

http://www.active-project.eu

# KM at the customer front-line - The BT case study in ACTIVE



### Why case studies?

To validate the technologies

#### To exploit the technologies

To create reference applications





**Our trialists** 

#### Their needs

#### Our solution

#### Validating our solution

Summing-up



### **Trialists**

#### **BT Business Systems**

ICT services for small & medium sized organisations in UK

#### Working with customers sales specialists, technical consultants, sales managers, solutions consultants



#### Potentially 100s of trialists

across the UK not all 'Web2.0' users

## How they work

#### Out with the customers e.g. three days a week on the road then working from home

Using multiple systems CRM systems, pricing / design tools, MS Office tools....



Dealing with multiple customers 10's – 100's customers context switching between customers prompted by emails, phone calls, IMs

## **Understanding their needs**

#### Interviews

sales and technical specialists their managers senior managers

Remote job-shadowing using LiveMeeting & MS Communicator for voice

#### Concept demonstrator feedback in focus groups and 1-1s



## Help with knowledge sharing

Particularly developing proposals identified as problem by senior managers need to find *appropriate* text for reuse and experts to provide specialised input

Need to respond faster to customers and more *proactively* 

#### Tagging and tag-based search



## **Context switching**

Users want automatic context switching

#### Processes

#### **Customer-facing people**

little interest in process design challenge is having information at right point in process

#### Senior managers

compare actual processes with theoretical ... and optimise



## **Our solution – next 6 months**

Semantic MediaWiki for knowledge sharing

– for business proposal writing

AKWS with manual context switching

## Second half of 2010

AKWS with automatic context switching Process optimisation



## Semantic MediaWiki

A collaborative forum for text creation more efficient than email exchanges using forms facility for *parts* (e.g. exec summaries) of documents

drawback is limited formatting

Ability to model relationships John Smith *is an expert* in MPLS



Ability to query find experts in MPLS find previous proposals using IP Clear

### Categories

#### Customer, Proposal, Customer Issue, Product

### **Properties**

Category	Property	Туре
Customer	Address	string
	Bid class	text
	Bid sub-class	text
	Homepage	url
	Name	page



## **ACTIVE Knowledge WorkSpace (AKWS)**

#### **ACTIVE Taskbar**





## **Opening a file normally**

4	Recent Documents		10						
New	1 Active Deliverable Review D321 RT Paul doc	-1=1	E 2↓ ¶ AaBbCcDc		aBbC AaBbCc	AaB 🖻 🗛	∰a Find ▼	Offline 🔍 Search	•
2	ACTIVE DOW MAIN 4.1 010400 dos	-1-1	Aubbeebt	E No Seadi	adina 1 Hardina 2	Title Change	ab Replace	🔁 ConTag 🕤	
Open	2 ACTIVE-DOW-MAIN-4 1-010409.000			invo spaci Hi	eading 1 Heading 2	Styles *	🗟 Select 🔻	🔒 Tag	
	5 D251_23uly_pw.doc		6		Styles	5	Editing	ACTIVE Toolbar	
<u>S</u> ave	4 DP416_0_IP.doc	D-1	5 * 1 * 6 * 1 * 7 * 1 *	8 * 1 * 9 * 1	10 10 11 11 11 11	12 * 1 * 13 * 1 * 14 *	· 15 · 1 · 🛆	· i · 17 · i · 18 ·	
	5 DP416.doc								
Save As	6 KM at the customer front line_J_IIP.doc	-1,44							1
	7 KM at the customer front line_J_ITP_draft 3.doc								
Print	8 D5.1.2_AKWS architecture and design.doc								
	9 KM at the customer front line_J_ITP_draft 2.doc	-(=)							
	BT case study white paper.doc	-(=)							
Prepare P	D231_2July.doc	-(=)							
	Die Fremdsprachen.docx	-(=)							
Sen <u>d</u>	USERIDS.DOC	-(=)							
	Submission dates for ACTIVE deliverables.doc	-(=)							
Publish 🔹 🕨	ACTIVE-DeliverableD.8.1.2_v2.docx	-(=)							
	Web20_M_Chemsi.doc	-(=)							
Close	Web20_M_Chemsi.doc	-(=)							
2,030	Web20_Chemsi_Exec.doc	-(=)							
Construction Constant of	MBA Proposal business value draft 1.doc	-(=)							
Open From Context	HOLLIST.DOC	-(=)							
	KM at the customer front line 1 ITP_draft 1.doc	-(=)							
	knowledge management at the customer front								
	D5 2.1 AKWS early prototype doc	-121							
	Active Deliverable Deview Form Dayl approved	-1=1							
	Active Deliverable Deview Form Paul approved								
	Active-Deliverable-Review-Form-Paul-replied.do	DC 144							
	EP_EVALIT								
	IT TIPS.doc								
	SMW requirements.docx	-)ji)							
	EP_EVAL.rtf	-13							
	EP_EVAL.rtf	-(=)							
	knowledge management at the customer front	🖾							
	D9 1 2_v1 0 0.docx	-(=)							
	Active-Deliverable-Review-Form-Paul.doc	-(=)							
	ACTIVE-DeliverableD.8.1.2 for Review_pw.docx	-(=)							
	Active-QMR5-v1 (3).doc	-(=)							
	Cadence Case Study White Paper 2009-02-18.d.	-13							
	D9.1.2_0.1b_for_review_pw.docx	-(=)							
	associating entities with contexts_draft 1.docx	-(=)							
	agreement_mod.doc	-(=1							
	Active-OMR-WP13 O5.doc	-(=)							
	Active-6MAR-WP13.doc	-(=)							
	SemTech 2009 miscellaneous.docx	-(=)							
	Word Options 🗙 Exit	Word					🔁 🕸 🖏 🚁	140% 😑 📉	Ū
		-							



