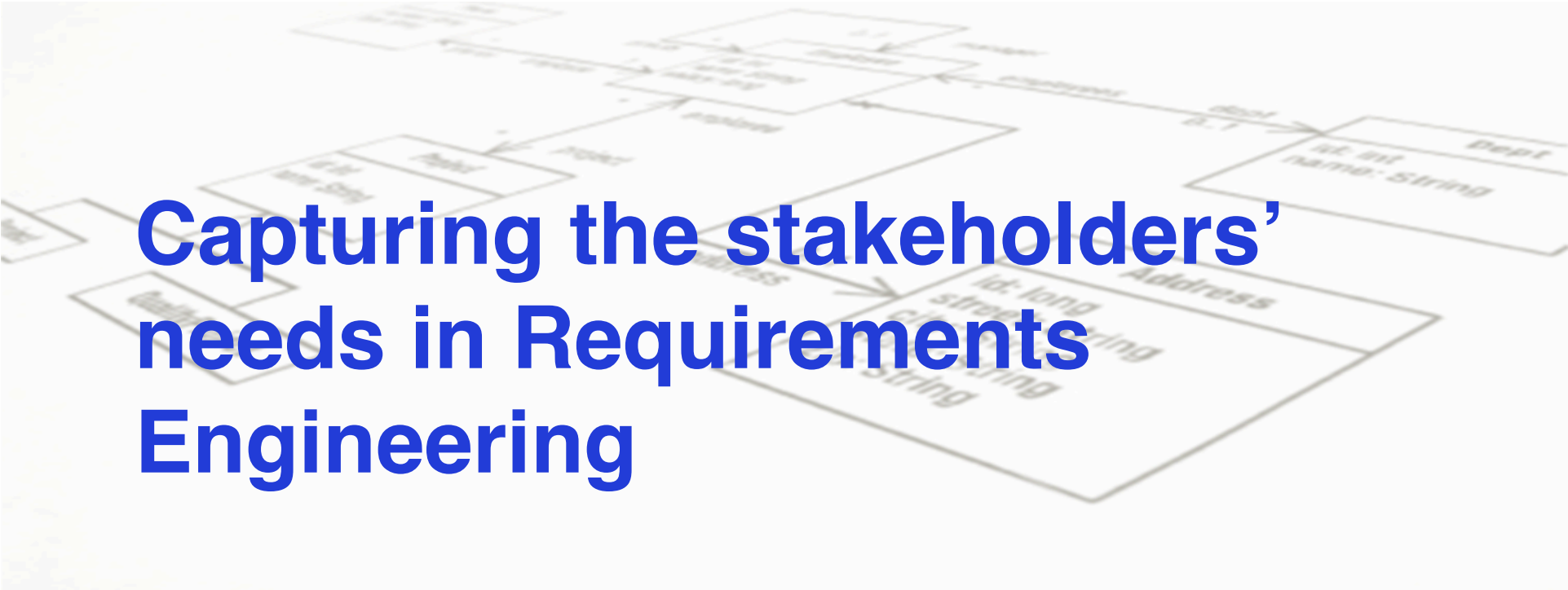


A faded UML class diagram serves as the background for the title. It shows several classes: 'Person' with attributes 'id: long', 'name: string', and 'address: string'; 'Address' with attributes 'id: long', 'street: string', 'city: string', and 'state: string'; 'Dept' with attributes 'id: int' and 'name: string'; and 'Employee' with attributes 'id: long', 'name: string', and 'dept: int'. Relationships include 'Person' to 'Address' (1 to 1), 'Person' to 'Employee' (1 to many), and 'Employee' to 'Dept' (many to 1).

