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

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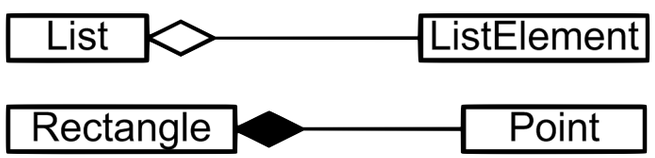
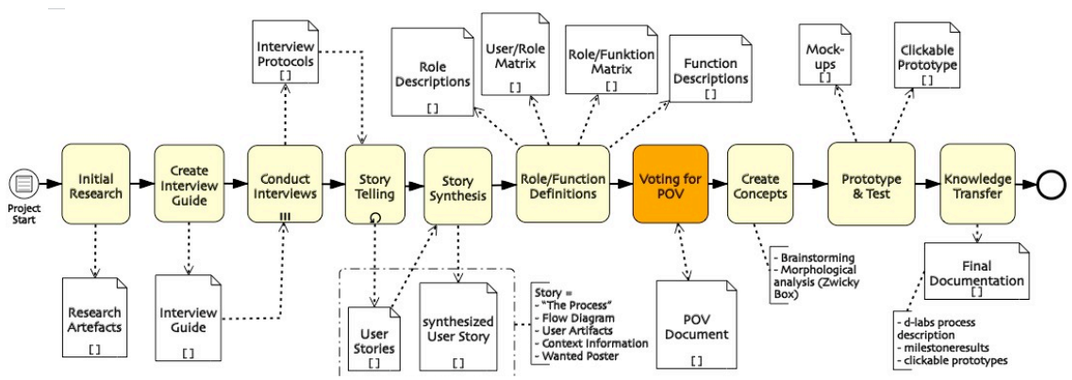
Design Thinking Research Program

Problem Statement

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



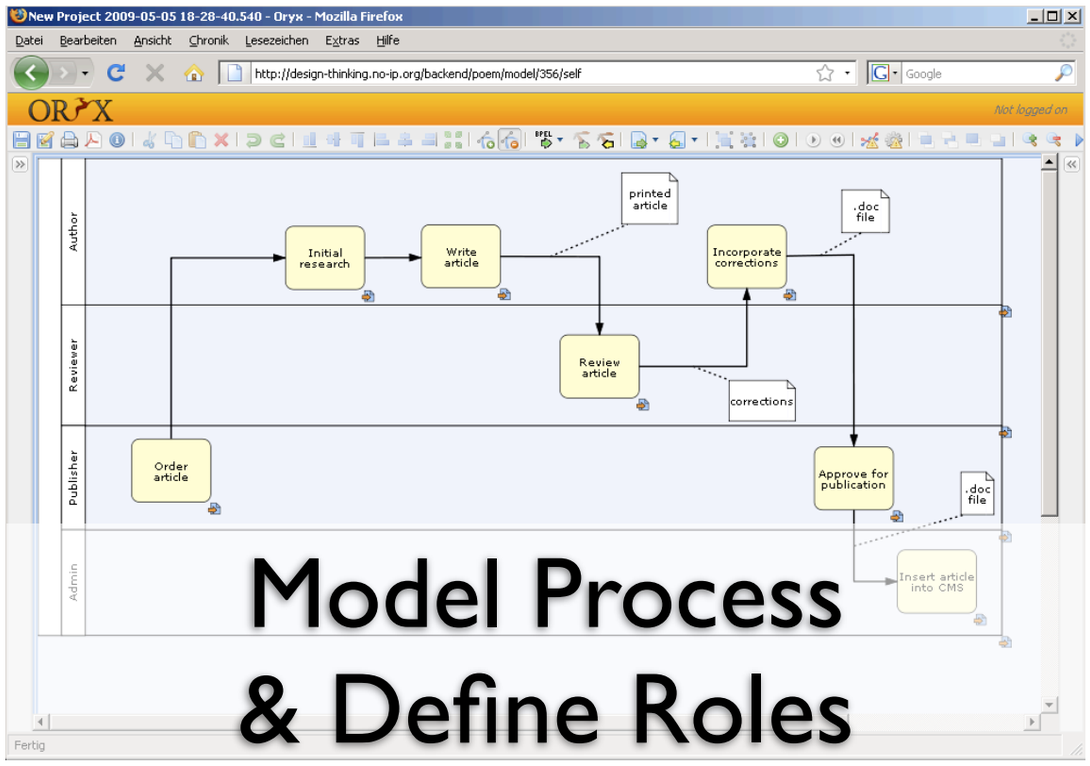


How can we fix it?

