

Designing a Tool to Know Invisible Resources: the Hyperguide Project, an XML Storyboard for Digital Collections Access

Augusta Maria Paci and Daniela Canali
Institute of Studies on Research and Scientific Documentation
Italian National Research Council, Roma, Italy

paciwin@isrds.rm.cnr.it daniela.canali@tin.it

Abstract

In this paper, we describe the Hyperguide project, an interactive push XML application for digital collection access, designed as a tool to know invisible resources in the web. Hyperguide enhances the accessibility of cultural and scientific webs for all users, overcoming present barriers in information seeking, addressing the need of improving web access, selection and filtering and usability of information resources in specific domains.

The tool will be an interactive push application which provides the template to build a storyboard in XML to facilitate identification of selected web sites of heterogeneous nature.

Keywords: Storyboard, digital collection, web accessibility, usability, information

Introduction

Filtering and selecting operations are indeed indispensable to add value to the huge amount of Internet resources produced by Institutions and positioned somewhere in the network. The Hyperguide approach supplies the tool for developing valuable web referral for the single institution and for groups of institutions through a framework suited to the European culture, allowing valid knowledge organization, targeted onto specific contexts and capable to systematize the information objects and services available in a mass of websites. So new cultural and scientific explorations are open up, help to build roadmap or tracks in the European segment of the network and guide the user to find himself the right path to information and the related network of institutions. The Information professionals are aware of the problem of how to provide, offer and maintain this enormous bulk of information, working on metadata for resource identification.

Hyperguide has a different approach from the library world and it is not intended to identify specific Internet resources. It aims to identify Institutional websites and describe their information objects in a dynamic and matricial framework that may be customizable.

Content

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In the websites of scientific and cultural institutions it is possible to find more than one journal besides magazines, newsletter, discussion lists, events, databases online and offline, educational section for distance or e-learning, primary documents, conference announcements and pre-registration and so forth.

Designing a Tool to Know Invisible Resources

Filtering and selecting operations are indeed indispensable to add value to the huge amount of Internet resources produced by Institutions and positioned somewhere in the network. The Hyperguide approach supplies the tool for developing valuable web referral for the single institution and for groups of institutions through a framework suited to the European culture, allowing valid knowledge organization, targeted onto specific contexts and capable to systematize the information objects and services available in a mass of websites.

Hyperguide is the Proposal No IST-2000-28733 founded by European Commission, Directorate General Information Society related to Cultural Heritage applications. The project will start by the year 2001 and will end on May 2002.. The project partners, all Italian because this is a take up project, are: Consiglio Nazionale delle Ricerche - Istituto di Studi sulla Ricerca e Documentazione Scientifica as Coordinator, EIDOS Sistemi di Formazione S.r.l. and Culturalia S.c.r.l. as Principal Contractors.

This software can open up new cultural and scientific explorations, help to build roadmap or tracks in the European segment of the network and guide the user to find himself the right path to information and the related network of institutions. The Information professionals are aware of the problem of how to provide, offer and maintain this enormous bulk of information. They work on metadati for resource identification and in the library community they have explored approach to this problem (the OCLC CORC initiative builds a large classified database on Internet resources, searchable via query).

Hyperguide has a different approach from the library world and it is not intended to identify specific Internet resources. It aims to identify Institutional websites and describe their information objects in a dynamic and matricial framework that may be customizable. Another peculiar aspect of this initiative is to focus on XLM application, not a database one. The database structured approach has come to an end in the Internet place for advanced services. The goal of the project is to enhance the accessibility of cultural and scientific webs for all users, overcoming present barriers in information seeking. This hyperguide answers to the need of: improving access, selection and filtering of web sites improving usability of heterogeneous information resources in specific domains.

In this context, the project aims at developing an interactive push application, based on a customizable methodology for web description (CUM), that enables users to build their own interpretative dynamic storyboard.

Therefore the objectives of the project are 1) to develop such an interactive application tool that provides the template to build customizable hyperguides, in the shape of interpretative dynamic storyboard, and 2) to deliver a first core of descriptions of cultural and scientific webs, in a usable and extensible way.

The intended application will facilitate selective identification of selected web sites of heterogeneous or homogeneous nature (heterogeneous the scientific ones covering the same discipline with different domain; homogeneous the memory institutions web sites having the same cultural aims libraries, historical archives and museums).

The application will allow to redesign the HTML outlinks pages made of nominalistic listing of web addresses without any content specification or at most with two lines of descriptions. The application tool will be designed and implemented in the recent XML environment, to ensure adherence to Internet technical world.

The software will be running in a Internet and Intranet environment. It will be focused on user interface. Not all the function will be developed but only those related to research criteria and displaying the web sites matching these criteria. The expected results are: a user interface, accurately designed and implemented according to the state of art of web usability an information seeking context, according to a set of recorded descriptive elements from approximately 100 Italian cultural and scientific web sites a display functionality in storyboard form the fruition in an Internet/Intranet environment

This initiative to develop the XLM software is based on a methodology designed to develop a descriptive

system flexible enough to be adapted to similar as well as to heterogeneous websites, clustered according to predefined criteria. The experimental results obtained till now may be considered as a "one man/woman library" band approach, but this is not specific to the methodology, and this proposal will allow to develop a critical mass of Internet information from scientific and cultural websites. The methodology, named Multifaceted Unified Context (CUM), responds to the need of designing a template system for the full exploitation of the indexing of websites, based on two interrelated components: the internal component which is the adaptive value added indexing technique and the external component which constitutes the progressive query or user interaction framework.

