RESEARCH PAPER

ICT Based e-Resources: Management under COVID-19 Pandemic situation at central University of Karnataka

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Abstract: The present paper highlights e-resources managed at Central Library like e-journals, e-books, database, articles published by the faculty, reports, question papers and dissertations etc. Information Technologies provide an excellent tool for storing, processing, transferring and exchanging information during pandemic situation.

Key words: D-space, e-Books, e-Journals, e-Resources, Repository

Introduction

Over the past few years' libraries have witnessed tremendous development in the field of Information and Communication Technology which has resulted in the changed trends in publication of the information as well as in the storage of information. Many of the information sources such as journals, books, monographs etc. which used to be published in a printed form has been shifted to electronic version. Users as well as authors are also preferring this new medium of publication, which has resulted in an exponential growth of scholarly literature on the web on one hand whereas on the other hand, it has put several hindrances on the accessibility of the literature. Although it is now possible to have free access to significant quality of literature on the web, still significant amount of research is not available freely. The reasons may be many-the non-availability of all high impact journals on the web freely, at the same time-the researcher's preference to publish in high impact (peer reviewed) journal under UGC listed, the impediment of the subscription price to have access to journals by the individuals. Here comes the importance of open access or institutional repository, where onus of marketing arts more on the individuals and institutions in contrast to the earlier model of the dissemination through formal publishing channel.

The development of institutional repositories emerged as a new strategy that allows universities to apply serious, systematic leverage to accelerated changes taking place in scholarship and scholarly communication, both moving beyond their historic relatively passive role of supporting established publishers in modernizing scholarly publishing through the licensing of digital content and also scaling up beyond ad-hoc alliances, partnerships, and support arrangements with a few select faculty pioneers exploring more transformative new uses of the digital medium.

Purpose of e-resources

- To expedite the systematic development of procedures to collect, store, organize information in digital form.
- To promote efficient delivery of information economically to all the users.
- To encourage co-operative efforts to save and share the investments in research resources, computing and communication network.
- To strengthen communication and collaboration between and among research, business government and educational institutions.
- To take leadership role in the generation and dissemination of knowledge in the thrust areas of research.
- E-books, e-journals, databases are playing very important role in the present era.

Features

- Provides access to very large amount of information resources
- Focus on providing access to primary information
- Support multimedia content
- Network accessibility
- Provide user friendly interface
- Provide hypertext links
- Support client-server architecture
- Support advanced search and retrieval
- Integration with other Digital libraries

Technical issues

- High bandwidth networks supporting efficient multimedia document transfer
- Information access tools (browsers, display and search tools)
- Metadata standards
- Digital storage devices
- Scanning and conversion technologies
- Media integration technology

- Advanced retrieval, indexing and filtering etc.
- Document description and representation standards (XML)
- Inter-operability over the network
- Privacy, authentication and security of information

Creation and management of e-resources: Experiences

The University Library is in an advantageous position to enter into the era of Digital Library since all the earlier computerized activities are stabilized. The professional staff members are competent to handle digital resources and the users are exposed to the computerized information resources. We developed an end to end content management approach based on the distributed server model. The Digital Library server acts as both a content repository and as a clearing house for all the client requests for access to protected materials. The server is capable of simultaneously managing and evaluating a variety of access requests and license agreements for each content item in its repository. The work involved in creating the digital library includes the following;

- Creation of necessary infrastructure
- Creating the digital resources covering the materials generated within the university (faculty publications, thesis and dissertations, popular lecturers by seminars/conventions/workshops etc., held in the university.
- Online access to commercial databases
- To enter into copyright/intellectual property rights agreements
- Creating the web site and connecting the web sources and the internally generated electronic resources for wider access over the Internet
- Conducting the staff and user training programs

Managing the e-resources with knimbus:

Knimbus (K=Knowledge + nimbus=cloud) is a collaborative knowledge platform that connects you to relevant content and communities. It combines the best of Search, Social features and Library tools to enable higher research productivity and valuable insights:

- Discover valuable and relevant information from subscribed resources and open/web content.
- Personalize how you interact with and organize discovered knowledge.
- Connect with peers globally to build collective intelligence.

