**Design and Development of Prototype Multimedia Database on AIISH Events and Literature Database on Communication Disorders**

**Introduction**

With advances in the computer technologies and the advent of the World Wide Web, there has been an explosion in the amount and complexity of digital data, they being generated, stored, analyzed and accessed. Much of this information is multimedia in nature, including digital images video, audio, graphics and text data. Companies like Google, Facebook, Amazon, and eBay manipulate petabytes of data every day. For example, Facebook handles 20 petabytes of data, managing 20 billion photographs in 4 different resolutions, growing by 2 billion photographs per month. The Facebook database is serving 600,000 photographs per second for a user base of 300 million active users [4]. Google manages vast amounts of semi-structured data: billions of URLs with associated internet content, crawl metadata, geographic objects and hundreds of terabytes of satellite image data, with hundreds of millions of users and thousands of queries per second [5].

Considerable share of this vast data is also contributed by the scientific literature……………… *Growth of scientific literature………………….*

In order to make use of this vast amount of data efficient and effective techniques to analyze and retrieve data based on its content need to be developed.

**Aim and Objectives of the Project**

The two-fold aim of the project is to design and develop a prototype multimedia database on Institute events and a literature database on Indian research in Communication disorders. The specific objectives of the project are:

1. To preserve and archive the multimedia resources generated at the Institute.
2. To organize the multimedia resources and provide web based access
3. To facilitate searching and browsing of the multimedia contents
4. To create and develop metadata contents
5. To facilitate restricted downloading of the resources for fair use
6. To safe guard the multimedia resource of the Institute
7. To classify the resources into different categories
8. To facilitate regional language subtitle support for the video resources
9. Designing efficient indexing, classification and event-based searching techniques with high degree of precision
10. Online photo album on the Institute events and activities

**Materials and Methods**

A major share of the digital data is constituted of the scientific literature related to the contribution of research in the form of literature. It is estimated that …..

**Everyday both military and civilian equipment generates giga-bytes of images. We cannot access to or make use of the information unless it is organized to allow efficient browsing, searching and retrieval.**

**THE ARHITECTURE OF MULTIMEDIA APPLICATION MODEL**

*Over the last three decades relational DBMS technology has proven to be highly adaptable and has evolved to accommodate new application requirements and the ever-increasing size and complexity of data.* [[[[Feuerlicht, George. Database Trends and Directions: Current Challenges and Opportunities. In J. Pokorny, V. Snasel, K. Richta (Eds.): Dateso 2010, pp. 163–174, ISBN 978-80-7378-116-3]]]]]

The combination of inexpensive and high capacity storage and the prevalence of digital devices (digital cameras, sound recorders, video recorders, mobile phones, J. Pokorn´y, V. Sn´aˇsel, K. Richta (Eds.): Dateso 2010, pp. 163–174, ISBN 978-80-7378-116-3. 164 George Feuerlicht RFID readers, and various types of sensors) is creating a deluge of digital information.

Another relatively recent development that may require a revision of current database paradigms are internet-scale applications (e.g. search engines, social networking applications, cloud computing services, etc.) that typically process petabytes of data, use thousands of servers, and serve millions of users that demand sub-second access to information.

 Of course, the traditional database is based only on data st

orage and other functions, but the present stage, multimedia database is a collection of text, pictures, video and audio, not only has large storage space, and the forms is diversification, achieve better results of visual and auditory

Growth of computing power and the decrease in storage cost make it practical for applications

to process text, graphics, voice, sound, and signal data as well as the traditional numerical

and alphanumerical data. Storing this new kind of data, generally referred to as *multimedia data,*

is one thing, organizing a large amount of them for efficient search and retrieval is quite another

(Lum, Wu and Hsiao 1987). The development of *database management systems* (DBMS) has

provided a rich selection of methods to organize and process the traditional, formatted data. The

question now is how these methods can be extended to handle multimedia data as well. The purpose

of this paper is to examine the issues in handling multimedia data and to suggest a solution.

Before we go into more detail about the various aspects, we shall present our motivation in

searching for a system to handle multimedia data.

**Review of Literature**

It recognizes the

significant and successful applications of the database technology and information retrieval techiiiuues

developed in the last two decadeb and pioposes to capitalize **on** these advances to develop

a DBMS for handling multimedia data

**Introduction**

The All India Institute of Speech and Hearing (AIISH), established in the year 1965, with the objectives of human resource development, clinical care, research and public education pertaining to communication disorders

***Development of efficient search and indexing techniques for multimedia documents***

- Easy uploading of Videos directly from the user computer
- Support for many formats including (mpg, avi, divx and more)
- View upload process as it happens
- Edit video at anytime, change the title, description and tags
- Delete Video at anytime allowing management of files
- Make video public or private for those who don't like to share :-)
- Allow or disallow video comments and also video embedding
- Allow or disallow embedding.

**The Present Project**

Growth of computing power and the decrease in storage cost make it practical for applications to process text, graphics, voice, sound, and signal data as well as the traditional numerical

and alphanumerical data. Storing this new kind of data, generally referred to as *multimedia data,*

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searching for a system to handle multimedia data

This may just be a software solution with all the applications

and the DBMS running on the same (mainframe) processor.

It recognizes the

significant and successful applications of the database technology and information retrieval techniques

developed in the last two decades and proposes to capitalize on these advances to develop

a DBMS for handling multimedia data

**Need for the Project**

AIISH, the premier institution in the country pertaining to communication disorders. The Instiute being the premier organization in the country on communication disorders, is very dynamic and live in its activities. In the last five years, the Institute carried out … conferences/workshops, ….. guest lectures….., inaugurated ….. new initiatives and organized …………celebrations resulting in the production of thousands of photographs and videos. However, these resources are not being organized properly and there is no access to these resources

Manage, store and retrieve all

the retrieval ability of the

 At present, a large number of image information are

With the rapid development of the **AIISH** Internet technology, the number of Internet users and the amount of the Internet multimedia information is growing. An intelligent network image retrieval system is proposed in the paper.

