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ETD at IIT Bombay

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Indian Institute of Technology, Bombay

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Oct. 7, 2003

Outline of Talk

- Motivation for ETD
- Demo of ETD at IIT Bombay
- How to Implement ETD?
- Long term Issues in running ETD.



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Why ETD?

No need to *preach to the converted*, I'm sure!

- **More access to research**
 - research is available on campus
 - research is accessible worldwide
- **Less expense to authors and libraries**
 - No paper costs
 - no physical shelf space
 - lower cataloging costs
- **Better presentation** of research (not available in paper format)
 - addition of multimedia files
 - more dynamic presentation of data
 - hyperlinks
 - programs and code

IIT Bombay started in 1998! **First implementation done in 2 weeks!**

Now working on Version 3 of implementation



Electronic Theses and Dissertations at IIT-B

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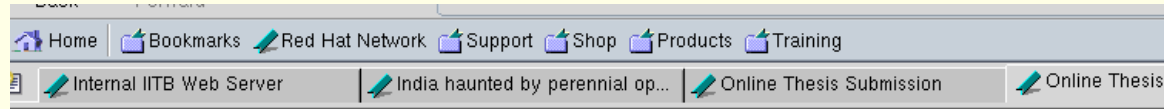
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Electronic Thesis and Dissertation (ETD) Page

Frequently Asked Questions	FAQ for Students and Supervisors
Student Registration	Get your password to submit the thesis
Submit Thesis	(Re)Submit your thesis
Faculty Approval	Approve your student's thesis submission (for faculty only)
View Submitted Abstracts	See submissions in 1999-2003
Contact	Please let us know any difficulty faced

Send comments/suggestions to [ETD Administrator](#)



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Status of Thesis Submissions.

Departments	B.Tech	M.Sc(5yr)	M.Tech	Ph.D	M.Sc(2yr)	M.Des	Int.M.Tech	M.Phil	M.Mgmt	D.Deg	M.S
Aerospace Engineering	<u>0</u>	<u>4</u>	<u>69</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>13</u>	<u>0</u>
Applied Statistics and Informatics	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Bio-Medical Engineering	<u>0</u>	<u>6</u>	<u>33</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Bio-Technology	<u>0</u>	<u>0</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Chemical Engineering	<u>0</u>	<u>0</u>	<u>100</u>	<u>10</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>31</u>	<u>0</u>
Chemistry	<u>0</u>	<u>2</u>	<u>0</u>	<u>33</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Civil Engineering	<u>0</u>	<u>0</u>	<u>150</u>	<u>29</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>7</u>	<u>0</u>
Computer Science and Engineering	<u>2</u>	<u>0</u>	<u>140</u>	<u>1</u>	<u>33</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>2</u>
Corrosion Science and Engineering	<u>0</u>	<u>2</u>	<u>32</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Earth Science	<u>0</u>	<u>0</u>	<u>33</u>	<u>4</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Electrical Engineering	<u>0</u>	<u>0</u>	<u>193</u>	<u>19</u>	<u>0</u>	<u>0</u>	<u>30</u>	<u>0</u>	<u>0</u>	<u>70</u>	<u>0</u>
Energy Systems Engineering	<u>0</u>	<u>6</u>	<u>62</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Engineering Physics	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Environmental Science and Engineering	<u>0</u>	<u>1</u>	<u>29</u>	<u>9</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Humanities and Social Science	<u>0</u>	<u>0</u>	<u>0</u>	<u>12</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>29</u>	<u>0</u>	<u>0</u>	<u>0</u>



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CSE-MTECH-03-043

Object Oriented Verifiable Modeling Environment

Amanda Grace Rapsang, M.Tech, 03, 56 pp.

Department of Computer Science and Engineering

Indian Institute of Technology Bombay, Powai, Mumbai 400 076.

Supervisor(s): G.Sivakumar, Kannan Moudgalya

The progress of an object oriented framework that can simulate applications from various types of engineering domains and enable verification of the application, by interfacing it with some already existing verification tools, is reported. For modeling an application, blocks which build up the application are modeled by a BDL (Block Definition Language) and the application being modeled is described by an MDL (Model Definition Language) in which BDLs are interconnected together. The tool has a very user friendly Application Builder, a front end where the user designs his application. User can also interact with the tool at runtime by setting timer delay, providing initial values for feedback loops and providing input values from time to time. The tool also generates input for a verification tool, which the user can then verify his application by specifying properties and proving interactively.



ELECTRONIC THESIS AND DISSERTATION (ETD)
Submission at IIT Bombay

Frequently asked questions for Ph.D. and MTech Students

Version 2, Jan 4, 2001

0) What is it?

