Open Access Movement for Managing Intellectual Informatics

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The present work focuses on various facets of open access movement for managing intellectual output that eventually becomes available and accessible in public domain. Thus, purpose of this paper is to document and share the real time experience of managing and sharing of intellectual wealth of academia of Cochin University of Science & Technology by using open source platforms. This paper is trying to explore different intellectual information resources in the current era and also aims to suggest cost effective strategy of implementing new open access tools and technology for effective managing of intellectual informatics.

Keywords: *Open Access Movement, Open Access Tools, Intellectual Informatics.*

0. INTRODUCTION

Past decade has witnessed unprecedented developments in computer and communication technology. Computers are being used increasingly to automate various activities in all types of organizations. The emergence of Internet, particularly the World Wide Web (WWW) as a new media of information delivery, coupled with availability of powerful hardware, software and networking technology has changed the way people communicate, interact, acquire, share knowledge, search, investigate and participate in the creation and re-use of content. With evolution in Internet and communication technology, Web 2.0 evolved into a dynamic, interactive and collaborative platform that facilitates exchange of information and knowledge amongst people within as well as outside the organization. The institutions of higher education all over the world are experiencing the necessity of managing their education, research and

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resources in a more effective and open way. By making the research and scientific output easily available, they will support the development of new relationships between the academicians and both national and international research centres.

Open access movement released the barriers of research publications and WWW has changed as a publishing media for translating research into practice in different ways such as Institutional Repositories (IR), Knowledge gateways, web 2.0, etc. Open access has become one of the highways to enhance dissemination of publicly-funded research results in ways that serve to strengthen science and engineering, encourage innovation, and serve the greater interests of society. Open access movement supports to preserve the peer-review process of intellectual outcomes that ensures the integrity of research.

1. OPEN ACCESS MOVEMENT

Open access (OA) means that a reader of a scientific publication can read it over the internet, print it or download it. Budapest Open Access Initiative (BOAI) defines open access as:"free availability on the public internet, permitting any users to read, download, copy, distribute and/or print, with the possibility to search or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself"[1] and even further distribute it for non commercial purposes without any payments or restrictions.

2. INFORMATICS

Informatics can be synonymous with the study of the processing, management, and retrieval of information. It is the science of information, the practice of information processing, and the engineering of information systems. Informatics studies the structure, algorithms, behavior, and interactions of natural and artificial systems that store, process, access and communicate information.

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The intellectual informatics is the science concerned with gathering, manipulating, storing, classifying, retrieving the intellectual outcomes of information using computer technologies.

3   DIFFERENT SOURCES OF INTELLECTUAL INFORMATION

4. METHODOLOGY

Different open access methodologies are available for managing the intellectual information of an institution for more visibility and promoting collaborative research. Major open access methods are Institutional repositories, knowledge gateways, media archives, blogs, citation manager, Reference manager etc. Open access tools such as DSpace, Bibapp, MENDELEY, Zotero, MEDIACORE are used for managing the intellectual informatics.

5. INSTITUTIONAL REPOSITORY (IR)

Cochin University of Science & Technology has initiated the creation of an institutional repository called "Dyuthi" (http://dyuthi.cusat.ac.in) with the financial assistance of Department of Scientific and Industrial Research (DSIR), Government of India, and University Grants Commission (UGC). It is powered by open source software DSpace, developed by MIT and HP. *Dyuthi* in Sanskrit means *Spark*. Dyuthi is a digital service that collects, preserves, and distributes digital material. Repositories are important tools for preserving an organization's legacy; they facilitate digital preservation and scholarly communication.

Dyuthi archives the intellectual output of the CUSAT faculty, research scholars and scientists. This service enables the Cochin University Community to archive the preprints, post prints, theses, conference
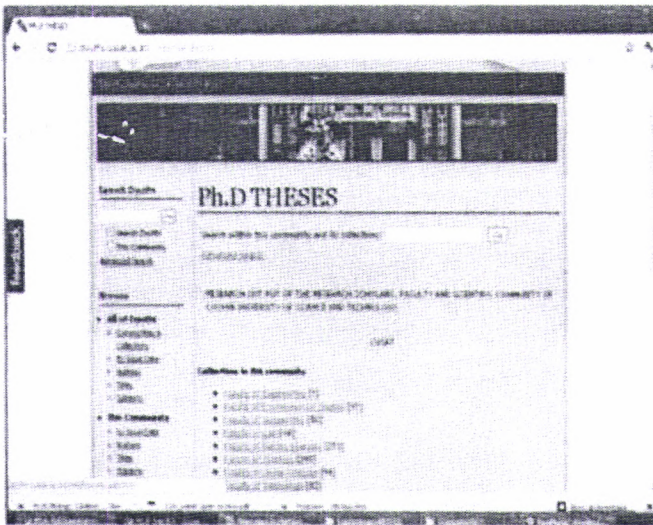

