

Temporary Roles

An Explicit, User-Specified Organizational Model

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Problem Summary

- Background: GlobalSE project courses with developers in Germany, USA, New Zealand
- Require distributed infrastructure and tools
- Organizational knowledge is mostly implicit, what is explicit is out of date and redundant
- Approach: Self-manageable, explicit, dynamic organizational model

Design Goals

- *open*: apposite level of abstraction
- *encapsulated*: component-based
- *secure*: communication and on-disk encryption
- *privacy-aware*: user-specified data distribution
- *scalable*: no central server, logical integrity

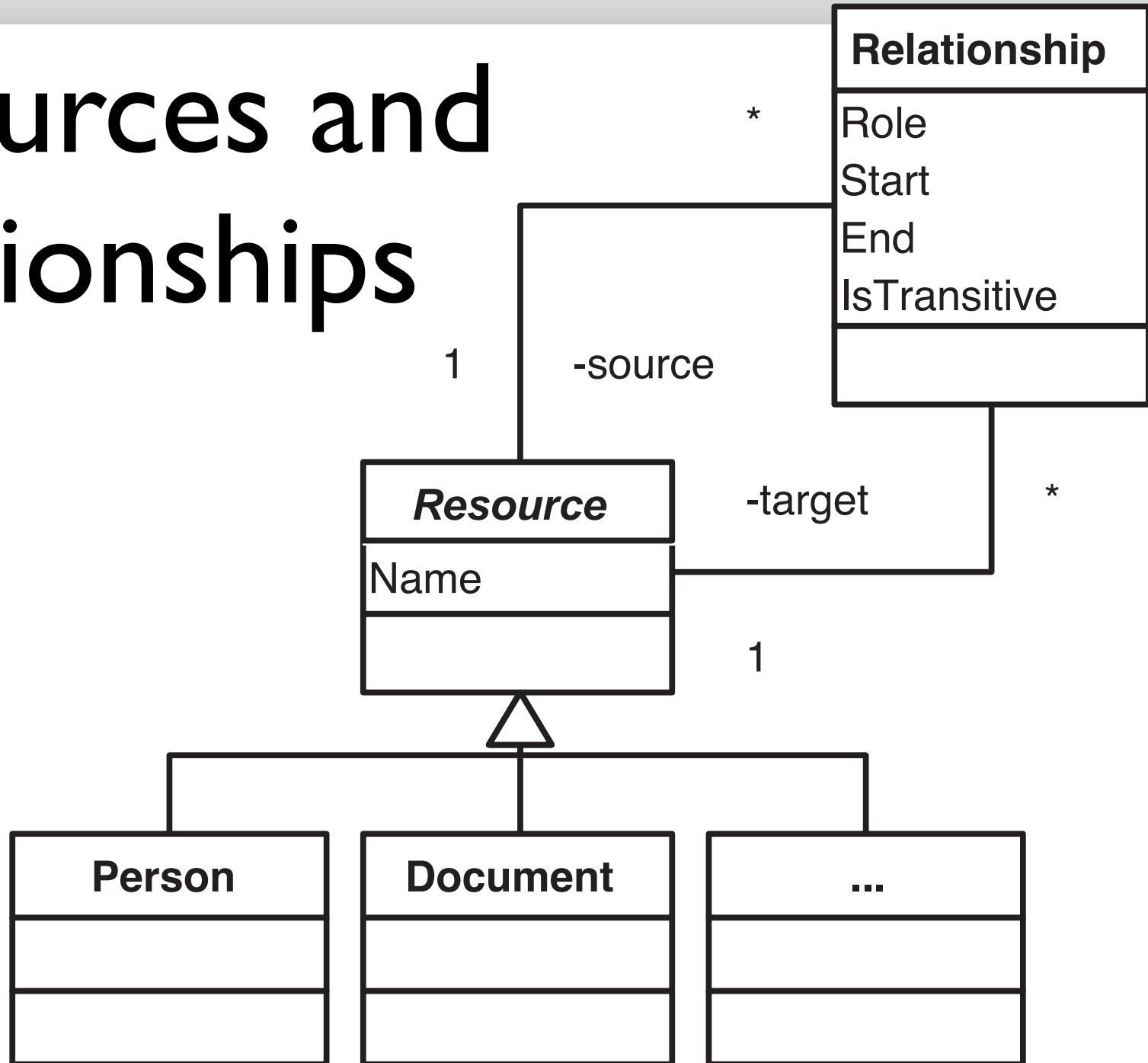
Related Work

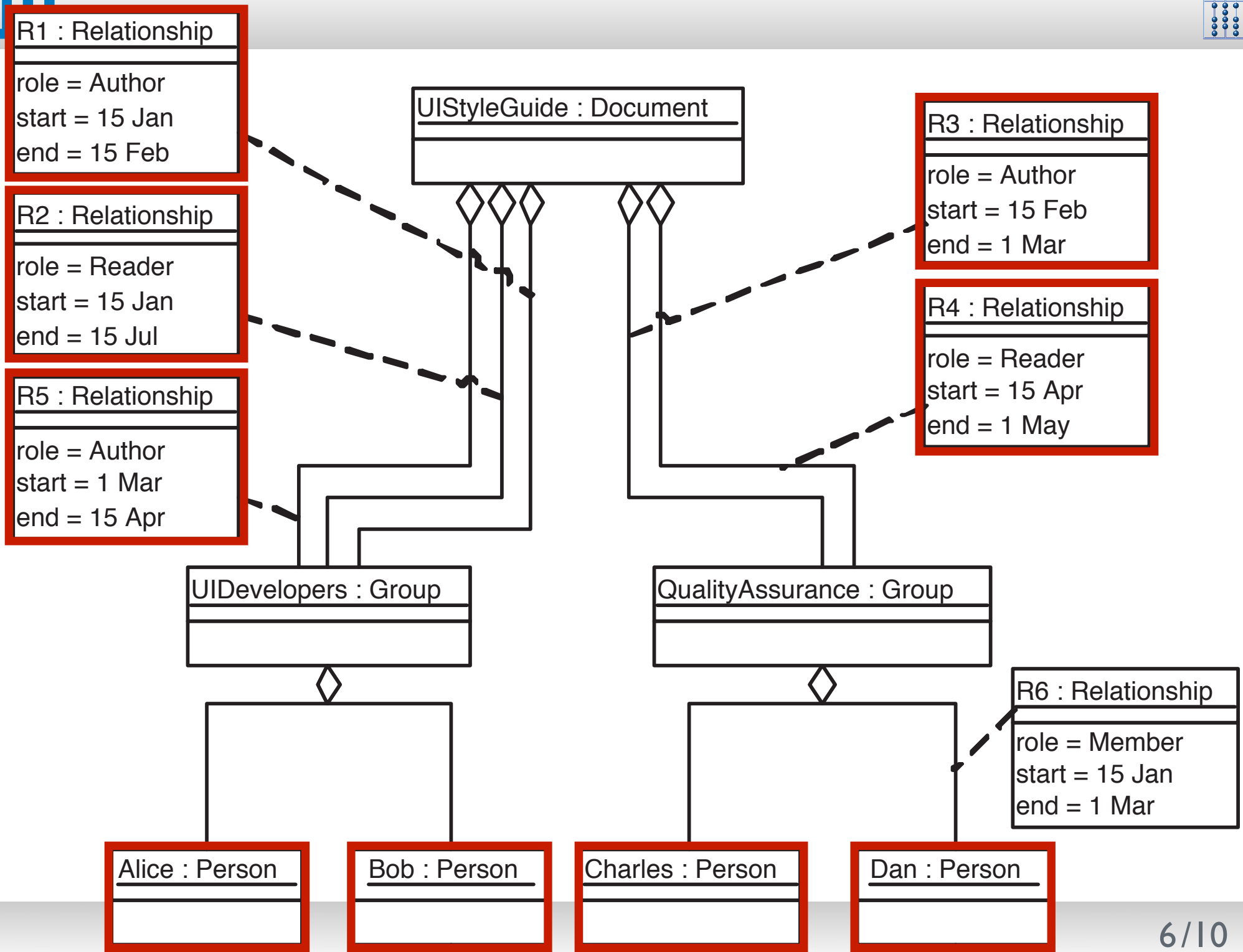
- X.500 Directory
- Role-based Access Control (RBAC)
- Temporal extensions to RBAC
- German Legislation: “*Informational Self-Determination*”

