

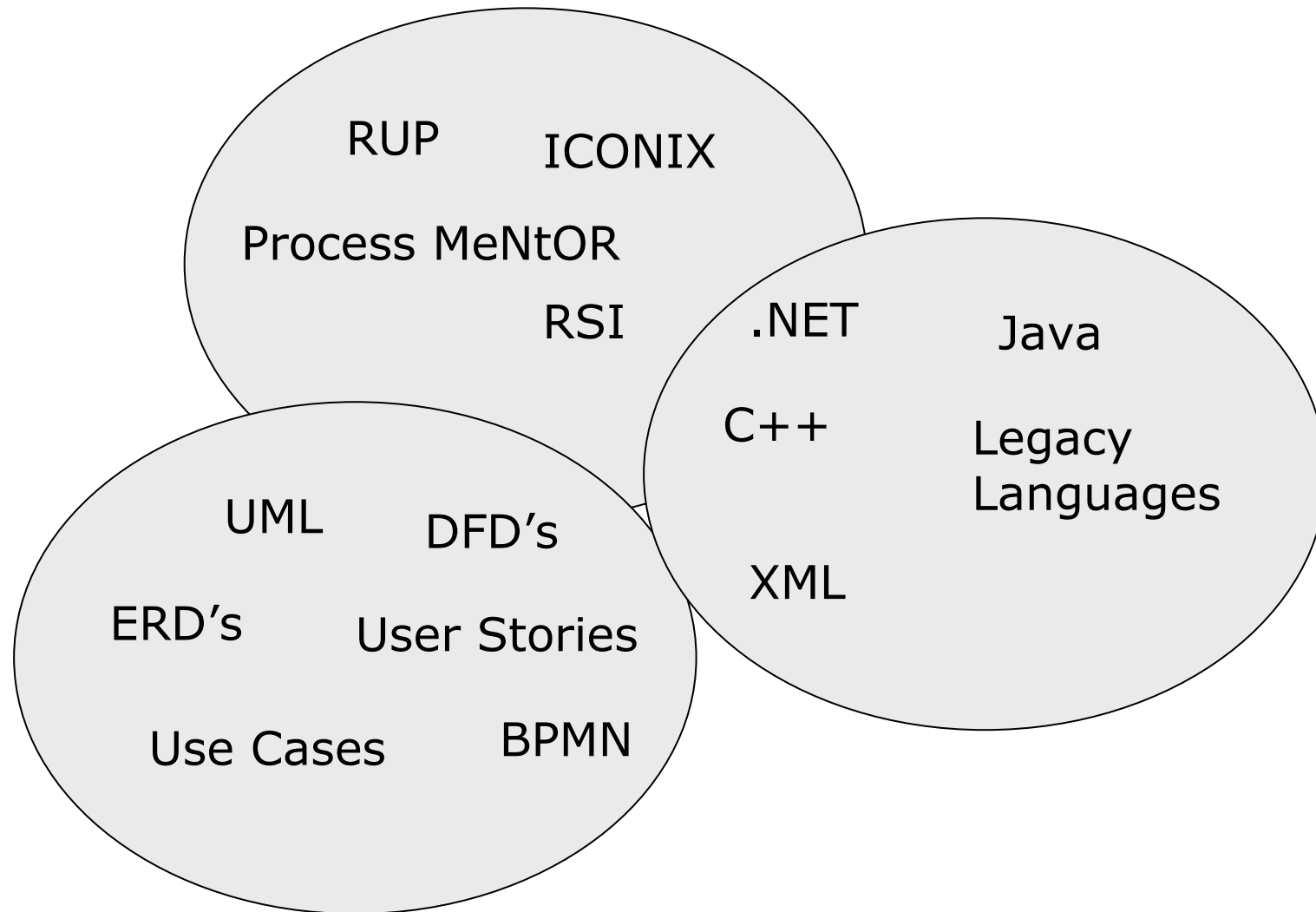


What Constitutes a Good Set of Requirements Documents?

Dr. Paul E. Nash

Object Consulting

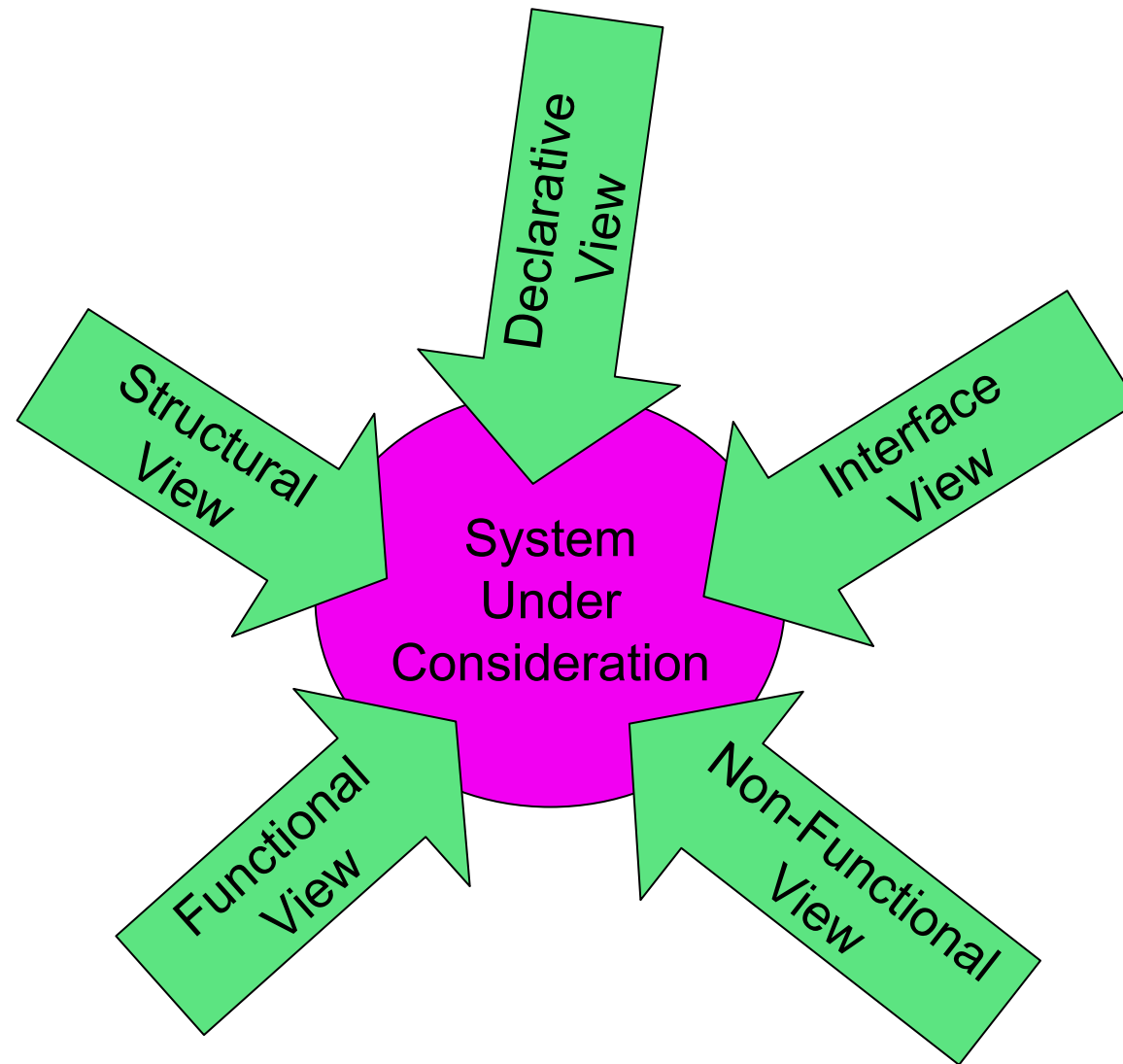
Bewildering Choice of Technology and Approaches