## **Opening a file from context**





## **Tagging in an application**



## Sharing through tagging

www.acti

		» LOGOUT NICK
	VE owered Enterprise	
Home Contexts Events Tasks	Info_Resources	Search Admin WS Resources
List	TAG CLOUD FOR	R INFORMATION RESOURCES
Attach		
Resources in Context		Deliverable Requirements BT Case Study Validation BT Trial Search
Tag cloud	Homepage Digit	
	poisoning Out	ine description Clustering WP4 penguin floom pingu
MY CONTEXT		
•		
XACTIVE		
wered Enterprise		

## Sharing through context - via the ACTIVE web portal

AC	IIVE	
Knowles	age-Powered Enterprise	
Contexts Task	s Info_Resources Search Admin	WS Resources
yProfile	MOST FREQUENTLY ACC	CESSED INFORMATION RESOURCES IN WORKING CONTEXT
vStatus	ElicenceInstall.rtf	(C:\InstantRails2.0\LicenceInstall.rtf)
esources	Wew doc in active.docx	(C:\Documents and Settings\activeigor\My Documents\New doc in active.docx)
	ACTIVE_workspace_SDK.	<pre>doc (C:\Program Files\ACTIVE\server\doc\ACTIVE_workspace_SDK.doc)</pre>
	Document1	(Document1)
	BeleaseNotes.txt	(C:\PROGRAMS\InstantRails2.0\ReleaseNotes.txt)
~		
WORKING IN MY	sh	ared contexts
CONTEXT		
	sup	port knowledge
- coul		snaring
D Paul		

