FORTH ICS

SYNTHESIS

An Information System for administration, documentation and promotion of cultural instances
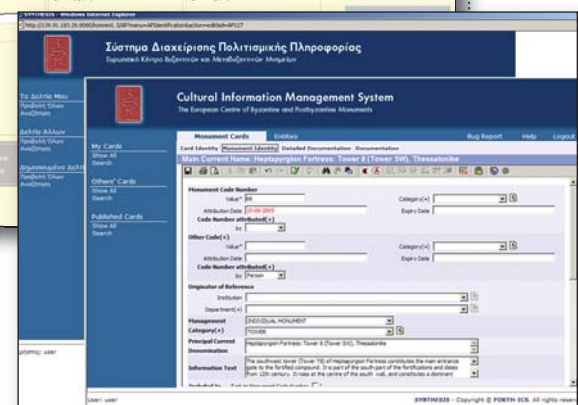
SYNTHESIS is a cultural information system for scientific and administrative documentation of museum objects and monuments. The system has a generic and flexible documentation process model, and the user interface environment is provided through the internet and is specially adapted for describing knowledge for cultural instances for administration and scientific use, for curators and administrative staff of a cultural institution.

SYNTHESIS is a multilingual system. It supports the documentation in Greek, English, French, Italian, Arabic and data exchange with other systems in xml format.

The system exploits XML technology, multi layered architectures, open source software, and international standards and provides remarkable capabilities concerning the data organization, documentation process and system architecture and system functions. The data are organized in xml documents and is fully compatible with ISO 21127. SYNTHESIS supports the documentation for Museum objects, Monuments, Open sites and settlements, Multimedia objects (photos, designs, studies etc), Bibliography, Evidences, Persons, Organizations, Departments, Places, Materials, Events.

The architecture of the system is a 3-tier architecture, which allows the application logic, the data and the user interface to be separated and ensures open architecture, expandability, adaptability and flexibility. The general idea is that the data is stored in xml documents in a central database and the users, through the internet can use the functions of the system according to their type and permissions they have.

```
Contact Person:
      Chryssoula Bekiari
      Research and Development Engineer
      bekiari@ics.forth.gr
```

CENTER FOR CULTURAL INFORMATICS

FORTH ICS

FORTH
ICS

The major parts of the system are:

(1) Database Server Tier which is implemented in e-xist (http://exist.sourceforge.net/) - a native xml database. The e-xist is an open source software.

(2) Application tier whose implementation is based in Web service technology (http://www.w3.org/2002/ws/), which gives the system great flexibility in the terms of adaptability, expandability, integration and exploitation of the functions of the system.

(3) Client Tier is the user interface component. It has been built on internet browser(internet explorer ή Netscape), on java (http://java.sun.com/) and on the Altova Authentic®2005 (http://www.altova.com/download_authentic.html) xml editor or alternative in HTML forms.

The following information systems are based on SYNTHESIS:

(a) The ANNA KOMNENE : Information System for administration, documentation and promotion of Byzantine Monuments that is in use in the European Centre of Byzantine and Post Byzantine Monuments located in Thessaloniki.

(b) The Information Management System for the museum objects of Monastery of Mountain Sina that is in use by Mount Sinai Foundation, located in

INFORMATION SYSTEMS LABORATORY (ISL)

The Information Systems Laboratory combines expertise in knowledge representation and reasoning, database systems, net-centric information systems, and conceptual modelling. Its principal research challenge is to succeed in the transition from traditional information systems, such as information retrieval systems, database and workflow management systems, to semantically rich, large-scale, adaptive information systems. Such systems are characterised by large-scale semantic interoperation, massive distribution, and high level autonomy and self-adaptation.

Besides conducting theoretical work on the above issues, ISL carries out applied research in a number of application domains, including cultural informatics, biomedical informatics, e-learning, e-commerce and IT security. Work in these domains has a strong interdisciplinary character, since it includes the aspect of understanding and modelling the respective domain through an appropriate conceptualisation. Overall, ISL aims to provide enabling technologies for the emergence of the information society and the knowledge economy.

CENTER FOR CULTURAL INFORMATICS (CCI)

The Centre for Cultural Informatics (CCI) brings together skills in knowledge representation, ontology engineering, knowledge organisation systems, database technology and web technology with expertise in archaeology, museum documentation and management, site and monument management, art conservation, archives and libraries, thesaurus and dictionary management and other cultural disciplines.

```
Contact Persons:
     Grigoris Antoniou
     Professor of Computer Science
     Head of ISL
     antoniou@ics.forth.gr

     Dr. Martin Doerr
     Principal Researcher
     Head of CCI
     martin@ics.forth.gr
```

FORTH
ICS