Case Study: Collection Manager

Derivation Process Explanation

Multi-staged configuration of products
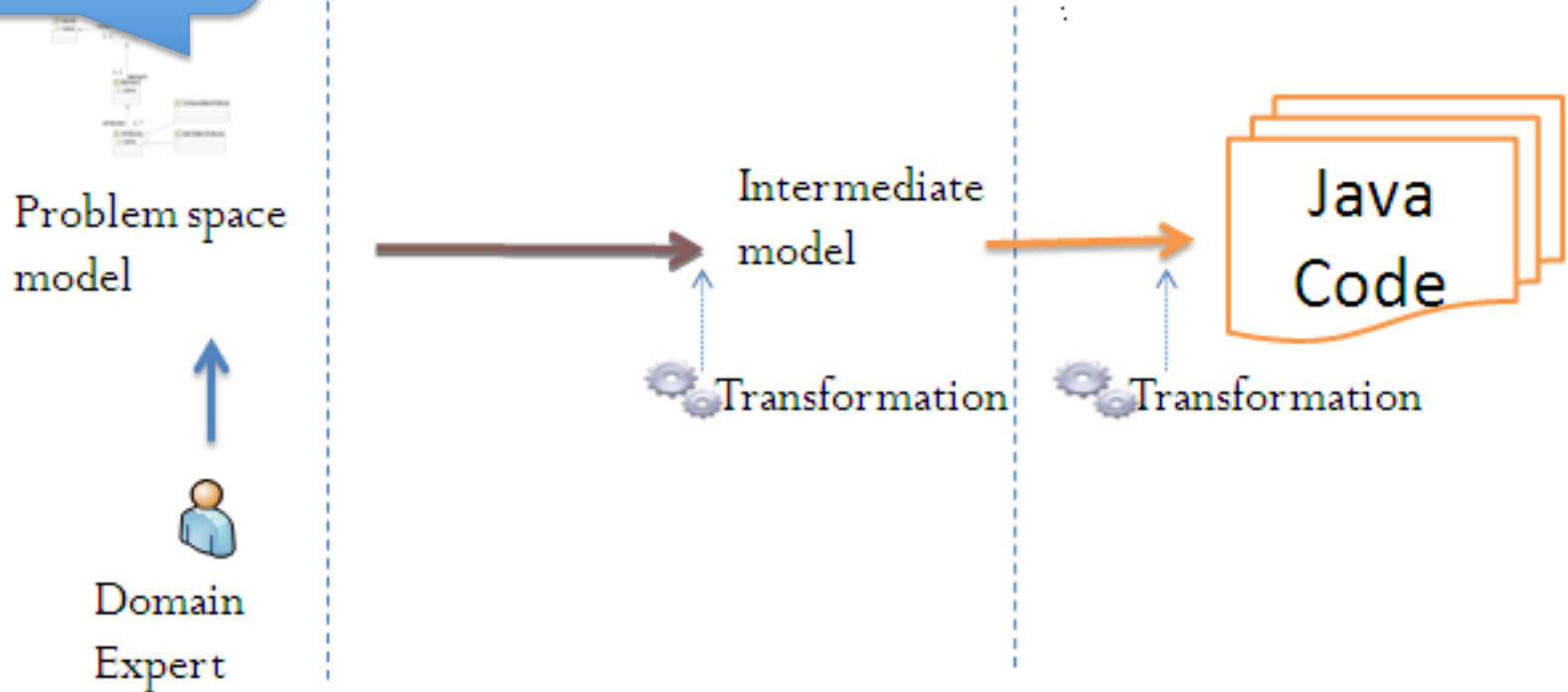
MDE develops products departing from domain application models which conform to domain application metamodels, and that are derived using a set of model