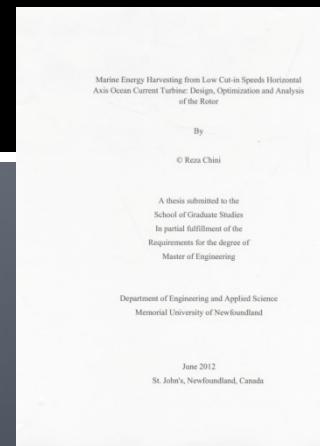
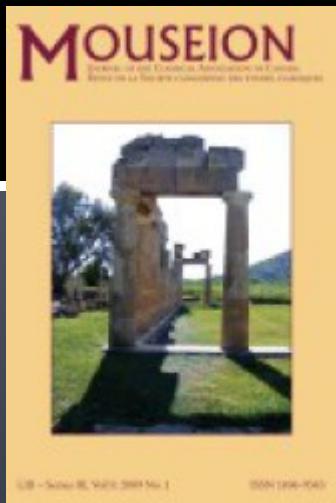


Best Practices for Managing Digitized and Born Digital Scholarly and Cultural Resources

Slavko Manojlovich

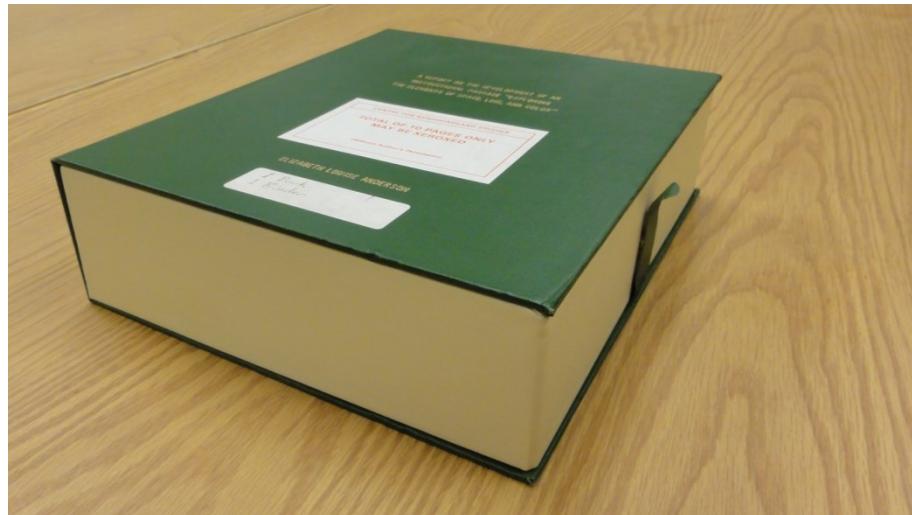
Associate University Librarian (Information Technology)
Memorial University of Newfoundland



Outline

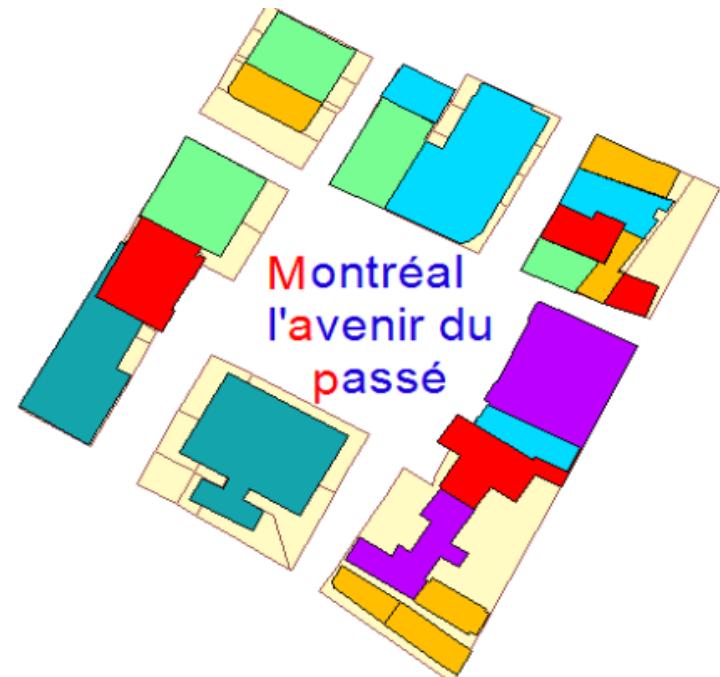
- Digitized (analog) versus born digital content
- Preservation Planning
- Digitizing the Mouseion Journal
- Managing born digital electronic theses
- Q and A

Digitized Analog Content



Born Digital Content

- Text documents (word, PDF, html, etc.)
 - Spreadsheets
 - Web sites
 - Databases
 - Twitter
 - Multimedia files (audio/video)
 - ...
- 



[Français](#)

[English](#)

Digitized (analog) vs. Born Digital

- Digitized (analog) Content

You control what digital file format(s) to use when digitizing analog content for access and long-term preservation. Making a well-informed decision at this stage will significantly reduce the ongoing maintenance associated with the preservation of and long term access to these files.

Digitized (analog) vs. Born Digital

- Born Digital Content

The curation and preservation of born digital content is much more labour intensive and involves dealing with issues associated with provenance, file identification and validation in addition to access and long-term preservation.

Digitized (analog) vs. Born Digital

- Memorial's Digital Archive Platforms
 - Digitized (analog) content
CONTENTdm (OCLC) used to manage the Digital Archives Initiative (DAI) since 2007.
 - Born Digital Content
EPprints (Southampton University) used to manage the Research Repository.
 - Summon Discovery Service includes OAI-PMH harvested content from CONTENTdm and the Research Repository.

Media Type Preservation Plan (MTPP)

- Also known as “Format Policies”, the MTPP determines what file formats to use for digitizing analog content and preserving born digital content. It is created from the intersection of supported media and file formats and their associated significant characteristics, the needs and expectations of our users and the underlying technological environment.

MTPP Digital Preservation Goals

- Provide long-term meaningful access to file formats across all browsers, operating systems and devices.
- Enable the display/play of the original look, feel, experience (colour, layout, etc.).
- Support reuse of born digital objects.

