16th IEEE International
Requirements Engineering Conference
Sept 8-12
Barcelona, Spain

3rd International Workshop on Visualization in Requirements Engineering REV'08

Program Chairs

Brian Berenbach & Olly Gotel

Program Committee

Ian Alexander, Scenario Plus Ltd, UK
Nelly Bencomo, Lancaster University, UK
Daniel Berry, University of Waterloo, Canada
Manfred Broy, Technische Universität München, Germany
Betty Cheng, Michigan State University, USA
Krzysztof Czarnecki, University of Waterloo, Canada
Nancy Day, University of Waterloo, Canada
Christof Ebert, Vector Consulting
Holger Giese, Hasso Plattner Institute
Seok-Won Lee, University of North Carolina at Charlotte, USA
Frank Marchese, Pace University, New York, USA
Stephen Morris, City University, London, UK
Harold Ossher, IBM Corporation, USA
Raghvinder Sangwan, Pennsylvania State University, USA
Peter Sawyer, Lancaster University, UK
Eric Yu, University of Toronto, Canada

Why a workshop on Visualization (1)?

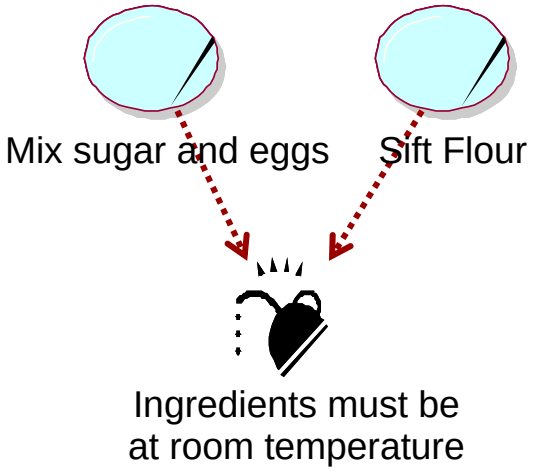
It has been found empirically that text specifications are inherently ambiguous. The ambiguity is exacerbated with global software development, different languages and cultures.

Graphical models are inherently unambiguous

"Mix the sugar and eggs. Sift the flour. The ingredients must be at room temperature"

Mix what? – the sugar, the eggs the flour or some combo?

VS.

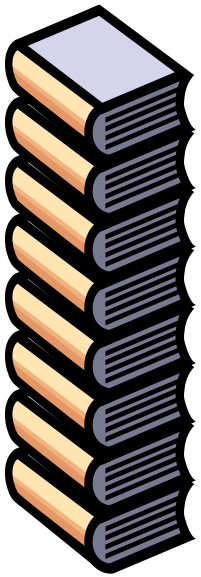


Unambiguous!

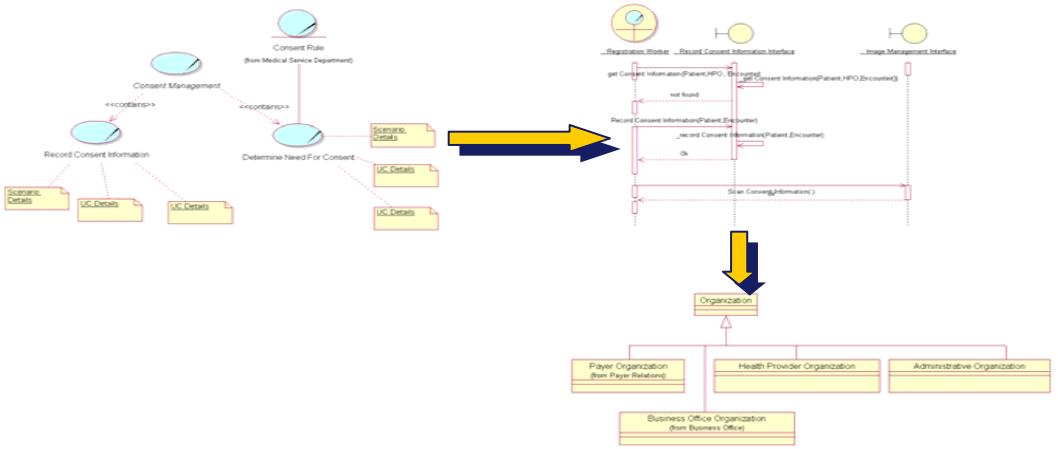
Why a workshop on Visualization (2)?

