



# Aspect-Oriented Requirements Engineering: A Roadmap to 2013

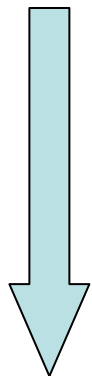
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# The Story of Early Aspects



## Once Upon a Time ...

EA Workshops



*Grundy (RE Symp. 1999)*

*Rashid, Sawyer, Moreira, Araujo  
(RE Conf. 2002)*

*Rashid, Moreira, Araujo  
(AOSD Conf. 2003)*



# The RE 2002 Vision



- Objectives for AORE:
  - “Providing improved support for separation of crosscutting functional and non-functional properties during requirements engineering hence offering a better means to identify and manage conflicts arising due to tangled representations
  - Identifying the mapping and influence of requirements-level aspects on artefacts at later development stages hence establishing critical trade-offs before the architecture is derived.”





- Potential benefits of AORE:
  - Ensuring consistency of stakeholders' concerns with global requirements and constraints.
  - Tackling tangled requirements representations that are difficult to understand and maintain.
  - Better support for modularisation hence reducing development, maintenance and evolution costs.
  - Promoting traceability of broadly-scoped requirements and constraints throughout system development, maintenance and evolution.
  - Support for development of systems resilient to unanticipated changes hence meeting the adaptability needs of volatile do-mains such as banking, telecommunications and e-commerce.



# Five Years have Passed



Where are we?



# A Health Check



- As a community we have fairly extensively studied:
  - Requirements tangling
  - Identification and analysis of crosscutting requirements
  - Mapping onto the solution space



# A Health Check



- Only partially address
  - Traceability
  - Consistency
- A serious lack of empirical evaluations



# Additional Challenges



- Cognitive models underpinning AORE
- SPI and BPI implications
- Composition semantics for requirements-level aspects
- Composition fragility

# A Roadmap to 2013



- Provide strong empirical evidence
- Address traceability
- Clarify cognitive models
- Provide formal underpinning
- Address composition fragility

