Implementing a Web Client for Integrated Data, Role, Function, and Task Modelling

Master's Thesis final presentation

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Hybrid Wikis as a tool to model enterprise information systems

Hybrid Wikis are currently missing an integrated user-interface for data, role, function and task modelling


The prototype implemented during this thesis

Research Objective: Facilitate data, role, function and task modelling within a hybrid wiki platform with the help of a web based user interface to provide a way to generate and administrate the above mentioned models.
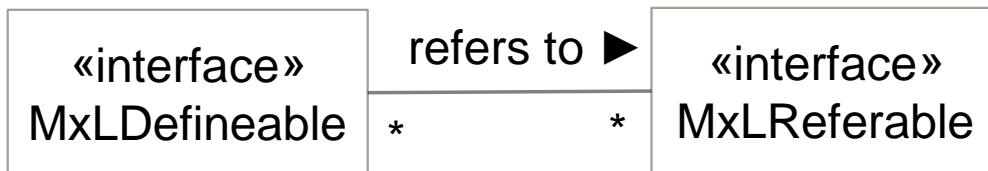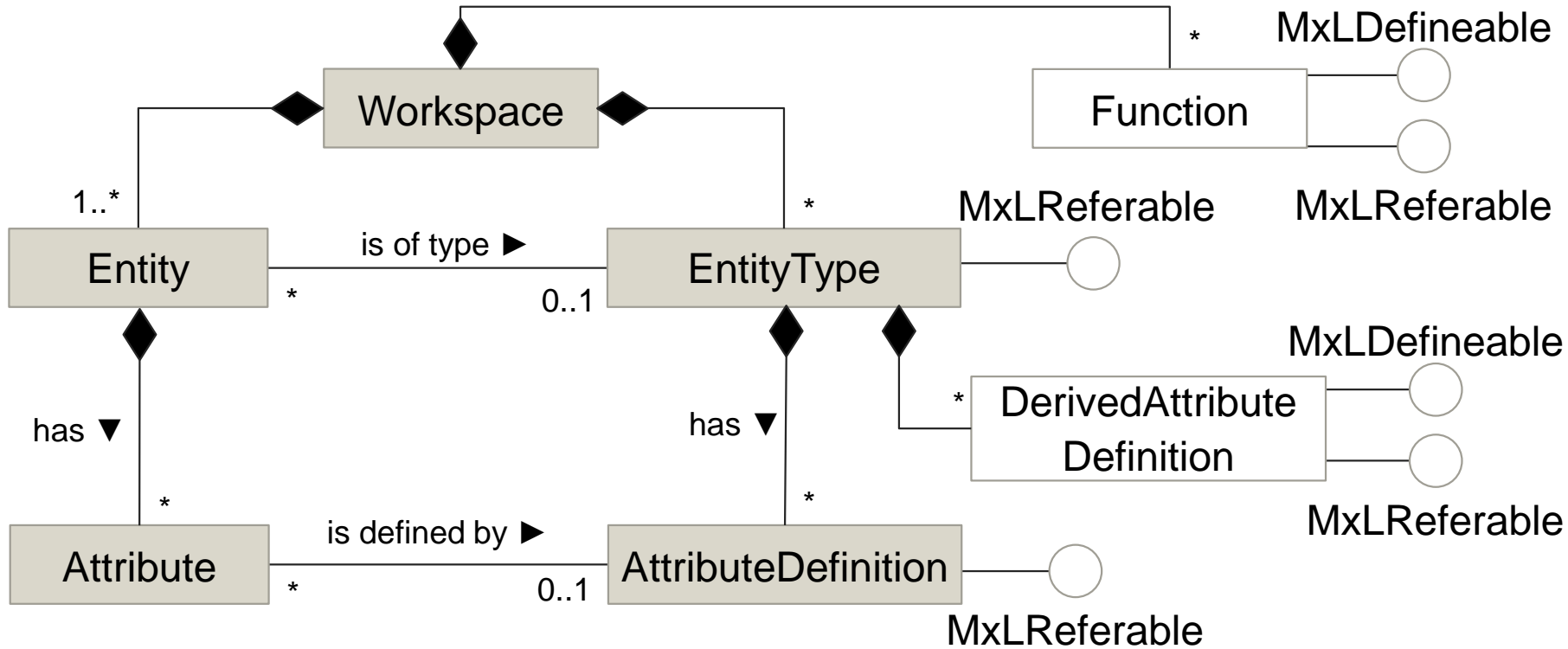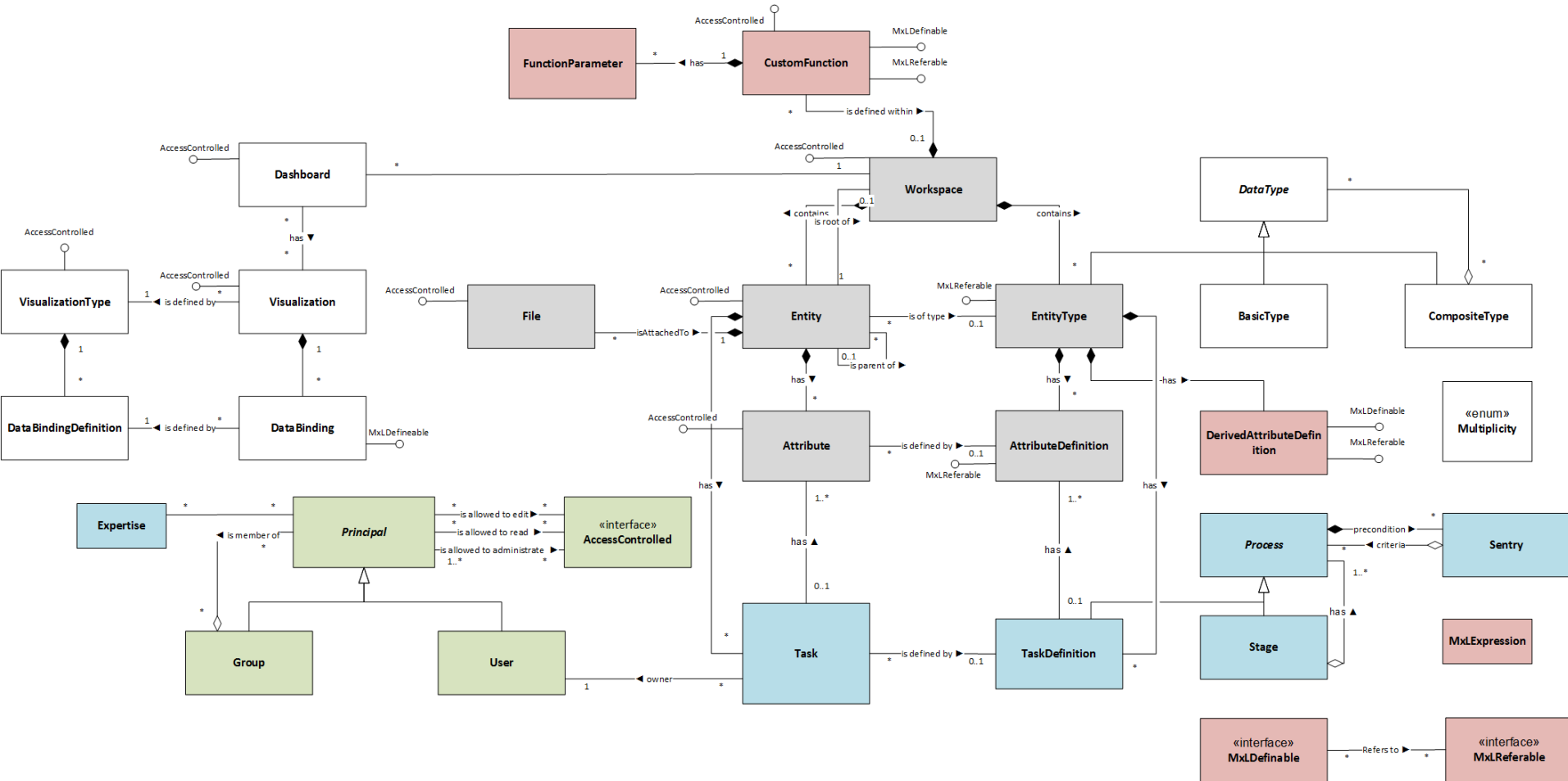
Research Questions:

Q1: „How does an integrated meta-model for data, role, function and task models look like?
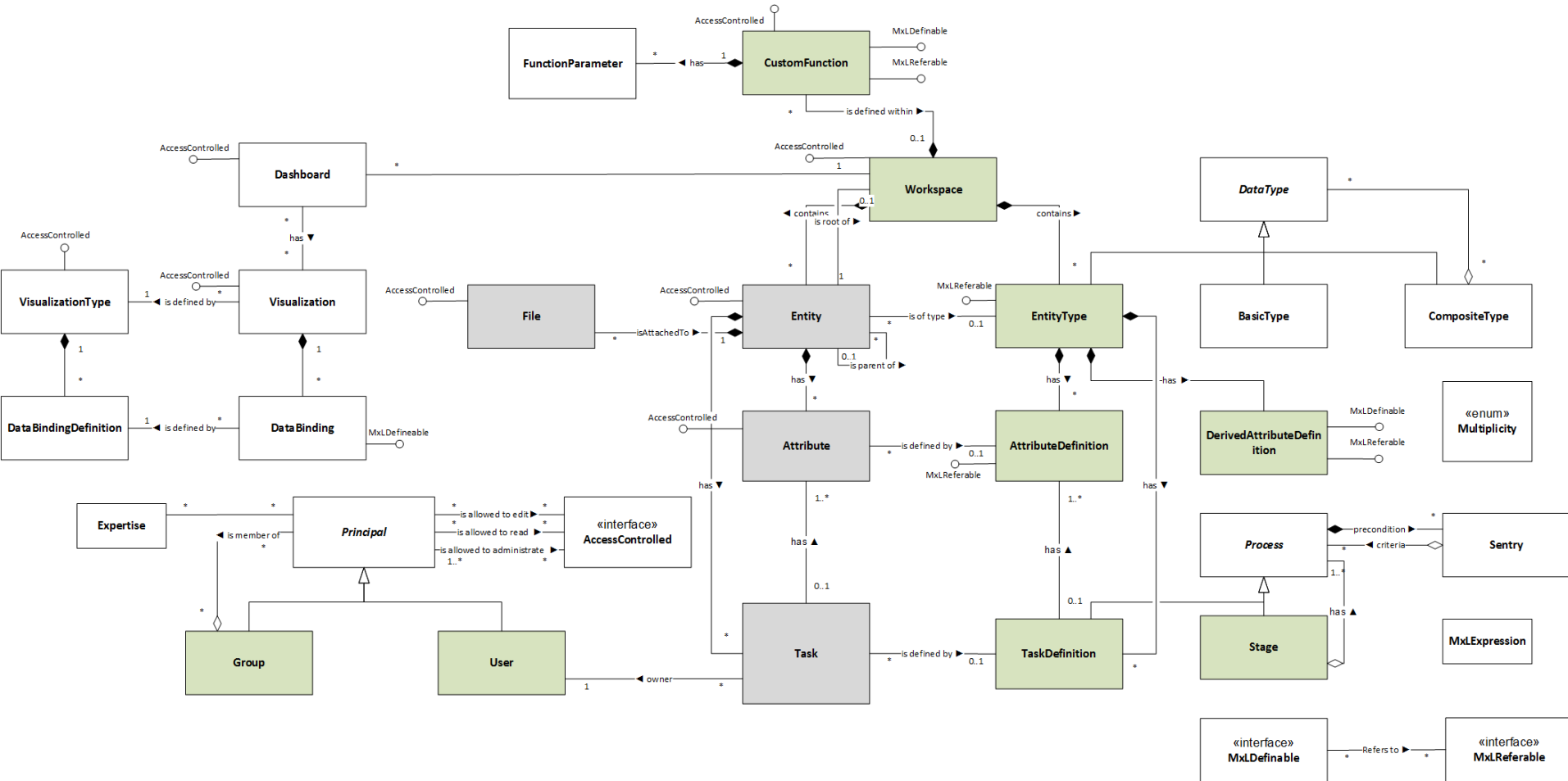
Q2: „How to design an integrated user interface for the management of data, role function and task models?"

