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www.active-project.eu

PROJECT PERIODIC REPORT

Publishable Summary

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Project acronym: ACTIVE

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Funding Scheme: Integrating Project (Collaborative Projects)

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Periodic report: **1st** ☐ **2nd** ☐ **3rd** ✔ **4th** ☐

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Dissemination level: Public

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1 Publishable summary

1.1 Project objectives

The ACTIVE project has as its goal making knowledge work more efficient and effective, by:

- Reducing information overload, which makes it difficult for users of information systems to easily find the information they need.
- Mitigating the effect of constant task switching, which forces users to constantly reprioritize their information needs.
- Encourage reuse of information, including process information.

ACTIVE has done this by drawing on three interrelated technology themes.

Firstly, we use an understanding of the user's task context to prioritise information. This helps reduce the effect of information overload by focusing the user's attention on the information he needs for his current task. It also mitigates the effect of constant task switching, since as the user switches from one task to another, information available to him or her is re-prioritised. The use of task context also encourages the sharing of information; a context can be shared, and with it the information associated with that context. Understanding the user's task context is achieved through a combination of exploiting explicit information from the user and the use of machine learning to make inferences from the user's behaviour.

Secondly, the synergy of Web2.0 and formal semantic approaches is used to encourage the better sharing of knowledge. ACTIVE technology combines the ease of use of Web2.0 technology with some of the power of formal semantics. This is illustrated in ACTIVE's use of the Semantic MediaWiki (SMW). It is also apparent in user-supported tagging, where users are free to create tags for information objects, but can also make use of suggested tags.

Thirdly, ACTIVE has developed technology to encourage the sharing of process information. By this we mean in particular the informal processes which we all use to achieve our everyday professional tasks. ACTIVE has developed tools to enable the easy description and sharing of processes; and has used machine learning techniques to detect recurring user processes and to recommend information to users based on the process currently being carried out.

1.2 Work undertaken and the project's main results

The ACTIVE platforms – the AKWS and SMW

ACTIVE makes use of two platforms; the ACTIVE Knowledge Workspace (AKWS), which has been designed within the ACTIVE project, and the Semantic MediaWiki (SMW) which was developed prior to ACTIVE and has been extended in the project.

The AKWS is the modular platform which provides the framework for: the management and exploitation of context; for user tagging; and for the creation and sharing of process descriptions. The AKWS provides a taskbar, shown in figure 1, which enables the user to manage context and initiate a variety of ACTIVE functions. For example, the task pane and task wizard enable the user to create process descriptions; whilst the context visualiser enables the user to view the information, processes and people associated with a particular context.

