



UML Modeling

Unified Modeling Language



Problem

- Formal language to specify model of system (UML)
 - Documentation must not be paper-based.
 - Models for interaction, structure, behavior, deployment etc.
 - Nine different UML diagram types, three main important ones
-



Solution

- UML editing tools

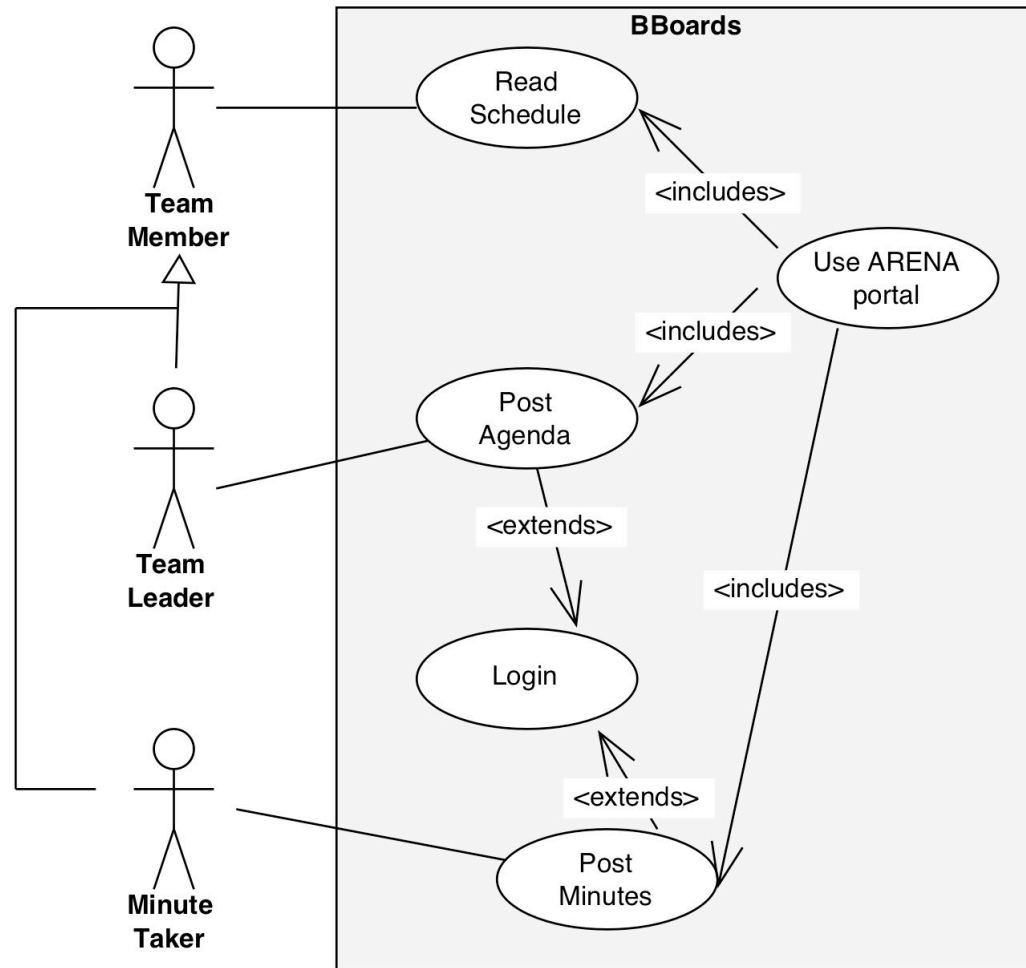




UML

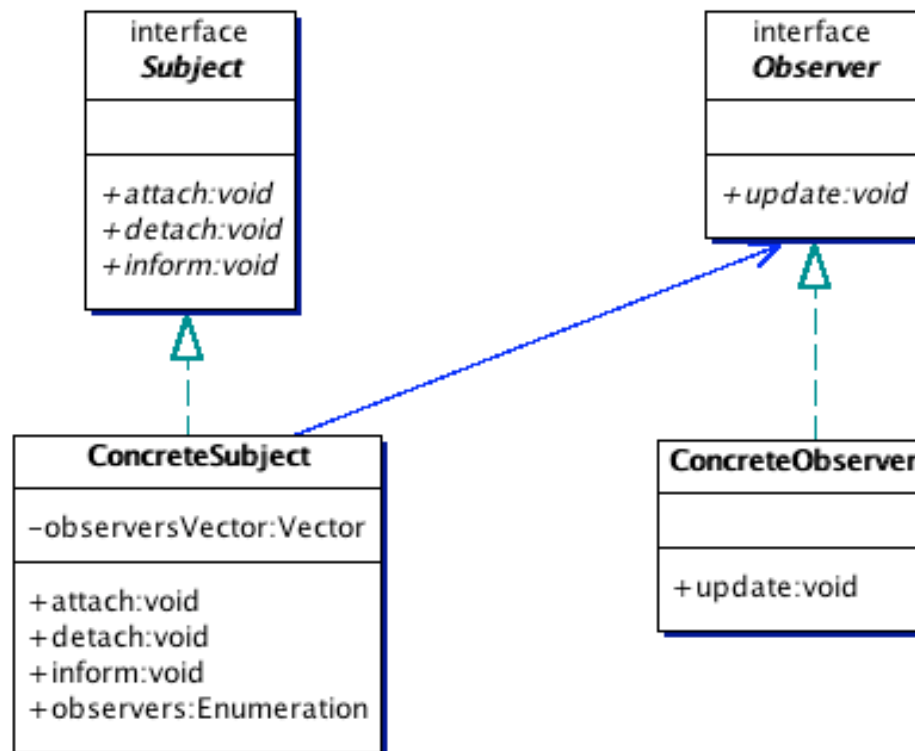
-
- Use Case diagrams
Graphical overview of use cases and participating actors
 - Class diagrams
Packages, classes, inheritance and associations
 - Sequence diagrams
Control flow and method calls between certain objects over time
-

