Processing, Appraisal, and Iterative Selection of Email in Context

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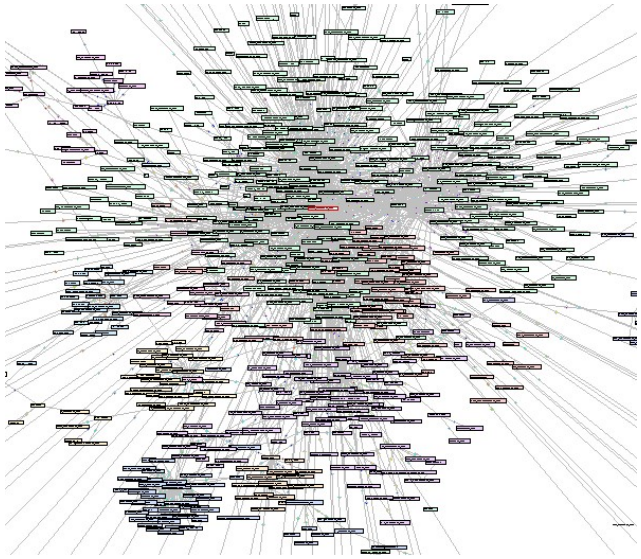
Motivation – Selection/Appraisal

- Despite progress on various technologies to support data management and digital preservation, relatively little progress on software support for the core activities of selection and appraisal
- Selection/appraisal decisions are based on various patterns
- When patterns can be identified algorithmically, software can assist the process
- GLAMs frequently want to take actions that reflect contextual relationships
- Timeline representations and visualizations can also provide useful, high-level views of materials

Motivation - Email

- 48 years of email creation
- Hundreds of billions of messages generated every day
- Most has little long-term retention value, but some absolutely does
- Despite presence of numerous other modalities, email still deeply embedded in activities, serving as massive source of evidence and information
- Often found in collections and acquisitions with other types of materials

