

Interactive Visualization for Elicitation and Validation of Requirements with Scenario-Based Prototyping

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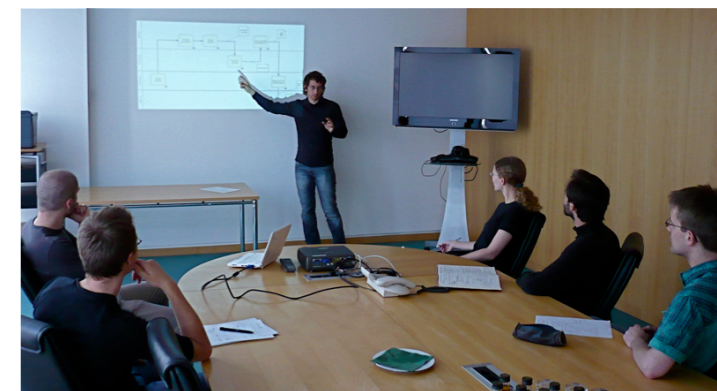
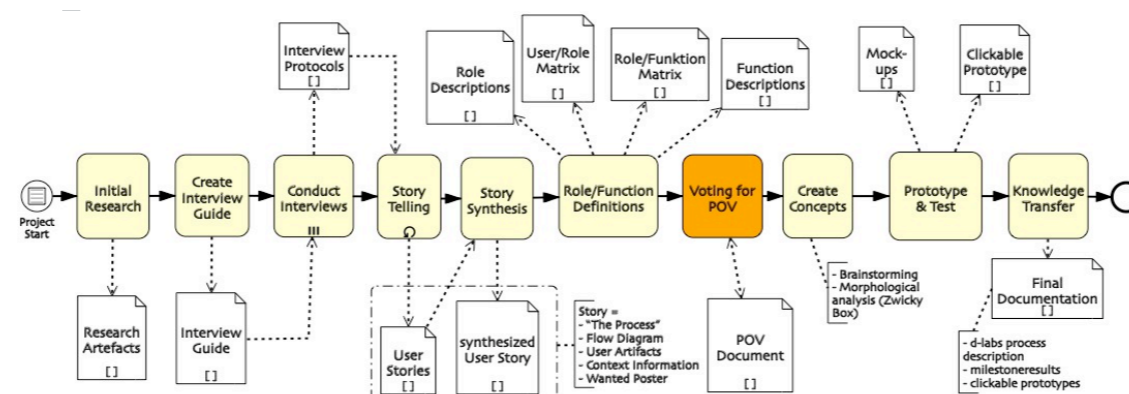
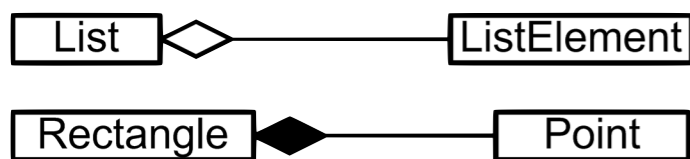


**HPI – Stanford
Design Thinking Research Program**



Problem Statement

- validation of requirements calls for stakeholder involvement
- *semantic barriers* of requirements models restrict feedback during the validation
- overhead through translation

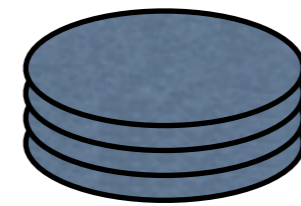
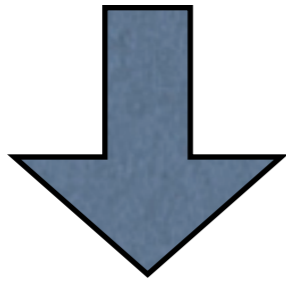


How can we fix it?

