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GLARE Digital Library (Group Learning and Research Exhibition)

Sukesh Reddy Kotha
Grand Valley State University

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GLARE Digital Library (Group Learning and Research Exhibition)

By
Sukesh Reddy Kotha

A project submitted in partial fulfillment of the requirements for the degree of
Master of Science in
Computer Information Systems

at
Grand Valley State University

April, 2014

Jonathan Leidig

Date

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Abstract:

A digital library is a managed collection of digital information associated with services. Information is organized systematically for easier retrieval. The digital content can be stored locally or can be accessed remotely via computer networks. A digital library is a form of an information retrieval system. For digital collections, a digital library can provide services to select, organize, offer authorized access, interpret, distribute, and preserve over time. Digital library require:

- Relational databases that support a variety of digital formats,
- Full text search engines to index, retrieve, and provide access to documents, and
- Document management functions.

One of the most important issues faced for creating a digital library is handling metadata. Metadata describes the content and attributes of a particular item in a digital library. The prominent scheme is Dublin Core, which is an effort to determine the “core” elements needed to describe documents.

This project involved developing a digital library for university research projects. This can be used as a platform for faculty and students to showcase their projects, publications, datasets, and other kinds of digital content. Every user is given a user account and can use appropriate digital library services based on the permissions they have. Guest users can take the advantage of viewing, downloading, and commenting on the documents uploaded for public use. Administrator services include adding new categories of documents, editing or deleting the present categories, and removing flagged documents or videos by the users of the digital library.

Professors can use a set of predefined groups or create their own dynamic groups to share content. Students can share their documents with predefined groups. This digital library was developed using MYSQL, HTML, CSS, PHP, jQuery, Ajax and Java Scripts. Dublin core metadata terms are used to represent resources such as documents and videos and provide search mechanisms.

Introduction:

A digital library can be defined as an organization which collects, manages and preserves digital content over a long period of time [1][2]. Based on the content, it provides its users with specialized functionality. This project is an effort in creating a digital library where professors and students can exhibit their research and project work. GLARE Digital library can be used as a platform to archive, organize and showcase the content like publications, projects and art of a university to the society. This also a platform to store documents in digital format for future reference and research purpose. In Digital libraries, we use the word “Document” in a much broader sense to denote all kinds of communicative records including paper material, electronic files [3]. In general there are two different kinds of views on Digital libraries, Researchers view them as digital content collected on behalf of user communities whereas librarians view them as institutions or services [4]. One of the important services of GLARE Digital library is the opportunity of using groups to share research documents and videos, professors can create custom groups to share documents or videos with them for reviewing, research and other educational purposes. Students can share documents only with the groups they are added to for security reasons. There are many reasons for developing GLARE, digital libraries make research work easier for scholars and help ease budget pressures on existing libraries, they help not only in solving the problems regarding preservation of documents but also help in extending the

collection of the libraries into new media. One of the most important motivations in developing this digital library was an effort to make information readily available to society, raise the quality of that information and improve diversity. Digital libraries are becoming a legitimate option to libraries whose services are being affected by cost crisis. Libraries are facing serious problems when it comes to allocating budget in buying documents whose prices are every increasing , they are also facing problems with increasing costs for building and storage of documents. There are lot of universities where there is no place to even put up another large library even if they have funds. Solution to all these problems can found in Digital library.

Another advantage of digitization of documents is, search and retrieval of documents can be made much faster compared to traditional method and all the information is right at the fingertips of the user. Search can be affectively implemented by creating an ASCII version for the documents. Usability of the documents is another advantage of digital libraries; a single document can be viewed by more than one user at a time and can also be edited quickly compared to paper documents. As the access to the document is electronic, security issues can be addressed in much better ways. Digital storage of documents also gives libraries a chance to provide their users with vast amount of documents when compared to traditional ways. GLARE digital library is an effort to bring all the advantages of digitization of documents and media to the university community, where its services can be effectively used to improve preservation and provide a platform to create and use groups to share and review research work done by students and faculty. GLARE digital library will be a solution to the increasing problems of space and preservation of documents for a library and can be used as a medium to preserve and showcase any kind of document in digital content. In this way, this will be a new platform to create groups, share documents, conduct surveys and sell journals, all at one place. The collaboration service

can be effectively used in many ways to optimize research and innovation, taking group level knowledge sharing to virtual and more flexible level.

Background and Related Work:

There are many digital libraries available today depending on the type of digital content they preserve and the services they provide. One of them which preserves and showcases research papers to the society is “KAUST Digital archive” [5]. King Abdullah University of Science and Technology has launched a digital repository which preserves all the intellectual property of the university. This repository consists of different types of research, thesis, and peer reviewed articles of the university. This Digital library can be found on all the search engines and the professors of this university have the option of choosing whether to make their document visible to public or not. When the document is not visible to public, it can still be accessed by the community members of the university. With the access of the documents to public on World Wide Web, the number of citations for those documents will be improved. This is also being used by students and postdocs to see what type of research is going on in this university and hence helping with the recruitment of the student body. “KAUST Visualization labs”[6] is used to preserve the video content. This being searchable on most of the search engines, it has advantages of getting more citations and helps general public with easier access to research documents of the university. The documents can be searched based on the date submitted and the title. The documents are indexed based on the communities within the university from which they have been uploaded. This makes search for a required document by students of the university easier. There are few areas where KAUST digital library is weak, Search and browsing of documents and videos are placed in a complete different webpage and that forces the user to search the same title twice to get a document and video from it. There is no option for

the public to preview or rate the documents, leaving them with no choice but to download and then discard it if that is not the required document. Sharing of documents in this digital library is only possible by faculty, which limits the students from portraying their research work, though this addresses security issues in a way.

Other digital libraries include “Hathi Trust Digital library” [7] which is a digital preservation repository and it provides long term access and information storage for public domain. The content can be searched from the home page with the help of a full text search engine. It also has a “page turner” mechanism where individual volumes can be viewed and searched. “Collection builder” is used by the end users and staff to create virtual collections of volumes held in the repository. This digital library has a large number of participating libraries and they can load bibliographic records of this digital library into their own catalog and restrict its access depending on whether they are loading it onto public repositories or their private repositories [7]. It is also possible to obtain data sets and Bibliographic APIs from the public domains of this digital library. University of North Texas [8] also has a digital library which serves as open access repository for university research, creative and scholarly activities. This also has the same goal as that of any digital library which is to preserve the content for long term and provide access to it through a search engine. This Digital library also has a full text search engine and one can search documents, video, image and audio using a single search engine. Most of the universities have developed, or are in the process of developing digital libraries to better preserve, archive and showcase their research work and projects to the public.

