Search Among Secrets

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Open Government

"Information maintained by the Federal Government is a national asset. My Administration will take appropriate action, consistent with law and policy, to disclose information rapidly in forms that the public can readily find and use."

Presidential Memorandum, January 21, 2009

From: H <hrod17@clintonemail.com>
Sent: Friday, March 5, 2010 9:56 AM
To: 'vermarr@state.gov'; 'sullivanjj@state.gov'
Subject: Gefilte fish

Where are we on this?

- 62,320 messages on a private server
- Term-list hits yielded 30,490 as "work-related"
  - Provided to the State Department, initially on paper
  - Added emails from State Department archives
    - Of ~1 billion emails per year, ~50,000 are archived (0.005%)
- Complex multi-agency manual review process
  - Target: 1,000 documents per week

1. Review a batch (1,000 messages) per week
2. Apply proposed redactions to each batch
3. Send batch to subject matter experts (SMEs) for consultation
4. SMEs return batch to FOIA office
5. FOIA office incorporates review recommendations from SMEs
6. FOIA office refers to other agencies implicated in emails
7. Other agencies review
8. Other agencies send feedback to FOIA office
9. FOIA office incorporates appropriate recommendations
10. FOIA office sends batch to Office of Legal Counsel (OLC) for review
11. OLC reviews
12. OLC sends feedback to FOIA office
13. FOIA office incorporates OLC recommendations
14. Divergent recommendations among reviewing entities reviewed
15. Final review

Exclusive: U.S. to shift 50 staff to boost office handling Clinton emails

WASHINGTON | BY ARSHAD MOHAMMED

Democratic presidential candidate Hillary Clinton speaks during a press conference at Des Moines Area Community College in Ankeny, Iowa in this August 26, 2015 file photo.
REUTERS/SCOTT MORGAN/FILES

The U.S. State Department plans to move about 50 workers into temporary jobs to bolster the office sifting through Hillary Clinton's emails and grappling with a vast backlog of other requests for information to be declassified, officials said on Tuesday.

The move illustrates the huge administrative burden caused by Clinton's decision to use a private email address for official communications as secretary of state and a judge's ruling in a Freedom of Information Act (FOIA) lawsuit that they be released.

Jeb Bush email dump includes Social Security numbers

38

Getty Images

By Elise Viebeck - 02/10/15 02:44 PM EST

A trove of 250,000 emails released by prospective 2016 presidential candidate Jeb Bush includes the sensitive personal information of several Florida residents, leaving them vulnerable to identity thieves.

A scan of the **email dump** by technology blogs **The Verge** and **Gizmodo** revealed names, emails and in some cases, Social Security numbers of Bush's correspondents. Many appear to be normal Florida residents unaware their messages to the then-governor would eventually become public.

