

# The Development and Promotion of ETDs in Kerala

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## Abstract

*Electronic Theses and Dissertations (ETD) have become an important component of library service in all countries. Many Indian higher education institutions are actively engaged in the process of introducing ETDs. This study describes the development of ETD projects in Kerala. This paper examines the ETD project of Cochin University of Science and Technology (CUSAT) and Mahatma Gandhi University (MGU).*

**Keywords:** Electronic Theses and Dissertations (ETD), e-theses, Kerala, Institutional Repository

## 1. Introduction

ETDs are important source of information for several reasons. They are result of research work carried out by a scholar under a supervisor in a university environment. They are documents containing significant additions to existing knowledge. However, they remained the property of a university almost inaccessible to the wide public. Acquiring, storing and making available theses in electronic format began in many countries around the mid 1990s. "An ETD is a document that explains the research or scholarship of a researcher/student. It is expressed in a form simultaneously suitable for machine archives and worldwide retrieval. The ETD is similar to its paper predecessor" (<http://etdguide.org/>)[1]. Improved visibility and enhanced access are the key motives for having ETDs. They are basically a subset of an institution's local digital repository and it showcases the intellectual achievements of a university by making them available to a worldwide audience (Yiotis, 2008)[2]. ETDs offer open access (OA) to theses and dissertation to the academic community worldwide.

Many working models of national and International level ETDs are currently available. Networked Digital Theses and Dissertations (NDLTD) is an international organization dedicated to promoting the adoption, creation, use, dissemination and preservation of ETDs. It assists students and universities in using electronic publishing and digital libraries to more effectively share knowledge in order to unlock the potential benefits worldwide [3]. Australian Digital Thesis (ADT) is a programme with a mission to provide access to, and promote Australian research to the international community. EThOS-Electronic Theses Online Service project of UK offers a 'single point of access' where researchers the world over can access all theses produced by UK higher education. Besides, there are several projects for ETDs done by single universities in different parts of the world.

## 2. ETD initiatives in India

Development of Union databases of Indian university libraries is one of the major activities of INFLIBNET. As per UGC-INFLIBNET Programme, 142 Universities are funded for the creation of databases of doctoral theses along with Books and Serials collection available in each University (Murthy, Cholin &

VijayaKumar, 2005)[4]. First ETD repository was started at IIT Bombay in 1999. Since then a number of ETD repositories have been developed in India. Their size is small and they are scattered throughout the country (Ghosh, 2009)[5].

Major ETD initiatives of India are presented in Table.1.

**Table.1 Major ETD initiatives of India**

Indian Institute of Technology, Kanpur	<a href="http://172.28.64.70:8080/dspace">http://172.28.64.70:8080/dspace</a>
Indian Institute of Technology, Bombay	<a href="http://etd.library.iitb.ac.in/">http://etd.library.iitb.ac.in/</a> or
Indian Institute of Technology, Delhi	<a href="http://eprint.iitd.ac.in/">http://eprint.iitd.ac.in/</a>
Indian Institute of Science, Bangalore	<a href="http://etd.ncsi.iisc.ernet.in/">http://etd.ncsi.iisc.ernet.in/</a>
National Chemical Laboratory, Pune	<a href="http://dspace.ncl.res.in/dspace/index.jsp">http://dspace.ncl.res.in/dspace/index.jsp</a>
Indian Institute of Astrophysics, Bangalore	<a href="http://prints.iiap.res.in/">http://prints.iiap.res.in/</a>
National Institute of Oceanography, Goa	<a href="http://drs.nio.org/drs/index.jsp">http://drs.nio.org/drs/index.jsp</a>
University of Mysore - Vidyanidhi	<a href="http://dspace.vidyanidhi.org.in:8080/dspace/">http://dspace.vidyanidhi.org.in:8080/dspace/</a>
Cochin University of Science and Technology	<a href="http://dyuthi.cusat.ac.in/xmlui">http://dyuthi.cusat.ac.in/xmlui</a>
Mahatma Gandhi University	<a href="http://www.mgtheses.org/">http://www.mgtheses.org/</a>
Pondichery University	<a href="http://210.212.229.236:8080/jspui/">http://210.212.229.236:8080/jspui/</a>

### 3. Related Studies

Many national level university libraries and institutions are actively engaged in the process of introducing electronic theses to their institutions in UK, USA and other parts of the world. The strategies that have been adopted by staff at Glasgow University Library in trying to implement electronic theses and the challenges that have been faced were described in detail by Greig [6]. Jobish et al. [7] discussed in detail on ETD repository development, work flow and services of Indian Institute of Science at Bangalore. University of Waterloo e-thesis project and issues associated with open access (OA) to ETDs were described by Jewell, Oldfield and Reeves [8] along with the partnerships with Theses Canada and the Networked Digital Library of Theses and Dissertations. The ETD movement in Israel especially the electronic thesis and dissertation project at the Ben-Gurion University of the Negev, Be'er Sheva have been discussed by (Asner and Polani)[9] and the comparison of the workflows of print T/Ds and present ETD in the Oregon State University libraries examined by Boock and Kunda [10].