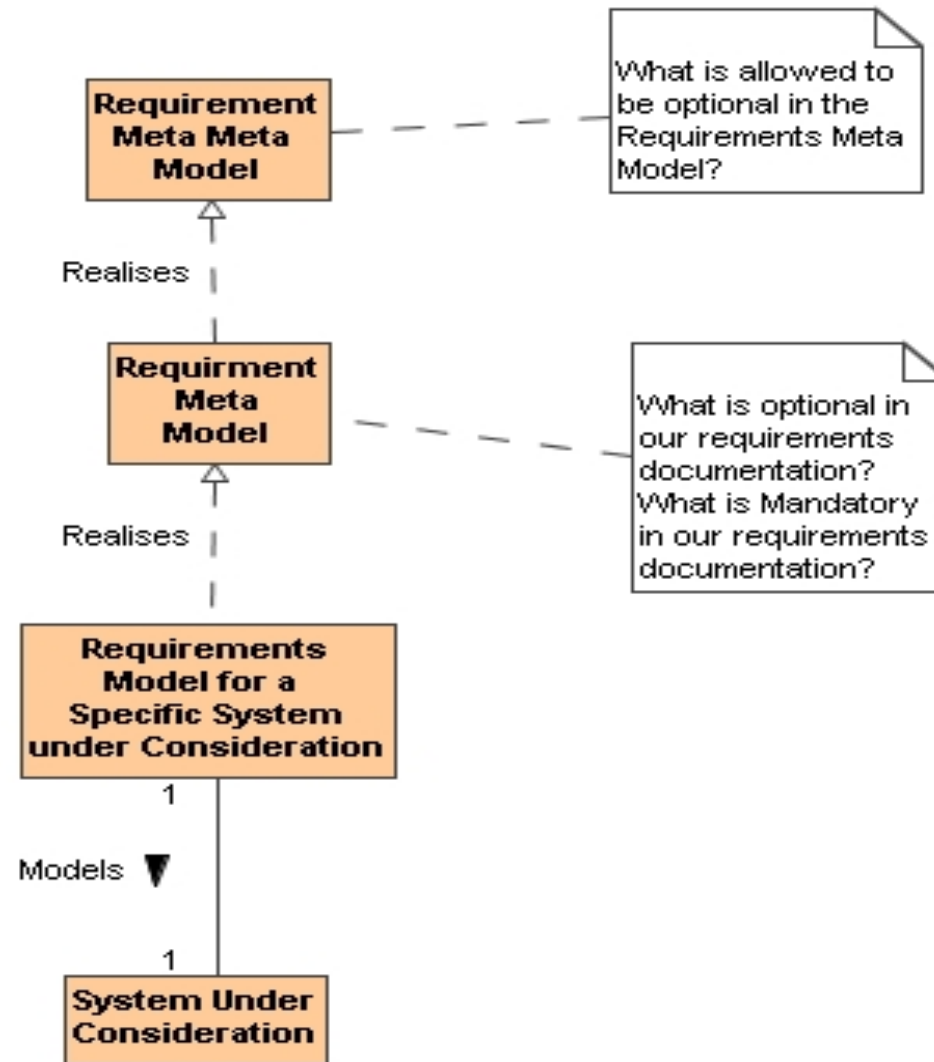
Observation1: No one “View” will suffice

- Each View should answer one BIG Question
 - What should the features of the System be?
 - What functions should the System perform to implement these features?
 - How should the intended users interact with the System?
 - How should this System interact with other Systems?
 - What would a model of the business domain look like?
 - What are the characteristics of Quality of Service required for this System?
 - ...

