SweetWiki: Semantic Web Enabled Technologies in Wiki

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ABSTRACT

Wikis are social web sites enabling a potentially large number of participants to modify any page or create a new page using their web browser. As they grow, wikis may suffer from a number of problems (anarchical structure, aging navigation paths, etc.). We believe that semantic wikis can improve navigation and search. In SweetWiki we investigate the use of semantic web technologies to support and ease the lifecycle of the wiki. The very model of wikis was declaratively described: an OWL schema captures concepts such as wiki word, wiki page, forward and backward link, author, etc. This ontology is then exploited by an embedded semantic search engine (Corese). In addition, SweetWiki integrates a standard WYSIWYG editor (Kupu) that we extended to support semantic annotation following the "social tagging": when editing a page, the user can freely enter some keywords and an auto-completion mechanism proposes existing keywords by issuing queries to identify existing concepts with compatible labels. Thus tagging is both easy (keyword-like) and motivating (real time display of the number of related pages) and concepts are collected as in folksonomies. To maintain and reengineer the folksonomy, we reused a web-based editor available in the underlying semantic web server to edit semantic web ontologies and annotations. Unlike in other wikis, pages are stored directly in XHTML ready to be served and semantic annotations are embedded in the pages themselves using RDFa. If someone sends or copies a page, the annotations follow it, and if an application crawls the wiki site it can extract the metadata and reuse them. In this paper we motivate our approach and explain each one of these design choices.

Categories and Subject Descriptors

K.4.3 [**Organizational Impacts**]: Computer-supported collaborative work.
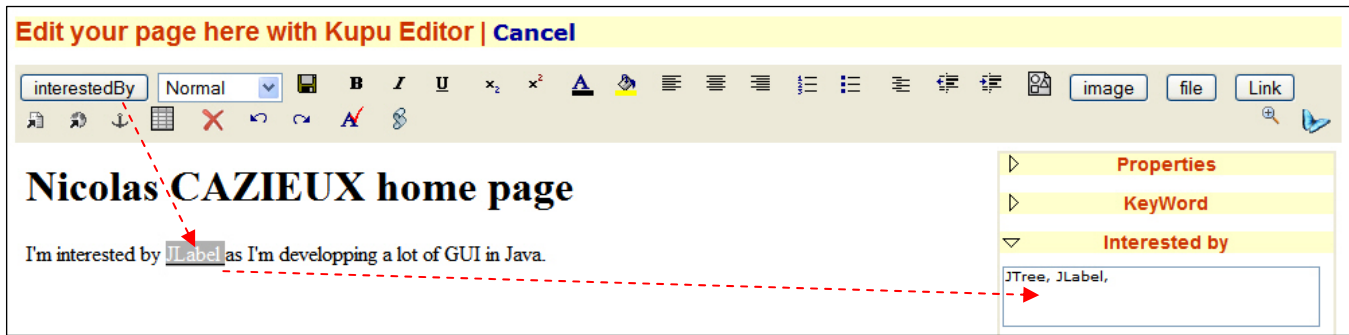
General Terms

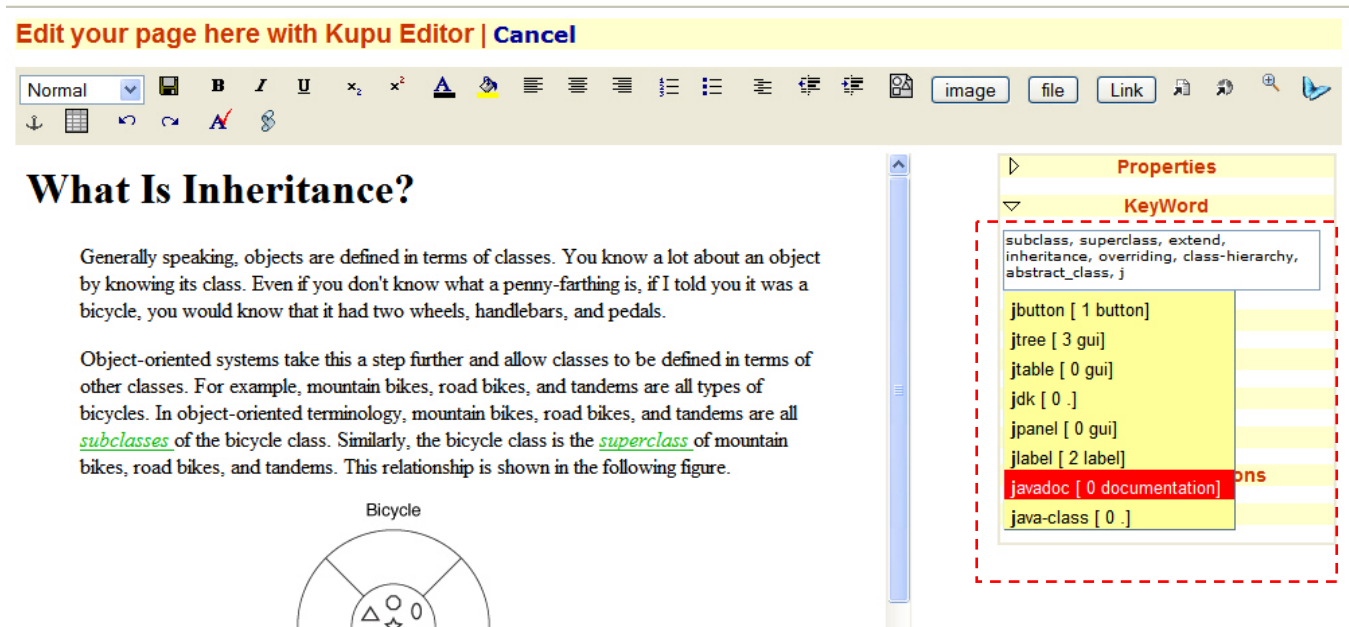Management, Measurement, Documentation, Experimentation, Human Factors, Standardization.

Keywords

Wiki, Semantic Web, Social Tagging, Ontology, Web 2.0.

Editing a homepage and tagging it with personal interests.

Tags are suggested as the user enters keywords, the number of pages using each tag is displayed and the related category displayed, at editing time.