Re-Engineering of Library and Information Services through Web Modeling at Delhi College of Engineering.

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0.   Abstract.

Discusses various aspects and approaches that Delhi College of Engineering Library is employing to provide the resources and services available to users.

Outreach and promotion of library resources and services is an increasing challenge in the online world since many of users do not often visit the library. This is particularly true in science and engineering libraries, where much of content have been made available online and users tend to be technology savvy. Elaborates the process of re-engineering of automation initiatives and digital library initiatives to prepare the ground base for hybrid library. Library website is designed in such a way that helps us to re-engineering of library and information services to maximize usage and draw users back into the library, both physically and virtually.

1.   Introduction.

Technology has impacted libraries significantly, whether it is decreased door counts or increased use of virtual resources and especially academic libraries have faced a great deal of change in recent years. Users have more options than ever for filling their information needs. LIS Professionals must be creative and innovative in order to serve their users to the fullest. Professionals have to reach more users in a variety of ways, as their collections and services move into an increasingly virtual environment, they have to provide their users greater access to in-house as well external resources which is exactly what they want.

Now information personnel's have to work harder than ever before to get out into their users spaces (both physically and virtually) and to draw their users into the traditional space of the library. What follows is an overview of the initiatives and strategies in Engineering Library have implemented to reach out to the users, in an effort to draw them into the library either physically or virtually.

2.   DCE Library at Glance.

The Library was established in the year 1941, just after establishment of the Delhi Polytechnic with a rich collection of engineering, science and technology books, periodicals etc. catering to the academic and research needs of teachers, research scholars & postgraduate and undergraduate students. Delhi Polytechnic was renamed as College of Engineering and Technology, Delhi and foundation stone laid down by His Royal Highness The Duke of Edinburgh, K.G. on January 7, 1959. DCE library is one of the oldest library of northern India

Assistant Librarian 🔶 and Librarian 🔶🔶

The DCE Library System which is renamed as Knowledge Centre and Library Online [KCLO] consists of a Central Library and 14 departmental libraries which collectively support the teaching, research and extension programmes of the Institute. All students, faculty members and employees of the Institute are entitled to make use of the Library facilities on taking library membership. The Library, besides having a huge collection of books on engineering, science and humanities offers library services through its various divisions. Library has more than 3000 active members. The Central Library moved to its new building in May, 2004 which has the reading area for 850 readers at a time and having a seven reading halls to accommodate approximately 1150 students at a time. Each hall having the collection areas as well reading area to provide better approach and access to their reading material.

To make the Delhi College of Engineering Library a 21st century Knowledge Centre and to facilitate the transition of today's engineering society to a knowledge base society of tomorrow, the knowledge generated by the faculty and students of DCE has been digitized and made accessible through Intranet or Internet. Along with the automation of library services, DCE library have move towards the digitization of library resources, so that the services of Virtual Library and Knowledge Centre may be provided parallel with the Traditional Library.

3.   Re-engineering with the use of new approach and networking technology.

The technological revolutions have become order of the days. There is a revolution brewing in the world of information, communications and technology, and for a change, the telecom companies or the Internet Service Providers is not driving it.
Fast changing curricula and frequent introduction of new subjects impose a great demand on the system in general. Technology is a driving force in the contemporary education systems. Successful implementation of high-tech programmes like INDEST and UGC-INFONET consortia resources will really get further strengthened and campus wide reach with the adoption of cabled network and wireless technologies.

3.1   Application of lease line and Wi-fi.

A separate LAN was installed inside the DCE library. Initially 76 machines were installed. At present all machines have been connected via the library LAN. The library LAN in turn is connected to the institute Intranet, thus providing accessibility of library resources to all parts of the campus including students hostels, faculty wing and residential areas.

Library has been subscribing 2 mbps internet connectivity for fast and better access of E-resources. All the seventy six terminals have been connected by cat 5 cables through the various switches installed on different location in the library and along with that parallel wi-fi connectivity has also been provided for reliable and smooth access. The Wi-Fi technology have been adopted due to the faster and cheaper net connection; allows for a more dynamic network, free network without cables; spread out at a larger table in a quieter area of the campus; flexibility which allows to move about without breaking the network connection.