- 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

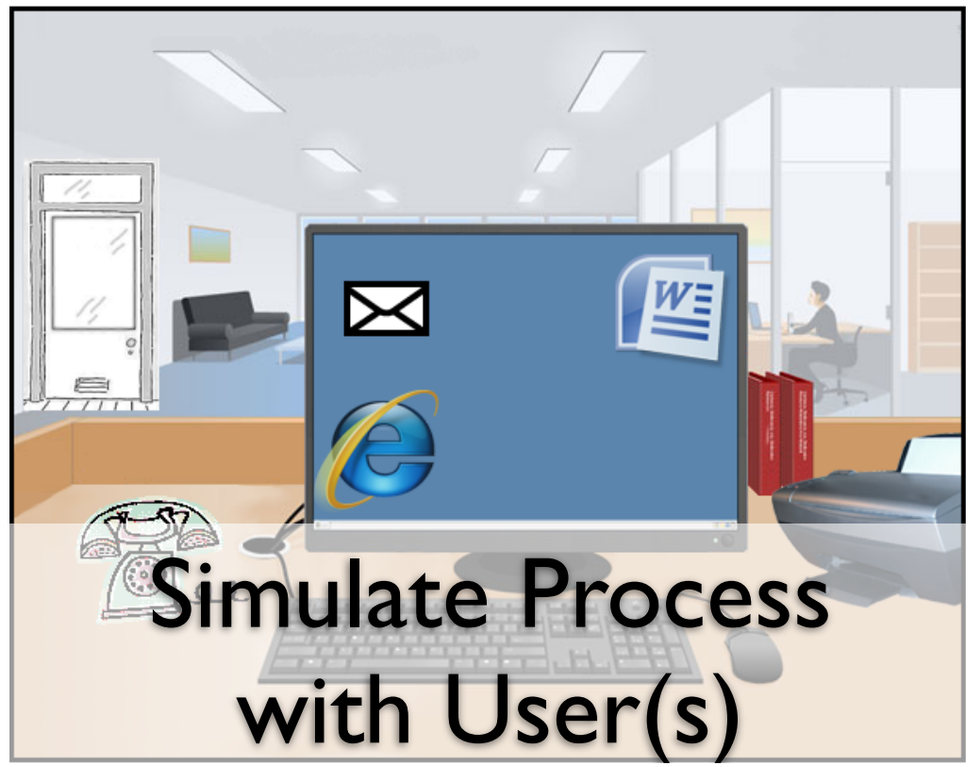
How is it derived?

Initial Interviews



Model Process & Define Roles

Session Data and Feedback



Simulate Process with User(s)

Subset of BPMN ⟶ Petri Net

How to use it...

