eRulemaking:
Research Opportunities in
Natural Language Processing

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Challenge problems for NLP

Help lawmakers and writers
- Collect raw data
- Make facts comparable

Help writers and the concerned
- Collect citizen commentary
- Cluster by genre, opinion, pressure group

Help public and lawyers
- Support compliance checking
- Collect and store lawsuits, commentary, newspaper stories

SuperFinder:
- Access databases, info
- Analyze and display

SuperBboard:
- Cluster commentary
- Analyze and display

SuperArchivist:
- Collect pertinent info
- Thread subtopics
- Analyze and store

Liz example
Beth example
Kincho example
A few details...

- Enhanced **text search** technology
  - Tailored to domain (specific source material) and to reg writing process (able to penetrate legalese in existing regs)
  - Used by reg writers and concerned citizens

- **Advanced clustering** technology
  - Organize commentary by opinion; recognize opinion(!); segment long commentary; handle (near) duplicates…
  - Used by reg writers, lawmakers, and perhaps journalists

- **Tailored summarization and QA** technology
  - Summarize comments, clusters, etc.; locate answers to questions
  - Used by reg writers, lawmakers, concerned citizens

- **Sophisticated reg NL analysis and KR** technology
  - Analyze regs; recognize interdependencies (overlaps, contradictions, etc.); create large formalized reg-banks
  - Used by reg writers, concerned citizens, lawyers, and public doing compliance checking
Questions

• How do rule writers do their work?
• What technology / tools can they use?
  – avoid disruption, unfamiliarity, misleading focus
• What do citizens want?
  – is it enough to just make your comment?
  – would people use a compliance checker? (Kincho Law)
• How can we measure the impact of the tools?
  – studies with and without: social scientists
3 sets of researchers

• IT researchers desire to:
  – understand underlying structure of rulemaking knowledge, dependencies, and info transformations
  – build most effective and useful tools

• Social scientists desire to:
  – understand nature of rulemaking process
  – measure/evaluate effectiveness of new IT

• Political scientists desire to:
  – understand legal procedures and ramifications of rulemaking
  – facilitate use of new IT, incl. protecting privacy, etc.
Thank you!