From 1999 January, Ph.D. and MTech students of IIT Bombay are required to submit an online version of their thesis/dissertation along with an extended (1-page) abstract. The electronic copy will be stored in a web-searchable database in the central library.

1) What formats are acceptable for the full thesis?

In order of preference, the following formats are accepted now.

- PDF format (Prepare a SINGLE mythesis.pdf file using, for example, pdflatex from the Latex source).
- Postscript (PS) format (eg. using dvips from latex/dvi file, or print to PS from Word if you have Postscript driver)
- Tar/zip archive of HTML files (eg. generated using latex2html or saved from Word as HTML)
- A single doc file (if many then a SINGLE zip of all doc-files)

Note: In all cases, you must first get this SINGLE file (example mythesis.pdf/mythesis.ps/mythesis.html.zip/mythesis.doc) on the machine from which you will use netscape or explorer to submit your thesis. This file will be "uploaded" to the server.

NOTE: If your thesis is more than 25MB in size, please compress it to reduce the size. If the size after compression still exceeds 25MB, then please contact [ETD Administrators](#)

NOTE: To upload full thesis, you need to use Netscape or Internet Explorer browser (Lynx does not yet have this facility)

If Netscape is available to you, please use it only. It gives less trouble than Internet Explorer.

When you submit online, there will be a **Browse** button next to the place where you have to type in the name of the full thesis file. You can use the **Browse** button to pick out the thesis file and it will get uploaded.

2) How to submit?

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IIT-B Implementation Design

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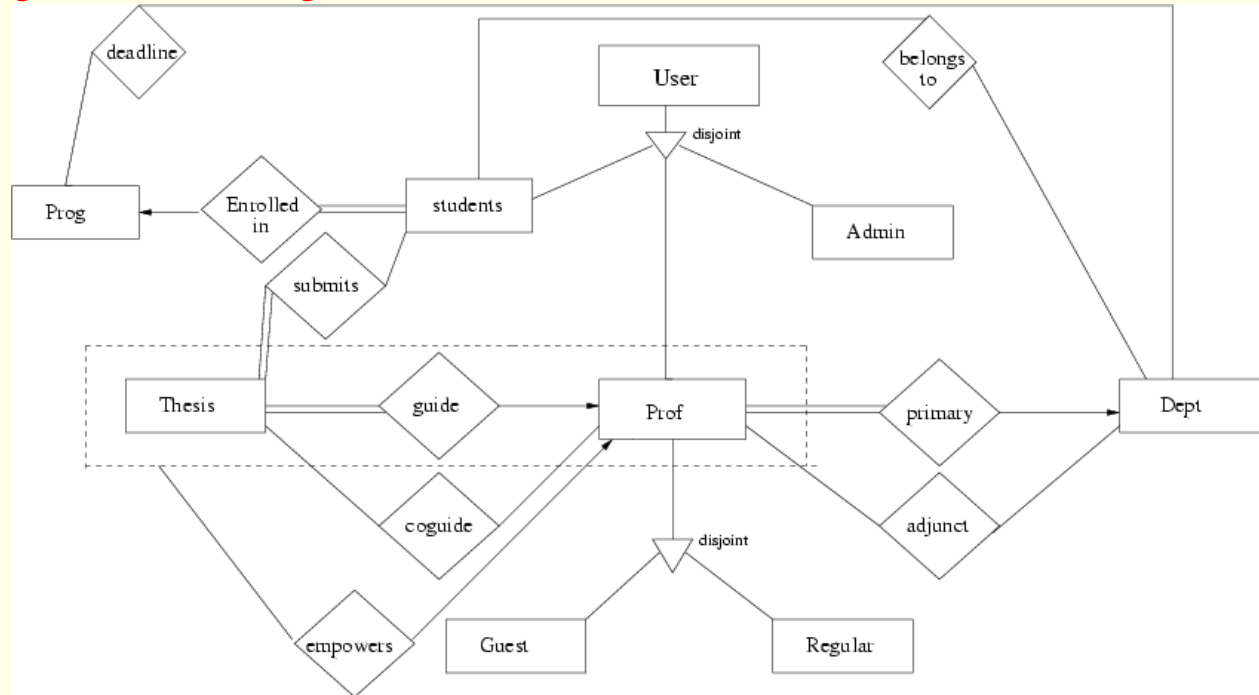
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High Level ER Diagram





Main Functionalities

1. Login and Verification
2. Registration of New Users
3. Online Evaluation and Approval
4. Changing of the Thesis
5. Handling Submissions Deadline
6. Search on Different Criteria
7. Automatic Generation of Hard Copies
8. Accession Number of the Library Copy
9. Conversion of Theses to Common Format (".pdf")
10. Dynamic Updating of Faculty Lists

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User Roles

Student

- (a) Submit his thesis to his faculty.
- (b) Edit his submitted thesis before it is sent for approval.