Capturing the stakeholders' needs in Requirements Engineering

Requirements Engineering II

November 17th 2008

Michael Sommerhalder, Krzysztof Dabkowski, Stefan Schurgast

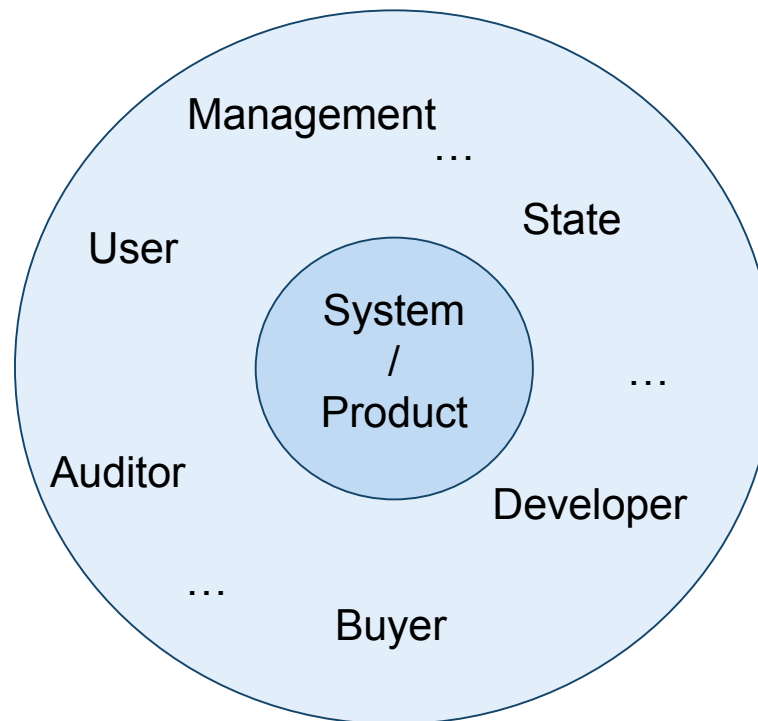
Table of Contents

1. Stakeholder and elicitation techniques
2. Contextual design
3. Inquiry cycle model
4. Workshops
5. Conclusion

Stakeholder

Definition:

Someone with direct or indirect Influence on requirements.



Elicitation techniques

Several techniques ^{[1],[2]}:

- Interviews
- Protocol analysis
- Role playing
- Workshop
- ...

[1]: [Goguen 1993], [2]: [Hickey 2003]

