Managing and Accessing Archival Email: The TOMES Project

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Transforming Online Mail with Embedded Semantics (TOMES)

- 3 year grant (2015-2018)
- Partnership between State Archives of NC, Utah State Archives, and Kansas State Historical Society
- Advisory group includes Cal Lee (UNC-Chapel Hill), Chris Prom (University of Illinois Urbana Champaign), and staff from the Library of VA
What should we keep?

Capstone Approach

- **Permanent** - top decision-maker’s e-mail
- **Temporary** - all other staff, 7 year retention
- **Non-record** - 1 year retention

Image: National Archives and Records Administration
# Collecting Data

**ASSESSMENT OF EMAILS FOR PERMANENT RETENTION**

## PART 3

Agency: ___________________________

Please identify positions that create official records that document agency policies and decisions related to any of the programs or projects listed below. These programs or projects are not represented in the accounts of personnel already listed on Parts 1 and 2 but still may need to be retained permanently. Please note: if emails that document the programs or projects listed below are already being captured by the email account of an agency position listed on the Parts 1 or 2 forms, including instances where the agency executive has been copied on these emails, it is not necessary to list those positions here. For each individual identified below, please list the email accounts of all predecessors in that role since January 2011.

### Possible email subjects with archival value:

1. Major agency policies
2. Formulation of rules and monitoring standards (e.g., Administrative Code)
3. Events, incidents, and situations that required a prolonged response involving multiple agencies and led or had the potential to lead to large-scale loss of life, severe damage to lands and property, or major disruption of the state’s infrastructure
4. Directions and planning of the core program(s) of your agency
5. Cooperation with external state and/or federal agencies
6. Construction and real property transactions
7. Major public events, such as the State Fair, First Flight Centennial, inaugurations, etc.
8. History of the state of North Carolina
9. Advocacy for minorities, such as Indian tribes
10. Certification, commissioning, etc.
11. Management of assets held in public trust for the people of North Carolina – e.g., state parks, historic sites, artifacts, archival materials, etc.
12. Evaluation of rules created by other agencies, where the agency is an established part of the rule review process

### Table: Email Accounts for Permanent Retention

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE/ROLE</th>
<th>BEACON POSITION NUMBER</th>
<th>ARCHIVAL SUBJECT MATTER</th>
<th>EMAIL ADDRESS</th>
<th>BEGINNING DATE FOR EMAIL COLLECTION</th>
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Plugging In

- Department of Information Technology
  - “Tagging” accounts by function
  - Facilitating the transfer of email accounts from cloud storage
- Office of State Human Resources
  - Identifying positions by position number
  - Working with DIT to “tag” accounts
Making It Work

• Harvesting email from cloud using Office365 eDiscovery tools

• Created email processing modules written in Python as a toolbox for preserving and processing email accounts

• Developing NLP libraries for tagging
TOMES (Tool)

1) Architecture/Design
2) Original Goals
3) Modified Goals
4) v1.0
Architecture/Design

• KISS (Keep It Simple Stupid)
• Microservices
Architecture: Microservices

1. .pst
   - govランス/pst-extractor
   - Mime Email
   - Stop

2. Mime Email
   - govランス/darc-mail-server
   - EAXS
   - Stop

3. EAXS
   - govランス/ner-server
   - Docker Images
   - TOMES AIP
     1) Tagged EAXS Structure
     2) METS Metadata
     3) Statistics File
Original Goals

• Move PSTs from black box to preservation format
• Add semantics to the text to aid in processing/access
  • Semantics customizable by institution
• Run on hardware/software available to under resourced institutions.
Modified Goals

- Allow for iterative processing
- Greater focus on the PII part of the semantics
- Make the package self describing and atomic
v1.0: The AIP

- Original Account file (.pst, .mbox, .eml)
- Untagged EAXS XML file
- Attachment XML file(s)
- Tagged EAXS XML file
- METS file
Challenges

• Making imperfect NER useful.
  • Machine Learning
  • Active discovery and processing
• Making State specific libraries easier for non-technical users to develop and incorporate into the workflow.
• Handling of emails with bad encodings
  • Email is messy and comes from everywhere.
The Final Product

- Development of State Government specific NLP libraries for use in the processing of email accounts containing public records
- An MPLP approach to the arrangement and description of email
- The ability to identify materials that should be reviewed for PII before release to public
- Mediated access using iterative processing
Stay in touch!

- GitHub: https://github.com/StateArchivesOfNorthCarolina
- Website: http://www.ncdcr.gov/tomes
Questions?

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