Program Requirements:

GLARE digital library is the proposed solution for issues with preservation and document sharing for a university. This digital library can be used to store and showcase the research work and publications of professors to the public. GLARE digital library stores any type of content in digital format and showcases it to public or specified groups depending on the permissions provided by the owner of those documents. GLARE provides it users with an account and a set of services depending on the type of user account. Public users are allowed to view, download and comment on the content posted on GLARE. Public users have to provide their name to use the services of this digital library and their IP address is tracked for security purposes. GLARE provides variety of services to its user community. Professors can share the uploaded documents or videos in more than one way; they can select from a set of previously created groups in which they have been added to in GLARE or create a customized group to fit the requirement. They also have the option to select whether they want to share it with public or just with the groups they created. Hence the documents and videos which are shared for public will be displayed for guest users to view, download, rate and comment. This service not only helps public to gain information and knowledge about the research work going on in the university but also improves the citations to the posted documents of the professors. GLARE also provides professors of the university with a medium to showcase and sell their research works, articles, journals or any other kind of educational document. Professors can also share and sell any kind of educational content on GLARE. GLARE provides professors with a medium to share research and education related videos to the public for free or for a certain price. This can be seen as initiative and a platform GLARE provides for the university to help educate the community on certain areas for free or for a nominal price. Group sharing service of GLARE can be used in many ways by the

professors; Professors can use groups to share educational content with students, share research content with other professors, gain valuable reviews and comments and also share content with university community for getting survey or other such similar information. Students can share content with the groups created by professors in GLARE. Hence Groups service provided by this digital library can be used as platform to share, review and learn. Any kind of digital content can be searched through a full text search engine provided in GLARE digital library. Content which is shared in the group only is displayed on a different page for professors and students to make differentiation easier. Other ways to search documents include a catalog using which documents can be searched based on first letter of their name. Documents are uploaded in specific categories and hence documents can be searched based on category. GLARE also has administrator services where new categories of documents can be added, users can be added or deleted and flagged documents can be removed from the digital library. GLARE displays the name of the person who uploaded the document and the name of the groups with which that documents or video has been shared for ease of access to information. Dublin metadata terms are used by GLARE to classify and display documents, user profiles and groups.

Implementation:

Given below is the list of technologies used for building GLARE Digital library,

1. **XAMPP 1.7.4 [10]:** XAMPP is an open source cross platform web server solution stack package. It consists of Apache HTTP server, MYSQL database, and interpreters for code written in PHP and Perl programming language. XAMPP allows web site designers and programmers to test their work without the access to internet. To make this work and easy, many of the security features on XAMPP have been disabled by default. XAMPP

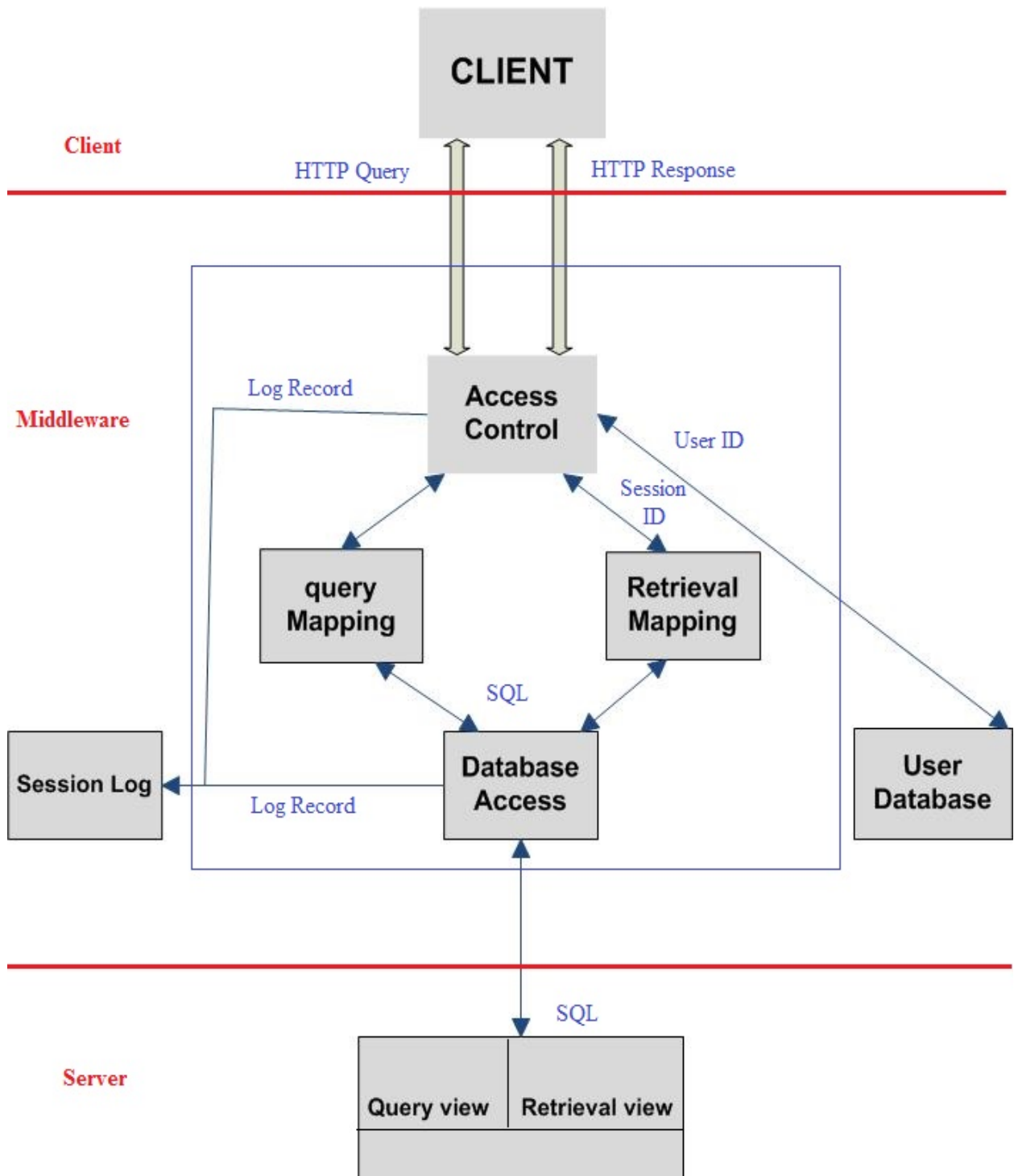
helps in creating and manipulating the databases like MYSQL and SQLite. GLARE digital library uses XAMPP to deploy it on the local system or Local host[9].