It is available to users both when the library is open, and when it is closed. It can be achieved either by the user's own wireless-enabled device or by a wireless device provided to them by the college. This could be a laptop with a connection outside of the library would only be possible within 100-300 meters of the building and further it can be extended with the use of additional antennas and access points.

With the re-engineering of new approach and networking technology, in-house activities and services of library could be extended to the user community at their desktops without much physical environ rather wireless at a higher speed than now to justify the realization of five laws of library science laid down by Dr S R Ranganathan. Thus, the user's time consciousness approach for want of information can be met out of networking through Wi-Fi feasible technology, where bandwidth and physical layout would be at its advantage.

4.   Re-engineering of Library Automation Initiatives.

Even after having a huge shortage of staff in library, we have planned re-engineering of library automation, about 30,000 books database had been managed in CDS/ISIS during 1996 to 2003.

In real sense, the re-engineering of library automation work at DCE was well planned after the joining of a full-fledged Librarian in 1996 and further acceded after joining Assistant Librarian in 1998. Library has submitted the proposal for its automation in two phases in 2002.

4.1   First phase: -Initial necessary hardware such as server, scanners, computer systems, CD-writer, 5 in one printers, Bar-code reader its printer and internet and intranet tools were procured.

4.2   Second phase: - Readymade library management software named libsys-4 was procured and installed and further project for retrospective conversion were initiated step by step….

4.2.1   Step-1: Data from CDS/ISIS….The data of books available in CDS/ISIS have been imported into Libsys.

4.2.2   Step-2: Database for holdings and members…..Without wasting time we decided to first enter all the record through the accession register by entering all the information available in the accession register. Due to the availability of limited number of library staff, the work was executed on contract basis through an out side agency. But the database for the members was created by the staff.

4.2.3   Step-3: Entry of class number…..The library accession register does not contain class numbers. The class numbers in the computer were updated.

4.2.4   Step -4: OPAC…..OPAC was a first computerized activity provided to the library users.

4.2.5   Step -5: Libsys training for library staff …..An informal training programme on the use of Libsys was organized for the staff at DCE.

4.2.6   Step -6: Automated Circulation….After having the clear concept on the circulation activities of libsys, computerized issue / return of books had been carried out simultaneously with the manual for six months and after that it was shifted completely on automated system.

4.2.7   Step -7: Editing and key wording through books….The library databases is being edited and due key words is also being assigned. During this period, all the bibliographical records of a books are also being updated.

4.2.8   Step -8: Preparation of Bar-coded library membership card….Bar-coded membership card was introduced and implemented for library facilities including circulation.

4.2.9   Step -9: Bar-code label printing and pasting …..Library procured the barcode printer and allied stationary. Two barcode labels for each document was got printed and pasted (one on front page and another below the due date slip page) by the library staff.

5.   Re-engineering of Digital Library Initiatives.

With the advent of Information Technology revolution the role of Information Systems and the Libraries are undergoing a rapid change and it is important for us to understand and exploit as to how best we can assimilate the impact on Information Technology for the rapid track development of modern techniques driven Information Systems and the Libraries. Along with the automation of library services, we would like to move one step towards the digitalization of library resources.

To make the Delhi College of Engineering Library a 21st Century Knowledge Centre to facilitate the transition of today's engineering society to a knowledge base society of tomorrow. It is necessary that the knowledge generated by the faculty and students of DCE is digitized and made accessible through Intranet or Internet. The practice of digitalization of resources will be a continuing process in the library and all students, research scholars and faculty members are contributing their publications. The resources i.e. books/ research papers /articles / thesis and dissertations may be provided along with their copy right, proforma for copy right permission to DCE is available online.

5.1   Setting up Electronic Resources Centre. (ERC)

To manage the electronic needs and resources available within the library as well external resources, library has set up an Electronic Resource Centre having the target to develop Hybrid / Digital library. The main aim of resource centre to provide desktop accessibility, simultaneous access with time less usage. The centre acquires the electronic resources i.e. e-books, e-journals, e-databases, digitization of library resources, development of library webpage and membership of consortia's i.e. INDEST, UGC Info-net.

