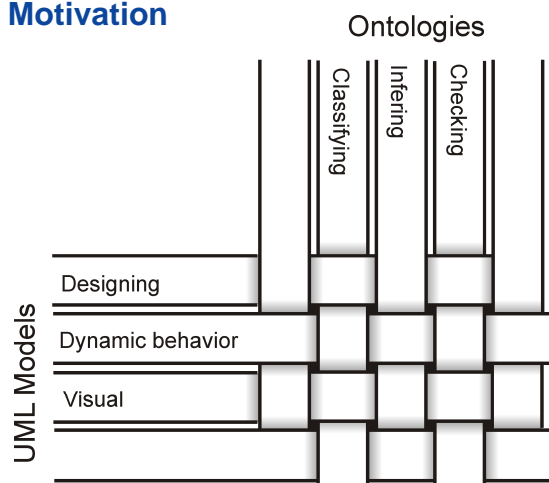


Transforming and Weaving Ontologies and UML in Software Engineering

Motivation



Key Idea

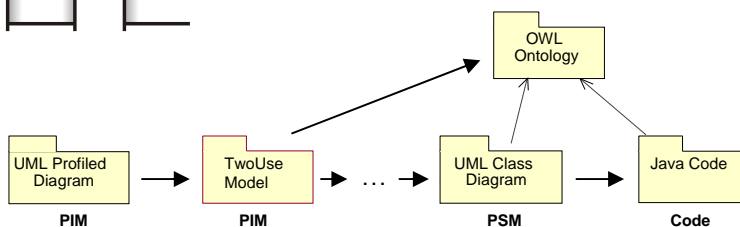
- Combining ontology and UML-based modeling to establish an integrated modeling approach.

Objectives

- Model oriented platform;
- Declarative domain modeling;
- Reuse and composition;
- Validation and verification;
- Model Driven Semantic Web.

Synergies

- Comprehensibility;
- Maintainability;
- Reusability;
- Scalability.



Ontology and Rules of a Purchase Order

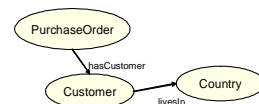
Aspects

Logical Rules Classes Properties

Elements

```

(hasCustomer(?po, ?cu)
 livesIn(?cu, ?cu) [...])
-> DutyFreeOrder(?po);
  
```



Methods and Technologies

- Integrated Ontology and UML Metamodels (based on Ecore);
- Standard Ontology and UML Editors (using Protégé and Eclipse);
- Standard Model Transformation and Code Generation (using Atlas Transformation Language).

UML Models of a Purchase Order

Aspects

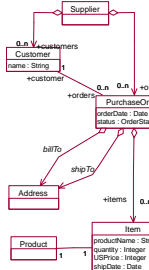
Classes

Attributes

Operations

States

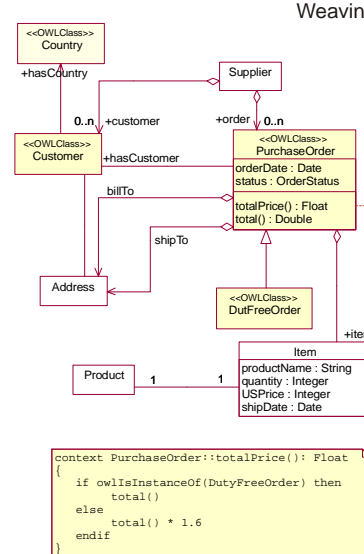
Elements



```

context PurchaseOrder
def: total(): Float {
  self.Products->iterate (
    pr: Product,
    sum: Integer = 0
    | sum += pr.price);
}
  
```

Weaving



People



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<http://isweb.uni-koblenz.de/Projects/twouse>