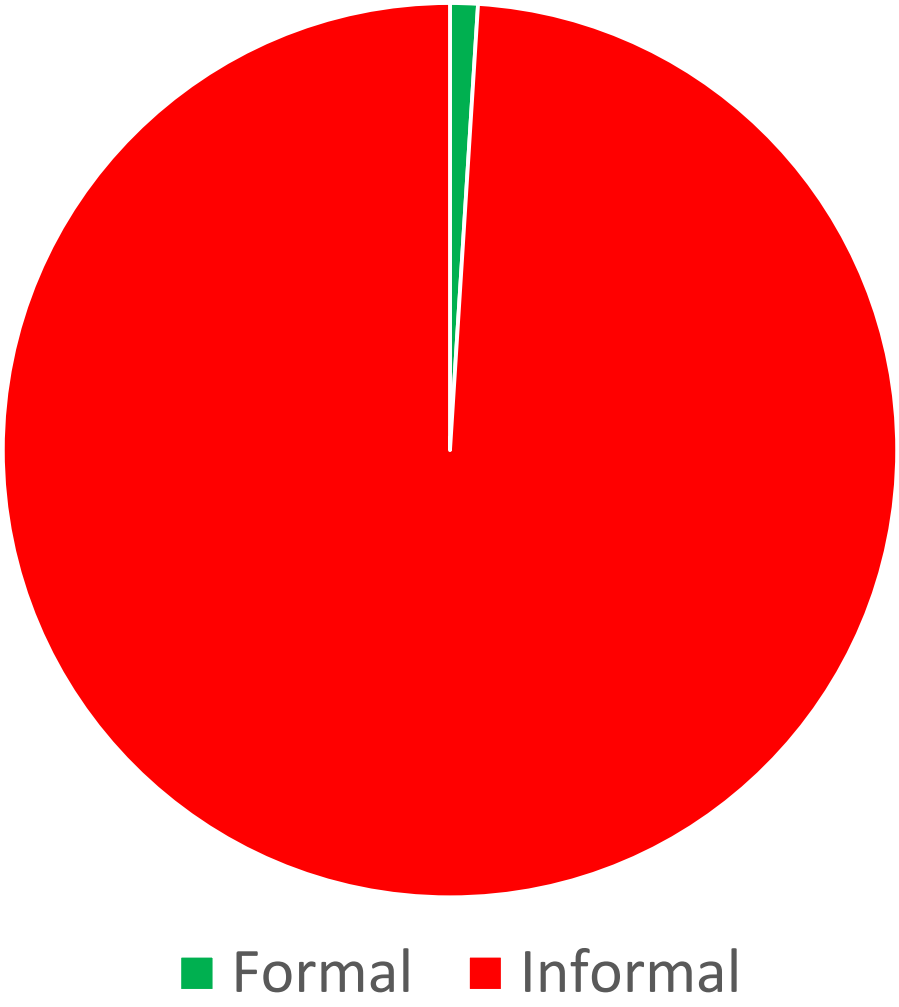
A Story in Three Parts

- The need for search among secrets

- Protecting things

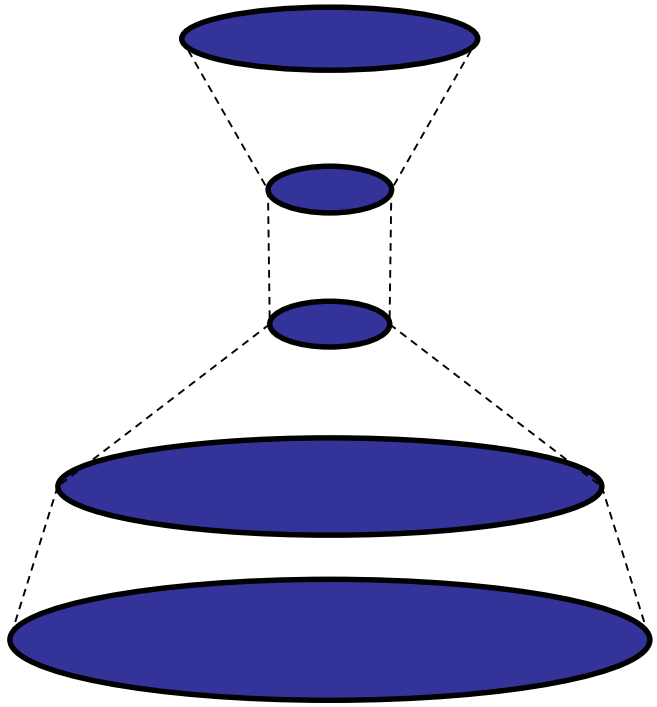
- Protecting parts of things

What's Different Now?

