Visualizing Rationale
Tying Requirements into the Real World

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Tacit Knowledge

• “Users don’t know what they want until you show it to them”
  – ‘an old saying in software’ (Kent Beck)

• “We know more than we can tell” (Polanyi)
  – much knowledge is only indirectly accessible
  – we can agree when shown a photofit picture, but can’t describe without prompting

• “Culture is a pattern of shared basic assumptions” (Schein)
  – so, people in other cultures have different assumptions – which they don’t examine

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Assumption-Based Planning

Make a robust plan by following these 5 steps

Book offers many recipes for finding assumptions that matter

Figure 1.1. The Basic Steps and Flow of Assumption-Based Planning
Justification by Proof: Classical Reasoning

A Syllogism

- All men are mortal
- Socrates is a man
- So, Socrates is mortal

- Simple, convincing…
- … and almost impossible to apply in practice.

∀m:man(m) → mortal(m)
man(Socrates)
∴mortal(Socrates)
Justification by ‘Substantial’ Reasoning

• In the real world we can hardly ever prove things mathematically (à la Plato)
• Toulmin (back in 1958, ie only 2000 years after Plato) suggested a practical or ‘substantial’ argument
• Not as certain as proof
• But a lot easier to use as Rationale for project decisions
Arguing from Assumptions Alone

Market will support luxury options

Need a Zoned Alarm Option

People want alarm while inside house

People want to feel safe

Need a configurable electronic Alarm

People want alarm while outside house

People want to protect property

Key

Assumption

Something a Stakeholder believes, supporting the requirements

“Signpost”, a risk monitor that could force re-evaluation of requirements

supports

weakens

If Housing Market falls, retail price will fall
## Rationale Notations Compared

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- No agreement on names of concepts
- No agreement on how many concepts
- Not really part of rationale – indicates needed action
Forthcoming Book
with a chapter on Rationale & Assumptions

Discovering Requirements
How to Specify Products and Services
Ian Alexander
Ljerka Beus-Dukic

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