

Corso di Interazione Uomo-Macchina I

Paolo Bottoni

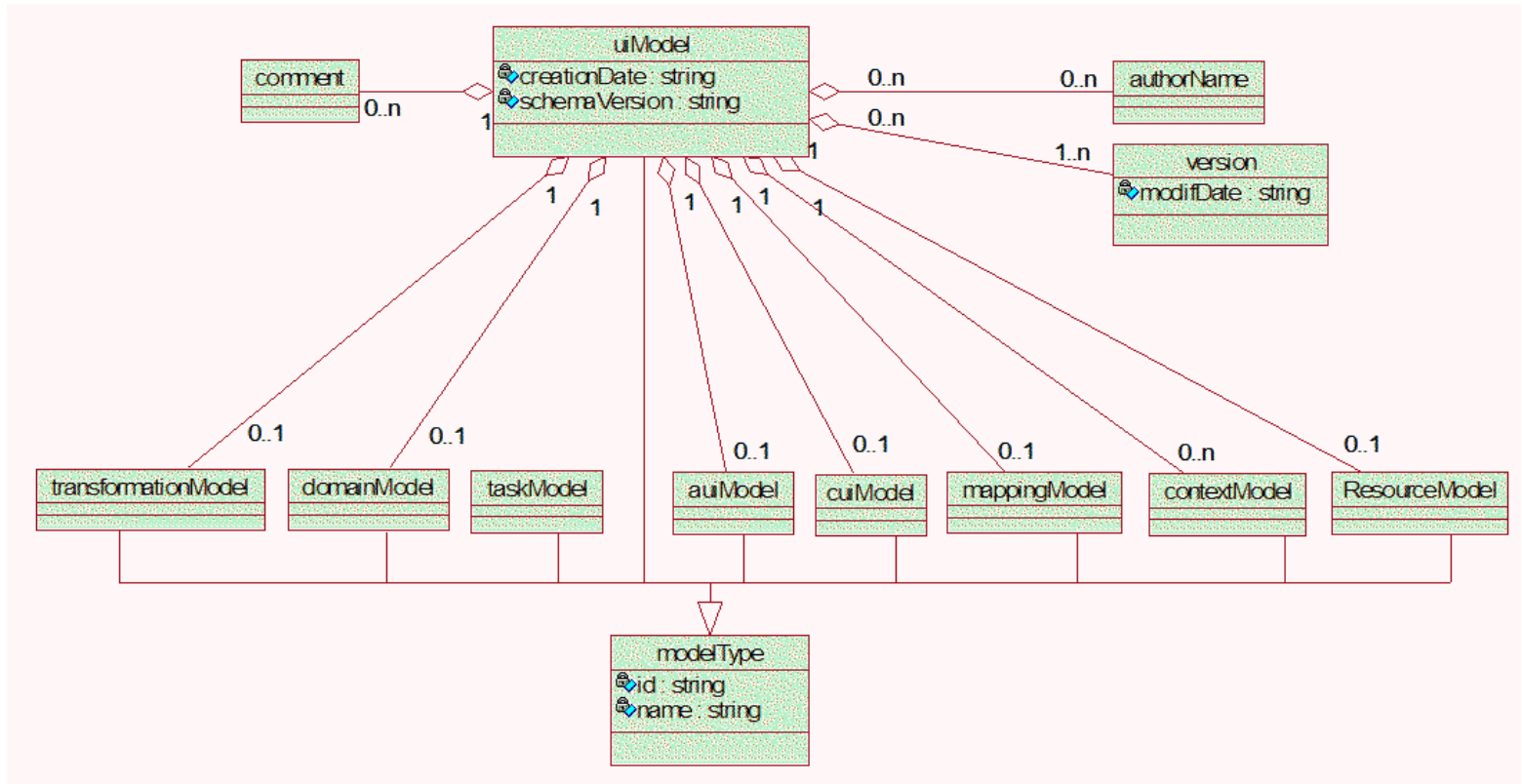
DIPARTIMENTO
DI INFORMATICA



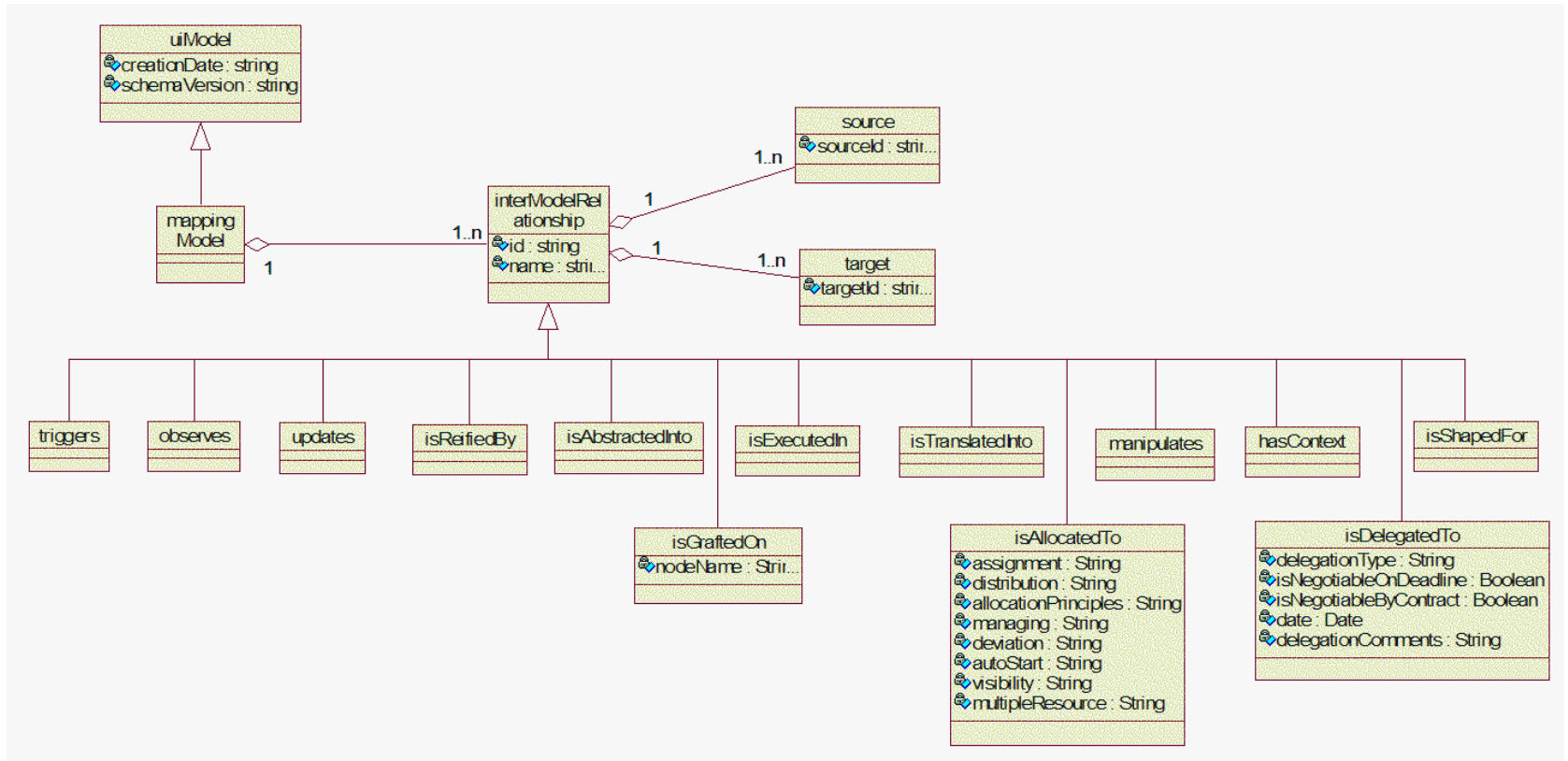
SAPIENZA
UNIVERSITÀ DI ROMA

Lezione 16: Progettazione astratta con UsiXML