Guest/Anonymous User

- (a) View the abstract of all the theses submitted
- (b) Get the statistics of submissions
- (c) View the theses that have been made public



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Thesis Supervisor(faculty)

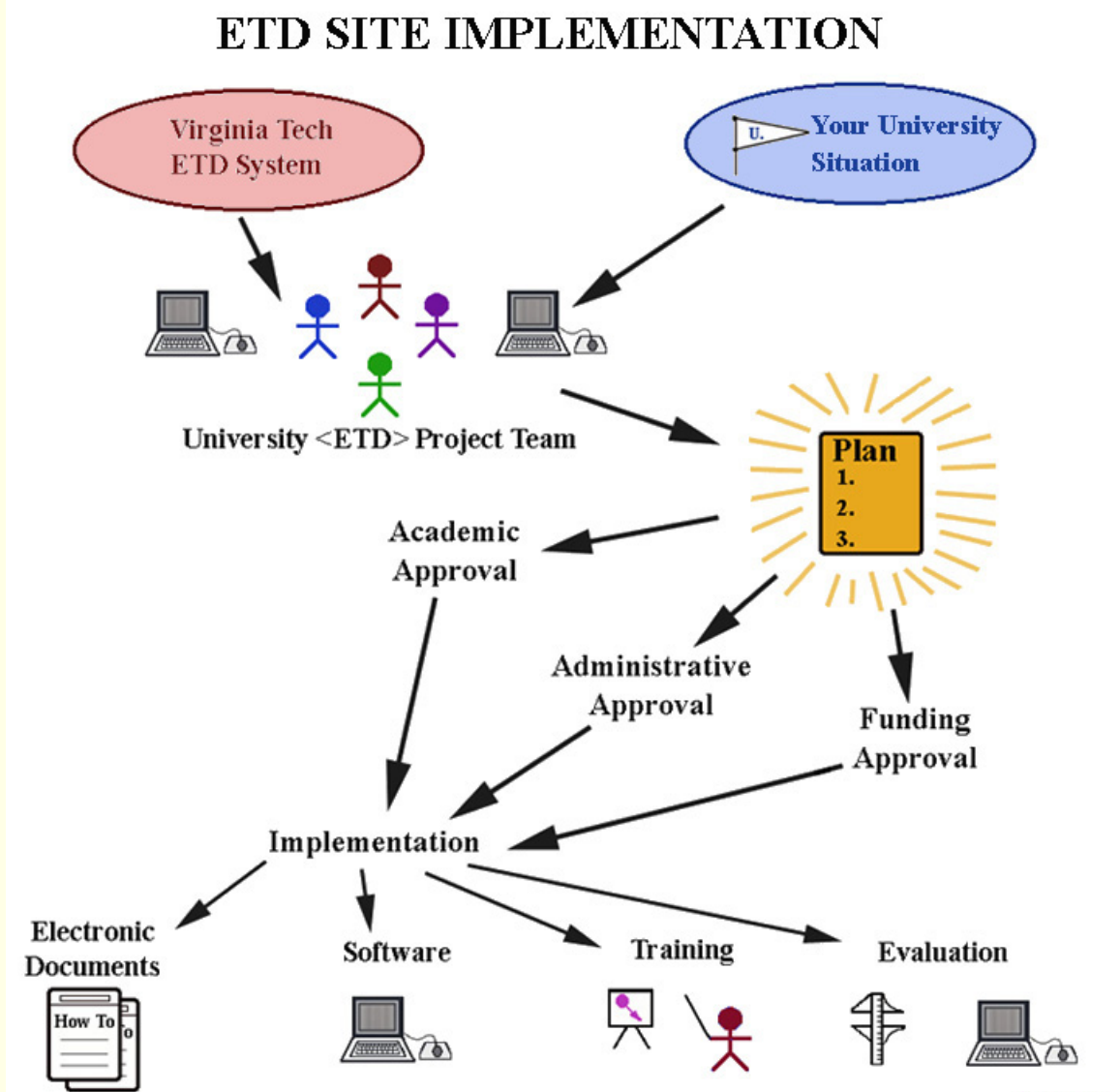
- View the theses submitted by her student.
- Decide if he wants the report to be private/public
- Approve or disapprove the thesis
- Enforce the last date of submission.
- Set the number of theses a student may submit

Database Administrator

- Add or delete records.
- Create/remove logins.
- Set different permissions for different users
- Set the number of theses a student may submit
- All permissions that other users have are also available to the administrator.

Implementation Strategy

Figure from Virginia Tech.