2. **PHP [11]:** PHP stands for Hypertext Preprocessor and is a server side scripting language for web development. It can also be used for general purpose programming. The reference implementation of PHP is produced by the PHP group. The web server consists of a PHP processor module which interprets the code and generates the resulting web page. The commands in PHP can be directly embedded in the HTML without the need to call an external file to process the data. PHP can be deployed on most of the web servers and can also be used as stand-alone shell on almost every operating system and platform. Scripting for the connections between front end and backend of GLARE was done in PHP [9].
3. **MYSQL DATABASE [12]:** MySQL is an open source database management system. It is developed, supported and distributed by Oracle Corporation. Database is structured collection of data. It can be anything from a simple to do list to vast amount information on some specific network. To add, delete, modify this data we need a database management system and MySQL is one such server. A relational database stores data in different tables. The logical model of the database with objects such as tables, views, rows and columns offer very flexible programming environment. These features make it easy to organize data and give the flexibility of reading or writing to the database by multiple people at the same time. Almost all the applications on web need web hosting databases. MySQL is a web hosting database which can be used to store website information. It is difficult to maintain and manage databases with just SQL queries and is always easier using graphical user interface (GUI). GLARE Digital library was

developed using a GUI called PHPmyadmin for managing the MySQL database. PHPmyadmin allows us to add, delete and modify database tables and entries. It also helps in creating backup for the database, run some specific SQL queries, search records and import records[9].

4. **JQuery [13]:** JQuery is a lightweight java script library. JQuery makes writing java Scripts to build websites easy. Its syntax has been made in such a way that it simplifies navigation through documents, selecting DOM elements, handle events and develop Ajax applications. GLARE digital library uses JQuery to select multiple options at a time.
5. **Java Script [14]:** Java script is a computer programming language and is used as a part of web browsers whose implementation allows the scripting in the client side to interact with the user, in return giving the control of browsing and altering the document content to the user. It can also be used for server side programming. GLARE digital library uses java script to create groups.
6. **AJAX [16]:** AJAX is an acronym for asynchronous Java script and XML. This is used to create asynchronous web applications. These applications can send and retrieve data from the server asynchronously without interfering with the display and content of the current page. GLARE digital library uses AJAX for forms, user accounts and other user interaction enhancements.
7. **HTML AND CSS [17]:** HTML is the core of the website and allows you to create websites. CSS is used to manage and manipulate the web pages. CSS is used to way to style the websites over many webpages. GLARE digital library uses HTML and CSS for creating and styling of its webpages.

Architecture of GLARE Digital Library:



Given above is the architecture of GLARE digital library. Given below is detailed explanation of the architecture.

When a login is requested from client, if it is student or professor then their credentials are checked in the user data and the session Id is stored in the session Log. Guest user name is taken and stored in the session log. Depending on the type of the user, the “database access” queries the database and displays the content to access control from where the data is displayed to the end user. User Id is stored in the session log and depending on the user id; the database is queried to retrieve documents and videos to the digital library.

Technical Explanation:

The database consists of table which consists of the list of all the users and documents shared to them, session log use the user Id it has to query that table and display all the private documents to the webpage. Professors can create groups to share content; the list of names is displayed by getting data from the users table in the database. Checkbox is provided to choose multiple users to add to a group at the same time, this is accomplished by using Bootstrap [16] which is an interface within the JQuery by using Multi select function in it. Professors can view and delete the tables they have created; values from the groups table are displayed onto the digital library to show the users in the group. When professors delete the groups, the group id is used to track and delete the group in the database. There is an option of uploading a document or video by the professors to the groups they are part of or to public. The selection and display of the groups with which they wish to share the content has been written in JQuery with multi select function. All the documents uploaded are stored in a documents table which consists of unique document ID and file path to the location on the file system where the document has been saved. Same is the case with the videos but the videos are stored in videos table with path on the file system. User profile also has an option of changing password which is replaces the value in the database using MD5 Hash algorithm.

Search in Glare digital library is provided in more than one way, full text search engine checks the document and videos tables with first letter and then word of the search terms and retrieves the found similar documents. Catalog also queries the documents and videos table for the first letter of the specified letter and retrieves the found content. Users can comment and rate on the documents of this digital library and when rated or commented, it is saved in the rate and comment fields of documents and videos tables. Guest I.P Address is tracked by using PHP function Server which retrieves the client system address. In administrator services, when a user or category is added, it is saved in the user and category table respectively. View users option retrieves all the fields from the user table and when deleted, appropriate changes are made to the user table. Apart from the groups, most of the technical part for professors and students profiles is same.

Here, I was familiar with XAMPP, MYSQL, PHP and HTML. This project helped me learn and implement new technologies like JQuery, Java Scripts and AJAX.

Results, Evaluation and Reflection:

The speed of GLARE digital library is dependent on the configuration of the real time server it is deployed on. In this project, this digital library has been deployed on the local server and works fine with the any number of documents and videos. There is a limit of 7Mb size to videos and documents because this is being deployed on local server. Hence, performance is good on par to local server standards but when deployed on real time server, changes and enhancements have to be made to improve the performance for uploading huge documents and videos. The options for the user account are enough on an experimental scale but for real time university digital library functioning, additional fields, options should be added to improve user experience and

accessibility. Another place where the efficiency has to improve is, handling of the deleted groups and simultaneously deleting the documents of those groups. This functionality is not present in GLARE digital library and should be made available in its next version to improve efficiency. The user interface is pretty basic and can be improved for better user experience. This digital library uses Dublin core metadata terms for handling the metadata, this is a manual process and in real time it will get very expensive to manually handle the metadata. So this works fine on a local host but for real time, Automatic metadata generator tools have to be developed to address this issue.