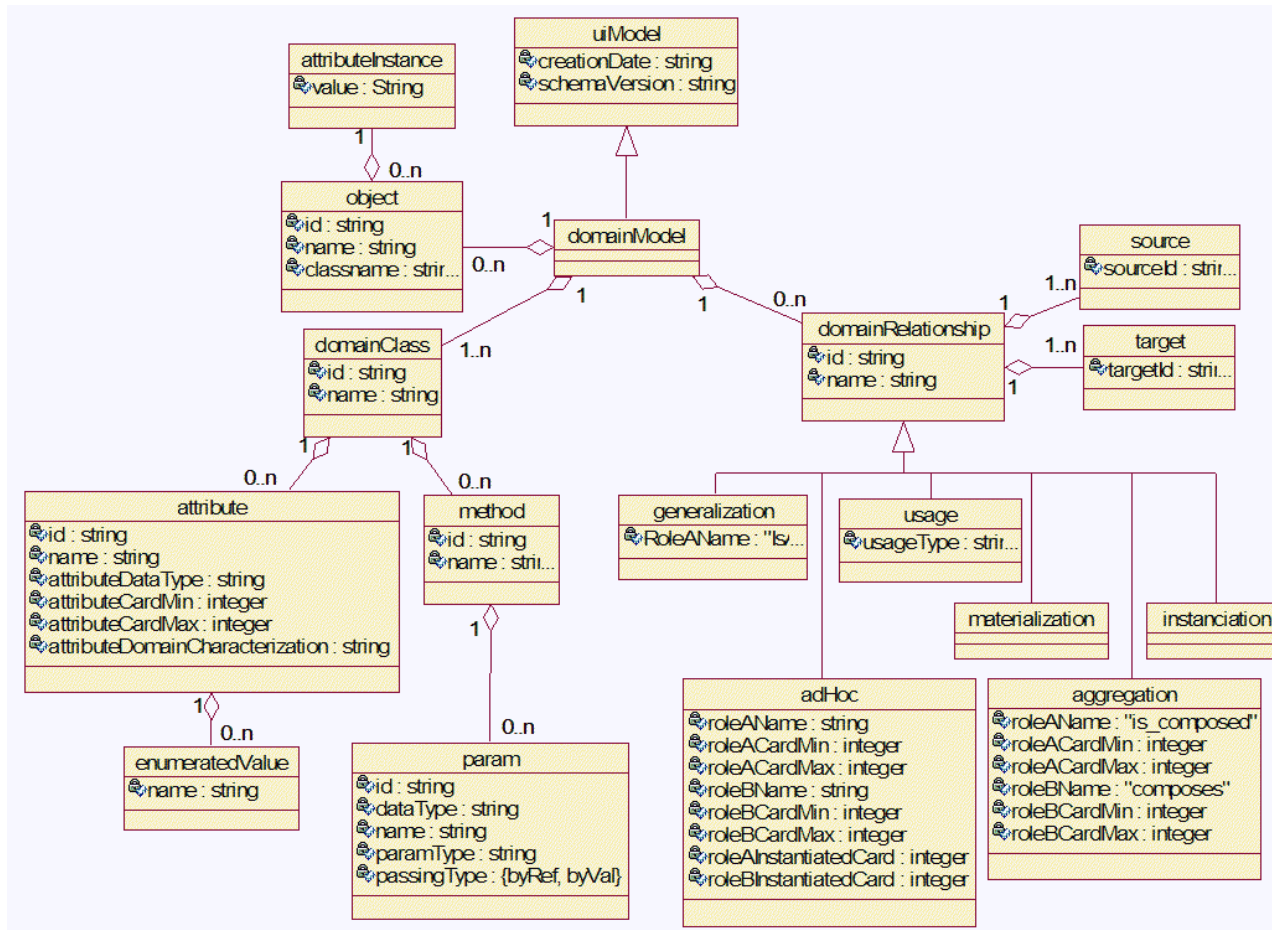
Metamodello UsiXML



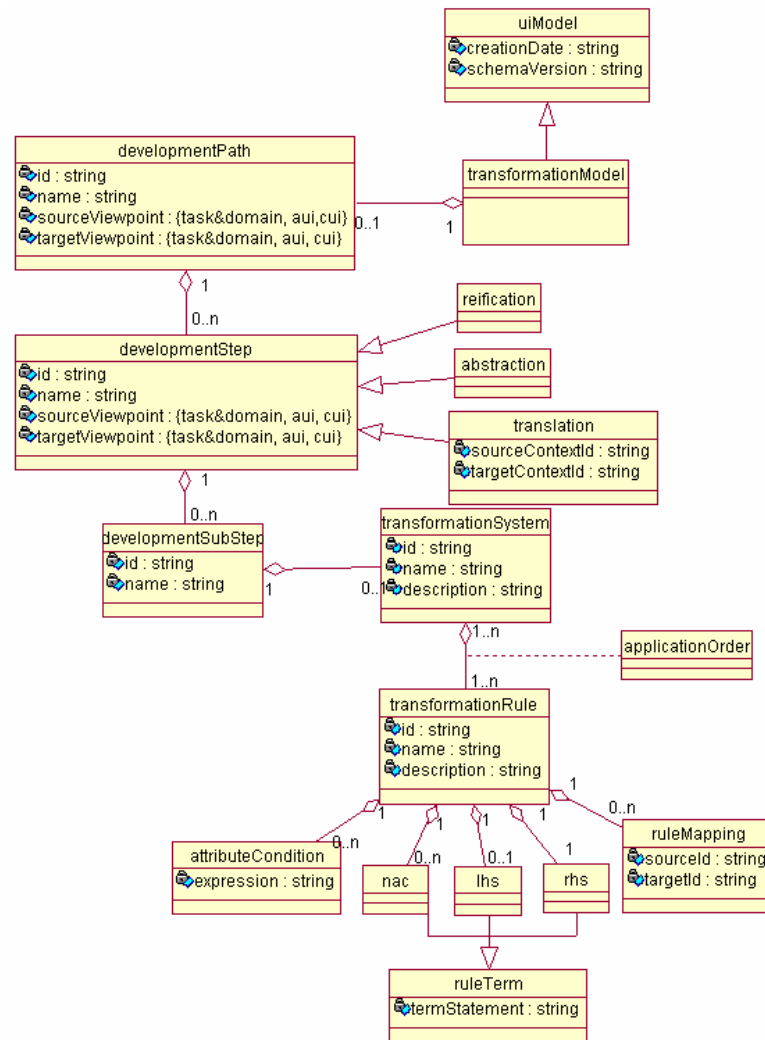
Mapping model



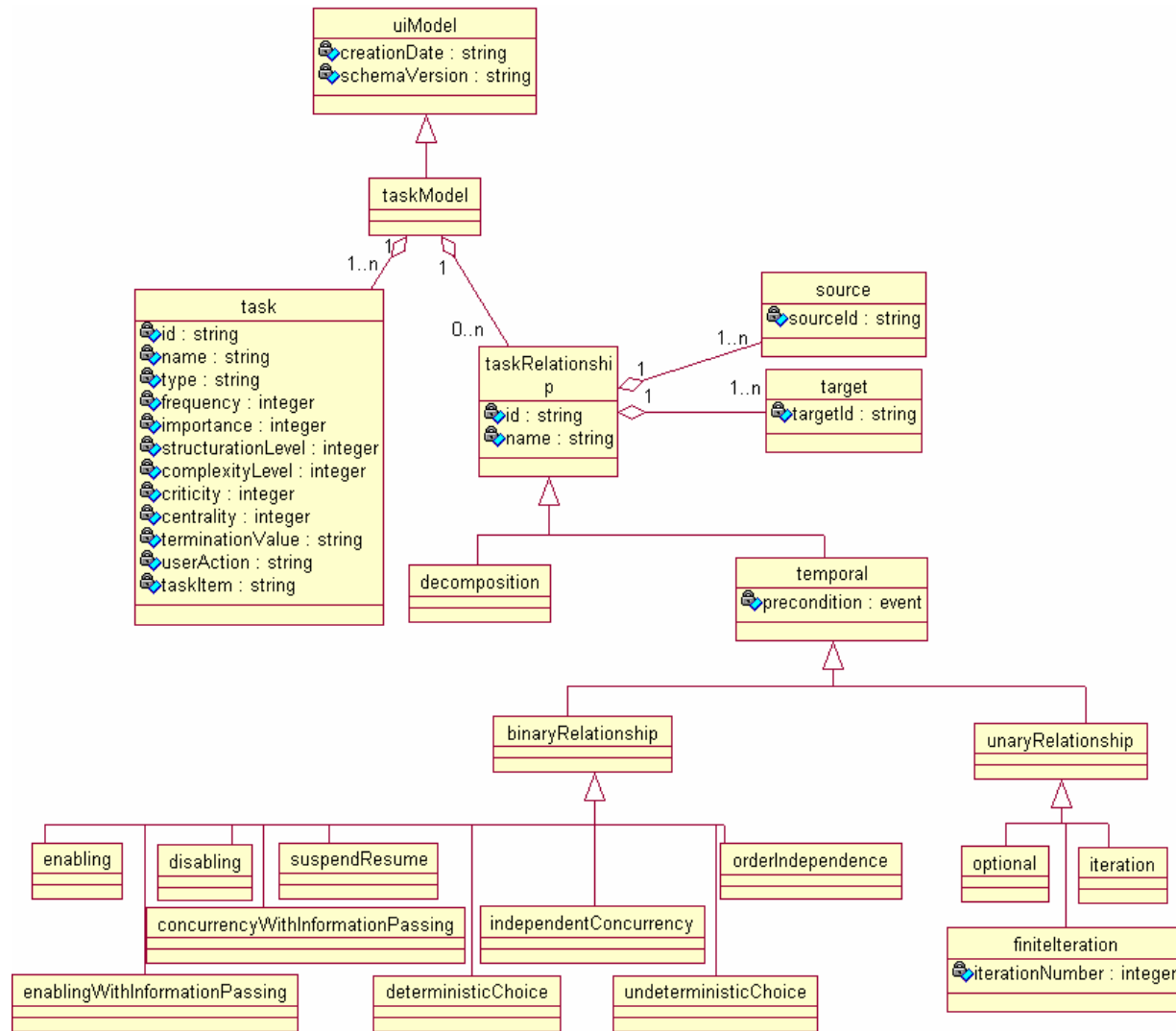
Domain model



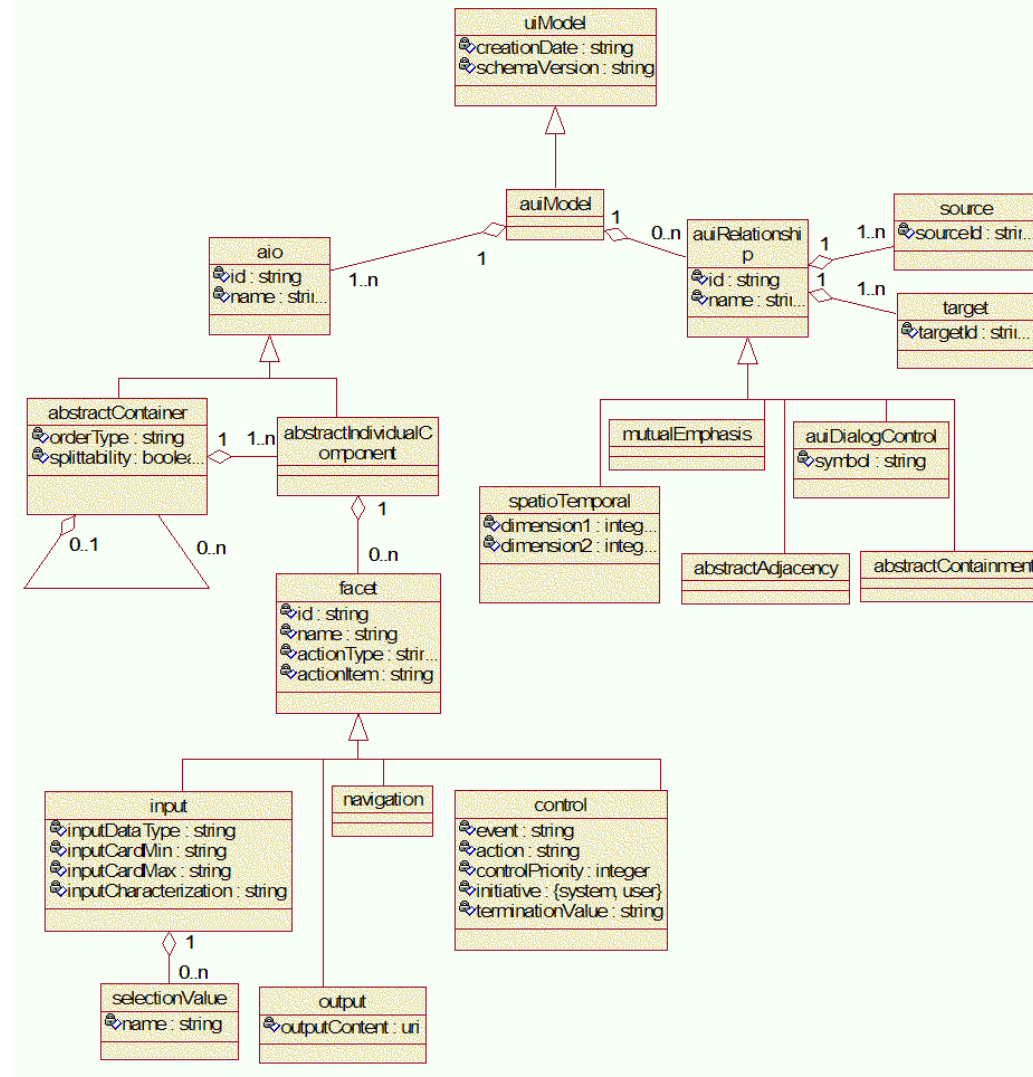
Transformation model



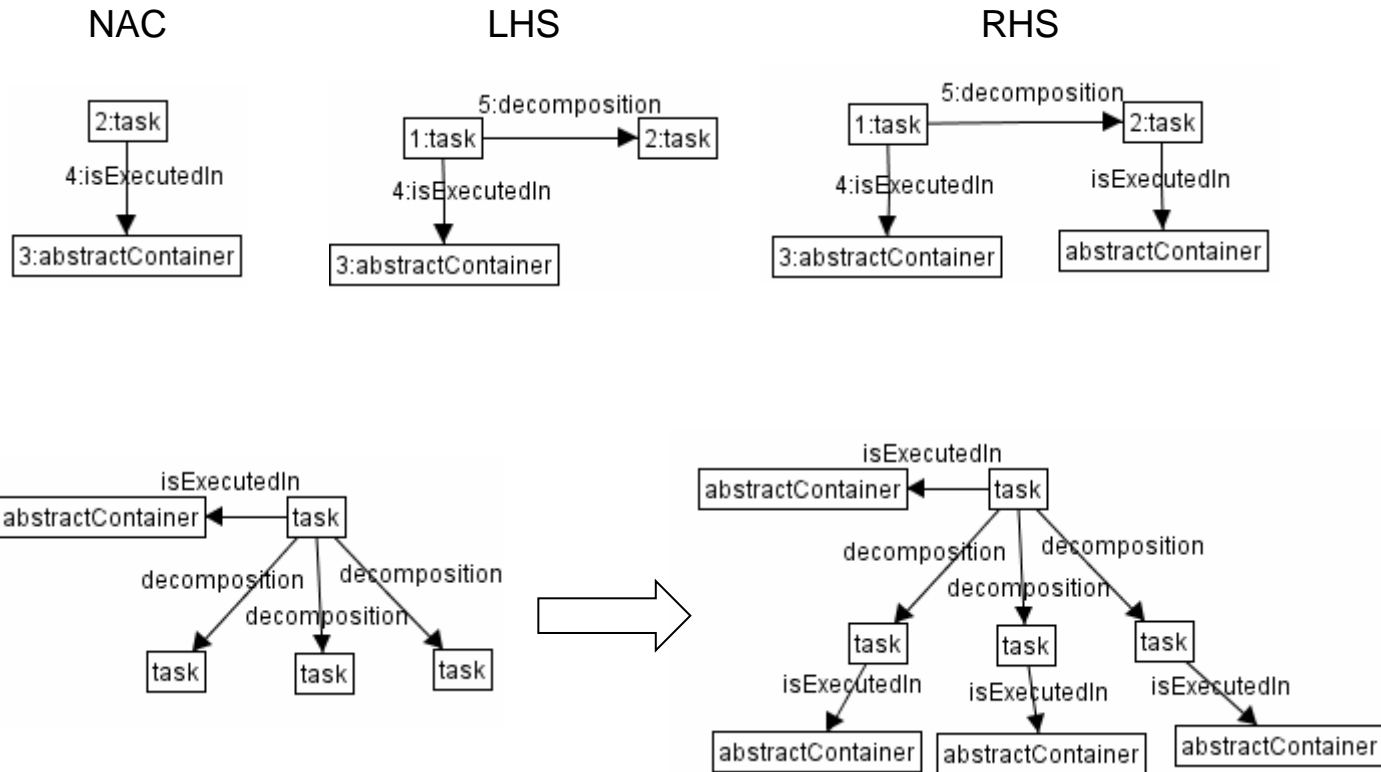