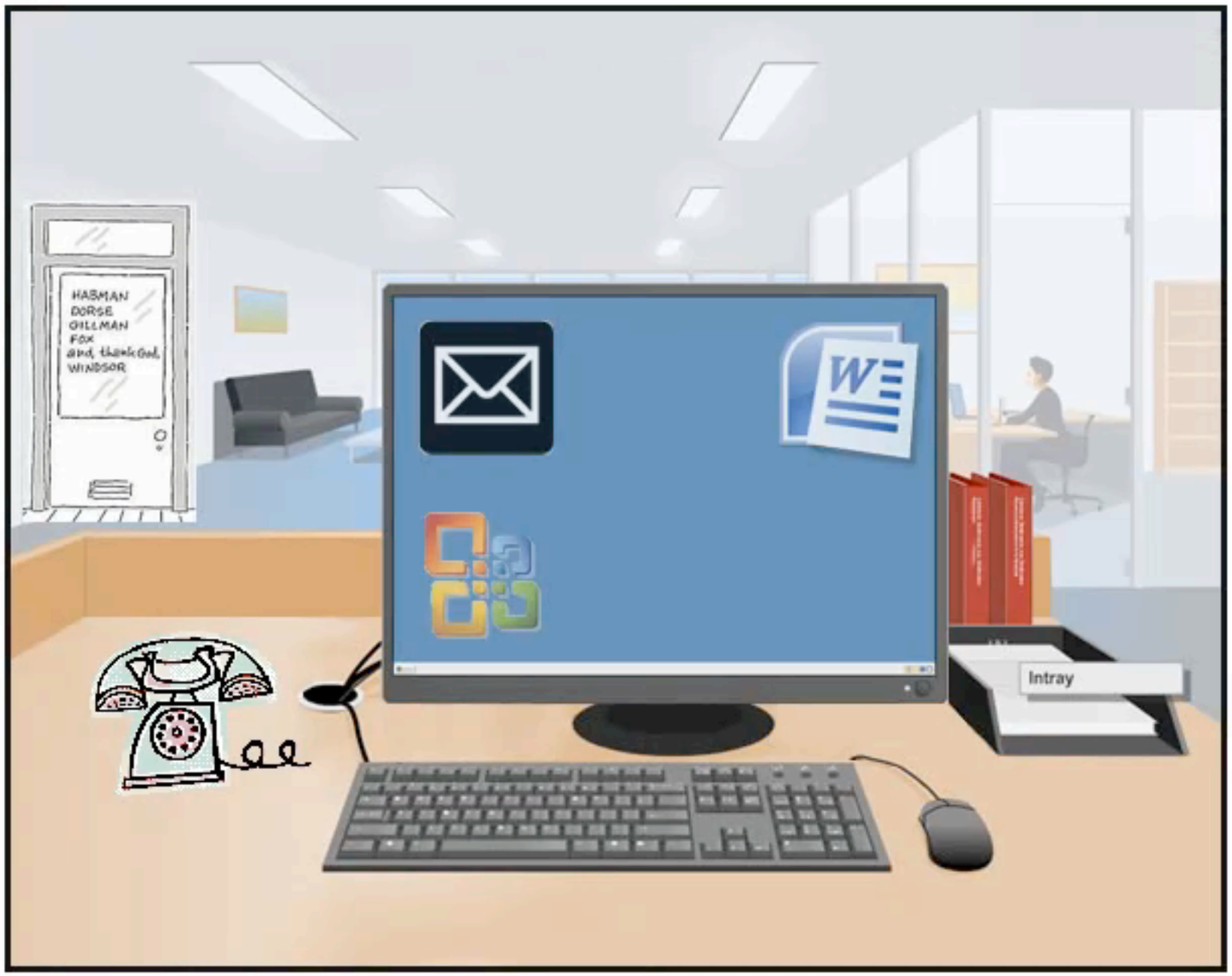
web-prototype - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://127.0.0.1:8080/web-version-war/

Google

Hey Publisher! Currently 1 people are participating in this game. End your session. Refresh Workspace.