Fig. 3. Dyuthi (Institutional repository of CUSAT)

Current intellectual Information structure/landscape have changed remarkably from the last decades due to the technological advancement and open access movement. Peer groups interact through social networks and share intellectual outcomes through open platforms such as Institutional repositories, Directory of Open Access Journals (DOJS), Directory of Open Access Repositories (DOAR), discussion forums, social networks, third generation information infrastructure, open URLs, ROUTES, YOU tube, Google scholar, Google books, e-books, Wiki, Wikipedia, library consortia etc.
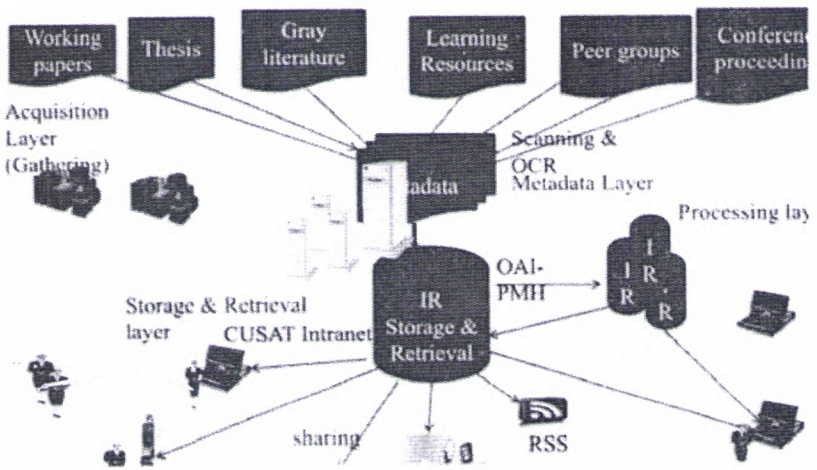

Fig 1. Pictorial representation of managing Intellectual informatics
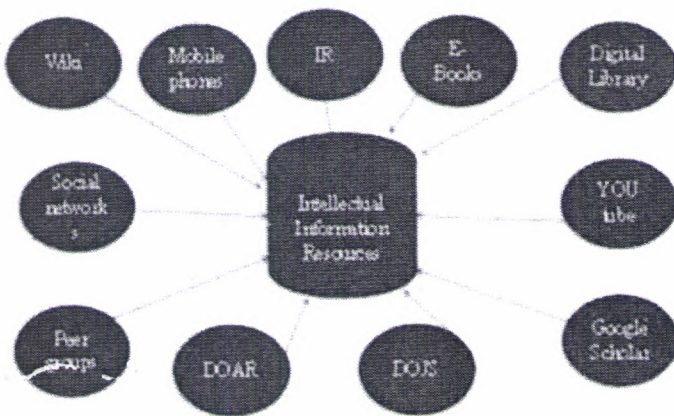

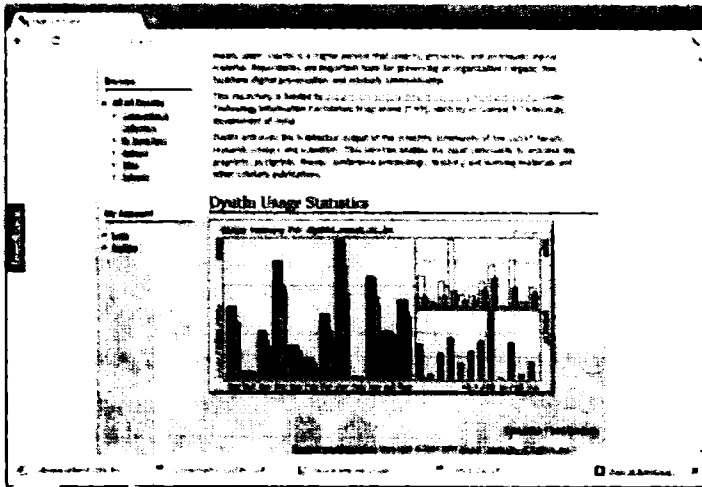Fig 2. Intellectual information resources

Fig 4. Dyuthi Usage statistics

proceedings, teaching and learning materials and other scholarly publications. *Dyuthi* archives the intellectual outcomes of Cochin University of Science and Technology. *Dyuthi* is running completely on open access policy and technically compatible with OAI-PMH which supports the metadata harvesting from other IR. Google scholar indexes contents from *Dyuthi*.