Because computer network has a large number of multimedia data, we must consider how manage and retrieve these data.

Most of the existing database management system (DBMS) is substantially not used for multimedia

Managing Multimedia Data is becoming more and more important.

There are already various

operational systems for this task, but they are usually built as special-purpose systems and lack

the general capability as exhibited in a database management system (DBMS), suitable for a

wide variety of applications.

this data is nearly useless if there is no computer-aided browsing,

searching, and retrieving mechanism to obtain the desired

contents

Hardware to record and store images, voice, sound, and signals is available and well established.

This kind of data can be stored in various digitized formats, ready for processing.

However, systems to handle these data are usually based on *highly specialized solutions* for data

storage and organization.

unstructured form, making it more difficult to manage and to extract meaningful information from it. This massive increase in the volume and complexity of data is challenging

technology solutions

IndianReasechInCommDisord

Research

COMLITIN

There is an increasing demand toward multimedia technology in recent years. As multimedia

content (e.g. image, video, and audio) is widely used for many applications in today’sworld,

a need for organizing this data, and accessing it from repositories with vast amount of

information has been a driving stimulus both commercially and academically. In compliance

with this inevitable trend, first image and especially later video database management

systems have attracted a great deal of attention, since traditional database systems are not

suitable to be used for multimedia data

**Significance of the Project**

The MM is much more power resource for communication. There is an urgent need for a system for managing and organizing this valuable resources of the Institute.

**Materials and Methods**

Video consists of events, and activities are the abstractions of events. For example,

wedding is an activity, but the wedding of Richard Gere and Julia Roberts in a movie is

considered as an event, a specialization of activity wedding. Hence, activities can be thought

of as classes while events constitute some instances (specializations) of these classes in

videos.

Review of Available Open Source DAM Software

*by*NARESH SARWAN*on AUGUST 7, 2014*

In this article, we introduce the main open source DAM solutions that are currently available (16 at the latest count).  Most products mentioned here are primarily web based.  In some cases desktop clients may also be provided as an alternative mode of interaction also.  Based on feedback received, we have recently changed the order of the products so that pure web DAM systems are shown first, followed by ECM suites and then preservation oriented solutions.

In determining which products are suitable to have the description *Open Source* applied, we have assessed each vendor to identify if they use a licence that is [OSI approved](http://www.opensource.org/) as the main criteria for inclusion.  Readers should note that this does not mean they are necessarily free of cost (either to purchase or for customisation and on-going support) and each vendor should be consulted to get a better idea of the actual total cost of ownership.

We intend to keep this page up to date with new entrants to the market and adjust reviews based on deeper investigation of each product and any information that might come to light.

Any vendors who are not listed and believe they should be included may contact us using our [contact form](http://www.opensourcedigitalassetmanagement.org/contact/) and request a listing.  Please indicate the licence you use if you wish to be listed and supply details of your website.  Please refrain from sending details of ECM(Enterprise Content Management) software unless you specifically provide a Digital Asset Management (DAM) facility within that.

If you are already listed and want a logo entry, please add you details to the [DAM vendor directory](http://digitalassetmanagementnews.org/dam-vendors/) on the [Digital Asset Management News](http://digitalassetmanagementnews.org/) site.

[Pure Web DAM](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#pwd)

[ECM Suites With DAM Modules](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#ecm)

[Preservation DAM](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#preservation)

**Pure Web DAM**

**[Activae](http://activae.cenatic.es/)**

Activae is developed by Cenatic, an agency of the Spanish government and is a Python based DAM (like Cyn.in, Notre DAM and some proprietary DAM solutions such as AssetBank).  Activae uses the Cherokee Web Server and includes an advanced API so is well suited for integration (but XML/RPC rather than the more conventional REST or CMISgateways).  It includes a separate transcoding server detached from the web application which permits it to scale quite easily.  This is more common in enterprise DAM systems but less so in open source products (FocusOPEN and Razuna are the only products which include a dedicated asset manipulation server that we are aware of).  Being from a public sector heritage, Activae is strong on DMCI (Dublin Core) and includes advanced workflowcapabilities.  Activae has a BSD licence (in common with ResourceSpace).

The key drawback is the lack of English language documentation, the whole Activae site is in Spanish only and for this platform to gain traction, it needs to reach out to a wider market.  Cenatic are keen for their user community to assist with this process but in our view, they need to possibly make some investment into reaching out to a wider usercommunity.  Their product is clearly very strong technically and could gain far greater traction and potential revenue to re-invest back into R&D if they had a wider base of users.

Since Activae was first added to this list of products, there have been few updates since August 2012, so you would need to check whether it is still being actively supported and ensure that you have local access to Python skills (and that your developers can get to grips with the code to modify it yourself if required).

*Summary*: very fast and scalable alternative to some less sophisticated proprietary DAMs.  Very flexible licence and great for anyone comfortable with Python but only for those with Spanish language skills at present.

*Licence: BSD*
*Technology: Cherokee, Python*
*Website:*[*http://activae.cenatic.es/*](http://activae.cenatic.es/)

[**EnterMedia**](http://entermediasoftware.com/)

Formerly OpenEdit DAM, EnterMedia is an open source Digital Asset Management system developed using the OpenEdit content management framework.  EnterMedia includes full support for the typical range of facilities that modern DAM systems should include as standard, including extraction of embedded metadata, bulk uploading, transformation of image based assets etc.  By default, EnterMedia uses XML files rather than a database, however, database connectors are available for those who are not keen on this approach.  The OpenEdit framework is well established and EnterMedia’s use of it is as well as Java marks it as suitable for enterprise use.