- It is extraordinarily difficult to get stakeholders across multiple time zones to effectively review complex requirement specifications
- Graphical models can be reviewed by all stakeholders together with minimal language or cultural issues.

This



vs.



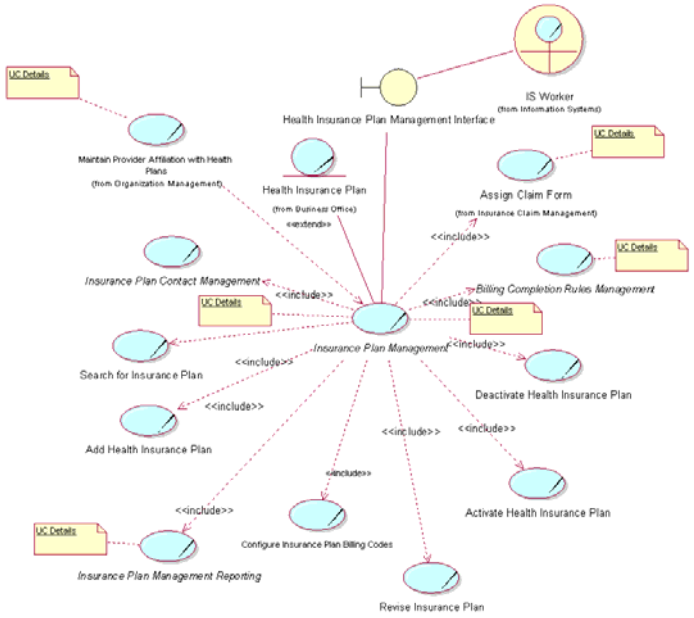
Why a workshop on Visualization (3)?

- Hierarchical Storage Mechanisms for requirements breakdown with cross-cutting requirements and scale.
- Graphical models size nicely and manage crosscutting requirements without difficulty

Tag	Name	TracedFrom	Traced-to
SUC101	Filter View in IET Central	CSC96, CSC97, CSC153, CSC154, CSC155, CSC241, CSC297, CSC378, CSC379, CSC380, CSC381, CSC382, CSC383, CSC484	BUC17, BUC18, BUC22, BUC201
SUC107	Change Active Project in MSD	CSC29, CSC40, CSC189, CSC190, CSC191, CSC248, CSC244, CSC302	BUC196, BUC201
SUC111	View Concepts in MSD	CSC44, CSC195, CSC284, CSC387, SUC116, SUC121	BUC17, BUC18, BUC22, BUC201
SUC112	View Drawing in MSD	CSC236, CSC269, CSC338, CSC340, SUC120, SUC121	BUC6, BUC18, BUC23, BUC25, BUC124, BUC125, BUC131, BUC135, BUC145, BUC146, BUC201, BUC202
SUC113	View Material Flow Diagram in IET Central	CSC230, CSC231, CSC242, SUC122	BUC3
SUC114	View Projects in IET Central	CSC298, CSC305, SUC122	BUC17, BUC18, BUC22, BUC201
SUC115	View Properties in IET Central	CSC74, CSC101, CSC102, CSC156, CSC158, CSC218, CSC227, CSC228, CSC300, CSC385, SUC122	CSCOMP121
SUC116	Manage Concepts in MSD	CSC192, CSC193, CSC194, CSC195, CSC196, CSC197, CSC209, CSC283	BUC6, BUC17, BUC22, BUC35, BUC36, BUC37, BUC201, SUC26, SUC29, SUC34, SUC40, SUC55, SUC111, SUC132, SUC133, SUC134
SUC117	Manage Concepts in IET Central	CSC216, CSC217, CSC218, CSC219, CSC220, CSC221, CSC235, CSC295, CSC296, CSC297, CSC309	BUC47, BUC48, SUC92, SUC94, SUC97, SUC99
SUC119	Manage Groups in IET Central	CSC52, CSC54, CSC56	SUC15, SUC24, SUC90, SUC95, SUC96, SUC98
SUC122	View Objects in IET Central	CSC213, CSC226, CSC227, CSC230, CSC231, CSC242	SUC63(s), SUC64, SUC65, SUC113, SUC114, SUC115
SUC123	Manage Collections (Dashboards) in IET Central		SUC39, SUC63(s), SUC74, SUC76, SUC77
SUC124	Promote Objects in IET Central	CSC75, CSC308, CSC309	SUC48, SUC49, SUC50
SUC125	Manage System Elements in MSD	CSC391	BUC6, BUC17, BUC22, SUC17, SUC18, SUC19, SUC23, SUC27, SUC32, SUC36, SUC52, SUC53, SUC61, SUC69, SUC83, SUC84
SUC131	Manage Drawing Content in MSD	CSC412, CSC413, CSC414, CSC415, CSC416, CSC417, CSC418, CSC419, CSC420, CSC421, CSC422, CSC423, CSC424, CSC425,	BUC18, BUC201
SUC135	Refresh Drawing in MSD	SUC120	BUC17, BUC18, BUC22, BUC201
SUC137	Open Drawing in MSD	SUC120	BUC6, BUC18, BUC23, BUC25, BUC124, BUC125, BUC131, BUC135, BUC145, BUC146, BUC201, BUC202
SUC138	Check in Drawing in MSD	SUC120	BUC6, BUC18, BUC23, BUC25, BUC124, BUC125, BUC131, BUC135, BUC145, BUC146, BUC201, BUC202

