Enabling Long-Term Security and Privacy through Retrospective Data Management

User's long-lived archive

Challenge:

- Risks to, and perceptions of privacy change over time: but data doesn't!

Potential decisions to revisit

Interactive learning model

Solution:

- Measure privacy settings over time
- Build understanding of user conceptualization of privacy in social media posts & cloud storage
- Create classifiers to assist in managing longitudinal data privacy

Human-in-the-loop Interface
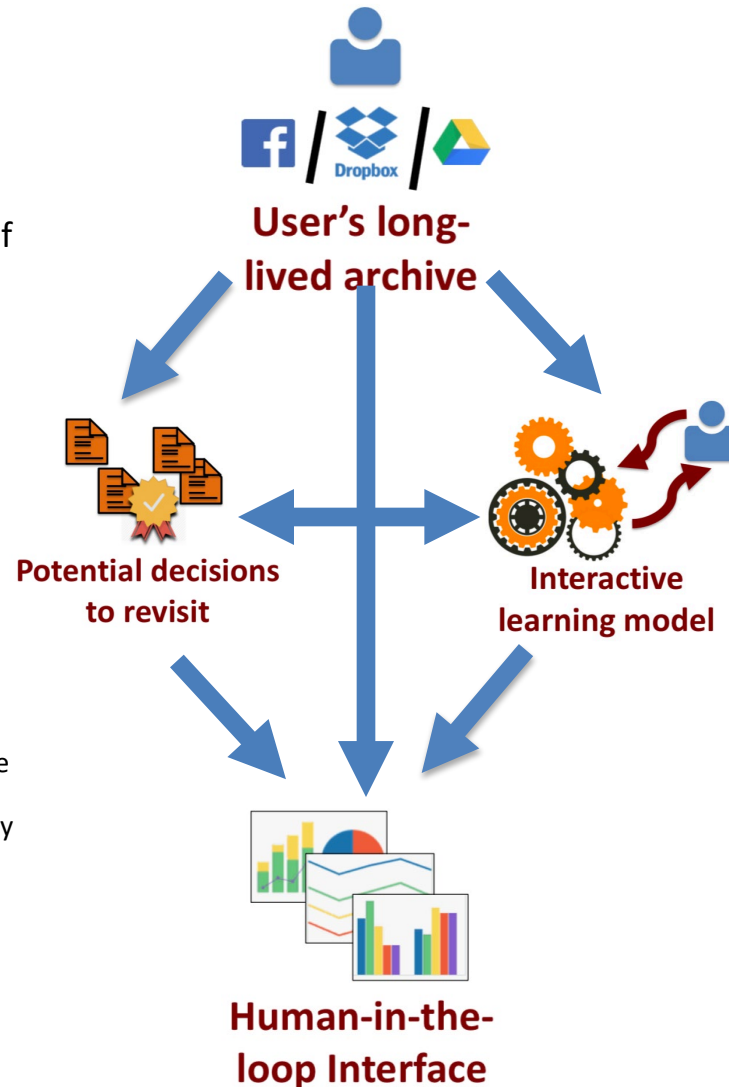
Scientific Impact:

- We are building techniques for measuring how perceptions of privacy change over time for documents stored on the Internet.
- These algorithms, and the human-in-the-loop systems that operationalize them, can be applied to other problems that involve long term data privacy or human perceptions of privacy.
- Longitudinal investigation of privacy preferences has not been done: this data sheds new light on the phenomenon.

Broader Impact:

- Cloud and social media data continue to accumulate – users need tools to effectively manage these archives.
- The research has involved a postdoc (now TT) and several undergraduates.
- Currently developing public-facing implementation of model & retrospective privacy management interface