Task model



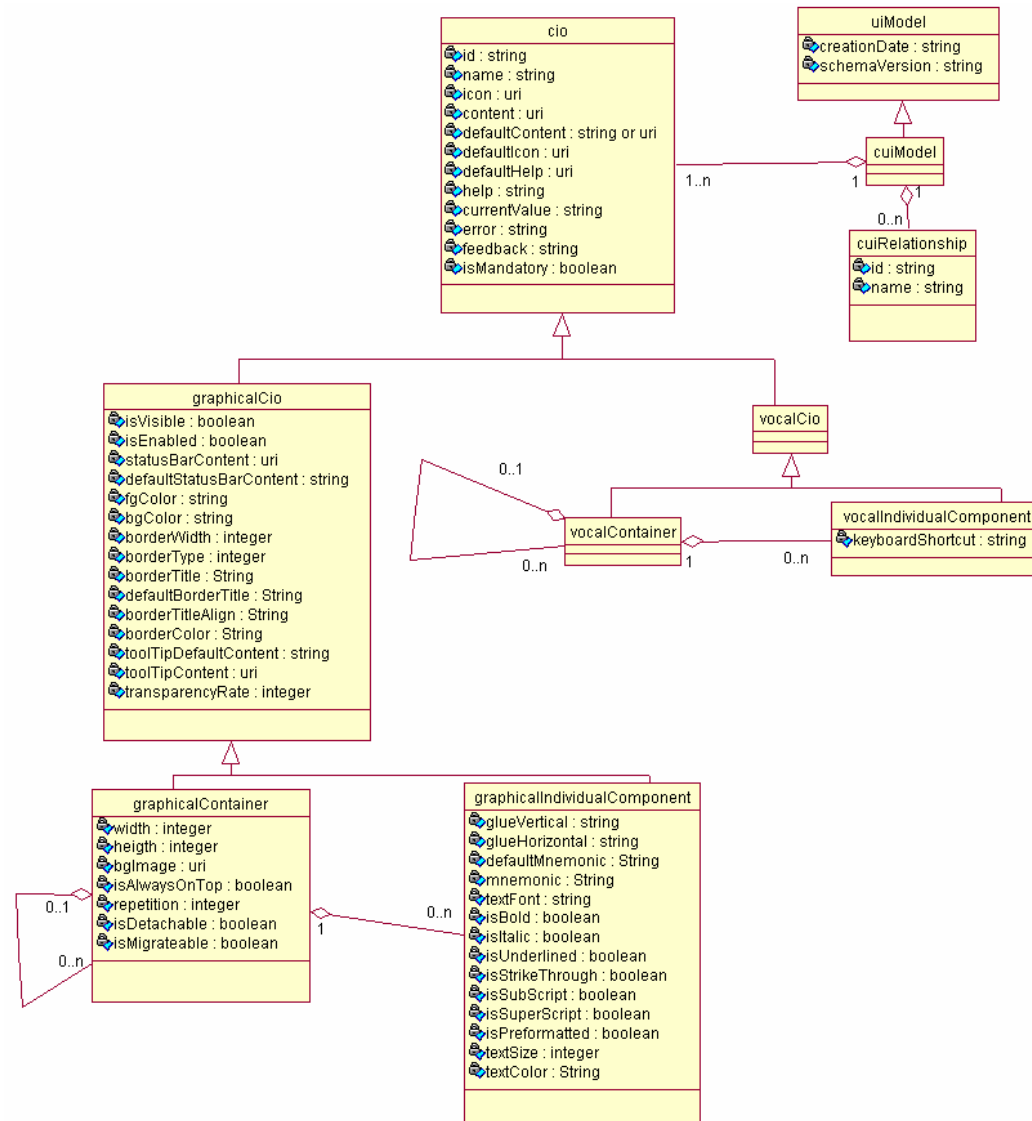
Abstract User Interface Model



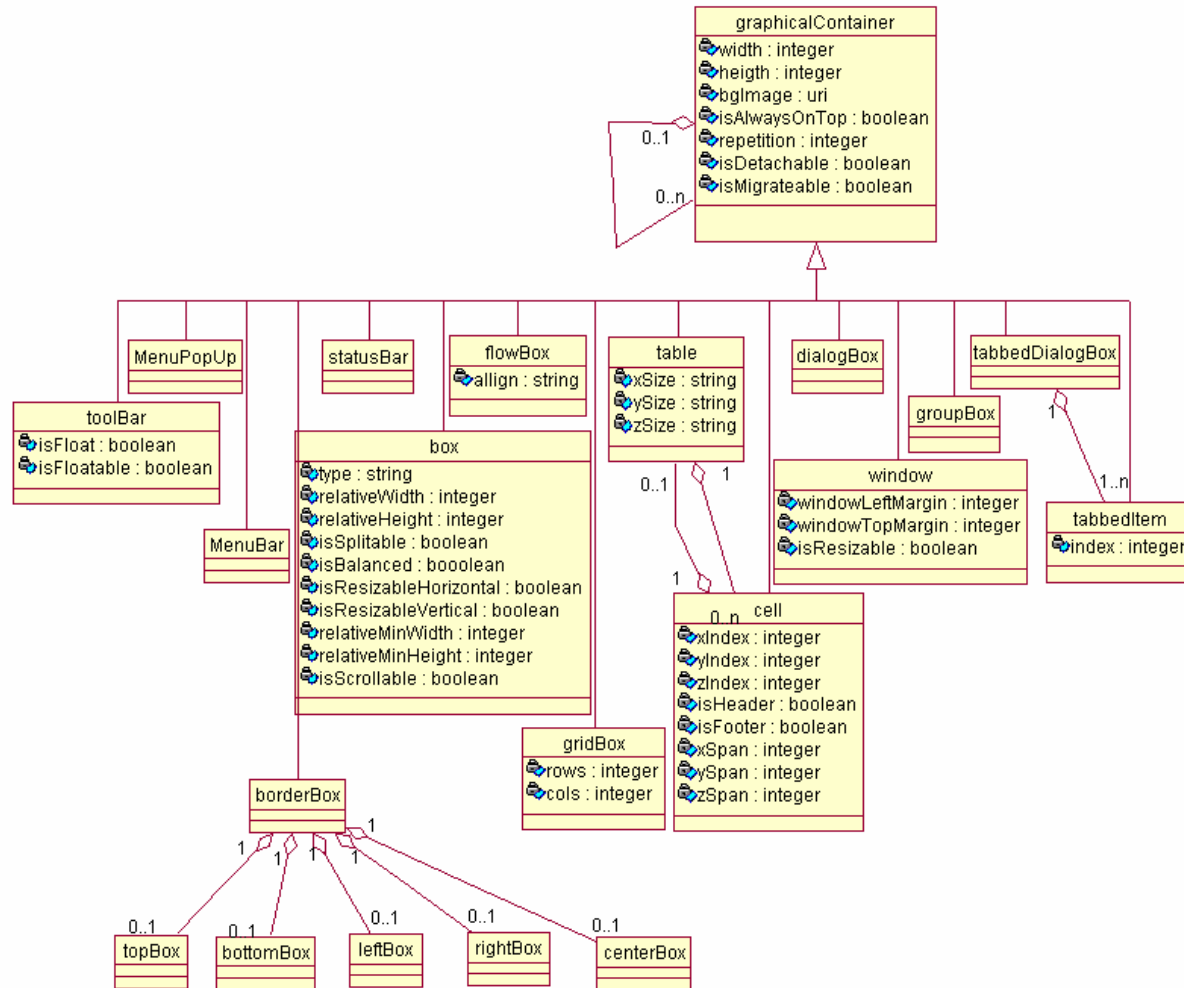
Da Task model a AUI model



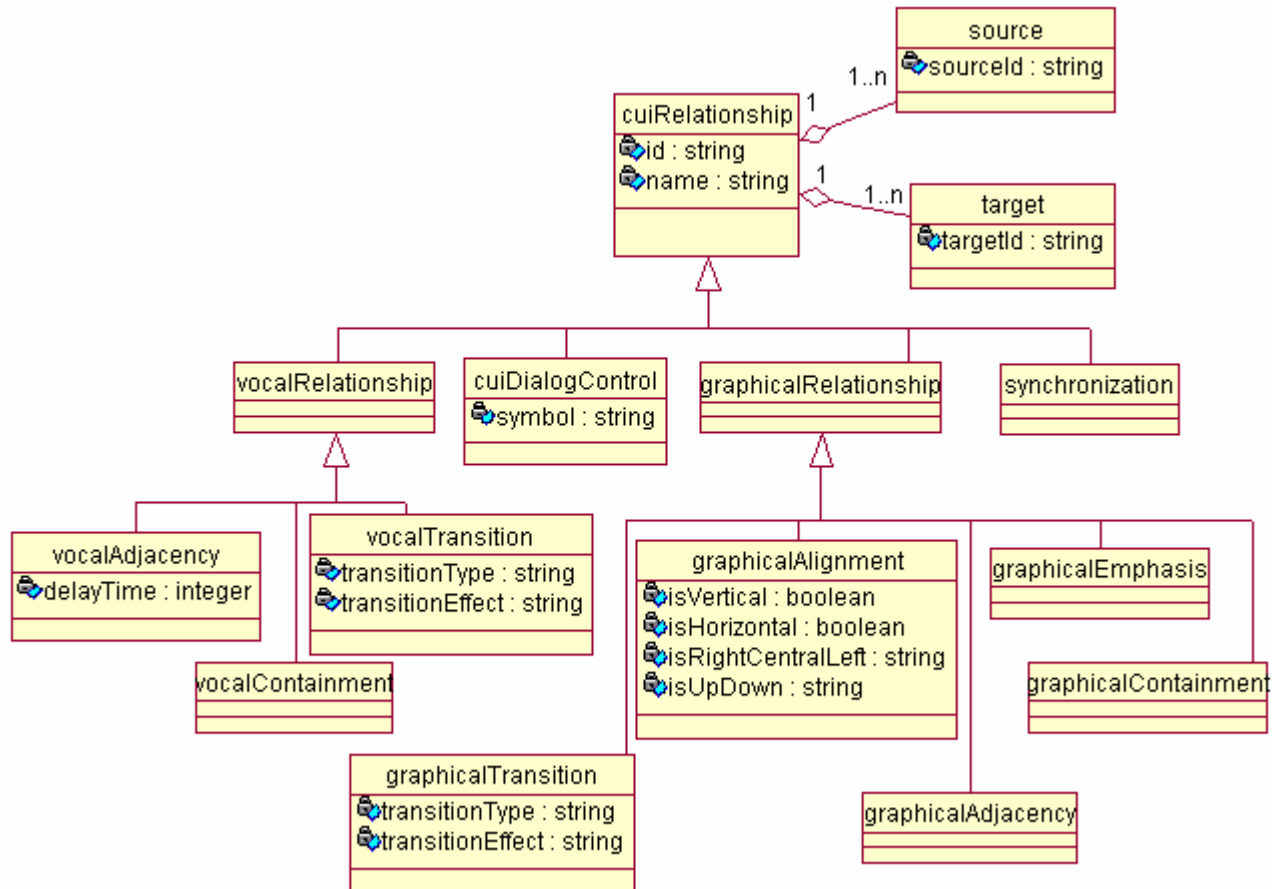
Concrete User Interface Model (estratto)



