
Quality and Gatekeeping Use Cases for the OOR

Ken Baclawski and Máximo Gurméndez
College of Computer and Information Science
Northeastern University

Motivation

- Quality is a major concern
 - Emphasized at the Ontology Summit 2008
 - Ontologies are similar to standards and publications
 - A mechanism for review is necessary
- Gatekeeping
 - Ensures minimum level of quality
 - Allows for many policies and workflows

Sources of Requirements and Use Cases

- ISO 11179: Metadata Repository (MDR)
- XMDR Project: Extended MDR
- Ontology Summit 2008
 - Several sessions devoted to requirements
 - Wiki page for requirements and use cases
 - What are the requirements?

Management Requirements

- Version management
- Configuration management
- Provenance and other metadata
- Metadata validation/authentication
 - Related to policy issues
- Ontology ownership and access control

Administration and Policy Issues

- Gatekeeping policies and enforcement
 - Overall policies or left to individual repositories
- Policy-making bodies
 - How are they constituted?
 - How can they interoperate?

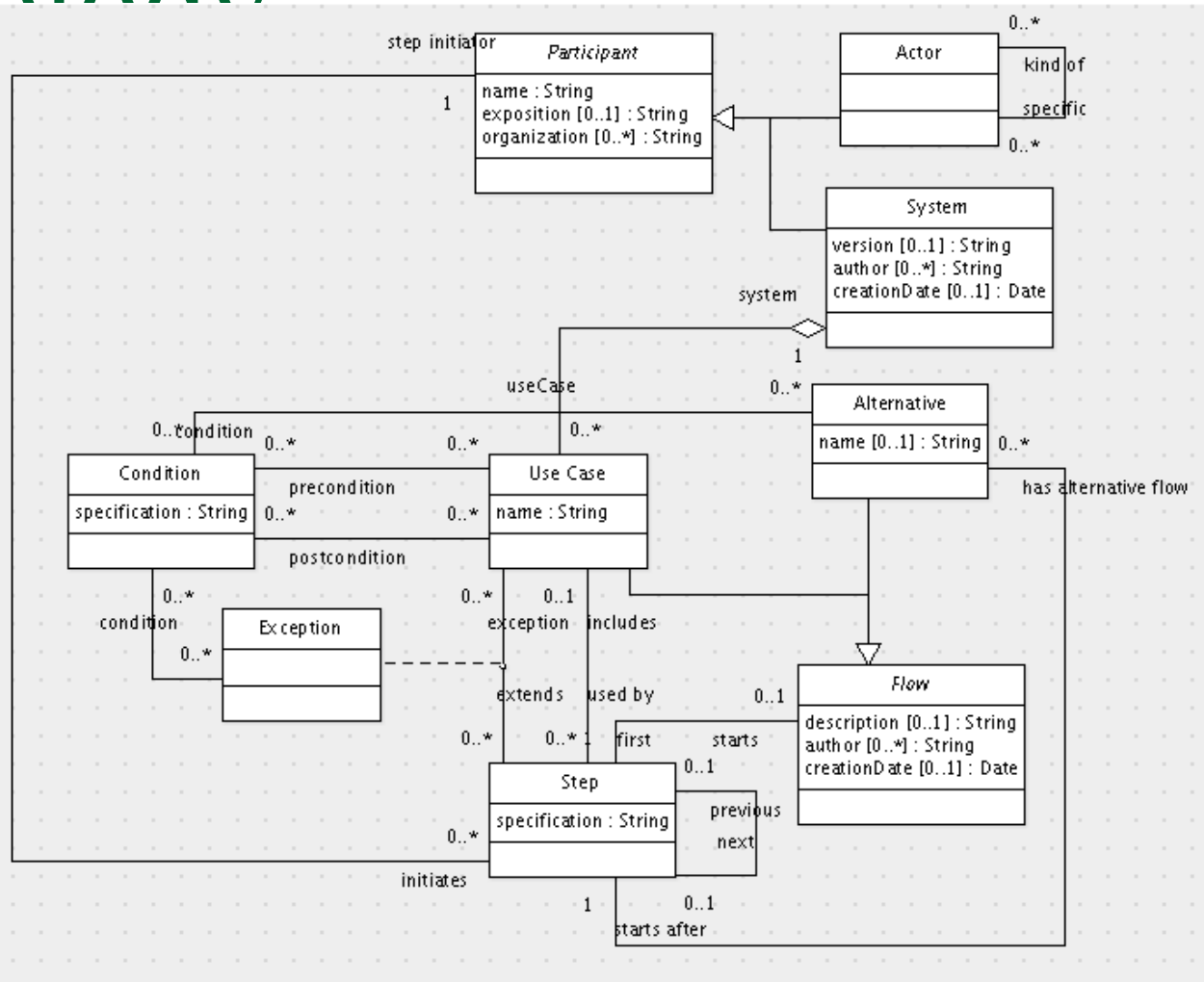
Development of OOR Use Cases

- Consulted existing examples
- Assignment in software engineering course
- Classified all of the examples
- Developed Use Case Description Ontology
- Developed OOR use cases as instances of UCDO
- Available at <http://www.ccs.neu.edu/home/kenb/ontologies/>

