Access to EResources: Theses Come out of the Attic

Gail McMillan
Digital Library and Archives, University Libraries
Virginia Polytechnic Institute and State University

Virginia Library Association
Oct. 19, 2001
Contemporary Turkish Coffeehouse Design Based on Historic Traditions

Timur Oral

MS, Interior Design
College of Human Resources and Education
April 1997

http://scholar.lib.vt.edu/theses/available/etd-2227102539751141/
All the King’s Horses: Delta Wing Leading-Edge Vortex System Undergoing Vortex Breakdown: A Contribution to its Characterization and Control under Dynamic Conditions

Norman Schaeffler

PhD, Engineering Mechanics
College of Engineering
April 1998

http://scholar.lib.vt.edu/theses/available/etd-32498-21232/
The long-term vision for ETDs?

- Faster and better information transfer
- 400,000 masters and PhD candidates annually exposed to e-publishing
- ETDs become rich hypermedia works
- Graduate education is more effective, students are more productive
- Universities publish their scholarship
What is Virginia Tech doing?

- Using computer-based technology to improve the content and availability of theses and dissertations
- Educating future scholars to publish electronically and effectively use digital libraries
Why ETDs?

- Help graduate students learn about e-publishing and digital libraries
- Apply that knowledge to research, build, submit ETDs
- Empower students to convey richer message through use of multimedia
- Improve graduate education through more effective sharing of information
- Timely availability of university’s unlock intellectual property
- Libraries improve services and resources, save money and space
Why digital submission?

- Students gain hands-on experience
  - preparing electronic works
  - using tools to share information effectively
- Scanned documents are costly to store, less effective than original digital documents
ETDs: Library Goals

- Improve library services
  - Better turn-around time
  - Always available

- Reduce work
  - Catalog from etext
  - Eliminate handling: mailing to UMI, bindery prep, check-out, check-in, reshelving, etc.

- Save space
How are ETDs managed at VT?

- Produced using standard word processors
- Submitted online, usually as portable document format (PDF) files
- Reviewed by the Graduate School
- Cataloged and archived by the library
- Downloaded by UMI from the library server
What is the Graduate School’s role?

- Student training workshops
- Helps student correct errors before final approval
- Reviews all ETDs for format
  - More than 3577 approved as of Oct. 13, 2001
- ETD approval form
What is the Library’s role?

- Education and training
  - how to turn Word into PDF
  - copyright

- Liaison for readers to authors, advisors

- Programming
  - Processes, notifications, availability

- Server
  - Submission, archiving, access
Electronic Theses/Dissertations

- Benefits
- Concerns
- Possibilities
Benefits of ETDs include:

- Increased access
  - Low margin, high use
  - Online vs. circulation of copies

- Cost savings
  - Students and libraries

- Preparation for the future
Benefits: Increased Access

- **Low margin, high use**
  - Incorporate ETDs with other digital library activities
    - EJournals, EReserve, ImageBase (digital images)
    - Additional equipment, staff may not be necessary
  - May use VT programs, scripts, etc.
    - [http://scholar.lib.vt.edu/ETD-db/](http://scholar.lib.vt.edu/ETD-db/)

- **Online vs. circulation of copies**
  - Access statistics
  - Circulation statistics
Paper theses and dissertations are relatively inaccessible and under utilized.

- 1996-1999: ETD circulated 270/yr
  - VT theses submitted 1990-94: combined average circulation was 2.24/yr per copy
  - VT dissertations submitted 1990-94: combined average circulation was 3.2/yr per copy
Are ETDs used?

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total requests</td>
<td>247,537</td>
<td>465,974</td>
<td>1,190,113</td>
<td>1,894,510</td>
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<tr>
<td>Daily requests</td>
<td>685</td>
<td>1,722</td>
<td>3,016</td>
<td>5,176</td>
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<tr>
<td>ETD requests</td>
<td>72,854</td>
<td>244,987</td>
<td>671,981</td>
<td>734,807</td>
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<td>Abstract requests</td>
<td>112,633</td>
<td>177,647</td>
<td>217,796</td>
<td>320,273</td>
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<td>Hosts served</td>
<td>22,725</td>
<td>28,022</td>
<td>35,593</td>
<td>105,632</td>
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</table>
Libraries Serve more ETD Users

- 1998/1999
- 1999/2000

- 50,000
- 100,000
- 150,000
- 200,000
- 250,000
- 300,000
- 350,000
- 400,000
International Use of ETDs