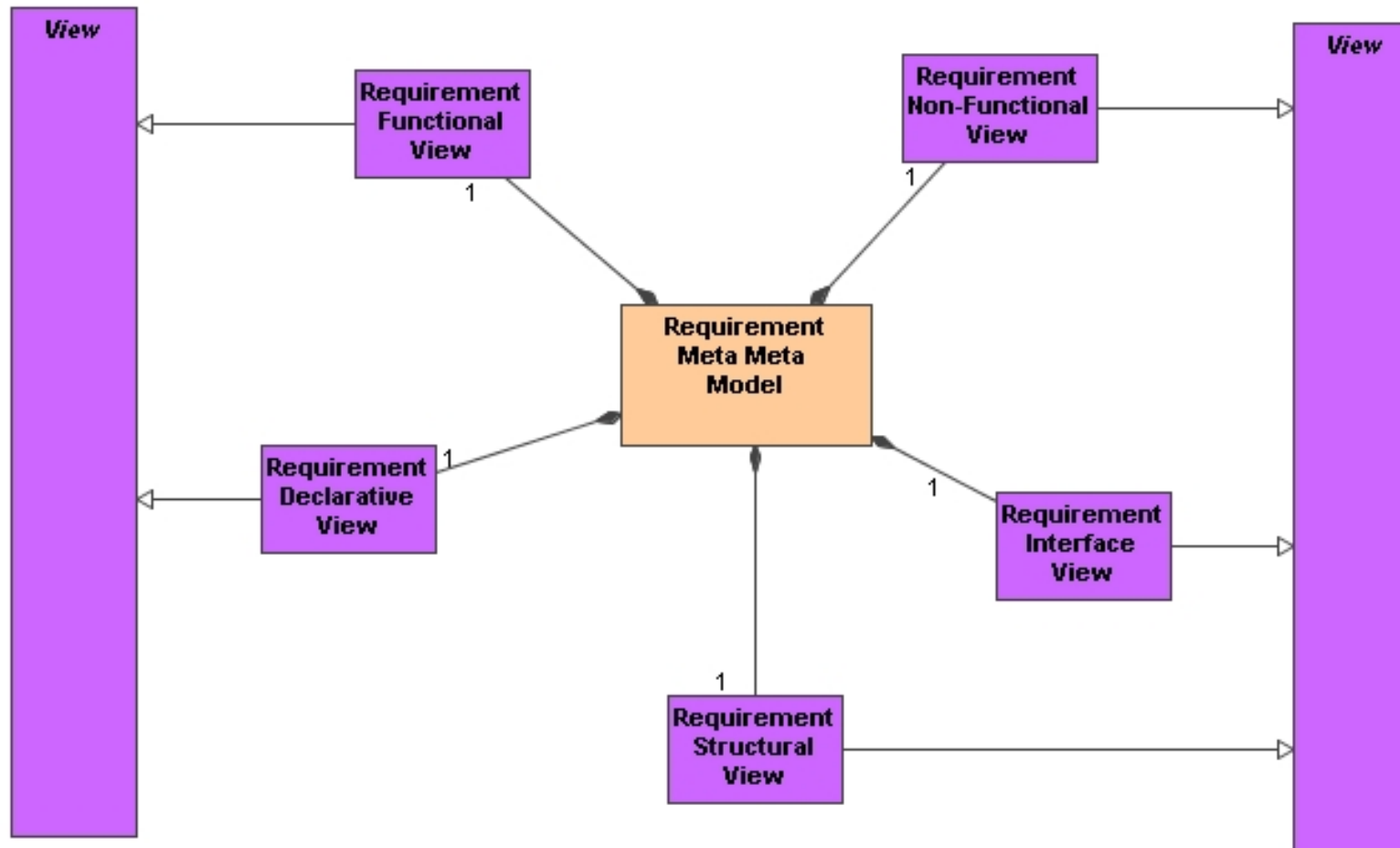
Observation1: No one “View” will suffice...1