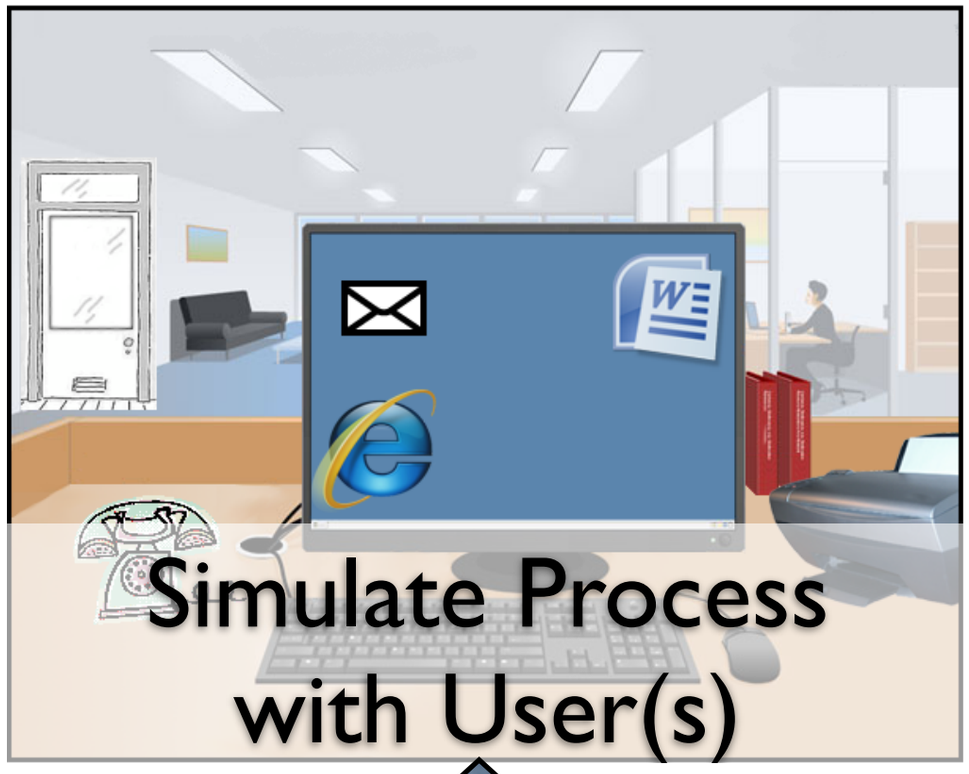


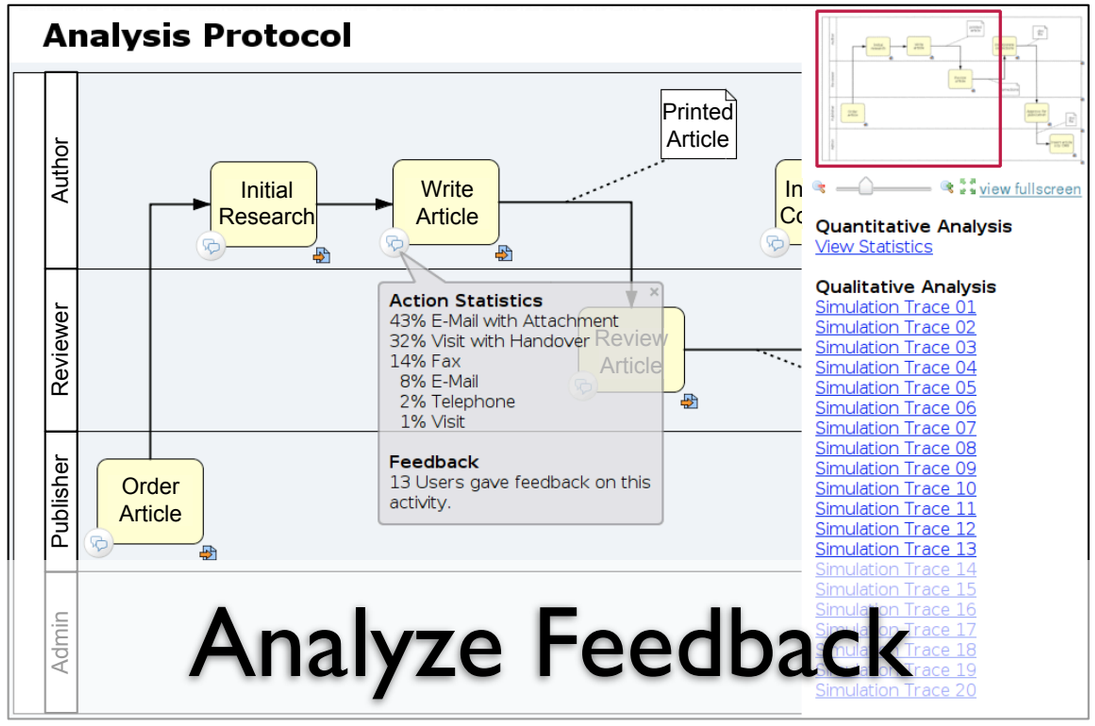
start Order article
Approve for publication

