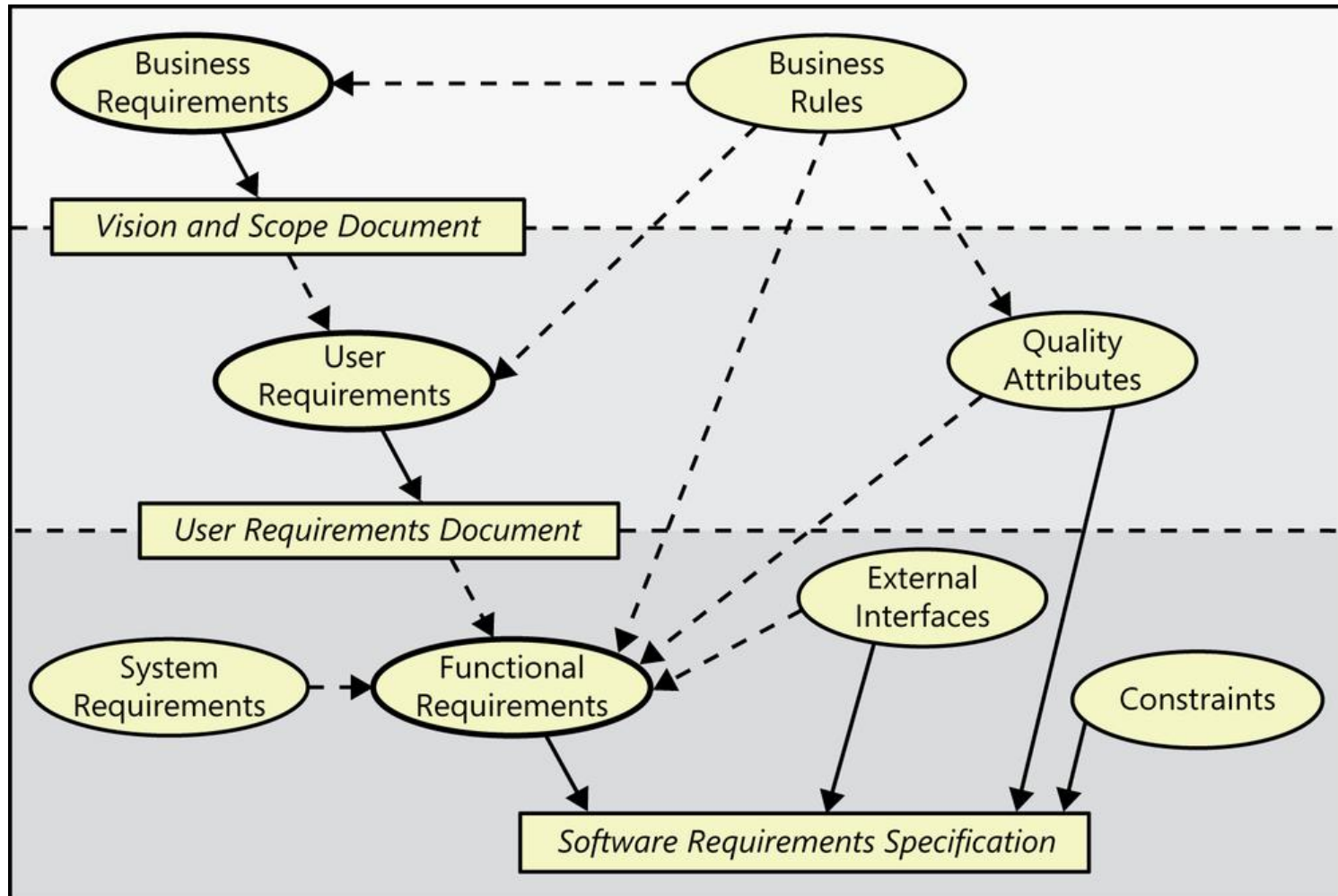


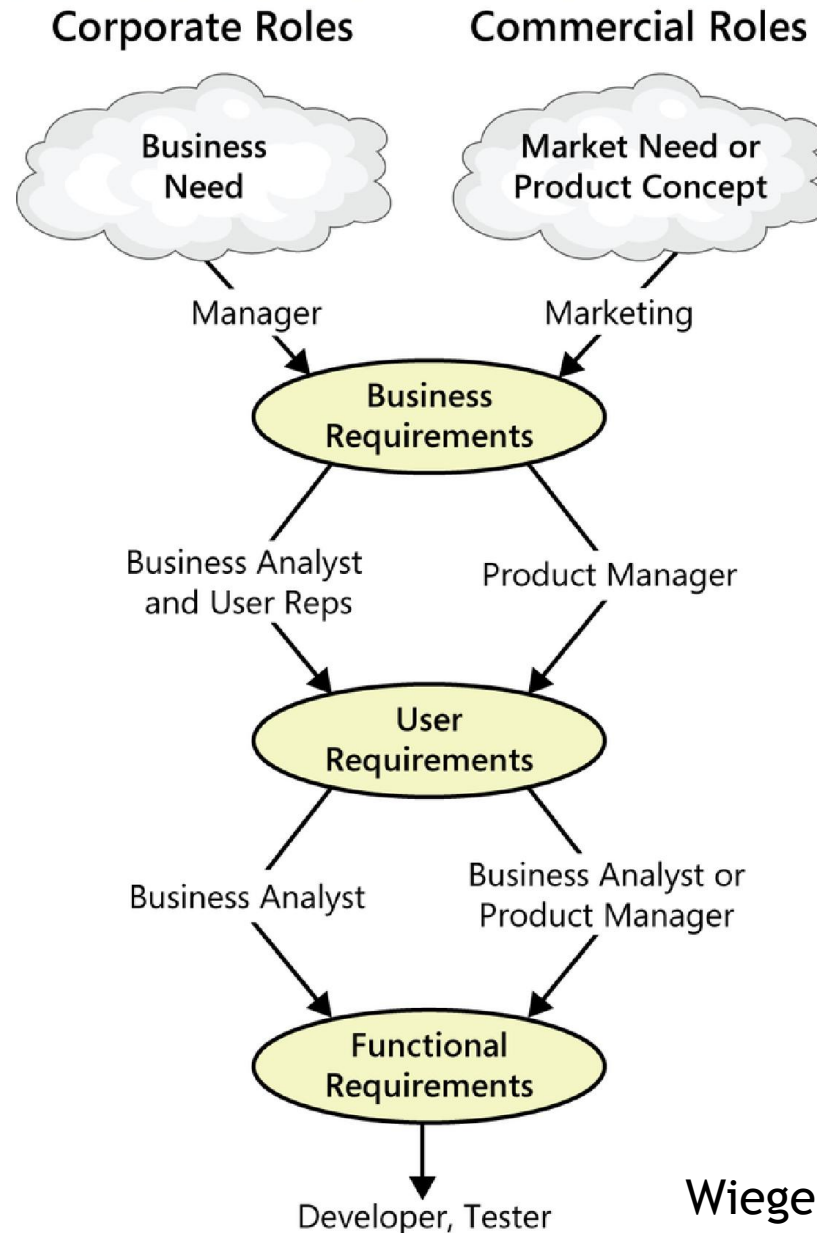
# Requirement Engineering

Ridi Ferdiana  
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Version 1.0.0

