# Apsida, Developing a Digital Cultural Heritage Repository

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## Abstract:

During the last decade efforts to preserve items of cultural heritage importance have become more common between libraries and similar organizations. Libraries, archives and museums hold a number of collections in a variety of formats, aiming to make these collections available to the public. The Library of the Cyprus University of Technology following the strategic goals of the University for the preservation of cultural heritage material has progressed with the development of the digital repository "Apsida" (http://apsida.cut.ac.cy). The main reason for the development of Apsida was the gathering and dissemination of digital material of great cultural heritage importance. The platform incorporates all the digital collections belonging to the Library. It also acts as a host for collections belonging to the European program "LoCloud" in collaboration with the Digital Heritage Lab of the Cyprus University of Technology. This short paper aims to present the architecture of Apsida, the software that was used in the development of the project, and the collections hosted.

## 1. Introduction

The Library of the Cyprus University of Technology responding to its social role in the preservation and enhancement of cultural heritage has recently completed the digitization of various historical collections. One of the main goals of the Library's digitization projects is the preservation and enhancement of the value of the cultural heritage of Cyprus, showcasing the history, the traditions and the customs of Cyprus internationally. The Library, in cooperation with various institutions of the country, is actively involved in the recording and digitization of cultural heritage material, while providing an advisory role as well as its expertise on digitization.

## 2. The apsida project

Apsida is the digital repository of the Library of the Cyprus University of Technology containing a wide variety of historical content. It includes more than 4000 digitized documents, photographs, books, caricatures and case studies. The mission of this project is to provide free online access to archival resources from all the digital collections of the Library of the Cyprus University of Technology and disseminate cultural content.

## 2.1 Technical Issues

After careful consideration and reviewing of the available software for implementing digital libraries, the Library has decided to use the software Omeka (http://www.omeka.org) for the development of Apsida. Omeka is an open source web-publishing platform designed for scholars, museums, libraries, archives and exhibitions. It provides expandable core functionality giving the user the ability to create maps, to collect from users, to allow users to tag favorites and to blog. It also allows the user to focus on building content by providing the tools needed to change the site and to lower costs without sacrificing design and technical quality. The choice of the specific software was done based on the following characteristics:

- Omeka is free and open source
- It offers the functionality to publish archives, collections, exhibits
- It provides ways for the public to interact with your site
- Omeka is easy to use and has a friendly interface
- It offers a strong community of documentation and support
- Omeka accepts and stores all types of files, including images, video, audio, pdfs, et al.
- It is extensible, scalable and flexible; you can extend core functionality with dozens of available plugins.
- It provides the ability to share data among different systems and is compatible with OAI-PMH protocol for metadata harvesting.

Omeka also provides the capability to include plugins in your system thus extending the functionality of the system. Apsida is using the following plugins provided by Omeka:

- Geolocation: This plugin allows to link items from our database to Google maps. Items are geolocated individually with related metadata and collectively on a central map.
- OaiPmhRepository: Exposes metadata for Apsida items using the Open Archives Initiative Protocol for Metadata Harvesting.
- Social Bookmarking: The Social Bookmarking inserts a customizable list of social networking sites below each item or collection in Apsida.

- CSV Import: Imports items from a CSV file to Apsida.
- Exhibit builder: Build and display exhibits.

## 2.2 Reponsive interface

The interface of Apsida has been designed and developed in order to have a responsive design compatible with all devices. Using a responsive web design provides an optimal viewing experience, easy reading and navigation with a minimum of resizing and scrolling. The interface used is based on the Bootstrap theme, an open-source JavaScript framework.