5.2   Installation of Dspace

To move one step ahead towards digital library, digital repository software named Dspace is installed in the Library to cater the digital repository needs of the institute. We have customized the software to keep in mind the needs of the users and accordingly communities, sub communities and collections were created for building the database. The Library uses DSpace - digital repository system which stores, indexes, preserves the resources and distributes full text material. The collection of the documents in library are Faculty publications, E-theses and dissertations of research scholars, projects of M.E. and B.E. students and DCE Publications i.e Convocations, Annual Reports, Annual Magazines, Old exam papers, Prospects, DCE in News and Images / Photographs etc in PDF format. User can have the access of these institutional repositories through intranet via Wi-Fi / Internet. Many Communities, Sub-communities and Collections have been created which found suitable arrangements.

5.3   Procurement of Electronic Resources and CD Storage Systems.

Digital library activities were initiated with the procurement of some index databases such as Ei-Tech - index. Library has been the member of INDEST Consortia for last four year. Being an AICTE supported institution the facility of online journals like IEEE/IEE, ASME, ASCE, etc.

are extended to us. In addition to the above, library is being subscribing JET, Science direct and multi-access for five users of IEEE/IEE online journals, Springer Link and BIS-Standards database. For effective and efficient management of CD-ROMs, a CD Storage system is being under process at DCE library.

5.4   Initiatives with C-DAC for National Digital Library of India.

Library has a lot of information in the form of rare books/old journals which can be of utmost important for this project. The ultimate aim of the project is to digitize these rare documents of preservation, archival purpose and make the information available to the masses for its appropriate use. One copy of the digitized information will be returned in CD form to the library free of cost. At the same time, copyright free information will be uploaded on the web, which will enable a larger section of common people to access this information through Internet. Conversion of project reports (thesis and dissertations) and DCE publications in digital form is the current item on the process.

5.5   Formation of INDEST User Group.

To maximize the utilization of online journals, BIS-Standards, and database etc. and speeding up the awareness among students and faculty members, INDEST Users Group (IUG) of voluntary students and faculty members in the college under the Chairman of Library Advisory Committee have been set up and all interested students and faculty members have joined the IUG.

5.6   User Education.

The INDEST Users Group is responsible to organize awareness meets on regular intervals: During the meet, the following activities are carried out. Training programme for effective use of available online journals and database by publishers or their Indian agents;
Demonstration of new databases by publishers or their Indian agents;
Lectures by experts of other institutions using INDEST facilities.
Group discussion on problems faced by users.

At the beginning of each academic session, library organize orientation programme through the live demonstration of library website to educate the new users about the library resources and methods for using the services. Besides that 76 computers have been installed in the library for the use of students. On these computers, students can access the following library services: check their accounts, library OPAC, putting of reservations, on-line search (Internet, E-journals, Ei-Tech Index, and BIS, ASTM - Standards), Use of CD Diskettes available in the library, and view all other library services.

6   Ask the Librarian / Contact us / Feedback Process.

To have any query, information regarding library, any user may contact to the librarian directly to the library authority through the link ask the librarian. Users may also contact to the librarian or Assistant Librarian for any type of query and problems relating to the library. If users have any problem related to central library website like broken links in the library website and library pages doesn't appear currently in their browser then they can give their feedback to improve to serve them better. We are always available and ready to help our users online. They can also report about their problems related to library website. To use this facility user have to prove their identity e.i. name, e-mail id and they may submit their feedback through the form which is available on the

feedback page. All new changes were discussed before being implementation at the DCE library. Students were considered as the most important part of the DCE library. For the instant communication to the librarian and assistant librarian, a suggestion box is the another special feature of the home page

6.1   Questionnaire method: Library has started on-line survey through a structured questionnaire for the assessment of user information needs which is the base of our collection, services and functions of the library.