EnterMedia has recently acquired greater popularity amongst the A/V community and has a number of plug-ins which enable it to be more easily integrated with video technologies, notably the [Rhozet Carbon Coder](http://www.rhozet.com/promedia_carbon.html) transcoding tool.

*Summary: Good AV DAM solution.  Java based so suitable for enterprise use.*
*Licence:*[*GPL*](http://www.gnu.org/licenses/gpl.html)*(version not known)*
*Download link:*[*http://entermediasoftware.com/download.html*](http://entermediasoftware.com/download.html)
*Technology: Java, XML*
*Website:*[*http://entermediasoftware.com*](http://entermediasoftware.com/)

[**Gallery**](http://gallery.menalto.com/)

Menalto’s Gallery is described as a ‘Photo Album Organizer’ rather than a Digital Asset Management system, however, it does offer a number of features and benefits that allow it to operate like a DAM solution.  One of two PHP based asset management solutions featured here, Gallery, is mainly oriented towards the needs of photographs and images, however, it does have support for video.  Gallery is designed to integrate with other PHP applications and includes support for image manipulation, searching and many of the core functions of other DAM solutions.

*Summary: Ideal for hobbyists or providing an image gallery function to an existing PHP based site.*
*Licence:*[*GPL*](http://www.gnu.org/licenses/gpl.html)*(version not known)*
*Download link:*[*http://codex.gallery2.org/Downloads*](http://codex.gallery2.org/Downloads)
*Technology: PHP, MySQL*
*Website:*[*http://gallery.menalto.com/*](http://gallery.menalto.com/)

[**Notre DAM**](http://www.notredam.org/)

Notre DAM was developed by [CRS4](http://www.crs4.it/) (Center for Advanced Studies, Research and Development in Sardinia) and although it has an academic background, it is somewhat simpler than Fedora or DSpace and shares a number of characteristics with more commercially oriented open source DAM systems.  Notre DAM uses Python (as does Cynapse mentioned above).  By default it includes a SQLLite database (although this can be changed to MySQL or an alternative RDBMS).  Notre DAM uses the [MediaDART](http://www.mediadart.org/)framework which provides a number of media processing features that are ideal for Digital Asset Management.  Notre DAM is also tightly integrated with XMP and contains a number of options for XMP based metadata manipulation.  The application itself contains the core fundamentals required for serious DAM including a web based interface, support for images, video and documents, workflows, multiple taxonomies and a variety of other functionality such as Geotagging.

*Summary: Highly suitable as less complex alternative to DSpace or Fedora also well worth checking out for non-academic use. One to watch.*

*Licence:*[*GPL3*](http://www.gnu.org/licenses/gpl-3.0.html)
*Download link:*[*http://www.notredam.org/download.html*](http://www.notredam.org/download.html)
*Technology: Python/Django, SQLLite or MySQL (or any other Django compatible RDBMS)*
*Website:*[*http://www.notredam.org/*](http://www.notredam.org/)



[**Phraseanet**](http://www.phraseanet.com/)

Phraseanet by French vendor, Alchemy, was formerly a licensed product costing 7,500 Euros.  However, Alchemy have changed their licensing policy recently and switched to open source.  Alchemy were originally a reseller for Phrasea, but acquired the rights to it in 2000.  They have a longer track record in the DAM sector than almost any other featured vendor here apart from Daydream (having been operating since 1996).  Phraseanet is PHP & MySQL based (as are ResourceSpace and Gallery).  The features provided are impressive and demonstrate just what a powerful challenge open source DAM now presents to proprietary alternatives.  Phraseanet has  support for images, video and documents (using the usual combo of ImageMagick, FFMPEG, OpenOffice etc. for processing) and includes an impressive searching capability as well as lightboxes (favourites).  Other features include a thesaurus, live folders and Flash based file uploaders, an LDAP integration module is also available.  Alchemy have definitely put themselves back on the map by electing to take Phraseanet open source and it’s well worth checking out if your preference is for a PHP/MySQL based product.  The GPL3 Licence is more restrictive than BSD, but still perfectly usable for client projects, Alchemy themselves also provide a range of development and support services as well as a Software as a Service (SaaS) option.

*Summary: Ideal for PHP developmers and a possible alternative to ResourceSpace.  Built by a vendor with a long track record in DAM.*

*Licence:*[*GPL3*](http://www.gnu.org/licenses/gpl-3.0.html)
*Download link:*<http://www.phraseanet.com/en/download/>
*Technology: PHP & MySQL*
*Website:*<http://www.phraseanet.com/>



[**Razuna**](http://www.razuna.org/)

The Razuna product is Java/CFML (Cold Fusion) based.  In common with most professional DAM systems, Razuna supports most types of media, extracts IPTC and XMPmetadata from assets and also includes an API.  Razuna makes use of an open source variant of CFML using OpenBD which is powered by J2EE.  Razuna offer a WordPress plugin as well as a desktop client as an alternative to pure web based delivery.  They include some more scalable options like a dedicated asset processing server which uses wget to initiate transcoding jobs on another server.  FocusOPEN includes something similar, however, that is based on WCF and runs as a separate Windows service (which may be better or worse depending on your circumstances).  It lacks a scripting language to control it, however, the API is well developed and in essence, the choice of CFML somewhat negates the need for one anyway (it’s more compiled systems where this is a benefit)

Razuna have extensively developed their product over the last few years and it now includes various other specialist features and services.  One of the main advantages it can offer is the ability to integrate with a variety of Cloud storage providers.  They also appear to have started to target a few niche sectors, such as ‘Razuna Blue Light’ for law enforcement clients.

The use of CFML rather than Java or .NET makes this less enterprise-friendly than the developers would probably like it to be.  That said, the CFML stack is essentially built as a scripting language for Java objects and it does have the advantage of allowing the code to be modified far more easily than some of the Java or .NET options.