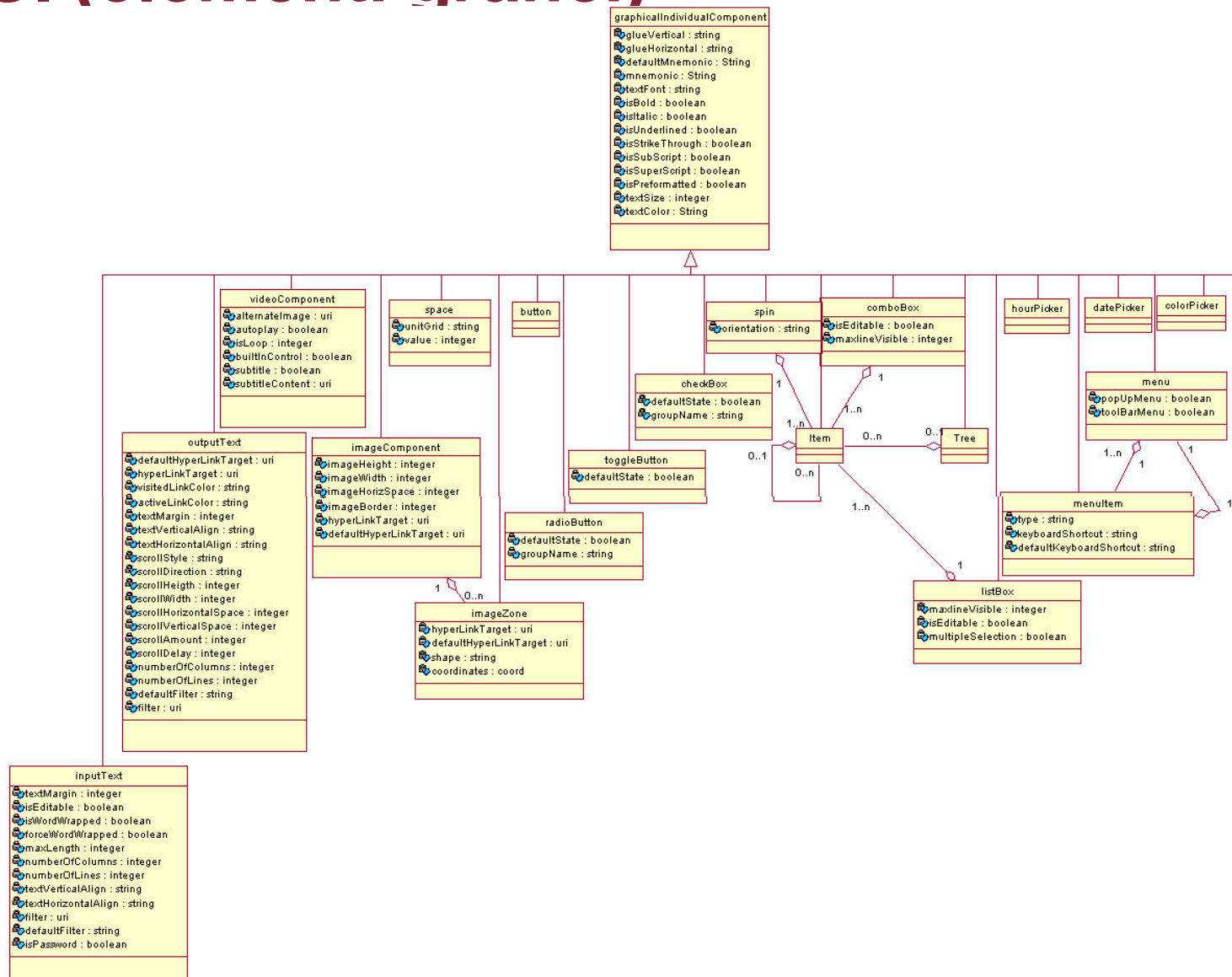
CUI (contenitori grafici)



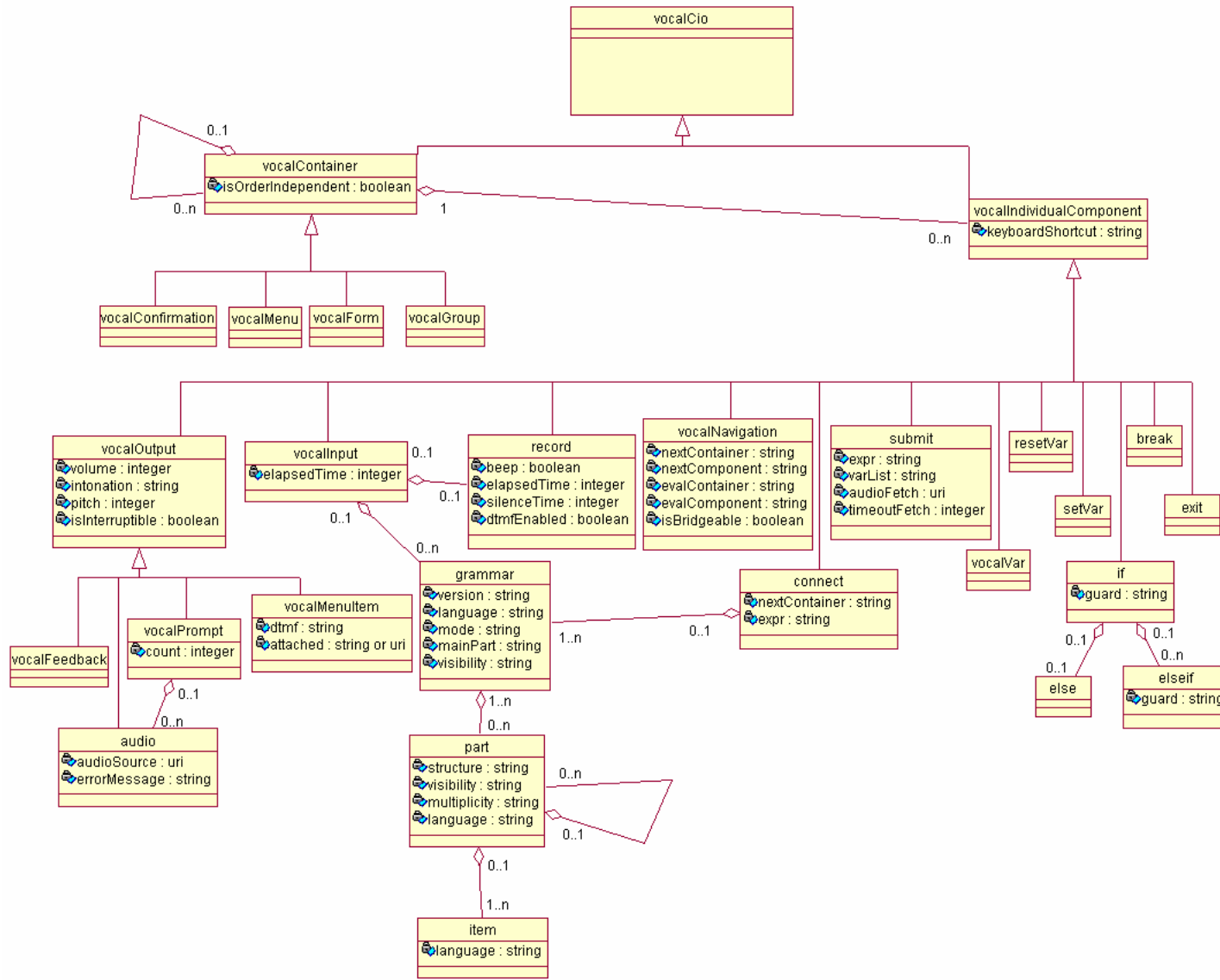
CUI (relazioni)



CUI (elementi grafici)

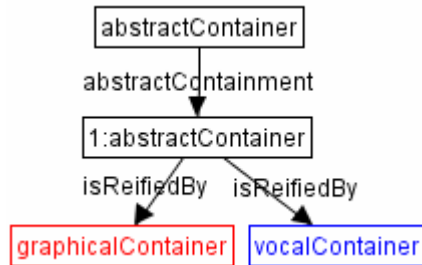


CUI (Interazione vocale)

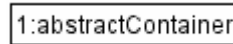


Da AUI model a CUI model (multimodale)

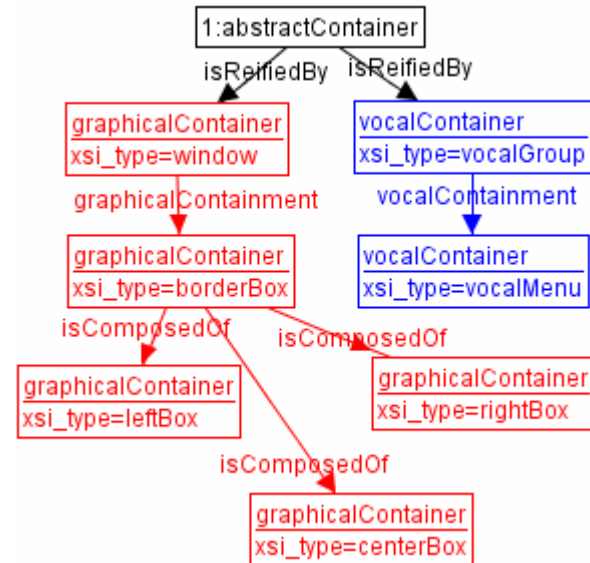
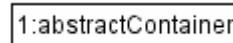
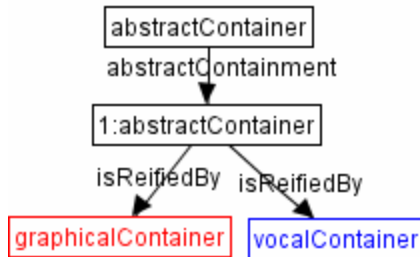
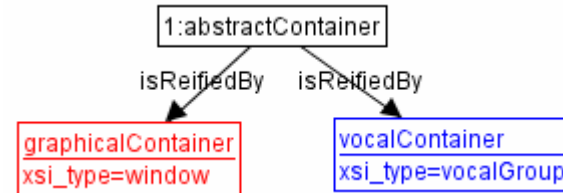
NAC