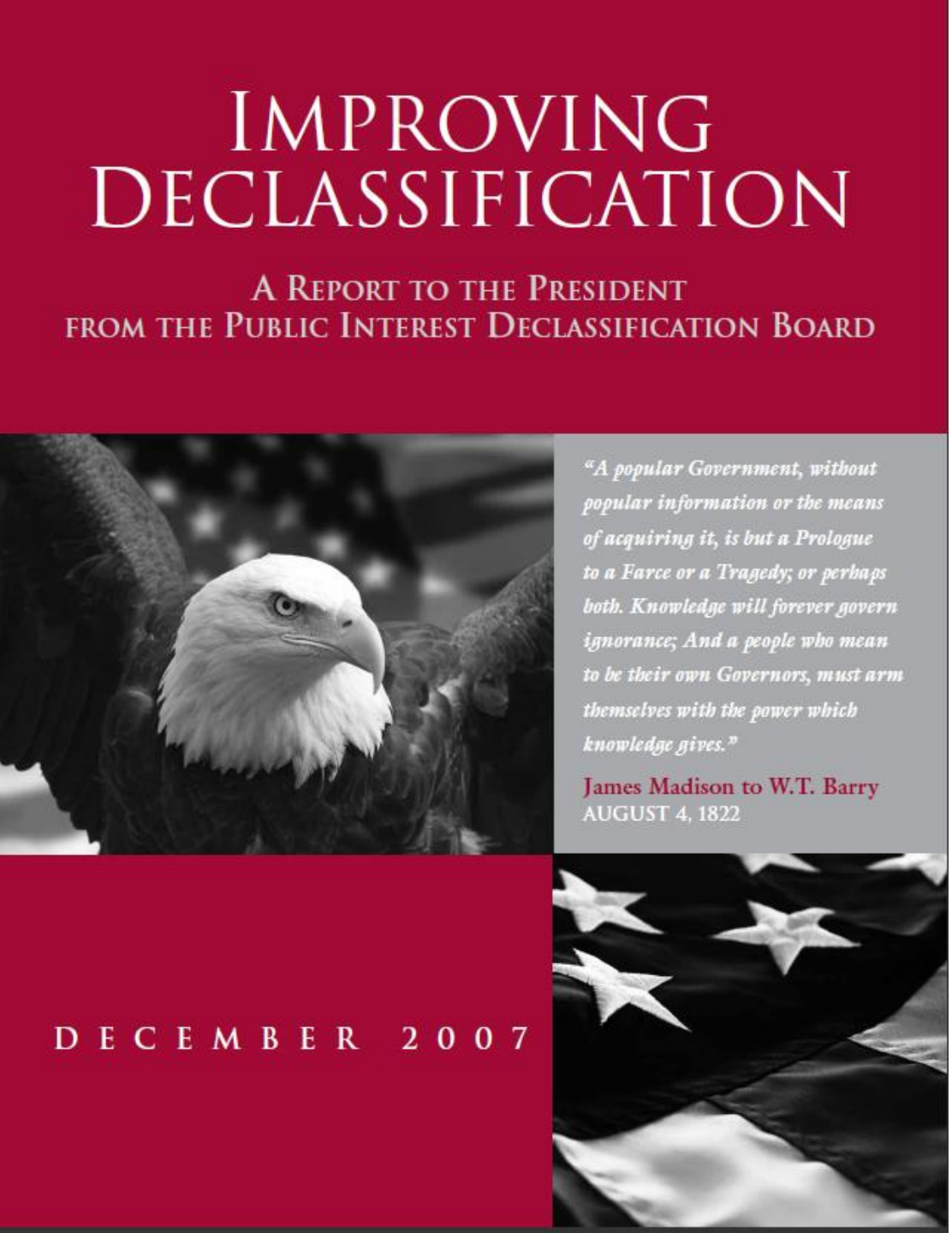



ARCHIVES OF THE UNITED STATES OF AMERICA

Hourglass Model of Mission Control



3	Spacecraft
1	“Capsule” Communicator
1	Flight Director
16	Flight Controllers
19	Staff Support Rooms (SSR)



ISSUE NO. 2: Prioritizing the Declassification Review of Historically Significant Information.

There is no satisfactory means at present of identifying historically significant information within the vast body of information that is being reviewed and declassified. Accordingly, no priority is given to the declassification and release to the public of such information.

“Value-Sensitive” Prioritization

Such a system might operate as follows:
A board consisting of prominent historians, academicians, and former Government officials would be appointed by the Archivist to **determine which events or activities of the U.S. Government should be considered historically significant** from a national security and foreign policy standpoint for a particular year.

PIDB *Improving Declassification* report, December, 2007

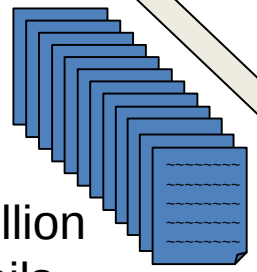
U.S. Freedom of Information Act

“identify the subject(s) or record(s) as clearly and specifically as possible -- for example, all previously released National Intelligence Estimates (NIEs) on the former Soviet Union's space program.”