On the negative side, this vendor appears to have moved around Europe, starting in Switzerland, then telling us they were a UK company and now they say they are Danish.  This suggests a somewhat mobile and/or fluid executive  team – although they appear to be stabilising a lot more in recent years (and they are still here since 2007).  Their download numbers also look dubious and appear to multiply exponentially every few months to levels that seem implausible for the size of this market.  With all that being said, if you can see beyond some of the more arrogant puffery of their marketing output, this is creditable DAM product that is well worth including on your shortlist.

*Summary: A mid-market DAM solution with enterprise ambitions built using Java and CFML (Cold Fusion), especially suited to those looking for a Resourcespace alternative that is non-PHP based.*

*Licence:*[*AGPL v3*](http://www.fsf.org/licensing/licenses/agpl-3.0.html)*and Commercial*
*Download link:*[*http://www.razuna.org/download*](http://www.razuna.com/download)
*Technology: Java, CFML and JDBC with PHP integration*
*Website:*[*http://www.razuna.com*](http://www.razuna.com/)



[**ResourceSpace**](http://www.resourcespace.org/)

ResourceSpace was originally commissioned by UK charity Oxfam who released the product with a BSD licence in 2006 and was developed Dan Huby and Neale Hall.  In contrast with Menalto’s Gallery, ResourceSpace is a fully featured  PHP/MySQL DAM system and its BSD licence is the most permissive in terms of what third parties can do with it.  ResourceSpace provides a wide range of facilities and uses purely open source based tools such as FFMPEG, ImageMagick and OpenOffice.  A range of plugins add further functionality, including LDAP integration and other features to enable enterprise or large-scale use.  The metadata capabilities of ResourceSpace are highly developed and they have taken some bold (but in our view correct) decisions such as to eschew the folder metaphors that a number of other systems use.  The implication of this is that on ResourceSpace, you don’t reproduce your shared drive with some extra features thrown in to make the digital asset management task more bearable, but instead re-orientate towards a search-centric perspective that mirrors how end users of assets will probably be looking for your assets.

The service, hosting and support options are reasonably priced and it has good community support.  A number of commercial providers also offer services around ResourceSpace in addition to more advanced facilities (which you may have to pay for).  Since ResourceSpace is LAMP (Linux, Apache, MySQL and PHP) based, it is well suited to web developers who want to leverage their existing PHP expertise.  The use of PHP is important because it makes it easier to find skilled personnel who can adapt the system should you need to.  Some of the more complex or esoteric technology options available for other open source DAM platforms could potentially present problems for those who may need to gain control of the code later.

In the past ResourceSpace would have been used more by not-for-profit charities etc and web designers who wanted to stay in PHP rather than using Java or .NET.  That situation has changed in recent years because more enterprise end users are becoming open to LAMP based platforms.  Cloud hosting (which is effectively a form of outsourcing) has contributed to making underlying platform distinctions less significant for end users who care less about whether or not it is compliant with their IT department’s policies and more whether their DAM is running or not and what it can do.  There are a number of larger end users of this platform now and it is no longer the purely charity oriented system that it once was.

*Summary: Still a good option for not-for-profit organisations and libraries that are looking for a lot of features without high cost but increasingly also by larger organisations who have the flexibility to support a LAMP based solution.  Also a good choice for website developers who may prefer a PHP based system rather than complexities of Java or .NET.*

*Licence:*[*BSD*](http://www.opensource.org/licenses/bsd-license.php)
*Download link:*[*http://www.resourcespace.org/download.php*](http://www.resourcespace.org/download.php)
*Technology: PHP and MySQL*
*Website:*[*http://www.resourcespace.org*](http://www.resourcespace.org/download.php)



[**TACTIC**](http://community.southpawtech.com/)

TACTIC is developed by Canadian company, Southpaw Technology and is described by them as a Production Asset Management tool.  It has only recently been made open source under the Eclipse licence, which is less restrictive than the more common GPL.  Southpaw have a strong background in 3D animation and film, but the system has been applied to other industries also (including advertising and marketing).  There are two editions: Tactic Team and Enterprise, both of which are open source.  A Commercial licence is available, but there doesn’t appear to be any specific difference in terms of what you get or the release schedules.  As with nearly all the open source options here, support and professional services are available.

The key advantage of TACTIC seems to be its strong workflow capabilities and suitability for managing large volumes of production assets (especially big files).  TACTIC uses triggers and a visual workflow designer to enable more sophisticated management of production processes and tasks like sign off and scheduling.  It’s far more developed as a production project management tool than most of the other open source DAM systems and includes some feature such as budget tracking which are not so typical for other DAM solutions.  TACTIC has a highly developed API and is strongly transaction oriented (so there are options to rollback most changes).  It appears straightforward to integrate with other technologies, for example, FFMPEG and other transcoders or conversion tools.

TACTIC is well suited to a busy production environment where a reasonable amount of prior planning has gone into how workflows need to operate, but possibly too in-depth and complex for casual use.  It has a number of enterprise oriented features and supports that level of technology.  In terms of direct comparisons, it’s difficult to identify which competing open source system is similar, although Entermedia have a developing presence in the video sector.  The use of Python is an interesting choice.  It has the benefit of being quick and easy to pick up, especially for a developer who has some prior experience in other languages.  However, it isn’t Java and some might see that as a negative point, especially anyone who needs to get this past a more draconian IT department.  I believe that situation is changing, however, and one does find that many DAM systems that use Java or .NET often end up providing users some lightweight scripting facility anyway (either at the request of their users or to simplify their own development processes).  TACTIC has many of the other requirements of enterprise solutions included as standard, such as LDAP integration etc.