Caveat: to the extent possible

Media Type Preservation Plan (MTPP)

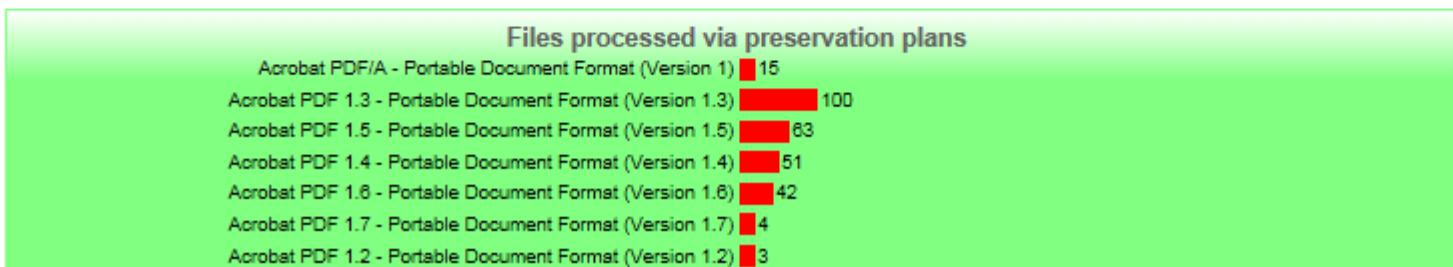
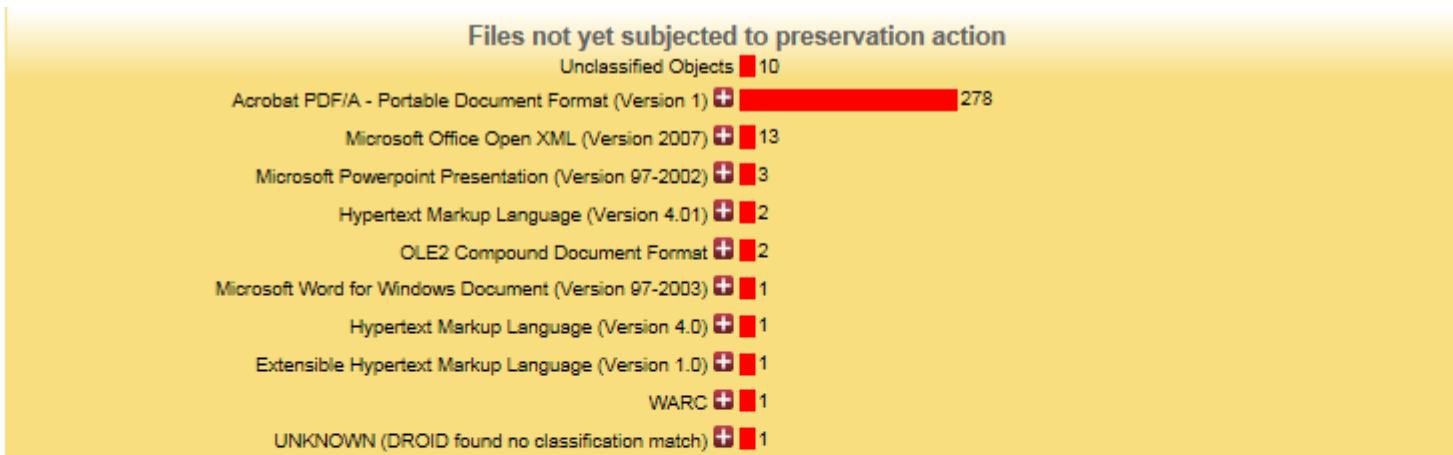
■ Initial Steps

1. Media Type: perform an inventory of media types and file formats in your physical collection/digital repository.
 - a) File extensions don't provide enough information regarding a file (e.g. .pdf could be PDF or PDF/A)
 - b) Use a file identification / validation tool like DRIOD or JHOVE2.

Media Type Preservation Plan (MTPP)

■ Initial Steps

1. Media Type: perform an inventory of media types and file formats in the digital archive/repository.



Media Type Preservation Plan (MTPP)

- Initial Steps
 - 2. Use Google Analytics or other web site tools to determine the predominant devices, operating systems and browsers used to access your services.

Media Type Preservation Plan (MTPP)

Operating System	Visits	% Visits
1. Windows	12,253	73.10%
2. Macintosh	2,162	12.90%
3. iOS	1,638	9.77%
4. Android	282	1.68%
5. (not set)	166	0.99%
6. Linux	159	0.95%
7. BlackBerry	80	0.48%
8. FreeBSD	6	0.04%
9. SymbianOS	4	0.02%
10. Windows Phone	4	0.02%

Media Type Preservation Plan (MTPP)

Browser	Visits	% Visits
1. Internet Explorer	5,853	34.92%
2. Chrome	4,326	25.81%
3. Safari	2,918	17.41%
4. Firefox	2,865	17.09%
5. Android Browser	232	1.36%
6. Safari (in-app)	161	0.96%
7. Opera Mini	117	0.70%
8. Opera	96	0.57%
9. Mozilla Compatible Agent	69	0.41%
10. BlackBerry	57	0.34%

Media Type Preservation Plan (MTPP)

Mobile

Operating System	Visits	% Visits
1. iOS	1,638	81.41%
2. Android	282	14.02%
3. BlackBerry	80	3.98%
4. SymbianOS	4	0.20%
5. Windows Phone	4	0.20%
6. Nokia	3	0.15%
7. Samsung	1	0.05%

Media Type Preservation Plan (MTPP)

Mobile

Screen Resolution	Visits	% Visits
1. 768x1024	1,127	56.01%
2. 320x480	426	21.17%
3. 320x568	77	3.83%
4. 720x1280	45	2.24%
5. 1280x800	40	1.99%
6. 1024x600	37	1.84%
7. 480x800	23	1.14%
8. 1280x1024	12	0.60%
9. 320x240	12	0.60%
10. 540x960	12	0.60%

Media Type Preservation Plan (MTPP)

■ Initial Steps

3. Monitor the high-tech environment for changes which may impact your services.

Media Type Preservation Plan (MTPP)

Steve Would Be Proud: How Apple Won The War Against Flash



RYAN LAWLER

Saturday, June 30th, 2012

64 Comments



Late Thursday, an extraordinary thing happened: Adobe announced in a blog post that it would **not provide Flash Player support for devices running Android 4.1**, and that it would pull the plugin from the Google Play store on August 15. The retreat comes five years after the introduction of the iPhone, the device which thwarted Flash's mobile ambitions, almost even before they began.