6.2   Interview: Under this method outgoing students at the time of the final clearance were personally interviewed by the librarian to get their views on the present status and future information needs of the students. This was the best way of obtaining their views. As they have already spent 2-4 years at DCE. Notice on this respect is placed online.

6.3   Observations: Library staff is directed to keep observing the usage of library resources to know what kind of books were in demand. For example, the person sitting at the "Circulation Counter" is responsible for collecting the information regarding the most used titles and passing on this information to their seniors for future action.

6.4   Data Analysis: As the functions of the library have been dealt through Libsys (LMS) and the data transformed and captured in the database is being utilized to build better resources and to provide better services which is based on data analysis i.e. usage of documents, titles in demand, users statistics etc.

7.   Re-engineering of Library Webpage.

The web is an easy place to reach users in their own interest since they can access content while sitting at computers in their offices or dorms. While they are navigating to the content they came for, we need to unobtrusively replicate the accidental learning and exposure to resources and services they could get by coming into the library.

The server side scripting has been done in PHP, and front end has been made using html, java scripts and CSS (Cascade Style Sheet). The work of website designing were taken up one and half year back, but in the first attempt, the website was not up to the mark to satisfy the needs of library services and having less scope for virtual library development. Finally in December 2006, we have succeeded to remodel library website, which has much more advance features. We may claim that the DCE Library website is one of the advanced sites among Indian libraries. It is impossible to discuss the outreach efforts of the Engineering and Science Libraries without discussing that of the entire DCE Library web site.

7.1   Modeling of Home Page.

 The designing of home page was a very tedious and challenging task. 800x600 resolution has been kept for the best view of the page, for the better reading at the long time a sober, and eye friendly colors i.e. off white, gray, and black for fonts, tables and background have been used. An obvious way to reach our users is through our central home page: [Figure 1]. It has the easiest URL to remember.

[Figure 1]: DCE KCLO- Home Page - http://www.dce.edu/library

There were many resources and services that we would like our users to know about but we can not highlight them all on the top page. In addition to the regular navigation and links, we have created a few features on our home page that allow us to promote new or existing resources and services.

In the top of the page at left side, space is provided for the new Announcements which is RSS optimized and at the right side Search option for the website search. The links provided in the top line are Home, Services, Forum, Notice Board, VRD, DDS, Think Tank, FAQ, and Feedback. In the left middle, the links are in the tabular format which is General Information, Library OPAC, E-Journals, E-databases, E-References, E-**Resources**, **Requisition Form ,Faculty forum and standards.**. In the right middle, News and Events, and Suggestion box is kept. On the middle of the page a brief details of the library have been provided which can be seen under point no 2 "DCE at a Glance". In the below middle page, Virtual Tour and Ask the Librarian links are provided. At the bottom of the page :- LAC (library advisory committee), Projects (library), Dspace (institutional repository which includes thesis and dissertations , DCE publications and DCE in news etc.) ,OPAC (online public access catalogue), Computerization, Digitization and Web Management Team and at the lowest bottom a link of Site Map has also been provided to know the overall areas covered in the site.

7.1   Services to the Users.

Services to the users are major function of any library and users are expected to visit this page more frequently. Under this page, further links to the following services has been provided.

7.1.2   Registration:-. The link to down load the registration form has been provided and all the faculty member and newly admitted students of the college have to register them self before enjoying the library facility. Other terms for registration along with complete rule and regulation of the library have been provided so that users may go through before registration. Users may registered them self online, however they have to collect their laminated library ID from the library personally.

For the convenience to the faculty members and newly admitted students those who wish to take advantage, they may register their self online by filling the form for the purpose which is available on the page or they may download the registration form and submit along with 2 photographs personally to the library for early registration.

7.1.3   Cancellation of Registration / No Dues Certificate:- Schedule for No Dues Certificate have been provided online along with the form, which may be downloaded from the webpage. Online process for NDC is also under process to find feasibility.

7.1.4   Reference Service:- A large number of Encyclopedias, Handbooks are available in the Library Reference staff is also available in the reading room to suggest sources of information and to assist in locating the required material and link to VRD is also provided for online reference queries.