http://www.foia.cia.gov/sample_request_letter.asp

E-Discovery

Clinton White House



32 million emails

National Archives

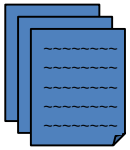
search request

Tobacco Policy

80,000

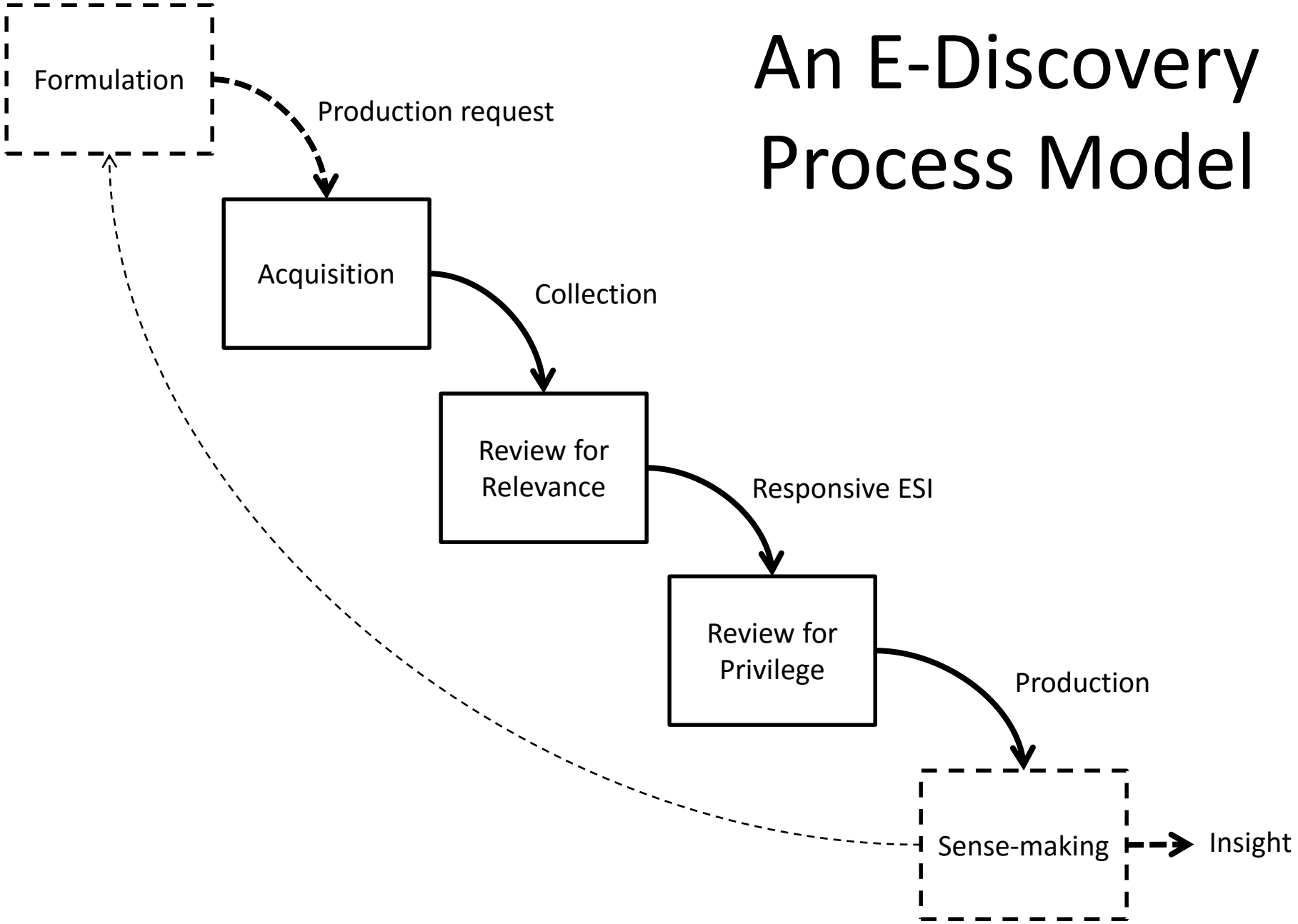
hired 25 persons

for 6 months …



200,000

An E-Discovery Process Model



A Story in Three Parts

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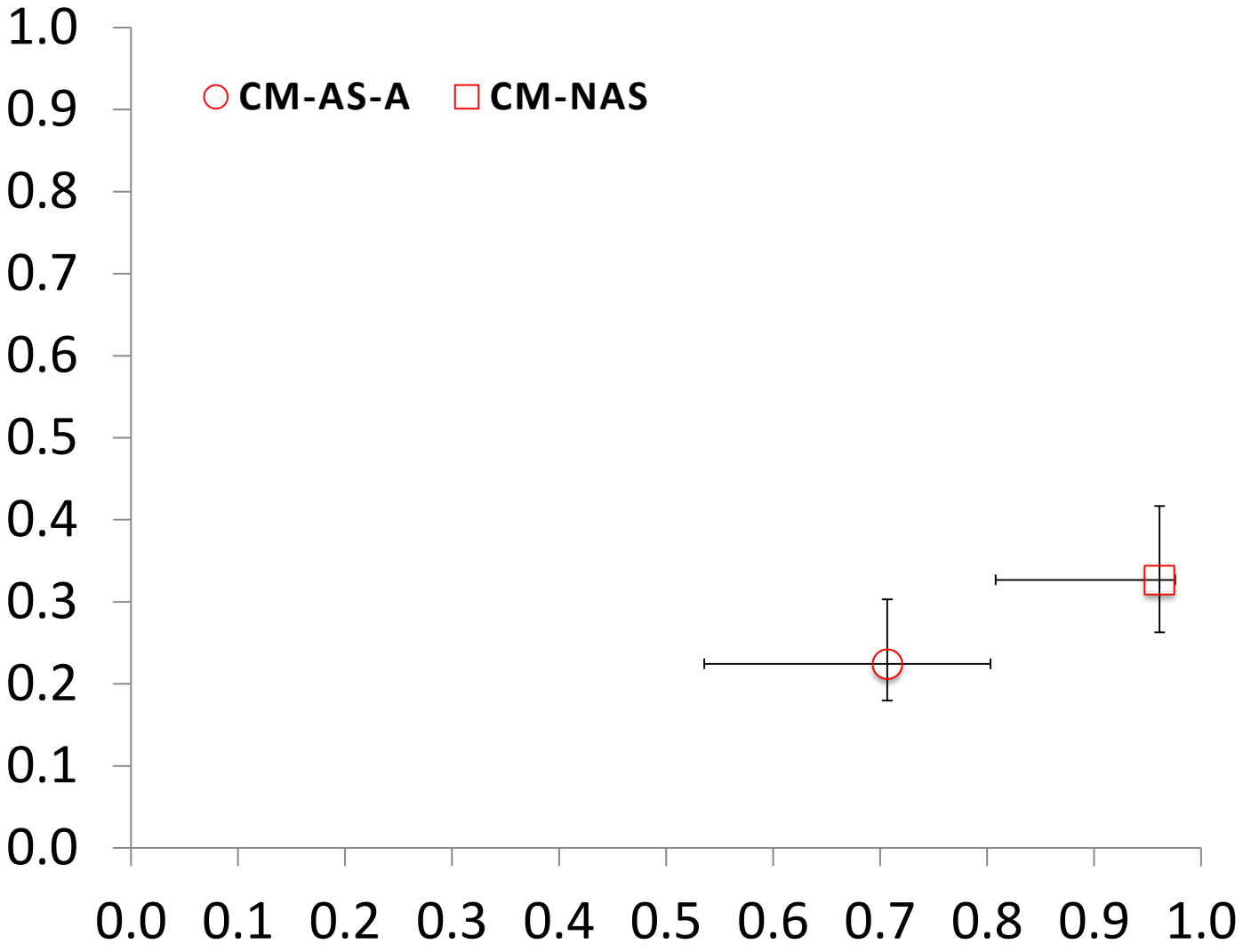
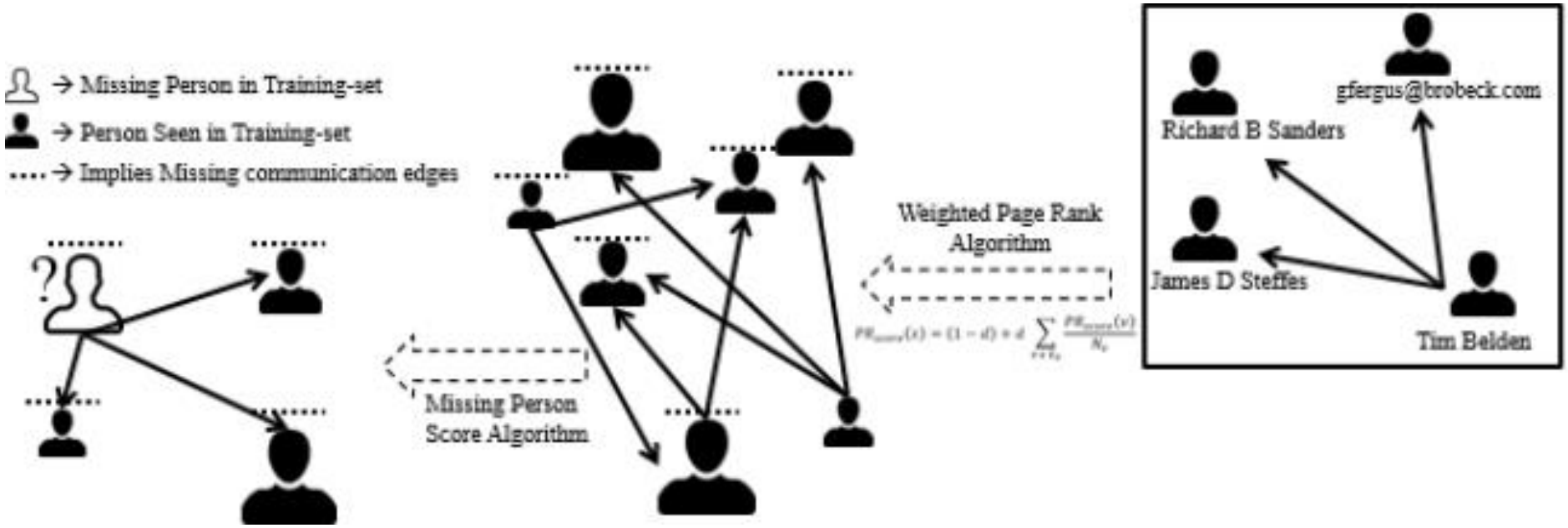
Automated Privilege Classification