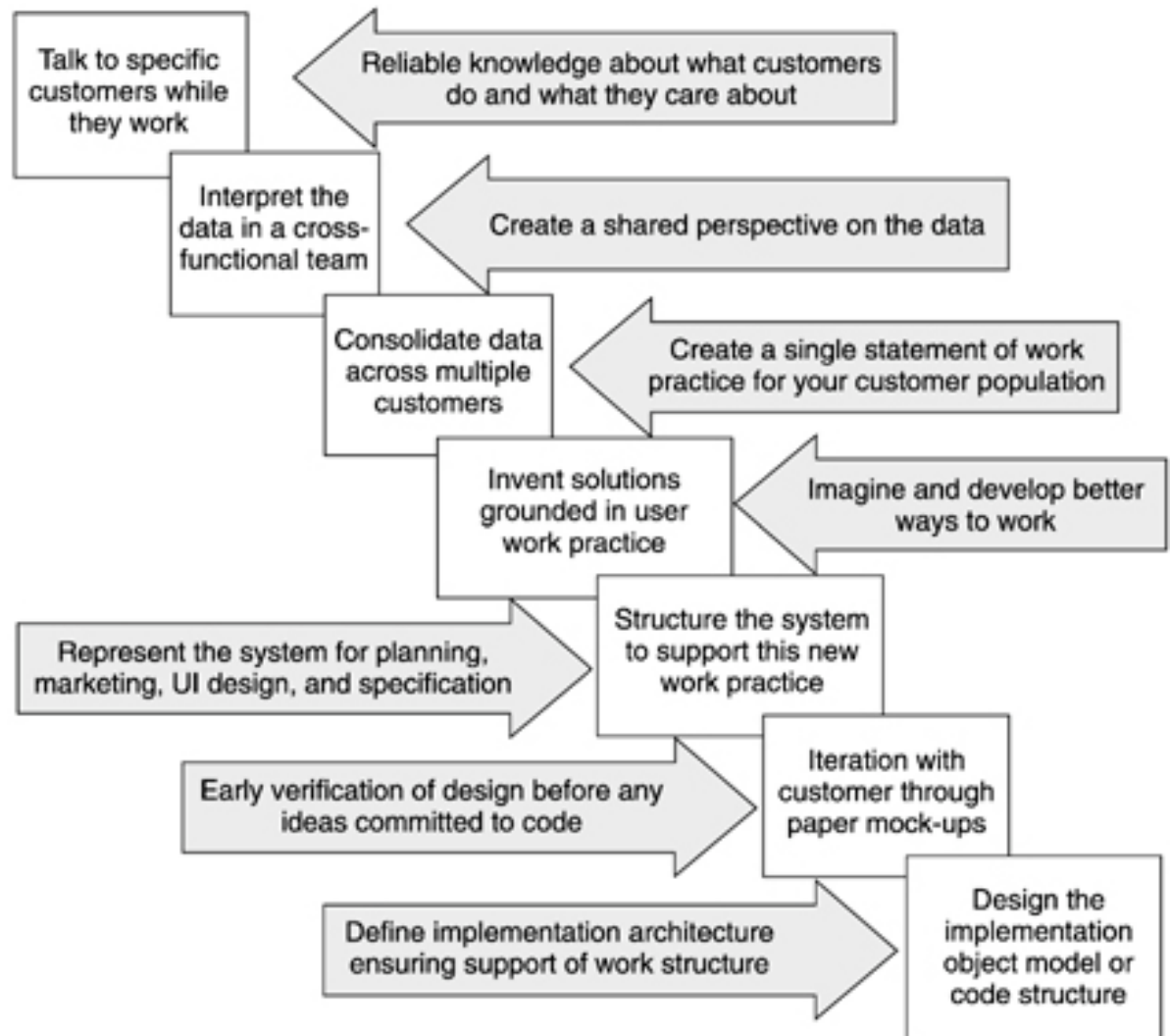
Contextual Design

Researchers aggregate data from customers and