transformations. These model transformations may require various stages. At each stage, domain application models are automatically transformed to include more details.
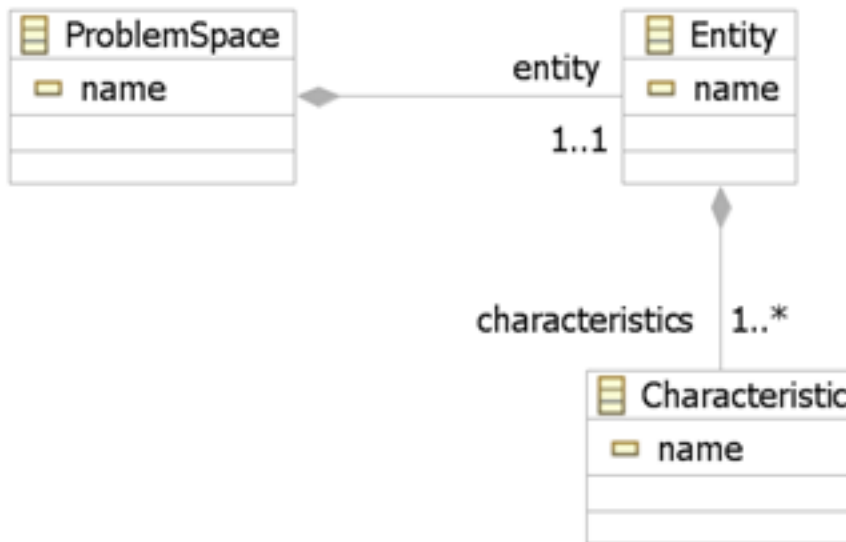
Derivation process
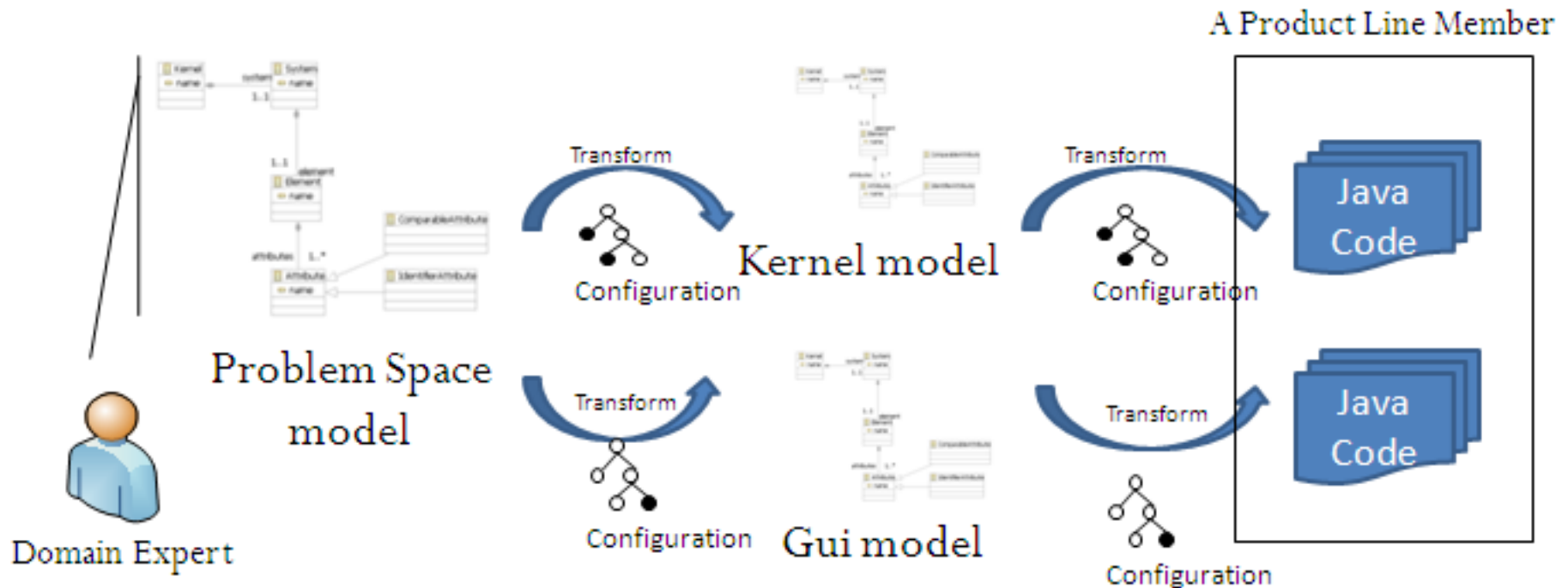
- To configure a product, a Domain Expert creates a Problem Space Model.
