

DATA BASE CREATION IN IIT MADRAS LIBRARY: SOME STRATEGIC ISSUES

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ABSTRACT

A brief overview on full text database that provides online access to many important Science and Engineering subject as well as abstracting database services, together with discussions on the related strategic issues. Any software development effort pursues its challenges as the focal point to improve, enhance and substantiate the development effort.

Keywords : Database, Database Creation, Indian Institute of Technology, Library Automation, Library system, Integrated Library System, Standard, CDROM, INDEST-AICTE Consortium.

1 INTRODUCTION

Indian Institute of Technology Madras is one among the foremost institutes of national importance in higher technological education, basic and applied research. In 1956, the German Government offered technical assistance for establishing an institute of higher education in engineering in India. The first Indo-German agreement in Bonn, West Germany for the establishment of the Indian Institute of Technology at Madras was signed in 1959. IIT Madras is a residential institute with nearly 550 faculty, 8000 students and 1250 administrative & supporting staff and is a self-contained campus located in a beautiful wooded land of about 250 hectares. It has established itself as a premier centre for teaching, research and industrial consultancy in the country. The Institute has sixteen academic departments and a few advanced research centers in various disciplines of engineering and pure sciences, with nearly 100 laboratories organized in a unique pattern of functioning. A faculty of international repute, a brilliant student community, excellent technical & supporting staff and an effective administration have all contributed to the pre-eminent status of IIT Madras. IIT Madras is a residential institute that occupies a 2.5 km² (620 acres) campus that was formerly part of the adjoining Guindy National Park. Growing ever since it obtained its charter from the Indian Parliament in 1961, much of the campus is a protected forest, carved out of the Guindy National Park, home to chital (spotted deer), black buck, and other wildlife. A natural lake, deepened in 1988 and 2003, drains most of its rainwater.

2 THE CENTRAL LIBRARY - LIBRARY AUTOMATION

The Central Library which is one of the central support services of IIT Madras. The Central Library has 9001:2008 certification by TUV NORD of Germany along with other units of the Institute for the establishment and maintenance of quality library system, services & procedures. The Central Library is well equipped with modern facilities and resources in the

form of CD-ROMs, On-line databases, audio video cassettes, books, e-journals, patents, e-standards, theses, reports, monographs etc. The Central Library is to provide information services and access to bibliographic and full text digital and printed resources to support the scholarly and informational needs of the Institute Community. The software team of the Department of Computer Science and Engineering of the Institute is engaged to design and develop a comprehensive online integrated library information management system, which is supported and written in "C" programming language with the following facilities:

- Computerized cataloging system;
- Computerized circulation system;
- Computerized acquisition system;
- Computerized serials control;
- Computerized management and queries;
- Computerized read mail; and
- Computerized print from facilities.

The Central Library is deeply involved in generating resources through various methods including undertaking projects. Various funding agencies like AICTE, AR&DB, Pondicherry Engineering College & DELNET have provided funds for the projects and consultancy. The Central Library has also implemented Integrated RFID Technology, Smart Card, ISO-9001:2000 Standards, Contactless Smart Card Enabled Access Control System, Virtual Reference Desk, Electronic Book Drop System, Auto Check in and Check out Systems, Z39.50, Web Portal, Research Carrels, Media Resource Center with 200 seating capacity, Students Discussion Hall, Automatic Bindery and world-class facilities, services, multi format resources. IIT Madras central library has 4,62,140 holdings, including 845 current journals, catering to the information needs of 11,603 members, and provides various value-added services with the help of modern information-handling tools and techniques.

The following sub-activities of database creation activity have been completed:

- Maintenance of VIRTUA (VTLS) Library Management system.
- RFID I-code-I (29000) and code-2(15000) tags were procured.
 1. One self-check-out station was added.
 2. A security cross-check station was added
- The ELIMS server has been set up for RFID-based circulation transactions.
- The data of 2,410 patrons' records (students, faculty, staff, alumni, IAS members) were added to the Virtua-VTLS database.
- Four PCs were procured for the RFID workstation and Web PAC.

Database Status of the central library from April 2012 to March 2013 are described in the following.