Media Type Preservation Plan (MTPP)

<Audio> element format support

[edit]

This table documents the current support for audio codecs by the <audio> element.

Browser	Operating system	Formats supported by different web browsers						
		Ogg Vorbis	WAV PCM	MP3	AAC	WebM Vorbis	WebM Opus	Ogg Opus
Google Chrome	All supported	9	Yes	Yes	Yes	Yes	25	
Internet Explorer	Windows	No	No	9.0	9.0	No	No	
Mozilla Firefox	All supported	3.5	3.5	21.0, Windows only	21.0, Windows only	4.0	15.0	
Opera	All supported	10.50	11.00	No	No	10.60	No	
Safari	OS X	No	3.1	3.1	3.1	No	No	

Media Type Preservation Plan (MTPP)

Blackberry Z10 Supported File Formats

Image formats	BMP, WBMP, JPG, GIF, PNG, TIFF, SGI, TGA
Audio & video formats	3GP, 3GP2, M4A, M4V, MOV, MP4, MKV, MPEG-4, AVI, ASF, WMV, WMA, MP3, MKA, AAC, AMR, F4V, WAV, MP2PS, MP2TS, AWB, OGG, FLAC
Audio & video encoding/decoding	H.264, MPEG-4, H.263, AAC-LC, AAC+, eAAC, MP3, PCM, Xvid, AMR-NB, WMA 9/10, WMA10 professional, WMA-LL, VC-1, VP6, SPARK, PCM, MPEG-2, MJPEG (mov), AC-3, AMR-WB, QCELP, FLAC, VORBIS

Media Type Preservation Plan (MTPP)

■ Initial Steps

4. Monitor communications within the digital preservation community regarding recommended long-term preservation file formats.

Media Type Preservation Plan (MTPP)

Sustainability of Digital Formats Planning for Library of Congress Collections

[Introduction](#) | [Sustainability Factors](#) | [Content Categories](#) | [Format Descriptions](#) | [Contact](#)

The Digital Formats Web site provides information about digital content formats. The analyses and resources presented here will increase and be updated over time. The compilers, Caroline R. Arms and Carl Fleischhauer, invite [feedback](#) on the content.

Introduction

Background information and overview: What is a format? How shall we evaluate formats? What projects in other organizations are addressing these questions? >>

[Overview](#) | [Formats, Evaluation Factors, and Relationships](#) | [Papers and Presentations](#) | [Related Resources](#)

Sustainability Factors

What affects the ability of the Library to preserve content in a given format? These sustainability factors apply to all formats. >>

[Disclosure](#) | [Adoption](#) | [Transparency](#) | [Self-documentation](#) | [External Dependencies](#) | [Impact of Patents](#) | [Technical Protection Mechanisms](#)

Content Categories

The evaluation of formats must take into account quality and functionality. These factors vary according to the type of content under consideration and the categories will be expanded as time passes. >>

[Still Image](#) | [Sound](#) | [Textual](#) | [Moving Image](#) | [Web Archive](#) | [Datasets](#) | [Geospatial](#) | [Generic](#)

Format Descriptions

Documents with more information about specific formats. >>

[Browse categories](#) | [Browse alphabetical list](#)

Media Type Preservation Plan (MTPP)

- Sustainability Factors for Long-Term Preservation Formats:
 - Disclosure: open specifications and validation tools.
 - Adoption: widely adopted, bundled with OS.
 - Transparency: open to direct analysis with basic tools.
 - Self-documentation: metadata embedded in file.
 - External dependencies: the fewer the better.
 - Impact of patents: licenses and royalty fees.
 - Technical protection mechanisms: the fewer the better.

Media Type Preservation Plan (MTPP)