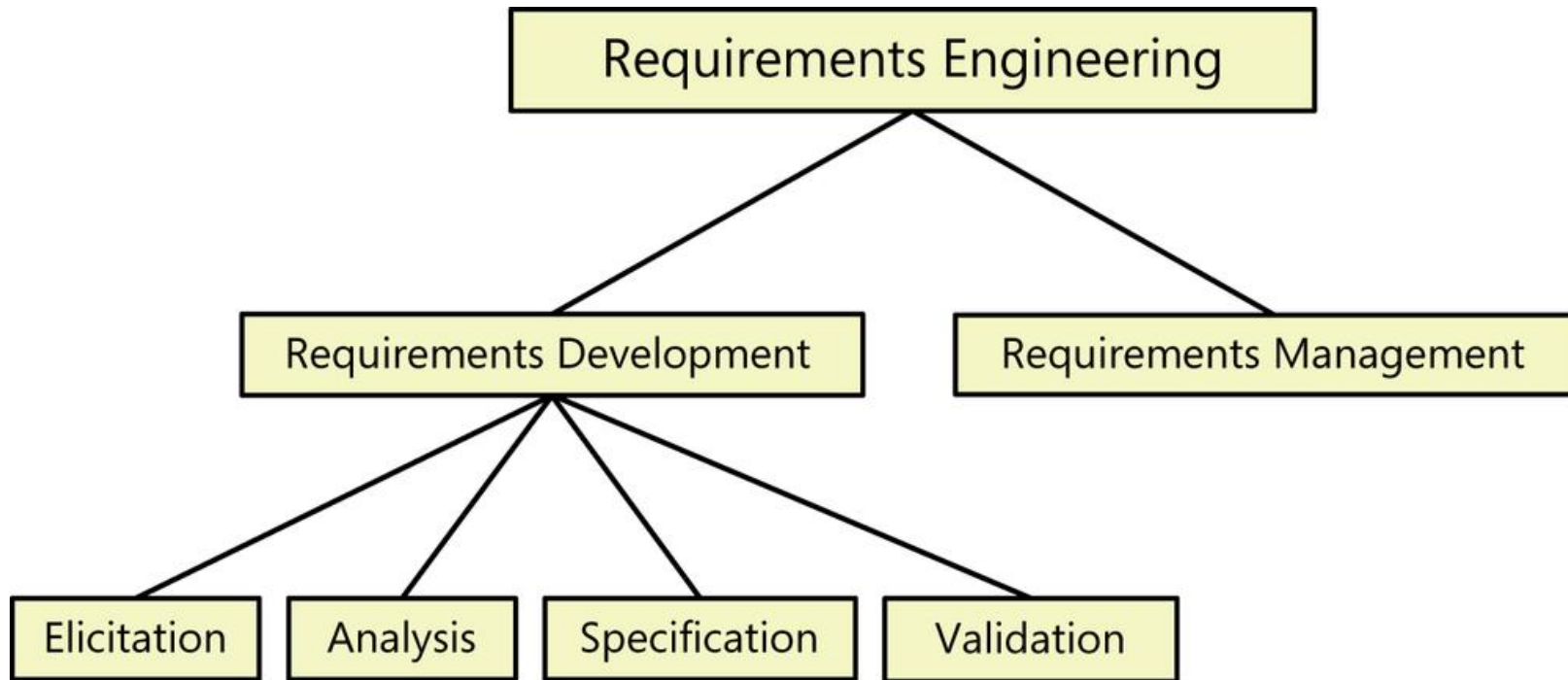
# Requirement Types



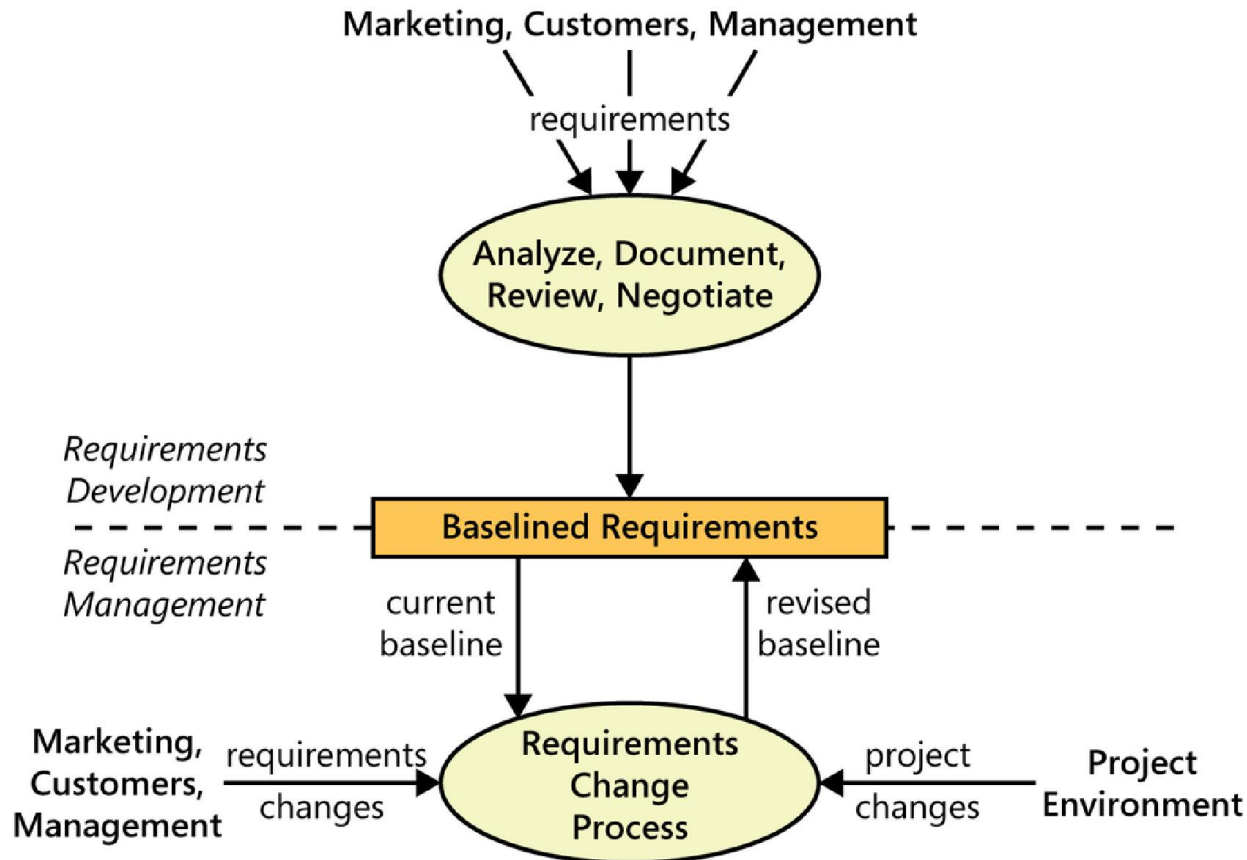
# Key actors on Requirement Development



# Requirement Engineering



# Req. Management vs Req. Development



# Elicitation Development

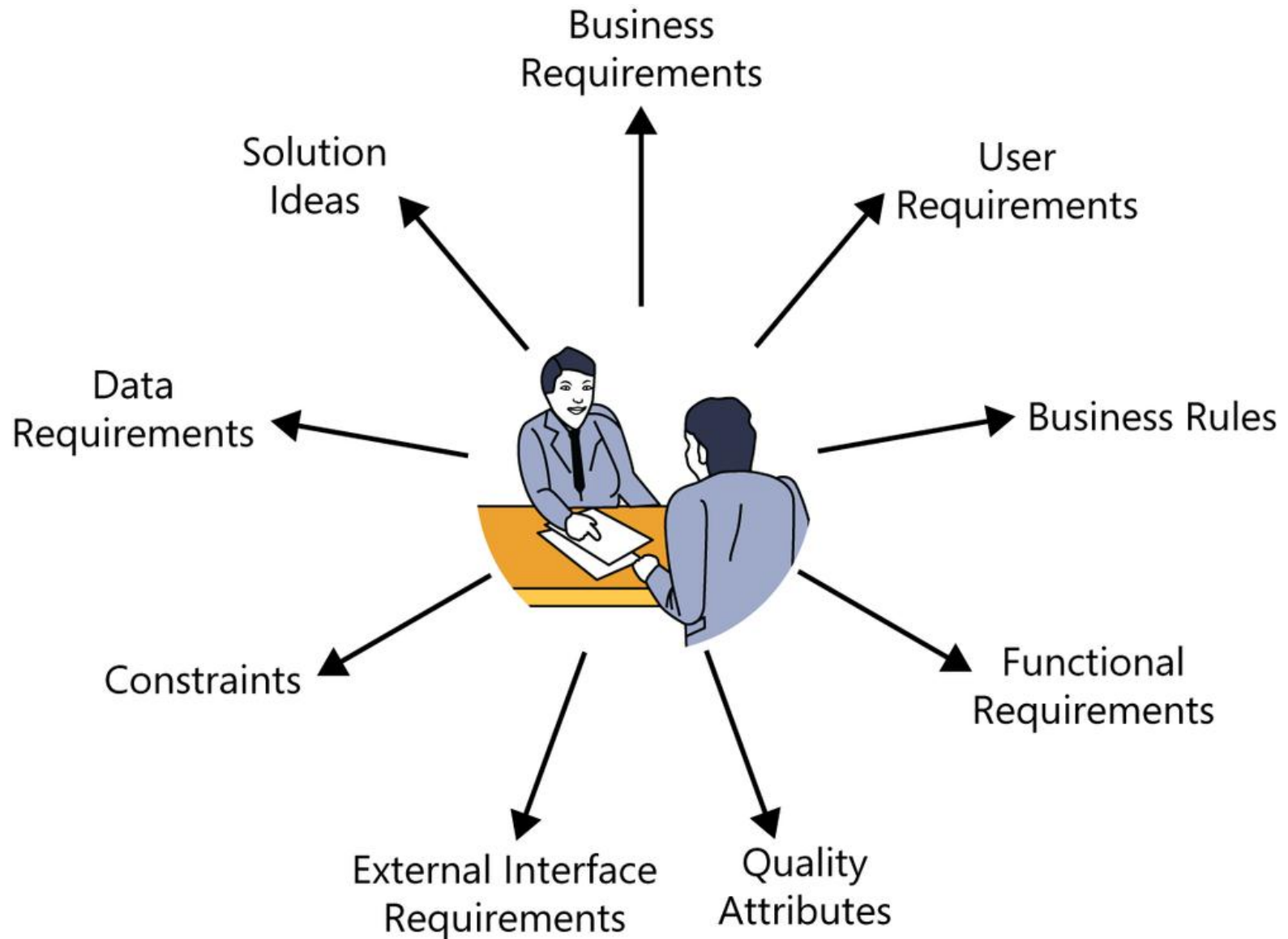
## Elicitation technique

- Interviewing
- Facilitated group meeting
- Computer-Supported Cooperative Work
- Observation
- Questionnaires
- Prototyping
- Scenario Analysis
  - System
  - User Interface
  - Document

# Elicitation Chooser

	Interviews	Workshops	Focus groups	Observations	Questionnaires	System interface analysis	User interface analysis	Document analysis
Mass-market software	x		x		x			
Internal corporate software	x	x	x	x		x		x
Replacing existing system	x	x		x		x	x	x
Enhancing existing system	x	x				x	x	x
New application	x	x				x		
Packaged software implementation	x	x		x		x		x
Embedded systems	x	x				x		x
Geographically distributed stakeholders	x	x			x			

# Analysis: Classification the result





# Cheat sheet Req. Classification

Classification	Example
Business requirements	Save \$X per year on travel plan
User requirements	I need to print a travel approval for an employee
Business rules	The travel plan can't exceed twice a month
Func Requirement	If the travel document is not approved, the application will send email to the employee
Quality attributes	The approval email should support 10 approval email / second
External interface requirements	The employee travel report should imported to the existing payroll system
Constraints	Approval email cannot exceed 20 MB attachment
Data Requirement	The travel requested codes should five digits
Solution idea	It will be great if the approval can also forwarded through whatsapp

# Requirements Priority

	<i>Important</i>	<i>Not So Important</i>
<i>Urgent</i>	High Priority	Don't Do These!
<i>Not So Urgent</i>	Medium Priority	Low Priority

Wiegiers & Beatty, 2013

# Specification Result

## ● Vision and Scope Document

### 1. Business requirements

- 1.1 Background
- 1.2 Business opportunity
- 1.3 Business objectives
- 1.4 Success metrics
- 1.5 Vision statement
- 1.6 Business risks
- 1.7 Business assumptions and dependencies

### 2. Scope and limitations

- 2.1 Major features
- 2.2 Scope of initial release
- 2.3 Scope of subsequent releases
- 2.4 Limitations and exclusions