The chart illustrates the international use of ETDs in various countries, comparing the years 2000 and 1999. The countries listed from top to bottom are: Germany, United Kingdom, Australia, France, Russia, Canada, Spain, Malaysia, Italy, Japan, Brazil, Singapore, Thailand, Netherlands, Indonesia, and Singapore. Each country is represented by two bars, one for 2000 and one for 1999, indicating the number of ETDs used in that year. The United Kingdom and Germany show the highest usage in both years.
Concerns about ETDs

- Financing ETD initiative
- Future publication
- Archiving
- Inaccessible ETDs
- Broken links
Financial Concerns

- **At VT**: start-up costs = $0
  - On-hand staff, equipment, software, freeware

- **From zero base**: estimate $65,000
  - $24,000  STAFF (part time)
  - $36,000  EQUIPMENT
  - $15,000  SOFTWARE
  - [http://scholar.lib.vt.edu/theses/data/setup.html](http://scholar.lib.vt.edu/theses/data/setup.html)
Costs/Savings at VT

- Graduate School stopped shipping 3000 copies of paper TDs/year to the library
- Library stopped handling (binding, shelving, circulating, etc.) 3000 copies of TDs/year
- 166 ft of shelf space saved/year by the library
Cost Savings: Students

- Eliminate copying charges
  - $.07/page photocopies
  - $35/ream rag paper
- Software
  - Campus computer labs
  - Purchase: $25 - $90
ETDs and Publishing

- Authors have ambitious publication plans
  - 85%: articles, proceedings, chapters, books, etc.
- 43% of surveyed alumni responding have published
- How many encountered resistance from publishers because ETD was online? Zero.
Concerns: Future publications

- Publisher surveys
  - No evidence of prejudice
    - 2000: Joan Dalton, U Windsor
    - 2001: Nan Seamans, VT

  - No evidence of prejudice against publishing from ETDs
ETDs and Publishers

- Early controversies waning slowly
  - American Chemical Society
  - Elsevier
  - IEEE Computer Society, Assoc. of Computing Machinery
  - Entomological Society of America
  - Kluwer

- Transfer all authors’ rights?
  - Many publishers will share if asked
Concerns about ETDs

- Inaccessible ETDs
  - Patents pending
  - Future publication status

- Broken links
  - Quality of work remains
    - Similar to out-of-print articles
    - Media standards
What are VT ETD authors making available?

<table>
<thead>
<tr>
<th>Year</th>
<th>unrestricted</th>
<th>VT-only</th>
<th>mixed</th>
<th>withheld</th>
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<tbody>
<tr>
<td>1997</td>
<td>400</td>
<td>445</td>
<td>307</td>
<td>336</td>
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<td>400</td>
<td>445</td>
<td>307</td>
<td>336</td>
</tr>
</tbody>
</table>
Why Graduate Students Restrict Access

- Faculty advice: 47.6%
- Other's advice: 10.1%
- Publisher's advice: 8.2%
- Other: 7.7%
- Personal choice: 26.4%
- Faculty advice: 47.6%
an end to the ‘other’ in landscape architecture: poststructural theory and universal design

David Orens
Master of Landscape Architecture
College of Architecture and Urban Planning
April 1997
http://scholar.lib.vt.edu/theses/available/etd-4220121649751351/
Concerns: Archiving

- **VT**: no paper copies
  - Standard media
  - PDF
    - An open source program
    - EJournals, government documents, etc.
  - Frequent backups, multiple locations
  - [http://scholar.lib.vt.edu/theses/archive.html](http://scholar.lib.vt.edu/theses/archive.html)

- **UMI**: traditional microfilming

- **VTLS**: metadata records, links

- **NDLTD**: mirroring
Ensuring Access to VT ETDs

- Every 15 minutes back-ups made of newest, not-yet-approved submissions
- Hourly back-ups of newly approved ETDs
- Weekly back-ups of entire ETD collection
- Multiple copies stored on-site and off-site
Challenges to Creating and Sustaining ETD Collections

- **Copyright**
  - Fair use or permission
  - Authors’ rights

- **Attitudes about publishing**
  - Reclaim university research and scholarship

- **Accepted and dependable as paper or microfilm**
Lessons from ETDs

- Implementation of new formats slower than expected
  - still text oriented (faculty influence)
  - new graduate students can plan for ETDs
- Requiring institutions slower/few than expected
- If you build it, it will get used.
  - access exceeded expectations
  - disappointing that 20% are inaccessible
- No longer experimental
  - surprising increase in number and diversity of NDLTD institutions implementing ETDs
- Remarkable increase in exposure to graduate student research done at Virginia Tech
What is the status of ETDs now?

- 105 universities worldwide
- Required at: VT, WVU, ETSU, UNo.Tex., UT Austin, NCSU, (LSU spring 2002); U Hong Kong
- 53 US institutions have projects
- 3597 ETDs at VT, 1050 at WVU