Where TACTIC looks like it might score highly is when compared with competing proprietary enterprise vendors, such as North Plains (who are also in Toronto), ADAM and OpenText.  The features and facilities measure up quite well with these products but the potential saving on licence fees and the highly experienced management team look ready to give those vendors a proper run for their money in highly production oriented environments.

*Summary: Strong workflow and project management capabilities, highly suited to production environments.  Will require either a decent investment of time and/or professional services assistance from TACTIC.  The Python implementation might put off some but if you are thinking about a large scale enterprise DAM solution then TACTIC is well worth checking out.
Licence:*[*Eclipse*](http://opensource.org/licenses/EPL-1.0)*and Commercial
Download link:*[*http://community.southpawtech.com/downloads*](http://community.southpawtech.com/downloads)*Technology: Python, Postgres or Oracle*

**ECM Suites With DAM Modules**

**[Alfresco](http://www.alfresco.com/)**

A number of people have commented and/or contacted us to ask why Alfresco have not been included in our list of open source DAM systems.  The reason is that as described in the definition at the top of the article, Alfresco don’t have a specific DAM product per sé – unlike some of the other open source ECM platforms who do.  However, since there has been a high volume of enquiries about this subject, below are some links for anyone who is interested in adapting Alfresco for DAM.  It should be pointed out though that if you are searching for a dedicated DAM solution rather than an ECM that can do DAM with plugins and configuration, Alfresco may not necessarily be the most straightforward option.  If you’re sold on the Alfresco ECM platform for other reasons and want to leverage your investment then it represents a good choice.

Embedded Metadata

<http://forge.alfresco.com/projects/iptc-exif/>
<http://forge.alfresco.com/projects/xmp/>

Proxy Processing

<http://forge.alfresco.com/projects/thumbnails/>

The above were kindly bought to our attention by Ray Gauss II, CTO of [RightsAssist, LLC](http://rightsassist.com/)who also developed the components.

In addition [Integrated Semantics](http://www.integratedsemantics.org/) produce an AIR based RIA client for Alfresco which also integrates some DAM functionality such as proxy generation.  More details are available on the [Alfresco forum](http://forums.alfresco.com/en/viewtopic.php?f=32&t=14382).

[**Cynapse**](http://www.cynapse.com/solutions/technology-solutions/digital-asset-management)

Cynapse’s Digital Asset Management solution is a module of their Cyn.in ECM offering which enables it to leverage a number of inherent features already provided as part of the wider platform.  The Nuxeo product discussed below is also part of an ECM solution.  What appears to be missing from a brief investigation of their promotional literature is support forembedded metadata, however, workflow and transcoding facilities are available as too are desktop clients.  Cyn.in is written in Python, Zope and uses the Plone open source framework (Notre DAM discussed below is also Python based).

*Summary: Ideal for those looking at DAM as part of an ECM framework and/or for a Python based solution.*

*Licence:*[*GPL v3*](http://www.gnu.org/licenses/gpl-3.0.html)
*Download link:*[*http://www.cynapse.com/downloads/cynin-community-edition*](http://www.cynapse.com/downloads/cynin-community-edition)
*Technology: Java, CFML and JDBC with PHP integration*
*Website:*[*http://www.cynapse.com/solutions/technology-solutions/digital-asset-management*](http://www.cynapse.com/solutions/technology-solutions/digital-asset-management)



[**Nuxeo DAM**](http://www.nuxeo.com/)

Nuxeo are targeting the enterprise end of the Digital Asset Management market.  Nuxeo’s open source DAM offering has only been available since January 2010 and is one of the more recent entrants to the open source DAM sector.  Nuxeo already have expertise acquired in the open source Enterprise Content Management (ECM) market and boast impressive enterprise credentials.  Their DAM solution supports embedded metadataextraction, interoperability with their ECM system and LDAP integration.  Unlike other more Enterprise oriented Open Source solutions such as FocusOPEN, the majority of dependent technologies are also open source, for example the use of Lucence as the text searchengine.  Nuxeo permit free download of their product (albeit with registration).

*Summary: An enterprise DAM solution built in Java using an established ECM framework.*

*Licence:*[*LGPL*](http://www.gnu.org/copyleft/lesser.html)
*Download link:*[*http://www.nuxeo.com/en/downloads/download-dam-form*](http://www.nuxeo.com/en/downloads/download-dam-form)
*Technology: Java and JDBC*
*Website:*[*http://www.nuxeo.com*](http://www.nuxeo.com/)

**Preservation**

**[Concerto](http://concerto.sourceforge.net/%22%20%5Ct%20%22_blank)**

Concerto is a preservation/collections oriented open source DAM, but it does have some features which potentially make it suitable for general use too. It was built by [Middlebury College’s](http://www.middlebury.edu/) [Curricular Technology Development Lab](http://segue.middlebury.edu/sites/codelab).  The preservation background is made fairly clear by the product terminology, “Collections” and “Exhibitions”.  Collections are combinations of assets that are accessed by a search and browse interface.  Exhibitions are presentations or ‘slide shows’  that allow users to demonstrate their asset collections and include notes with them.  Concerto uses an editor/viewer configuration.  Viewers can be delivered via a low-profile JavaScript application which accesses the Concerto data.  Concerto has other less specialised features including: zoom image previews, custommetadata schemas, automated proxy generation (thumbnails and previews), batch importing and embedded metadata reading, LDAP integration and what they call ‘hierarchical authorizations’ which sounds like workflow. All of these are what you might expect to find in the pure web DAM systems described above (in addition to its capabilities for preservation).