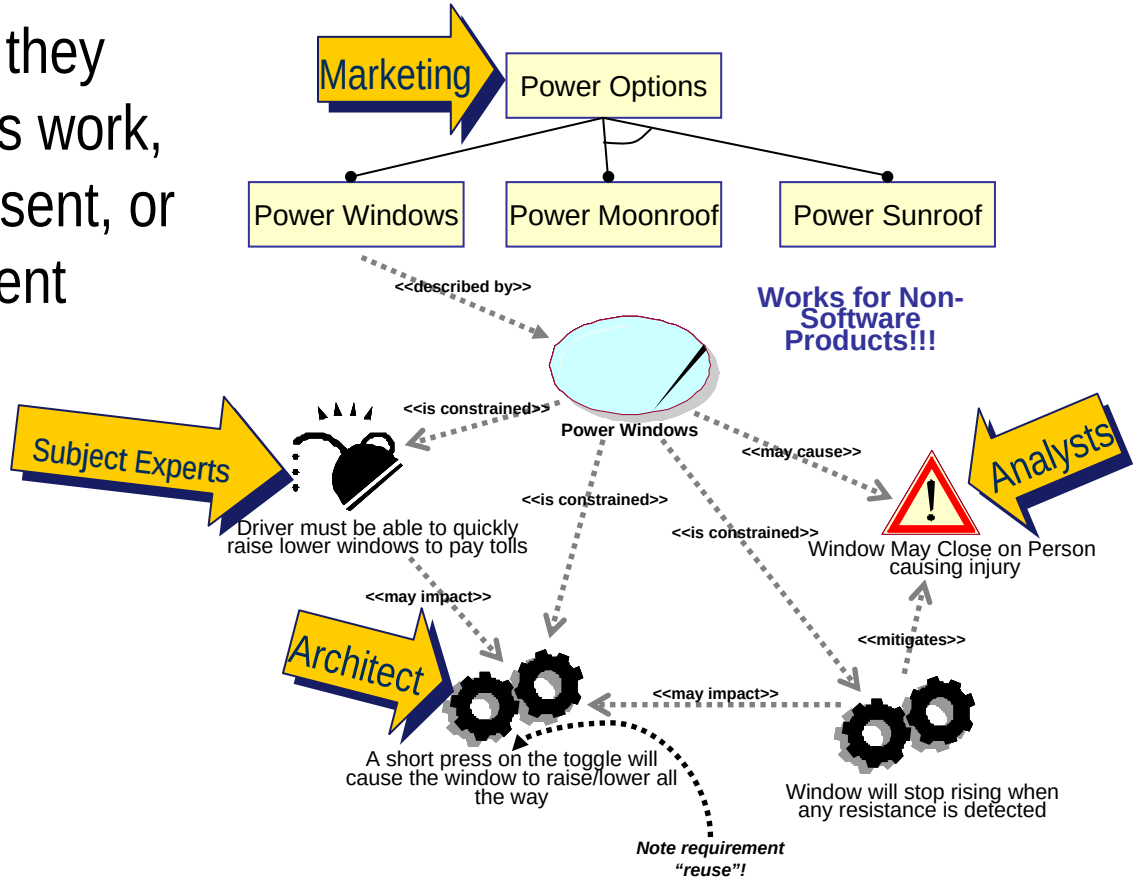
Trace Map

VS.



