Collaborative Workflow Editing for Online Collective Action

Sébastien Molines. Supervisor: Dave Lewis

Introduction

Influence of Web collaboration
- In Industry: shift to decentralized decision-making (greater agility, closer to specialist knowledge)
- Beyond: influential new forms of collective action (e.g. Wikipedia, Open-Source Software)

Applied to Business Process Modelling
- Erase the barrier between designers & enactors
- Facilitate continuous refinement

Design

Deliberations
- Scoping: revision branches & nestings localize deliberations
- Commenting, voting, consensus on current version

Sociability
- Feeds with open commenting/responses

Reputation
- User profile, user statistics, voting

Visibility
- Change tracking, visualize, replay, feeds, notifications, thumbnails, compare, draft, dead branch, revision tree

Ease of use
- Drag & drop workflow editing, YAWL language

Implementation

Rich Client Technologies: SVG & AJAX

Evaluation

User Trials
- Video tutorial, exercises, questionnaire
- 11 participants (2 in pilot, 9 in main study)
- Pilot study > Improvements > Main study

Data shows high confidence in overall usability and collaboration features, suggests expanding the reputation and sociability support.

Future Work

- Extend with data flow modeling and export to allow integration with workflow execution platforms
- Longer-term evaluation of sustained use in online community
- Apply to other collaborative modelling domains (e.g. UML)
- Integrate with emerging social collaboration networks

State of the Art

Business process modelling (BPM)
Evidence calls for more direct participation in modelling
- More accurate: Those who do the work know it best
- Greater acceptance: Friction where imposed from above
  → Case for applicability to BPM

Workflow languages
- BPEL, BPMN most widely used standards
- Workflow patterns research led to YAWL: concise & expressive
  → YAWL chosen for its simplicity

Online communities
- Key issues include sociability, visibility, presence, ease of use, ability of users to build a reputation
  → Informed the requirements

Related projects
- Wikipedia – Most studied and largest example of online collective action
  → Key features (talk & user pages, notifications)
- Commercial and academic Workflow applications
- Executable suites (including YAWL)
- Oryx: proof of concept for SVG-based client
- BPMNCommunity.org: basic collaboration: voting, comments, diffing, sketch; but global scope
- We extend with scoping
- Google Wave variants (SAP, Itensil): Real-time collaboration, replay for late joiners
  → Replay functionality adopted

M.Sc. in Computer Science
(Networks and Distributed Systems)