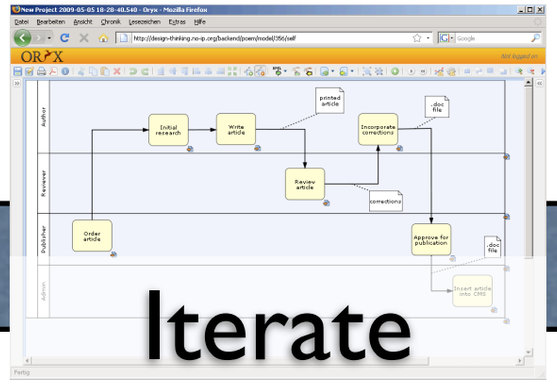
Send Feedback

Done

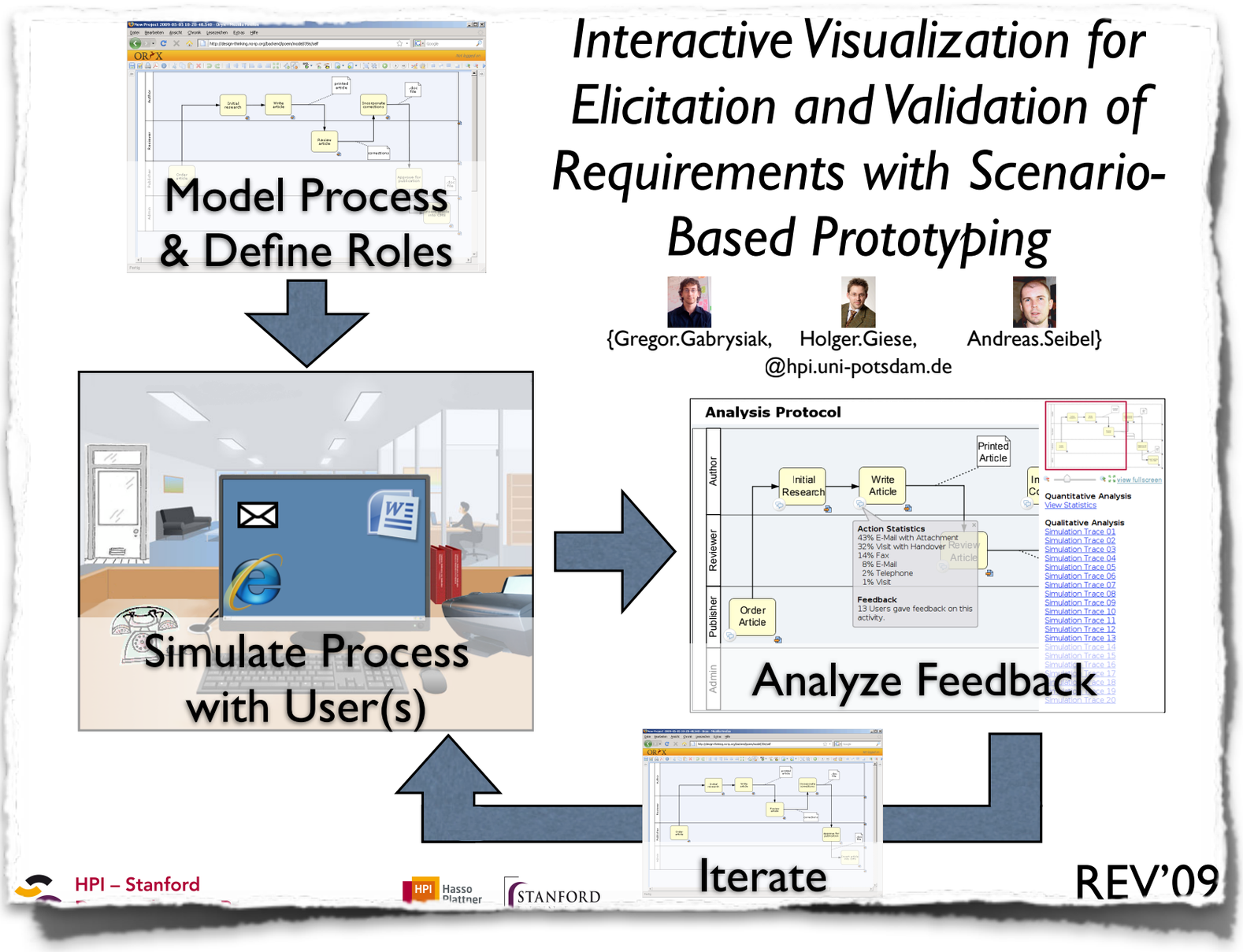
How does it work?