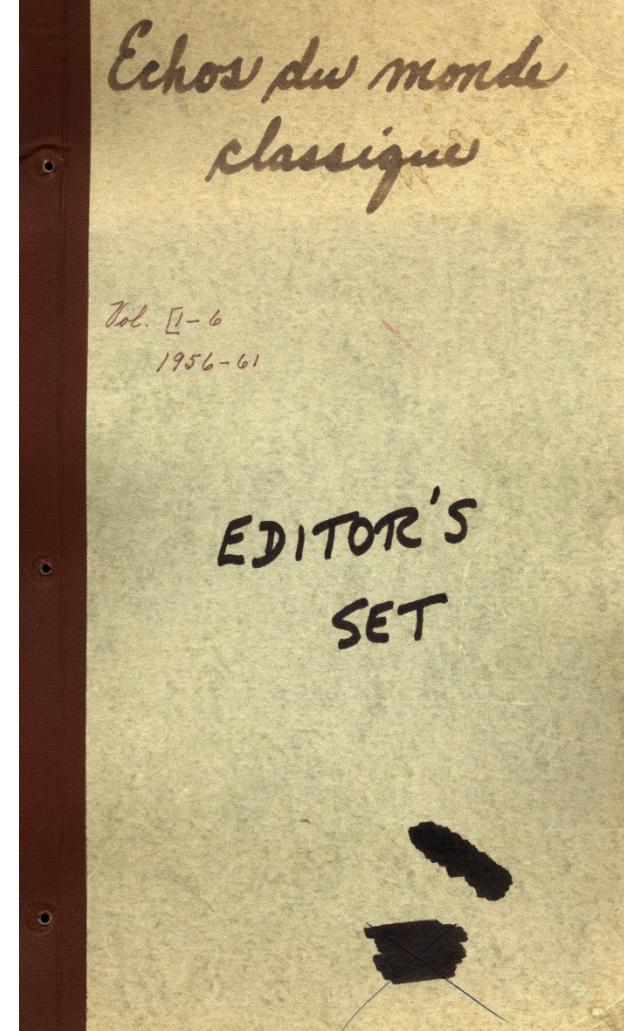
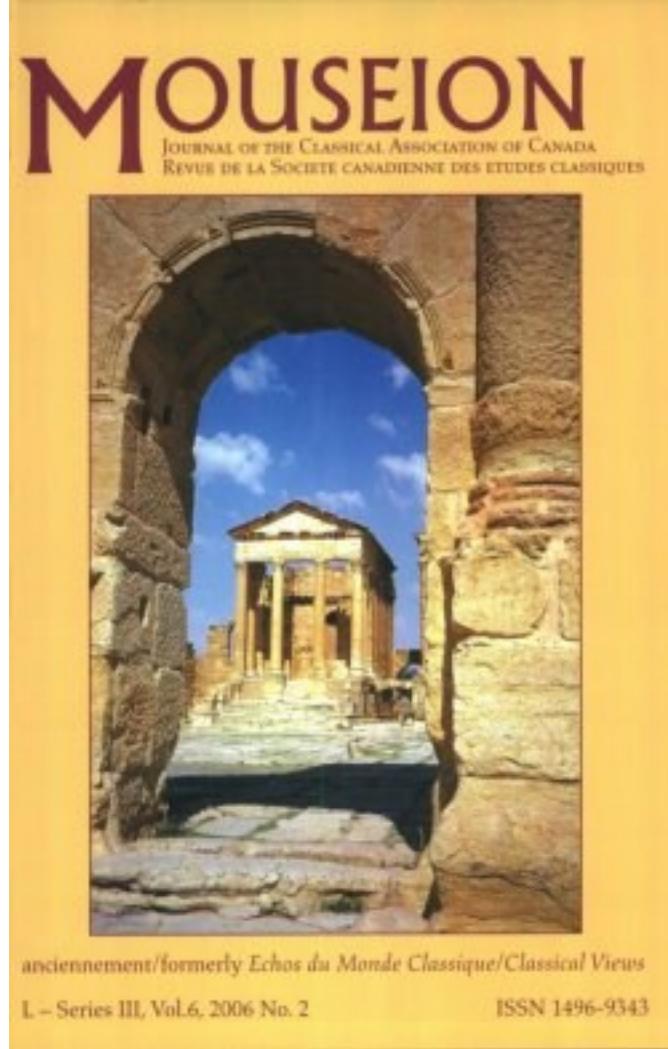
- MUN Format Policy for Audio
 1. Media Type: Audio.
 2. Supported ingest format extensions: MP3, WMA, WAV
 3. Long-term preservation format(s): WAV (LPCM)
 4. Access format(s): MP3, WAV
 5. Normalization tool: Soundforge Audio Studio Version 10
 6. Analog digitization / born digital preservation audio standards

Media Type Preservation Plan (MTPP)

- Analog digitization / born digital preservation audio standards:

Category	File Format	Resolution	Notes
Long-term preservation high resolution standard	-Linear PCM bit stream -Uncompressed .WAV	24 Bit @ 48 KHz (minimum), mono/dual or mono/stereo, interleaved	Higher resolutions encouraged if possible.
Deliverable “hard copy” standard (CD)	-Linear PCM bit stream -Uncompressed .WAV	16 Bit @ 44.1 KHz Stereo Interleaved only	Derive from original
Deliverable Web-based access/download standard	MP3, WAV	Minimum of 128 Kbps @ 44.1 KHz mono or 256 Kbps @ 44.1 Kbps stereo	Derive from original

Mouseion - Classical Views - Echos du Monde Classique (1956-present)



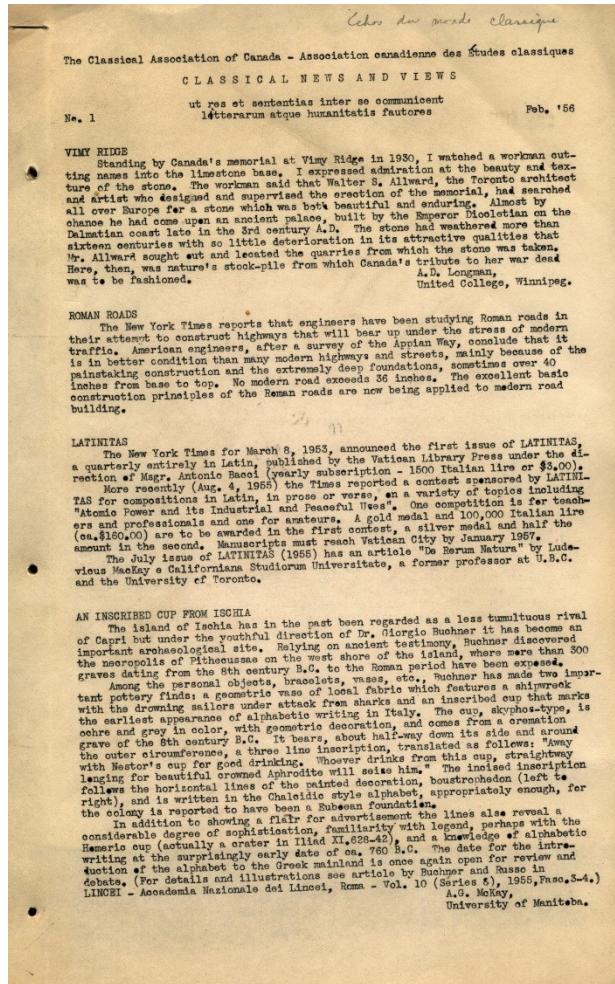
Mouseion - Classical Views - Echos du Monde Classique (1956-present)

■ History

- Professor Brad Levett, Memorial University, current editor
- Project Muse: 2007-2010 issues, requires subscription
- 1951 – 2008 backfiles are being digitized for Project Muse and for open access in MUN's Digital Archive.
- Completed digitizing 1982-2008 (81 issues, 13,000 pages)
- Recently received the 1956 – 1981 issues.

