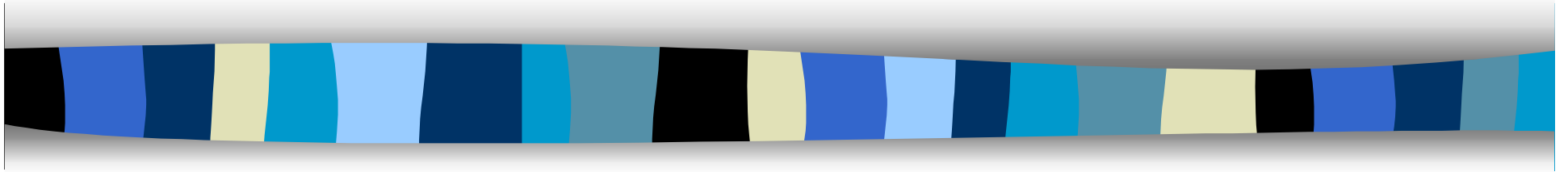# Theses Come Out of the Attic
& Become an Institutional Asset

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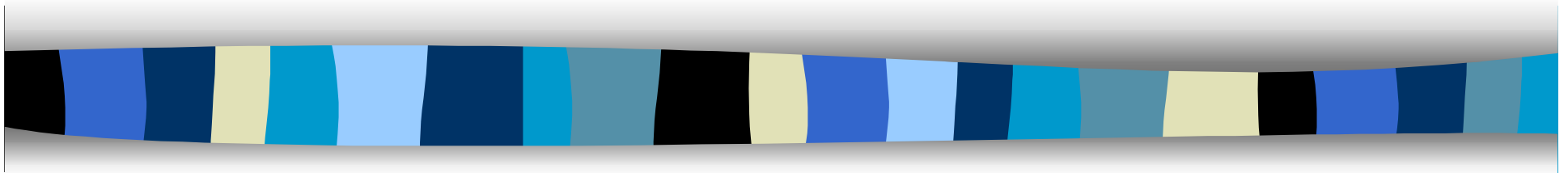Virginia Polytechnic Institute and State University

Archival Considerations for ETD's

Robert P. Spindler, University Archivist

Arizona State University Libraries

Society of American Archivists, August 23, 2002

Theses Come Out of the Attic & Become an Institutional Asset

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Digital Library and Archives, University Libraries

Virginia Polytechnic Institute and State University

Society of American Archivists

August 23, 2002

The Current Situation

- Basic and substantial applied research in U.S. takes place in universities

- Primary sources for this research are theses and dissertations

- A portion of valuable data and material published

- Theses and dissertations relatively inaccessible and under utilized

The Vision for ETDs

- 400,000 masters and PhD candidates annually exposed to e-publishing in US
- Faster and better information transfer
  - Empower students to convey richer message through use of multimedia
  - Universities publish their scholarship
- Improve graduate education through more effectively sharing information
  - Help graduate students learn about e-publishing and digital libraries
  - Apply that knowledge to research, build, submit ETDs

Goals for Libraries and Archives

- Improve services
  - Better turn-around time
  - Always available
- Reduce work (save $)
  - Catalog from etext
  - Eliminate handling
- Save space

ETDs: A Worldwide Initiative

- NDLTD (Networked Digital Library of Theses and Dissertations)
  - 127 universities, 18 associations
  - No charge to join and share the wealth of information
  - 62 US institutions have projects
- Required at (16): Cal Tech, Concordia, ETSU, LSU, NCSU, UNT, UF, UGa, [UKty, UMaine], USF, UT Austin, VT, WVU, WPI, UHong Kong, UHyderabad
- ~10,000 born digital ETDs

ETDs at Virginia Tech

- Partnership: Library, Graduate School, and Faculty
- Approved by university governance- Mar.1996
- Full implementation- Jan.1997
- Web submission
  - Students: http://etd.vt.edu
  - Programmers: http://scholar.lib.vt.edu/ETD-db/
- Workshops for students (and faculty)
- Over 4,224 ETDs approved

How are ETDs managed?