Indicative Terms for Privilege

Estimating Privilege Propensity



Machine-Assisted Privilege Review

UNIVERSITY OF MARYLAND

Attachments (1)

Privileged | Not Privileged | No Decision

Date: Wed, 25 Apr 2001 03:43:0

Government Affairs and Relations Executive

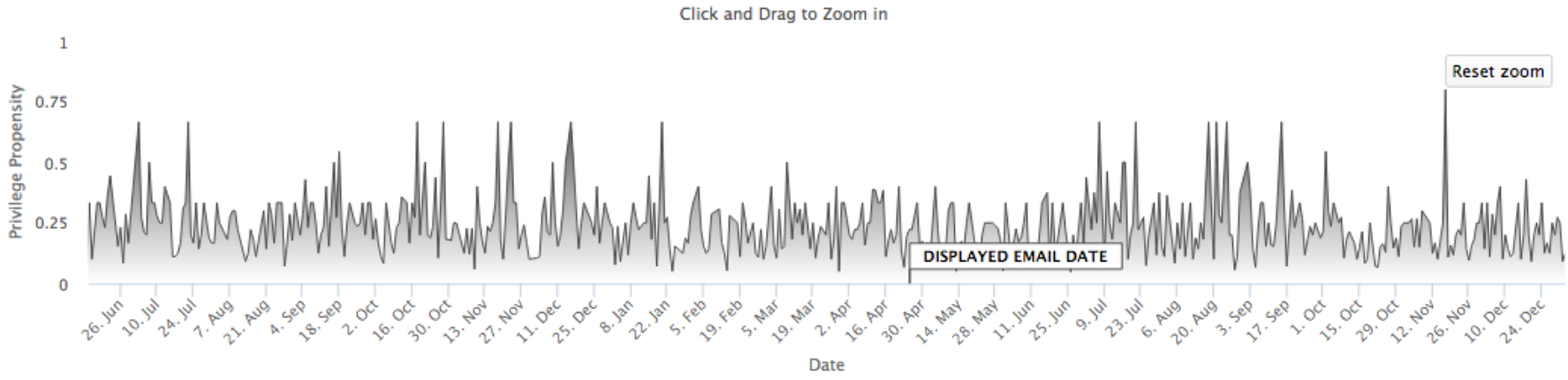
From: JBennett <JBennett@GM

To: Harry.Kingerski@enron.com, Jeff.Dasovich@enron.com, Leslie.Lawner@enron.com, tjohnso8@enron.com, James D Steffes <James_D_Steffes@enron.com>, Scott Stoness (E-mail) <sstoness@enron.com>, Sue Mara (E-mail) <smara@enron.com>