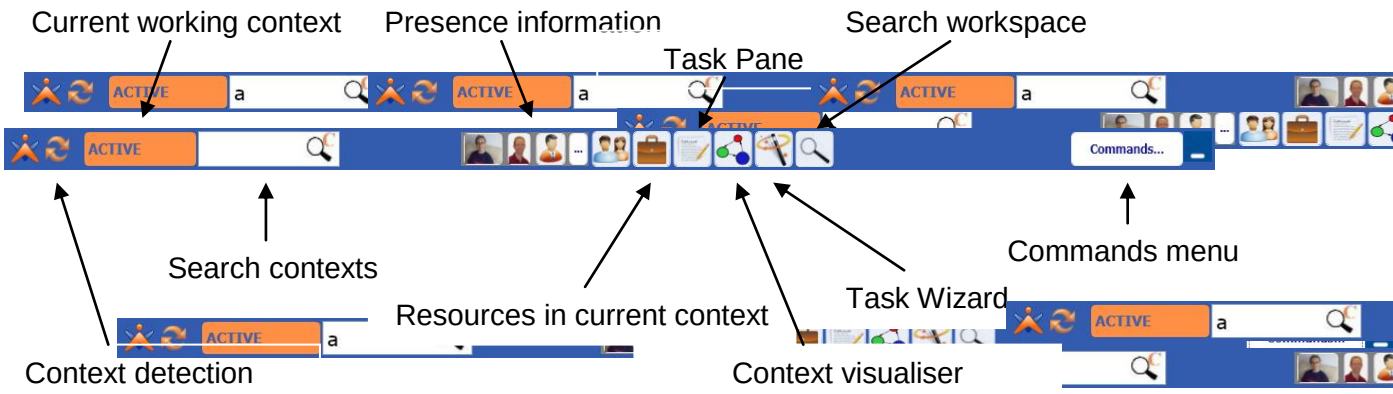

Figure 1: ACTIVE taskbar

In addition, desktop applications such as Microsoft Word, Excel, PowerPoint, FileExplorer and Outlook can be integrated into the AKWS. This means that within those applications information can be filtered according to the current context. Figure 2 illustrates this for Microsoft Word.

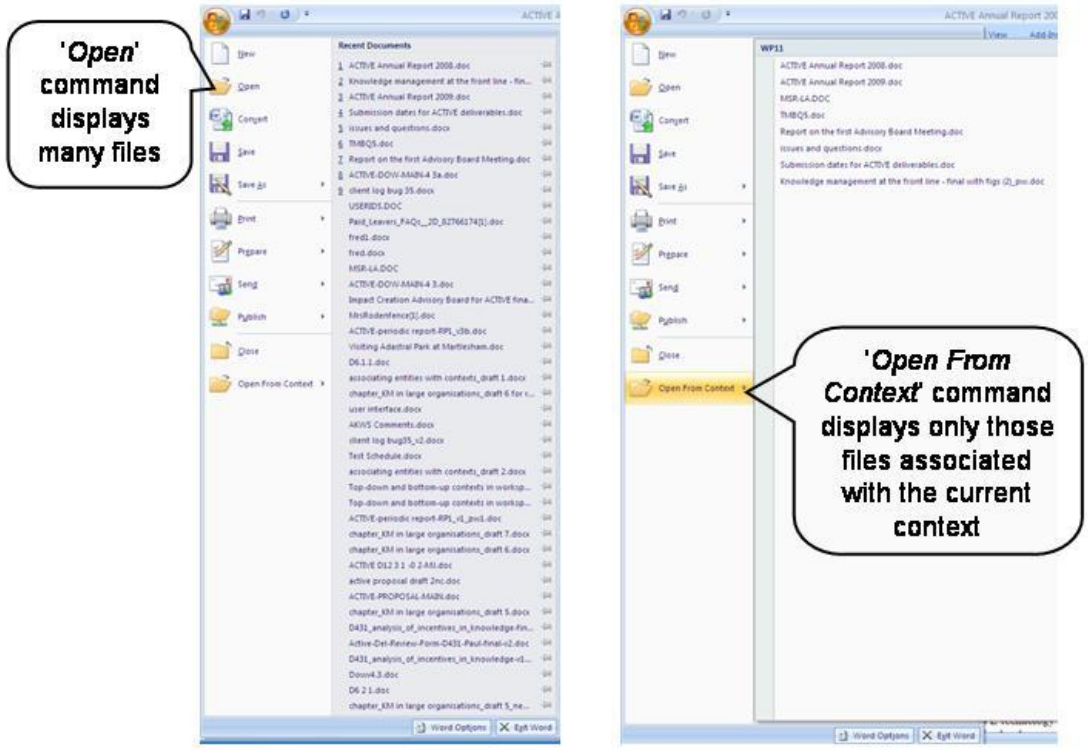

Figure 2 Opening a file without (left) and with (right) filtering by context

The SMW is an extension of MediaWiki, the software used by Wikipedia. In the SMW the links between pages have associated, informal semantics. The Semantic MediaWiki is already widely used. In ACTIVE its functionality has been extended by, e.g., the development of a lightweight ontology editor, shown in figure 3; a lightweight but powerful query facility, *AskQ*; and the capability to export to RSS, iCalendar and vCard.