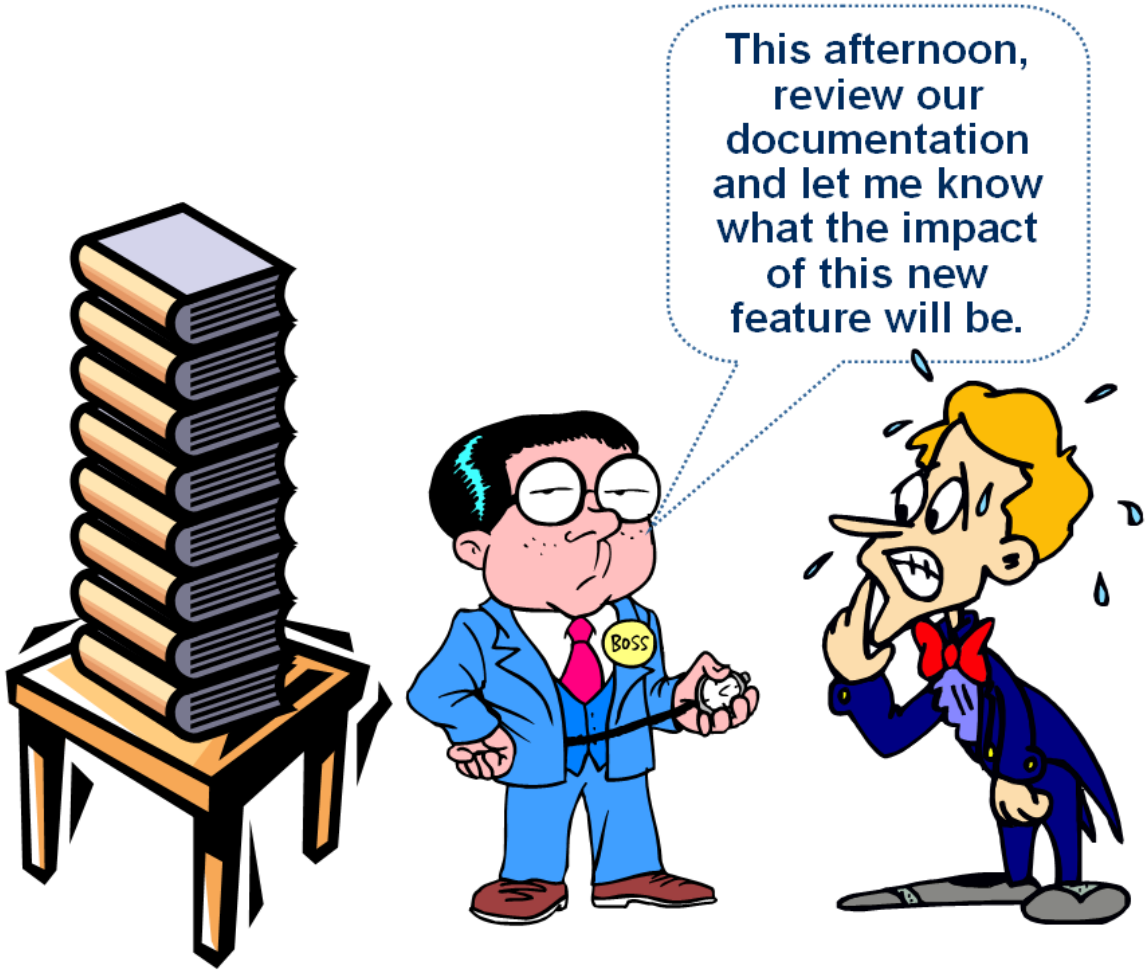
Why a workshop on Visualization (4)?