Mouseion - Classical Views - Echos du Monde Classique (1956-present)

1956, Number 1, page 1



Mouseion - Classical Views - Echos du Monde Classique (1956-present)

1956, Number 1, page 1

Echos du monde classique

The Classical Association of Canada - Association canadienne des Études classiques

C L A S S I C A L N E W S A N D V I E W S

ut res et sententias inter se communicent
letterarum atque humanitatis fautores

Feb. '56

No. 1

VIMY RIDGE

Standing by Canada's memorial at Vimy Ridge in 1930, I watched a workman cutting names into the limestone base. I expressed admiration at the beauty and texture of the stone. The workman said that Walter S. Allward, the Toronto architect and artist who designed and supervised the erection of the memorial, had searched

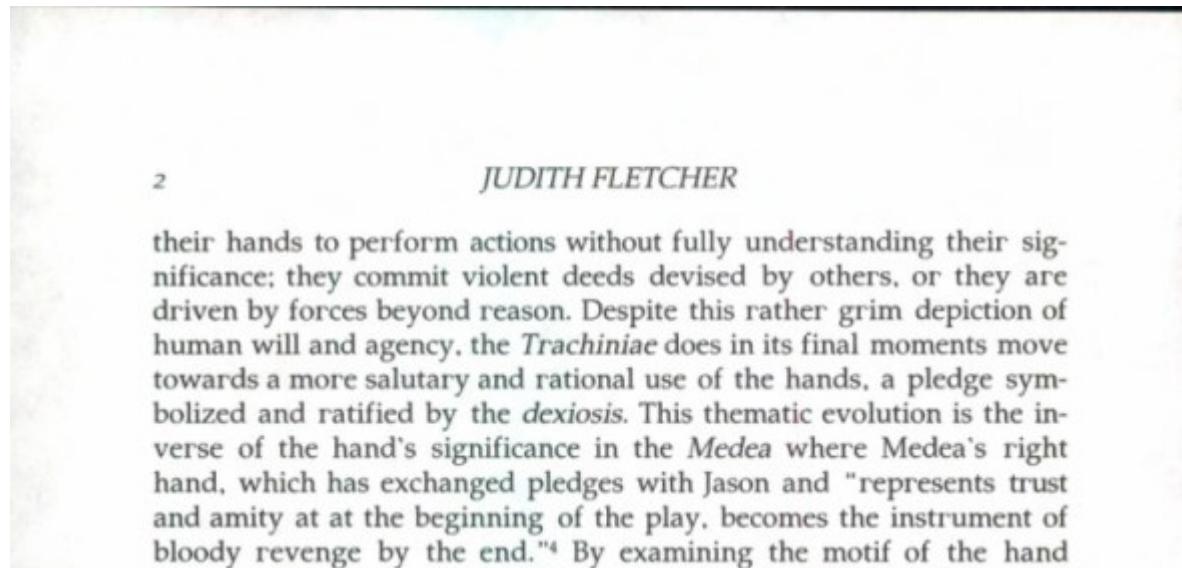
Mouseion - Classical Views - Echos du Monde Classique (1956-present)

■ The Process

- Removed the spine in order to feed issues through a Kodak two-sided sheet feed scanner.
- Scanned in colour to create 600 dpi jpegs.
- Initial quality control review of images by a graduate student assistant revealed a black outline, light green stripes (possibly due to a dirty scanner) and discoloured edges caused by light leakage. This was not acceptable.

Mouseion - Classical Views - Echos du Monde Classique (1956-present)

Original Scan



Mouseion - Classical Views - Echos du Monde Classique (1956-present)

BMP, JPG, GIF, TIFF, PSD, EPS, PNG, PCX, MP3, AVI, MOV, ICO, LWF, JPG2000, PSP, SWF, CLP, XPM...



IRFANVIEW

...one of the most popular viewers worldwide!

I would like to sincerely thank all you faithful IrfanView users who send me messages of good wishes, congratulations and appreciation. THANKS !

■ [What is IrfanView?](#)

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■ [History of changes](#)

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view
convert
optimize
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create slideshows
batch processing
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and many many more...

car.jpg - IrfanView (Zoom: 461 x 367)
File Edit Image Options View Help
Toolbar skins
768 x 512 x 24 BPP 3/16 50% 100%

download
the current version
IrfanView
Plugins/AddOns

Other download sites

Other WWW mirrors:
Select Mirror: ▾

Current version: 4.35

Mouseion - Classical Views - Echos du Monde Classique (1956-present)

- All issues were gray-scale except for the colour cover.
- Examined options to rescanning.
- Used IRFANVIEW software to batch correct problems:
 - Grey-scale wash removed green stripes and light leakage.
 - 100 pixel white edge wash removed black outline.

Mouseion - Classical Views - Echos du Monde Classique (1956-present)

Final Version

2

JUDITH FLETCHER

their hands to perform actions without fully understanding their significance; they commit violent deeds devised by others, or they are driven by forces beyond reason. Despite this rather grim depiction of human will and agency, the *Trachiniae* does in its final moments move towards a more salutary and rational use of the hands, a pledge symbolized and ratified by the *dexiosis*. This thematic evolution is the inverse of the hand's significance in the *Medea* where Medea's right hand, which has exchanged pledges with Jason and "represents trust and amity at the beginning of the play, becomes the instrument of bloody revenge by the end."⁴ By examining the motif of the hand throughout the *Trachiniae* I would like to suggest that quite the opposite occurs, a suggestion which might help to defend this drama against charges of unmitigated pessimism and offer a glimmer of hope for its outcome.⁵

Mouseion - Classical Views - Echos du Monde Classique (1956-present)

- Adobe Professional: OCR and create PDF/A-2b files for long-term preservation.
- OCR process includes page straightening.
- Final PDF/As sent to Project Muse.
- PDF/As did not meet Project Muse standards due to substandard OCR.
- Further investigation revealed that the pixel width of the OCR image was related to the quality of the OCR.

Mouseion - Classical Views - Echos du Monde Classique (1956-present)

- Pixel width and file size for a 200 page issue:

Pixel Width (ppi)	File Size
Original: 3500	Original: 175 MB
Downsized: 2000	72.4 MB
Downsized: 1600	50.6
Downsized: 1200	34.9

Mouseion - Classical Views - Echos du Monde Classique (1956-present)

- Pixel width and OCR quality (1200 ppi):

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history.philosophy.f'"dagngy.and r-,ceptionstudies,aswellas
originalwork inano.I tr·anslationsintoC!-eekandlatin

Mouseion - Classical Views - Echos du Monde Classique (1956-present)

■ Pixel width and OCR quality (1600 ppi):

Moust:iun aims to be a distinctivdy compn:hensive Canadian journal of Classical Studies, publishing anicles and t·views in both French and English. One issue annually is normally d~::voted to at·chaeologica I topics.

including field repm·ts. finds analysis. and the histm·y of at·t in antiquity.

