



Global Software Development Workshop

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



Problem

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

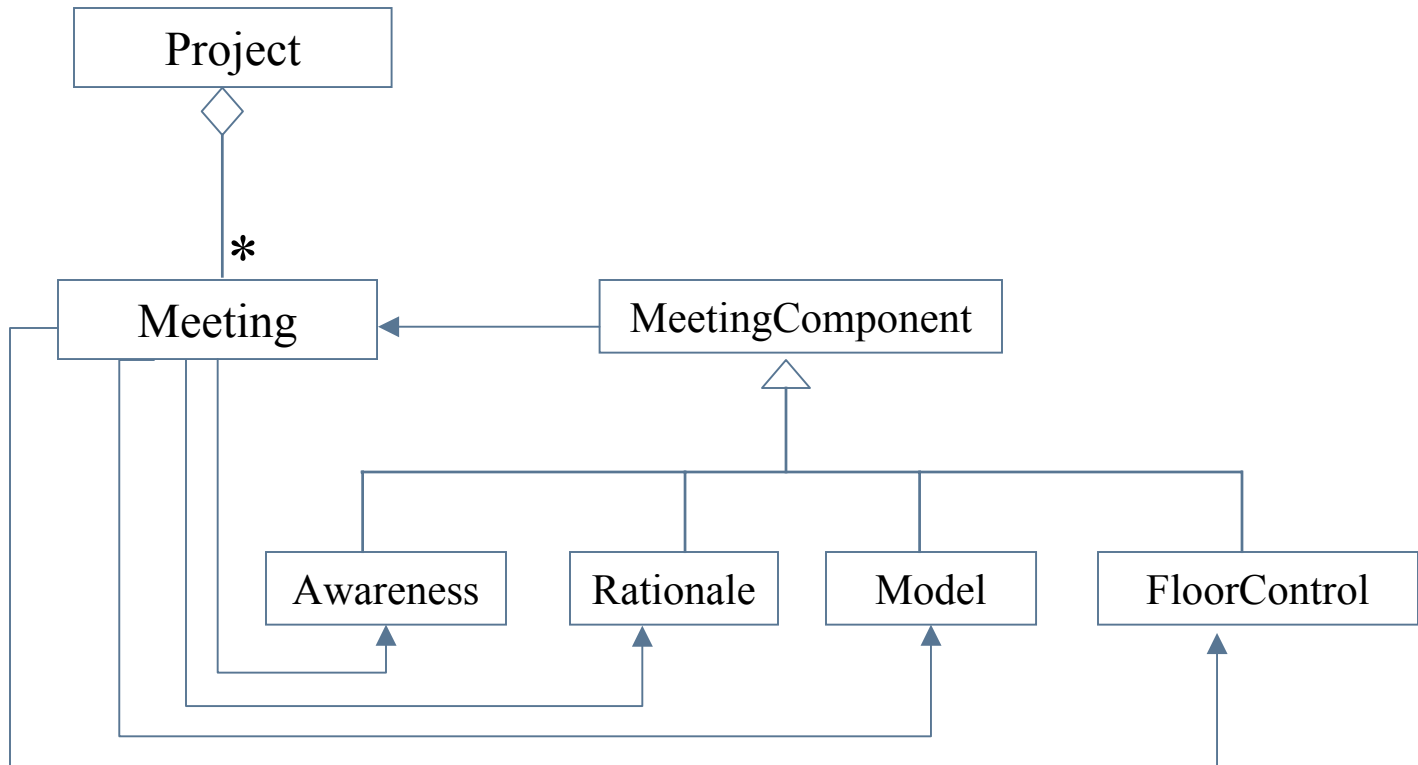


Significant Issues

- 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

- 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 an instance of D-Meeting. The interface is divided into several key components:

- Comments:** A pane on the left containing text such as "Different possibilities in implement the knowledge repository. Who has experience with LDAP?, O will take a look at it. Authentication via user/pass or auto".
- QOC Tree:** A tree view on the left showing a project structure with folders like "GSE", "O:Flatfiles", "O:DataBase", "O:LDAP", "Q:Cases", "O:Option1", "Q:Question2", and "O:Option2".
- 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" and "student". There are also "Authentication" and "Loginauth." use cases. Handwritten notes include "overrides", "DB", "LDAP", "save up problems", "deal directly", "Oracle implies", and "Allen's".
- Matrix (Option vs. Criteria):** A table at the bottom right comparing various options against 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 a list of participants: Naoufel, Allen, Bernd, and Oliver.

Additional labels and annotations include "Synchronized views" pointing to the project tree and comments pane, and "Rafael ADX" written near the matrix.



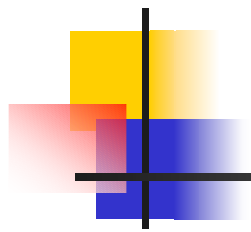
Evaluation

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



Lessons Learned So Far

- 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



Thank you for your
attention!

Framework: additional details