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Important Steps

Summarized from ETD site at Virginia Tech..

- Spread the word on campus
 - Website with info/pointers
 - Task Force/Impl. Committee
- Get Approvals and Involvement
 - Senate
 - Libarary
 - Computer Centre
 - Student Assocications
 - Faculty ...
- Training and support
 - Lectures
 - Tutorials
 - Mailing Lists
 - Sample Websitite and Theses
 - ...
- Choose a good implementation strategy
 - **Free/Open source!**
 - Inter-operability (browser, OS, ...)

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Resources Needed

- Money (*sine qua non!*)
- Hardware, Network
Avoid **proprietary** technologies!
- Software

Insist on

- Access to source code?
- Freedom to modify
- Freedom to redistribute

Above problems, reasonably tractable! Not sure if *JCCC* meets above standards.

- People
 - who?
 - Most important, but most problematic!
 - Solve this **first**, then solutions to *technical* and *money* problems must follow!

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Why People are the problem?

- Lack of information
- Fear of technology
- Extra work, no rewards? (not INDEST co-ordinators?)
- All info not available?
 - New Faculty join
 - Faculty Retire
 - Student Rolls incomplete/inaccurate.
- Forgotten passwords!
- Special cases
 - Audio/Video
 - A3 format graphs/plots
 - Handling *exceptions* can kill you (esp. with **proprietary** solutions)
 - ..

LDAP can solve some of the problems!

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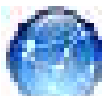
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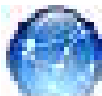
dc=iitb,dc=ac,dc=in



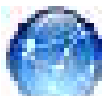
[cn=Directory Administrators](#)



[ou=Groups](#)



[ou=People](#)



[ou=Special Users](#)



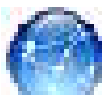
[cn=nsAccountInactivationTr](#)



[o=nismaps](#)



[uid=alocker](#)



[ou=Alumni](#)



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 [cn=pamproxy](#) 

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 [ou=CC](#) 



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ou=FAC,ou=CSE,ou=People

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- [uid=varsha](#)
- [uid=sudarsha](#)
- [uid=soumen](#)
- [uid=supratk](#)
- [uid=i98028](#)

[Gimme my search form back](#)

Warning: LDAP: Unable to perform the search: No such object in /home/httpd/html/LDAPBrowse/index.php on line 511

Warning: Wrong datatype in ksort() call in /home/httpd/html/LDAPBrowse/index.php on line 538

uid=siva



employeetype: <small>(add value)</small>	fac	Update!
givenname: <small>(add value)</small>	G	Update!
accountstatus: <small>(add value)</small>	active	Update!
objectclass: <small>(add value)</small>	top	Update!
	person	Update!
	organizationalPerson	Update!
	inetOrgPerson	Update!
	posixAccount	Update!
	shadowAccount	Update!
	sambaAccount	Update!
qmailUser	Update!	
account	Update!	
departmentnumber: <small>(add value)</small>	CSE	Update!
mailquota: <small>(add value)</small>	80000000S, 10000C	Update!
mailmessagestore: <small>(add value)</small>	/fac.mailboxes/CSE/051053/	Update!
uidnumber: <small>(add value)</small>	10875	Update!
mail: <small>(add value)</small>	siva@iitb.ac.in	Update!
uid:	siva	Update!



Issues during Implementation

Queries that may trouble people (from Pittsburgh FAQ)

Impact on Existing Academic Standards and Processes

- How will an ETD affect the faculty's role in assuring the quality of the dissertation?
- How will ETDs affect the thesis or dissertation review process?
- How will producing an ETD affect my defense?
- Do my committee members have to read my ETD on a computer screen?
- Who is responsible for processing the electronic submission after dissertation/thesis committee approval?
- Will students participating in the study have to pay the “binding fee?”
- Do ETDs save the University money?

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- How will producing an ETD affect my ability to later publish an article or book based on or related to my thesis or dissertation?
- Are the rules governing the use of copyrighted materials any different for ETDs compared to hard-copy theses and dissertations?
- If I properly site all my sources in the form of a footnote, endnote or bibliography, do I still need to get copyright permission?
- If my dissertation is online, don't I increase the risk of being plagiarized?
- How do I cite an ETD?



More Information

Available in plenty on Internet

- **Networked Digital Library of Theses and Dissertations** website at <http://www.ndltd.org/>
- <http://etdguide.org/> (400 page manual!)
- <http://etd.vt.edu/> (one of the pioneers!)
- <http://www.pitt.edu/graduate/etd> (technical info)

It's time to stop being **mere consumers** and become **active producers** of knowledge!

ETD offers a way to prove ourselves to our peers!

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