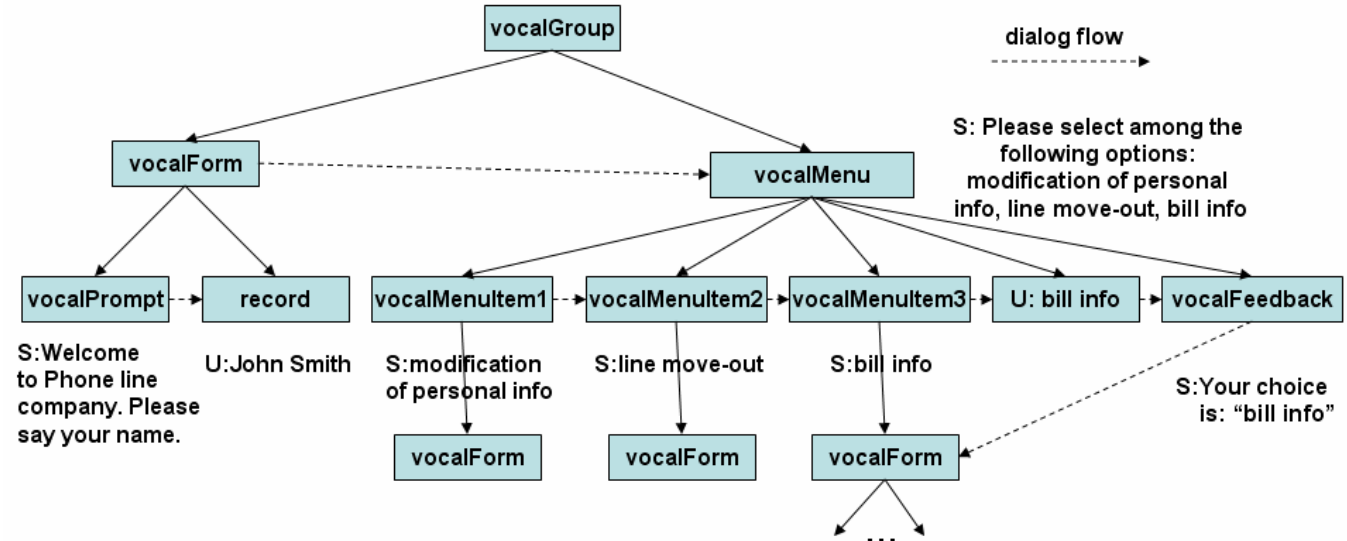
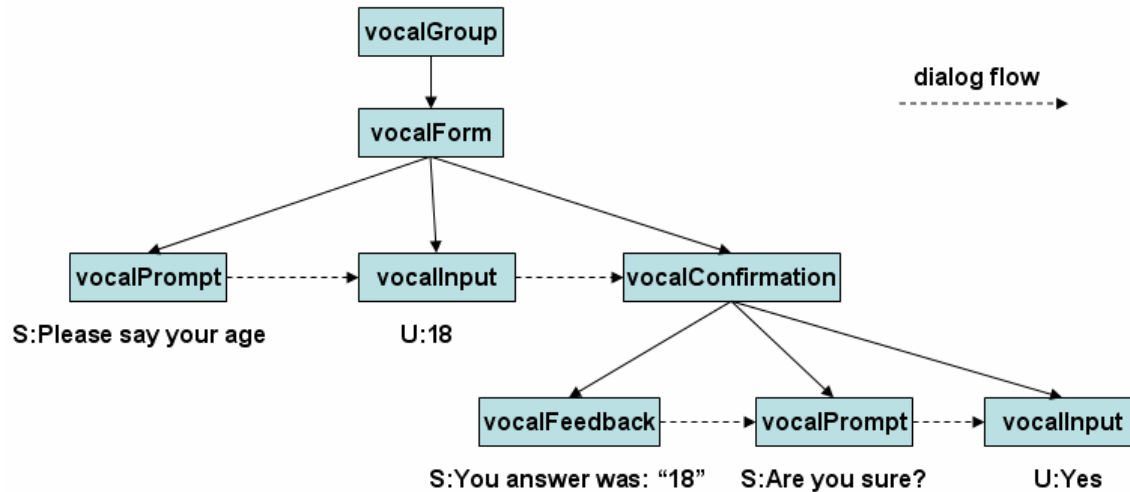
LHS

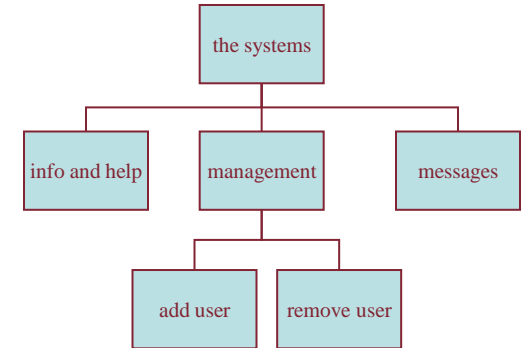
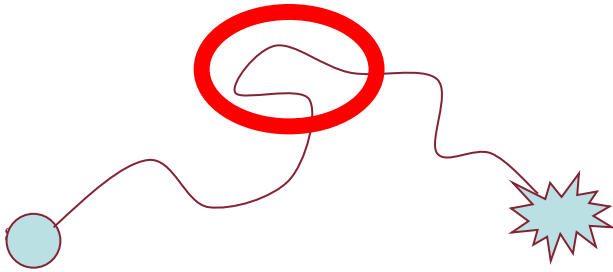


RHS



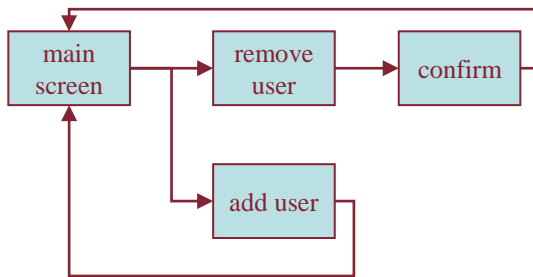
Progettazione del dialogo con CIO vocali





Progetto della navigazione

Struttura locale – schermata singola
struttura globale – intero sito



Livelli

- Scelta dei congegni
 - menu, pulsanti etc.
- Progetto schermo
- Progetto navigazione in applicazione
- Ambiente
 - Altre applicazioni, O/S

Sul web ...

- Scelta dei congegni
- Progetto schermo
- Progetto navigazione
- Ambiente
- elementi e etichette
 - ``
- Progetto pagina
- Struttura sito
- Rete, navigatore, collegamenti esterni

Dispositivi fisici

- Scelta dei congegni
- Progetto schermo
- Progetto navigazione
- Ambiente
- Controlli
 - pulsanti, manopole, quadranti
- Disposizione fisica
- Modalità dispositivo
- Mondo reale

Pensando alla struttura

- In schermata
 - Abilitazioni / disabilitazioni / trigger
- Locale
 - A partire da questa schermata
- Globale
 - Struttura sito, movimento fra schermate
- Ancora più ampio
 - Relazioni con altre applicazioni

Locale

Da una schermata verso l'esterno

Regole d'oro

- Sapere dove ci si trova
- Sapere cosa si può fare
- Sapere dove si sta andando
 - O cosa succederà
- Sapere dove si è stati
 - O cosa si è fatto

Dove ci si trova – briciole di pane

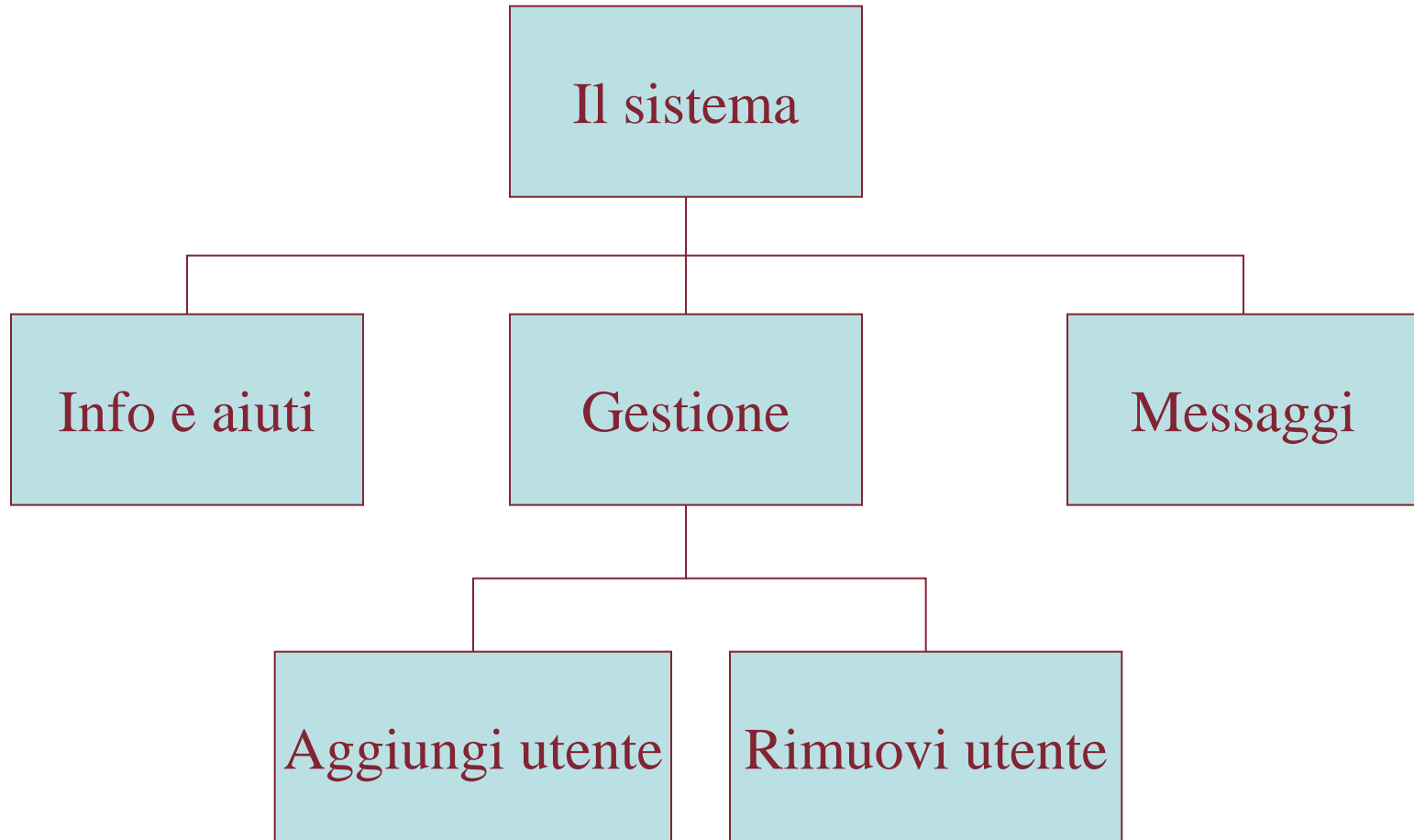
Mostra cammino in gerarchia sito



Globale

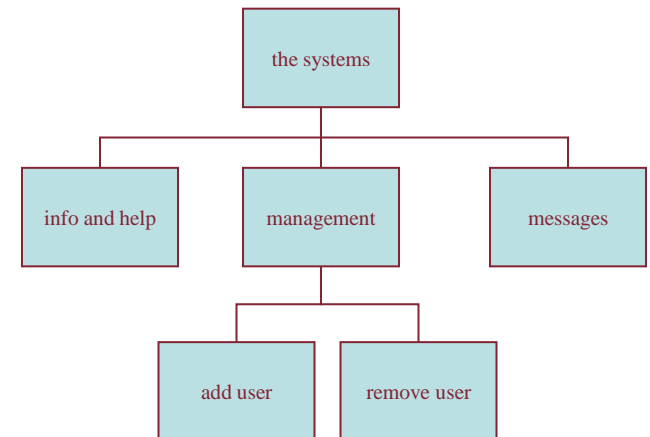
Tra schermate
All'interno dell'applicazione