## 2.3 Apsida material

### 2.3.1 Library material

Apsida contains various digital cultural heritage collections including photographs, text and books. It includes the following digital collections belonging to the Library and Information Services of the Cyprus University of Technology:

- Andreas Koukides Digital Collection: The collection contains 24 skits (mainly sketch comedy) and 8 plays (theatre). The documentation was based on the Library of Congress subject headings. The Dublin Core metadata standard was used for the physical description.
- Satiriki Epitheorisi: Newspaper digital collection, containing 618 newspaper issues published between 1964 and 1985.The Dublin Core metadata standard was used for the physical description. This collection contains scanned images of 3393 caricatures from the cartoon newspaper "Satiriki Epitheorisi" ranging between 1964 and 1985.
- Photographs from the Ports of Cyprus: The collection includes 163 photographs taken during the construction of the Famagusta port during the period 1871-1893. The documentation took place in collaboration with the Patticheio Historical Archive Museum and Centre of Studies.
- Photos of Olympia Gymnastics sports club: The collection contains 202 photographs from the Cyprus Track and Athletics games. The Olympic Gymnastics Sport Club is the oldest athletic club of Cyprus and the second oldest in the Greek area after the Hellenic Sport Club.

### 2.3.1 Collaboration with the LoCloud European program material

The Library and Information Services is collaborating with the Digital Heritage Lab of the Cyprus University of Technology providing support for the European program LoCloud (http://locloud.eu). The Library staff

provides training and support to users for the submission of new material to Apsida and also in the use of the Dublin Core schema. LoCloud is a Best Practice Network co-funded under the CIP ICT-PSP programme of the European Commission which will enrich the Europeana content by adding over 4 million digitized items from European cultural institutions. LoCloud is supporting small and medium-sized institutions in making their content and metadata available to Europeana, by exploring the potential of cloud computing technologies. A cloud-based technology infrastructure enables the aggregation of local content and a number of micro-services will help to reduce technical, semantic and skills barriers and to render the content more discoverable and interoperable.

The following collections have been created in Apsida under the collaboration with LoCloud and are currently under development:

- Cyprus Tourism Organization
- Germasogia Municipality Collection
- Agios Athanasios Municipality Collection
- Cyprus Post Office
- Natural Resources and Environment, Cyprus Rural Museum, Ministry of Agriculture
- Lefkara Municipality Collection

## 3. Other digital repositories

### 3.1 Helates

The Library of Cyprus University of Technology in cooperation with the Pattichion Municipal Museum Historical Archive has developed the archival repository named "Helates" (http://helates.cut.ac.cy). Helates includes the following digital archives:

- Panagiotis and Fedras Mandaliou Archive
- Nicolaos Xioutas Archive

### 3.2 Ktisis

The Library and Information Services of the Cyprus University of Technology was the first library in Cyprus to develop an institutional repository. Ktisis (http://ktisis.cut.ac.cy) is an open access institutional repository where any material related to the research activity of the Cyprus University of Technology is gathered. Defined in this framework, Ktisis demonstrates the intellectual life and research activities of the University, preserving, spreading and promoting the scientific research to the local and international community. The files published in Ktisis are freely accessible and retrievable by any user through the internet.

## 4. Metadata schema

The Library has used the Dublin Core schema ([http://dublincore.org/](http://dublincore.org/)) for the description of metadata. Dublin Core is an internationally-recognized and widely-adopted schema. The Dublin Core set of metadata elements provides a small and fundamental group of text elements through which most resources can be described and catalogued. Using only 15 base text fields, a Dublin Core metadata record can describe physical resources such as books, digital materials such as video, sound, image, or text files, and composite media like web pages.

## 5. Metadata harvesting

All library digital collections are members of a global system of open access interoperable repositories highlighting the culture of Cyprus. The Library provides its metadata through the OAI-PMH metadata harvesting protocol to the following aggregators: Europeana, OAIster, Openarchives.gr.

## 6. Conclusion

"Apsida" is a Cyprus University of Technology project that implements innovative information technologies for developing digital cultural heritage libraries. The purpose of this project was to bring together high quality research and development efforts in this area that will add value to the current state-of–the–art in the fields of cultural heritage and digital libraries. Additionally, Apsida is the result of the collaboration between CUT and several organizations providing content of high cultural heritage importance. These collaborative partnerships and shared expertise assist in creating an effective methodology to simplify and enhance the exploitation and dissemination of such content. Through digital libraries projects such as Apsida, the value of Europe's cultural heritage is widely disseminated to its citizens. The Library has established experience and know-how in developing cultural heritage digital libraries. During the last five years, the Library has completed several major cultural importance heritage collection digitization projects which significantly contribute towards the preservation of the cultural heritage of Cyprus and the achievement of a common European cultural heritage.

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