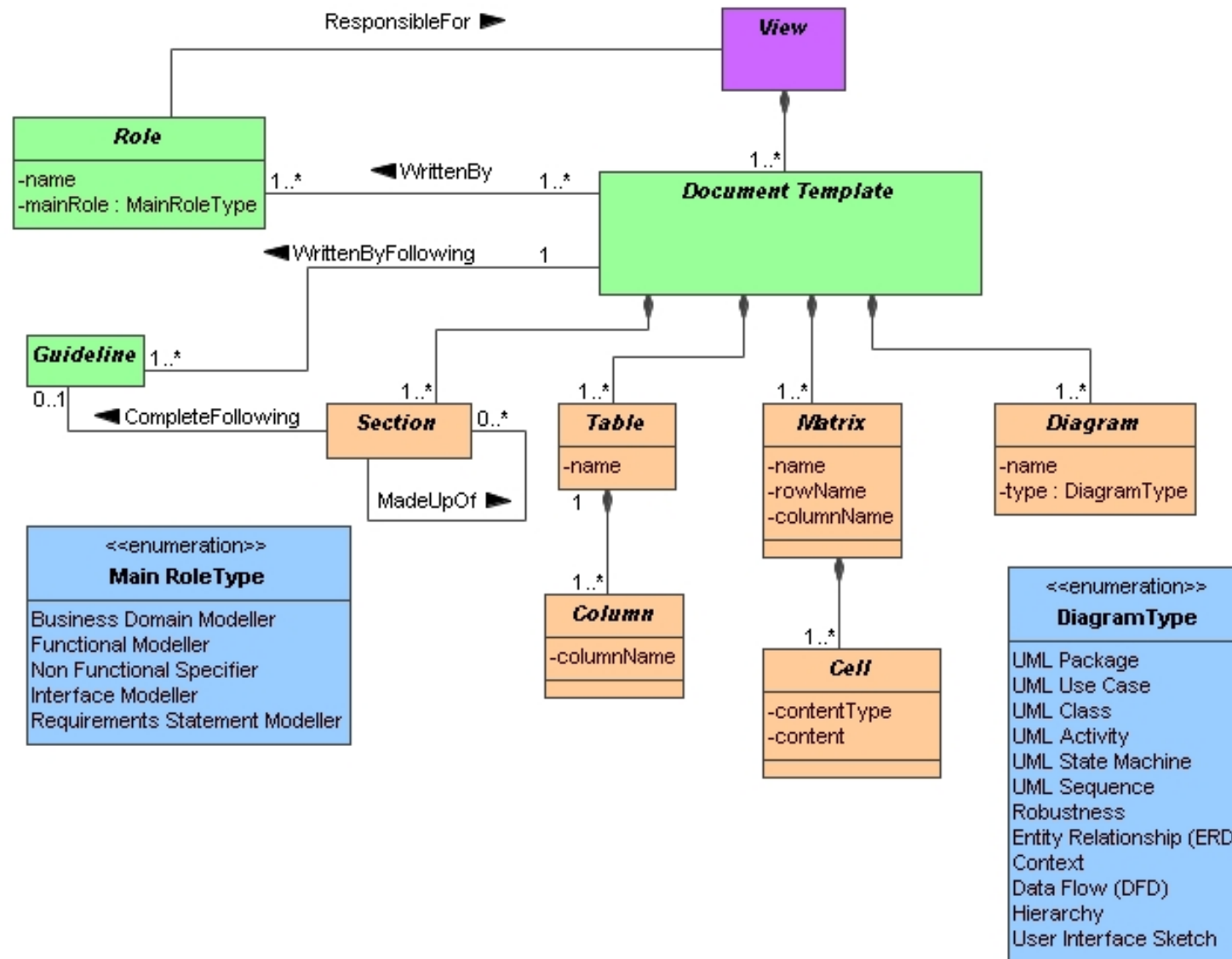
A Hierarchy of Requirements Models



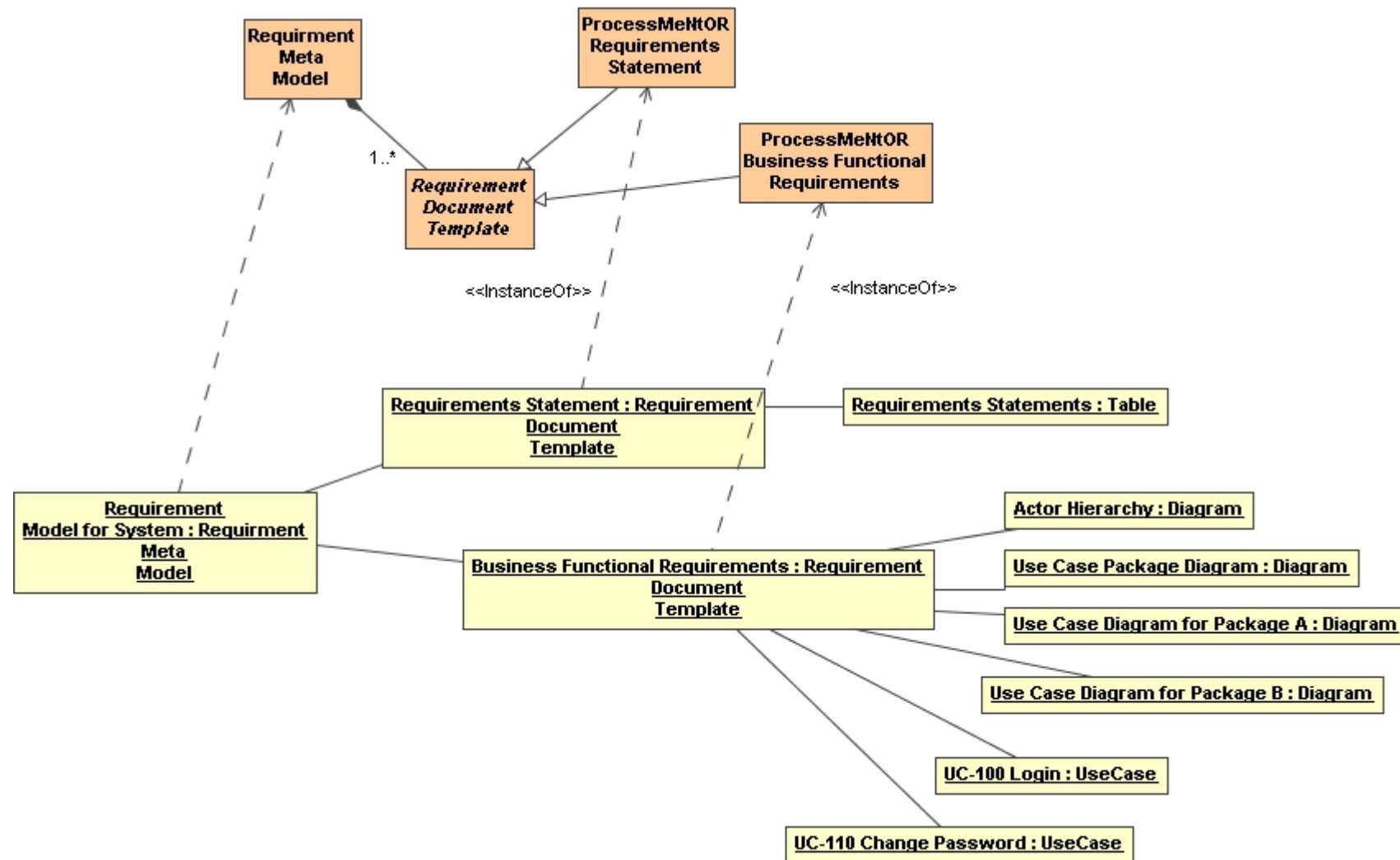