- Graduate student creates ETD
  - Word processor, multimedia
  - Saves as PDF, usually
- Graduate student submits ETD
  - Directly to library server/permanent archive
  - Archiving fee replaces binding fee
- Graduate School approves
  - E-mails author, advisor, UMI (VT scripts)
  - Authors/advisors prescribe Internet access
- Library catalogs and archives
- UMI downloads

A CONTEMPORARY TURKISH COFFEEHOUSE DESIGN
BASED ON HISTORIC TRADITIONS

by

Timur Oral

Thesis submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

in

Housing, Interior Design, and Resource Management

APPROVED:

Jeanette Bowker, Chair
Muzaffer Uysal
Eric Wiedegreen

April 16, 1997
Blacksburg, Virginia

Keywords: Turkish, coffee, coffeehouse, tradition, culture, franchising, shop design

http://scholar.lib.vt.edu/theses/available/etd-2227102539751141/unrestricted/Ali_Pasa.QT

Accessibility in landscape architecture and architecture is too often only approached in terms of its formal implications. How can this landscape or this building, we ask, be brought into compliance with the accessibility codes, or be initially designed as 'accessible ?'[1] These texts are an attempt to expand the limits of that conception, to engage the social and cultural agencies which influence our concept of accessibility. This is, inevitability, no less of a fiction than the current approaches to accessibility, and it is difficult to propose that what is written here is in opposition to some current way of thinking – as if I, or it, could ultimately transcend the conditions of the 'reality' from which it develops. Nor can I say that I have located all of the 'right' problems, although such an activity is definitely on the agenda – to challenge the complacent and the regressive, to question social conditions, to resist the structures and institutions that serve the powerful and perpetuate powerlessness. But, as author Lynn Tillman says, "I must contribute daily, involuntarily, but in small and big ways toward keeping the world the way it is" (Critical Fiction 2-3).[2]
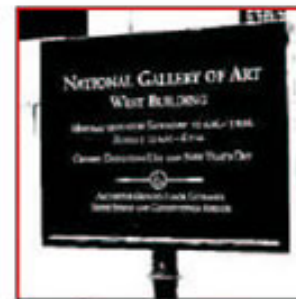
- agency
- fiction
- text.1

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[1] Throughout the text, single quotes are used to suggest a questioning of the concept within the quotes. These "scare quotes" as writer Susan Wendell calls them are intended to bring to the reader's attention those concepts or ideas that the 'author' believes are in need of examination and critique. They are many times words used in everyday language which have come to have certain implications that the author intends to challenge and they are many times concepts which can have negative implications associated with them. They are also occasionally used as quotes within direct quotes and unless otherwise noted should be taken as such when they appear within directly quoted material.

[2] This discussion of the positioning of the author is based on a commentary by Tillman in Critical Fiction / Critical Self. Says Tillman, "I am wary or shy of proposing my fiction as written in opposition to, or to pronounce that I write differently, as if I – or it – could transcend conditions of birth and development – its and mine -- and was somehow able to escape them. Or even that I knew, and the writing could locate, the right problems. It's certainly on my agenda – to challenge the complacent, to question the nation, familial, racial and sexual arrangements, to resist structures and institutions that serve the powerful and perpetuate powerlessness. But as I wrote of the narrator in my novel Motion Sickness – an American moving from place to place in foreign lands – 'I must contributor daily, involuntarily, but in small and big ways toward keeping the world the way it is.' (The question of agency haunts the novel.)" (2-3).

1

'I – or it – could transcend conditions o
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Library Resources

- ## Hardware: server
  - Maintenance and security
  - Started small: NeXt 3.3 (HP; 1989-97)
  - Grew to: Sun dual-processor Enterprise 250--Solaris 2.7 (Running Apache web server)

- ## Software
  - Submission scripts written by DLA
    - Includes e-mail notifications to authors, advisors, UMI
    - Use it too: http://scholar.lib.vt.edu/ETD-db/
  - Log files analyzed with Analog
  - Survey scripts written by DLA
    - Data from authors and readers
    - Use it to: http://lumiere.lib.vt.edu/surveys/

