

Divergence Awareness in Distributed Semantic MediaWiki

Hala Skaf-Molli and Pascal Molli
Equipe SCORE
Maître de Conférences
Universit Henri Poincaré, Nancy 1
LORIA, Campus Scientifique - BP 239, 54506 Vandœuvre-lès-Nancy
www.loria.fr/~skaf , www.loria.fr/~molli
Email : skaf@loria.fr molli@loria.fr

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0.1 Motivations

Semantic wikis are new generation of collaborative knowledge building systems. They embed semantic annotations in the wiki content. These annotations allow to better organise, structure the wiki contents and to query these data. In semantic wikis, users collaborate not only for writing the wiki pages but also for writing semantic annotations and ontology emerge. Traditionally, authoring semantics and creation ontologies has mainly been in the hand of "ontologies" and knowledge management experts. Semantic wikis allow mass collaboration for creating and emerging ontologies. Existing semantic wikis such as Semantic MediaWiki [3], IkeWiki[6], SweetWiki [1] are based on centralized architecture. In Score team, we developed a distributed semantic wiki DSMW (dsmw.org) [5]. DSMW is an extension of Semantic Mediawiki (SMW). It allows to create a network of SMW servers that share common semantic wiki pages. DSMW manages synchronisation of shared semantic pages and ensures CCI consistency as in Google Wave. DSMW allows multi-synchronous collaboration.

Multi-synchronous applications are different from synchronous and asynchronous ones by managing multiple streams of activities instead of giving the illusion of one stream. In standard collaborative applications, when a modification is made by one user, it is immediately visible by others. However, in multi-synchronous applications, modifications made by one user is not visible by others. It becomes visible only when a user validates his modifications (commits his changes). A visible change does not imply immediate integration by other activities streams. Concurrent modifications will be integrated only when users will decide it.

0.2 Sujet

Allowing deferred validation of changes and divergence have several important advantages and impacts [4] : Parallelization of activities, privacy, invisibility of partial changes and experimental changes. Multi-synchronous authoring tools [2] allow simultaneous work in isolation and later integration of the contributions. They are characterized by their abilities to support divergence *i.e* parallel stream of activities on replicated data. However, if the divergence is not managed, the gain of working in parallel will be absorbed by a costly integration stage. The management of divergence starts with its measurement. We do not want just to detect divergence but to quantify it. We want to visualize if divergence is growing up or shrinking down. We want to answer the following questions : How to measure divergence? In which unit? How to visualize it? How to link it to objects? How to link it to users? The objectif is to *propose divergence awareness in DSMW*. We have already proposed divergence awareness for virtual teams on the Web [4].

A possible research direction is to adapt the previously proposed solutions to the context of DSMW and to use DSMW ontology to enrich these metrics.

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