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Academic Institutional Repository (IR)

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Abstract

Institutional Repository (IR) disseminates rich source of digitized materials drafted and published by learned societies. In India major R & D institutes and Academic Institutes provide an Institutional Repository (IR) service to its clientele. This IR technology offers the nobel laureates and researchers to deposit their work, which facilitates the target audience to access the research publications via digital form. This paper discusses about the IR technology implementation in Indian institutes, and also describes its objectives, software usages, growth and development of institutional repositories in India. It is stated that most of the institutes adopt the open source IR software's for creating/developing their own repositories. It is found that major documents deposited in Institutional Repository are theses, dissertations, conference papers, journal articles, reports, patents, etc. This paper also discus about the movement and institutional repositories future in India. This study clearly states that the institutional repository is a very powerful idea that can serve as an engine for institutions of higher education, and more broadly for the scholarly enterprises that supports research activities.

Keywords: IR, Academic Library, Open Archives.

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Introduction

Clifford Lynch define an institutional repository as "…a university-based institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organization and access or distribution."

How will academic libraries look in the future? What types of information will they contain? What resources will be accessed through them, and what services will they provide? While many externally produced information resources can be licensed and purchased, there can be no doubt that a growing number of academic libraries are also collecting, organizing, and disseminating the intellectual output of their parent institutions. This body of campus-born work stems from both learning and research programs; it is voluminous and diverse and needs to be managed well for the long-term. To meet the challenge, institutional repositories (IRs), where these items are held, organized, and accessed, are proliferating at a great rate.

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Institutional repositories (IRs) contain an abundance of faculty-generated pre-prints and post-prints, conference proceedings, technical papers, research reports, white papers, theses and dissertations, and other text-based forms of scholarly works. There are, however, newer, more complex, and extremely diverse forms of intellectual output being generated. These include data sets derived from research; learning and complex multimedia objects used in instruction, simulations, visualizations, and other forms of digital models; and audio video webcasts of conferences, lectures, and symposia. A cyber infrastructure of people, technology, and policies will be necessary to manage, preserve, and provide access to these products. Library services will come to the fore to support the creation and use of this digital material in new and different ways.

Institutional repository is now becoming a platform for the sharing of knowledge. Libraries increasingly will build information systems to organize, preserve, and provide access to these kinds of resources. The four major categories of output that will be reviewed are:

1. Faculty and Researchers' Scholarly communications (i.e., pre-/post-prints, journal articles, conference papers, research reports, technical papers, etc.)
2. Student intellectual output,
3. Learning objects and other multimedia-based works, and
4. Digital research data sets

A university's digital intellectual output includes a diverse body of items, such as: • annual

reports, • computer programs, • conference papers, • data sets, • learning/complex objects (digitally captured courses, multimedia simulations/visualizations, captured notes of faculty and students, etc.), • lecture series materials, • models, • pre-prints/post-prints, • proceedings, • research reports, • simulations/visualizations, • technical reports and working papers, • web pages, and • white papers. Libraries increasingly will build information systems to organize, preserve, and provide access to these kinds of resources.

Open Access Movements & IR'S Future in India

The Central and the State Government are very keen in proliferating more number of Universities and R&D institutes in India. So institutes which involve in research may require their own Institutional Repository (IR). If a National movement is initiated at this juncture to create awareness and the importance to design their own Institutional Repository, the research trend may be enhanced. Since the implementation process doesn't require huge amount but only require the cooperation and technical knowledge sharing among the professionals. The major research funding agencies in India like AICTE, CSIR, ICMR, UGC, and other organizations, etc, may insist their affiliated bodies to design and develop an Institutional Repository. The CSIR also has a plan to setup a national digital repository of research literature. As if most of the research being carried out with the help of public fund. In turn the scholars may publish their research outcomes for the benefit of research communities and general public.

National knowledge commission suggested the higher education and R&D sectors should devise guidelines and open access policies to improve effective access to research literature and to disseminate research literature to the seeking communities. To enhance the research trends in India the above said guidelines must be implemented, where by duplication or identical studies may be restricted. Also the researchers will get more précised and quality information, whereby high quality research output may be expected.

Indian research communities are now aware of the importance of open access electronic journals and they are utilising the benefits of open access archives. Open access movement in India is started moderately from a few institutions and now spreads all over as a number of institutions have joined together. The public-private partnership in this movement is also growing. The open access movement in India is acknowledged worldwide.