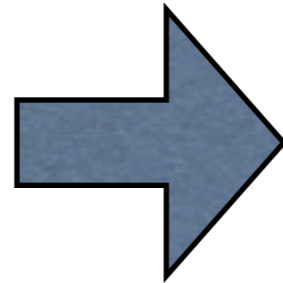
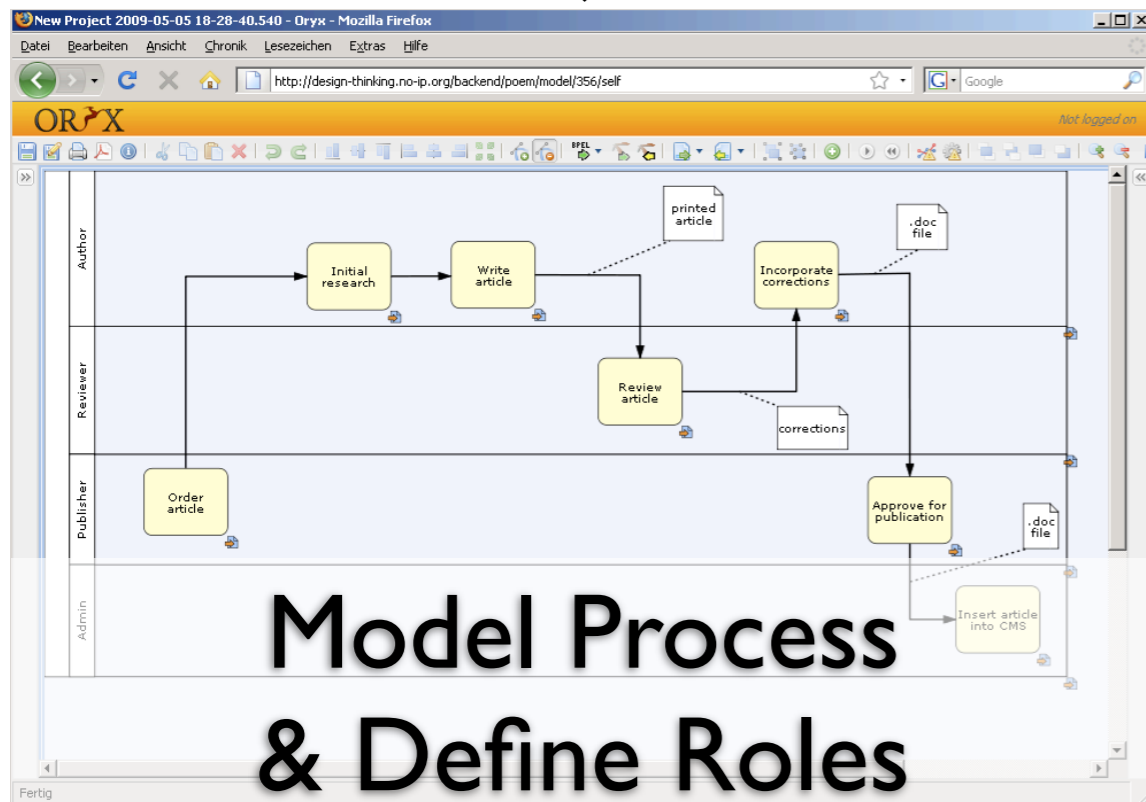
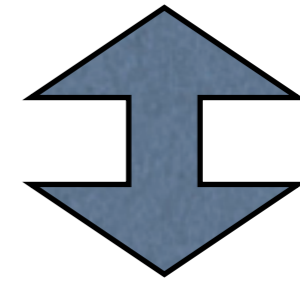
- domain-specific requirements animation
- leveraging formal requirements to be tangible for end users and other stakeholders
- transport the modeled content back into the stakeholders' domain of expertise

How is it derived?

Initial Interviews



Session Data
and Feedback



Subset of BPMN



Petri Net

How to use it...