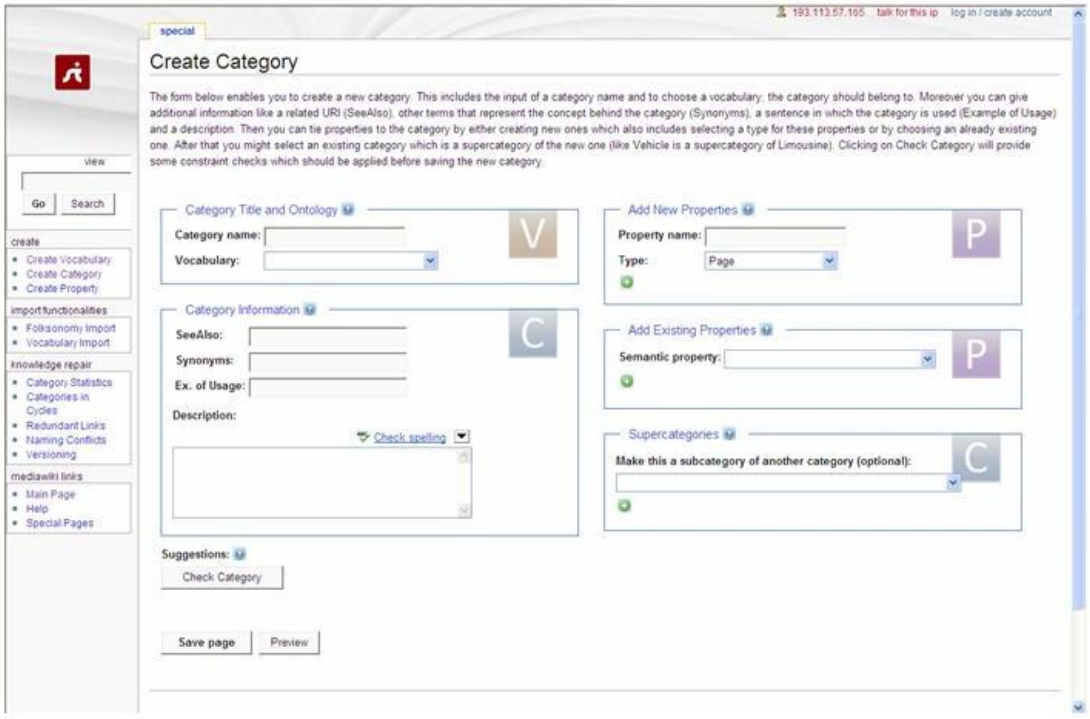

Figure 3 A lightweight ontology editor for the SMW

The ACTIVE case studies

The ACTIVE case studies serve to validate and exploit the technology, and also as vehicles to demonstrate its benefits. They are in three distinct sectors:

Telecommunications ACTIVE technology is helping BT's technical and sales specialists to share and reuse their expertise, and to locate the skills they need to respond rapidly to customer needs. A particular emphasis is on the rapid creation of high-quality customer proposals.

Consultancy Accenture consultants also need to share knowledge rapidly and effectively, for example in order to create customer proposals. There is the added challenge that Accenture's consultants are distributed across the globe. In addition, ACTIVE technology is being used to make it easier for Accenture people to find information – everything from a corporate policy to an organisational chart.

Engineering ACTIVE technology is being used to guide Cadence electronics designers through the complex process of designing an integrated circuit. The aim is to make knowledge about design processes explicit and shareable. That way the knowledge acquired by experienced designers can be shared with the less experienced.

ACTIVE methodology

ACTIVE has developed models to assess the costs and benefits of ontology and folksonomy-based systems, and a tool-suite to facilitate the use of some of these models. ACTIVE has also developed methods for validating the usability of information systems, and for measuring the business impact of knowledge management tools.

1.3 Potential impact and use of final results

ACTIVE technology is available for use. The AKWS is freely available for non-commercial purposes from the project website. The major SMW extensions are available as open source software. Other ACTIVE components are available for free or on commercial terms. To promote these results, ACTIVE partners have

published widely in the scientific, technical and general literature, presented at a number of conferences, and organised two summer schools.

1.4 Contact details

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