Designing an Ontology-based Zika Virus news authoring environment for the Semantic Web

Edgard Costa Oliveira
University of Brasília, Software Engineering Faculty UnB Gama
Brasília – Brazil
5561992196093
ecosta@unb.br

Edison Ishikawa
Universidade de Brasília
Dept. of Computer Science
Brasília. Brasil
5561 993928784
ishikawa@unb.br

Lucas Hiroshi Hironouchi
University of Brasília, Software Engineering Faculty UnB Gama
Brasília – Brazil
5561 99903-1143
lucashh@hotmail.com

Thabata Hellen Granja
University of Brasília, Software Engineering Faculty UnB Gama
Brasília – Brazil
5561 98197-7034
thabata.helen@gmail.com

Marcos V. de A. Nunes
Universidade de Brasília
Dept. of Computer Science
Brasília. Brasil
5561 98651-5221
marcosnunesmbs@gmail.com

Daniel Rodriguez
University of Alcalá
Dept of Computer Science
Madrid - Spain
34 918856933
daniel.rodriguezg@uah.es

Rafael Batista Menegassi
University of Brasília
Dept. Computer Science
Brasília – Brazil
5561 992196093
batista7r@gmail.com

Luciano Gois
Brasilia Heath Department
SES-DF, Suplans
Brasília – Brazil
5561 99981-9081
luciano.gois@saude.df.gov.br

George Ghinea
Brunel University London
Dept. of Computer Science UK
& Faculty of Technology, Westerdals Oslo School of Arts, Communication and Technology,Norway
44(0)1895266033
george.ghinea@brunel.ac.uk

ABSTRACT

This paper describes the experience of researching and teaching the conceptual and practical basis for the specification, modelling and design of an ontology-based news authoring environment for the Semantic Web, that takes into account the construction and use of an ontology of the Zika disease. It has been said that CMSs are being adapted in order to receive semantic features, such as automatic generations of keywords, semantic annotation and tagging, content reviewing etc. We present here the infrastructure designed to foster research on semantic CMSs as well as semantic web technologies that can be integrated into an ontology-based news authoring environment.

Categories and Subject Descriptors

D.3.3 [**Software and its engineering- Software notations and tools**]: - Formal language definitions – *Semantics.*

General Terms

Semantic-based environment; Requirement specifications, Authoring environment architecture;

Keywords

Semantic Web, Ontology, Authoring tool, Content Management System – CMS, Semantic authoring.

INTRODUCTION

Nowadays, text authoring can be seen as a similar practice to those taken 100 years ago, with a slight difference: we have shifted from the hand-pen-paper model in cellulose (that still exists), to the digital finger-keyboard-cursor-white page. In the support level a lot has changed - such as making links to other documents; making and sending as many copies as desired - as we can see from the development of editing resources, which were in the past restricted to editing houses and their complex software. In the syntactic level, we can benefit from searching and ordering key words. However, in the semantic level, text production is the same as before: it depends on the writer´s ability to associate his contents to existing formal concepts structures (links with other documents, links to web pages, associating text to dictionaries, terminologies, taxonomies, indexes, etc).

In the Semantic Web, we are facing a new opportunity to use concept referencingability of a text – and not only its objects and components such as summaries, images, links, descriptive terms and their meanings. The main problem we are facing today is that the available content on the Web is generated by one person, indexed by another and retrieved by computers that do not make a difference between variant terms.

Based on previous studies [1], we have defined an ontology-based authoring environment for the Semantic Web as "*a set of writing tools for writing, editing and representing documents that interactively support users (authors), allowing a better*

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