Diagrammi gerarchici I



Diagrammi gerarchici II

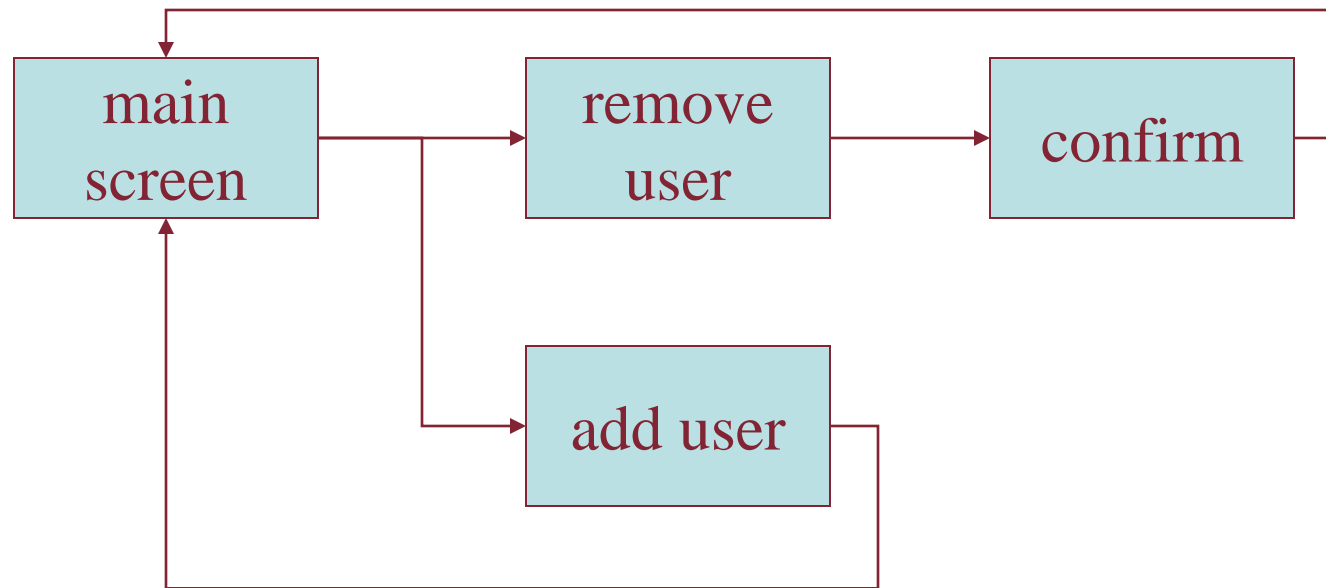
- Parti di applicazione
 - Schermate o gruppi di schermate
- Tipicamente separazione funzionale



Navigazione nelle gerarchie

- Profondità complica!
- Uso improprio regola 7 ± 2 di Miller
 - Memoria a breve termine, non taglia del menu
 - Ma profondità rilevante
- Ottimale?
 - Molti elementi su ogni schermo
 - Ma strutturati entro schermo

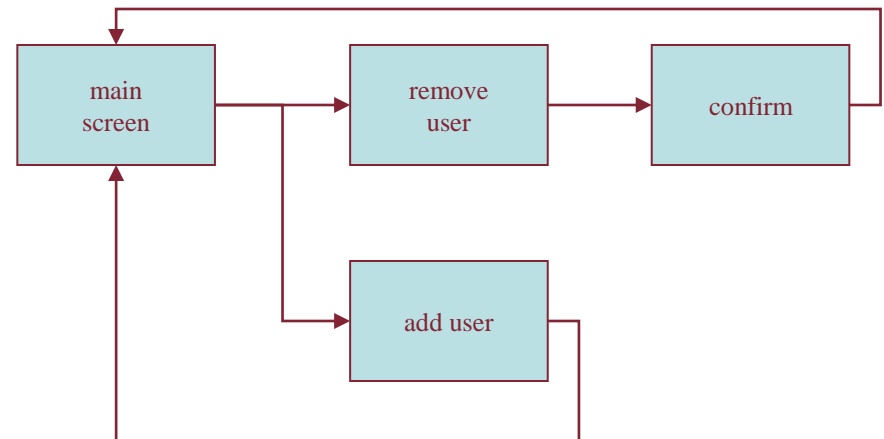
Diagrammi di rete I



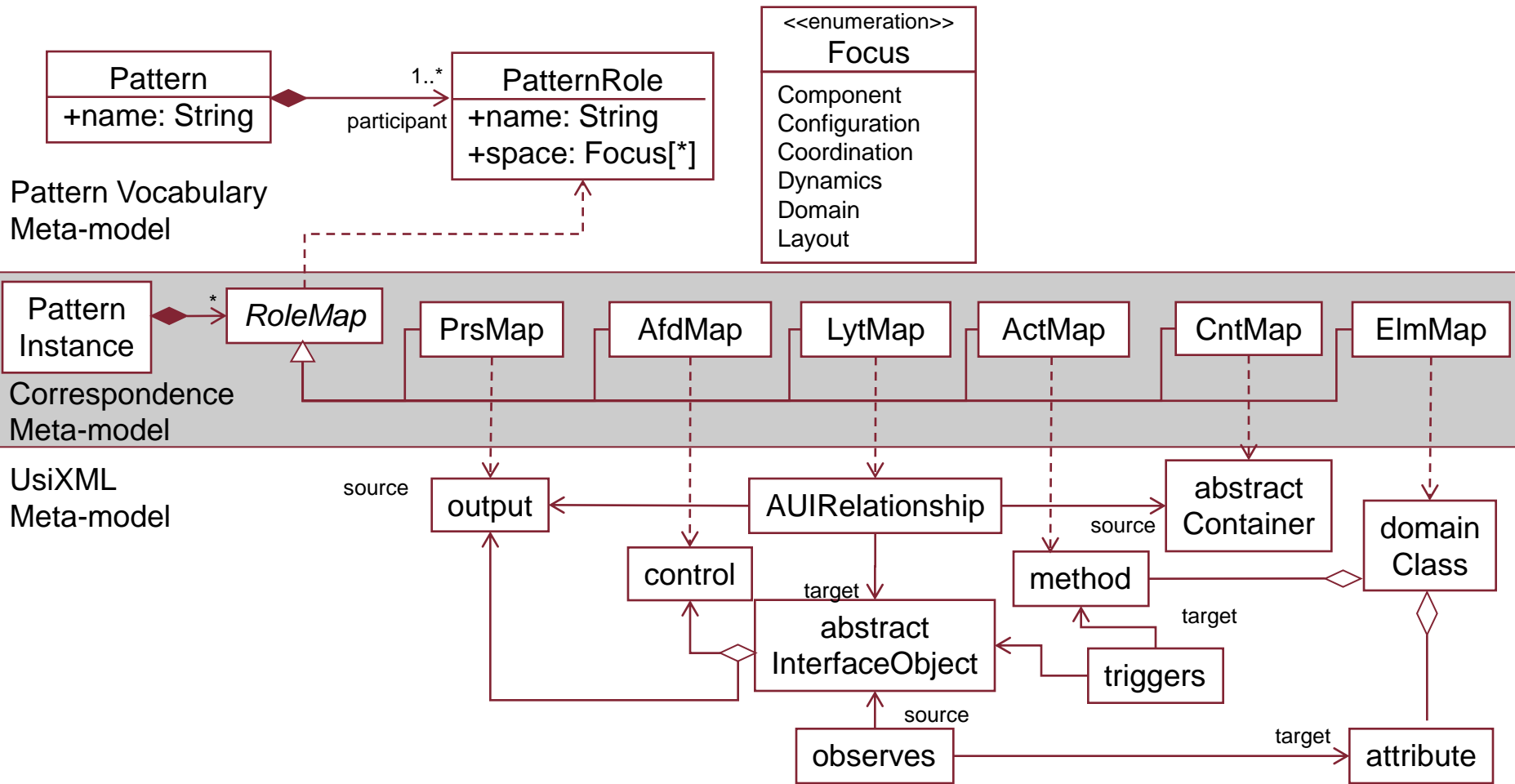
- Mostrano diversi cammini nel sistema

Diagrammi di rete II

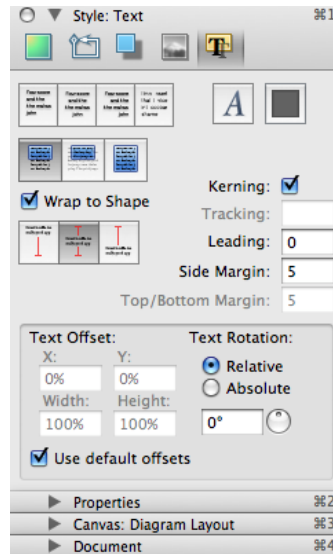
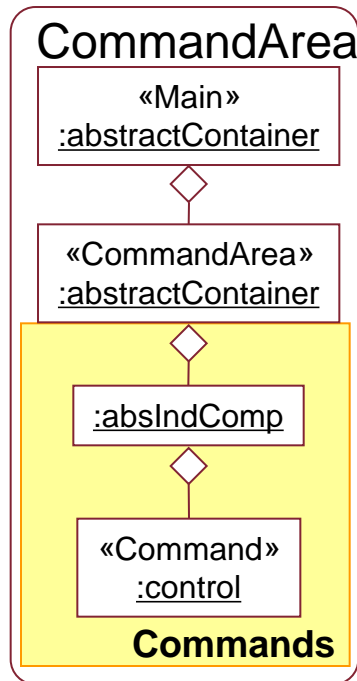
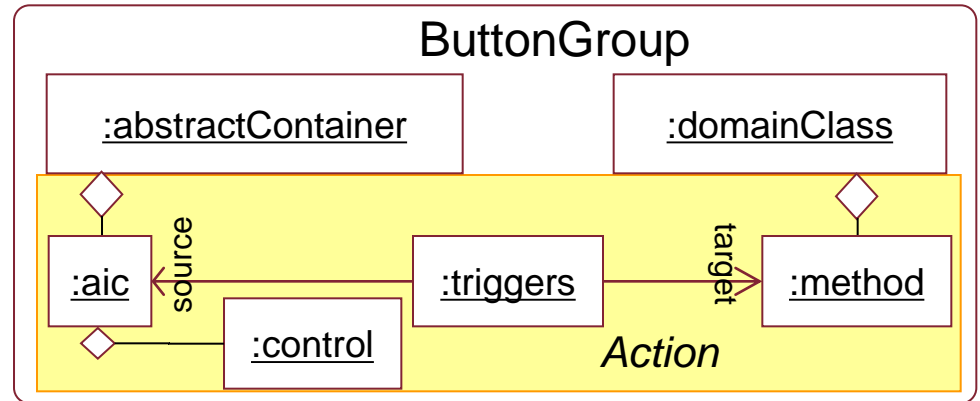
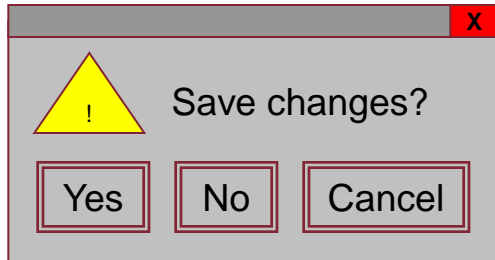
- Cosa porta a cosa
- Cosa succede quando
- Includono ramificazioni
- Più orientati a compito che gerarchia