7.1.5   Newspaper and Magazine Section:- List of all 18 national newspapers and 60 magazines which are being subscribed in the library have been placed.

7.1.6   Journals/Periodicals Section:- Journals being the primary source of information are essential to supplement the research activities and are required regularly. A number of foreign & Indian journals are being subscribed Full Text on-line to facilitate the on going research activities & to expand the areas of future research activities. The online Journals being subscribed includes ASME, ASCE, IEL (IEE/IEEE) and JET. The users can access of e-journals from anywhere at any time because these Login id and Password based through our library webpage which are protected by the User id and password and that may be collected personally from the library.

7.1.7   CD ROM Access to Engineering & Scientific Data Bases:- Various CD-ROM database i.e. BIS, ASTM, EI-index etc. are being subscribed. Apart from these databases library also has a good collection of books on CD-ROM and video recordings.

7.1.8   Library Catalogue (OPAC):- The library offers computerized catalogue search services through the OPAC. The bibliographic record consisting of more than 150000 books available in the Central Library. Sufficient numbers of PCs are placed in the user area for the students and faculty to access the OPAC. Our Library Catalogue can also be searched through web.

7.1.9   Inter-Library Loan:- The information regarding the service is placed on the website. So that members can barrow the books and periodicals which are not available in the DCE library from other libraries. The DCE library, in turn also lends its resources to the other libraries through DELNET and through the webpage of library, e- documents can be also be exchanged by using DDS.

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7.1.10 Recommend the Book:- Members may recommend any document to procure in the library, a requisition form for the purpose is available in the Services Link. They may submit the form online by providing document details along with their personal details. As and when his request received in the library mail, after checking the holding, same is forwarded to chairman, LAC / Principal for financial approval. Purchase for the book processed after online approval and on paper approval processed later on in the file. This facility is also available through Libsys OPAC also. Members however may recommend any document by using printed form which is available in the library.

7.1.11 Book Bank:- The College runs a Book Bank intended to assist students, from the economically weaker sections of society, by giving text books on loan to deserving students for a whole academic semester according to the rules framed for the purpose.

7.1.12 Special Collection for SC/ST category:- Selected text books are made available to issue for a period of one semester according to the rules framed for this purpose to the student belonging to SC/ST category. Eligible students may apply for books from the special collection as per the schedule announced by the library.

7.1.13 Xerox / Printing Service:- Based on requisition, Xerox copies of the library documents are made available mainly for academic purpose. The terms and conditions along with the rates for per page Xerox and printing is also provided on the website.

7.2   Introducing RSS feed.

Really Simple Syndication (RSS) technology uses XML and allows a user to subscribe to websites that have provided RSS feeds. Feeds typically are provided on web content that changes regularly. We have introduced RSS as its utilities was very much appreciated and are in demand by the users, because after all we are providing the services to mass and they have the right to know the latest up-dated and changes when ever is made in the website. To read the announcement, a user can put the cursor on the box, or can drag the text up and down and by clicking can view the linked file.

To utilize the facility of RSS, a user need to subscribe to RSS feed, and reader (news aggregator) to install in his computer. User has to enter the URL that the website offered for the feed. RSS feeds can also be embedded into web pages, both within the library web site and on pages outside of the library. Once set up, our headlines will appear in those pages and will be updated as new stories are added, without any additional coding. Currently about 5 to 10 items have been in archive to rotate through when no new features are waiting to be highlighted. Examples of these are the RSS, DCE Library Automation, Defaulters List, Requisition Form, No-dues from Library, and Allowed Sites in Library.

7.3   Search the Website.

The indexing of the site was done using a script written in PHP for dynamic indexing. Any user can put the keyword in the provided box to search the website. The results are displayed in another page with the link to jump over the target directly. Even the search duration time is calculated for evaluating the efficiency of the search script.

7.4   Introducing the Forum for Students and Faculty members.

[Figure -2] KCLO- DCE - Forum page –http://www.dce.edu/lib/forum.php

Though many of our resources and services are available online, it is understood that some learning, exploration, and collaboration are best done in person. We also want to bring our users into the library so that we have introduced the forum for faculty and students to exchange and discuss the views on library services, on their interested and related topics etc. General discussion board and various other areas of discussion under the library forum Index page can be viewed at (figure-2). However they can also give fruitful suggestions for improvement of library. Before posting the message they have to get registered their self in the forum by producing their identity with full details.