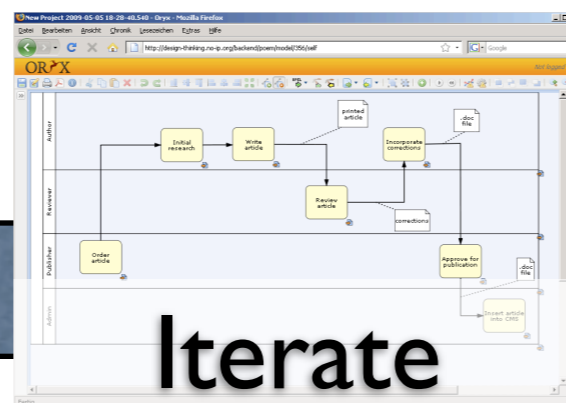
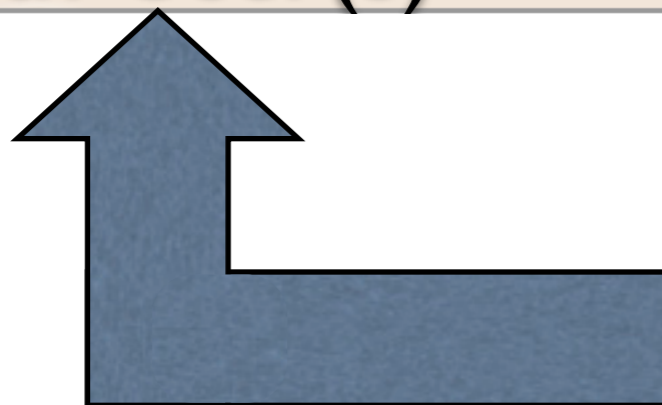
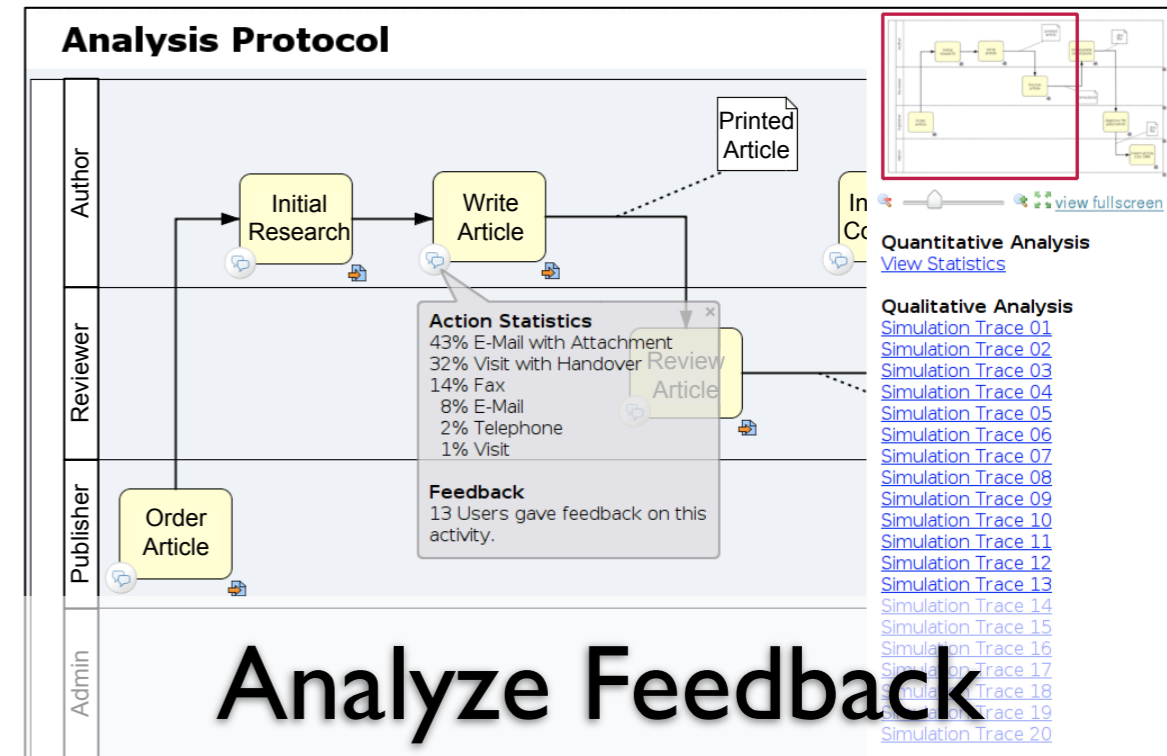
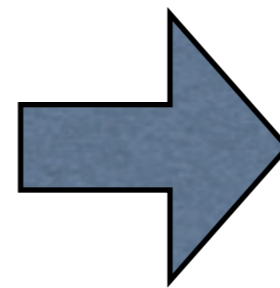
Hey Publisher! Currently 1 people are participating in this game. [End your session.](#) [Refresh Workspace.](#)