Role

The role of the IR is to serve as "home" to the conference's host web site by providing a place where the conference's scholarly output is organized and rendered searchable and accessible. The IR framework also supplies the necessary functions and procedures to assure long-term preservation.

Methods

The methods involved in developing and Institutional Repository is shown in the figure-1.

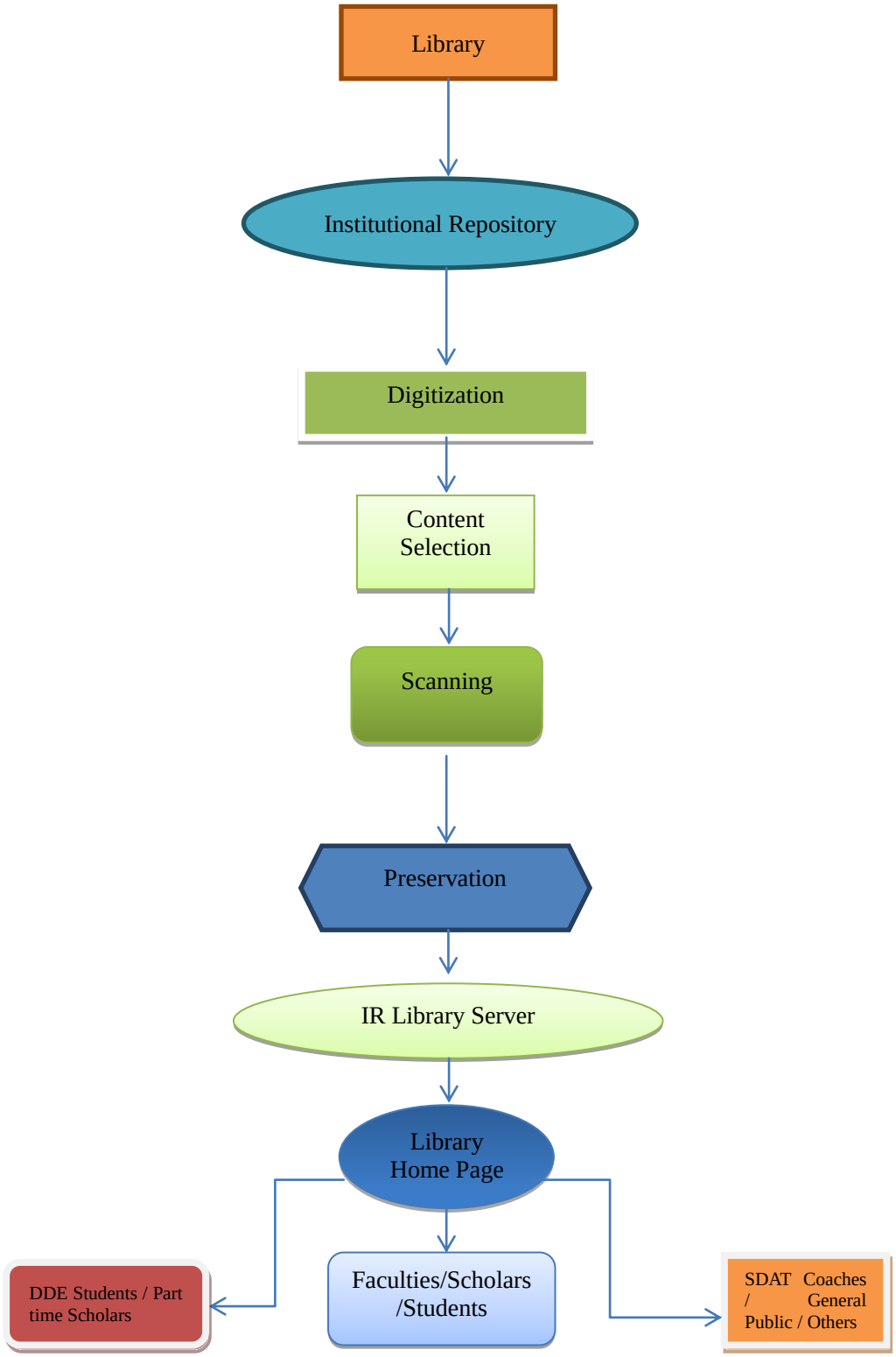
The content of an Institutional Repository could be:

• Pre-prints of articles or research reports submitted for Publication
• The text of journal articles accepted for publication
• Revised texts of published work with comments from academic readers
• Conference papers
• Teaching materials
• Student projects
• Doctoral theses and dissertations
• Datasets resulting from research projects
• Committee papers
• Computer software
• Works of art
• Photographs and video recordings

Digitization own content:

Academic Libraries receive documents from COE, Registrar, Hod's, faculties, scholars, principals of affiliated colleges and external agencies. These documents may be digitized and should be kept in a retrieval form for future reference. To achieve this process converting a print document into digital form a institute require a suitable scanner & software like OCR. Multimedia section can also go together for adding visual and sound information. Digitized ifformation must be clearly identified properly indexed and well organized for its archival and dissemination.

Figure I
Methods involved in Developing Institutional Repository



Information Storage and Retrieval ISR

Digitized documents must be archived into database and must be made available / accessible from user individual desktops connected to intranet or internet. After being scanned the readability of document has to be checked and the quality has to be ensured either by means of enhancement or by rescanning with better resolution. The scanned items must be reprocessed into textual format using OCR which makes the documents readable by the system. After quality check is over, the documents have to be catalogued indexed and should be stored into database along with the OCR information. The next step after archiving is to make the documents available for retrieval for users.

Many file formats are available representing electronic documents like PDF, JPEG, GIF, TIF. Among these formats pdf is faster and economical for online archiving. Adobe acrobat tool can be used for obtaining pdf format of documents.

Metadata Creation

The DSpace application can recognize and manage a large number of file format and mime types. Some of the most common formats currently managed within the DSpace environment are PDF, Word, JPEG, MPEG, TIFF files. Although out-of-the-box DSpace only auto-recognizes common file formats, files of any format can be managed by DSpace. DSpace also provides a simple file format registry where you can register any unrecognized format, so that it can be identified in the future.

An institutional repository may contain work of which copyright is owned by the author or institute, or for which permission has been obtained to include a copy of the work in the repository.

Elements of Institutional Repository

As the digital Institutional Repository can be any collection of digital material hosted, owned or controlled and disseminate by any institution irrespective of purpose of origin. Institutional Repository can assume many forms and serve a variety of purposes as per the functions and objectives of parent institution. A digital archive of the intellectual product by the faculty, research staff and students/ research scholar of an institution and it should be accessible to end user without boundaries (with in and out of the institution).

Objectives

The four main objectives for having an academic institutional repository are:

1. To create global visibility for an institution's scholarship;
2. To collect content in a single location;
3. To provide open access to institutional research output by self-archiving;
4. To store and preserve other institutional digital assets, including unpublished or otherwise easily lost ("grey") literature (e.g., theses or technical reports).

Equipments required

Hardware

- Server
- Capturing devices – Book Scanner
- UPS
- Disk Backups

Software

- Server class operating system
- OCR
- Metadata Software Dublin core

Benefits

- Capturing the intellectual capital of the institution. Better service to contributors.
- IR's will expose the institution's intellectual output to researchers around the world who otherwise don' have access to the resources through traditional channels.
- An increase in the library's role and its visibility fulfills the need of the research enterprise.
- IR's will become as a tool for longtime preservation of the institution's digital produced knowledge output.
- IR's will provide better services to the institution's learning community.

An increase in the accessibility to knowledge assets such as numeric, video, audio, and multimedia formats. IR's will boost the institution's prestige and maintaining control over your institution's intellectual property. Reducing user dependence on your library's print collection. A solution to the problem of preserving your institution's intellectual output

Conclusion

The institutional repository is a very powerful tool that can serve as an engine of change for institutions of higher education, and more broadly for the scholarly enterprises that they support. If IR is properly developed, it advances a surprising number of goals, and addresses an impressive range of needs. Some of the results seem clear, though there are also likely to be any number of unexpected consequences. This is an area where most of the education institutions need to invest aggressively, but where they also need to implement thoughtfully and carefully. The intellectual leadership from the faculty and the library working in partnership with a full understanding, then there will be a permanent change in the landscape of scholarly communication. Therefore the present study really reaches the academic library professionals and they will get an insight how to develop an institutional repository to archive the Academic achievements.

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