Access Control for Ad Hoc Collaboration: A Conceptual Model

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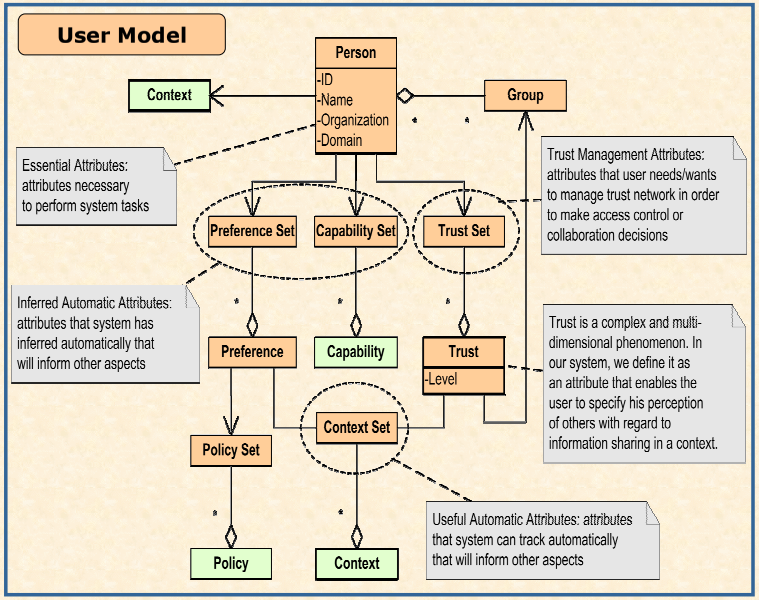
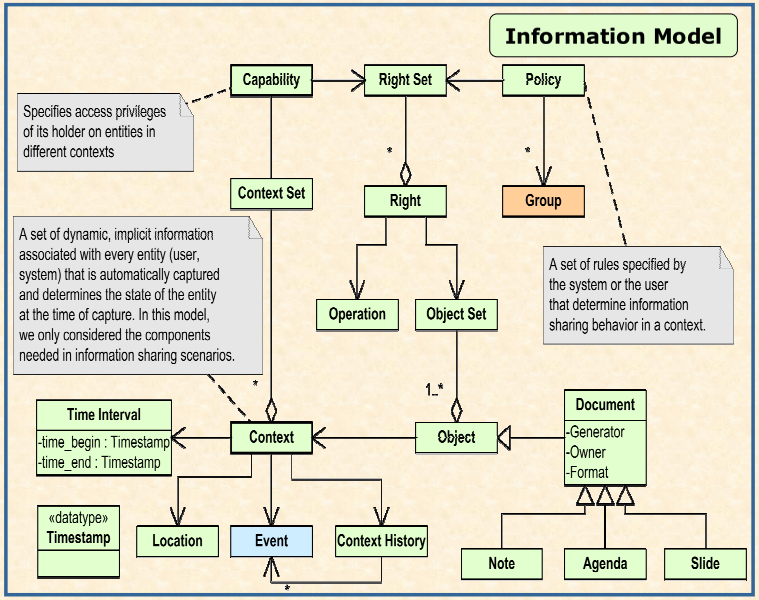
The Problem:

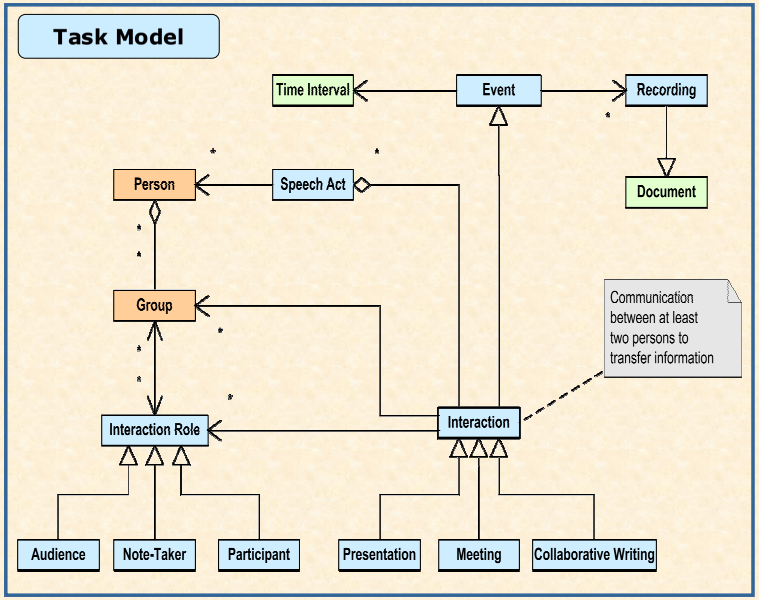
- Current approaches to access control are based on a system-centric and/or task-centric view
- A fixed network for collaboration is presumed, whereas in ad hoc collaboration users/resources may join/leave the network dynamically
- Access permissions are static, and often centrally administered, while most of the information sharing and using is ad hoc and based on subtle trust relationships
- User Control of information sharing is minimal (e.g. share folders) and/or unmanageable (e.g. full ACLs)

Our Approach:

- Scenario-based modeling of requirements and concepts
- A user-centric approach for modeling information sharing in ad-hoc collaborative activities to find constraints in supporting those acts
- Decision support for information sharing: A system that is capable of providing enough information to help the user decide on what information to share with whom, and in what context.
- Modeling an interface design that focuses on user needs, rather than current technology







Conclusion:

- A unified, high level conceptual model that identifies common objects and their relationships in many collaborative tasks, i.e. meeting, collaborative writing, etc.
- Highlighting the critical gaps for supporting access control decisions in current models

Future Plan:

- Use ontology development tools to formalize and validate the conceptual model
- Clarify how trust and context can be prepared and presented to users for decision support
- Develop an infrastructure to support our conceptual model
- Relate other research on trust management and information sharing to the conceptual model