Knimbus key strengths of remote access:

- Real time Search that yields fast, accurate and relevant results. Faster information discovery helps you spend more time doing core research work and being productive.
- Social features enable you to build & sustain collaborative workgroups online for synergy in research work.

Usage of e-resources:

Usage of each e-resources places very important role to take up renewal for the next academic year. The publisher wise usage content can be viewed with the help of knimbus platform;
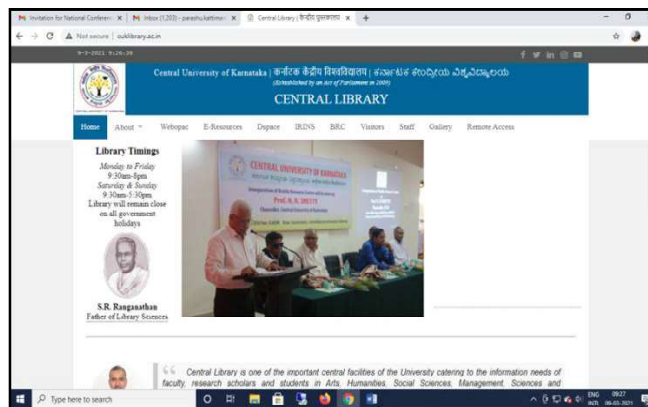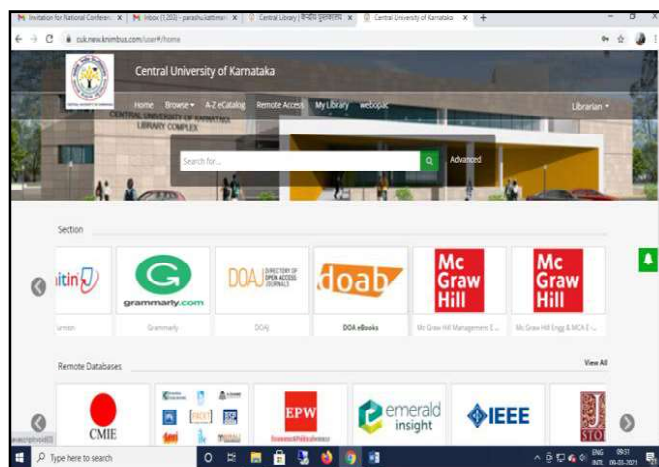

Fig. 1. Home page of Central Library
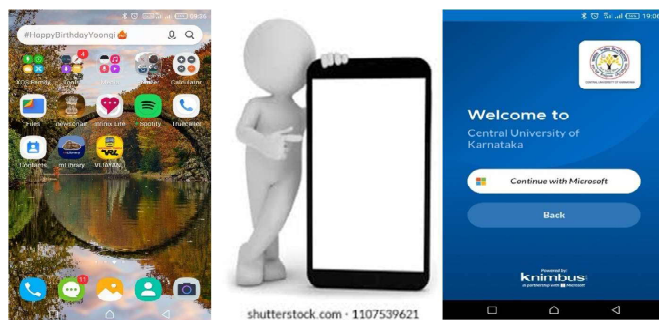

Fig. 2. Federated search

Mobile App a unique feature:

