Developing Social Software: Experiences and Challenges

Peter Dolog

IWIS — Intelligent Web and Information Systems,
Aalborg University, Computer Science Department
Selma Lagerlöfs Vej 300, DK-9220 Aalborg-East, Denmark
`dolog@cs.aau.dk`

Abstract. Social software has been recently coined as a term used especially in connection with larger entertainment web applications such as Facebook.com or Flickr.com and associated Web 2.0 technologies. The social web applications are usually characterized by collaboration of different users contributing and sharing multimedia content. Recently, advanced users begone to share various applications which are composeable into larger systems by so called service mashups.

Web Engineering traditionally looks at how models can help in developing web applications. Usually, a very traditional model driven view is followed where models are created as a result of human (designer, analyst) work and sometimes generators are applied to transform from higher levels of abstractions to the executable code. If we look at practice however, the use of models especially in the context of social web applications is different. The models are used to classify and categorize content or to help in organizing tags. Sketches are used for user interface design, but programming is more often applied instead of the generators from abstract models. The field naturally calls for more dynamic approach in modeling and changes which are applicable in runtime.

Another development style applied in building web application is service oriented architecture and customization of an existing environment to new conditions in practice. This can be seen in all currently most popular social web software. Catalog of services or applications as known for example from Facebook is available for users to select from. Similarly, we follow the service oriented infrastructure in the KIWI project (`http://www.kiwi-project.eu`), which provides an social web and semantic wiki infrastructure for knowledge management, as well as in the idSpace project (`http://www.idspace-project.org`), which provides an infrastructure for idea management for distributed collaborative product innovation.

Social web applications also face another challenge. Collaboration leads to long running transactions especially when we do not want the application to forget and loose the data. Versioning and transaction management is another engineering issue when going beyond currently popular applications such as Facebook and becomes important especially in the industrial knowledge management context.

In this talk I will outline research challenges and our experiences in this area gained in the two projects mentioned above as well as in number

of student projects. I will first talk about how models have been used in the software development. I will contrast it with the service oriented and component based software development and RESTFul service style used in both research projects. Finally, I will discuss transactional management which could be applicable in long running collaborations.