Cc: MDay <MDay@GMSSR.com>

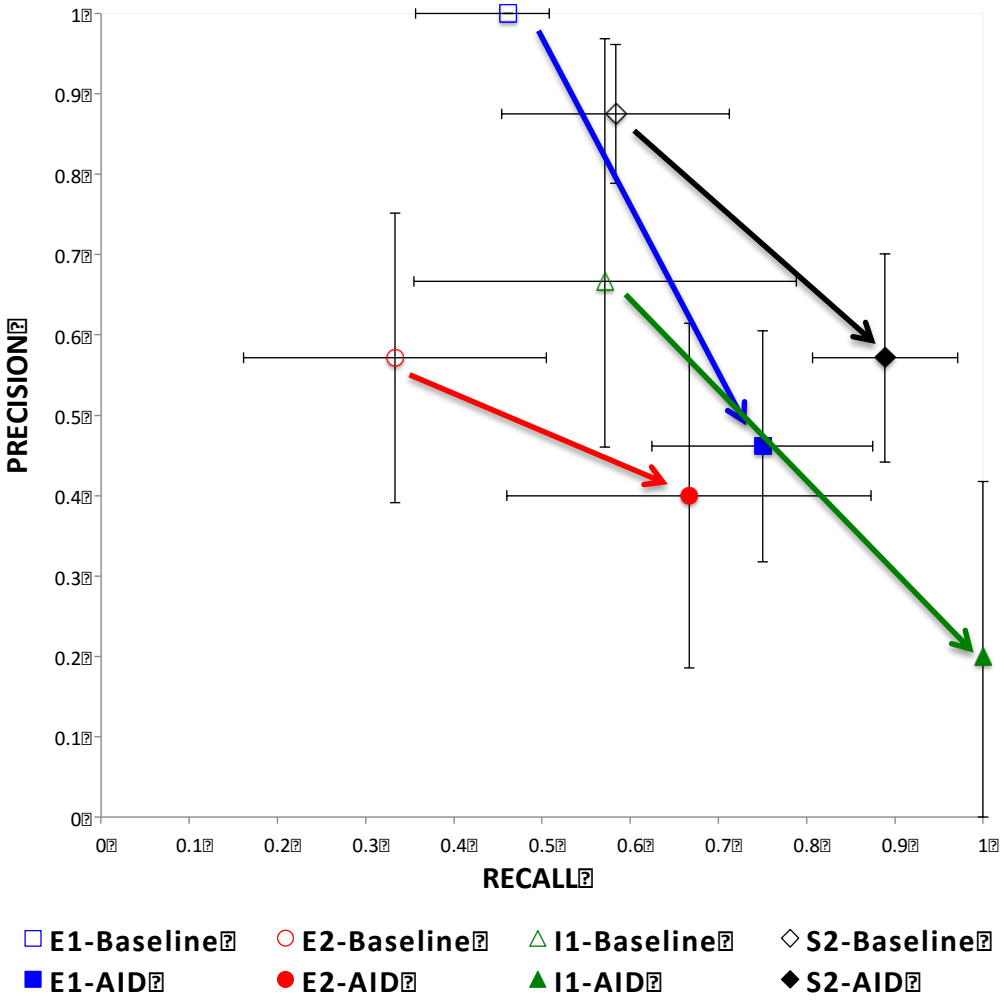
Subject: Advice Letter Protest on SCE PX Credit

Attached is the revised version of the protest of SCE's advice letter on the PX credit. Please provide all comments ASAP. If you cannot get them to me by 12:30 PDT, then send to Mike Day for incorporation.