The use of PHP and MySQL makes Concerto fairly usable for deployment to commodityhosting environments but the LDAP integration also offers some plus points for using it in a corporate setting.  Given the background of Concerto, however, it does sound like a college or university would be the ideal use-case scenario for a product of this nature, however, if you have access to developers from a similar background there is no reason it could not be adapted for other scenarios .  Concerto is built on top of the [Harmoni Application Framework](http://sourceforge.net/apps/mediawiki/harmoni/index.php?title=Main_Page) (also developed by Middlebury College).  This seems to be a generic architecture for the development of many types of information management solutions so potentially offers the potential to extend the product further by leveraging the framework.  The GPL2 licence presents few issues for third party developers (although integration with other solutions is subject to the usual restrictions with any GPL code).

*Summary: Aimed at a university/higher education usage scenario, Concerto is preservation oriented but has enough general DAM capabilities to make it potentially a good all round solution*

*Licence: GPL2*
*Download link:*[*http://sourceforge.net/project/showfiles.php?group\_id=88266&package\_id=164762*](http://sourceforge.net/projects/dspace/)
*Technology: PHP, MySQL or Postgres*
*Website:*[*http://concerto.sourceforge.net/*](http://www.dspace.org/)

[**DSpace**](http://www.dspace.org/)

DSpace is a framework for developing Digital Asset Management solutions. Developed by HP and MIT Libraries, it is used extensively by academic and research organisations which makes it well suited for preservation usage scenarios.  DSpace implementations are organised into Communities which have responsibility for Collections which are in turn composed of assets.  DSpace is highly configurable and includes a flexible workflow for applying metadata to assets that will suit complex metadata.  Those seeking a more straightforward Digital Asset Management solution may find this software too complex and academically oriented for their needs, however, there can be no denying the power and flexibility of the underlying software.

*Summary: Highly research/academically oriented, however, very powerful and suitable for complex preservation requirements.*

*Licence:*[*BSD*](http://www.opensource.org/licenses/bsd-license.php)
*Download link:*[*http://sourceforge.net/projects/dspace/*](http://sourceforge.net/projects/dspace/)
*Technology: Java, Oracle or Postgres*
*Website:*[*http://www.dspace.org*](http://www.dspace.org/)

[**Fedora Commons**](http://www.fedora-commons.org/)

Fedora stands for *“Flexible Extensible Digital Object Repository Architecture”*and should not be confused with the Fedora Linux operating system distribution.  With the exception of DSpace, Fedora Commons differs from more conventional DAMs because it does not impose a particular metadata framework (which they nearly all do in one way or another) and has a very flexible series of object models based around its own FOXML (Fedora Object XML) schema.  This flexibility comes at the expense of a steep learning curve and a fairly complex set up (see the note below).  If your interest in DAM is providing a relatively conventional system for business/marketing purposes Fedora Commons is likely to be too complex and time consuming when compared with other alternatives, however, if you interested lies towards preservation, curatorial/museum oriented projects then Fedora Commons has to be on your short list.

*Summary: Along similar lines to DSpace, Fedora Commons is an open source framework for DAM rather than a packaged DAM product with an open source licence.  Fedora Commons’ key benefits are flexibility and interoperability, however, these come at the price of a relatively complex implementation and deployment process when compared with other alternatives.*

*Licence:*[*Apache 2.0*](http://www.apache.org/licenses/LICENSE-2.0)
*Download link:*[*http://www.fedora-commons.org/software*](http://www.fedora-commons.org/software)
*Technology: Java*
*Website:*[*http://www.fedora-commons.org*](http://www.fedora-commons.org/)

*Notes:*For those struggling with installation, [this Fedora Commons howto is highly recommended](http://fak3r.com/2009/03/17/howto-install-fedora-commons-repository-software-on-debian/) (for Debian at least).

[**Greenstone**](http://www.greenstone.org/)

Greenstone is developed by The New Zealand Digital Library Project (which is part of the University of Waikato in New Zealand).  This is more an application to help generated digital libraries than a regular DAM.  For example, while most of the systems listed here provide a web based UI and either a database or XML representation, Greenstone uses a desktop client which will produce an HTML library using Perl which you can use via a web browser (it does include a client also though, the “GLI Client” which enables remote management of a collection on a remote server).  This approach provides some benefits and drawbacks.  The benefit is that repositories can be transferred to media like CD-ROMs and the system can be built without a database or other back-end.  The drawback is that libraries are created for others to use, rather than a collaborative, interactive web based system.  Greenstone uses a powerful macro language and contains hooks that can be integrated with C++ and other modules.  There is undeniably a great deal of power and sophistication in this product but it’s appears more ‘read only’ in terms of its orientation (at least that is the impression given).

A short overview like this can’t really summarise a product like this because of the range of capabilities offered and the mode of delivery isn’t conventional for what many have come to expect for a DAM system.  Therefore, we would advise librarians especially to closely inspect the comprehensive information on the Greenstone website to decide if it meets their needs better than some of the alternatives discussed here.  We welcome clarification comments from any of the Greenstone managers or developers to correct our misinterpretations.

Summary: Aimed at librarians especially but not designed or implemented in a way that is conventional for modern generalist DAM systems (especially those for corporate/marketing use).  This could be both an advantage or disadvantage depending on your needs.

*Technology*: Perl, C++, HTML

*Licence*: GPL
*Download link*: <http://www.greenstone.org/download>
*Website*: [http://www.greenstone.org](http://www.greenstone.org/)

**Conclusion**
As should be clear to readers, there are now a wide range of choices available in the open source DAM market and options to suit the majority of different needs.  Over the forthcoming months, we intend to revisit this list and provide further detail on each of the products presented as well as new entrants to the market.