### 4. ETD Repositories in Kerala

Kerala is one of the states in India located on the south-western region of the country. Kerala stands in the forefront of Indian states in the matter of literacy and education. It is significant that the state is almost on a par with the most advanced countries of the world in this regard. The state has seven

universities namely: Kerala University, University of Calicut, Cochin University of Science and Technology, Kerala Agricultural University, Mahatma Gandhi University, Sree Sankaracharya Sanskrit University and Kannur University. The library and information centres of these universities have rich collection of information sources and providing sophisticated information services. They are actively involved in adoption of new technologies. This study depicts the development of ETD repositories by the universities in Kerala. Presently two universities namely Cochin University of Science and Technology (CUSAT) and Mahatma Gandhi University (MGU) are actively involved in the ETD creation and development.

#### **4.1 ETD initiatives at Cochin University of Science and Technology**

CUSAT is the first university in Kerala to start an ETD project namely "Dyuthi" . (<http://dyuthi.cusat.ac.in/xmlui>). Though Dyuthi started functioning in March 2007, it was officially inaugurated in August 2008 by the then Vice Chancellor Dr.Gangan Prathap. The ETD project was initiated with the financial assistance of Rs.6.5 lakhs by DSIR ( the Department of Scientific & Industrial Research with Dr.Beena C as the Principle Investigator. The project has also got an amount of Rs.6.5 lakhs from the UGC (University Grants Commission). It provides digital access to theses submitted to CUSAT in various branches of knowledge. Apart from theses, the project also archives faculty articles and other relevant items.



**Home page of CUSAT ETD <http://dyuthi.cusat.ac.in/xmlui>**



Advanced Search options of CUSAT ETD

#### 4.2 Mahatma Gandhi University Online theses

MG University is the second university in Kerala to start an ETD (<http://www.mgutheses.org>) The online theses library programme was started under the leadership of Dr.Raman Nair, University Librarian. It was formally inaugurated by HE Dr. A P J Abdul Kalam, Former President of India on 9<sup>th</sup> November 2008. The MGU Theses Library provides open access to all the doctoral dissertations accepted by the university from 1983 onwards. Fig. 1 illustrates MGU's Online theses library home page.

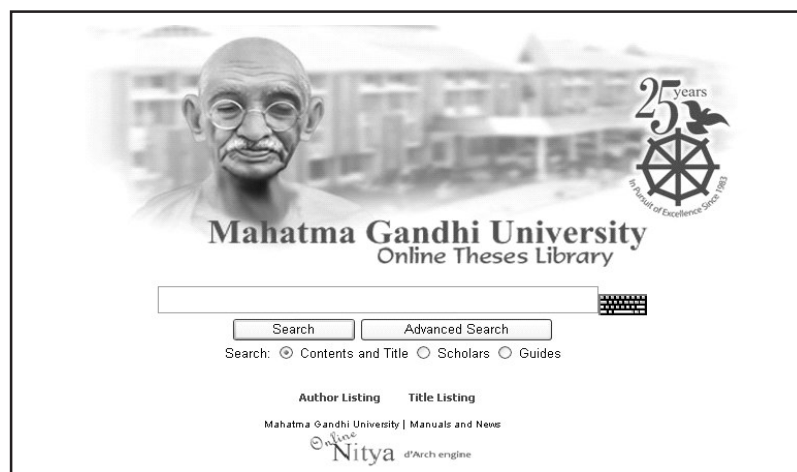


Figure.1: Home Page of MGU Online Theses (Source: <http://www.mgutheses.org/>)



The screenshot shows the 'Advanced Search' interface of the Mahatma Gandhi University Online Thesis Library. At the top left is the 'Nitya d'Arch engine' logo. A search bar is located at the top center with a 'Search' button. Below the search bar are radio buttons for 'Contents and Title', 'Scholars', and 'Guides'. A navigation menu at the top right includes 'HOME', 'Search & Results', 'Help', and 'About'. The main heading is 'Advanced Search'. The search criteria are organized into three columns: 'Conjunction', 'Search Fields', and 'Search Contents'. Each row has a dropdown menu for the conjunction (AND), a dropdown for the search field (Title), and a text input for the search content. Below this, there are dropdown menus for 'Branch of Study' (All), 'Keywords', and 'Centre of Research' (All). At the bottom, there are dropdown menus for 'Results/page' (20), 'Sort items by' (Year), 'in order' (descending), 'Theses from year' (none), and 'till year' (2008).

Advance search page of MGU Online Theses

## 5. Analysis and Discussions

The "Dyuthi" project of CUSAT has used DSpace open source software for archiving digital theses. The structure and features of "Dyudhi" reflect the structure of DSpace with suitable customization. The theses are organized under different communities. The MGU Online Theses Digital Library has used the software Nitya Digital Archive which was customized as per the requirement of MG University by Beehive DC group. Nitya is the first bibliographic information system applied to digital archiving in Kerala, capable of search and retrieval using Malayalam and Tamil Scripts. Search and retrieval of individual pages is a unique feature of Nitya. It can retrieve specific pages where the information user sought for occurs and from there user can navigate to other pages of the document. MGU Theses library presents the document in online readable format whereas Dyuthi allows to download the whole document.