- ## Search Engine
  - Started small: freeWAIS
  - Grew: InfoSeek's ULTRASEEK

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

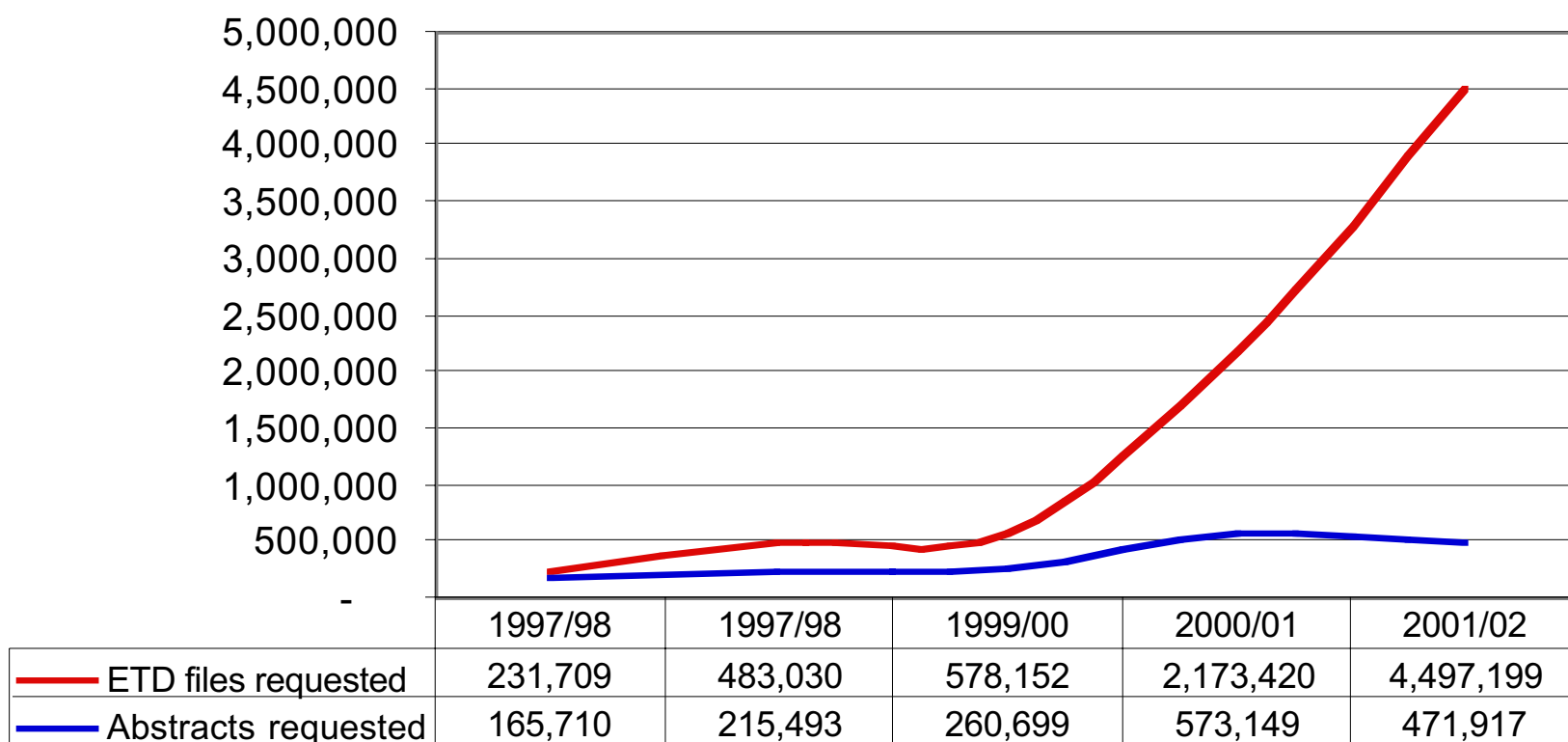http://scholar.lib.vt.edu/theses/data/setup.html

Benefits: Low margin, high use

- Incorporate ETDs with other digital library activities
  - Ejournals, online class materials, digital images, etc.
  - Additional equipment, staff may not be necessary
    - http://scholar.lib.vt.edu/theses/data/setup.html

- Use VT programs, scripts, etc.
    - http://scholar.lib.vt.edu/ETD-db/

- Online accesses vs. circulation of copies
  - VT theses 1990-1994, combined average circulation per copy: 2.24/yr
  - VT dissertations 1990-1994, combined average circulation per copy: 3.2/yr