  [Sphinn It](http://www.sphinn.com/submit.php?url=http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/)   [De.licio.us](http://del.icio.us/post?url=http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/&title=Review%20of%20Available%20Open%20Source%20DAM%20Software)   [Facebook](http://www.facebook.com/share.php?u=http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/)   [Twitter this](http://twitter.com/home?status=Reading%20Review%20of%20Available%20Open%20Source%20DAM%20Software%20-%20http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/)

{ 22 comments… read them below or [add one](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#respond) }

 [**Steve Reiner**](http://www.integratedsemantics.com/) [August 7, 2010 at 2:50 am](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-41)

Thanks for the mention of FlexSpaces + AIR RIA client for Alfresco. (Also have a Flex non AIR in browser version of FlexSpaces) Plan to add more DAM features to FlexSpaces and maybe have a DAM specific version. (Note: company name is Integrated Semantics, not Integrated Dynamics)
FlexSpaces also supports LIveCycle Content Services ES2. CMIS Spaces, based on FlexSpaces, supports any repository with CMIS APIs (Alfresco, EMC Documentum, IBM FileNet, Nuxeo, Day Software CRX, etc.)

 [**Naresh Sarwan**](http://www.opensourcedigitalassetmanagement.org/www.opensourcedigitalassetmanagement.org) [August 9, 2010 at 8:56 am](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-42)

Steve, thanks for the feedback, the company name has been corrected.

 [**Stephane Bezombes**](http://www.reciproque.com/) [October 18, 2010 at 5:08 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-50)

Nice panorama, thanks for sharing.
It’ll tooks weeks (months ?) to make fine comparison, but I would like to know which of these software manage the best \*video files\* (transcoding, scene detection, timestamp, voice transcription, …).

 [**John Waddingham**](http://timorarchives.wordpress.com/) [October 27, 2010 at 2:00 am](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-51)

Thank you for this very useful list. As a DAM novice, I am looking for leads to select software for delivering online a ‘digital library’. DSpace & Fedora Commons are common candidates. So also is the open source Greenstone software from New Zealand.
<http://www.greenstone.org/>
A novice’s question: Is there something about Greenstone which disqualifies it for inclusion in your open source DAM list here?

**Mary Eldridge** [December 15, 2010 at 2:34 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-56)

Other smaller, php-based systems I’ve been following as a hobbyist:
Montala
Concerto
CollectiveAccess

CollectiveAccess is my current interest. V1.0 seems to be stalled out, but the company looks like it’s busy doing paid-for projects.

Would be interested in any feedback on these.

 [**Naresh Sarwan**](http://www.opensourcedigitalassetmanagement.org/www.opensourcedigitalassetmanagement.org) [December 16, 2010 at 2:28 am](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-57)

@John, no, it’s quite preservation oriented from what I have read in your link but that’s not grounds for excluding it. We’ll expand the entries to include this.

 [**Naresh Sarwan**](http://www.opensourcedigitalassetmanagement.org/www.opensourcedigitalassetmanagement.org) [December 16, 2010 at 2:30 am](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-58)

@Mary, I think Montala is the company operated by Dan Huby who originally developed Resourcespace, unless there is another?

I’ll need to do some research on Concerto & CollectiveAccess. If you have any links to share, please let me know.

**Richard S** [December 22, 2010 at 7:36 am](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-59)

Nice write up and comparison. I too like Stephane Bezombes am interested in the best option which could handle acquisition, ingestion, transcoding, scene detection, timestamp, voice transcription.

**Mariusz** [December 28, 2010 at 3:27 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-60)

Hello
Where nice site….
Maybe someone can help me to decide what software will be the best for such solution:
We have on server folder with many pictures in categories.
In this catalog on each day are placed new pictures, and some are deleted (by replication with other server).
Do You know that one of open source software Can observe folder and automaticly add or delete files from view for people that will be log on to application ?
Thanks for help

**Andreas** [January 27, 2011 at 2:57 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-61)

A lot of nice DAMs, I wonder if anyone have any experience in using any of these in a photography business? Where multiple photographers can upload, photos, set indivduel prices, and sell through these. And even have different price list for the same image depending on the client and usage?

**meghan** [March 10, 2011 at 7:56 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-64)

I also am interested in the video capabilities, including timecoding. good overview. thank you!

**Apostol** [March 17, 2011 at 12:07 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-65)

This fine list really helped me out a couple of months ago that had to do some reasearch on OS DAM solutions… thanks for sharing!

After examining the listed projects (actually 2 of them missing at that time) I came out with the following gross categorization:
\* Photography collection management solutions: e.g. Gallery
\* Enterprise Content Management (ECM) solutions: Nuxeo DAM, Alfresco
\* Institutional Repositories (a.k.a Open Access Repositories, Preservation Repositories) solutions: DSpace, Fedora Commons
\* Digital Library (a.k.a Library Collection Management, Digital Library, Library Catalog) solutions: Greenstone, CollectiveAccess (Mary Elridge’s suggestion)
\* Others, including both “True DAM” and “Other category” solutions

Perhaps a future reorganization of this nice article may include some more explicit indication of “category” of the listed solutions.

From my own research and using the above categorization as a tool for guided expansion of search efforts, I came across the following OS projects that might also be relevant to this list:

\* EPrints [http://www.eprints.org/] (Institutional Repositories)
\* Omeka [http://omeka.org/about/] (Digital Library)
\* CollectiveAccess [http://www.collectiveaccess.org/] (Digital Library)
\* CollectionSpace (ex Open Collection) [http://www.collectionspace.org/] (Digital Library)

**logicalnot** [September 12, 2011 at 10:20 am](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-72)

Great post. Thank you for sharing.

Request: what is the size of the community behind each project? How are the project active?

Thank you.

 [**Naresh Sarwan**](http://www.opensourcedigitalassetmanagement.org/www.opensourcedigitalassetmanagement.org) [December 2, 2011 at 12:05 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-79)

A quick message to anyone who is not an open source vendor who wants to feature their product (as we have had quite a few of these sent in), please refrain from submitting your requests to Open Source Digital Asset Management.