7.5   Notices Board / News and Events.

The regular notice from the library to inform the students and faculty members are placed in the news link of Notice Board. Through this students and faculty members can know all type of notices related to library services i.e. registration, issue and return, rules & regulations, no dues hours book bank schedule etc.

The latest news and events going on in library and to keep in mind the interest of the students, other relevant information is also displayed and further links to another page have been provided to view the detailed. Like many other libraries, we have news headlines on our home page to alert our users to new resources and events. These headlines link to our news page for the complete details of particular event. This change has given us many more options for promoting our news stories to our users.

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7.6   Introducing VRD. (Virtual Reference Desk)

Through this option students and faculty members can send their requests to the library online. The reply is sent through e-mail in brief. The box is available in this menu which contains the name of users, e-mail id and reference question.

7.7   Introducing DDS: - (Documents Delivery Service)

Library has the different type of holdings such as reading and reference materials for the use of its members which can be supplied through e-mail or personal delivery basis on the request of users. The form for the purpose is available in this menu; users can submit their request for the resource which they want along with their name, and e-mail.

7.8   Introducing Think Tank.

If users have any idea and problems related to any specialized area of science, engineering and technology, then they can ask any question. Their queries will be forwarded to the expert concerned and replies will be sent to their requested e-mail directly by the experts. They can browse and submit there questions through this facility and can get the answers by the experts Users may share their own documents with each other through this page or they may also submit the documents which seems to be useful to the entire community of the students, research scholars and faculty members, after proper scrutinizing, the document may be granted to include in the Institutional Repository. There is three columns name, e-mail ID and file.

7.9   Library OPAC and Recent Additions.

Library has installed library software named Libsys-4 for managing the library affairs which is web enabled OPAC for providing bibliographical information of the library holdings and other additional facility to the users. Installation of web-enabled OPAC is one more step in this direction. Through the Internet / Intranet, access of library resources has been extended to the user's desk. Apart from the OPAC, a list of books with bibliographic records has also been displayed annually or monthly which has been added in the library collection.

7.10   E- Resources.

Library is being subscribing some E- resources i.e. full text online journals i.e. IEEE/IEE, ASME, ASCE, JET, Springer Link, and Science Direct etc., E- databases i.e. Ei-Tech Index and E-standards i.e. BIS and ASTM.   In addition to the above, library is being subscribing multi-access for five users of IEEE/IEE online journals. The user id and passwords for these resources have been provided on the particular webpage. The access is allowed only to the DCE users, the front page user id and passwords are available in the library. However library have procured the real IP address as per the subscriptions condition of the e-vendors and meanwhile to provide the campus wide access through IP address is being under process.

Apart from the links to subscribed resources, links to some other important academic resources i.e. books, encyclopedias, dictionaries; institutions have also been provided from the webpage.

7.11   Virtual Tour.

To make the users, familiar with library as a whole small * .flv, movie is attached which covers library building from outside and inside including all sections, collection areas, and service points.

7.12   Introducing DSpace.

User can have the search of any document by using the search facility available on every page. Search can be made by Author, Title, (Alphabetical order) and Date. They can jump alphabetical under any community or collection by using any keyword. Further they can use the advanced search option by using   - and, or, not with the combination of Keyword, Author, Title, Subject etc. in whole Dspace or any Community / Sub Community.