Conclusion and Future Work:

Developing GLARE digital library was an effort to provide a solution to ever growing problem of document preservation and providing easy access to research content of a university. There are few areas where this digital library needs to improve over time to compete with the demand for preservation and easy access to digital content. One of the biggest issues faced by any digital library is handling the metadata of the documents and videos in it. The solution to that problem in GLARE digital library has been addressed by using Dublin core metadata terms but those terms only help partially in handling the metadata, hence handling of metadata terms is not very effective when large number of documents and videos have to be cataloged and retrieved. Solutions to metadata handling are expensive when the amount of data increases in a repository. Automatic metadata generation is promising and can also reduce the cost by a great extent. One of the examples of automatic metadata generator is “MetaExtract” which was developed at Syracuse University [17] and this uses multiple levels of human language processing. The success of developing metadata assignment-solution for a new domain can only be achieved by adopting a preexisting metadata scheme or creating a customized user specific metadata scheme.

Hence standardized metadata schemes like Dublin core metadata initiative or open Archives Initiative Protocol for Metadata Harvesting, OAI-PMH [18] can provide basic set of metadata terms and will pave the way to more advanced and automatic metadata generator tools . This will be the future work for GLARE digital library to effectively handle its metadata. There few more general issues faced by university digital library like GLARE. First issue is that of content ownership, traditionally in a university setting, content of the professors was considered the intellectual property but now this setting is changing in some universities which in search of new revenue sources are trying to own the intellectual property of the professors. This is an area which has to be kept in mind and addressed by the digital library, depending on solution with which the university and professors come up with. Next issue is content mirroring; GLARE stores all the data in the file system of the server and retrieves it accordingly, preservation and easier access to content by public can only be achieved when content of the digital library can be mirrored or duplicated to close proximity of the public users. As international communication links are slow and expensive to use, Future work on GLARE digital library would be finding ways to establish mirror sites around the world as the usage and size of this digital library increases. Another issue is on deciding what data to be archived. As the data increases in GLARE digital library, only the appropriate content should be archived which will be the future work on this digital library. There are other areas in GLARE digital library too which needs improvements like groups can be created and reused but existing groups cannot be edited , this is one of biggest issue which need to be addressed in further optimization of this digital library. The search engine which GLARE provides is a full text search engine and future improvements to it can be done my using techniques like “query Expansion” to convert it into an user ontology based search engine. When groups are deleted by professors, all the content in that group has to

be deleted, which is also the future work for this digital library. Other additions to this digital library include improving User interface and giving option of buying content by providing a payment gateway.

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Appendices:

1. Home page:

Given below is the home page.

GLARE DIGITAL LIBRARY

Group Learning and Research Exhibition

HomeContactLogin

Welcome to GLARE Digital library!

Please use [Login](#) to access the digital library

Guest access is available via [Login](#)

About GLARE:

GLARE is an open source digital library. This digital library is a platform for faculty and students to showcase their projects, publications, datasets, and other kinds of digital content. The services to the users are provided based on the permissions they have. Guest users can take the advantage of viewing, downloading, and commenting on the documents uploaded for public use.

The services provided by GLARE include,

- Preservation
- Browsing and providing access
- Collaborating
- Publicizing
- Rating and Reviewing.

For further assistance, questions or feedback please use contact us to send your Questions or responses.

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2. Contact:

Given below is the page to contact admin of GLARE digital library,

GLARE DIGITAL LIBRARY
Group Learning and Research Exhibition

[Home](#) [Contact](#) [Login](#)

Contact Us

For further assistance and questions, please fill the form below and we will get back to you at earliest convenience or email us at kothas@mail.gvsu.edu.

Name :

Number :

Email Id :

Message :

© Copyright information goes here

3. Login

Here, GLARE provides Login for three types of users namely Professors, Students and Guests.

Loginpage:

GLARE DIGITAL LIBRARY
Group Learning and Research Exhibition

Login Here

User ID

Password

[Login as a Guest](#)

Given below is the explanation for each type of user.

1. Professors:

Home page:

GLARE DIGITAL LIBRARY

Group Learning and Research Exhibition

Public DocumentsPrivate DocumentsVideosGroupsUploadMy ProfileLogout

Full text Search Engine.

Go

Documents



Shared By: hari
Art history is the study of objects of art in their historical development and stylistic contexts, i.e. genre, design, format, and style. This includes the "major" arts of

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Shared By: student.
From proposal to examination, producing a dissertation or thesis is a challenge. Grounded in decades of experience with research training and supervision, this fully updated and revised edition takes an integrated, down-to-earth a...

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Get "Up and Running" with AutoCAD using Gindis's combination of step-by-step instruction, examples, and insightful explanations. The emphasis from the beginning is on core concepts and practical application of AutoCAD i...

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Shared By: hari
Wings of Fire: An Autobiography of APJ Abdul Kalam (1999) is an autobiography of A P J Abdul Kalam, former President of India. It was written by Dr. Kalam and


[View More](#)



Shared By: hari
The Adventures of Tom Sawyer by Mark Twain is an 1876 novel about a young boy growing up along the Mississippi River. The story is set in the fictional town of St. Petersburg, inspired by Hannibal, Missouri, where Twain lived.

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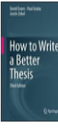
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Art history is the study of objects of art in their historical development and stylistic contexts, i.e. genre, design, format, and style. This includes the "major" arts of

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Get "Up and Running" with AutoCAD using Gindis's combination of step-by-step instruction,

Given above is home page where all the documents shared to the user are displayed with latest uploads of documents on the right. Account can be logged out by clicking the log out button.

Private documents:

Clicking on private documents will display all the documents shared privately to or by the professor in groups.