* The above graph plots Privilege propensity

Annotations Increase Recall

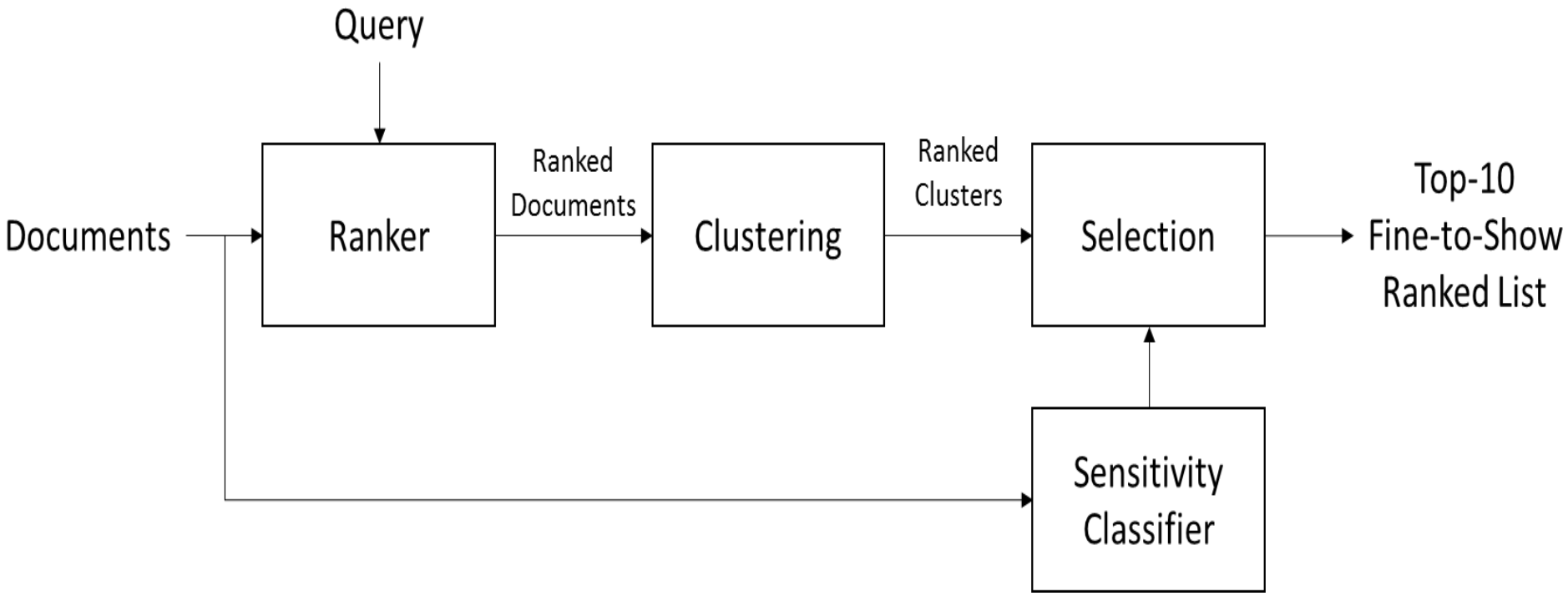


S_1 Judgments as Ground Truth

RECALL ↑

PRECISION ↓

Balancing Relevance and Sensitivity



Evaluation

- Our goal is to show some relevant documents
  - To do that, we must risk showing some sensitive docs
- Precision-oriented search could limit the risk
- Loss function from operational risk management
  - Severity, mitigation, continuous improvement

Discounted Cumulative Gain

	Highly Relevant (h)	**Moderately Relevant (m)**	**Not Relevant**
RETRIEVED	$+G_h$	$+G_m$	0
NOT RETRIEVED	0	0	0

$$DCG_k = \sum_{i=1}^{k} \frac{g_i}{d_i}$$

Cost-Sensitive DCG

	Highly Relevant (h)	Moderately Relevant (m)	Not Relevant
RETRIEVED	$+G_h$	$+G_m$	0
NOT RETRIEVED	0	0	0

$$DCG_k = \sum_{i=1}^{k} \frac{g_i}{d_i}$$

RETRIEVED	Highly Relevant (h)	Moderately Relevant (m)	Not Relevant
Fine to Show	$+G_h$	$+G_m$	0
Somewhat Sensitive (s)	$-C_s$	$-C_s$	$-C_s$
Very Sensitive (v)	$-C_v$	$-C_v$	$-C_v$

$$CS - DCG_k = \sum_{i=1}^{k} (\frac{g_i}{d_i} + c_i)$$

NOT RETRIEVED	Highly Relevant (h)	Moderately Relevant (m)	Not Relevant
Fine to Show	0	0	0
Somewhat Sensitive (s)	0	0	0
Very Sensitive (v)	0	0	0

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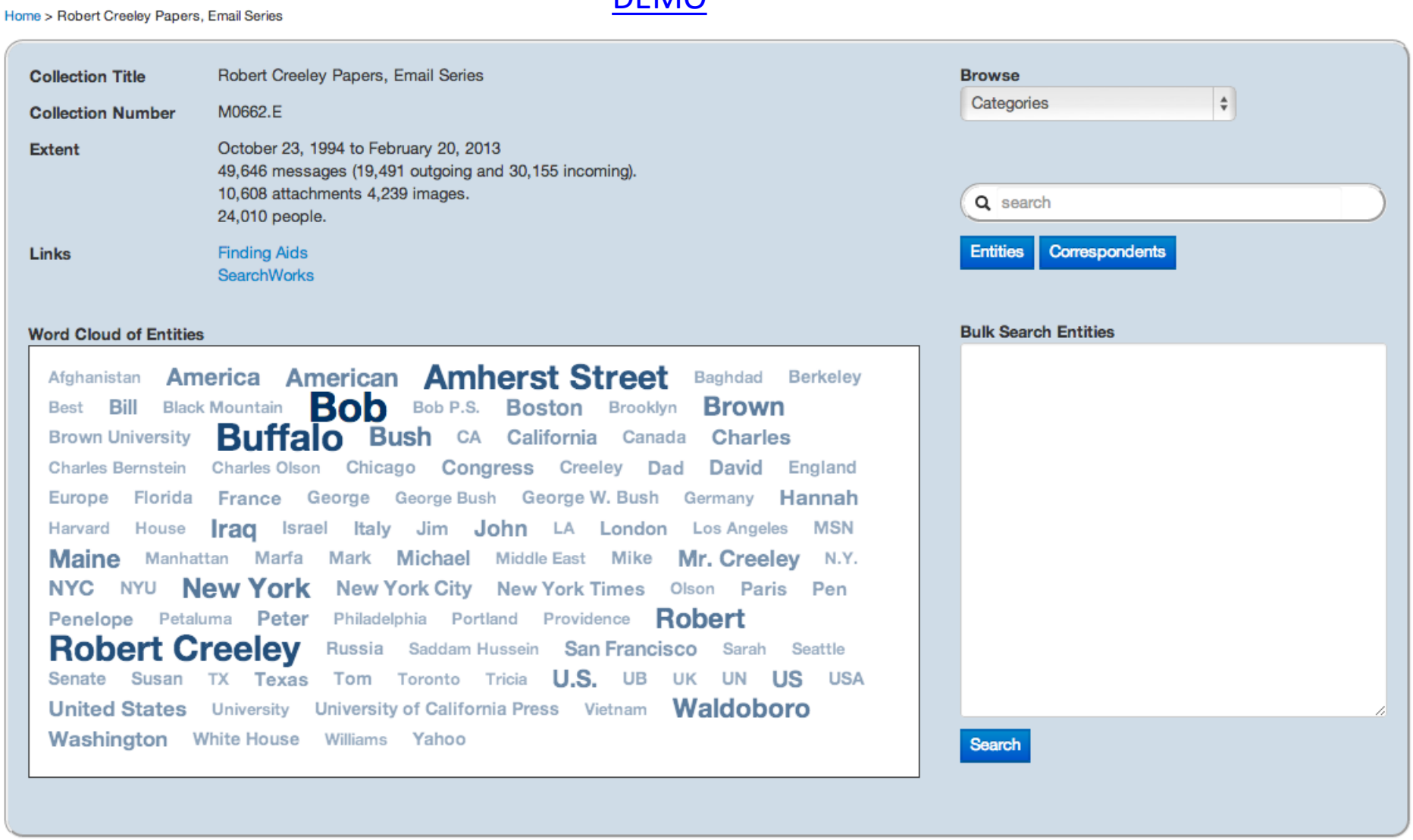
Stanford ePADD: Collection Overview