Database Status of the Library

Item	2012–2013
Books	2,54,515
Theses	6,212
Pamphlets and reports	5153
Microfilms/fiche	1842
Book-Bank	17,118
Current periodicals by subscription	845
Current periodicals by exchange/gifts	87
Back volumes of periodicals	1,09,713
Patents and specifications	20,418
German Collection	44,280
CD-ROMs	1488
Audio/video cassettes	448
e-Books	21

The Central Library provides various value added services including OPAC, Self Check in/Check out, Self-Renewal of Books, Electronic Book Drop, Book Bank, Access to Abstracts of Publications through I-Portal, Translation, Book Reservation, Video Viewing, Inter- Library loan, Document Delivery, Reading, Access to E-Resources, Bibliographical Compilation, Patents Information, Standards Information Service, Technical Consultancy, Photocopying, JCCC. The following considerations have been taken into account in designing the data entry form:

- Standardization in the record
- Copyright © 2014 SciResPub.

- Exchange of records with other institutions
- Networking aspects
- Users needs
- Audit matters
- Structure of the main database of the library
- Retrieval points
- Withdrawal of records from the active collection
- Patents Clipping Service based on the six national dailies received.
- Patent Index to Chemical Abstract
- Specifications received from the Controller General of Patents and Design
- Special Collection
- INTERNET Access
- Conducting Literature Search

3 CHALLENGES AND ISSUES

Undoubtedly, database creation is a great challenge for the librarians and the computer scientists. This challenge is being faced in the libraries which are set for computerization. This requires a consolidated, committed and concrete efforts. The IIT Madras library has faced various issues in the database creation. On the basis of this experience, the following practical issues and considerations deserve serious consideration and deliberation.

3.1 IPR INFORMATION

Patent is one of the most important source of information which can be defined as a formal description of an innovation. Accordingly patent documents are highly useful for R&D activities.

The IIT Madras Central Library is actively engaged to provide Access to CD-ROM databases(ESPACE World, INPAT), Ahuja Patents and Trademark News in print version, Intellectual Property Rights (IPR) Bulletins, Conducting LiteratureSearch, INTERNET Access.

3.2 ISO 9001:2008 ACTIVITIES

IIT Madras Central Library actively participated in ISO 9001: 2008 activities and maintained a quality-based library system, services and procedures. The major activities related to ISO 9001: 2008 are An ISO internal audit, An ISO management review, and An ISO surveillance audit. The Central Library has taken the initiative to conduct periodical review meetings of the library staff, comprising the Chairman LAC, Librarian, Deputy Librarian, assistant librarians and section in-charges for effective functioning of the Central Library.

3.3 ONLINE PUBLIC ACCESS CATALOGUE

Online Public Access Catalogue facility is available on IIT Madras campus network only with the help of VTLS-VIRTUA new library management software. Online access databases has been added Turnitin (plagiarism prevention software), ProQuest: full-text dissertations and theses (PQDT), UptoDate

database.

3.4 Data Preparation Activity

A data processing system is a combination of machines and people that for a set of inputs produces a defined set of outputs. The inputs and outputs are interpreted as data, facts, information, ... depending on the interpreter's relation to the system.

A data processing system may involve some combination of:

- Conversion- converting data to another format.
- Validation – Ensuring that supplied data is "clean, correct and useful."
- Sorting – "arranging items in some sequence and/or in different sets."
- Summarization – reducing detail data to its main points.
- Aggregation – combining multiple pieces of data.
- Analysis – the "collection, organization, analysis, interpretation and presentation of data."
- Reporting – list detail or summary data or computed information.

3.5 Systematic Re-shelving of Books

IIT Madras has facilitated easy retrieval of books for the benefit of our students and faculty, two groups, with 22 members, have been formed who devote one hour daily in the morning/afternoon in the stack areas. The first phase of the re-shelving of books has been completed, and the second phase is in progress. This initiative has generated considerable satisfaction among users.

3.6 Project & consultancy

IIT Madras Central Library is deeply involved in generating resources through various methods including undertaking projects. Various funding agencies like AICTE, AR&DB, Pondicherry Engineering College & DELNET have provided funds for the projects and consultancy.

4 CONCLUSION

The above discussion briefs about some strategic issues involved in the database creation in light of the experiences and the exposures of IIT Madras Library. The Computer Centre is satisfied with the quality of service provided by the empanelled Internet Service Providers. IIT Madras is initiating the creation of a database of the conference proceedings, capture more ISBNs for updating the syndetic database and seriously the issued like data preparation and IPR Information, ISO 9001:2008 Activities, Online Public Access Catalogue, Project & consultancy, Systematic Re-shelving of Books services to the users, data format design, interchange of records and networking aspects.

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