The othe1· two issues welcome w(Wk in all areas of interest to scholars: this includes both traditional and innovative rtseat'ch in philology.

history. philosophy. pedagogy. and reception studies. as wdl as original wot·k in and translations into Greek and Latin

Mouseion - Classical Views - Echos du Monde Classique (1956-present)

- Pixel width and OCR quality (2000 ppi):

Mouseion aims to be a distinctively comprehensive Canadian journal of Classical Studies, publishing articles and reviews in both French and English. One issue annually is normally devoted to archaeological topics, including field reports, finds analysis, and the history of art in antiquity. The other two issues welcome work in all areas of interest to scholars; this includes both traditional and innovative research in philology, history, philosophy, pedagogy, and reception studies, as well as original work in and translations into Greek and Latin.

Mouseion - Classical Views - Echos du Monde Classique (1956-present)

We face OCR challenges with the older issues!!!!

Echos du monde classique

The Classical Association of Canada - Association canadienne des Études classiques

CLASSICAL NEWS AND VIEWS

ut res et sententias inter se communicent
letterarum atque humanitatis fautores

Feb. '56

No. 1

VIMY RIDGE

VIMY RIDGE
Standing by Canada's memorial at Vimy Ridge in 1930, I watched a workman cutting names into the limestone base. I expressed admiration at the beauty and texture of the stone. The workman said that Walter S. Allward, the Toronto architect and artist who designed and supervised the erection of the memorial, had searched

Electronic Theses (E-Theses)

Marine Energy Harvesting from Low Cut-in Speeds Horizontal
Axis Ocean Current Turbine: Design, Optimization and Analysis
of the Rotor

By

© Reza Chini

A thesis submitted to the
School of Graduate Studies
In partial fulfillment of the
Requirements for the degree of
Master of Engineering

Department of Engineering and Applied Science
Memorial University of Newfoundland

June 2012
St. John's, Newfoundland, Canada

Electronic Theses (E-Theses)

- Library and Archives Canada

“By 2014, LAC will only accept theses and dissertations from Canadian universities in electronic form...”
- Requires change in Graduate Studies policy which mandates electronic submission.
- Additional instruction in e-thesis preparation.
- Development of an e-thesis submission and processing workflow.

PDF/A for Preservation of and Access to Text –based Files

- PDF/A file format maximizes:
 - Device independence
 - Self-containment
 - Self-documentation

PDF/A for Preservation of and Access to Text –based Files

■ PDF/A Constraints

- Audio and video content are forbidden.
- Javascript and executable file launches are prohibited.
- All fonts must be embedded and also must be legally embedded.
- Encryption is disallowed.
- Use of standards-based metadata is mandated.

PDF/A for Preservation of and Access to Text –based Files

■ PDF/A Fonts

- Avoid the use of proprietary and/or special purpose fonts.
- Recommend the use of Standard 14 Fonts
 - Times (v3) (in regular, italic, bold, and bold italic)
 - Courier (in regular, oblique, bold and bold oblique)
 - Helvetica (v3) (in regular, oblique, bold and bold oblique)
 - Symbol
 - Zapf Dingbats
- Embed the entire font, not a subset, for reusability.

Preserve Look and Feel



ETIR_26-Sep-10_a.pdf - Adobe Reader

File Edit View Document Tools Window Help

1 / 6 47.6% Find

You are viewing this document in PDF/A mode.

AIR CANADA

Itinerary / Receipt

Your booking is confirmed. Thank you for choosing Air Canada.
Please print this Itinerary / receipt for your reference.

Main Contact Information		Booking reference: MPDGMR
Name: Ms Katie Mandelovich	E-mail: SLAVKO@MUN.CA	Customer Care Air Canada Reservations 1-888-247-2262 Air Canada Flight Information 1-866-422-7523
Form of payment: CC V1XXXXXXXXXXXXXX8489		International Reservations Details of flight changes Flight notifications

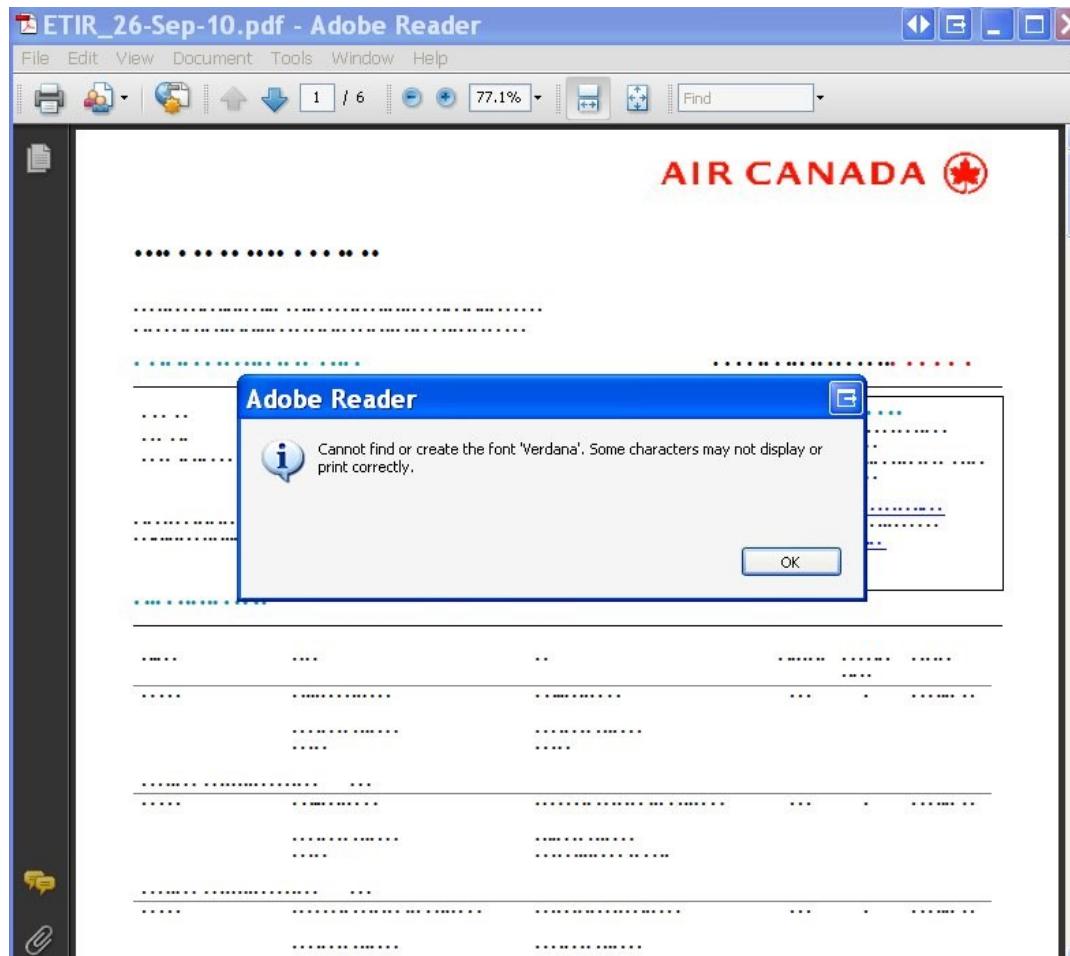
Electronic Ticketing confirmed.
This is your official itinerary/receipt.