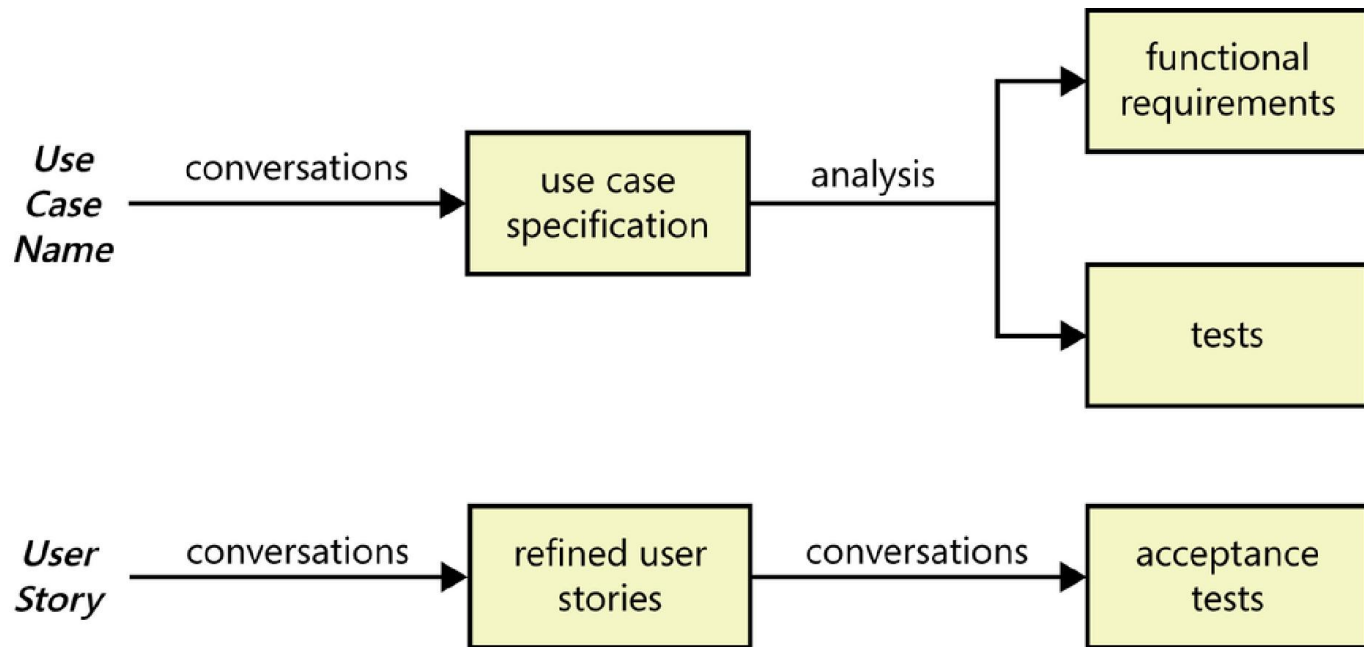
### 3. Business context

- 3.1 Stakeholder profiles
- 3.2 Project priorities
- 3.3 Deployment considerations