Access to VT's ETDs

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

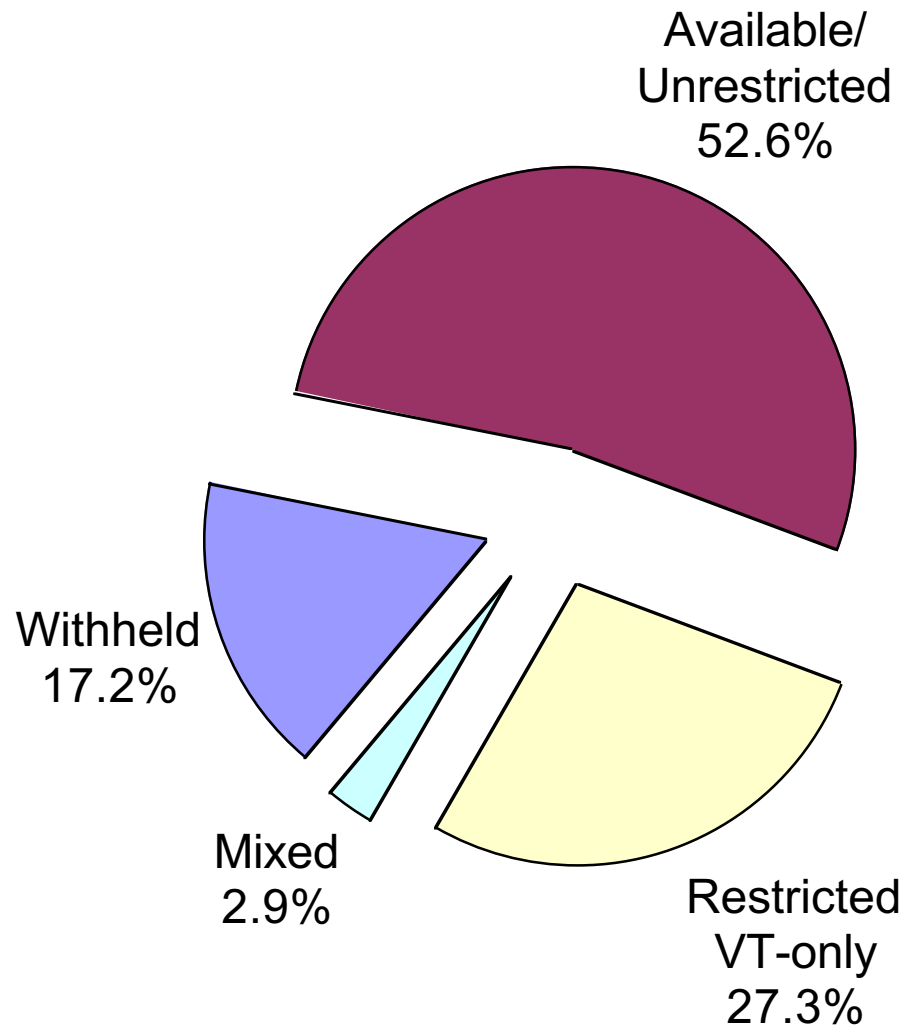|	1997/98	1997/98	1999/00	2000/01	2001/02
ETD files requested	231,709	483,030	578,152	2,173,420	4,497,199
Abstracts requested	165,710	215,493	260,699	573,149	471,917

Why are ETDs so popular?

- **User surveys**
  - 67% found VT ETDs easily
  - 61% found them by searching
  - 22% browsed by department
  - 16% browsed by author
  - 53% downloaded 1 or more ETDs
- **Author surveys**
  - Conversion and submission processes less difficult than anticipated.
  - Over half plan to publish articles from their ETDs.
  - Why did they restrict access?