Flight Itinerary

Flight	Prom	To	Aircraft	Booking class	Status
AC557	St. John's (YYT)	Halifax (YHZ)	E90	Q	Confirmed
	Thu 07-Oct 2010 20:55	Thu 07-Oct 2010 22:02			
Seat number(s) requested: 17D					
AC550	Halifax (YHZ)	London Heathrow (GB) (LHR)	763	Q	Confirmed
	Thu 07-Oct 2010 23:45	Fri 08-Oct 2010 09:35 - TERMINAL 3			
Seat number(s) requested: 17C					
AC559	London Heathrow (GB) (LHR)	Toronto Pearson (YYZ)	763	Q	Confirmed
	Thu 14-Oct 2010 18:00 - TERMINAL 3	Fri 14-Oct 2010 21:00 - TERMINAL T1 INTL			
Seat number(s) requested: 22D					
AC598	Toronto Pearson (YYZ)	St. John's (YYT)	E90	Q	Confirmed
	The 14-Oct 2010 22:55 - TERMINAL T1	Fri 15-Oct 2010 03:16			
Seat number(s) requested: 21D					

Passenger Information

Preserve Look and Feel (missing fonts)



Preserve Look and Feel



i You are viewing this document in PDF/A mode.

CLOTHES MOTH FACTS:

The BioCare Clothes Moth Trap attracts and captures adult male webbing clothes moths. Clothes Moths occasionally occur in homes, where the larval stage damages clothing and other personal objects that are made of wool, hair, fur, feathers or other natural fibers.

THIS TRAP SIGNALS WHEN A DAMAGING INFESTATION IS PRESENT: IT DOES NOT CONTROL THE LARVAE WHICH FEED ON CLOTHING. IF MOTHS ARE FOUND IN THE TRAP, TAKE IMMEDIATE MEASURES TO CONTROL THE LARVAE CAUSING THE DAMAGE.

Preserve Look and Feel (font substitution for missing fonts)



CLOTHES MOTH FACTS:

The BioCare Clothes Moth Trap attracts and captures adult male webbing clothes moths. Clothes Moths occasionally occur in homes, where the larval stage damages clothing and other personal objects that are made of wool, hair, fur, feathers or other natural fibers.

THIS TRAP SIGNALS WHEN A DAMAGING INFESTATION IS PRESENT: IT DOES NOT CONTROL THE LARVAE WHICH FEED ON CLOTHING. IF MOTHS ARE FOUND IN THE TRAP, TAKE IMMEDIATE MEASURES TO CONTROL THE LARVAE CAUSING THE DAMAGE.

Female moths are especially attracted to oily or soiled fabrics, where they

E-Theses Associated Files

- Integral part of the thesis.
- Support replication, validation and extension of experiments.
- Support reuse of digital content, for example, images.
- MUN Disciplines: Anthropology, Biology, Chemistry, Computer Science, Earth Sciences, Engineering, Environmental Science, Music, Physics.

E-Theses Associated Files

Gan, Gregory (2010) To our hopeless affair : a visual anthropology study about women of the Russian Intelligentsia in the post-Soviet era. Masters thesis, Memorial University of Newfoundland.

“A feature-length ethnographic film produced during the period of fieldwork in Moscow and based on participants' memories is appended to the thesis.”

Here is a [link](#) to the Gregory Gan thesis and video in Memorial's Research Repository:

<http://research.library.mun.ca/1686/>

E-Theses Associated Files

- Types of files submitted with 20 MUN theses:
 - Video: mp4, wmv, avi
 - Image: jpg, tif
 - Spreadsheet: Microsoft Excel
 - Database: Microsoft Access
 - Software: original C#/Fortran code, open source software, links to commercial software.
 - Data: asv CAD/CAM, cif Crystallographic, etc.
 - Documentation: from good to nil.
 - Files may be organized in folders.

E-Theses Associated Files

- Convert specific files for long term access / preservation based on the MTTP:
 - Video: mp4, **wmv**, avi
 - Image: jpg, **tif**
 - Spreadsheet: **Microsoft Excel**
 - Database: **Microsoft Access**
 - Software: original C#/Fortran code, open source software, commercial software.
 - Data: asv CAD/CAM, cif Crystallographic, etc.
 - Documentation: from good to nil (**readme files**).

E-Theses Associated Files

- Download, test, preserve open source software, compilers, emulators, etc.:
 - Video: mp4, wmv, avi
 - Image: jpg, tif
 - Spreadsheet: Microsoft Excel
 - Database: Microsoft Access
 - Software: original C#/Fortran code, open source software, commercial software.
 - Data: asv CAD/CAM, cif Crystallographic, etc.
 - Documentation: from good to nil (readme files).