# Specification Result

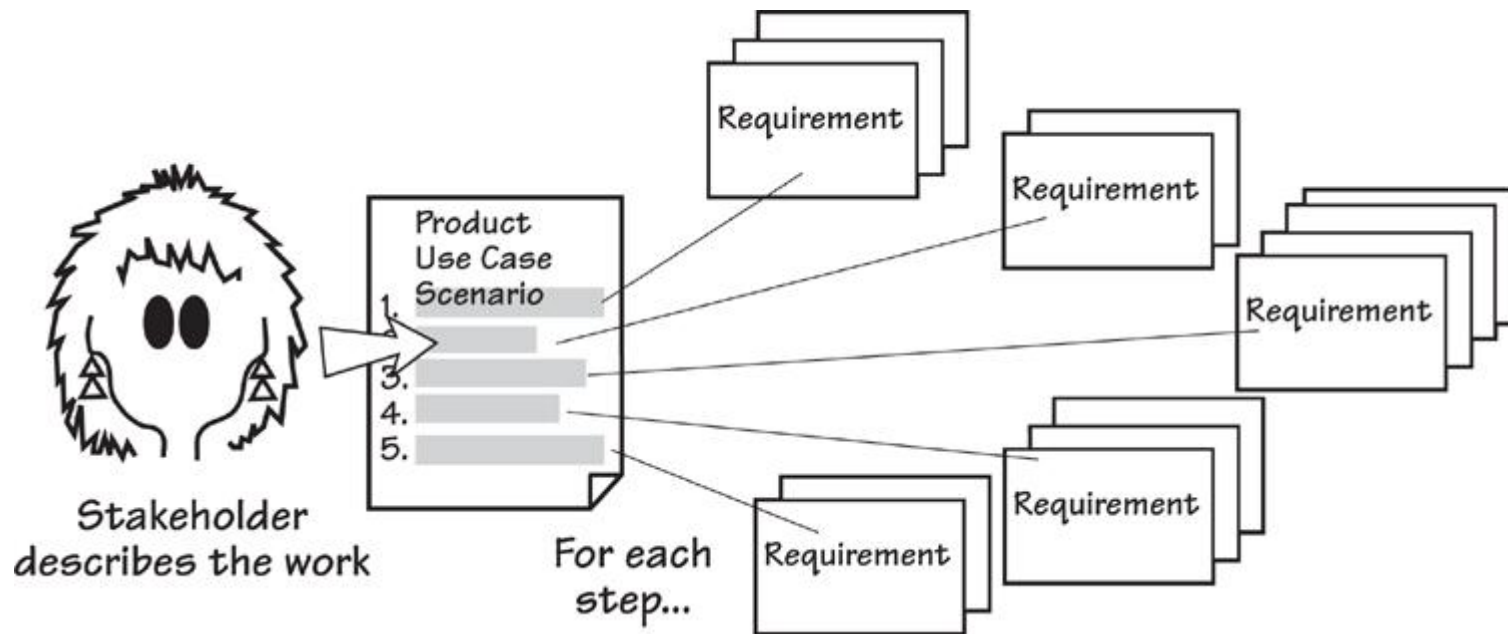
## Technical Approaches

- Use Case
- User Story



# Specification Result

## ● Functional Requirement



Robertson, J. & Robertson, S. 2012

# Documenting the result

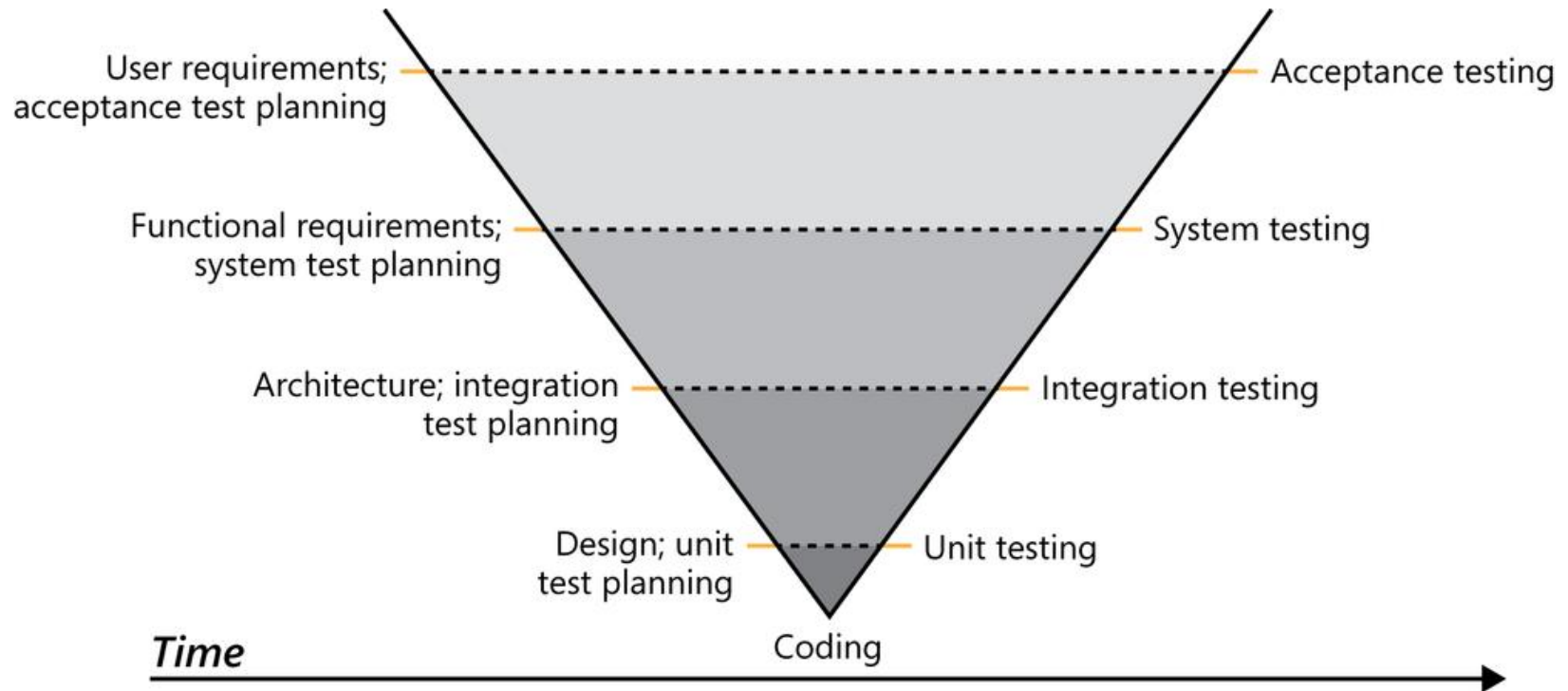
## • Software Requirement Specification

Wiegiers & Beatty, 2013

- 1. Introduction**
  - 1.1 Purpose
  - 1.2 Document conventions
  - 1.3 Project scope
  - 1.4 References
- 2. Overall description**
  - 2.1 Product perspective
  - 2.2 User classes and characteristics
  - 2.3 Operating environment
  - 2.4 Design and implementation constraints
  - 2.5 Assumptions and dependencies
- 3. System features**
  - 3.x System feature X
    - 3.x.1 Description
    - 3.x.2 Functional requirements
- 4. Data requirements**
  - 4.1 Logical data model
  - 4.2 Data dictionary
  - 4.3 Reports
  - 4.4 Data acquisition, integrity, retention, and disposal
- 5. External interface requirements**
  - 5.1 User interfaces
  - 5.2 Software interfaces
  - 5.3 Hardware interfaces
  - 5.4 Communications interfaces
- 6. Quality attributes**
  - 6.1 Usability
  - 6.2 Performance
  - 6.3 Security
  - 6.4 Safety
  - 6.x [others]
- 7. Internationalization and localization requirements**
- 8. Other requirements**
- Appendix A: Glossary**
- Appendix B: Analysis models**

