

ETDs

Electronic Theses & Dissertations

Library Issues and Responsibilities

and the

Networked Digital Library of Theses and Dissertations

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ETDs: Library Responsibilities

- ❖ **Improve access to information**
- ❖ **Server: maintenance and archiving**
- ❖ **Public access**
 - **Internet/Web, OPAC**
 - **Internet Workstations**
- ❖ **Introduce faculty**
- ❖ **Future**



ETD Goals

- ❖ **Students learn about electronic publishing and digital libraries**
- ❖ **Timely technology and knowledge sharing**
- ❖ **Universities unlock the potential of their intellectual property and products**
- ❖ **Improve library services**



Improve Library Services

- ❖ **Better stocked digital library**
- ❖ **Timely access to information**
- ❖ **Serve more clients with fewer staff**
- ❖ **Cost savings: library and students**
 - **save shelf space, building space**
 - **save staff time: eliminate circulation, shelving, binding**
 - **paper and printing**
- ❖ **Improve online catalog access**



ETD: from author to public access

1. Student author submits ETD

- **goes directly to permanent library/archival server**
- **access/archive fee replaced binding fee**

2. Graduate School approves

3. Library generates public access

- **UMI automatically notified**
- **Public has access through: OCLC/OPAC and Internet/World Wide Web**



ETD Server

❖ Library

- provides
- maintains
- backs-up
- upgrades hardware/software as needed
 - ◆ NeXt 3.3 (running HP: 1989-1997)
 - ◆ Sun Netra (running Solaris 2.5.1, Oct 1997 to date)
- other
 - ◆ training materials
 - ◆ information for potential participants in NDLTD



VT's ETD Server: Sun Netra

- ❖ **200 Mhz Ultrasparc processor**
- ❖ **128 Mb of RAM**
- ❖ **Gb of disk space for OS, related tools**
- ❖ **ETDs on 4 Gb partition**
- ❖ **Netscape Enterprise Server**
- ❖ **Perl 5.004_01**
- ❖ **CGI.pm**
- ❖ **Sun 8mm Ultra Wide SCSI tape drive**
 - **170m tapes; 40 Gb compressed storage**






Virginia Tech Electronic Theses and Dissertations

<http://scholar.lib.vt.edu/theses/>



VT ETDs: unlocking access to graduate research

Of General Interest	<i>Primarily for Graduate Students</i>
Browse All Available <i>VT</i> ETDs	Introductory Workshops
Search <i>VT</i> ETDs	Submission Information
National Digital Library of Theses & Dissertations <i>NDLTD</i>  flier	Form: Committee Approval <i>draft</i> Library-friendly Approval Form
Data about <i>VT</i> TDs and ETDs	Form: Submit an ETD to the Graduate School


[VT ETDs and the US Copyright Law](#)

 **flier**

[Preparing Your ETD at Virginia Tech](#)

 **flier**

[ETDs: Library Issues, Responsibilities, and Data](#)

 **slide show**



730 VTETDs

as of February 17, 1998

❖ 589 ETDs available online

81% of approved ETDs

➤ 389 unrestricted access

53% of approved ETDs

➤ 204 Virginia Tech community access only

28% of approved ETDs

❖ 137 withheld from all access

19% of approved ETDs



VTETDs with Multimedia

❖ 435 still images

➤ 225 GIF

➤ 121 JPG

➤ 89 TIF

❖ 25 movies

➤ 8 Quicktime

➤ 6 AVI

➤ 11 MPEG

❖ 42 sound files / WAV parrot calls!

❖ 1 Macromind Director

➤ 378 Mb ETD

➤ 85 VRML / WRL



Server Log Files Reveal

- ❖ 247,573 successful requests
- ❖ 5,357 distinct files requested
- ❖ 22,725 distinct hosts served
- ❖ 34.6% requests for .pdf
- ❖ 61.7% requests for .html
- ❖ .35% requests for 'media'

