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

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ABSTRACT: Discusses various aspects and approaches that Chirala Engineering College 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.

Key words: Re-engineering with the use of new approach and networking technology, Re-engineering of Library Automation Initiatives, Re-engineering of Digital Library Initiatives, Introducing DDS, Introducing VRD (Virtual Reference Desk).

I. 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.

CEC Library at Glance

The Library was established in the year 2001, 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.

The Chirala Engineering College Library System which is renamed as Knowledge Centre and Library Online [CECKCLO] consists of a Central Library and 12 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 reading area for 160 readers at a time and having a seven reading halls to accommodate approximately 250 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 Chirala Engineering College 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 Chirala Engineering College has been digitized and made accessible through Intranet or Internet. Along with the automation of library services, Chirala Engineering College 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.

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. 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.

Application of lease line and Wi-Fi.

A separate LAN was installed inside the CEC library. Initially 30 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 8 mbps internet connectivity for fast and better access of E-resources. All the Thirty terminals have been connected with 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.

Re-engineering of Library Automation Initiatives.

Even after having a huge shortage of staff in library, we have planned re-engineering of library automation. In real sense, the re-engineering of library automation work at CEC was well planned after the joining of a full-fledged Librarian in 2001 and further acceded after joining Assistant Librarian in 2004. Library has submitted the proposal for its automation in two phases in 2008.

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.

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

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

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 outside agency. But the database for the members was created by the staff.

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

Step -4: OPAC…..OPAC was a first computerized activity provided to the libraryusers.

Step -5: EZ School software training for library staff …..An informal training programme on the use of EZ School software was organized for the staff at CEC.

Step -6: Automated Circulation….After having the clear concept on the circulation activities of EZ School software, 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.

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 books are also being updated.

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

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 middle page) by the library staff.

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 Chirala Engineering College 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 CEC 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 CEC is available online.

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.

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. MBA & MCA students and Convocations, Annual Reports, Annual Magazines, Old exam papers, Prospects, CEC in News and Images / Photographs etc in PDF format in Dspace. 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.

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, ACME, DELNET 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 CEC library.

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.

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.

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 30 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- index, and BIS- Standards), Use of CD Diskettes available in the library, and view all other library services.

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 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 his/her feedback through the form which is available on this feedback page. All new changes were discussed before being implementation at the CEC library. Students were considered as the most important part of the CEC library. For the instant communication to the librarian and assistant librarian, a suggestion box is the another special feature of the home page

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.
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 CCE. Notice on this respect is placed online.
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.
Data Analysis: As the functions of the library have been dealt through EZ School software 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.
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.
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. They may download the registration form and submit along with 2 photographs personally to the library for early registration.
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.
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.
Newspaper and Magazine Section:- List of all 10 national newspapers and 60 magazines which are being subscribed in the library have been placed.
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 ongoing 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.

Library Catalogue (OPAC):- The library offers computerized catalogue search services through the OPAC. The bibliographic record consisting of more than 45000 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.

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 CEC library from other libraries. The CEC 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.

Recommend a 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 he 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.

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.

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.

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.

Notices Board

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.

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.

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.

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.

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 CEC 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.

News and Events

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.

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 6.1.11 recommend a book.

LAC: - (Library Advisory Committee)

In this menu there is a list of the library representatives from various departments and chair man of library advisory committee. Users can know the names and designations of their library representative and chairman of LAC. In respect of library affairs any user may contact to their respective library representatives.

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. A brief detail for eligibility for the projects are provided in the website. The projects are

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 EZ School 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.

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 throughout 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 anywhere 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 CEC 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.

II. 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.

In the CEC, 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.

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 involved 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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