g. controlled vocabulary such as thesauri) of a cultural organisation. MDM ensures that a cultural organization does not use multiple versions of the same master data in different applications. This is one of the key issues and a real success factor of the *imdas pro* software package.

Moreover, the development approach of *imdas pro* 4.0 is to provide a very strong documentation system in combination with a service based approach by building add-on services for the central data repository. i*mdas pro* 4.0 supports several applications (e.g. Web

Module, Map Module (or IMDAS-MAP), Layout Module or eXhibition:editor3D) which use the data of the repository. However, we will focus on the Web Module and Map Module in this paper.

Web Module of *imdas pro*

Archiving of cultural data is one side of the medal. An important fact is that the presentation of the data becomes more and more important after archiving and putting a lot of effort into the scientific preparation of the data.

The application “Web Module of *imdas* pro” for the web presentation of data is not only fully compatible with *imdas pro* but also uses all data of the *imdas pro* database directly. The Web Module offers the possibility to do research within the cultural data with an ordinary web browser. No additional installation of tools is necessary to configure the system. The definition of search fields, result lists and detail forms is done within *imdas pro*. Only these data can be found via the Web Module because they are specifically marked as “public”. Depending on the user rights the web users have access to different degree of detail. This means, an anonymous user only has access to rudimentarily data; a registered user may have access to more detailed data. The user rights are specified within *imdas* pro. The Web Module uses the settings done in *imdas pro* and stored in the *imdas pro* database.

The features of the Web Module can easily be integrated in institutional home pages in order to have the same look and feel by using your style sheets.