applying these findings into a final product.

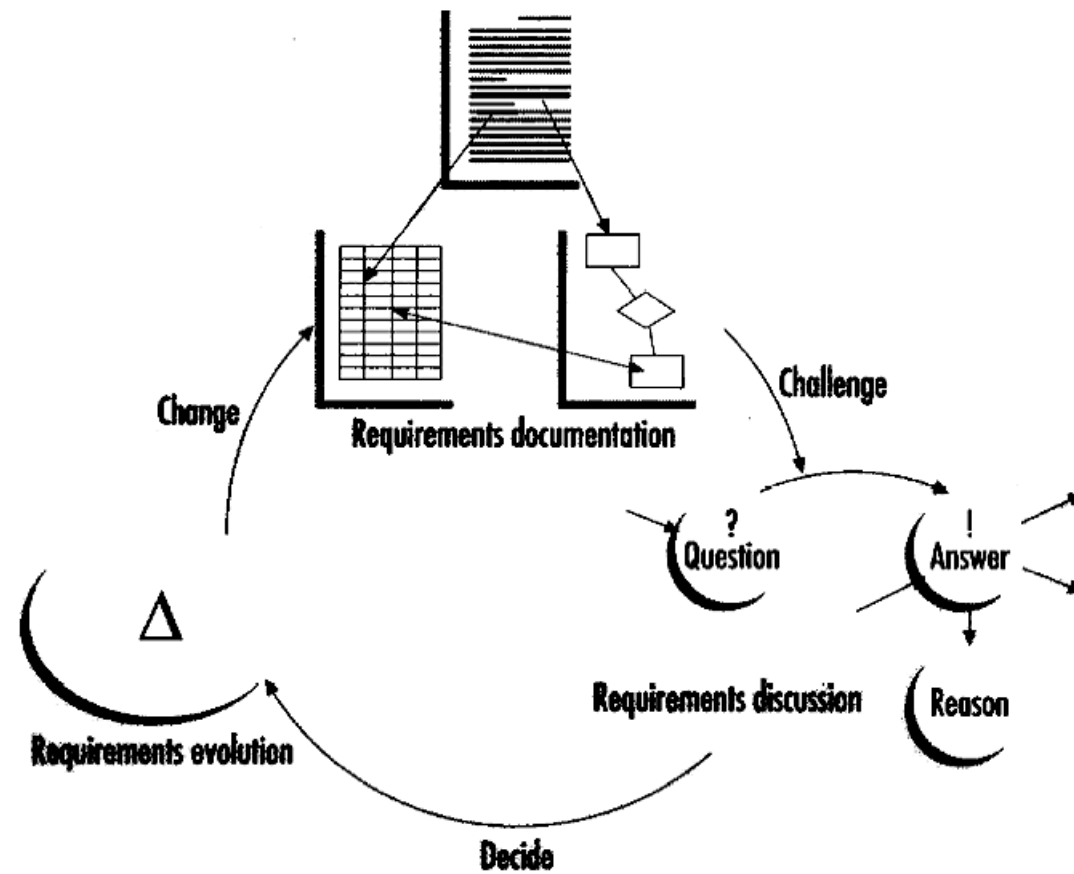
Process overview:

1. contextual inquiry
2. work modeling
3. Consolidation
4. Work redesign
5. User environment design
6. Test with customers

[Beyer 1999]



Inquiry cycle model - 1



Inquiry cycle model - 2

1. Requirements documentation:

- ◆ Requirements
- ◆ Scenarios
- ◆ Constraints

2. Requirements discussion:

- ◆ Questions
- ◆ Answers
- ◆ Justifications

3. Requirements evolution:

- ◆ Change requests
- ◆ Define as final

Workshops - effect and purpose

- Effect

“... it creates an efficient, controlled, and dynamic setting where you can quickly elicit, prioritize, and agree on a set of high-quality project requirements”

- Purpose

“... to outline the project’s vision and scope, to create a release strategy or iteration plan, or to define requirements in varying levels of detail”

Workshops - invitees

Project sponsor

- ◆ Funder of the project, understands large business goals

Product champion

- ◆ Ambassador user, might be business/product/project manager

Direct users

- ◆ Have direct contact with software which should simplify their jobs

Indirect users

- ◆ Have contact with system's byproduct, receive reports, e.g.

Advisors

- ◆ Don't see/use the system but have other information such as business rules or policies

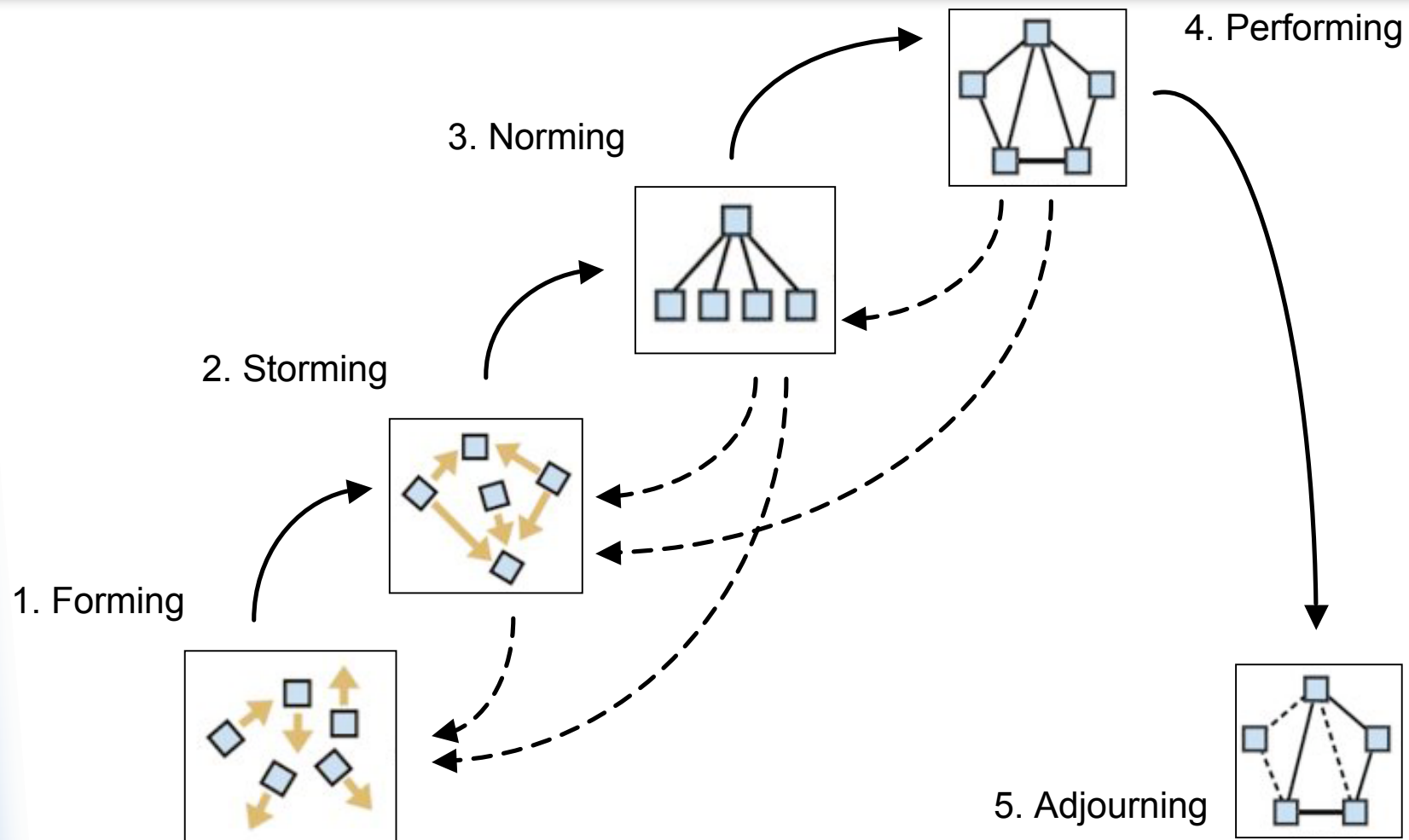
Suppliers

- ◆ Understand current systems, are typically developers, architects, engineers, testers

Workshops - collaboration

- "One key to an effective collaborative workshop is to systematically, resolutely - dare I say stubbornly - elicit and then resolve everyone's concerns"
- Effective collaboration needs following roles
 - ◆ Workshop sponsor
 - ◆ Facilitator
 - ◆ Content participant
 - ◆ Recorder
 - ◆ Observer
 - ◆ On-call subject matter expert

Workshops - Processes



Conclusion

- Convene all stakeholders and elicit all their requirements and concerns
- Choose appropriate elicitation technique and customize for specific purpose
- Design system or product in context of project
- Flag assumptions and consider alternatives

Literature

[Beyer 1999]: Beyer, H., K. Holtzblatt (1999). Contextual Design. Interactions 6, 1 (Jan/Feb 1999). 32-42.

[Goguen 1993]: Goguen, J. and C. Linde (1993). Techniques for Requirements Elicitation. Proceedings of the First IEEE International Symposium on Requirements Engineering (RE193), San Diego, USA. 152-164.

[Gottesdiener 2003]: Gottesdiener, E. (2003). Requirements by Collaboration: Getting It Right the First Time. IEEE Software 20, 2 (Mar/Apr 2003). 52-55.

[Hickey 2003]: Hickey, A.M. and A.M. Davis, (2003). Elicitation Technique Selection: How Do Experts Do It? Proceedings of the 11th IEEE International Requirements Engineering Conference (RE'03), Monterey Bay, USA. 169-178.

[Potts 1994]: Potts C. , K. Takahashi, A. Antón (1994). Inquiry-Based Requirements Analysis. IEEE Software 11, 2 (Mar/Apr 1994). 21-32. (Paper was presented at the First IEEE International Conference on Requirements Engineering, but as a one of three best papers published not in the proceedings, but in IEEE Software.)

Thanks for your attention!