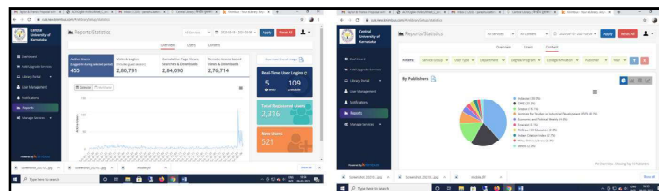Fig. 3. Mobile App of knimbus

Fig no-4 Usage statistics

Flow Chart

One the output of the feasibility study was the use of software for the creation of institutional repository, it was finalized that D-space would be used for IR, as it is one of the stable software, supporting each and every format of file for
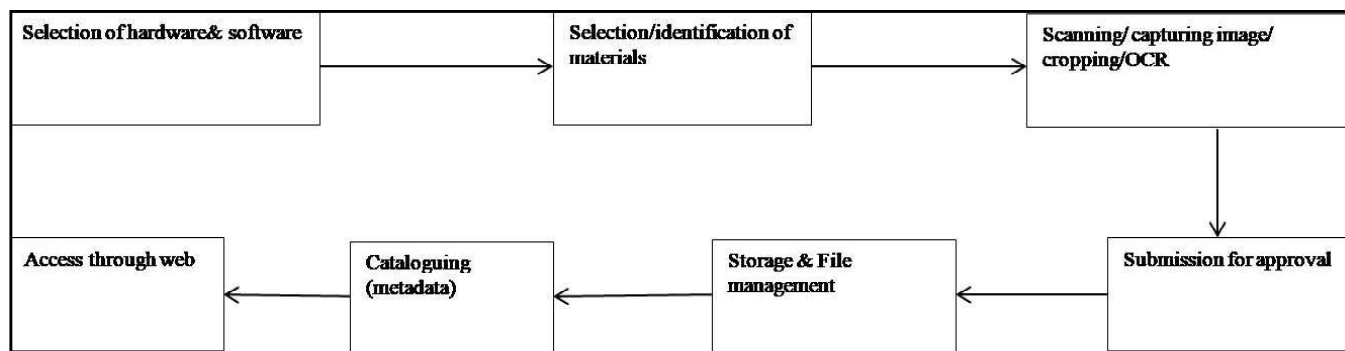
Fig. 5. Work Flowchart

storage. Accordingly D-space software was installed. Once the platform for IR was ready then the most important task was the identification of the material and uploading the same. If the material is found to be in a printed form, then it has to converted into machine readable form. Following flowchart was prepared for uploading the material into the IR(fig-2) where in if the material is found to be available in machine readable form then directly it would be uploaded with the required metadata.

Selection of materials

The academician and researchers are generating the huge information in the university, which needs proper archival, storage for future access. The outcome of research, proceedings of the seminars, conferences, annual reports etc.

Creation of Communities

It was decided that the materials would be categorized and
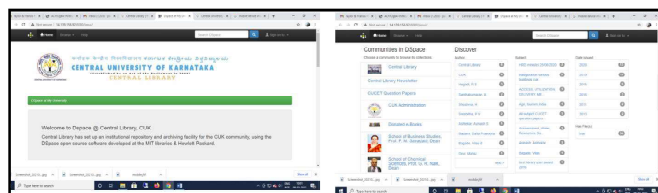
then it would be uploaded in to its appropriate category. D-space has to facility to create various communities, so various communities and sub-communities were created. The same is shown in Fig. 3 and 4.

Scanning/OCR

The University library was having Xerox workcentre 7428 scanner which is used for scanning of documents a separate server for storing the data for providing access to the material that purchased. The conference proceedings were scanned at

the resolution of 600dpi. Setting for various properties like brightness, contrast, scan resolution, scan mode, dithering and other settings available in the scanner were adjusted before scanning the actual page so as to get a good quality image. After having an image it was necessary to go for the cropping and OCR. After cropping and after performing OCR the PDF file was used for uploading. For cropping the image kodac software was used and for performing the OCR Abby fine reader software was used.

Creation of metadata

D-space uses a qualified Dublin core metadata standard for describing items intellectually (specifically, the libraries working group application profile). Only three fields are required: title, language, and submission date, all other fields are optional. There are additional fields for document abstracts, keywords, technical metadata and rights metadata, among others. This metadata is displayed in the item record in D-space and is indexed for browsing and searching the system(within a collection, across collections, or across communities).

Conclusion

The e-resources available in different formats helps and supports the researchers and faculty to carry out the research and for teaching in an efficient manner and quickly, as the e-copies are available at anytime and anywhere. The institutional repositories are the face and index of any institute or university shows the status of its strength in the form of research productivity and as such importance be given for development of institutional repositories, for which libraries needs to take positive initiation to develop the scientific temper of the institution. Efforts are been made to add more materials and made it accessible all over the world so that users will get benefitted by the research output of Central University of Karnataka.

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