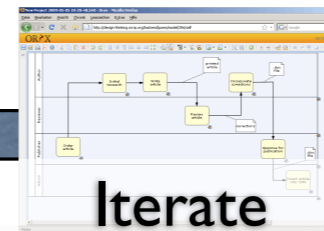
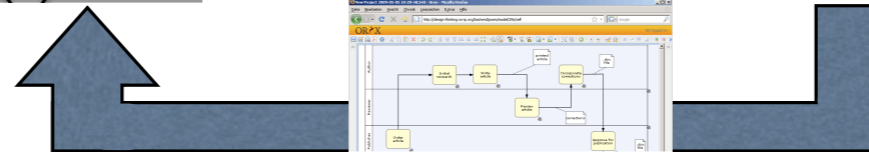
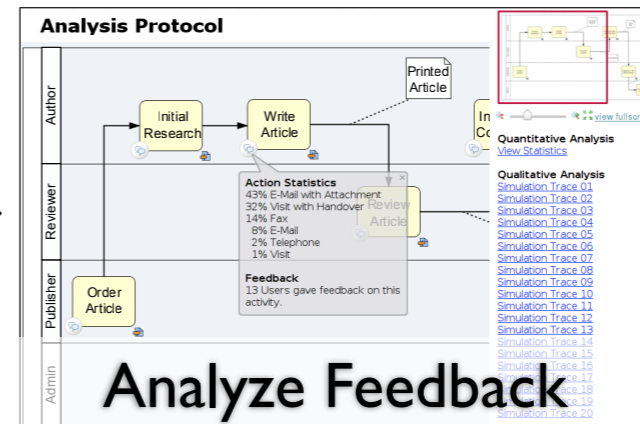
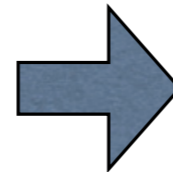
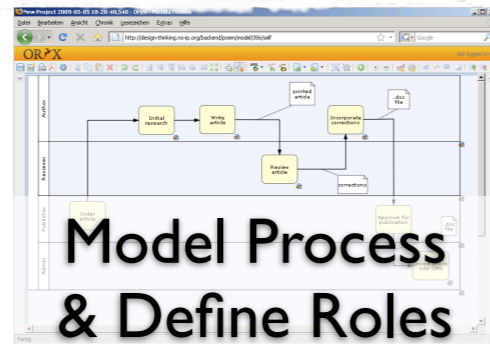
start Order article
Approve for publication

Send Feedback

How does it work?