Availability of 4224 VT ETDs

Available/
Unrestricted
52.6%

Withheld
17.2%

Mixed
2.9%

Restricted
VT-only
27.3%

Reasons for Restricted Access

Advice of faculty
48.58%

Advice of publisher
4.17%

Patent pending
3.23%

Advice of others
9.49%

Other reasons
8.73%

Personal choice
25.81%
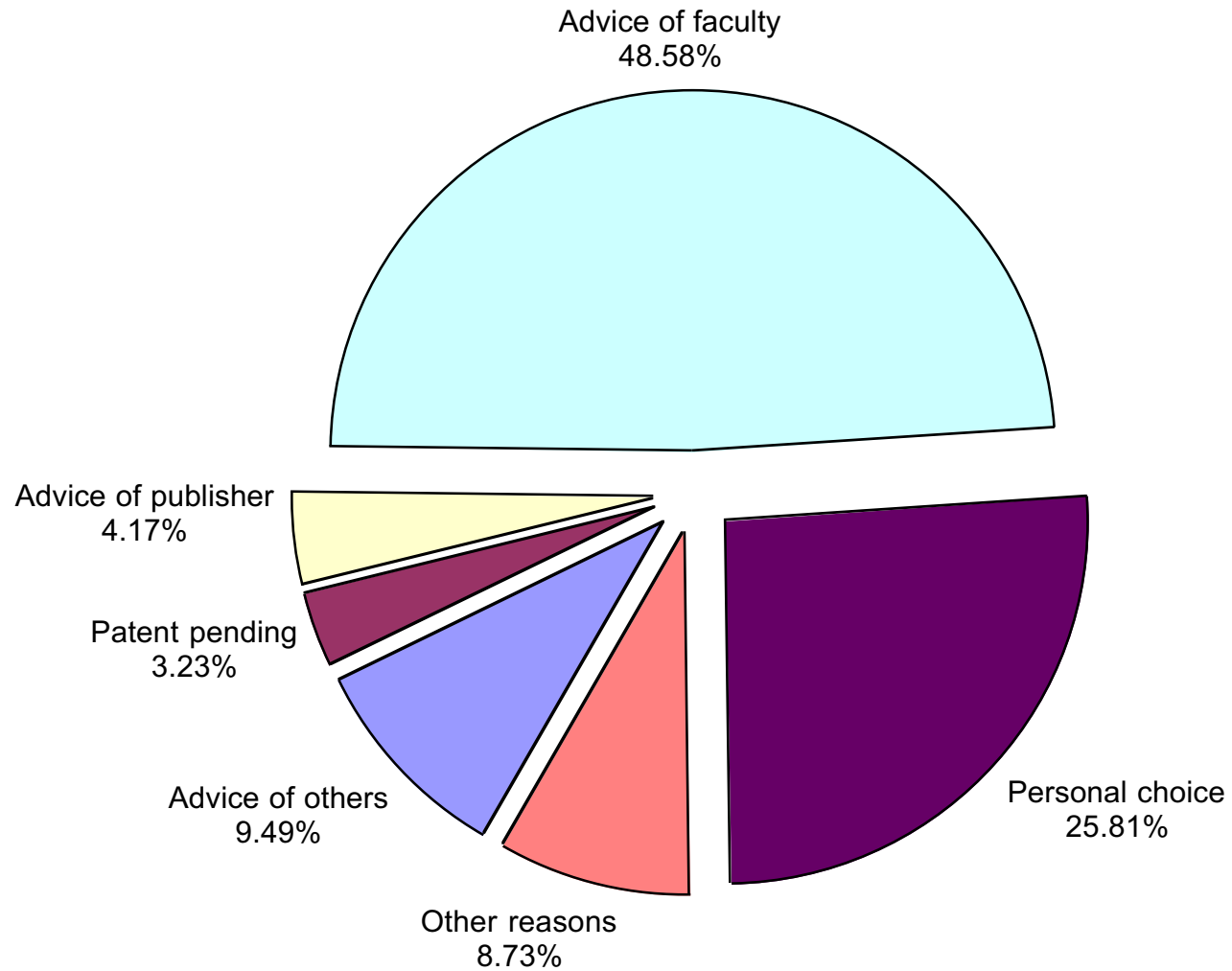
ETDs & Accessibility

- Inaccessible ETDs
  - Patents pending
  - Future publication fears
- Broken links
  - Quality of work remains
  - Similar to out-of-print articles
- Media standards
  - Open source software (e.g., PDF reader)
  - Typical commercial software
  - Few esoteric programs, include original scripts

ETDs & Publishing

- Early controversies waning
- Faculty: prior publication?
  - Protective of future academics
- Surveys of publishers
  - No specific policies largely
  - Consider submissions individually
- VT ETD Alumni
  - None had problems getting published
- Authors
  - Retain some rights, e.g., link to curriculum vitae, online course materials

ETDs & Copyright

- ## Author's rights
  - Reproduction, modification, distribution, public performance, public display
    - Retain rights
    - Share non-exclusive rights
      - Permit library to store and to provide access
      - Publishers

- ## Author's obligations: fair use
  - Balance factors or get permission

- ## Notification: optional

- ## Registration: optional
  - Possibly receive greater compensation, with less documentation if filing infringement law suit

ETDs & Long-term Preservation

- Concerns: Access without paper
  - Long term preservation
  - Standard multimedia formats
    - PDF: an open source program
  - http://scholar.lib.vt.edu/theses/archive.html
- Addressed Concerns
  - Cooperatives
    - OhioLink
    - Why not: OCLC, NDLTD?
  - Commercial options
    - UMI: traditional microfilming
  - Frequent, regular back-ups available on, off-site

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

- NDLTD: let's reciprocate, cooperative mirroring

Lessons from ETDs

- Implementation of new formats slower than expected
  - Text oriented
  - Not planning for online readers
- Requiring institutions slower than expected
- If you build it, it will get used.
  - Access exceeded expectations
  - Disappointing number are inaccessible
- Remarkable increase in exposure to graduate student research
- No longer experimental
  - Increase in number and diversity of NDLTD institutions