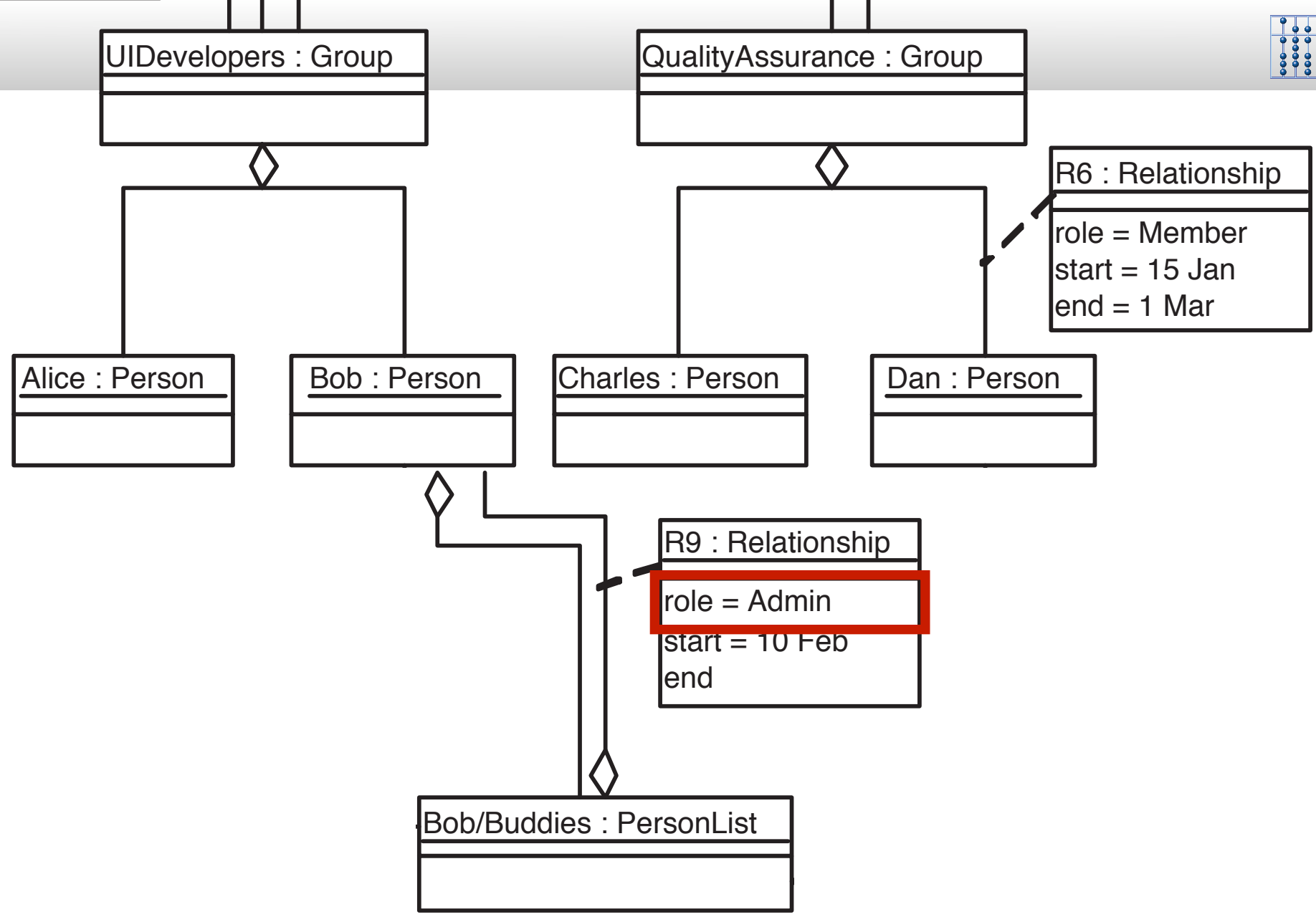
Security Concepts

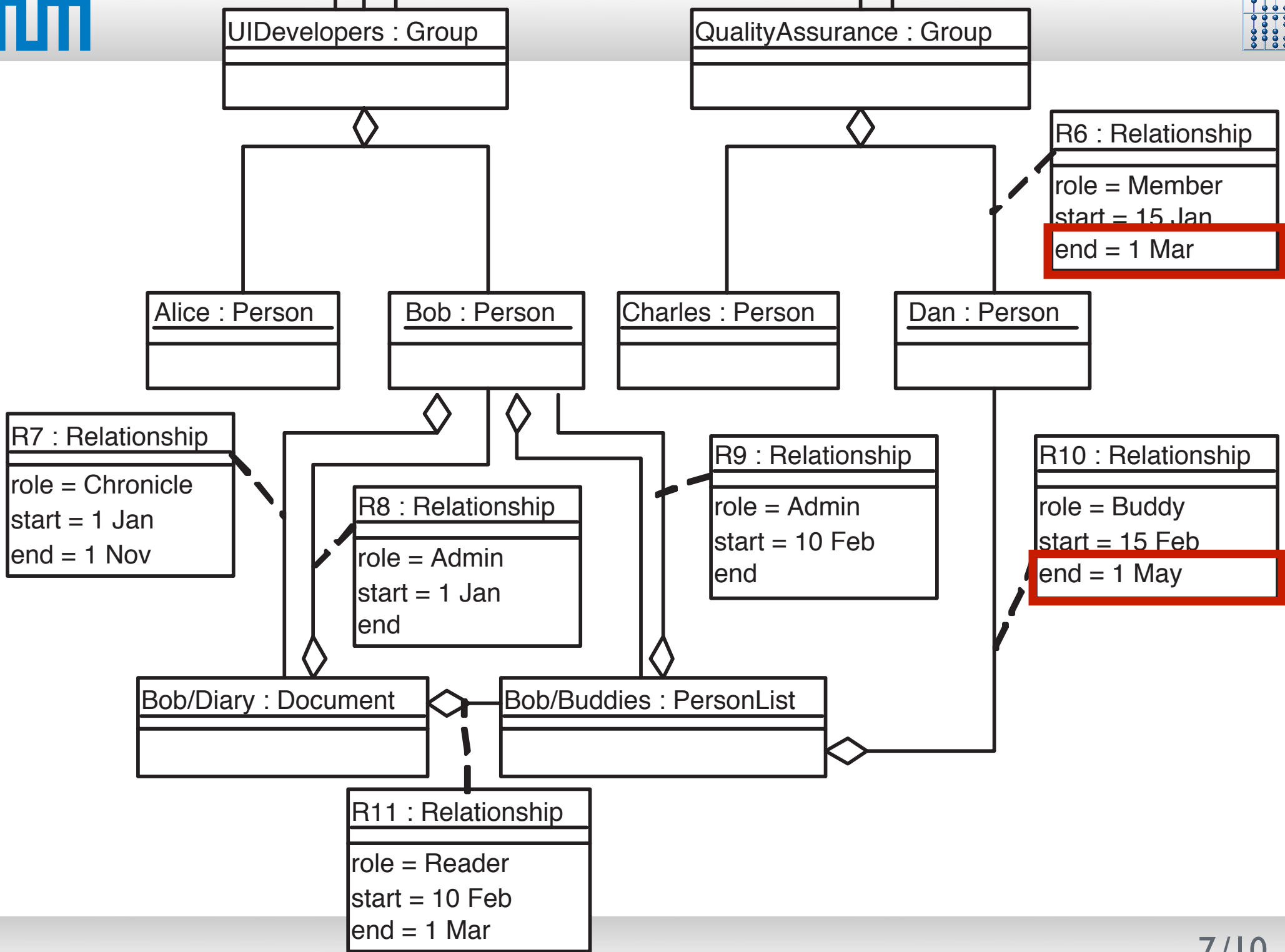
- Resources and Relationships
- Role-assignments of Resources
- Creation of Relationships
- Creation of Resources
- Expiration of Resources
- Event Management