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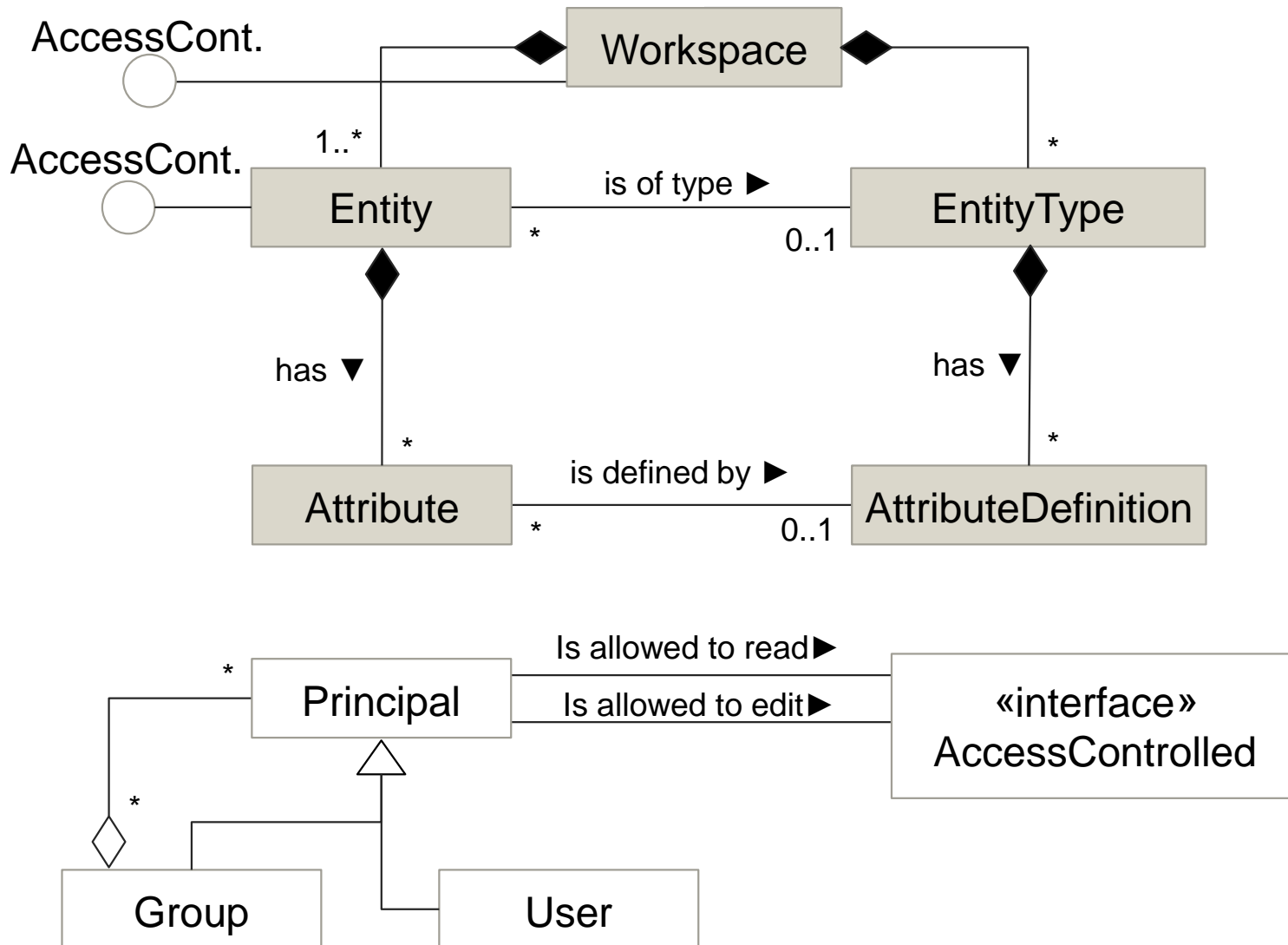