E-Theses Associated Files

Download and preserve the associated software.

The screenshot shows a web browser window with the URL <http://www.ucs.mun.ca/~lthomp/magmun.html> in the address bar. The page content includes a logo of a blue sphere with a grid pattern, the text "Dr. Laurence K. Thompson Research Group", a sidebar menu with links like Home, Research, Members, Publications, Photos, MAGMUN, and SQUID, and a main text section about the MAGMUN software.

File Edit View Favorites Tools Help

Dr. Laurence K. Thompson Research Group

MAGMUN

MAGMUN is free software for fitting magnetic susceptibility/temperature, and magnetization/field profiles. It was developed by Dr. Zhiqiang Xu and Dr. Laurence Thompson, in conjunction with Dr. Oliver Waldmann (University of Freiburg, Germany), who provided the source code for the exchange calculations, and is available for download as a zipped executable for Windows-based operating systems. We do not distribute the source code. It is accompanied by a tutorial to help researchers new to the area of magnetochemistry.

[Download MAGMUN Here](#)

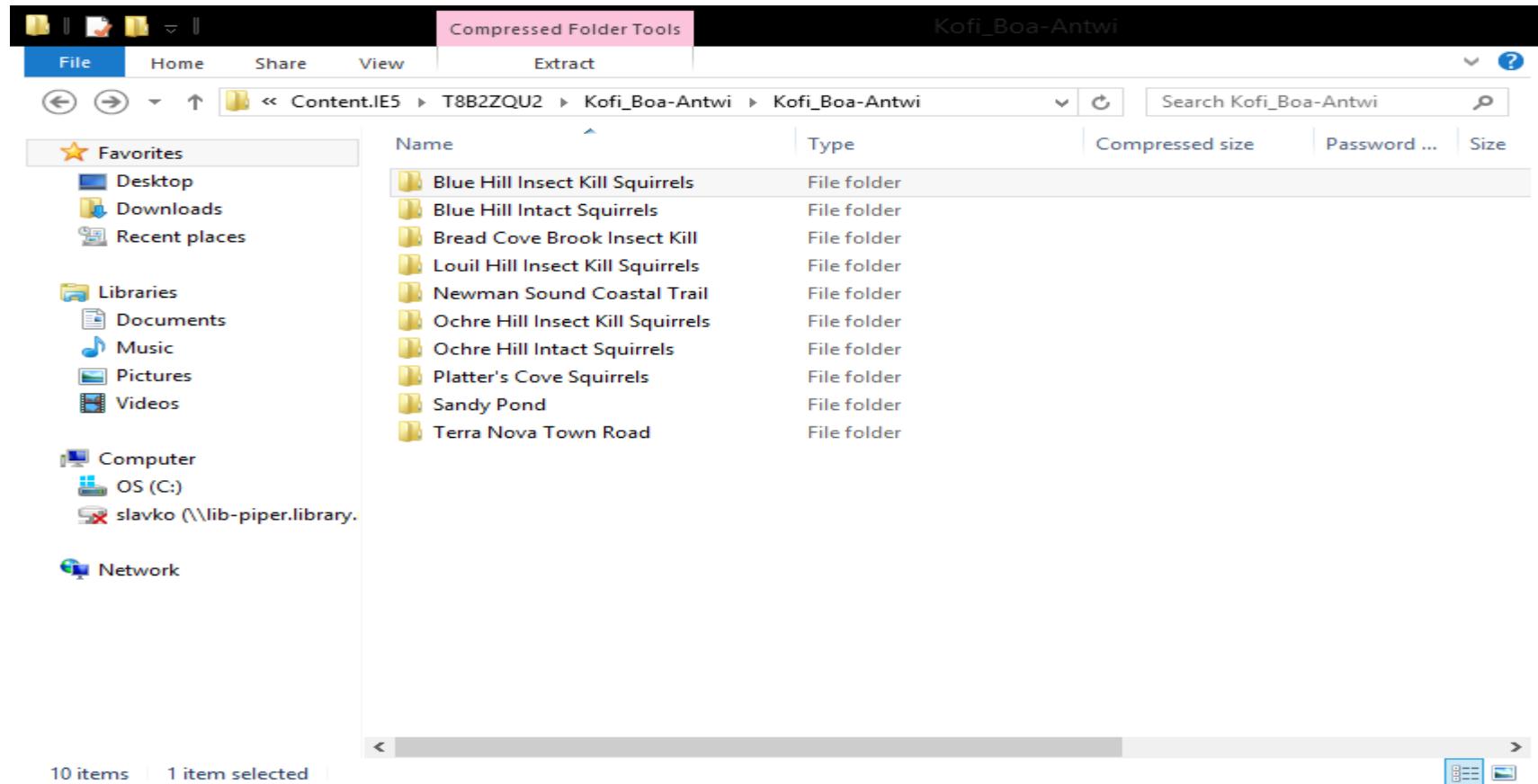
The zip file is password protected. Please [e-mail](#) Dr. Thompson for the password.

E-Theses Associated Files

- Determine sustainability of remaining formats:
 - Video: mp4, wmv, avi
 - Image: jpg, tif
 - Spreadsheet: Microsoft Excel
 - Database: Microsoft Access
 - Software: original C#/Fortran code, open source software, commercial software.
 - Data: **asv** CAD/CAM, **cif** Crystallographic, etc.
 - Documentation: from good to nil.

E-Theses Associated Files

- Use zip uncompressed to preserve the folder structure:



E-Theses Associated Files

- Add descriptive metadata for all associated files and use METS schema to package the thesis, associated files, metadata and preservation actions into a logical whole.
- Submission package will be a zip or Bagit container.
- Work on the development of a METS E-Thesis profile. Current ETD-MS Dublin core profile is inadequate.

E-Theses Associated Files

- Determine the skill sets required to staff the E-Thesis processing workflow:
 - Metadata specialist: METS, Premis, Dublin Core.
 - Digital Preservation specialist: file identification, validation, access and preservation.
 - Systems Analyst: file migration, cross-platform/browser testing, packaging.
- Important question: will LAC/BAC be able to accommodate E-Theses with associated files?

Q and A