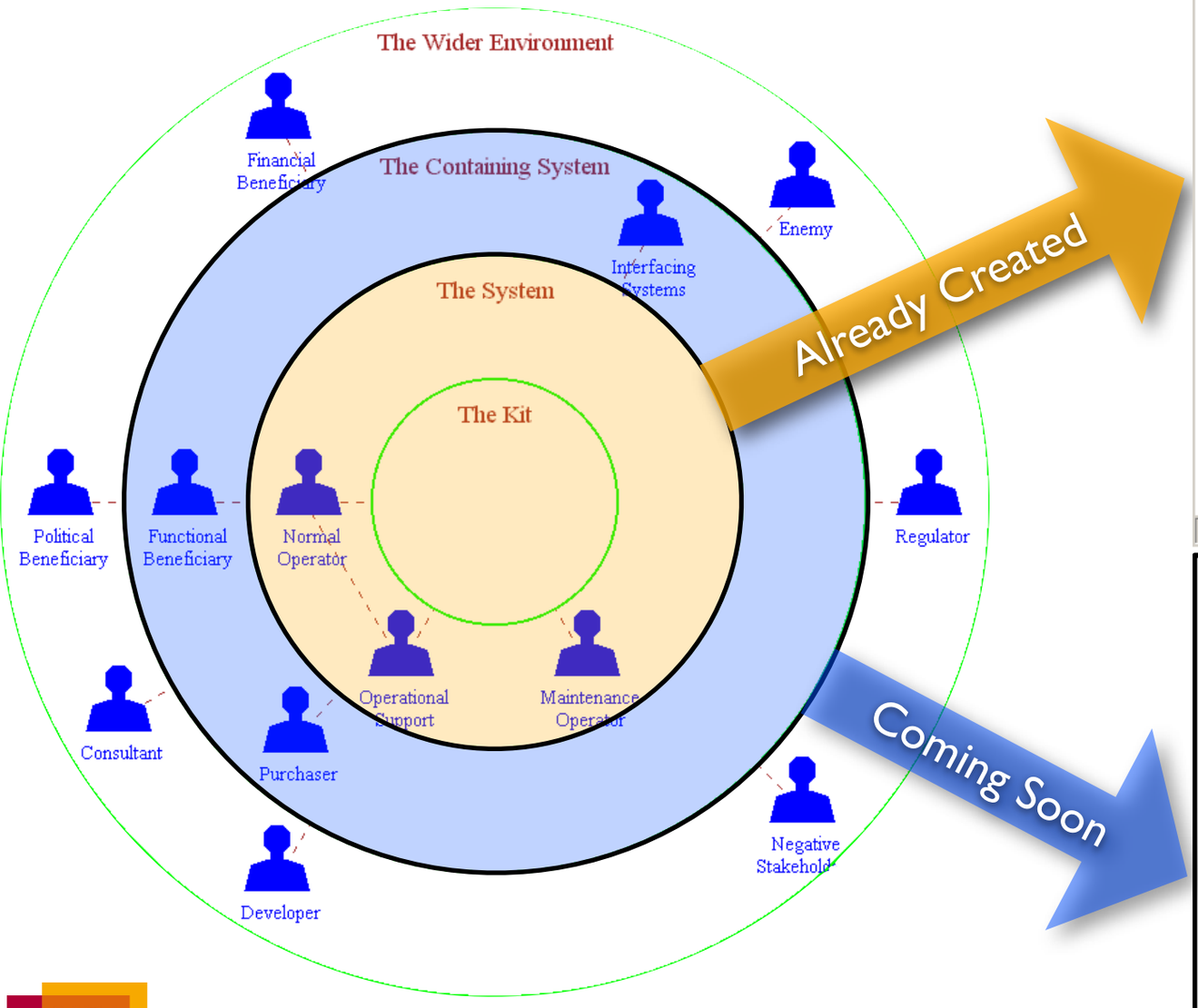


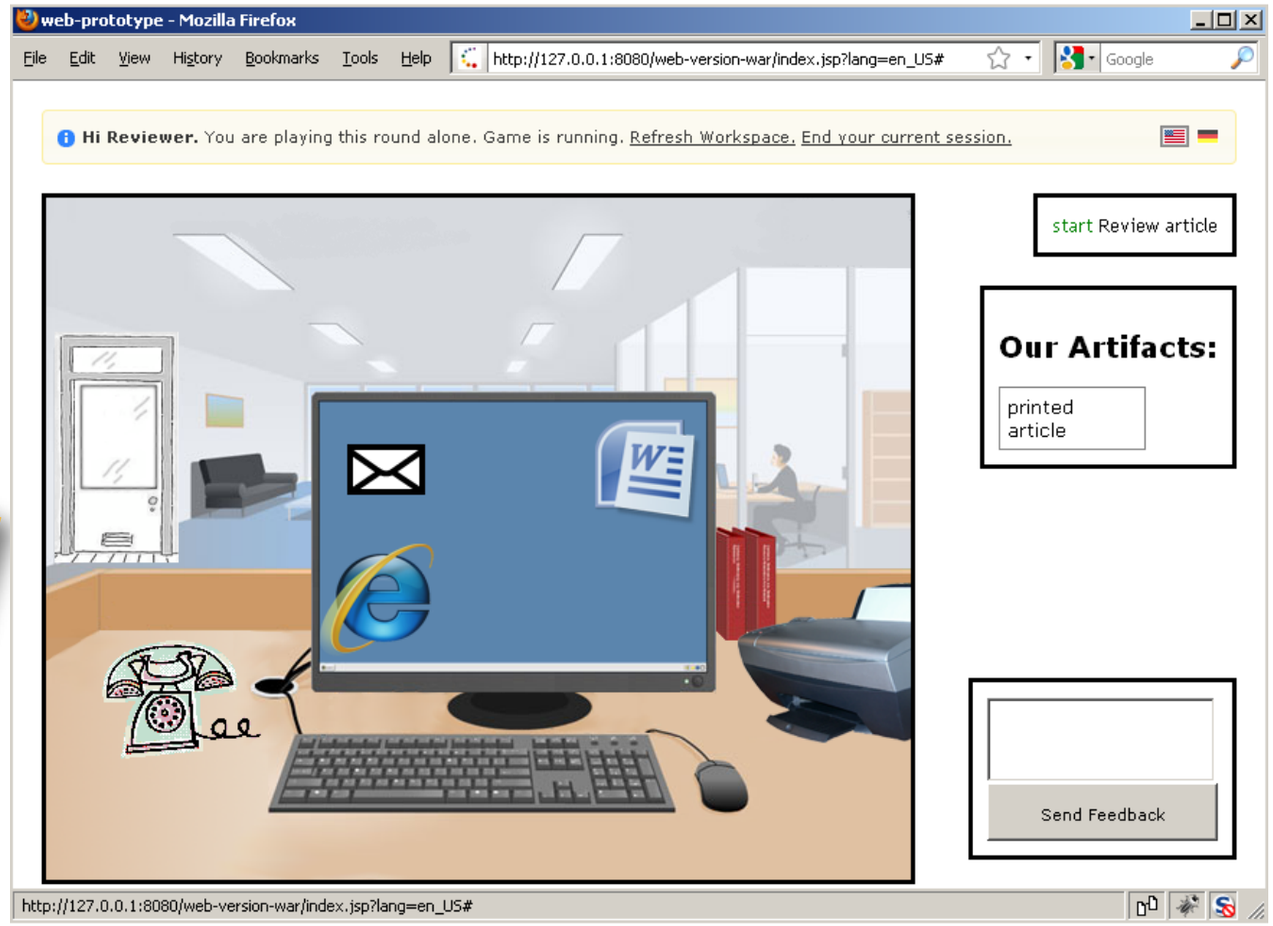


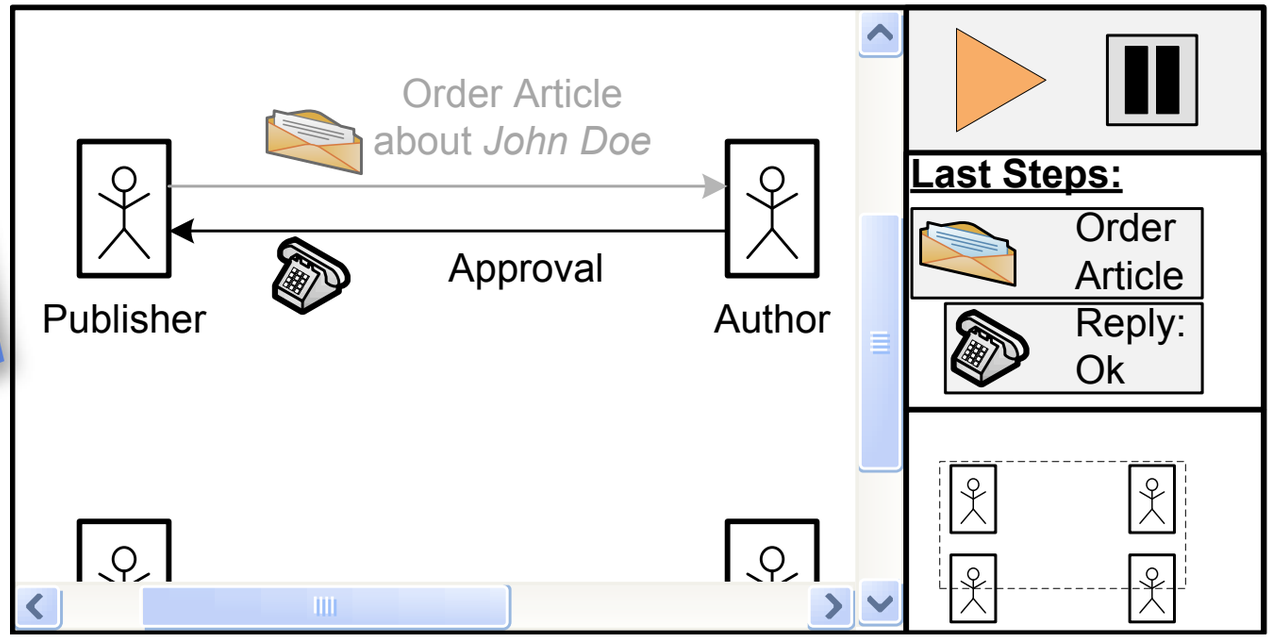
Show and Tell



Visualizations for whom?







I. F. Alexander. A taxonomy of stakeholders: Human roles in system development. International Journal of Technology and Human Interaction, 1(1):23 – 59, 2005.

PROs	CONs
front-end with domain specific animations	still "kind of unintuitive"
automation can be applied in the back-end	currently, inconsistencies have to be spotted and resolved manually
inexpensive validation sessions	infinite iteration loop possible
single and multi-user modes	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