- In this case study, the problem space model is transformed into a kernel model and a GUI model accordingly.
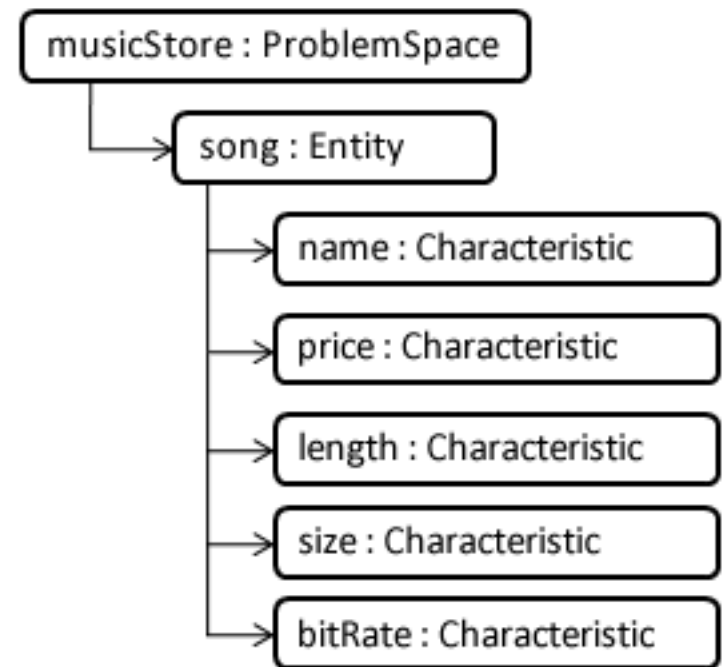- Finally, the kernel and GUI models are transformed to source code.
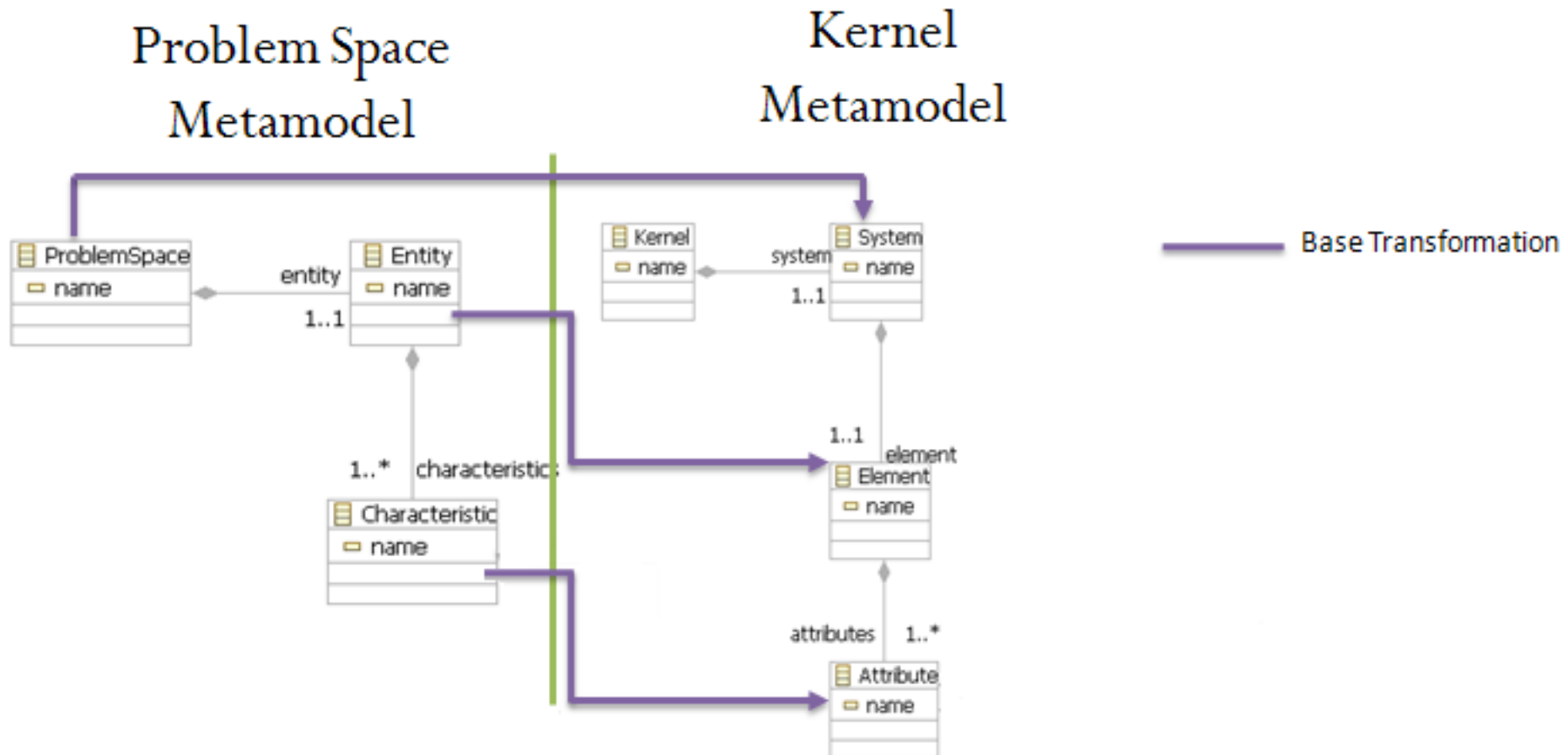
Problem space creation