DEMO



Sudheendra Hangal, Providing Access to Historical Email Archives for Historical Research, *Personal Digital Archiving*, 2013

15/554

Date: March 2, 2001 11:24am

From: Katbarc@...

To: creeley@...

Subject:

.... Robert,

....'. ....

... ... Central Michigan (...'. ...., ...

....) ....

....

....

... . Portland ....

'.. ... . "....". .

.... $.,... ... .'. ....

.... $.,....

.. ....'. ... .

... .,

Kathryn

Kathryn Barcos

The Steven Barclay Agency

... .

Petaluma, ...

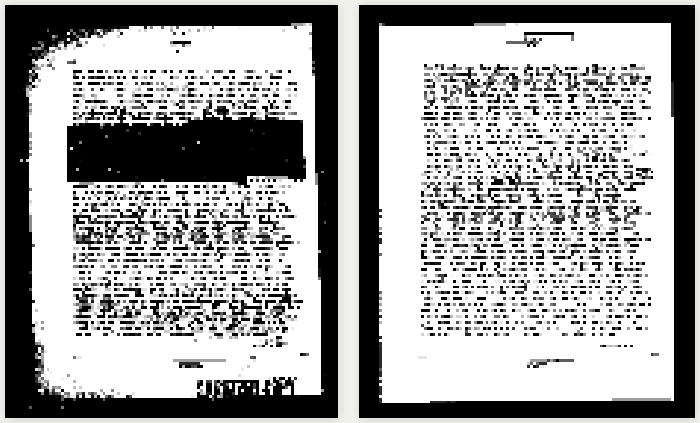
...-...-....

...-...-.... ...

19. "Vienna meeting 6/3/61 between Kennedy and Khrushchev; topics include: U.S.-U.S.S.R...."
Jun 03, 1961; Kennedy Administration

Redaction 1 / 30

1990 1993



danger. The USSR does not foment revolution but the United States always looks for outside forces whenever certain upheavals occur. **One example of USSR's determination not to inferfere in internal affairs of other countries is Iran, an ally of the United States. The Soviet Union dose not want a revolution there and dose not do anything in that country to promote such a development. However, the people of that country are so poor that the country has become a volcano and changes are bound to occur sooner or later. The Shah will certainly be overthrown. By supporting the Shah, the United States generates adverse feelings toward the United States among the people of Iran and, conversely, favorable feelings toward the USSR. This, of course, is to the US's own disadvantage. The Soviet** Union does not sympathize with dictators or tyranny. This is the crux of the matter. No agreement seems to be possible on this

Document Info
View Side-by-Side
Report Invalid Match

JAN 1961 APR JUL OCT JAN 1962 APR JUL OCT JAN 1963 APR JUL OCT

Rush, The Redaction Archive, 2013 http://declassification-engine.org/redactions/#/

Evaluating Redaction

- Re-identification attacks
- K-anonymity
  - Goal: Set a lower bound on uncertainty
  - Method: Suppress identifying attributes
  - Challenges: weak ties, future data
- Differential privacy
  - Goal: public data for preliminary analysis
  - Method: preserve approximate statistics (e.g., IDF)
  - Challenges: low counts, high dimensionality

Consequences for IR Evaluation

- 20th Century IR Evaluation
  - Perfect retrieval is our ideal
    - All and only the relevant documents
  - We measure how close to the ideal we come
    - Precision, Recall, MAP, NDCG, …

- 21st Century IR Evaluation
  - Maximizing access to relevant content is our goal
  - Protecting sensitive content expands search space

Conclusion

- IR systems are too good
  - They could find what they shouldn't
  - To prevent this, we do not index some things
  - What we don't index, we can't find
- Two lines of research are needed
  - Techniques for search among secrets
  - Techniques for evaluation search among secrets

ShhhCLEF 2017?

For More Information

- FnTIR survey on E-Discovery
  - http://ediscovery.umiacs.umd.edu
- Stanford ePADD (Email Redaction)
  - Demo: http://epadd.stanford.edu/
  - Code: https://library.stanford.edu/projects/epadd
- The Redaction Engine
  - http://www.history-lab.org/