

ETDs

Electronic Theses & Dissertations

Library Issues and Responsibilities

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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**
 - **Improve graduate education**
- ◆ **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**

1578 VTETDs

as of March 3, 1999

- ◆ **1272 ETDs available online**

 - 81% of approved ETDs

 - **758 unrestricted access**

 - 59.6% of approved ETDs

 - **514 Virginia Tech community access only**

 - 40% of approved ETDs

- ◆ **306 withheld from all access**

 - 19% of approved ETDs

Media in 1454 VT ETDs

◆ file formats used	Totals
<i>file formats recommended</i>	
◆ image: bmp, dxf, gif, jpg, tiff <i>CGM, AutoCAD (dxf), GIF, JPEG, PDF, PhotoCD, TIFF</i>	322
◆ sound: aiff, mcd, wav <i>AIF, CD-DA, CD-ROM/XA, MIDI, MPEG-2, SND, WAV</i>	18
◆ movie: avi, mov, mpg, qt <i>MPEG, QuickTime, Encapsulated Postscript</i>	48
◆ other: macromedia, SMGL, XML <i>Authorware, Director, Excel</i>	88
◆ text: doc, pdf, txt, xls <i>ASCII, PDF, SGML, ETD-ML</i>	5247

Server Log Files Reveal

	<u>1997</u>	<u>1998</u>	<u>increase</u>
Total successful requests	247,573	666,099	62.8%
Avg. successful req's/day	685	1,807	62.2%
Distinct hosts served	22,725	38,581	41.1%
Total data transferred	25,953Mb	76,490Mb	66.1%
Avg. data trans'd/day	73,574Kb	212,503Kb	65.4%

International Access to VT ETDs

<i>country</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>
♦ UK	850	2922	8170
♦ Germany	346	2378	7373
♦ France	463	1161	4431
♦ Australia	608	2501	4223
♦ Canada	713	2367	3970
♦ Netherlands	191	867	2781
♦ Italy	250	725	2553
♦ Japan	101	495	2456
♦ South Korea	387	1264	2201
♦ Finland	255	432	1098

VT ETD Access by US Domains

	<u>1998</u>	<u>1997</u>	<u>increase</u>
.edu	254,268	112,876	125%
.com	88,169	48,540	82%
.net	27,972	14,026	99%
.org	1,434	3,132	-54%
.gov	6,885	1,362	406%
.mil	3,475	1,872	86%

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 4.0**
- ◆ **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**
 - **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 2 hours: back-ups made of not-yet-approved submissions**
- ◆ **Hourly back-ups of changes**
- ◆ **Weekly back-ups of entire ETD collection**
- ◆ **Periodically write to CD-ROM**

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 process**
 - ◆ improved management system
 - ◆ easier data analysis
- ◆ **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

- ◆ **Air University, Maxwell AFB**
- ◆ **Chungnam Nat'l U, CS Dept.**
- ◆ **City University, London**
- ◆ **Clemson University**
- ◆ **College of William & Mary**
- ◆ **Concordia University (Ill.)**
- ◆ **Darmstadt U. of Tech.(Ger.)**
- ◆ **Florida Institute of Tech.**
- ◆ **Florida International U.**
- ◆ **Griffith University (Australia)**
- ◆ **Gyeongsang Nat'l U (Korea)**
- ◆ **Humboldt-Univ. zu Berlin**
- ◆ **India Tech, Bombay**
- ◆ **Michigan Tech**
- ◆ **Nanyang Tech, Singapore**
- ◆ **Naval Postgraduate School**
- ◆ **North Carolina State University**
- ◆ **Pennsylvania State University**
- ◆ **Polytechnic U. of Valencia (Spain)**
- ◆ **Rhodes U. (South Africa)**
- ◆ **Rochester Institute of Tech.**
- ◆ **St. Petersburg Technical University**
- ◆ **Universidad de las Americas Puebla**
- ◆ **Université Laval (Québec)**
- ◆ **University of Florida**
- ◆ **University of Georgia**
- ◆ **University of Guelph**
- ◆ **U. of Hawaii, Manoa**
- ◆ **U. of Iowa**
- ◆ **University of Maine**
- ◆ **U. of Melbourne**
- ◆ **U. of New South Wales (AU)**
- ◆ **U. of Oklahoma**
- ◆ **U. of Queensland**
- ◆ **U. of South Florida**
- ◆ **U. of Sydney**
- ◆ **U. of Tennessee, Knoxville**
- ◆ **U. of Tennessee, Memphis**
- ◆ **U. of Texas, Austin**
- ◆ **U. of Virginia**
- ◆ **U. of Waterloo**
- ◆ **U. Wisconsin - Madison**
- ◆ **Vanderbilt U.**
- ◆ **Virginia Tech**
- ◆ **West Virginia U.**
- ◆ **Wilfrid Laurier University**

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)