January - December 1997 at scholar.lib.vt.edu



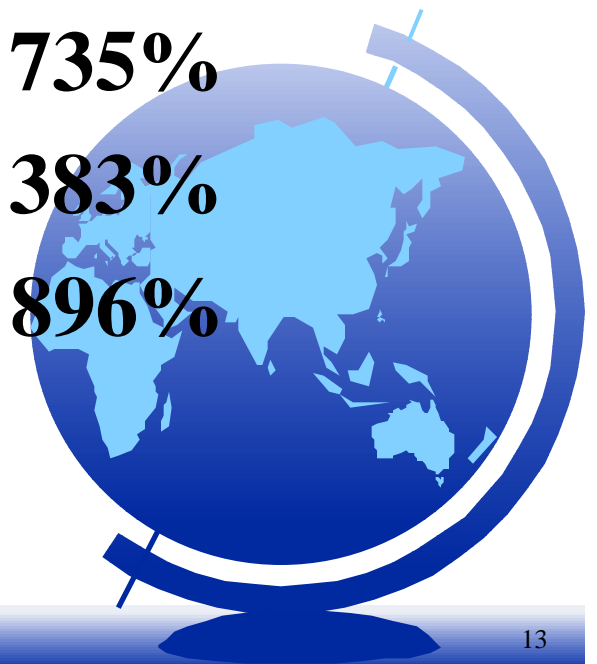
International Access to VT ETDs

<i>country</i>	<i>1997</i>	<i>1996</i>	<i>increase</i>
UK	2922	850	244%
Australia	2501	608	311%
Canada	2367	713	232%
Germany	2378	346	232%
South Korea	1264	387	227%
France	1161	463	151%
Brazil	1130	183	517%
Thailand	967	22	4295%
Greece	958	83	1054%
Netherlands	876	191	359%



VT ETD Access by US Domains

	1996	1997	increase
.edu	15,314	112,876	637%
.com	5,309	48,540	814%
.net	2,522	14,026	456%
.org	375	3,132	735%
.gov	282	1,362	383%
.mil	188	1,872	896%



Library Provides Access to ETDs

❖ Internet workstations

➤ for students

- ◆ computer labs and classrooms
- ◆ New Media Center (software and assistance)

➤ for library users: local and remote

- ◆ OPAC
- ◆ World Wide Web



Library Internet Workstations-- for Student ETD Authors

❖ New Media Center -- Newman Library

- 22 Macs
- scanners, digital video/audio production, etc.
 - ◆ Netscape, Acrobat, Word, PowerPoint, Photoshop, and much more
- helpful staff
- <http://www.nmc.vt.edu>



Library Internet Workstations-- Public, On-Campus Access to ETDs

- ❖ **locate ETDs through**
 - **OPAC and World Wide Web**
- ❖ **circa 350 workstations (mostly Macs)**
- ❖ **throughout University Libraries**
 - **Newman (main) Library**
 - ◆ **Media Center (50), throughout the building**
 - **Branch libraries**



Library Introduces Faculty to ETDs

❖ Overview of process and access

- from student's submission to public access
- virtual tour of ETD Web sites

❖ Faculty concerns

- Now: Future publication potential, copyright
- Previously:
 - ◆ Does the Library have enough online storage space?
 - ◆ Network response time might be too slow



Library Issues: Cataloging

Current Improvements and the Outlook for the Future



ETD Cataloging

- ❖ **Professional catalogers developed policies and procedures**
- ❖ **Catalogers' workstations**
- ❖ **Cataloging from submission form**
- ❖ **Copy/paste and direct keying**
- ❖ **Input in OCLC, download to OPAC**



VT ETD Cataloger's Workstation **HARDWARE**

- ❖ **originally**

- **PC compatible 486s, 8Mb RAM**

- ❖ **now**

- **Gateways w/PentiumII processors, 32Mb RAM**

- ❖ **variety of printers**



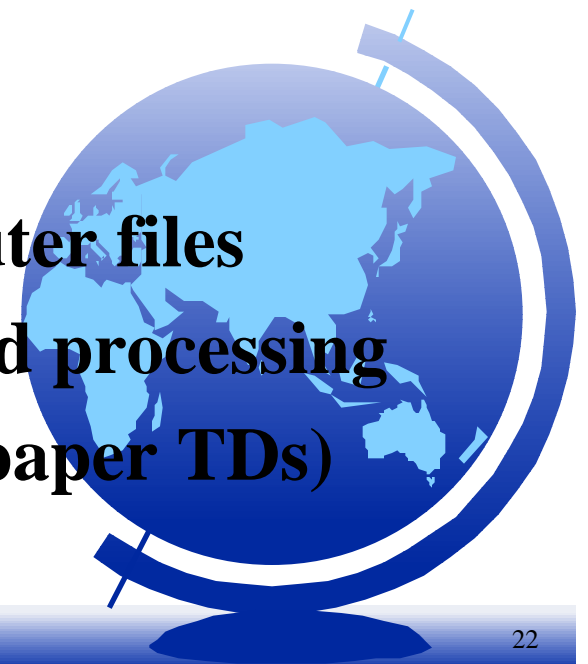
VT ETD Cataloger's Workstation SOFTWARE

- ❖ **OCLC Passport for Windows**
- ❖ **Simultaneous VTLS (opac) sessions**
- ❖ **Catalogers Desktop -- networked CD-ROM**
 - **cataloging rules, manuals, and formats**
- ❖ **Netscape 3.0**
- ❖ **Acrobat Reader 3.0**



VT ETD Cataloging

- ❖ **same as current cataloging policies, except:**
 - **author-assigned keywords (not LCSH)**
 - **generic (not LC) call no.**
 - **fields/subfields as required for computer files**
 - **full abstracts**
- ❖ **time savings**
 - **cataloger now familiar with computer files**
 - **better equipment/software for word processing**
 - **5 minutes avg. (10-15 minutes for paper TDs)**