Show and Tell



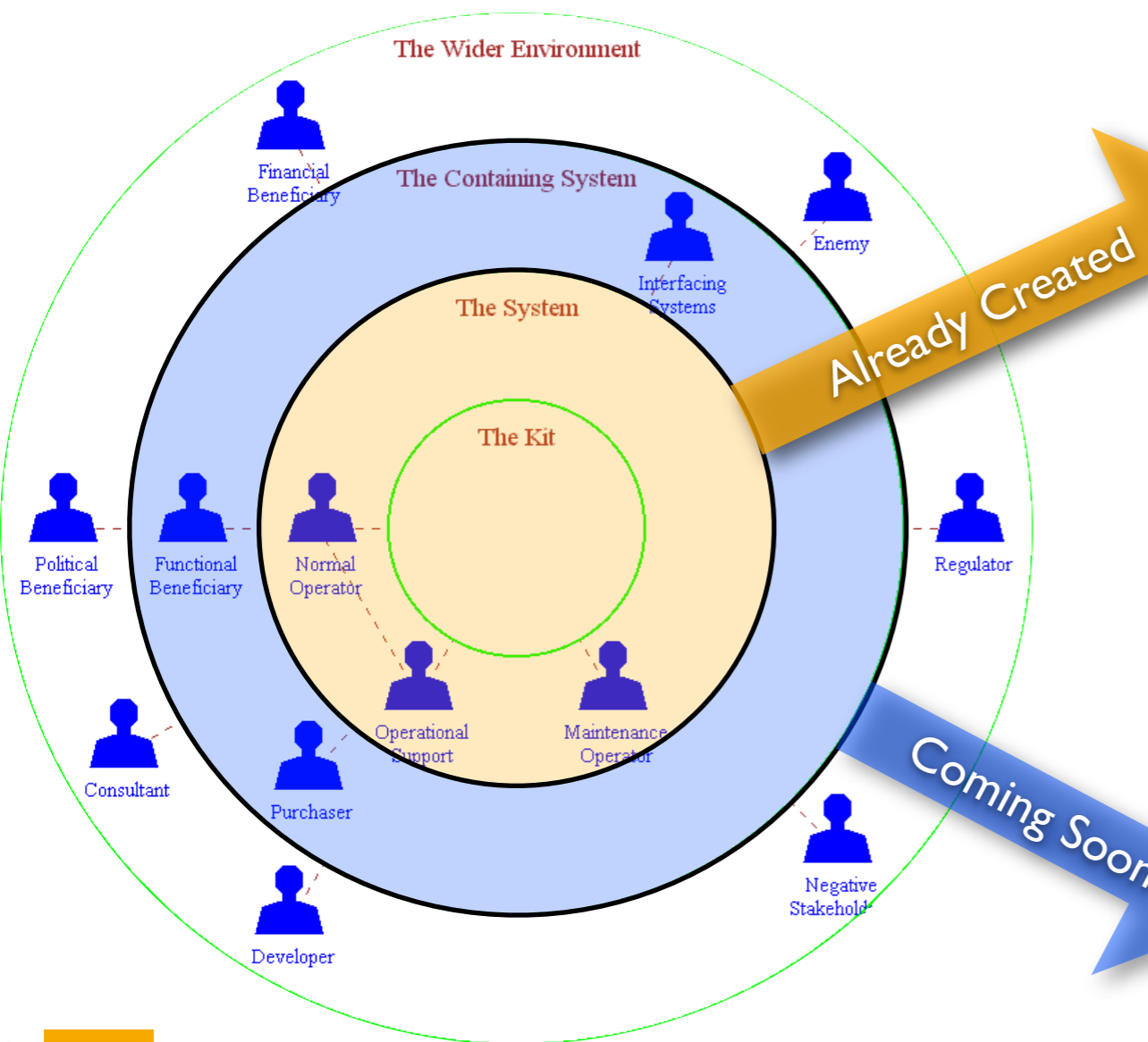
REV'09

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Visualizations for whom?



The screenshot displays a web-prototype interface for a reviewer. The top section shows a message: "Hi Reviewer. You are playing this round alone. Game is running. Refresh Workspace. End your current session." Below this is a 3D-rendered office scene with a computer monitor displaying an email icon and a document icon. To the right is a "Our Artifacts:" section with a "printed article" box and a "Send Feedback" button. The bottom part shows a flow diagram between a Publisher and an Author. The Publisher sends an "Order Article about John Doe" (represented by an envelope icon) to the Author. The Author sends an "Approval" (represented by a telephone icon) back to the Publisher. To the right of the flow diagram is a "Last Steps:" section with a list: "Order Article" (envelope icon), "Reply: Ok" (telephone icon), and two empty boxes with stick figure icons.

PROs

front-end with domain specific animations

automation can be applied in the back-end

inexpensive validation sessions

single and multi-user modes

CONs

still “kind of unintuitive”

currently, inconsistencies have to be spotted and resolved manually

infinite iteration loop possible

currently, underlying models are too static

Validation & Next Steps

- evaluation in projects together with our industrial partner, D-LABS GmbH
- comparison based on the amount and kind of feedback gathered from end users
- increase automation capabilities
- enhance *look* and *feel* of the prototype