[figure-3] KCLO - DCE- Dspace http://www.dce.edu/library/thesis.php
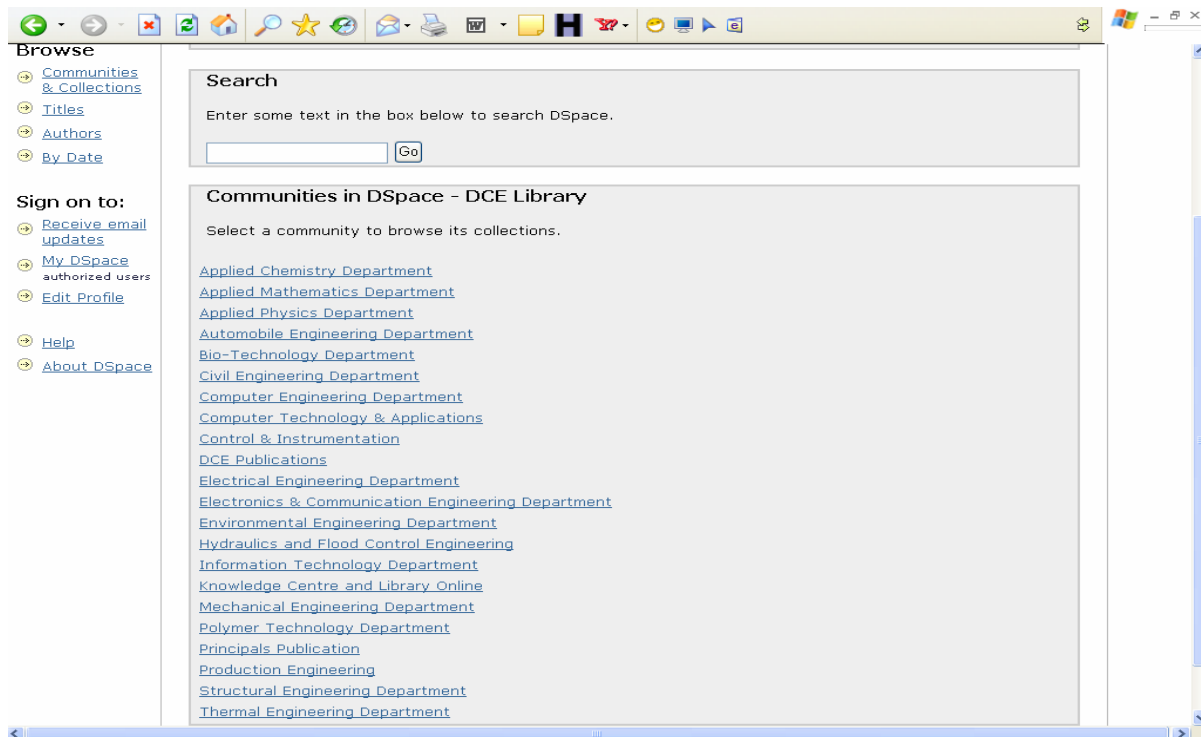
The design of communities and sub communities in Dspace have been discussed thoroughly with in the library staff and advice have also been taken from Dr A.R.D. Prasad and then Communities i.e. All departments, DCE Publications, Principal's Publication and Sub Communities have been created. The details in this regards is available under 5.2 The Communities in Dspace can be viewed in [figure-3] KCLO-DCE-Dspace http://www.dce.edu/library/thesis.php

7.13   Introducing Online Requisition.

To inculcate the participation and to know user need to build up the library collection, online request form for procurement of any document is provided, users may submit their request to library, the details in this regards can viewed under section 7.1.10 recommend a book.

7.14   LAC: - (Library Advisory Committee)

In this menu there is a list of the library representatives from various departments and chairman of library advisory committee. Users can know the names and designations of their library

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representative and chairman of LAC. In respect of library affairs any user may contact to their respective library representatives.

7.15   FAQ :- (Frequently Asked Questions)

Through this link students and faculty members can know the answer of their questions like I've lost my library card how do I get a replacement? , I'm a graduate of the college, can I use the library? , Can I use the computers in the library? , Where do I return books? The students who want the answer these questions can get answer through this FAQ link. If the user has any new query, they may ask to the library through various option of contact, which will be included in the FAQ along with its reply.

7.16   Library Projects.

To inculcate the participation of the students in the library affairs, library has designed three projects which are very useful for the library development and brief details of eligibility for the projects are provided in the website. The projects are….

7.16.1 Dspace:- It is an open archive initiative complaint open source software It is built for save, share and search the digital research materials like thesis, articles, reports etc. in digital form.