Resources and Relationships

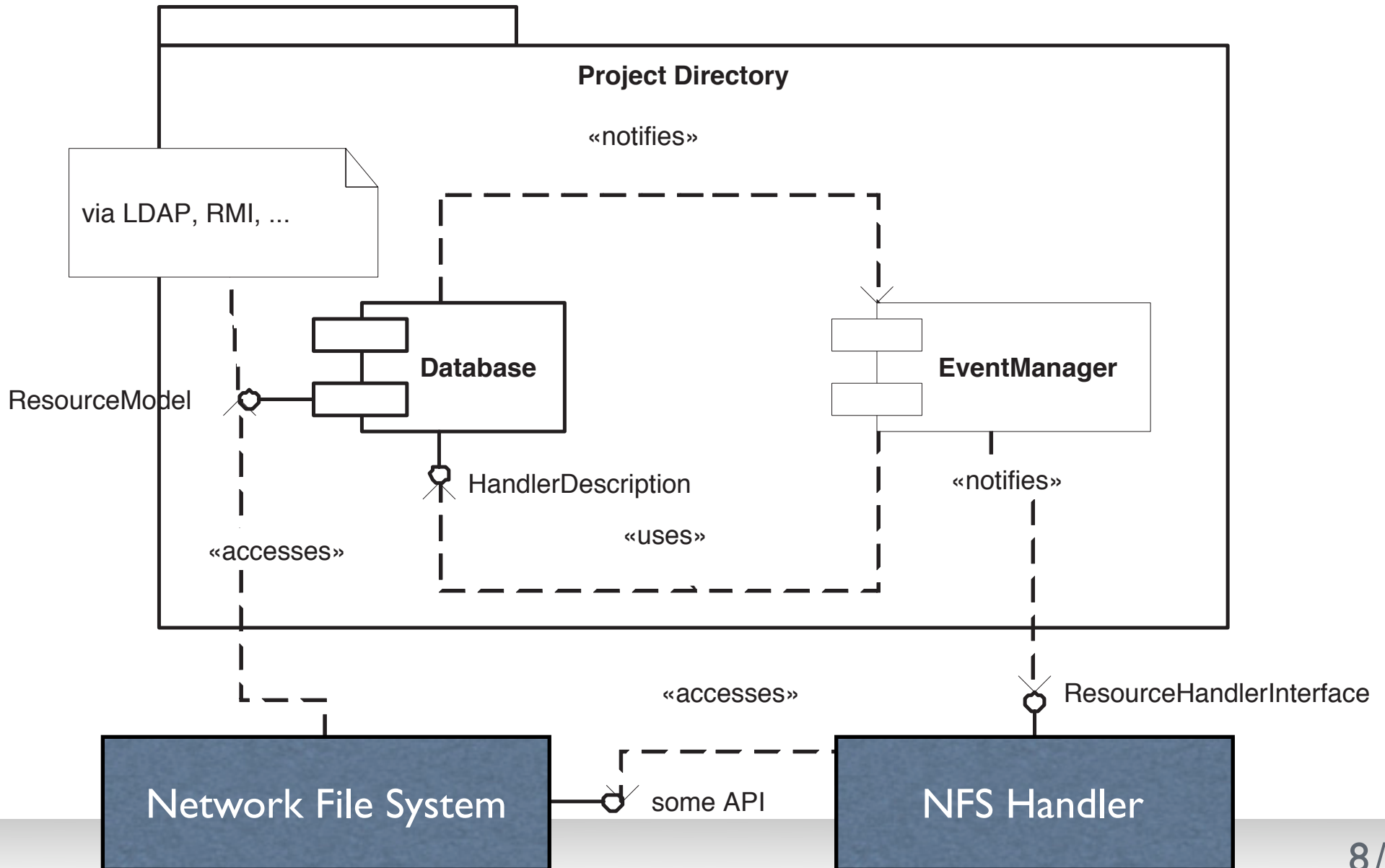









Event Management

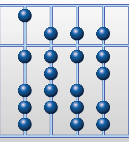


Conclusion — 1/2

- Took technology-driven approach
- Enable users to explicitly specify the usage rights of their personal data and provide incentives (sharing across tools)
- Model volatility of relationships in evolving computing environment

Conclusion — 2/2

- Assess impact regarding complex organizational and human processes
- Support more resource types and improve integration of existing ones
-  Privacy concerns can only be addressed by providing a unified resource and access model



Q&A