Different teams work on different requirement sets. With a conventional approach, they may not see each others work, or the traces may be absent, or may break across different media.



Why a workshop on visualization (5)?

Natural Language techniques just do not SCALE!



Conclusions

The workshop chairs believe that:

- Natural language techniques alone are not sufficient and viable
- Visualization techniques work, and work better than traditional text approaches:
  - Scalability
  - Overcoming global boundaries
  - Improved Communication
  - Support for cross-cutting
  - Inherently Unambiguous

Workshop Goals

- The workshop aims to provide a collaborative session in which ideas related to the visualization of requirements and ways of making them practical are shared, reviewed and debated.
- The controversy surrounding the practicality of non-traditional requirements engineering techniques will be discussed.
- The workshop will be used to identify future work, issues, problems and priorities, and to propose recommendations around these dimensions for requirements engineering visualization research.

Issues that speakers should address

- What is the problem you are working on?
- How and why is visualization expected to help?
- Who and what is the visualization for? How are they expected to use it?
- What visualization(s) have you created?
- How was it (they) derived and constructed?
- How does it (they) work?
- Show and tell -- explain your poster…
- Has your visualization(s) been used in practice? If so, with what results? If not, what are your plans for validating your work?
- Critique your visualization(s) (i.e., pros, cons, strengths and weaknesses).
- Next steps? Open questions? Include any suggestions as to how things could be done differently/better. Perhaps compare with the state of the art or state of the practice.

Morning Program

09:00 – 09:30 **Welcome to REV'08 and Program Overview** -- Brian Berenbach & Olly Gotel

09:30 – 10:30 **Session 1 Visualization Languages and Notations**

- Kurt Schneider, Kai Stapel and Eric Knauss -- Beyond Documents: Visualizing Informal Communication *(Full Paper – 30 mins)*
- Kamaljit Kaur Bimrah, Haralambos Mouratidis and David Preston -- Modelling Trust Requirements by Means of a Visualization Language *(Short Paper – 20 mins)*
- Facilitated Discussion on Presenters' Visualization Posters *(15 minutes)*

10:30 – 11:00 Coffee/Tea Break

11:00 – 12:30 **Session 2: Visualizing Relationships and Traces in Requirements Engineering**

- **Philipp Heim, Steffen Lohmann, Kim Lauenroth and Jürgen Ziegler --** Graph-based Visualization of Requirements Relationships (Short Paper – 20 mins)
- Stefan Winkler -- On Usability in Requirements Trace Visualizations (Short Paper – 20 mins)
- Daniel Lübke, Kurt Schneider and Matthias Weidlich -- Visualizing Use Case Sets as BPMN Processes (Short Paper – 20 mins)
- Facilitated Discussion on Presenters' Visualization Posters (15 mins)

- **Introduction to Session 4 and Formation of Working Groups – so you can start thinking over lunch. This will involve a look at visualizations from REV'06 and REV'07 (15 mins)**

12:30 – 14:00 Lunch

Afternoon Program

14:00 – 15:30 Session 3: Visualizing the Impact of Requirements Decisions in Product Line Environments

- Krzysztof Wnuk, Bjorn Regnell and Lena Karlsson -- Visualization of Feature Survival in Platform-Based Embedded Systems Development for Improved Understanding of Scope Dynamics (Full Paper – 30 mins)
- Clotilde Rohleder -- Visualizing the Impact of Non-Functional Requirements on Variants - A Case Study (Full Paper – 30 mins)
- Ian Alexander – Visualizing Rationale (Guest Presentation – 15 mins)
- Facilitated Discussion on Presenters' Visualization Posters (15 mins)

15:30 – 16:00 Coffee/Tea Break

16:00 – 17:30 Session 4: Working Session

- 2 groups / 2 tasks: To Brainstorm the Scope of Visualization Use in Requirements Engineering and Create a Taxonomy of Visualization Techniques -- Current Status; Benefits Anticipated and Achieved; Challenges; Proposed Areas for Future Research (Facilitated Working Groups -- 1 hour)
- Working Groups Report Back (20 mins)

- REV'08 Wrap-up -- Brian Berenbach and Olly Gotel (10 mins)

And Now…

On with the workshop!