Problem Space Metamodel

Problem Space Model

- Problem Space models represent collections.
- Entity: It is the element to be managed.
- Characteristic: It is a property of the Entity.

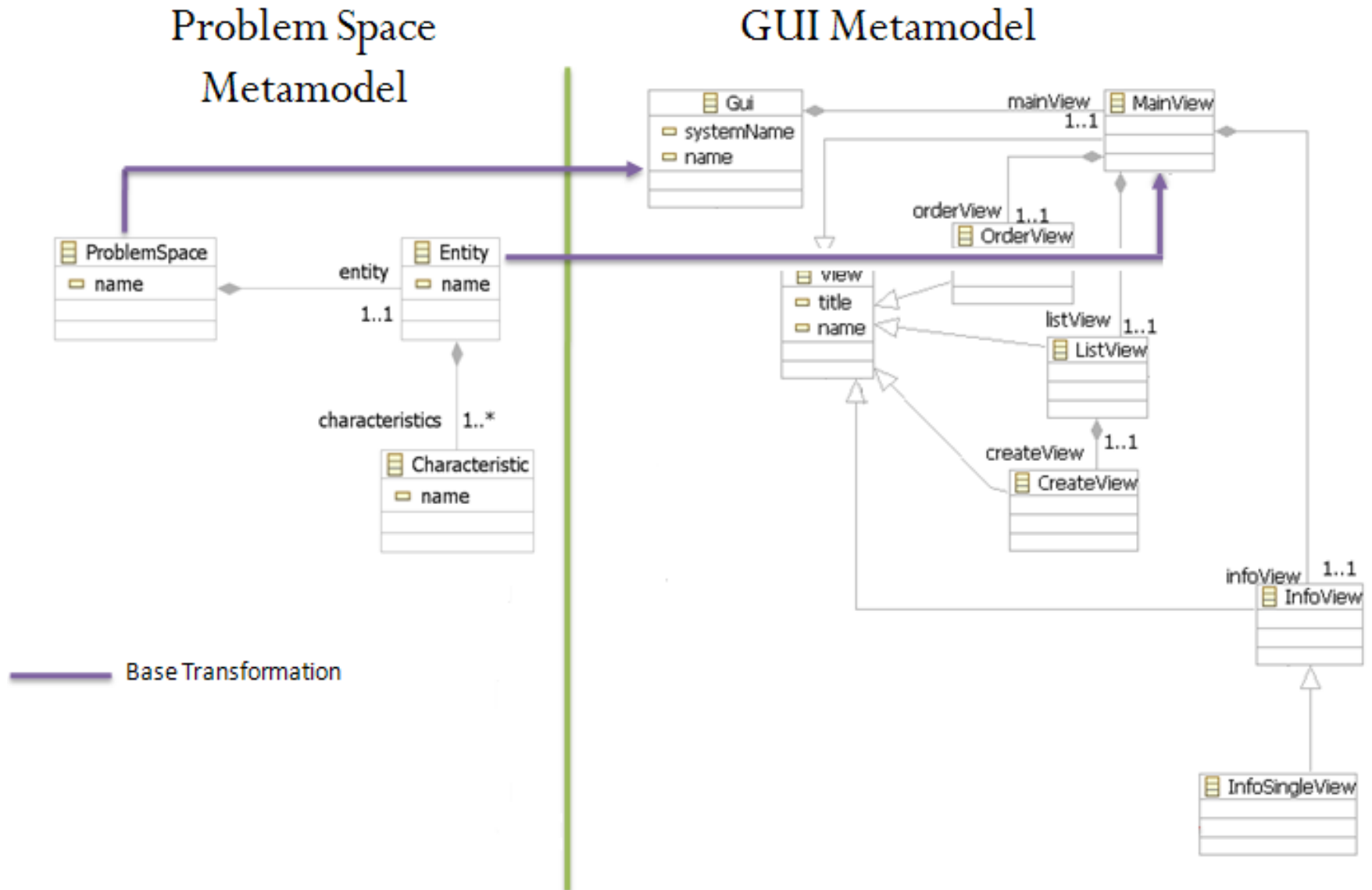This is an example of a Problem Space model for a collection of songs

Derivation process: Problem space to kernel

Derivation process: Problem space to GUI

Problem Space Metamodel | GUI Metamodel

Base Transformation

Workflow

- A model transformation consists of a set of transformation rules; each transformation rule is responsible for producing a part of the final product. To derive a complete product, we assembly the transformation rules in a workflow which determines the order in which the individual parts are produced and assembled.

Workflow

└─ Model2Model - PS2GUI

  └─ Base Rules

    ├─ createElementFromConcept
    ├─ createEleAttFromConAtt
    └─ createCommonViews

© 2011