The CUM methodology gives the possibility of applying common criteria to the websites, whose web-pages are analyzed, described and recorded for user target-oriented purposes.

Creativity and innovation are ingredients of the methodology which offers a way to organize the information items, available in groups of websites, in a systematic and multitethic manner. Through the presentation layout, the user can compare and select the availability / unavailability of an information item in one or more websites.

Public organizations and cultural institutions can exploit this indexing technique to build complex value added and dynamic information systems to proactively disseminate and communicate the findings.

The XML platform of the application corresponds to the widespread of this markup-language for Internet documents in Internet oriented industries. The Hyperguide initiative will provide a unique and innovative software that will be used in different organizations to substitute the old and static outlink pages in their websites and complement the old information culture with the new Internet culture facilitating access to public, scientific and cultural websites.

A wider European public community will be in fact reached and will benefit directly as websources and indirectly as referral. This application may also be available on web site and free downloadable to users, becoming one of the first case of a public server offering a customizable application.

For cultural web sites, it is foreseen to provide a pilot application in operative web portals which may define a specific strategy for further dissemination to their telematic users.

Content oriented web referral to scientific and cultural institutions and organizations contribute to remove access barriers to knowledge. Europe and its countries have always considered very important the information transfer of scientific results and cultural heritage. Now that each institution has its own website, arises the problem of a unified approach to this bulk of important and strategic information which is limited by the dispersive and chaotic Internet, recently called Squinternet.

Current Status of the Project

The project defined a system for web data entry in XML, with mapping from DBMS Access. Currently the web data online download is in progress with about 70 cultural and scientific web site described. The prototype in XML has been built in two phases: 1) related to the definition of the shell and to the basic search function; 2) related to the usability focusing XML properties in order to gain intermediate and user's data views, based on the CUM methodology. Effective management and member's collaboration has allowed to start a wide dissemination conferences at national and European level and to evaluate preliminary market study, based on user interviews. Hyperguide project will produce the TOOL2KNOW product with the internet registered domain.

The project site URL is: www.eidosis.com/hyperguide.

Biographies

Augusta Maria Paci is graduated in Humanities, at the University of Rome (Italy), and post- graduated at the Special School for Archivists and Librarians of the University of Rome. She is also post-graduated in Librarianship of the Vatican Library School of Librarianship. Researcher of the National Research Council, ISRDS in Rome, actually involved in a research aiming at the definition of a Virtual research and marketplace for research activities based on the study of the transformation from the information chain into a value chain of research projects documentation exploiting the existing electronic resources and in particular the “Born digital” documents, currently produced for research results dissemination activities. This project aims to create the ground for extended access to research results to smes’s communities facilitating the innovation process.

Author of the Methodology CUM (Unified Multiform Context) for institutional and scientific websites. This methodology has been tested onto scientific websites and Museum websites: it helps to organize information properties of around 100 websites (invisible webs) offering electronic resources like databases, newsletter, products and services. This methodology is becoming a software product within the Hyperguide project. (Results of the previous activities have been described in the paper A.M.Paci, 'User-oriented approach to webreferral' the *Electronic Library*, Volume 19, Issue 1,2001).

Author of a self instructional course (Info-doc) on basic elements in information studies distributed on cd-rom (reference paper “self-learning platform: the infodoc courseware on cd-rom and the web communication in the Proceedings of the CPERT round table published by Bowker Saur, 2001)

Previously she has been Project coordinator of the European Library Programme SESAM System for Support of Academic Materials (1995-97june); Project partner of the European Library Programme Muriel project (coordinated by Teles gmbh).

Responsible of the Scientific Unit of the CNR National Finalised Programme Cultural Inheritance with a research on Extension of fruition approach and systems based on the development and implementation of metadata for Internet Museums Italian sites. The prototype Museo Mediator is visible at the address www.zetalog.com/museomediator.

Study and development of multimedia educational materials: content organization and fruition.

Tutor of a Post-doctoral fellowship, funded by the National Research Council, and carried on by dr. Daniela Canali in the context of the Post doctorate held by the State University of Udine in Library science, Archive science and Information Studies.

Daniela Canali is graduated in Humanities, at the University of Rome (Italy), and post- graduated at the Special School for Archivists and Librarians of the University of Rome.

Currently is a Doctoral Researcher in Bibliographic, Archivistical, Documentary Sciences at the State University of Udine (Italy) with fellowship funded by the National Research Council with a research project related to new standard languages for bibliographic information, in the digital library perspective.

She is a staff member of Hyperguide IST project, a tool to discover invisible resources in Internet.

From 2000 to 2002 engaged at Applied Research Center on Rehabilitation Engineering with role of Documentalist and Reference Service responsible, working to creation of a database of electronic resources related to robotics, biotechnology, biomedical and biomechanical engineering, human rehabilitation. Use of MS Access for database with ROADS/IAFA and Dublin Core Metadata element sets.