6. KNOWLEDGE GATEWAY

Knowledge gateway of Cochin University of Science & Technology is developed under *Dyuthi* project. It is powered by open source software BibApp called Yuj. It is a Sanskrit word meaning unite or join together/ togetherness. It aims to find experts on campus, promotes their research, archive their work, promotes the research of a department, school, or research group, promotes collaborative research in the campus, increases the visibility of campus research, facilitates the reuse of publication data. Yuj covers the bibliographical information system with citation and abstracts of scientific productivity of Cochin University of Science & Technology.

BibApp matches researchers on the campus with their publication data and mines that data to see collaborations and to find experts in research areas. With BibApp, it's easy to see what publications can be placed on the Web for greater access and impact. BibApp can push those publications directly into an institutional or other repository.

Basic features:

- It supports customizable faculty profiles
- BibApp accepts citations in popular citation-tracking formats such as RIS, MEDLINE and Refworks XML
- Assess publisher copyright policies for self-archiving
- Through SHERPA/RoMEO, a faculty member's publications can be assessed for reuse rights in seconds.
- Automatic import packages for IR
- Librarians, grant administrators, graduate students–faculty can depute anyone to look after their online presence.
- Automatic flagging of duplicate citations on import
- Name disambiguation for authors. If there are more than one researcher with the same name, BibApp indicates them automaticallay as citations are assigned.
- The BibApp creates "pen names" to keep your displays clean.
- Book cover images via Google Books
- Show off faculty books and monographs with a boost from the Google Books API.
- Redirection to licensed articles in the local library

Fig 5.Knowledge Gateway of CUSAT (Yuj, dyuthi.cusat.ac.in/yuj)

61 MEDIA REPOSITORY (MEDIA@CUSAT.AC.IN)

MediaCore provides unparalleled organization, statistics, accessibility, and scalability. Well-designed and well-engineered, it can bring a powerful online video experience. MediaCore delivers an exceptional media experience to any site that depends on delivering media to its users. You can use MediaCore to organize video and podcasts, engage users, and deliver content to both desktop and mobile devices. For organizations with video located on the social web and on its own servers, it can centralize everything onto one common brand-ready platform.

Fig 6. Media repository of CUSAT (media.cusat.ac.in)

7 REFERENCE MANAGER FOR MANAGING INTELLECTUAL INFORMATICS

This is a free tool for managing the academic research namely MENDELEY. It supports the organized research by add papers from productivity or organized, easily stored, comprehensive search and Navigation of a particular research library through relevant fields like Author, Title, Publisher and Journal. This open access tools supports the collaborative research in Science & Technology in such a way that by supporting to connect with other researchers, inviting colleagues to Mendeley, joining or creating new research groups to collaborate with others. It helps to access the research statistics and make researchers profile and newsfeed to public.
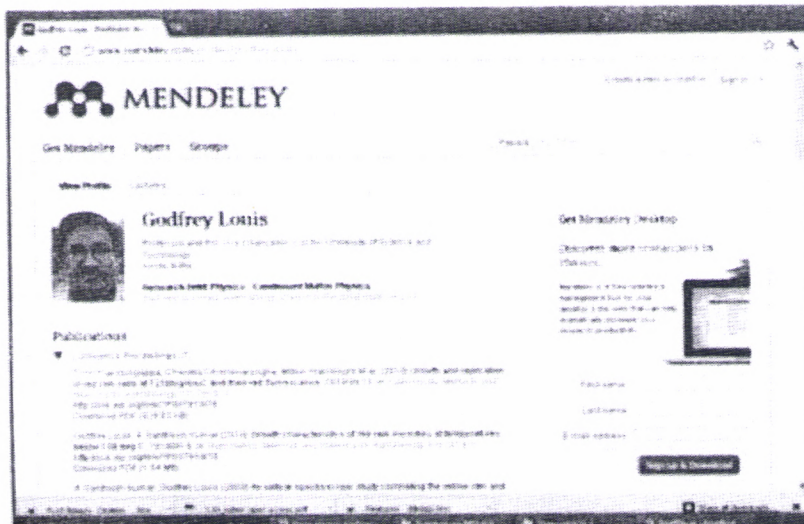
Fig 7 Reference manager for managing Intellectual Informatics

8   CONCLUSION

There is a tremendous scope for improving information management using open access tools and techniques. Open access tools can revolutionize different stages of Information management from the preparation and presentation by the library professionals to the actual utilization by the users at low cost. This paper covers a small initiative in this direction and real time experience of managing the intellectual informatics of science and technology. This can be implemented in many libraries to develop a national & international collaboration on the basis of specific subject disciplines.

REFERENCES

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