Classification of Use Cases

- Administer user authorizations and privileges
- Assign identifiers
- Define workflows and policies
- Federate OOR instances
- Harmonize and map ontologies
- Publicize ontologies
- Query metadata
- Register ontologies
- Review and evaluate ontologies

Use Case Description Ontology



Prototype Implementation

- Experimental
- Web Services Based
- ISO 11179 Foundations
- JBPM as Workflow Engine

Prototype: User Hierarchies

Accreditor

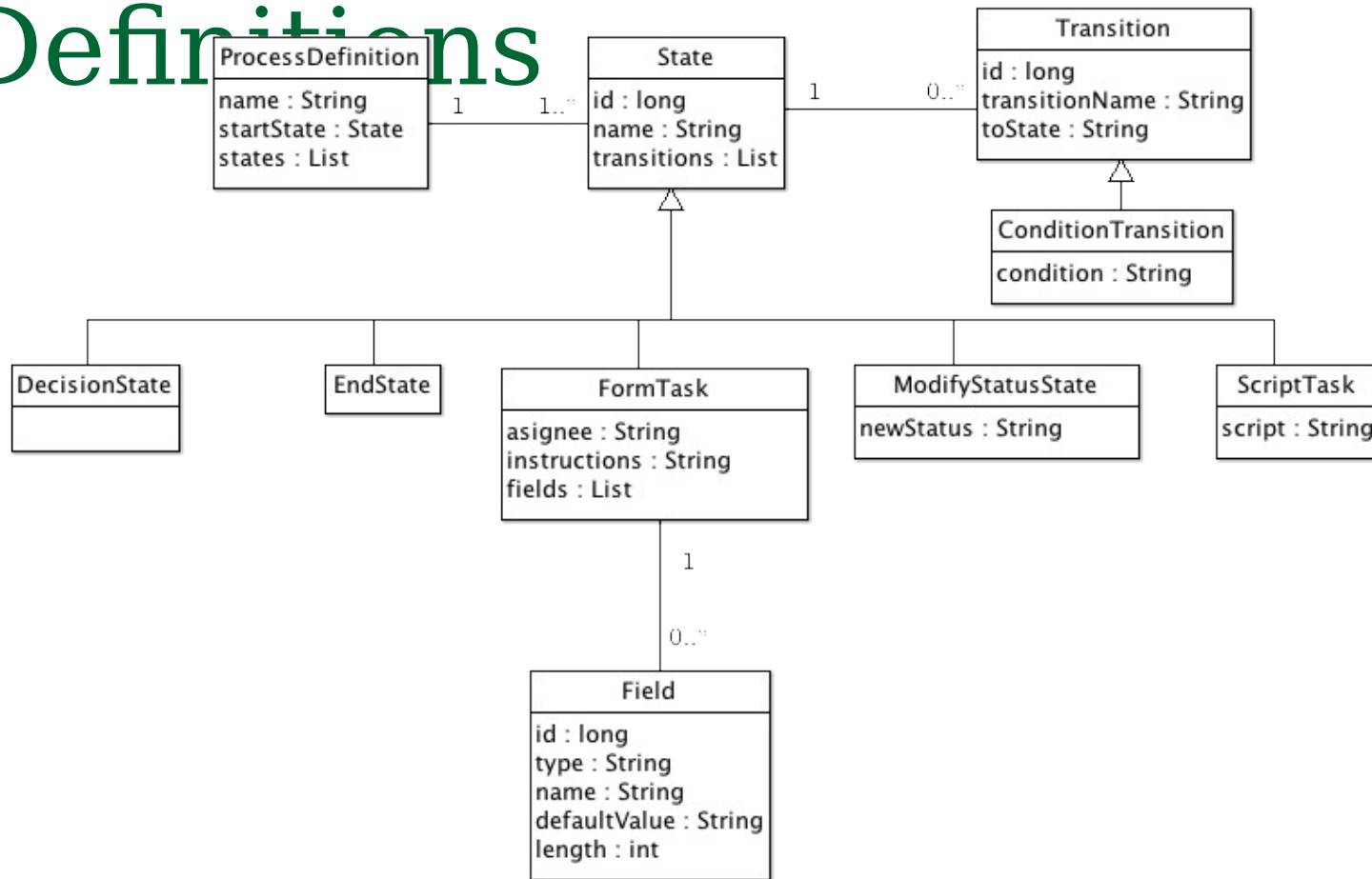
Registrar

Steward

Submitter

User

Prototype: Process Definitions



Prototype: Sample Scenario

- Registrar uploads process definition:
“Stewards validates model before it becomes a standard”
- Submitter uploads new model (Status=PENDING)
- Workflow Engine notifies Steward (according to process definition)
- Steward Validates Model (Form Task)
- Workflow Engine Modifies Status (Status=STANDARD)