## **Context in email (mock-up)**

😡 Inbox - Microsoft Outlook

#### enables ordering by context

www.active-project.eu

Foundly Folders		Search Inbox	
ravorite roiders 🔗	Context Subject	Received	Size
Unread Mail For Follow Up Sent Items	Ot-members-c@apconnectuk.org     Business     [Connect Adastral Park-c Information] Connect Week - FinancialAdvice Sessions     In support of Connect Week at Adastral Park LighthouseTemple will be offering individual financial advice sessons to members on Tuesday 25th N     Please see the attached flyer for further details     Harry Elstob - end>	Fri 14/11/2008 06:31 lovember.	109
Mail Folders 🔗	Context John Massey		
All Mail Items	Connect Odart massay     John Massey     [Connect Adastral Park-c Information] Update - Pensions meetings onMonday 17th Nover	nber [hu 13/11/2008 23:41	14 KB
🖻 💖 Mailbox - Halton,L,Li 📥	Apologies, I forgot to say that the pensions meetings on Monday are in the John Bray Lecture Theatre starting at 11:30 and 12:30. The speaker is Connect Assistant General Secretary Ben Marshall. The meetings are open to all BF employees so please co		
Deleted Items (5)     Drafts (27)	💫 Turner, A, Abi, DKE R John Massey FW: BT Vision	Thu 13/11/2008 22:17	10 KB
Junk E-mail	Hmmn, just read the thread and looks like I disagreed with Gillian! I can't see a CD working in someone's living room, when its images they need to view them), hence my DVD suggestion. Some task walkthroughs wo	i (and I'm unsure that DVD's	s would be
Quarantine	Turner, A, Abi, DKE R John Massey RE: BT Vision Okay - here is my quick view, seeing as I spent a long time on defining the install experience for the Home Hub. We should use the curcement material that would be useful for them to complete the task of installation. My out-feel would be that a CD is	Thu 13/11/2008 18:11	12 KB
Sent Items	Bryant, HW, Harry, ARGS R John Massey RE: Office 2007 Pilot - next steps	Thu 13/11/2008 17:03	8 KB
temp overflow     Search Folders     Personal Folders	Lucy, the installation process is sequential and so Outlook should install last - there have been a few instances where installation has not occurre Office before re-starting your PC. Support is via your requ	ed as a result of turning off	the PC or i
BT Internal Com		75	0.50
<ul> <li>              ■ BTdg (1)             ■ BTdg - Work             ■ 2007 to sort (!</li></ul>	In Livingston <a href="http://gcdev.nat.bt.com/bob/ianlivingston/email/header3.jpg&gt;">http://gcdev.nat.bt.com/bob/ianlivingston/email/header3.jpg&gt;</a> Media coverage Following this morning's second quarter financial results, you are likely to see media coverage that focuses on our plans to cut our total lab	Inu 13/11/2006 16:5/	9 60
2007/08 Billin Active BBOS UI & Bri	Gibson-Piggott,G,Gillian,DKE R Wilcox Sessions FW: CCP15 wiki FII, In case this is of any use to you all:	Thu 13/11/2008 16:35	10 KB
BBT SSO (33)	> From: Elmy, DM, David, DKE R		
BBV Ofcom Co	Context: PMB Marketing		
Bitcom Suppo     Case Studies     Client Packs (     Device View (     eframes (87)     Flash banner     Guard BT Netf	Connect Adastral Park-c Information] Pensions Meeting Update - 2ndsession now starts at 1:00pm in the Joh to bt-members-c-bounces@apconnectuk.org tent: Fri 14/11/2008 13:40 Message E ATT2381454.txt (420 B) Pensions Meetings Monday 17th November	nn Bray	
wiedła server 🗸	John Bray Auditorium		
Mail			
Mail	Sessions now start at 11:30am and 1:00pm		
Mail Calendar Contacts	Sessions now start at 11:30am and 1:00pm Apologies for yet another update but Ben Marshall has advised me that each session will last longer than 1 hour to allow time for question I've therefore rescheduled the second session to start at 1:00pm instead of 12:30pm Both sessions will take place in the John Bray Auditorium	ns.	

## Tagging a document (mock-up)

User offered a choice of tags, or can choose his own

Knowledge-Powered Enterprise www.active-project.eu



## Searching

User can search on tags, document content, or both





# Validating the prototype Intermediate prototype Oct 2009: 3 'friendly' users Nov 2009: group of 5 customer-facing Jan 2010: ~ 20 users

#### **Final prototype**

September 2010: 100-200 users



## Technical

integration testing

#### Organisational

speed up proposal writing process
improve quality of proposals
be more reactive to customers
optimise processes
improve knowledge sharing
increase efficiency in dealing with multiple contexts

#### User assessment

interviews, questionnaires, log analysis

## User assessment criteria

Relevant Criteria	Measures	Methods
Usability / UI design	<ul> <li>Number of defects and shortcomings detected</li> <li>Further user requirements identified</li> </ul>	<ul> <li>Heuristic Evaluation</li> <li>Cognitive Walkthrough</li> <li>Collaborative Usability Inspection</li> </ul>
Efficiency	- Time to complete tasks - Number of errors	<ul> <li>Performance Measurement</li> <li>Automatic Performance Measures</li> <li>(derived from logs, where possible)</li> </ul>
Efficiency (task switching)	- Time lost by task switching	<ul> <li>Task interruption / resumption lag measures in a multiple task context</li> </ul>
Effectiveness	- Number of tasks completed successfully	- Performance Measurement
User Satisfaction	<ul> <li>Subjective user assessment: Efficiency,</li> <li>Control, Learnability, Helpfulness, Affect</li> </ul>	- SUMI questionnaire
Acceptance	- Subjective user assessments	<ul><li>On-line questionnaires</li><li>User adoption rate</li></ul>
Information Quality	Precision, Completeness, Fit, Presentation, Trustworthiness	- IQ measurement scales



#### Using VNET5 <a href="http://www.vnet5.org/">http://www.vnet5.org/</a>

## Summing-up

#### Addressing the challenges of knowledge work easier and more appropriate knowledge sharing help with informal processes managing information in context

#### Validating the results technical organisational user



## **Other topics**

Anonymising data keeping its value for data mining data will go missing – need to minimise impact

> Security lightweight security within the enterprise who can see what, who can do what

> > Incentives for sharing with Web2.0 in the *enterprise*





## http://www.active-project.eu

#### Thank you!

Paul Warren, paul.w.warren@bt.com