The screenshot shows the GLARE Digital Library website with the 'Private Documents' section selected in the navigation bar. The page features a search engine, a catalog, and a list of private documents. The first document is 'Wings of Fire: An Autobiography of A P J Abdul Kalam, former President of India. It was written by Dr. Kalam and ...'. The second document is 'The Adventures of Tom Sawyer by Mark Twain is an 1876 novel about a young boy growing up along the Mississippi River. The story is set in the fictional town of St. Petersburg, inspired by Hannibal, Missouri, where Twain lived.' The 'Latest Releases & News' section on the right includes articles like 'Art history is the study of objects of art in their historical development and stylistic contexts, i.e. genre, design, format, and style. This includes the "major" arts of ...' and 'From proposal to examination, producing a dissertation or thesis is a challenge. Grounded in decades of experience with research training and supervision, this fully updated and revised edition takes an integrated, down-to-earth a...'. The URL at the bottom is 'ocalhost/lms/lms/mylibrary.php'.

Videos:

Clicking on the videos, will display videos shared to the professor.

The screenshot shows the GLARE Digital Library website with the 'Videos' section selected in the navigation bar. The page features a search engine, a catalog, and a list of videos. The first video is 'NO TRACE AVAILABLE Shared By: hari Eclipse and Java for Total Beginners. This free video tutorial will help get you started writing Java programs using Eclipse version 3.3. No prior experience with ...'. The 'Latest Releases & News' section on the right is identical to the previous screenshot. The URL at the bottom is 'ocalhost/lms/lms/mylibrary.php'.

Groups:

Professors can create groups by selecting the names of members and clicking on Submit.

The screenshot shows the 'Create a Group' page of the GLARE Digital Library. The page has a blue header with navigation links: Public Documents, Private Documents, Videos, Groups, Upload, My Profile, and Logout. Below the header, there are three main sections:

- Full text Search Engine:** A search box with the placeholder text 'Enter Keywords...' and a blue 'Go' button.
- Catalog:** A grid of letters A-Z for navigation, with a note: 'NOTE: search your document or videos by the first letter of the name'. Below this is a 'Categories' list: Research works, Publications, Journals, Articles, Conference proceedings, Data set, and Thesis.
- Create a Group:** A form with 'Group Name' (text input with 'sdfs' entered), 'Group List' (dropdown menu with 'kesha, vamsi, jamal r alsabagh' selected), and a blue 'SUBMIT' button.

On the right side, there is a 'Latest Releases & News' section with three items, each with a date published (2014-04-17), a small image, and a 'Read More' link.

Professors can view and delete the groups they have created by clicking on view groups and delete them by clicking delete on the right.

The screenshot shows the 'View Users' page of the GLARE Digital Library. The page has a blue header with navigation links: Public Documents, Private Documents, Videos, Groups, Upload, My Profile, and Logout. Below the header, there are three main sections:

- Full text Search Engine:** A search box with the placeholder text 'Enter Keywords...' and a blue 'Go' button.
- Catalog:** A grid of letters A-Z for navigation, with a note: 'NOTE: search your document or videos by the first letter of the name'. Below this is a 'Categories' list: Research works, Publications, Journals, Articles, Conference proceedings, Data set, and Thesis.
- View Users:** A table listing groups with columns for Group Name, Group List, and Delete. The table contains three rows of data:

| Group Name | Group List | Delete |
|----------------|--|--------|
| Java | 619,946,536,756,927,893,20 | Delete |
| Research Works | 619,946,260,756,48,114 | Delete |
| PHP | 946,536,181,382,893,982,92,652,642,713,737 | Delete |

On the right side, there is a 'Latest Releases & News' section with three items, each with a date published (2014-04-17), a small image, and a 'Read More' link.

Upload:

Professors can upload documents by clicking on upload , then document and choose to share with groups or with public, he can also specify the price and then click upload.

The screenshot shows the 'Upload a Document' form in a web application. The form is located in the center of the page, with a navigation bar at the top and a sidebar on the left. The navigation bar includes links for 'Public Documents', 'Private Documents', 'Videos', 'Groups', 'Upload', 'My Profile', and 'Logout'. The sidebar on the left contains a 'Full text Search Engine' with a search box and a 'Go' button, a 'Catalog' with a grid of letters, and a 'Categories' list including 'Research works', 'Publications', 'Journals', 'Articles', 'Conference proceedings', 'Data set', 'Thesis', 'Newsletters', 'Reports', and 'Reference'. The 'Upload a Document' form itself has the following fields: 'Document Name' (text input with 'xcrvc'), 'Author' (text input with 'df'), 'Category' (dropdown menu with 'Research works'), 'Language' (text input with 'english'), 'Groups' (two dropdown menus with 'Java PHP' and 'Research Works'), 'Allow Public' (radio buttons for 'Yes' and 'No', with 'No' selected), 'Price' (text input), 'Upload Document' (file upload button with 'Choose File' and 'No file chosen'), 'Image' (file upload button with 'Choose File' and 'No file chosen'), and 'Description' (text area with 'test dc'). A 'SUBMIT' button is at the bottom of the form. To the right of the form is a 'Latest Releases & News' section with three items, each with a date, a small image, and a 'Read More' link.

Professors can upload videos in the similar way.

The screenshot shows the 'Upload a Video' form in a web application. The form is located in the center of the page, with a navigation bar at the top and a sidebar on the left. The navigation bar includes links for 'Public Documents', 'Private Documents', 'Videos', 'Groups', 'Upload', 'My Profile', and 'Logout'. The sidebar on the left contains a 'Full text Search Engine' with a search box and a 'Go' button, a 'Catalog' with a grid of letters, and a 'Categories' list including 'Research works', 'Publications', 'Journals', 'Articles', 'Conference proceedings', 'Data set', 'Thesis', 'Newsletters', 'Reports', and 'Reference'. The 'Upload a Video' form itself has the following fields: 'Video Name' (text input with 'test fire'), 'Author' (text input), 'Category' (dropdown menu with 'Research works'), 'Language' (text input), 'Groups' (two dropdown menus with 'Research Works Research' and 'Java PHP'), 'Allow Public' (radio buttons for 'Yes' and 'No', with 'Yes' selected), 'Upload Video' (file upload button with 'Choose File' and 'No file chosen'), 'Image' (file upload button with 'Choose File' and 'No file chosen'), and 'Description' (text area with 'tveh'). A 'SUBMIT' button is at the bottom of the form. To the right of the form is a 'Latest Releases & News' section with three items, each with a date, a small image, and a 'Read More' link.