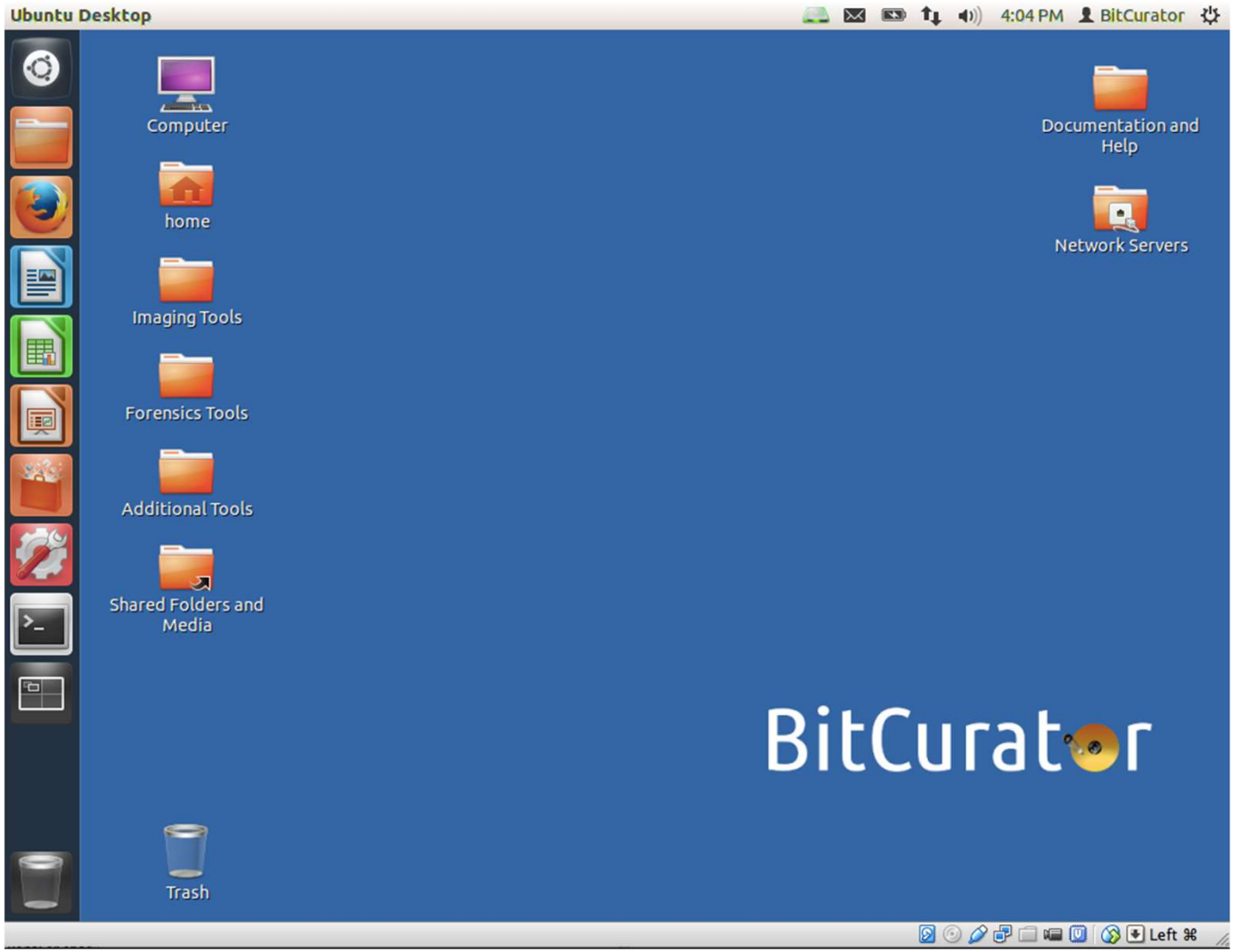


http://hci.stanford.edu/~jheer/projects/enron/v1/

Background – BitCurator (2011-2014)

- BitCurator environment allows GLAMs to:
  - acquire data from media
  - characterize and triage data
  - expose numerous data points that can inform selection and appraisal decisions, including file types, file sizes, timestamps, original directory structures, potentially sensitive features
- Output is generally static
- Users have expressed interest in additional ways to iteratively make judgements

