



# Global Software Development Workshop

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(Allen H. Dutoit, Bernd Brügge)

Naoufel Boulila

Asa MacWilliams

Technische Universität München,

[boulila@in.tum.de](mailto:boulila@in.tum.de)

**D-Meeting: an Object-Oriented Framework for  
Supporting Distributed Modeling of Software**



# Problem

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- Supporting Distributed Modeling of Software
  - Sharing artifacts (e.g., models) in same-time/different-location
  - Discussing different decisions/alternatives
  - Rationale behind decisions



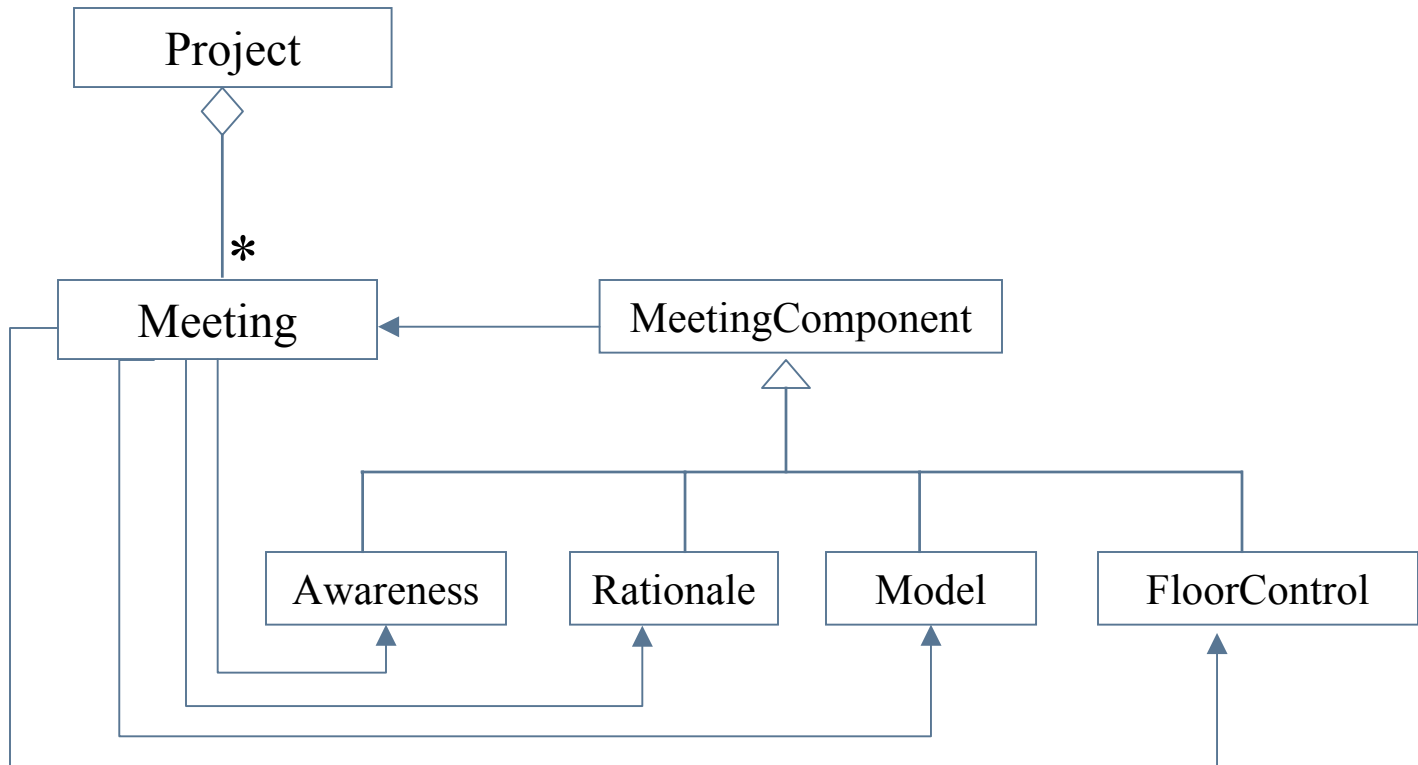
# Significant Issues

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- Informal/formal communication
- Knowledge capture and management
- Group Awareness
- Floor control policies
- Heterogeneity

# Approach (1): Object-Oriented Framework

## ■ D-Meeting Framework





# Approach (2): Framework components

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- Reference implementation provided
- Reuse through sub-classing of the meeting class
- Flexibility in deployment of the different components (add/remove)
- Extending the framework through composition

# A Solution: D-UML: an instance of D-Meeting

The screenshot displays the D-UML software interface, which is a distributed meeting environment for UML modeling. The interface is divided into several key components:

- Comments:** A pane on the left containing a list of projects and a 'Related Question/Option' section. The question asks: "Different possibilities in implementing the knowledge repository. Who has experience with LDAP?, Or will take a look at it. Authentication via user/pass or auto".
- QOC Tree:** A tree view on the left showing the project structure, including folders for 'Projects', 'OSE', and various diagrams and options.
- Modeling Space (mixture of formal/informal):** The central workspace containing UML diagrams. It features a 'Repository' class with an 'attribute' and 'method()', a 'Knowledge Rep.' class with an 'attribute' and 'method()', and an 'Actor' with handwritten notes: "GGE people", "student", and "Allen's". There are also handwritten notes like "overrides" and "Oracle instances".
- Matrix (Option vs. Criteria):** A table at the bottom comparing different options against various criteria.
 

Option \ Criteria	Responsiveness	Availability	Usability	Criterion?
LDAP	+	NA	-	NA
MySQL Database	-	+	-	-
Lotus Notes	+	NA	-	+
Flat files	-	+	-	NA
Oracle	+	+	-	NA
Informix	+	-	-	-
MSSqlserver	+	+	-	NA
openDB	-	+	-	+
- Awareness:** A vertical window on the right showing the avatars of participants: Naoufel, Allen, Bernd, and Oliver.



# Evaluation

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- Approach: case studies with different types of environments
  - Researcher Meetings
  - CSCW course
  - Software Engineering Project Course

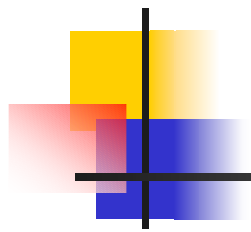


# Lessons Learned So Far

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- Interaction must be simple and responsive
  - During brainstorming,
    - ⇒ Fingers as input device
    - ⇒ Light-weight event notification for replication
- Activity and object of interest must be shared
  - ⇒ Single selection, single cursor, awareness indicators
- Hard to remember the context of brainstorming
  - ⇒ Post-processing (UML/Rationale) needs to occur right after the meeting





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Thank you for your  
attention!

# Framework: additional details