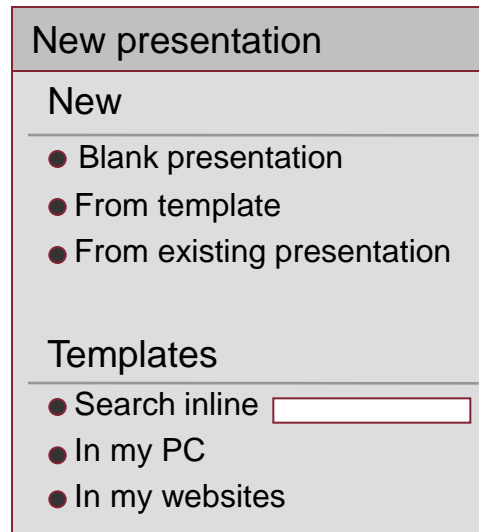
Modello formale pattern di interazione



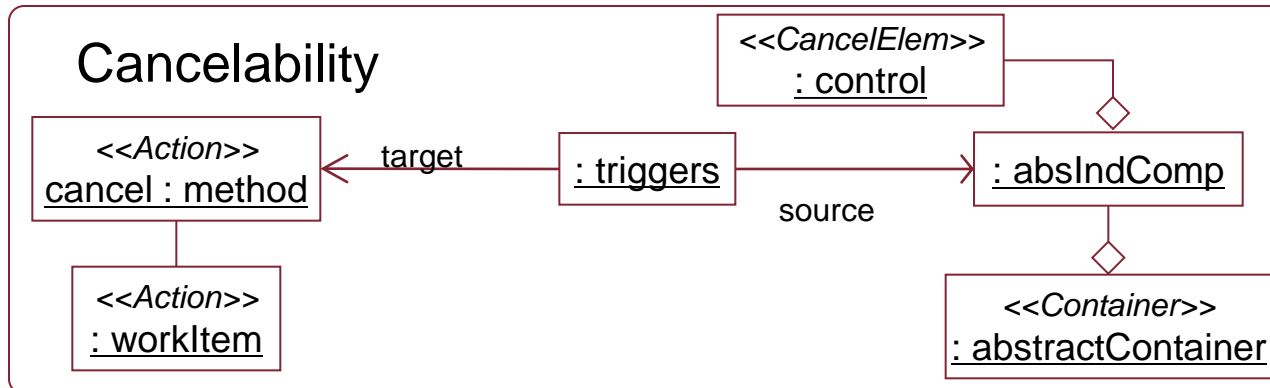
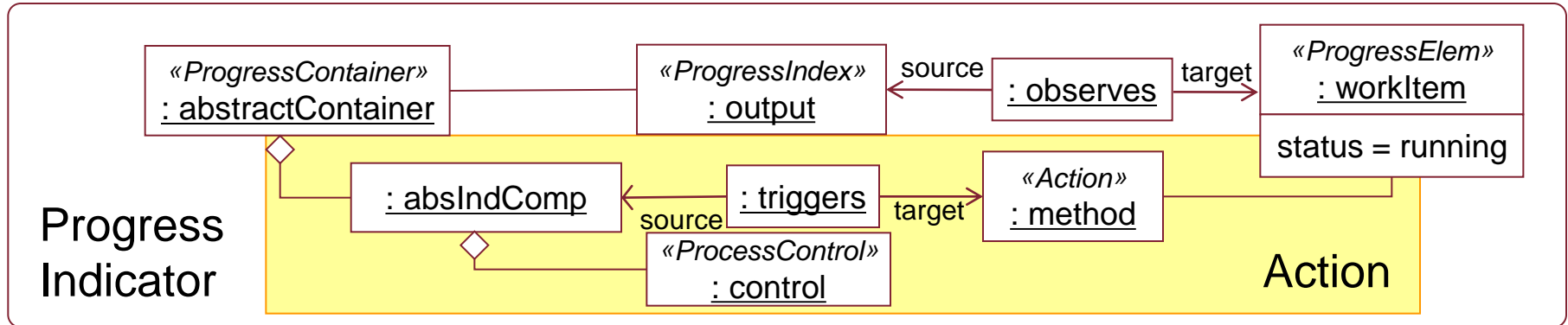
Esempi



Action ≥ 2 , Action ≤ 5

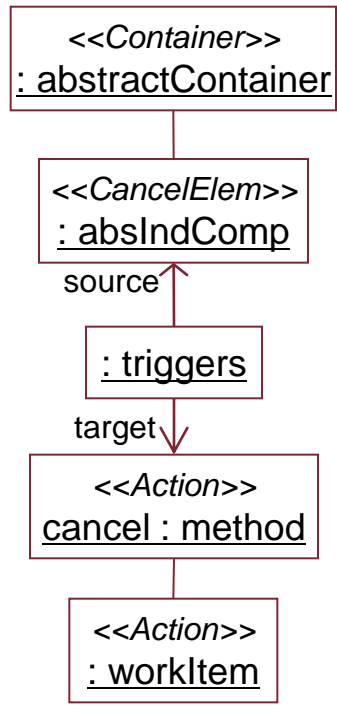


Relazioni tra pattern

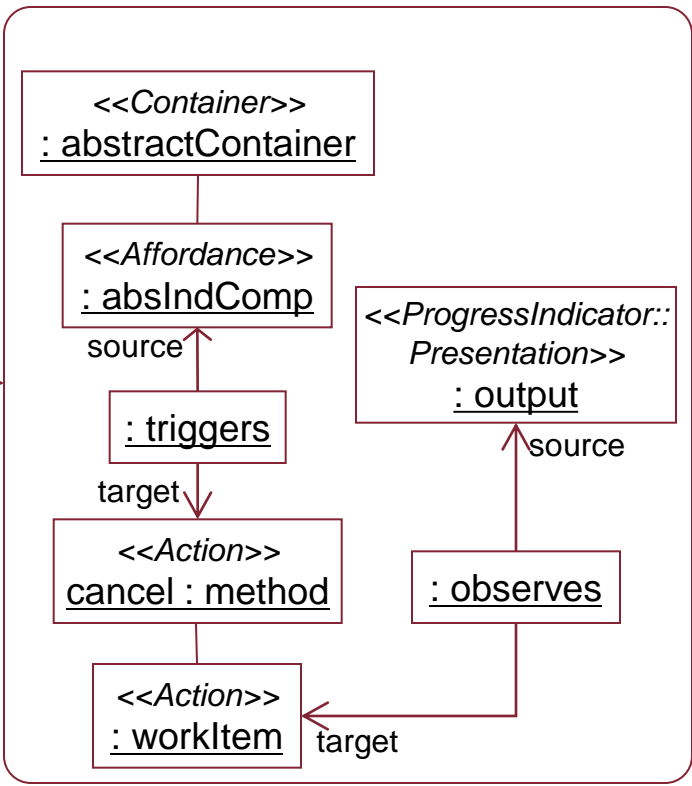


Vincoli

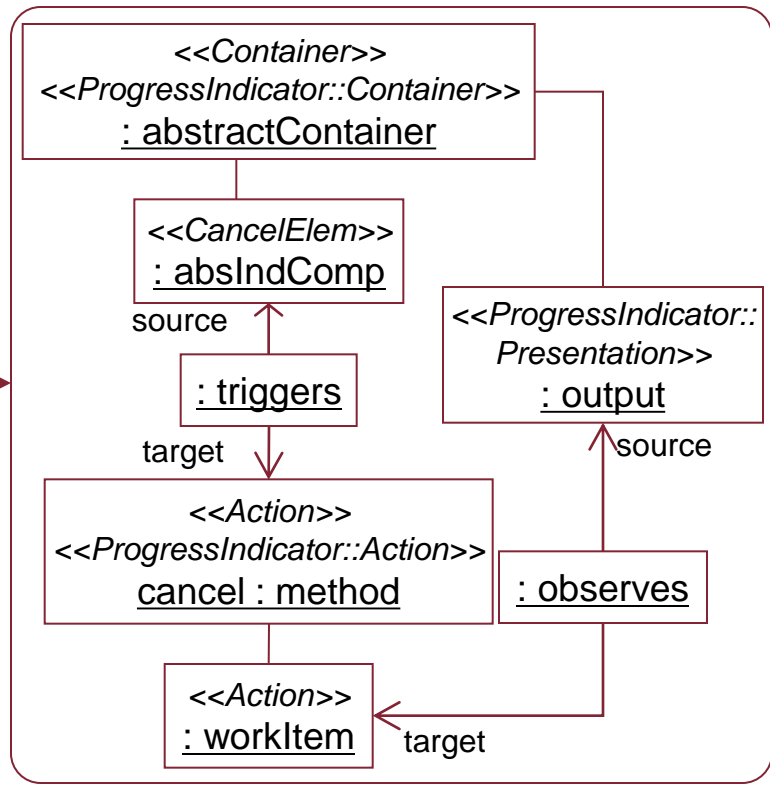
Cancelability



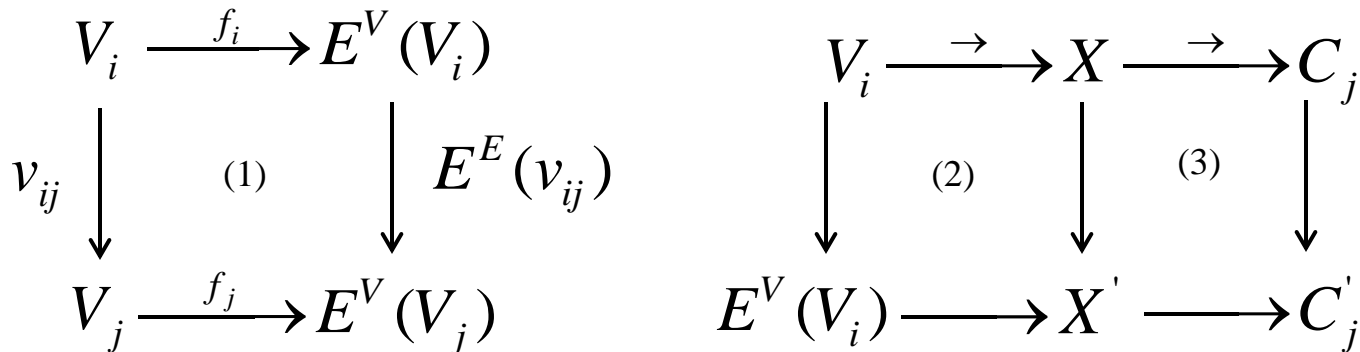
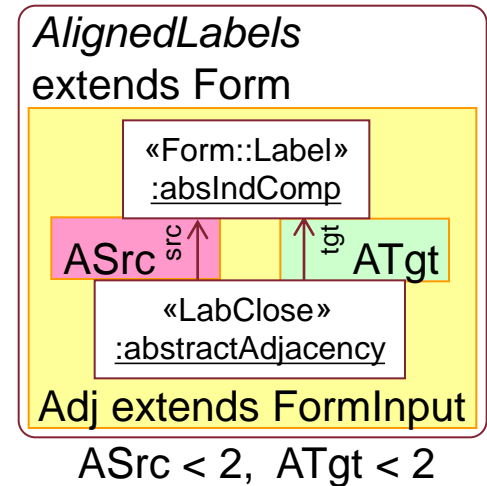
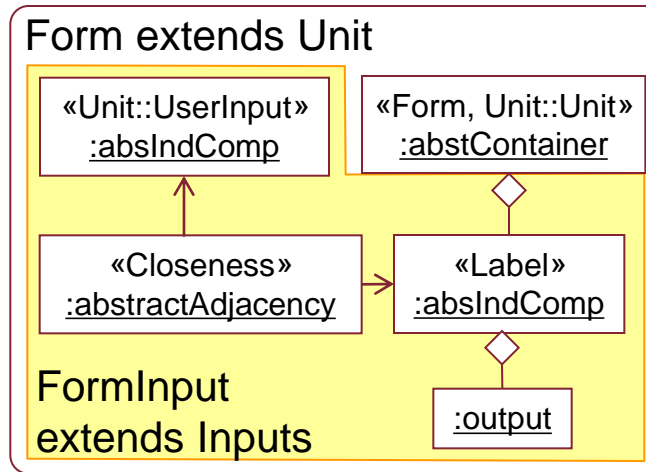
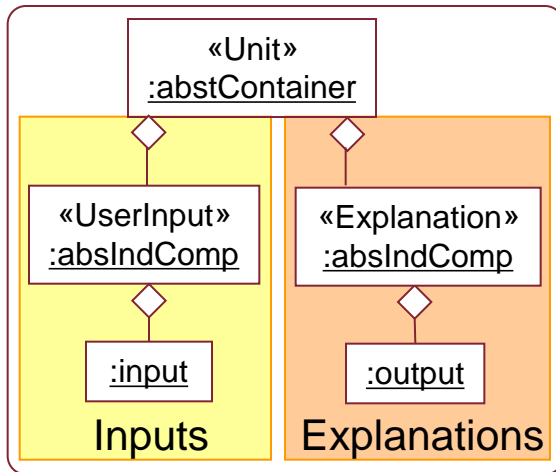
X