A Hierarchy of Requirements Models



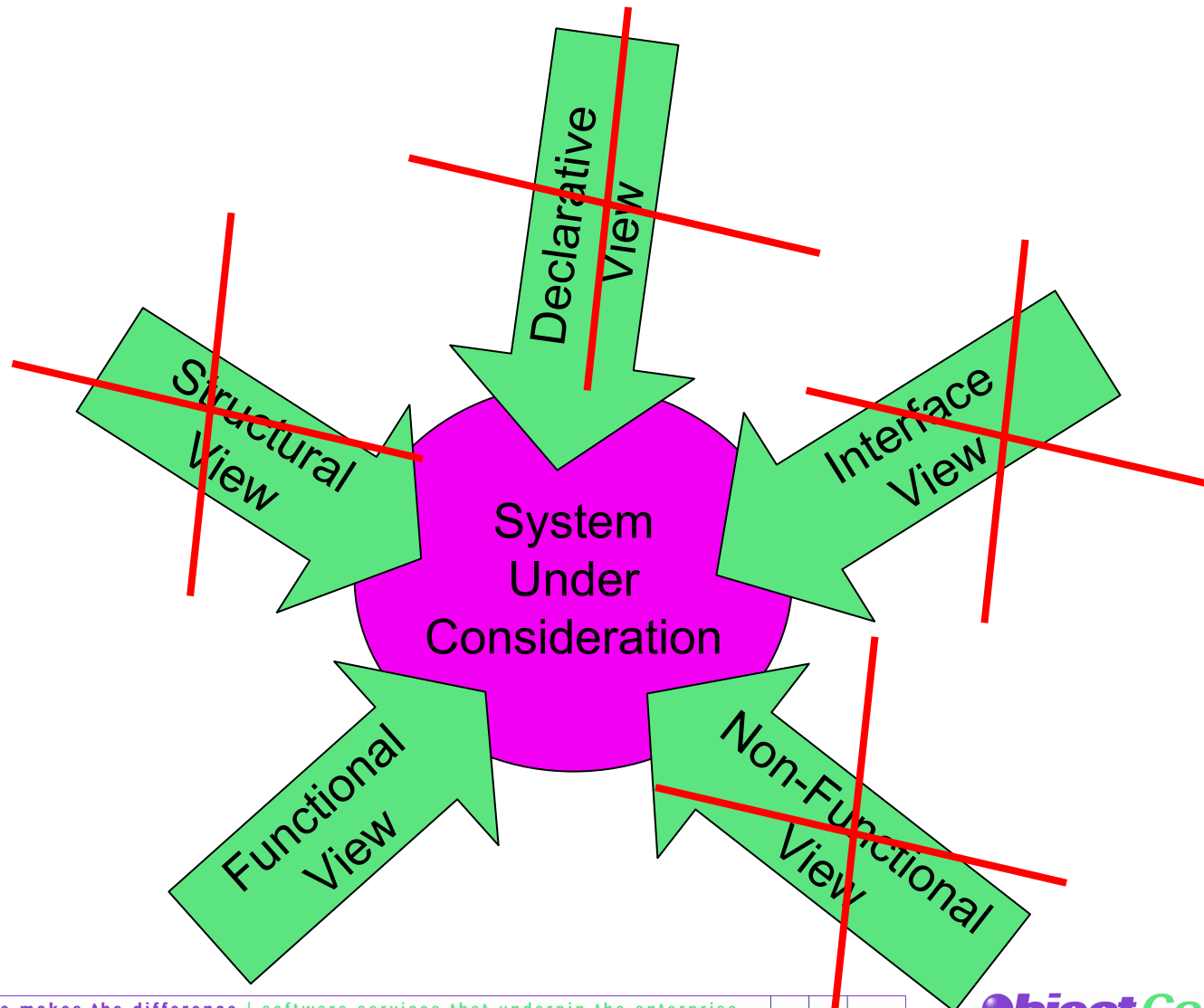
A View by any other name !?