This site is for pure open source DAM systems only, you must have an OSI approved licence for the core solution, a free trial, ‘uses open source components’ or ‘has open source plug-ins’ etc is not a valid reason for inclusion. The general vendor list on Digital Asset Management News:<http://digitalassetmanagementnews.org/dam-vendors/> should be used for this purpose

**Subbu** [January 3, 2012 at 9:50 am](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-100)

Nice list of all opensource DAM solutions, Can anybody suggest me a good opensource solution which suits for VFX studio,
my expectation is support 3D objects (with thumbnail if possible) and Image sequences

 [**Luis Valenzuela**](http://s3dl.com/) [June 7, 2012 at 6:48 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-132)

After exchanging a brief message with Razuna developers, it appears their DAM supports a wide variety of video files, including those from Digital SLR cameras (MTS, M2TS).
I am to test this as soon as possible in a local Ubuntu server, because it the creation ofproxy files from MTS, M2TS, MOV files is acceptable, then I feel Razuna could be a viable alternative to Final Cut Server for digital asset management, either for small studios or individual video editors.

Thanks for the listing.

**Richard Elson** [June 24, 2012 at 7:16 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-134)

I can’t say my experience with Razuna was the most positive one. I was trying to find vendors for a public sector project in the UK. They trash-talked the competition so much that my colleague who was dealing with them got suspicious about what they had to hide. The Razuna rep told my colleague they had offices in London and gave an address which turned out to be a mail drop in Wimpole Street.

I was not overjoyed at the prospect of dealing with CFML again either. I used to have to write Cold Fusion code years ago for my job at the time, and it’s good for prototypes, but not solid enough for serious applications (imo). I’m told CFML is basically a scripting language for Java these days, so it might be more robust now than it once was. Others may have different experiences with them.

In the end we boiled it down to ResourceSpace and Entermedia. We went with ResourceSpace because there were quite a few consultants available and we could find people who could modify the PHP code. The Entermedia product has got better in the AV market recently, also it’s Java based so I might take another look again later.

I’ve not got too much experience with any of the rest of them, but I think anyone who is considering an Open Source DAM system really wants to check the technology each of these vendors use quite carefully. For most DAM systems, some customization is needed and a big selling point for Open Source is that you can do that easily. That benefit is diminished though if it’s been built in something that isn’t compatible with your chosen technology stack.

 [**Naresh Sarwan**](http://www.opensourcedigitalassetmanagement.org/www.opensourcedigitalassetmanagement.org) [June 25, 2012 at 5:18 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-135)

Richard,

To be fair to Razuna, many companies will use mail drops or business centres when expanding into other countries, it’s an accepted practice when establishing a local presence.

On your other points, I believe you can extend CFML quite easily with Java these days and it’s a lot different to the pure tag language it once was during the period I think you are referring to in the late 1990s. Also, having used some of the Java and .NET products, making non-configuration changes using these languages is not for the feint hearted. They might be enterprise class, but that often means teams of highly skilled (and paid) developers also for the most basic of tasks. However, as you say, it probably does make more sense to pick an open source DAM based on what technologies you have at your disposal.

**J. Ricardo Simões** [May 2, 2013 at 1:52 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-1433)

Very good review. I only have a little experience with Resourcespace, but this gave me good options. I intend to use a DAM in a video producer enterprise, for archive purposes. For the future, what about a comparison chart?

 [**Naresh Sarwan**](http://www.opensourcedigitalassetmanagement.org/www.opensourcedigitalassetmanagement.org) [May 2, 2013 at 3:18 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-1434)

Glad you found this useful. This page is in need of some updates and on the comp chart, watch this space!

 [**Tony Brooke**](http://www.silentway.com/assets) [May 7, 2013 at 6:26 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-1435)

Hello, Naresh-

Thanks for this resource. I’ve just come across Islandora, which is a packaged distribution of Fedora with a Drupal front end. I don’t know much about it yet but it looks promising. “Solution Packs” add DAM functionality.
<http://islandora.ca/about>
[https://wiki.duraspace.org/display/ISLANDORA711/Solution+Packs](https://wiki.duraspace.org/display/ISLANDORA711/Solution%2BPacks)

Another new possibility for your “preservation” section is Archivematica:
<https://www.archivematica.org/>

And, I’ll second the motion for info on each project’s community size and developer base. These are key factors for evaluating a solution.

Thanks!
Tony Brooke

 [**Barrington Weekes**](http://totnesimagebank.org/) [July 25, 2014 at 2:45 pm](http://www.opensourcedigitalassetmanagement.org/reviews/available-open-source-dam/#comment-10926)

We are a photographic archive with 50.000 images on a CUMULUS database. I have looked at a lot of DAM software reviews on your site, (Thanks) Can you short list any suitable software that is image based, similar in function to Cumulus?
Regards
Barrington

Jurnal Gateway is a platform where you can browse through the different peer reviewed journals published and also register or login to submit an article to any of these journals. Open access with download links provided for acrobat portable document format and the abstract may be viewed directly. Users can one time register into any of the journals and the same login may be used for other journal publications any time later. This unified registering and login system is designed to avoid multiple user names and saves time on repeated registration attempts.
Citations may be exported into multiple formats from the abstract section of each journal article sections and articles may be viewed in embedded google docs viewer.

The Research Gateway is a consolidated, on-line resource that provides Washington University faculty and staff access to the numerous research-related resources, tools, forms, and applications necessary to propose, perform, manage, and close research projects.

The Global Research Gateway is the public 'window' into CBRE Research, providing a single point of access for presenting research resources, outputs, tools and regional research websites across the globe. It also enables our users to search for, and retrieve, our publicly available research reports, and other outputs, via a powerful search interface.

Multi-media database management system (MMDBMS) is mainly used for the retrieval and storage of the multimedia data content .The development of the multimedia system is dependent on the application of multimedia data model , such as inserting, index, query and retrieval, etc.

The

The developments in information storage and communication technologies have resulted in the emergence of database systems of varied types.