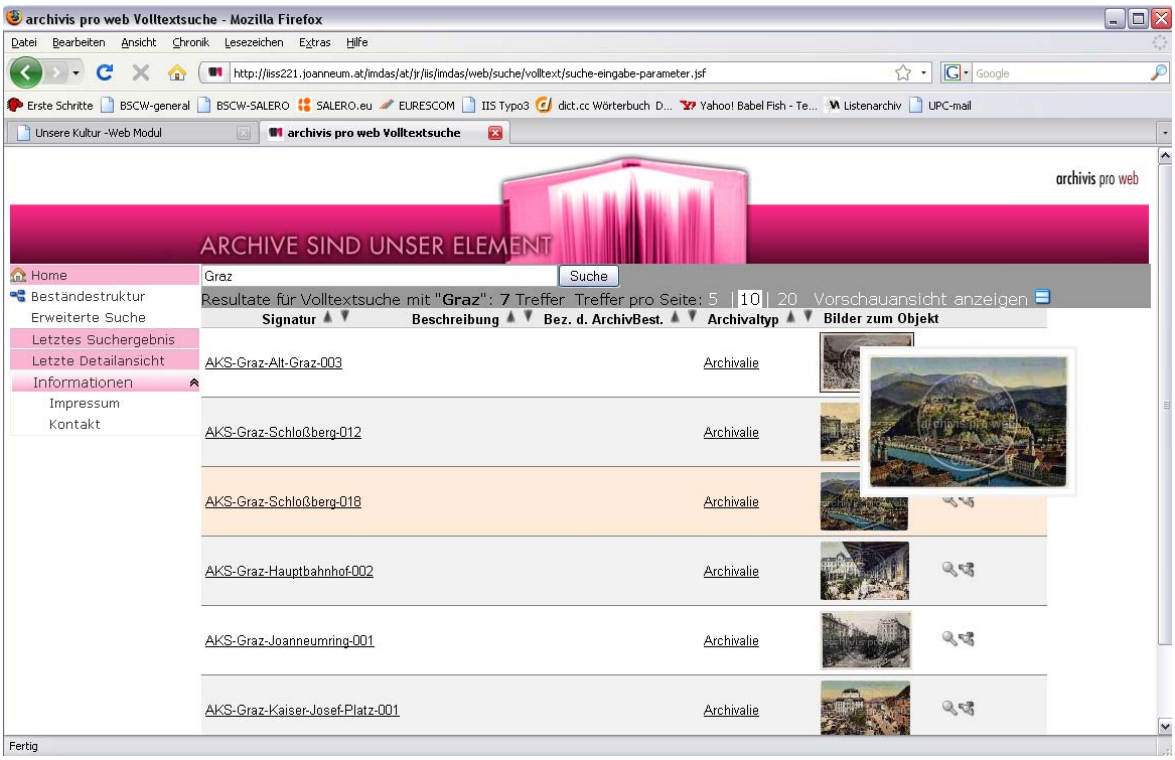

Figure 2: Web Module

Map Module of *imdas pro*

The Map Module (IMDAS-MAP) (see figure 2) is a desktop application for using, visualizing and sharing spatial content. This application allows you easily to have access and to use various geo-spatial services defined by the Open Spatial Consortium (OGC 2009) such as OGC WMS and WFS services, Microsoft Virtual Earth, Google KML/KMZ files, and ESRI shape files. The Map Module includes basic geographical information system features such as zoom in, zoom out, panning, measure the distances between two points, layer management, import and export of geographical data. The Map Module multi-layer view allows the use of multiple layers of different types. It supports dynamic caching of content for providing enhanced mapping performances. A key feature is to let you create and handle your own geo-spatial notes with text and even geo-tagged pictures. Our Map Module can be seen as a desktop mash-up environment which integrates various geo-spatial data resources into standardized models of various archives and museum's collections.

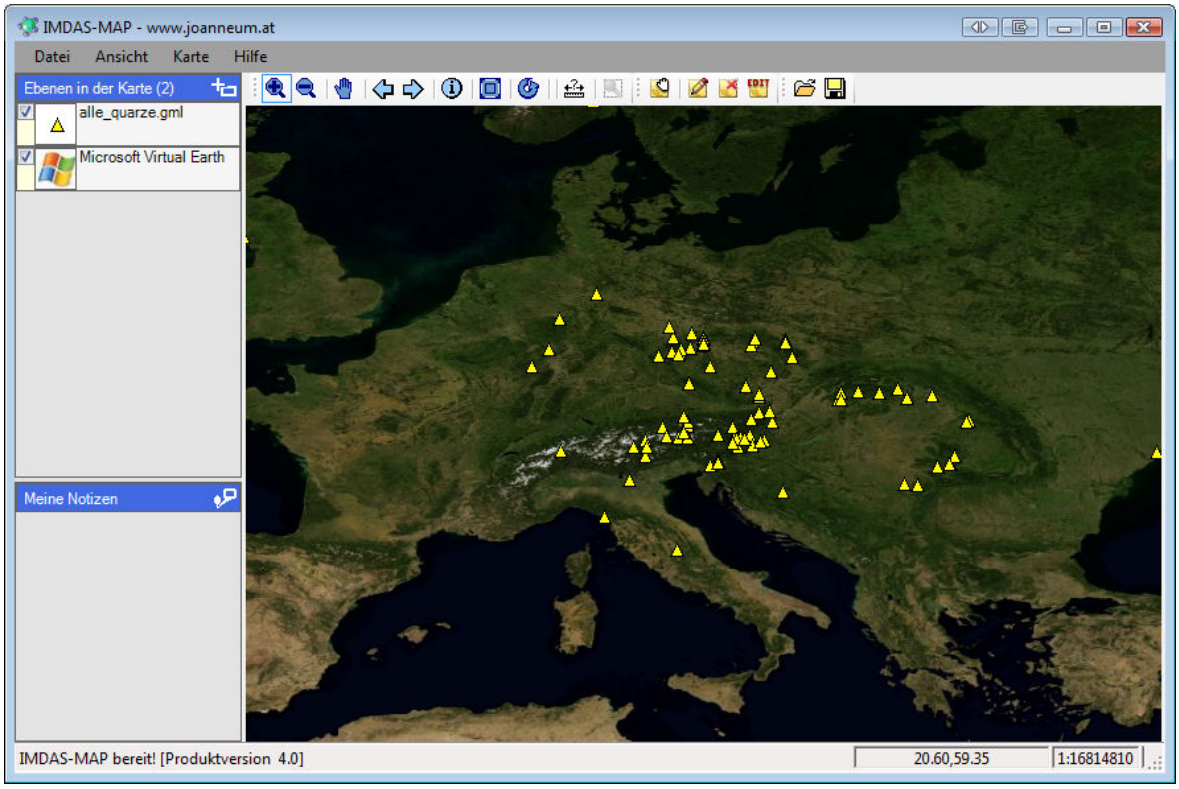

Figure 3: Map Module

Such geospatial mash-ups on the desktop can dramatically decrease data costs for their applications by using a variety of pre-developed standardized geo-spatial services and various available Web APIs.

Conclusion

imdas pro 4.0 is an example of a new modern museum information management system. It supports a combination of visual representations (text, images, symbols, multimedia data, and maps) and intelligent collection management. The data management approach improves the use and value of the cultural heritage objects inside and outside of an organisation. Different modules have access to the same central data repository (in a service like manner) and are independent from the data presentation of individual software components. This concept enables a customized flexible software solution for museums and offers multiple ways of accessing, analysing, and presenting of the data can be implemented.

References

imdas pro 4.0, http://www.imdas.at/. Last access: November 2009.

Open Geospatial Consortium (OGC), http://www.opengeospatial.org/, Last access: November 2009.