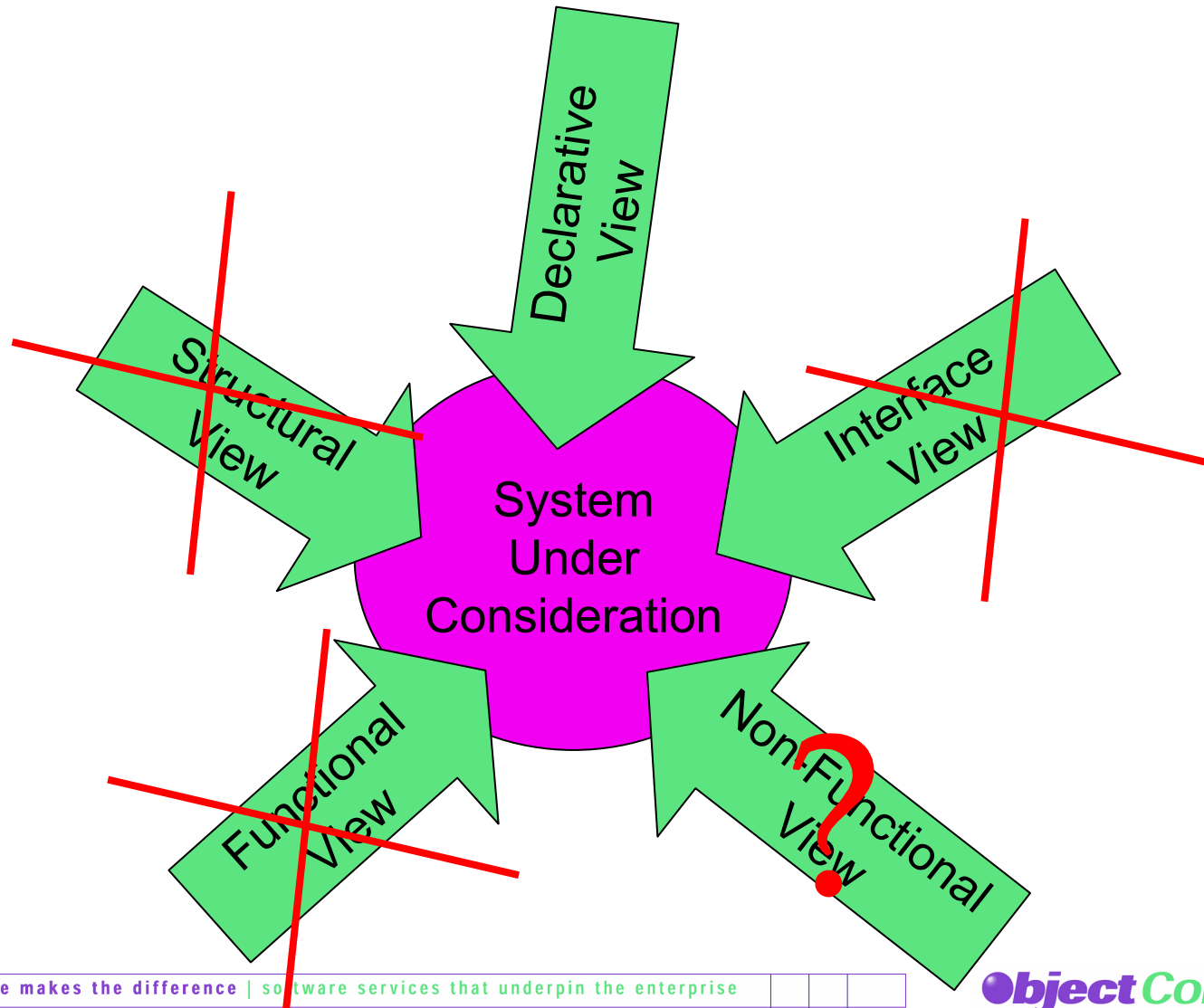
Organisational Level Models



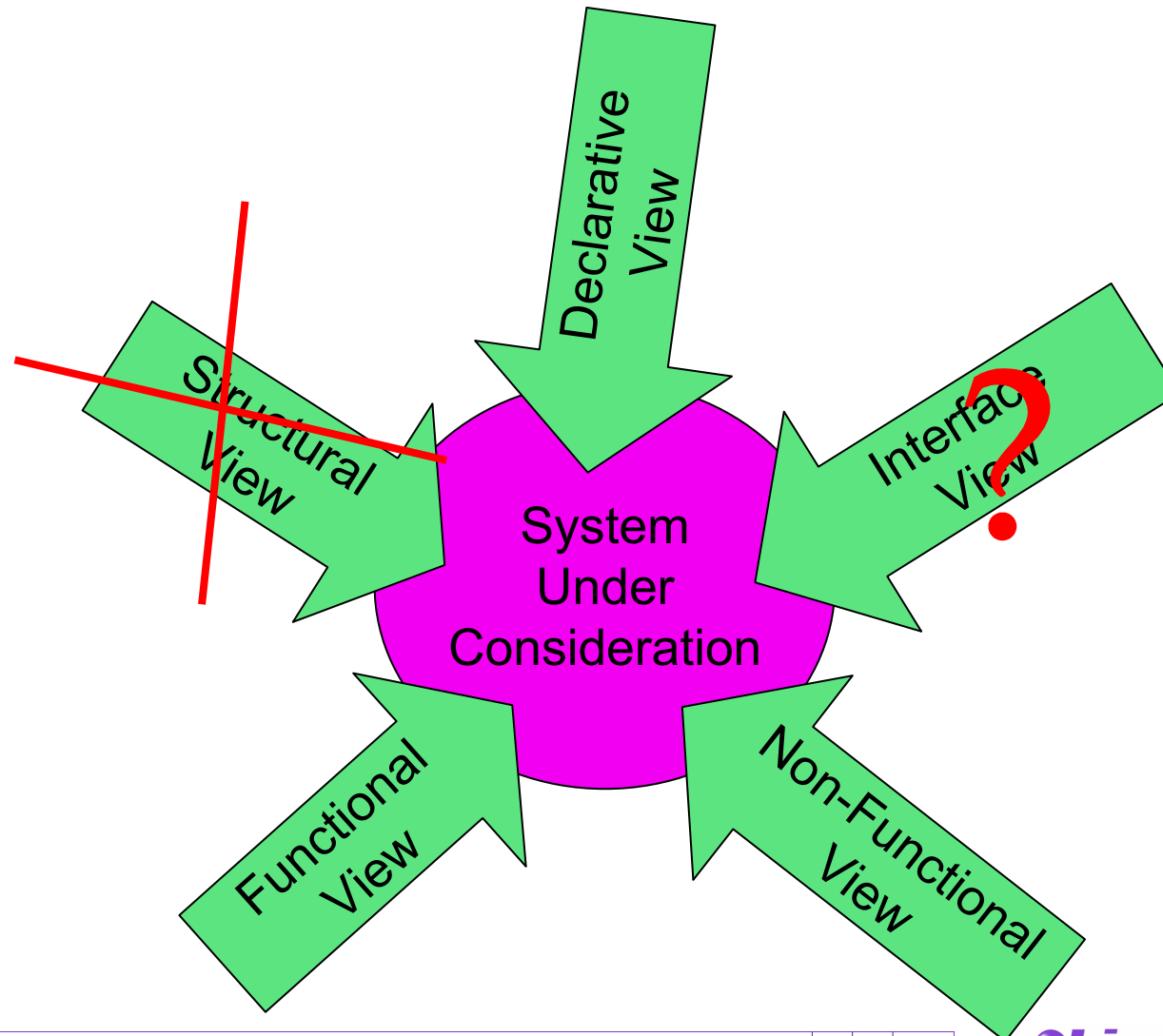
Problem 1: “We Just Need Use Cases”