C

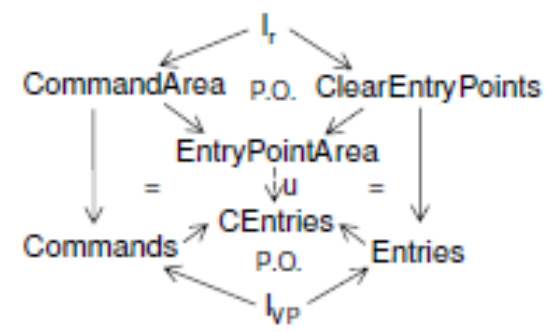
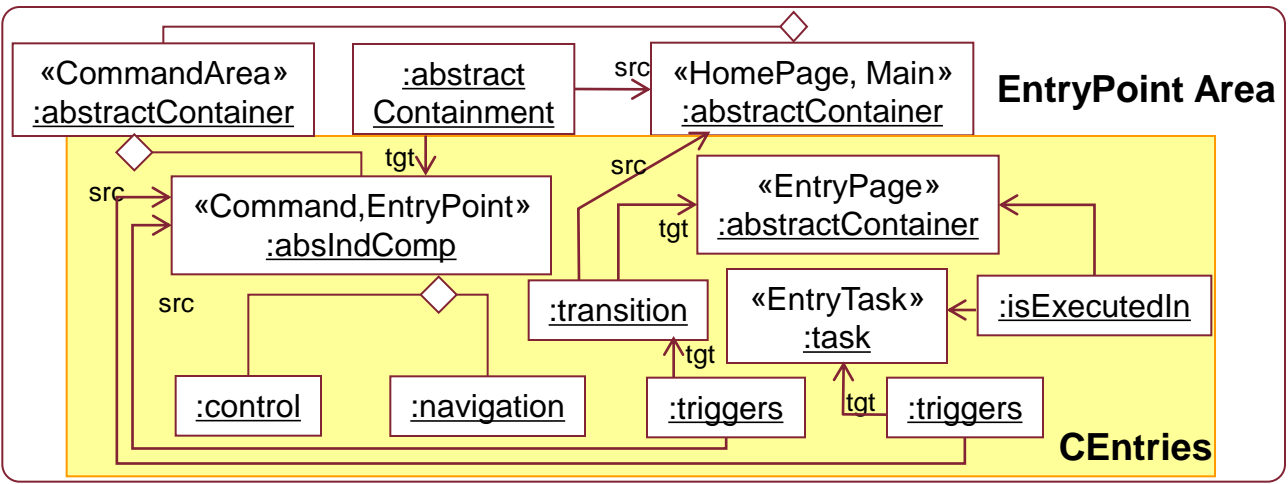
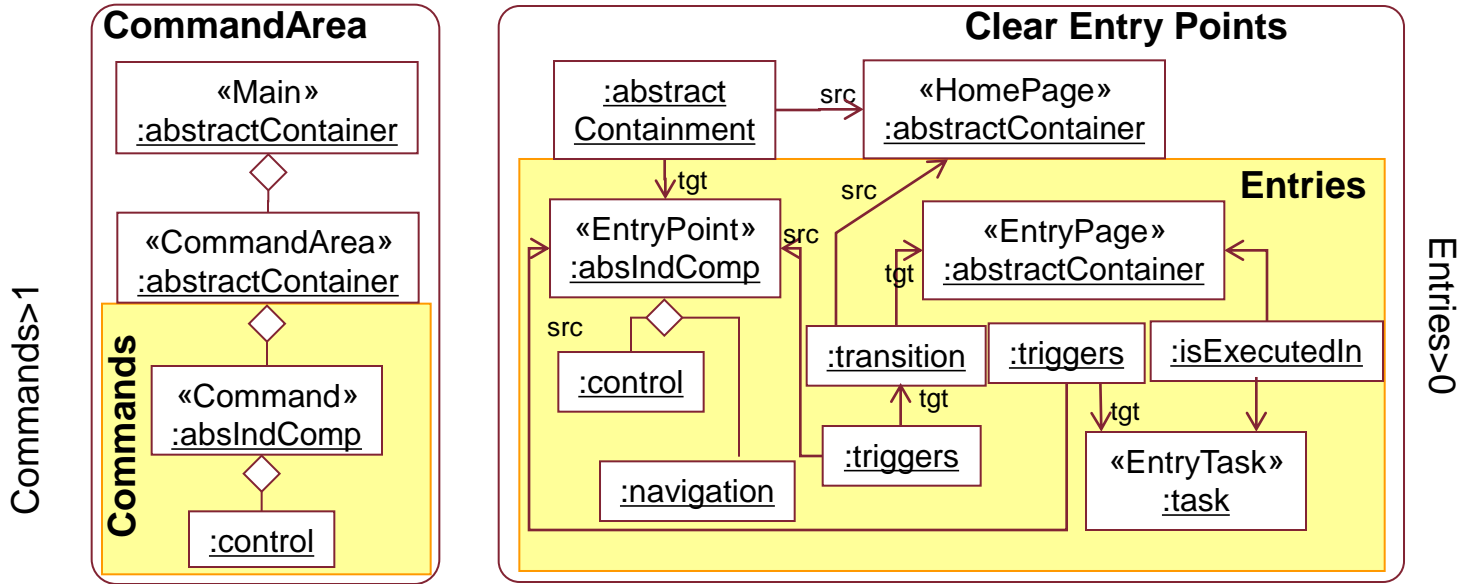


Sottotipizzazione

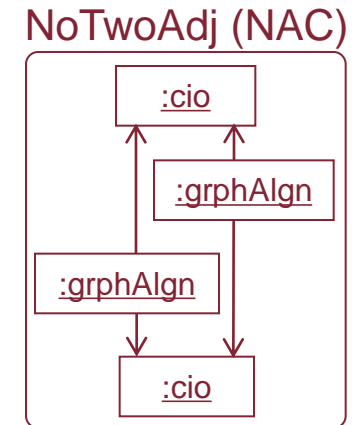
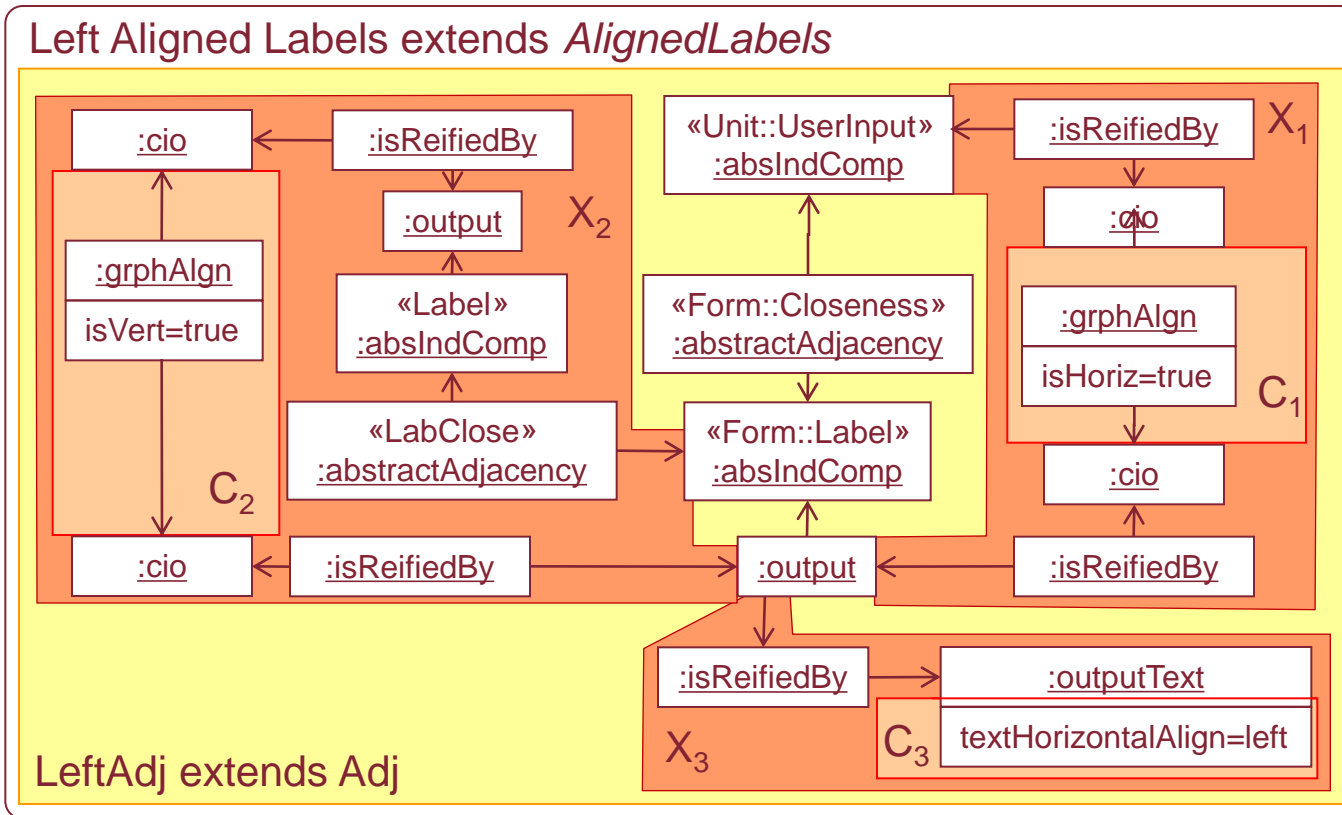
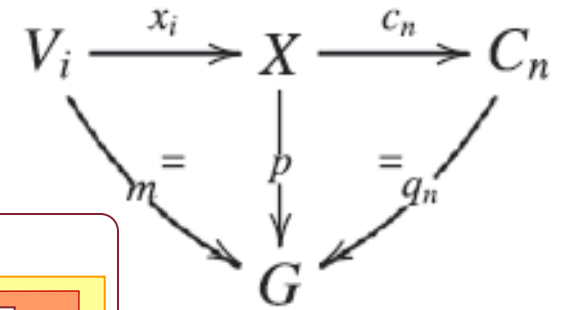


Th. 1 (Subtyping) Given patterns VP and VP' , if $VP' \sqsubseteq VP$ then $SEM(VP') \subseteq SEM(VP)$.

Composizione di pattern



Vincoli negativi e conflitti



Tutte le specializzazioni di *AlignedLabels* sono in conflitto fra loro