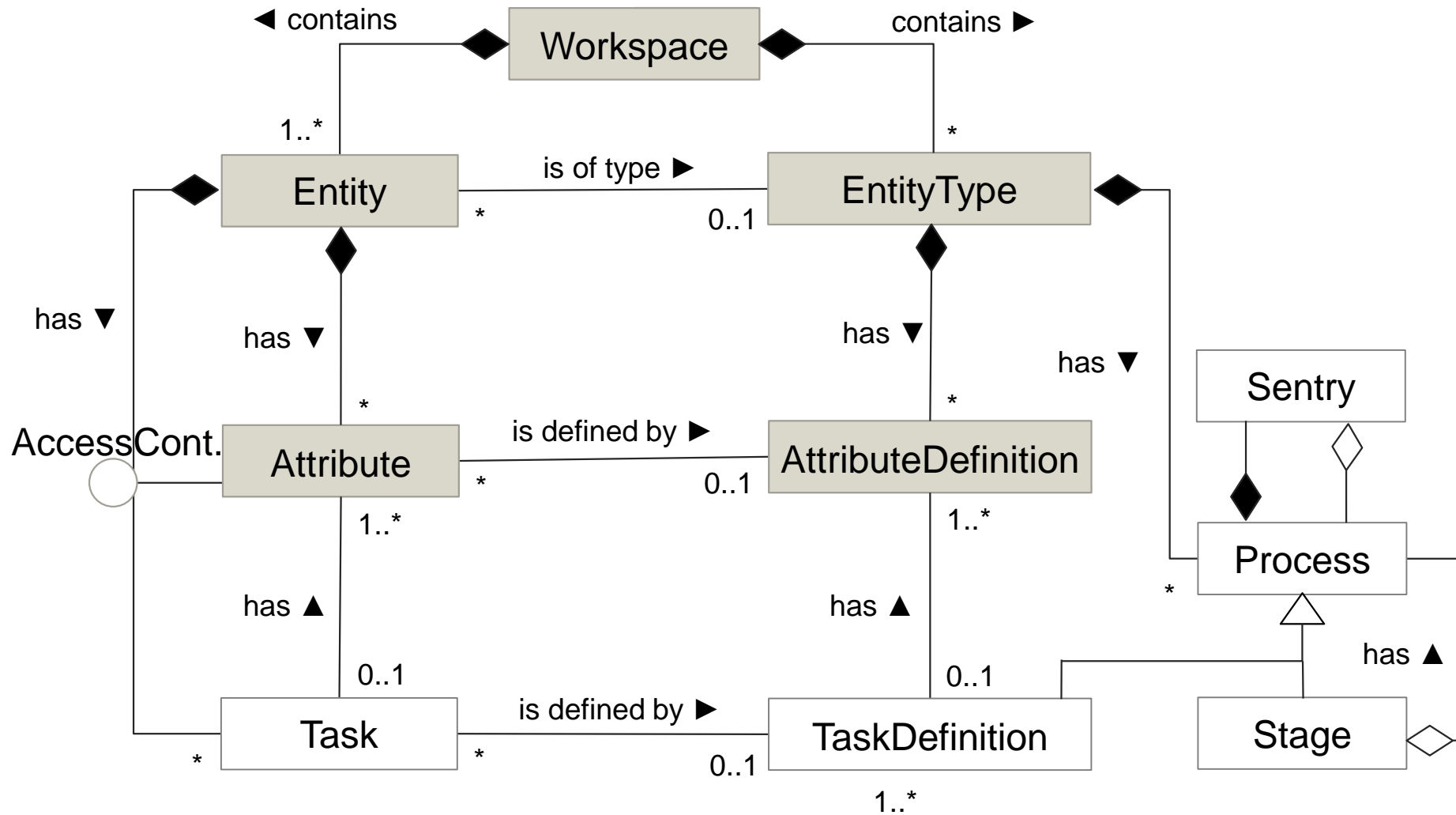
Example: Entity Type

