FEATURE MODELS

You won’t believe your eye.
Introduction

• Key Concepts of Concern Orientation
Introduction

- Key Concepts of Concern Orientation
  - Variation interface
  - Customization Interface
  - Usage Interface

- Feature Model – Represents the relationships and dependencies that exist between features effectively and expresses them visually in a tree format
Feature Model
Relationships and Dependencies

- Relationships
  - Mandatory
  - Optional
  - XOR
  - OR

- Dependencies
  - Excludes
  - Requires
Realization

• The designer needs to realize each of the feature specified.
• i.e Model the relevant structural and behavioral properties of each feature using appropriate modelling notations.
• Finally designer expresses the impact of different features using goal models.
Concern Reuse

• Three Step Process
  • Selecting the Features.
  • Adapting the detailed model to application context.
  • Using the concern.
Home Security System

Authentication

Detailed Model

Reuses

No Decision

Finger Print

Retinal Scanning

No Decision

Finger Print

Retinal Scanning

Adapts

Produces

No Decision

Finger Print

Retinal Scanning
Feature Model Visualization

- Different types of visualization depending on whether a concern is being used or designed aka different needs of concern designer / user.
Concern Designer

- Must know all the selected features when reusing a concern.
- Helps to clearly communicate that he can depend on functionality provided by the selected features.
- Since the child features can also depend on the concern reuse. (Reused features)
Concern User

• Concern “Selector” does not need to know what all choices were made by the previous user / selector.
• Concerned only with the choices he needs to make.
• Hence only the immediate choices to be made should be shown.
THANK YOU