7.16.2 Library website design and Development:- The library website design and managed by web management team .It was the major step towards the automation of our library services.

7.16.3 Library Server Management:- Library is using the Libsys software and all in-house operation of library have been managed through the software. Software has been installed in IBM 2000 server and to manage and their implementations on the Linux base, project have designed.

7.17   Computerization and Digitization:-

The information regarding computerization and digitization going on in the library has been provided. To provide good library services with save the time of user and staff too we are doing computerization of library services. We are using Libsys software package which is an integrated multi user library system. Now many of the work of the library like issue/return (circulation), acquisition work, and OPAC etc. are done by this software library management software.

7.18   Sitemap of the Webpage.

It is the compact page which includes all the coverage area and direct links to the targeted document for the detailed information.

Explore the library	Services	Special Links
General Information	Registration	VRD
About the Library	Cancellation of Registration /	DDS
Notice Board	No Dues	Forum
Frequently Asked Questions	OPAC	Think Tank
Library Advisory Committee	E-journals	Electronic resources
Library Digitization	E-databases	E-references
Library Computerization	Recommend the book	D-space Projects/Thesis
Contact Us	Book Bank	Indian Standards
Feedback	Reference Service	ASTM Standards
Web Management Team	Newspaper and Magazine Section	INDEST User Group
	Additional Reading Section	
	Inter-Library Loan	
	Xerox / Printing Service	

8. Benefits of Web Modeling for the Library.

1. Better facility and usage of e-resources, to its uses through library web page.
2. Information available about library in respect of functions, services and activities relating to its users through out day and night.
3. Desktop accessibility through integrated sources of information.
4. Availability of Full Text resources through Dspace (An Institutional Repository Software).
5. Web enable OPAC access to its users to check their library account, reissue the book, recommend the book, and reserve the book from any where through Internet or LAN through the web page.
6. Enhanced and upgraded the institutional and library electronic communication capabilities.
7. Web is the better way to interact with the users; even they are unable to visit the library physically.
8. Library web page have offered a platform to discuss the library issues, students and faculty issues through the library forum and understand users information needs in a better way and plan accordingly for better information services.
9. It was a successful attempt by the library personnel's. Appreciations received from DCE authority, faculty, and students and also from various outside institutions which built up the confidence of the library staff and in future they are ready to take up the new plans for the library development.

9. Conclusion

There are many ways to engage our users through new technologies, workshops offerings, orientation activities, and invite them to use the library services. We have designed the library webpage in such a way to offer the maximum library services online and tried our best to satisfy the needs of our users. But we are still waiting for the maximum utilization of the library services through the web. A few new advance features have been introduced and the users need to train how to utilize them for the maximum result. But we being the engineering library are sure that our users will cop up the latest technology and will utilize in a better way in their research and development programmes.

In the DCE, we continue to explore new ways to connect with both traditional library users and new users who have never visited the library. By viewing changes in technology and

communication patterns as opportunities to reach our users rather than as barriers that keep them away, we are better able to serve our community.

It has been observed that there are so many International Library websites successfully operational and providing maximum information and services in all over areas of knowledge working in the field of education, research and development. It is not waiting time to seed money to facilitate development towards the electronic or hybrid library. We are living in very turbulent times where things change rapidly in our nearest environment. The commercial publishers and intermediaries offer already today their own integrated electronic libraries. If our library does not make significant progress towards making instant access for the users to a significant amount of electronic information resources, we run the risk that our institution decision makers and key users will shop elsewhere for satisfaction of their information needs. We cannot see any signs why libraries can avoid changing their operations drastically as well - if they want to survive. Therefore it is very important that library managers take the necessary steps in paving the way towards the digital library and that is being taking place very fast.

The most important things here are making funds available and converting LIS personnel's into technological think tank for the development of hybrid libraries. By developing the hybrid library, we may reduce the library "paper work" and adjust staff numbers in those processes which are in top priority.

Ideally digital library should continue to work at the long-term goal because the digital world would change the information and knowledge age into a wisdom age.

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