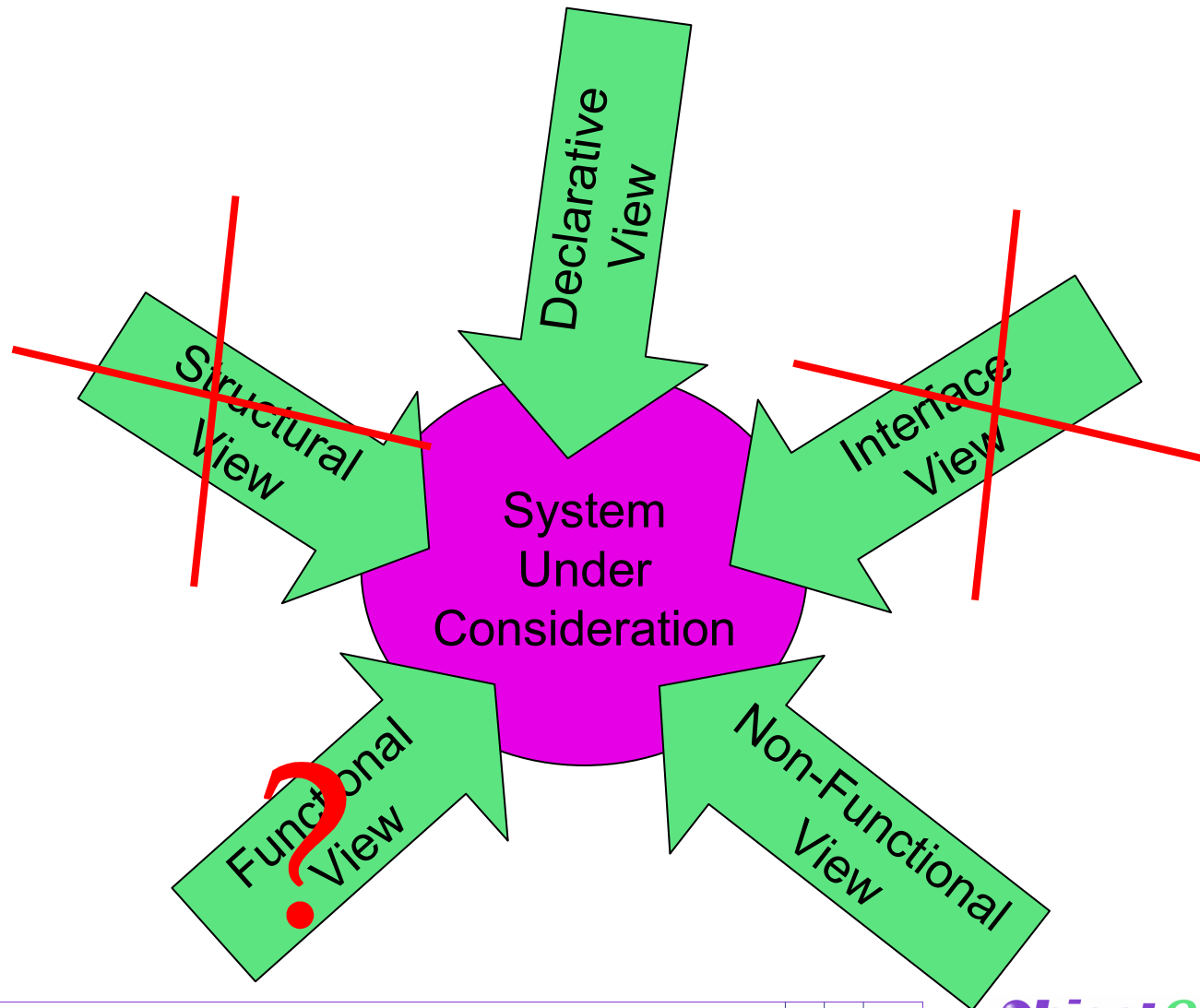
Problem 2: “Just a List of Requirements is OK”



Problem 3: Requirements Templates Missing Vital Sections



Problem 4: “These are User Requirements”



Observation2: What Skills are Required?

- Business Process Modelling Skills
- Requirements Gathering Skills
- Use Case Writing Skills
- Business Domain Modelling Skills
- Logical User Interface Modelling Skills
- System Interface Modelling Skills
- Device Interface Modelling Skills
- Design Skills
- Development Skills in the required languages

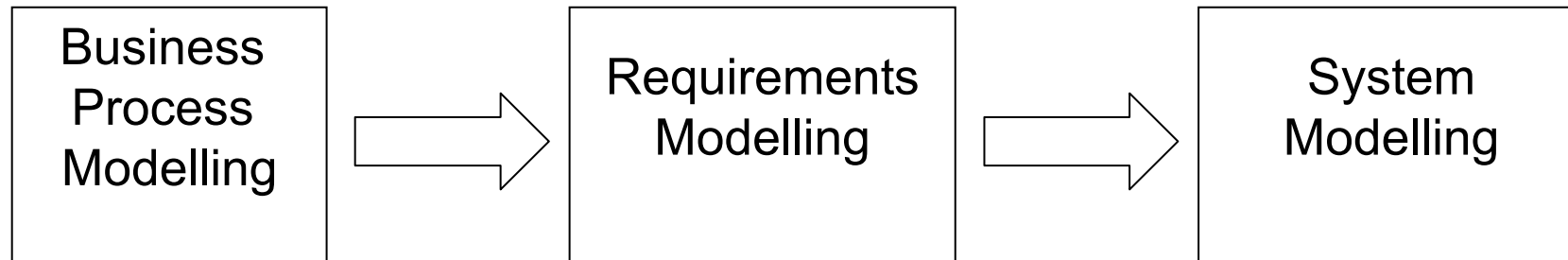
Observation2: Who can do What?

- What are the roles defined in your Organisation?
 - BPM: Business Process Modeller
 - BA: Business Analyst
 - Ba: Lots of Business experience, little Analysis skills
 - bA: Little Business experience, lots of Analysis skills
 - Requirements Gatherer
 - Conducting Interviews
 - Running Workshops

Observation2: Staff / Skills Matrix?

Staff member / Skill	Business Process Modelling	Requirements Gathering	Use Case Writing	Business Domain Modelling	UML Diagramming
Staff Member 1	✓	✓	x	x	x
Staff Member 2	x	x	✓	x	x
Staff Member 3	x	x	x	✓	✓
Staff Member 4	✓	x	x	x	x