The whole work of Dyuthi of CUSAT has been carried out fully as an in-house function with systems, scanners and servers owned by the project. MGU ETD has almost outsourced the work with cost of Rs.10 per page. There are approximately 3 lakhs pages in English, Malayalam and Hindi. Both ETDs provide open access to the collection. The subject coverage and collection size in the ETDs are presented in the Table 2.

**Table 2 Collection Size and Coverage of ETDs of Kerala**

Name of the University	No. of Documents	Subject coverage	Languages
MGU	1200	Humanities, Science & Social science	English Malayalam Hindi & Sanskrit
CUSAT	700	Engineering Technology Science, Social Science and Humanities	English Hindi

The Two ETDs cover all the subjects in which theses were submitted in the universities. The Website analysis of the two ETDs shows a number of retrieval facilities. Table 3 and 4 presents a comparative study of key features of browsing and search options of the respective ETDs.

**Table 3 Features of ETDs -Browsing**

Browse options	MGU	CUSAT
Author	Yes	Yes
Title	Yes	Yes
Guide/ Supervisor	Yes	Yes
Subject/Branch	Yes	Yes
Date/Year	Yes	Yes

**Table 4 Features of ETDs – Search**

Search options	MGU	CUSAT
Key word	Yes	Yes
Boolean	Yes	Yes
Recent Submissions	No	Yes

Both MG University and CUSAT have signed an MoU with INFLIBNET for contributing their theses to the Indian ETD repository- Shodhganga. (<http://ietd.inflibnet.ac.in/>). The MGU Online thesis digital library has been selected as one of the very best web resources for education and research by INTUTE, a European consortium of universities funded by Government of UK's Joint Information Systems Committee (JISC) and the Arts and Humanities Research (AHRC). It has also won recently the Kerala State IT award in the e-learning category.

## 5.1 Promotion and Development

Both MG University and CUSAT have worked for the promotion of ETDs by organizing workshops. The national workshop organized by CUSAT in April 2009 focused on using open source software for digital theses programmes. The workshop has given practical sessions by expert on Linux operating system and DSpace open source software. MG University conducted a national workshop in November 2010 on building PhD Theses Libraries using Nitya D'Arch, the software used by the University.

## 6. Conclusion

Digitization of theses is important for various reasons. There are many factors involved in the process. It requires vision, mission, leadership, finance, hardware and software. Out seven universities in Kerala, only two universities have ETD projects. The ETD of CUSAT and that of MG University have different working model. The outsourcing model may be too expensive to be carried out by many universities. The in-house model is found to be more economical. The use of open source software for ETDs and imparting training to library staff may be the model best suitable for majority of universities.

## References

1. UNESCO. ETD Guide. Available at <http://www.etdguide.org/> (Accessed on 03.05.2007.)
2. YIOTIS, K. (2008). Electronic theses and dissertation (ETD) repositories: what are they? where do they come from? how do they work?. OCLC Systems & Services: International digital library perspectives 24 (2 ), 101-115.
3. NDLTD. Networked Digital Theses and Dissertations. Available at <http://www.ndltd.org/> (Accessed on 11.11.2010)
4. MURTHY, T. A. V., CHOLIN, V. S., and VIJAYKUMAR, J. K. (2005). UGC-INFLIBNET initiatives in e-journal consortia and digital library of doctoral theses for Indian Universities. In National Conference on Digital Library and e-Theses. Proceedings of NCDLET 2005, Jadavpur University, Kolkata, January 7-8, 2005. Available at [http://eprints.rclis.org/5658/1/vijayakumarjk\\_09.pdf](http://eprints.rclis.org/5658/1/vijayakumarjk_09.pdf) (Accessed on 03.11.10)
5. GHOSH, Maitrayee. (2009). E-theses and Indian academia: a case study of nine ETD digital libraries and formulation of policies for a national service. The International Information & Library Review, 41(1), 21-33.
6. GREIG, M. (2005). Implementing electronic theses at the University of Glasgow: cultural challenges. Library Collections, Acquisitions, & Technical Services, 29(3), 326-335.
7. JOBISH, P., [et.al].(2005), etd@IISc: a Dspace- based ETD-MS and OAI compliant theses repository service of Indian Institute of Science. In 8th International symposium on

- electronic theses and dissertation, Sydney, 28-30 September, 2005. Available at <http://adt.caul.edu.au/etd2005/papers/049Minj.pdf> (Accessed on 03.11.10).
8. JEWELL, C., OLDFIELD, W. and REEVES, S.(2006). University of Waterloo electronic theses: issues and partnerships. *Library Hi Tech*, 24(2), 183-196.
  9. ASNER, H. and POLANI, T. (2008). Electronic Theses at Ben-Gurion University: Israel as part of the worldwide ETD movement. *Portal: Libraries and the Academy*, 8(2), 121-139.
  10. BOOCK, M. and KUNDA, S. (2009). Electronic thesis and dissertation metadata workflow at Oregon State University libraries, *Cataloging & Classification Quarterly*, 47(3-4), 297–308.
  11. <http://digital-scholarship.org/irb/etd.htm>

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