Profile:

Professor can change his password by clicking on change password button. He can click on logout if he wishes to logout.

The screenshot shows the user profile page for 'hari'. The header includes 'GLARE DIGITAL LIBRARY' and 'Group Learning and Research Exhibition'. The navigation bar contains 'Public Documents', 'Private Documents', 'Videos', 'Groups', 'Upload', 'My Profile', and 'Logout'. The 'My Details' section displays: User Name: hari, User Type: Faculty, Department: 1, Joined Date: 2014-04-03, End Date: 0000-00-00, Documents Uploaded: 3, and Videos Uploaded: 2. A 'Change Password' button is visible. The 'Full text Search Engine' and 'Catalog' sections are also present.

2. Students:

Home page:

Consists of all the public and private documents shared with the student,

The screenshot shows the home page for a student. The header is identical to the profile page. The 'Documents' section displays a grid of shared documents, including 'Art history is the study of objects of art in their historical development and stylistic contexts, i.e. genre, design, format, and style.' and 'From proposal to examination, producing a dissertation or thesis is a challenge. Grounded in decades of experience with research training and supervision, this fully updated and revised edition takes an integrated, down-to-earth a...'. The 'Latest Releases & News' section on the right contains the same news items as the profile page.

Private documents:

Displays all the documents privately shared with the student.

GLARE DIGITAL LIBRARY
Group Learning and Research Exhibition

Public Documents Private Documents Videos Groups Upload My Profile Logout

Full text Search Engine.

Enter Keywords...

Go

Private Documents

Shared By: hari Wings of Fire: An Autobiography of APJ Abdul Kalam (1999) is an autobiography of A P J Abdul Kalam, former President of India. It was written by Dr. Kalam and

[View More](#)

Shared By: hari The Adventures of Tom Sawyer by Mark Twain is an 1876 novel about a young boy growing up along the Mississippi River. The story is set in the fictional town of St. Petersburg, inspired by Hannibal, Missouri, where Twain lived.

[View More](#)

Latest Releases & News

Date Published: 2014-04-17

Art history is the study of objects of art in their historical development and stylistic contexts, i.e. genre, design, format, and style. This includes the "major" arts of

[Read More](#)

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From proposal to examination, producing a dissertation or thesis is a challenge. Grounded in decades of experience with research training and supervision, this fully updated and revised edition takes an integrated, down-to-earth a...

[Read More](#)

Date Published: 2014-04-17

Get "Up and Running" with AutoCAD using Gind's combination of step-by-step

Catalog

A B C D E F G H
I J K L M N O P
Q R S T U V W X
Y Z

NOTE:
search your document or videos by the first letter of the name

Categories

Research works
Publications
Journals
Articles
Conference proceedings
Data set
Thesis

Videos:

Displays all the videos shared to the student, press video to access the videos.

GLARE DIGITAL LIBRARY
Group Learning and Research Exhibition

Public Documents Private Documents Videos Groups Upload My Profile Logout

Full text Search Engine.

Enter Keywords...

Go

Videos

Shared By: hari Eclipse and Java for Total Beginners. This free video tutorial will help get you started writing Java programs using Eclipse version 3.3. No prior experience with

[View Video](#)

Latest Releases & News

Date Published: 2014-04-17

Art history is the study of objects of art in their historical development and stylistic contexts, i.e. genre, design, format, and style. This includes the "major" arts of

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Catalog

A B C D E F G H
I J K L M N O P
Q R S T U V W X
Y Z

NOTE:
search your document or videos by the first letter of the name

Categories

Research works
Publications
Journals
Articles
Conference proceedings
Data set
Thesis

Upload:

Student can upload documents by choosing upload and then choosing document. He can share with the groups he is part of and click upload.

The screenshot shows the 'Upload a Document' form in a web application. The navigation bar at the top includes 'Public Documents', 'Private Documents', 'Videos', 'Upload', 'My Profile', and 'Logout'. The form is divided into three main sections: 'Full text Search Engine', 'Catalog', and 'Categories'. The 'Full text Search Engine' section has a search box with the placeholder 'Enter Keywords...' and a 'Go' button. The 'Catalog' section has a grid of letters from A to Z. The 'Categories' section lists various document types: Research works, Publications, Journals, Articles, Conference proceedings, Data set, Thesis, Newsletters, Reports, Reference, and Standard. The main form area is titled 'Upload a Document' and contains the following fields: 'Document Name' (text input with 'tes'), 'Author' (text input), 'Category' (dropdown menu with 'Journals'), 'Language' (text input), 'Groups' (two dropdown menus, one with 'Research'), 'Price' (text input), 'Upload Document' (file upload button with 'Choose File' and 'No file chosen'), 'Image' (file upload button with 'Choose File' and 'No file chosen'), and 'Description' (text area with 'test'). A 'SUBMIT' button is at the bottom. To the right, there is a 'Latest Releases & News' section with three items, each with a date, a thumbnail, and a 'Read More' link.

Students can upload videos by choosing upload video and follow similar steps as above.

The screenshot shows the 'Upload a Video' form in a web application. The navigation bar at the top includes 'Public Documents', 'Private Documents', 'Videos', 'Upload', 'My Profile', and 'Logout'. The form is divided into three main sections: 'Full text Search Engine', 'Catalog', and 'Categories'. The 'Full text Search Engine' section has a search box with the placeholder 'Enter Keywords...' and a 'Go' button. The 'Catalog' section has a grid of letters from A to Z. The 'Categories' section lists various document types: Research works, Publications, Journals, Articles, Conference proceedings, Data set, Thesis, Newsletters, Reports, Reference, and Standard. The main form area is titled 'Upload a Video' and contains the following fields: 'Video Name' (text input with 'test fire'), 'Author' (text input), 'Category' (dropdown menu with 'Research works'), 'Language' (text input), 'Groups' (two dropdown menus, one with 'Java'), 'Upload Video' (file upload button with 'Choose File' and 'No file chosen'), 'Image' (file upload button with 'Choose File' and 'No file chosen'), and 'Description' (text area). A 'SUBMIT' button is at the bottom. To the right, there is a 'Latest Releases & News' section with three items, each with a date, a thumbnail, and a 'Read More' link.

