An introduction to ACTIVE - tools for personal and team productivity

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Motivation
The ACTIVE challenges

Reduce information overload
The ACTIVE challenges

*Reduce*

information overload

*Mitigate the effect of constant disruption*
The ACTIVE challenges

Reduce
information overload

Mitigate the effect of
constant disruption

Reuse
not reinvent
Technology themes
Three interlocking technology themes

- Informal semantics
- Informal processes
- Task context
Informal semantics – folksonomies and lightweight ontologies

**Sweet spot** between **ontologies** and **folksonomies** ... **Semantic MediaWiki** ... using **lightweight ontology editors** ... tagging **files, emails**, ... **contexts** and **processes**
Three interlocking technology themes

- Informal semantics
- Informal processes
- Task context
The long tail of informal processes
a.k.a. artful business processes, knowledge processes

Capturing and supporting non-formalized processes

Not supported by enterprise applications

Formalized processes

Non-formalized processes
A *business process* is a process defined and owned by the organisation.

An *informal (knowledge) process* is a process created and owned by workers in the organisation.
Processes – editing, learning, optimising

User creates and edits processes – for sharing and improving

User can also record processes

Machine learning techniques discover processes

Processes can be tagged, and associated with a context
Three interlocking technology themes

- Informal semantics
- Task context
- Informal processes
Defining context

A **context** denotes a grouping of (information) objects (documents, emails, email addresses, people ...) for a particular need

i.e. a grouping which better enables a user or team of users to perform their work
The user view

Context as key to effective information delivery

<table>
<thead>
<tr>
<th>User</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salesperson</td>
<td>Customer</td>
</tr>
<tr>
<td>Lawyer</td>
<td>Case</td>
</tr>
<tr>
<td>Project manager</td>
<td>Project, sub-project, project phase</td>
</tr>
<tr>
<td>Marketer</td>
<td>Product, marketing campaign</td>
</tr>
<tr>
<td>Researcher</td>
<td>Paper, particular experiment</td>
</tr>
</tbody>
</table>

But not prescriptive – user chooses what context is right for him or her!

Guiding presentation of emails, files, search results ...
Using context in Word

Plus Excel, Powerpoint, File Explorer, Outlook
The system view

A Context is used by an agent to define the current working focus and determine working priorities

_A context model for knowledge workers – Ermolayev et al._

CIAO2010

_http://ftp.informatik.rwth-aachen.de/Publications/CEUR-WS/Vol-626/_
Top-down and bottom-up

User creates contexts, selects current context and associates objects and people with contexts

System discover contexts, detect current context and associates objects with contexts - but the user is always in control
More on context ...

- Contexts can be hierarchical
  - to reflect the way we work

- Contexts can be shared
  - to encourage knowledge sharing

- Contexts can be visualised
  - to help us understand our resources
Integration
Service-oriented, client-server

- Generic applications
- ACTIVE applications
- ACTIVE taskbar
- ACTIVE web portal

- Metadata service
- Process service
- Context service

- Metadata recommender service
- Context and process mining service

- Workspace infrastructure service
Prototype software downloadable from website – free for research purposes
Case studies
Validating with case studies

Sales and technical support

adding value to work processes

Global consultants

understanding scale

Electronics design

specialist processes
The user and the organisation

Validating against the user’s needs

Validating against the organisation’s needs

Knowledge-sharing - costs, benefits and incentives
Related work
APOSDELE  http://www.aposdle.tugraz.at/
- eLearning, ontologies to support context

The semantic desktop
Nepomuk  http://nepomuk.semanticdesktop.org
startup – Gnowsis  http://www.gnowsis.com

Haystack  http://groups.csail.mit.edu/haystack/

CALO  http://caloproject.sri.com/
In summary
An EU Integrating Project

12 partners in 7 countries
coordinated by BT, managed by Eurescom

€11.9 Million - €8.3 Million from EU

March 2008 – February 2011

3 case studies:
• telecoms
• consultancy
• electronics design
Summing up

ACTIVE
- using informal semantics and machine intelligence to
  - combat information overload
  - support knowledge work processes
  - aid knowledge sharing

Being trialled in large-scale enterprise environments

Combining the low user-barriers of Web2.0 with the power of semantic technology

Prototype available for trial from ACTIVE website
References

Improving knowledge worker productivity – Warren et al.  
*BT Technology Journal. Vol. 26 No. 2 April 2009*  

Overcoming information overload in the enterprise: the ACTIVE approach – Simperl et al.  
*IEEE Internet Computing, Nov/Dec 2010*

Beyond the Desktop Metaphor  
ed. Victor Kaptelinin and Mary Czerwinski  
The MIT Press, 2007
Thank you

Prototype AKWS available for non-commercial purposes at
http://www.active-project.eu

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