Available at VT

- Information

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

- Automated submission system ready for customization

  http://scholar.lib.vt.edu/ETD-db/

- Student guidelines, training materials, FAQ's, multimedia educational materials

  http://etd.vt.edu

- NDLTD: Network educational institutions
  – Annual Conferences: Berlin 2003, U of Kentucky 2004

  http://www.ndltd.org

Archival Considerations for ETD's

Robert P. Spindler

University Archivist

Arizona State University Libraries

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SAA Annual Meeting, August 2002

Arizona State University

- 54,000 students at three campuses

- 10,502 graduate students enrolled fall 2001

- 700-750 theses and dissertations annually

- Emerging graduate programs at E & W campuses

ASU ETD Task Force

⮑ Co-Chairs:

- **Deborah Losse, Assc. Dean, Graduate College**

- **Rob Spindler, University Archivist, University   Libraries**

⮑ Members:

- **28 others including administrators, staff   and 17 faculty**

Task Force Charge

Ü Eleven points including:

- Evaluation of existing programs elsewhere

- Document formatting and academic services

- Storage, archiving and dissemination

- Resources and costs

- Timeline for pilot project and full implementation

Task Force Process

➲ Divided into an Executive Committee and

Three Subcommittees:

- **Advantages/Challenges**

- **Technical**

- **Format/Outreach**

Task Force Process

- Task Force worked January-May, 2001

- Subcommittees submitted reports to Executive Committee

- Executive committee drafted Executive Summary with Subcommittee report appendices

Basic Recommendations

 ➲ Identify diverse volunteer departments for ETD pilot projects

 ➲ PDF to be basic text submission format

 ➲ Eventual move to accept multimedia with standards established by Graduate College Format Committee

Basic Recommendations

- ➲ Text ETD pilot to last not more than four years

- ➲ Move to Text ETD requirement ASAP

- ➲ Text and Multimedia standards linked to software licensed for Libraries online system

- ➲ IT or storage/maintenance vendor must also have software for migration

ASU ETD's and Standards

➦ Multimedia standards OPTIONAL:

- Students follow standards, Libraries will migrate and maintain

- Students choose non-standard environment, Libraries will accept file but will not maintain it.

- Obsolete non-standard files may die / may be readable via users' old software / emulation.

Other Workflow Considerations

- ETD Submission via web interface where:

  - **Students enter basic metadata, ASU staff check boxes when students submit $$$/paperwork**

  - **Students submit files and system assigns space, filenames and directories, BUT**

  - **Signature Sheet submitted in hardcopy**

- We chose not to include faculty review/editing functionalities

ASU ETD Program Costs

➲ Our estimates, your results will vary (a lot)

➲ Pilot Project (first four years):

- **Startup Costs**   **$ 90,000/one time**

- **Annual Costs**   **$ 52,000/yr.**

- **Annual Migration Costs**   **$ 55,000/yr (start in 4th year)**

ASU ETD Program Costs

➲ Pilot Costs Detail:

▪ **Startup/One Time Costs:**
  – **Electronic Submission Interface** $ 30,000
  – **AFS Space/Server (purchase model)** $ 60,000

▪ **Annual Costs**
  – **Systems Administration/File Maint.** $ 15,000/year
  – **Student/Faculty Training** $ 20,000/year
  – **50% Graduate Format Advisor** $ 17,000/year

ASU ETD Migration Costs

➥ Migration Annual Costs (Beginning Year 4):

- **Technology Support Analyst $ 45,000/year**

- **Libraries/IT Software Licensing $ 10,000/year**

➥ Migration and Maintenance Cost is *Cumulative*

- **2,100 ETD's first three years**

- **7,000 ETD's first ten years**

Archival Issues

➲ Are archival requirements "wagging the dog"?

➲ Do format standards represent a restriction of academic freedom?

➲ Can students and faculty receive sufficient training to make sound decisions about technology selections and preservation?

Archival Issues

- Is the body of an ETD an archival record or an electronic publication?

- Does loss matter? Is there an acceptable level of corruption?

- Is migration an effective preservation solution?

- How can we bridge the gap between student/ faculty expectations and preservation risks?

ETD Project Status

⮞ Implementation delayed by:

- **970 Million AZ state budget deficit for 2001-2002**
- **Key staff turnover at Graduate College**

⮞ We're "practicing": collaborating on format and labeling stds. for supplementary materials

⮞ Hope to start pilot within the next year