Cataloging completed (OCLC>>OPAC)

ETD available on the World Wide Web

- ❖ **Programmatic notification e-mailed to UMI**
- ❖ **Browsable title/author list**
 - **additional access points are coming**
- ❖ **OpenText LiveLink search engine**



Library Costs

- ❖ **\$12/vol. for paper thesis processing**
 - catalog, bind, security strip, label, shelve
 - @950 vols./yr. = \$11,466
- ❖ **\$3.20/vol. ETD processing**
 - cataloging @950 vols./yr. = \$3040
- ❖ **\$.07/vol. shelving**
- ❖ **\$.04/vol. circulation**



Library Savings

Processing New Titles

- ❖ **73.3% savings NOW (\$8360/yr.)**
- ❖ **Future: cataloging costs = \$0/title**
 - **to generate MARC record**
 - ◆ **\$3.65 credit w/OCLC for original bib record contributed**
 - **OCLC access costs remain**
- ❖ **Generate MARC from ETD**
 - **Use tagged elements within e-text to generate bibliographic record: SGML ETD DTD>>MARC**



Savings for Libraries can be Realized when ETDs are Available

- ❖ **Circulating from the general collection**
 - **/month: 1997**
 - **148/month: 1996 (16% from Storage)**
- ❖ **Retrieved from off-site storage (pre-1984)**
 - **57/month: 1997 (19% fewer)**
 - **70/month: 1996**
- ❖ **TDs out through interlibrary loan**
 - **79/month: Jan. 1998 (45% fewer)**
 - **175/month: Feb. 1996**



Library Issue: Archiving ETDs

- ❖ **Every 15 minutes back-ups made of not-yet-approved submissions**
- ❖ **Hourly back-ups of newly approved ETDs**
- ❖ **Weekly back-ups of entire ETD collection**
- ❖ **Periodically write to CD-ROM**



Issue: Availability of Library Resources

In a typical month

❖ 81% of VT ETDs available

➤ 54% available without restrictions

➤ 27% available to VT only

❖ 19% unavailable



New Concerns for Libraries

- ❖ **Authors limiting access to some ETDs**
 - **all VT ETDs unavailable through InterLibrary Loan**
 - **Contact authors for copies?**
 - **Distribute authors' e-mail addresses?**
- ❖ **Multiple formats (paper and electronic) approved**
- ❖ **URLs >> PURLs and Handles**
 - **maintaining links to VT ETDs**
 - **maintaining links to external sites**



Anticipated Changes for ETDs

❖ Redesign of submission form

- ◆ data for analysis and to generate bibliographies, etc.

❖ ETDs in dual formats: PDF and SGML

- ◆ Portable Document Format
- ◆ Standard Generalized Markup Language

❖ MARC derived from SGML (ETD DTD)

- ◆ Machine Readable Cataloging
- ◆ ETD Document Type Definition

❖ Distributed searching of NDLTD

- ◆ Networked Digital Library of Theses and Dissertations



Universities Officially Part of NDLTD

- ❖ **Clemson University**
- ❖ **Concordia University**
- ❖ **Darmstadt U. of Tech.**
- ❖ **Florida Institute of Tech.**
- ❖ **Michigan Tech**
- ❖ **Naval Postgraduate School**
- ❖ **North Carolina State U.**
- ❖ **Rhodes U. (South Africa)**
- ❖ **Rochester Institute of Tech.**
- ❖ **University of Florida**
- ❖ **University of Georgia**
- ❖ **U. of Hawaii, Manoa**
- ❖ **Laval University (Quebec)**
- ❖ **U. of New South Wales (AU)**
- ❖ **U. of South Florida**
- ❖ **U. of Tennessee, Knoxville**
- ❖ **U. of Tennessee, Memphis**
- ❖ **U. of Virginia**
- ❖ **U. Wisconsin - Madison**
- ❖ **Vanderbilt U.**
- ❖ **Virginia Tech**
- ❖ **West Virginia U.**



Join the NDLTD Initiative

Networked Digital Library of Theses & Dissertations

❖ Browse

- <http://scholar.lib.vt.edu/theses>
- www.ndltd.org

❖ Share your ideas, questions, concerns, experience

❖ Contact

- John Eaton, Graduate School (eaton@vt.edu)
- Ed Fox, Computer Science (fox@vt.edu)
- Gail McMillan, Library (gailmac@vt.edu)



The *VT* ETD Library

<http://scholar.lib.vt.edu/theses/>
from
University Libraries, Virginia Tech

Gail McMillan
director, Scholarly Communications Project, University Libraries
<http://scholar.lib.vt.edu>



Scholarship in the Electronic World

is a seminar series on "new issues in academe"
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