ARENA Use Case diagram

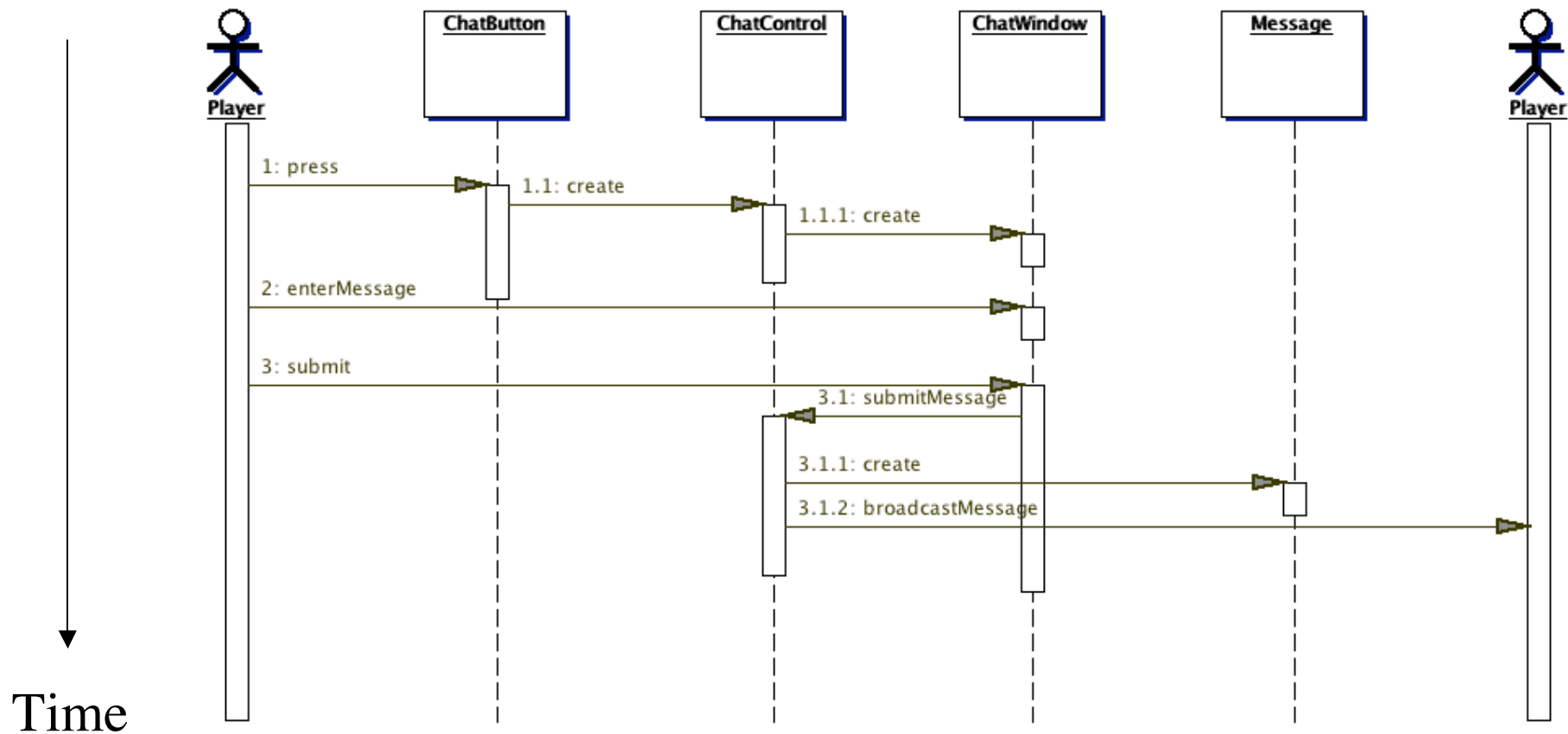




Class diagram



ARENA Sequence diagram





Together Control Center

- Round-trip engineering
 - Creates class diagrams, sequence diagrams, use case diagrams
 - Automatically generates class skeletons from class diagrams
 - Changes in source of classes reflected in class diagram
-



Demonstration

Practical demonstration

- Use Case diagram with OmniGraffle
 - Class diagram with Together
 - Sequence diagram with Together
-



Further Readings

- B. Bruegge, A.H. Dutoit
Object-Oriented Software Engineering
Prentice Hall, 1999

 - Object Management Group (OMG)
UML 1.4 Specification
www.omg.org/technology/documents/formal/uml.htm
-