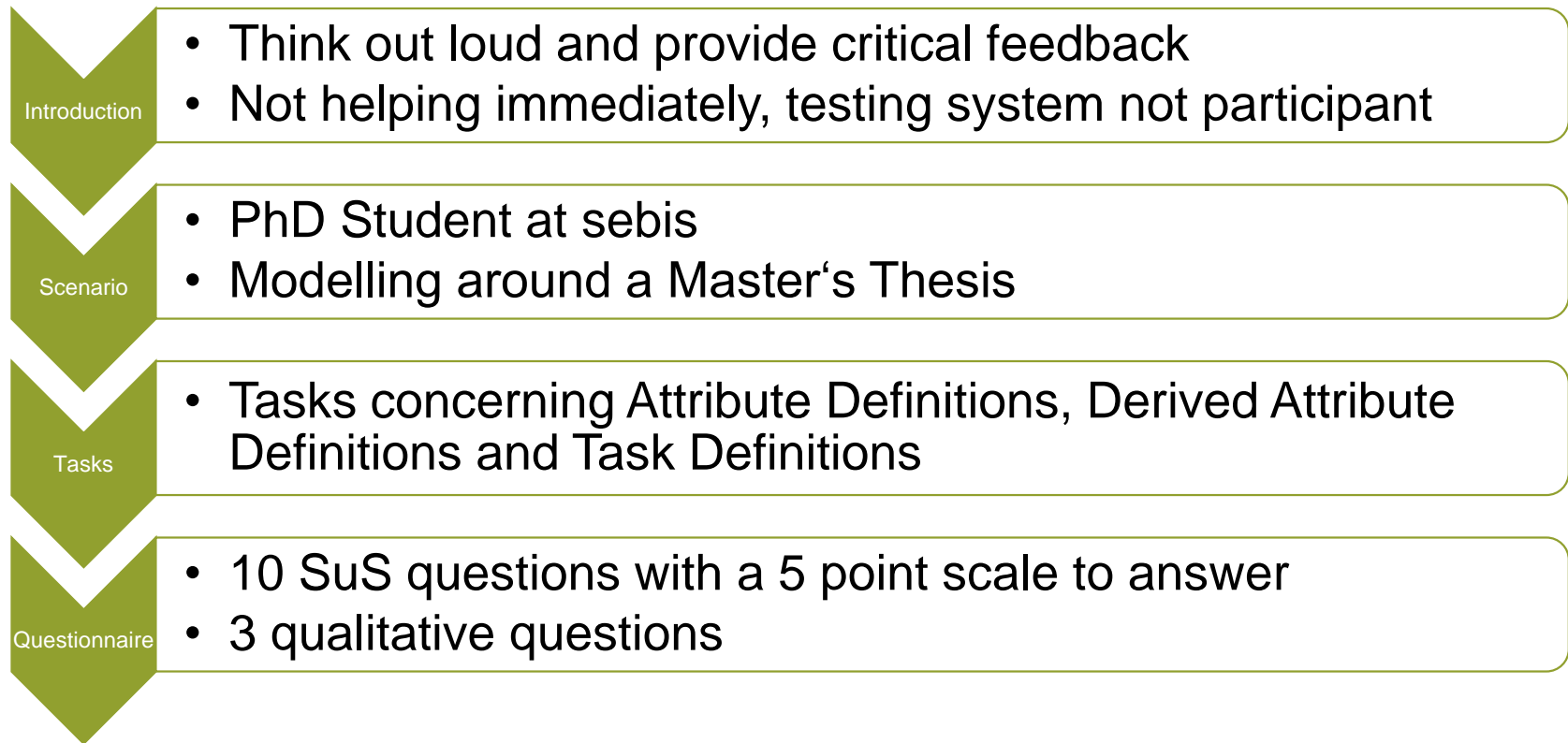| Operation	Precondition	Consequence
Create	Admin of Workspace	Entity Type created
Read	Reader of Workspace (limited) Admin of Workspace (full)	none
Update	Admin of Workspace	name: Entities get Type of new Name enable free attributes: no new free attributes, already existing attrs stay
Delete	Admin of Workspace	Entities of the Type loose their Type and become a "Text page". Their attributes are no longer visible.