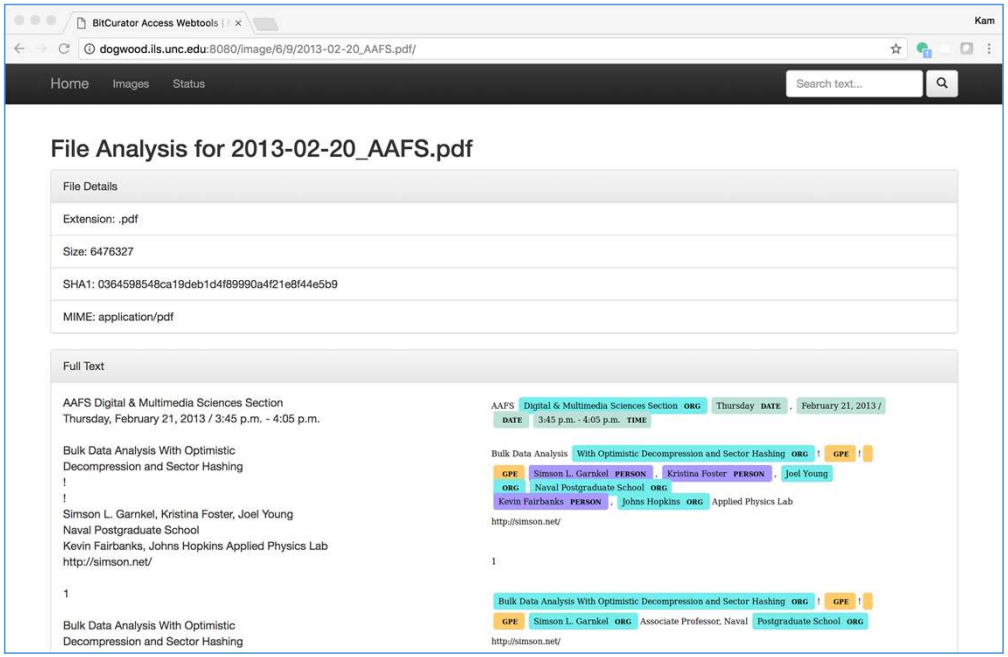
BitCurator

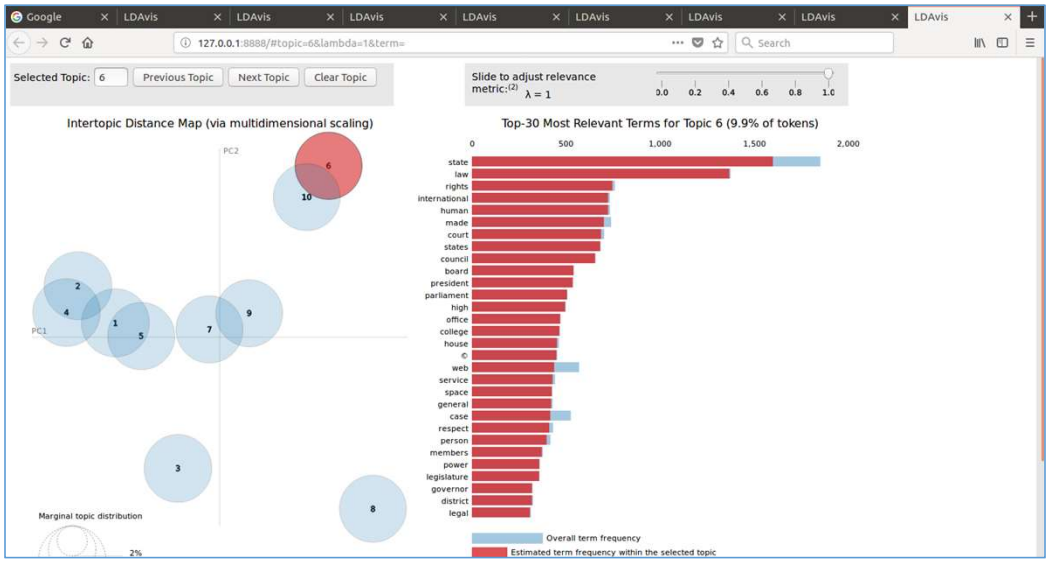


http://bitcurator.github.io/

Background – BitCurator Access and BitCurator NLP (2014-2018)

- Developed and repurposed software (topic modelling and named entity extraction) that can facilitate appraisal/selection





Background – TOMES (2015-2018)

- Transforming Online Mail with Embedded Semantics (TOMES) project developed software to identify email accounts of public officials with enduring value to capture, preserve and provide access to important government records
- Outcomes:
  - cross platform .pst to EAXS XML parser
  - processing a set of test email accounts based on Capstone rules
  - publishing NLP dictionary to flag named entities unique to state and local government

Review, Appraisal and Triage of Mail (RATOM)

- Funded by Andrew W. Mellon Foundation (2019-2020)
- Developing and repurposing software (including NLP and machine learning) for selection/appraisal in BitCurator environment with hooks and enhancements to TOMES output
- Support iterative processing - information discovered at various points in the processing workflow can support further selection, redaction or description actions
- Mapping of timestamp, entity, sensitive features and other elements across the tools

Ray Tomlinson

https://upload.wikimedia.org/wikipedia/commons/0/01/Ray_Tomlinson_%28cropped%29.jpg

RATOM Project Team at UNC

- Christopher (Cal) Lee, Principal Investigator
- Kam Woods, Co-PI and Technical Lead
- Antoine de Torcy, Software Developer
- Anusha Suresh, Project Manager

RATOM Project Team at State Archives of NC

- Camille Tyndall Watson, Co-Principal Investigator
- Jamie Patrick-Burns, Investigator
- Nitin Arora, Software Developer

Thank you

http://ratom.web.unc.edu/