

Lecture Outline

- Requirement Analysis Technique
- Requirement Negotiation

Requirements Interactions - 1

- A very important objective of requirements analysis is to discover the interactions between requirements and to highlight requirements conflicts and overlaps
- A requirements interaction matrix shows how requirements interact with each other, which can be constructed using a spreadsheet

An Interaction Matrix

Requirement	R1	R2	R3	R4	R5	R6
R1	0	0	1000	0	1	1
R2	0	0	0	0	0	0
R3	1000	0	0	1000	0	1000
R4	0	0	1000	0	1	1
R5	1	0	0	1	0	0
R6	1	0	1000	1	0	0

Comments on Interaction Matrices - 2

- In the example, we are considering, we can see that R1 overlaps with R3 and conflicts with R5 and R6
- R2 is an independent requirement
- R3 overlaps with R1, R4, and R6

Comments on Interaction Matrices - 3

- The advantage of using numeric values for conflicts and overlaps is that you can sum each row and column to find the number of conflicts and the number of overlaps
- Requirements which have high values for one or both of these figures should be carefully examined

Interaction Matrix Example

- R1. Video card memory shall be at least 256M
- R2. Video card memory speed shall be at least 800MHz
- R3. Video card interface type shall be AGP
- R4. The video game shall be installed in 32-bit architecture system.
- R5. Monitor resolution shall be at least 1024x768pixel
- R6. Motherboard video card slot shall be PCIe
- R7. Input device shall be a three-button mouse and ANSI 108-Key keyboard
- R8. CPU speed shall be at least 1.0 GHz
- R9. The operating system shall be at least Windows 95.

Comments on Interaction Matrices - 5

- The upper limit should be about 200 requirements
- These overlaps and conflicts have to be discussed and resolved during requirements negotiation, which we'll discuss next

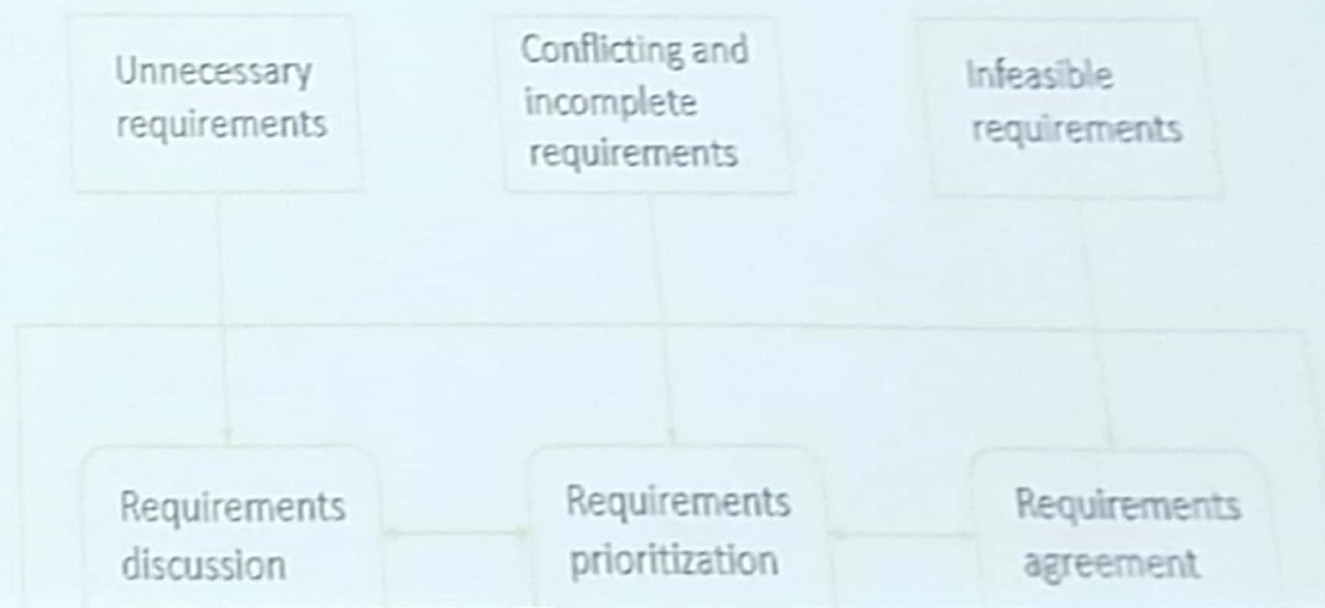
Requirements Negotiation Stages

- Requirements discussion
- Requirements prioritization
- Requirements agreement

Requirements Prioritization

- Disputed requirements are prioritized to identify critical requirements and to help the decision making process

Requirements Negotiation Process



Requirements Negotiation

Stages of Negotiation Meetings

- Information stage
- Discussion stage
- Resolution stage

Summary

- Interaction matrices are very useful for capturing interactions among requirements
- Requirements negotiation is always necessary to resolve requirements conflicts and remove requirements overlaps. Negotiation involves information interchange, discussion and resolution of disagreements