

# Software Requirement Engineering (SE-211)

## Lecture 26: Requirements Traceability

Chapter 6: Requirement Engineering and Management  
Chapter 9: Requirement Engineering a Good Practice Guide

# Classifications of Requirements Traceability

- Backward-from traceability
- Forward-from traceability
- Backward-to traceability
- Forward-to traceability

# Backward-from Traceability

- Links requirements to their sources in other documents or people

# Forward-from Traceability

- Links requirements to design and implementation components

# Backward-to Traceability

- Links design and implementation components back to requirements

# Forward-to Traceability

- Links other documents (which may have preceded the requirements document) to relevant requirements

# Backwards and Forwards Traceability

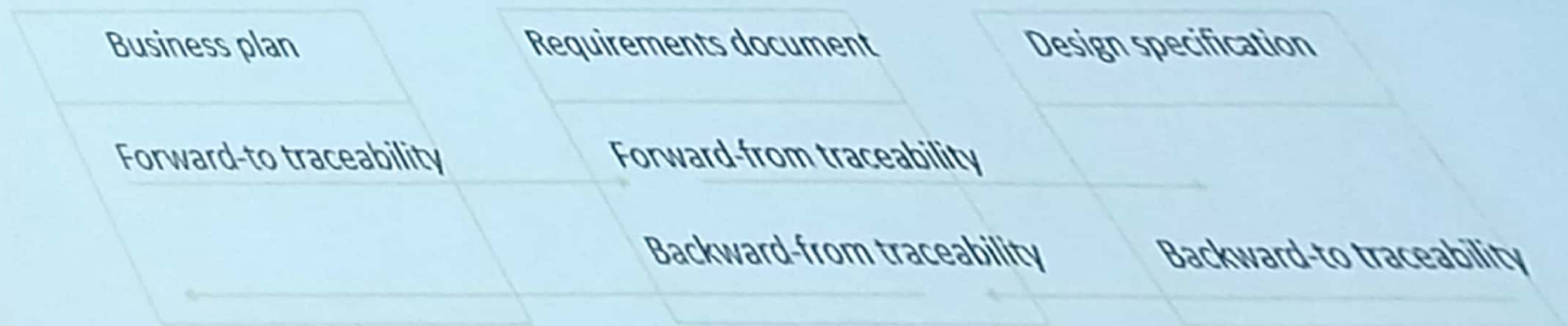




Table 9.1 Requirements traceability matrix

Requirements traceability matrix

Project id:

Last updated on:

Requirement id	Brief description	Origin of requirement	References of the requirement in other artifacts				
			SRS	Design document	Code component	Test cases	Test logs



## 9.1 Requirements traceability matrix

Requirements traceability matrix

Item id:

Updated on:

Requirement	Brief description	Origin of requirement	References of the requirement in other artifacts						
			SRS	Design document	Code component	Test cases	Test logs	Change request	Deleted reference

Table 9.1 Requirements traceability matrix

Requirements traceability matrix

Project id: \_\_\_\_\_

Last updated on: \_\_\_\_\_

Requirement id	Brief description	Origin of requirement	References of the requirement in other artifacts							Remarks
			SRS	Design document	Code component	Test cases	Test logs	Change request	Deleted/modified (include reference)	

# A Generic Traceability Table

	A01	A02	A03		Aii
R01		✓	✓		
R02	✓	✓			
R03		✓			✓
Rnn	✓	✓			

	<u>Manager</u>	Supervisor	Student	...
1	✓		✓	
2				
3				
4				

# Need for Traceability Policy

- Huge amount of information, which is expensive to collect, analyze, and update
- Need to continuously update traceability information
- A traceability policy is needed



# Traceability Policy

- Traceability information
- Traceability techniques
- When to collect information
- Roles
- Documentation of policy exceptions
- Process of managing information



# Traceability Information

- No. of requirements
- Estimated lifetime
- Level of organization's maturity
- Project team and composition
- Type of system
- Specific customer requirements

# Basic Types of Requirements Traceability - 1

- Pre-RS traceability
  - Concerned with those aspects of a requirement's life prior to its inclusion in the RS (requirements production)
- Post-RS traceability
  - Concerned with those aspects of a requirement's life that result from its inclusion in the RS (requirements deployment)

# Summary

- Requirements traceability is an on-going process, and has two basic types: pre-RS and post-RS
- There are four classifications of requirements traceability
- We discussed traceability information, policies, and techniques
- Without proper traceability, requirements cannot be managed