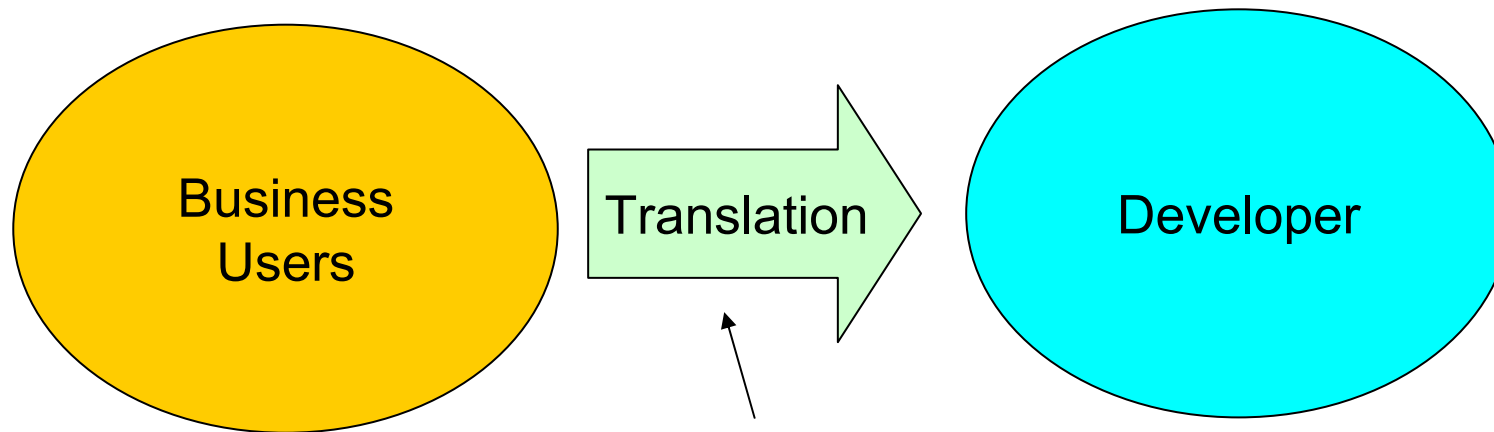
Observation2: When to pass the Baton ?



Should we “pass the baton” early or late???

e.g. Who has the Business Domain Modelling Skills??

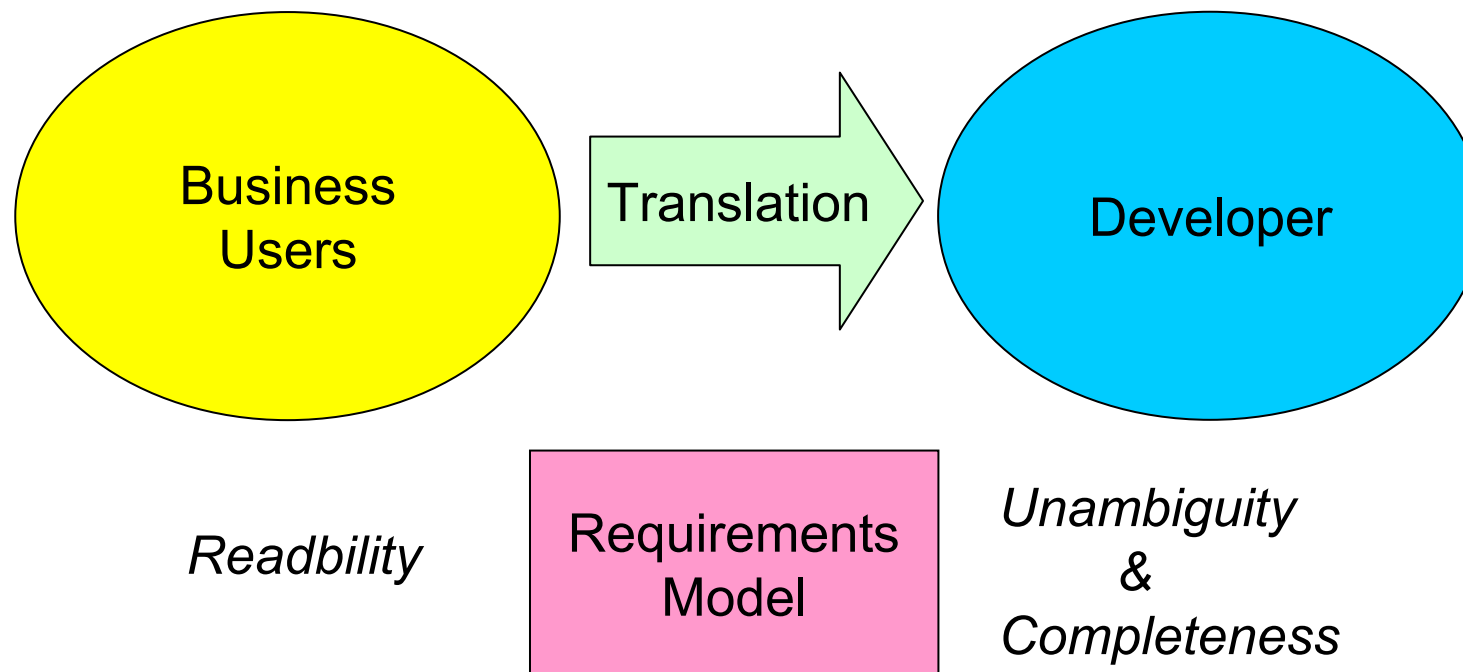
Observation3: Overcome Communication Barriers with more formal deliverables?



Less Formal? Or more Formal?

More Formal does not necessarily mean that the process takes longer.

Observation4: Balance User Readability with readability and completeness for the Developer?



Observation5: Use UML Properly

- **Declarative View**
 - MoSCoW Requirements lists
 - Business Rules
 - Glossary of Terms
 - Possibly use SysML Requirements Diagrams
- **Functional View**
 - Requirements Statements
 - Use Case Package Diagrams for Partitioning the Use Cases and Navigation purposes
 - Use Case Diagrams
 - Use Case Descriptions
 - Activity Diagrams of Use Cases for clarity
- **Structural View**
 - Class Package Diagrams
 - Business Domain Model Class Diagrams
 - Business Object Descriptions
 - Association Descriptions
 - Business Object Life-cycles using State Machine Diagrams
 - Data Model using Class Diagrams
- **Interface View**
 - Navigation Diagram using Class Diagram
 - View Definitions
 - View Sketches
 - Field Descriptions
 - Actions available in the context of the View
- **Non-Functional View**
 - IEEE Std 830-1993 !!!
 - OMG's QoS profile