Profile:

Students can change password by clicking change password in the profile and can press logout if they wish to log out.

The screenshot shows the user profile page for 'sukesh'. The page has a blue header with navigation links: Public Documents, Private Documents, Videos, Upload, My Profile, and Logout. The main content is divided into several sections:

- Full text Search Engine:** A search box with 'Enter Keywords...' and a 'Go' button.
- Catalog:** A grid of letters A-Z for navigation, with a note: 'NOTE: search your document or videos by the first letter of the name'. Below it are 'Categories' including Research works, Publications, Journals, Articles, Conference proceedings, Data set, and Thesis.
- My Details:** A box containing user information: User Name: sukesh, User Type: Student, Department: 1, Joined Date: 2014-04-03, End Date: 2016-04-03, Documents Uploaded: 0, Videos Uploaded: 0, and a 'Change Password' button.
- Latest Releases & News:** A list of recent updates with dates (2014-04-17) and brief descriptions of articles like 'Art history is the study of objects of art...' and 'From proposal to examination, producing a thesis is a challenge...'.

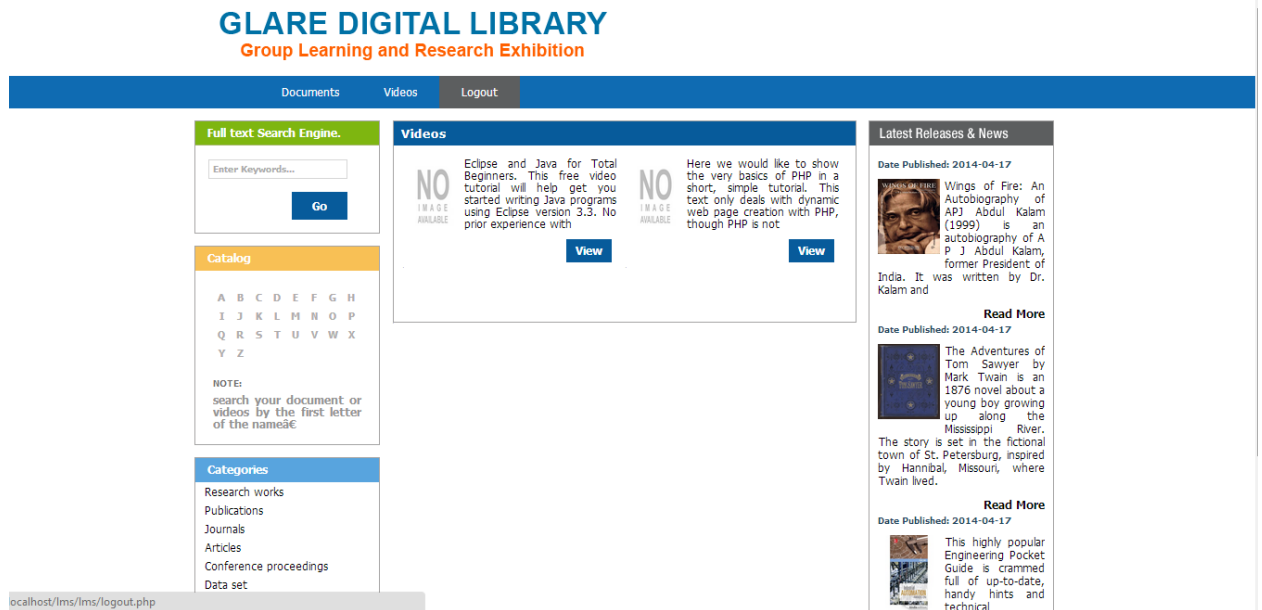
3. Guest Users:

They have to login by providing their name, following is the home page for guest,

The screenshot shows the home page for a guest user. The page has a blue header with navigation links: Documents, Videos, and Logout. The main content is divided into several sections:

- Full text Search Engine:** A search box with 'Enter Keywords...' and a 'Go' button.
- Catalog:** A grid of letters A-Z for navigation, with a note: 'NOTE: search your document or videos by the first letter of the name'. Below it are 'Categories' including Research works, Publications, Journals, Articles, Conference proceedings, Data set, and Thesis.
- Documents:** A list of documents with thumbnails and titles. Examples include 'Wings of Fire: An Autobiography of APJ Abdul Kalam (1999) is an autobiography of A P J Abdul Kalam, former President of India. It was written by Dr. Kalam and' and 'The Adventures of Tom Sawyer by Mark Twain is an 1876 novel about a young boy growing up along the Mississippi River. The story is set in the fictional town of St. Petersburg, inspired by Hannibal, Missouri, where Twain lived.' Each document has 'Download' and 'Rate & Comment' buttons.
- Latest Releases & News:** A list of recent updates with dates (2014-04-17) and brief descriptions of documents like 'Wings of Fire: An Autobiography of APJ Abdul Kalam (1999) is an autobiography of A P J Abdul Kalam, former President of India. It was written by Dr. Kalam and' and 'The Adventures of Tom Sawyer by Mark Twain is an 1876 novel about a young boy growing up along the Mississippi River. The story is set in the fictional town of St. Petersburg, inspired by Hannibal, Missouri, where Twain lived.'

They can click on videos to view videos and click on log out when they wish to logout.



Search:

All users of GLARE can search with help of a full text search engine, catalog or by category .They are on the left side of the home screen for every user.



Administrative services:

1. Add users:

Users can be added by clicking add users and then filling the form and clicking on submit.

The screenshot shows the 'Add Users' form in the GLARE Digital Library. The form is located in the center of the page, under the 'Add Users' tab. It contains the following fields: Username (with 'dfe' entered), Password (with three dots), Type (with 'Faculty' selected in a dropdown), and Department (with 'Computer science' selected in a dropdown). A blue 'SUBMIT' button is at the bottom of the form. To the left of the form is a 'Full text Search Engine' with a search box and a 'Go' button. Below the search engine is a 'Catalog' section with a grid of letters A-Z and a 'NOTE' about searching by the first letter of the name. Below the catalog is a 'Categories' list with items: Research works, Publications, Journals, Articles, Conference proceedings, Data set, and Thesis. To the right of the form is a 'Latest Releases & News' section with three items, each with a date published (2014-04-17) and a 'Read More' link.