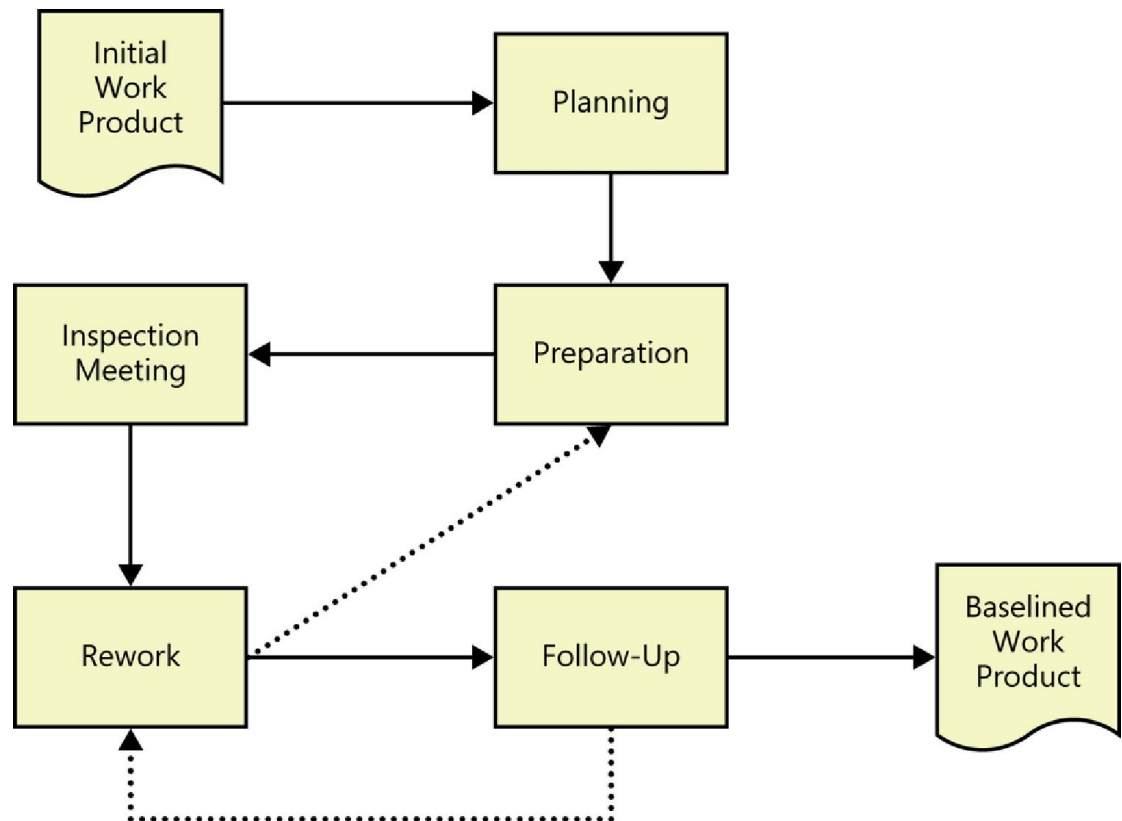
# Validating Requirements

## • The V Model



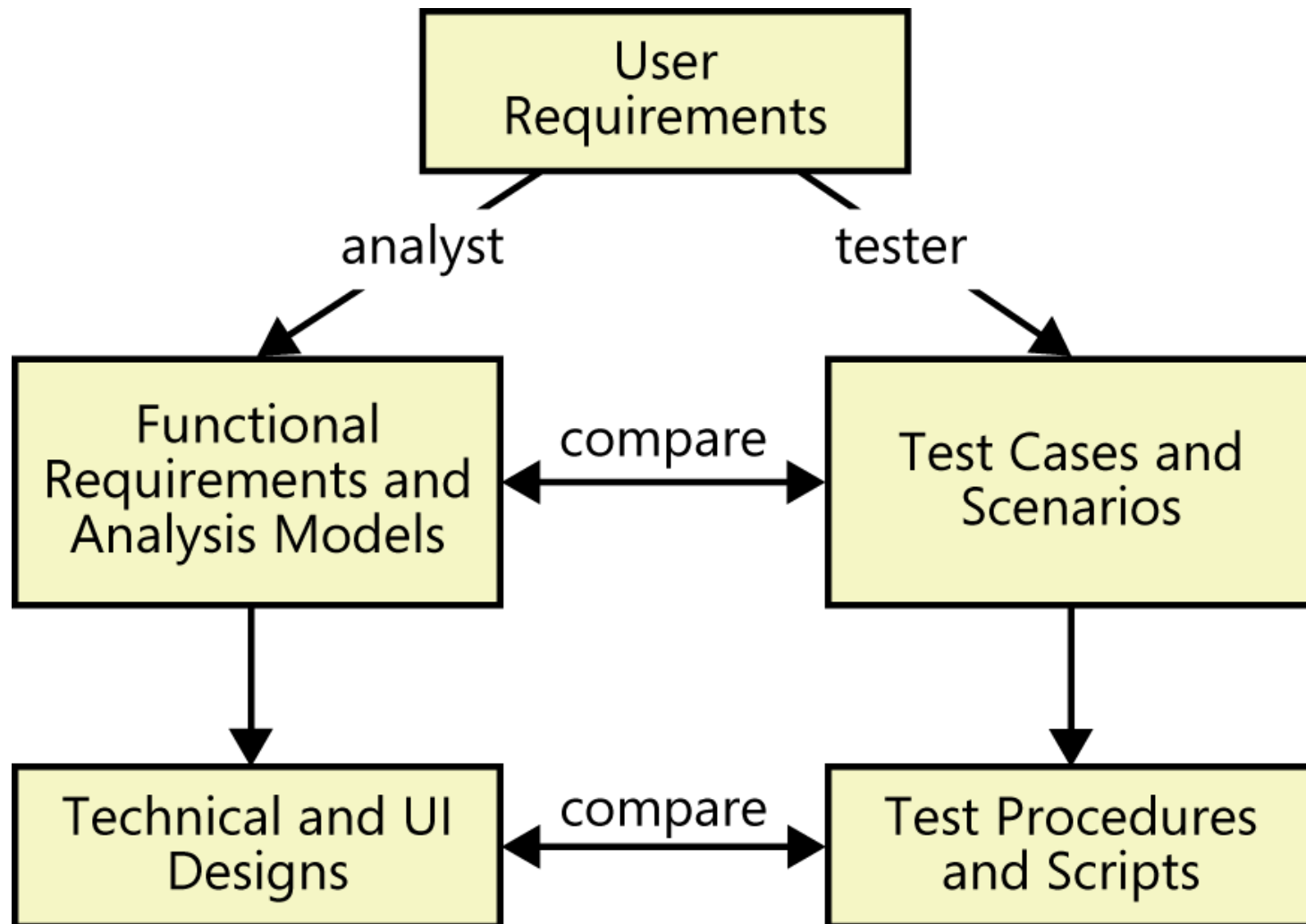
# Reviewing Requirements

- A peer deskcheck
- A passaround
- A walkthrough



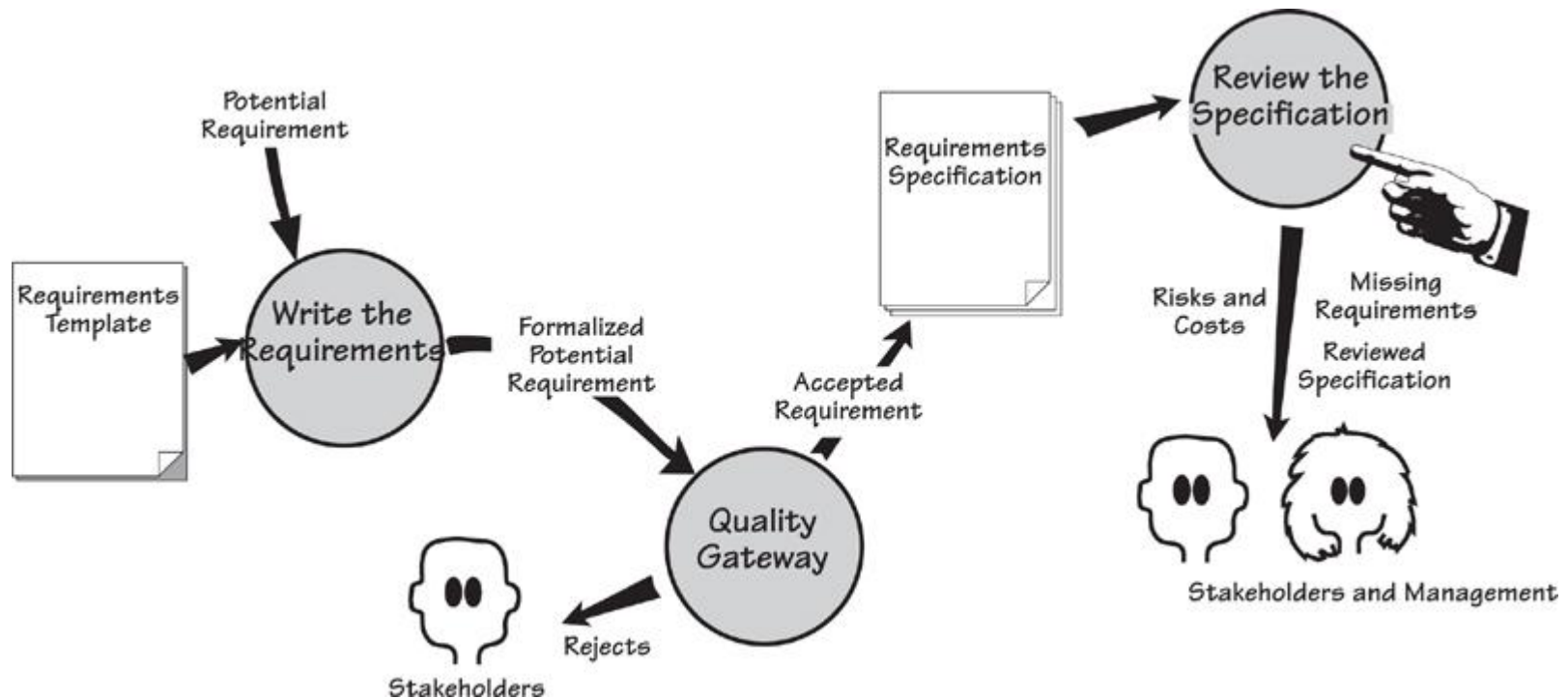


# Software Development Validation



# Key points

- Good Requirements = Preparing the communication foundation between stakeholder



# Requirement Development

## *Case Study*

Building Requirement for Software  
Development

# References

- Wiegers, E. K & Beatty, J. 2013. Software Requirements. Microsoft Press
- Davis, M.A. 2013. Just Enough Requirements Management: Where Software Development Meets Marketing. Addison-Wesley Professional.
- Robertson, J. & Robertson, S. 2012. Mastering the Requirements Process: Getting Requirements Right, 3/e, Video Enhanced Edition. Addison-Wesley Professional