Source: SocioCortex: A social information hub [7]

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- Important components:
    - Angular-material
        - UI Component Framework
        - Implementation of Googles Material Desing
    - Sc-angular
        - Access to the SocioCortex REST API
    - MxL-angular
        - MxL editor
        - MxL UML class diagram generation

- Mock-ups by Sirma Gjorgievska

Evaluation

- Evaluation Group:
  - 3 PhD Students of sebis
  - 2 external partners (done)
  - 1 external partner (tomorrow)

Introduction
- Think out loud and provide critical feedback
- Not helping immediately, testing system not participant

Scenario
- PhD Student at sebis
- Modelling around a Master's Thesis

Tasks
- Tasks concerning Attribute Definitions, Derived Attribute Definitions and Task Definitions

Questionnaire
- 10 SuS questions with a 5 point scale to answer
- 3 qualitative questions

Evaluation

Question	Average SuS (0-4)	
I think that I would like to use this system frequently.	2.6	
I found the system unnecessarily complex.	3	
I thought the system was easy to use.	2.6	
I think that I would need the support of a technical person to be able to use this system.	3	
I found the various functions in this system were well integrated.	3	
I thought there was too much inconsistency in this system.	2.8	
I would imagine that most people would learn to use this system very quickly.	2	
I found the system very cumbersome to use.	2.8	
I felt very confident using the system.	3.2	
I needed to learn a lot of things before I could get going with this system.	3.2	
Average SuS score (0-100) (score > 68 considered good)	**70**	

- Further findings
  - Some minor design changes could easily improve the usability as most testers complained about the same problems
    - Expanding cards too complicated
    - Logical order of Type and Name of Attribute Definitions should be changed, Name is more important
  - Comparing to Tricia the separation of modeling and generic client is considered a good step by the testers
  - Introducing Tasks and MxL considered useful especially for practical application

- MxL for default access rights
  - MxL used to define access rights to an entity based on its attributes
  - MxL used to define access rights to an attribute based on other attributes or dependencies
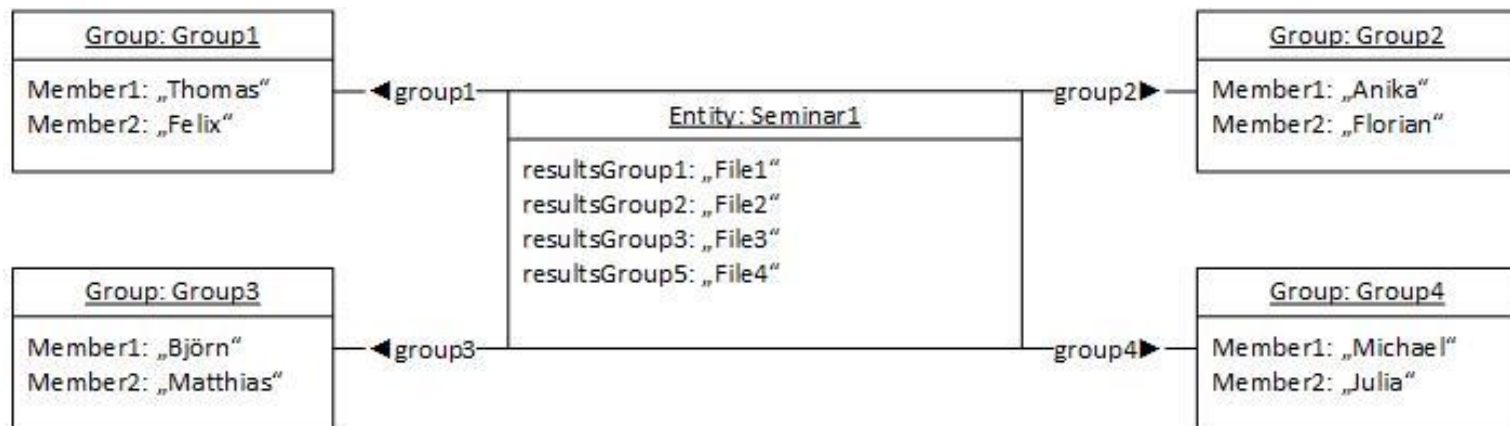
- User Roles for Tasks
  - Only certain Users can see a Task
    - Overview
    - Only important things visible
  - Only certain Users can complete a Task
    - Review Process
    - Approval Process

Thank you for your attention.

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[2] Matthes, Florian; Neubert, Christian; Steinhoff, Alexander (2011): Hybrid Wikis: Empowering Users to collaboratively structure Information.

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