2. Add Categories:

New categories can be added by clicking on add category and fill the form and press submit.

The screenshot shows the 'Add Categories' form in the GLARE Digital Library. The form is located in the center of the page, under the 'Add Categories' tab. It contains the following fields: Category Name (with 'fdf' entered) and a blue 'SUBMIT' button. To the left of the form is a 'Full text Search Engine' with a search box and a 'Go' button. Below the search engine is a 'Catalog' section with a grid of letters A-Z and a 'NOTE' about searching by the first letter of the name. Below the catalog is a 'Categories' list with items: Research works, Publications, Journals, Articles, Conference proceedings, Data set, and Thesis. To the right of the form is a 'Latest Releases & News' section with three items, each with a date published (2014-04-17) and a 'Read More' link.

3. View users:

All the users of the digital library can be viewed by pressing the view user button.

Required users can also be deleted by pressing on delete on the right.

GLARE DIGITAL LIBRARY
Group Learning and Research Exhibition

Documents Videos Add Users Add Categories View Users Logout

Full text Search Engine.

Enter Keywords...

Go

Catalog

A B C D E F G H
I J K L M N O P
Q R S T U V W X
Y Z

NOTE:
search your document or videos by the first letter of the name.

Categories

- Research works
- Publications
- Journals
- Articles
- Conference proceedings
- Data set
- Thesis

| ID | Username | Type | Delete |
|----|------------------|------|--------|
| 1 | admin | 1 | Delete |
| 2 | hari | 2 | Delete |
| 3 | sukesh | 3 | Delete |
| 4 | phani | 2 | Delete |
| 5 | student | 3 | Delete |
| 6 | santosh | 3 | Delete |
| 7 | John | 2 | Delete |
| 8 | kaushik | 2 | Delete |
| 9 | paul | 2 | Delete |
| 10 | reme | 3 | Delete |
| 11 | santhosh | 3 | Delete |
| 12 | tusch | 2 | Delete |
| 13 | gregory | 2 | Delete |
| 14 | jamal r alsabagh | 2 | Delete |
| 15 | kesha | 3 | Delete |
| 16 | leoner | 3 | Delete |
| 17 | chuck | 2 | Delete |
| 18 | ina | 3 | Delete |
| 19 | nakta | 3 | Delete |
| 20 | mara | 3 | Delete |
| 21 | zulema | 2 | Delete |
| 22 | chris | 3 | Delete |
| 23 | chris | 3 | Delete |
| 24 | sam | 3 | Delete |
| 25 | Jonathan | 2 | Delete |
| 26 | jenina | 3 | Delete |
| 27 | frank | 3 | Delete |
| 28 | howard | 3 | Delete |
| 29 | bond | 3 | Delete |
| 30 | clair | 3 | Delete |
| 31 | dan | 3 | Delete |
| 32 | daniel | 2 | Delete |
| 33 | edna | 2 | Delete |
| 34 | mendy | 3 | Delete |
| 35 | len | 3 | Delete |
| 36 | tam | 3 | Delete |

Latest Releases & News

Date Published: 2014-04-17

Art history is the study of objects of art in their historical development and stylistic contexts, i.e. genre, design, format, and style. This includes the "major" arts of

Read More

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Read More

Date Published: 2014-04-17

Get "Up and Running" with AutoCAD using Gindis's combination of

4. Remove flagged documents:

Documents flagged by users can be removed by clicking on documents, clicking reported and pressing delete on the right.

GLARE DIGITAL LIBRARY
Group Learning and Research Exhibition

Documents Videos Add Users Add Categories View Users Logout

Full text Search Engine.

Enter Keywords...

Go

Catalog

A B C D E F G H
I J K L M N O P
Q R S T U V W X
Y Z

NOTE:
search your document or videos by the first letter of the name.

Categories

- Research works
- Publications
- Journals
- Articles
- Conference proceedings
- Data set
- Thesis

| Document Name | View Document | Delete |
|---------------|---------------|--------|
| Art History | View | Delete |

Latest Releases & News

Date Published: 2014-04-17

Art history is the study of objects of art in their historical development and stylistic contexts, i.e. genre, design, format, and style. This includes the "major" arts of

Read More

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Rating :

Any user can rate the documents by clicking rate button and then selecting the appropriate rating and then click submit.

The screenshot displays the 'GLARE DIGITAL LIBRARY' interface with the subtitle 'Group Learning and Research Exhibition'. The navigation bar includes 'Public Documents', 'Private Documents', 'Videos', 'Groups', 'Upload', 'My Profile', and 'Logout'. The main content area is divided into three columns:

- Full text Search Engine:** A search box with the placeholder 'Enter Keywords...' and a 'Go' button.
- Catalog:** A grid of letters A-Z for filtering documents by their first letter. Below it, a note states: 'NOTE: search your document or videos by the first letter of the name'. A 'Categories' list includes: Research works, Publications, Journals, Articles, Conference proceedings, Data set, and Thesis.
- Book Details:** A section for the document 'Art History'. It shows a thumbnail image of a woman in a field. The details include:
 - Title : Art History
 - Contributors : Khan
 - Language : English
 - Rate Document : A dropdown menu set to 'Good' and a 'Submit' button.
- Latest Releases & News:** A section with three news items, each with a date, a thumbnail, and a 'Read More' link. The first item is dated 2014-04-17 and discusses the study of art objects. The second is dated 2014-04-17 and discusses writing a thesis. The third is dated 2014-04-17 and discusses AutoCAD.

Commenting:

Any user can comment on the documents by clicking comment button and then writing the comment and then clicking submit.

This screenshot is identical to the previous one, but the 'Book Details' section for 'Art History' is updated to show the commenting process:

- The 'Rate Document' dropdown is now empty.
- A 'Comment:' label is followed by a text input field containing the word 'good'.
- A 'Submit' button is located below the comment field.