

Leveraging Passive Paper Piles to Active Objects in Personal Knowledge Spaces

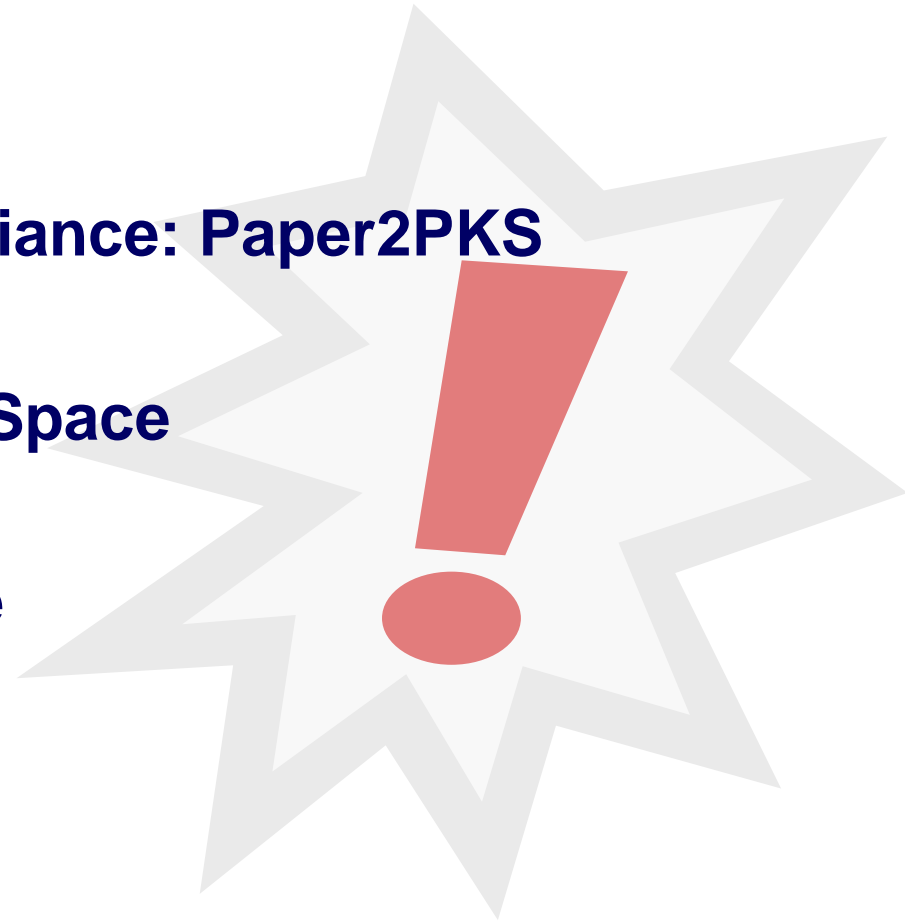
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Overview

- ▶ **Motivation**
- ▶ **Intelligent Office Appliance: Paper2PKS**
- ▶ **Personal Knowledge Space**
- ▶ **User-adaptive Service**
- ▶ **Conclusion**



What do we mean with “Passive Paper Piles”?

Some impressions ...



MOTIVATION

Some Reasons for these Piles

- ▶ Arise out of the “hunter-gatherer” mentality of today's knowledge workers
 - Could be relevant – at some time
 - Interesting, I have to read it ! ... but not now
- ▶ Piles have a meaning & act as visible reminders
 - Topics, tasks, Todos
 - Or simply places for everything relevant

What problems do arise in everyday office work?

- ▶ Information is “hidden” on paper documents
 - and documents are hidden in piles
 - Papers tend to be forgotten
 - Piles are getting higher...content won't ever be touched again
- ▶ Awareness of relevance when needed is not assured
 - e.g., during search or task execution

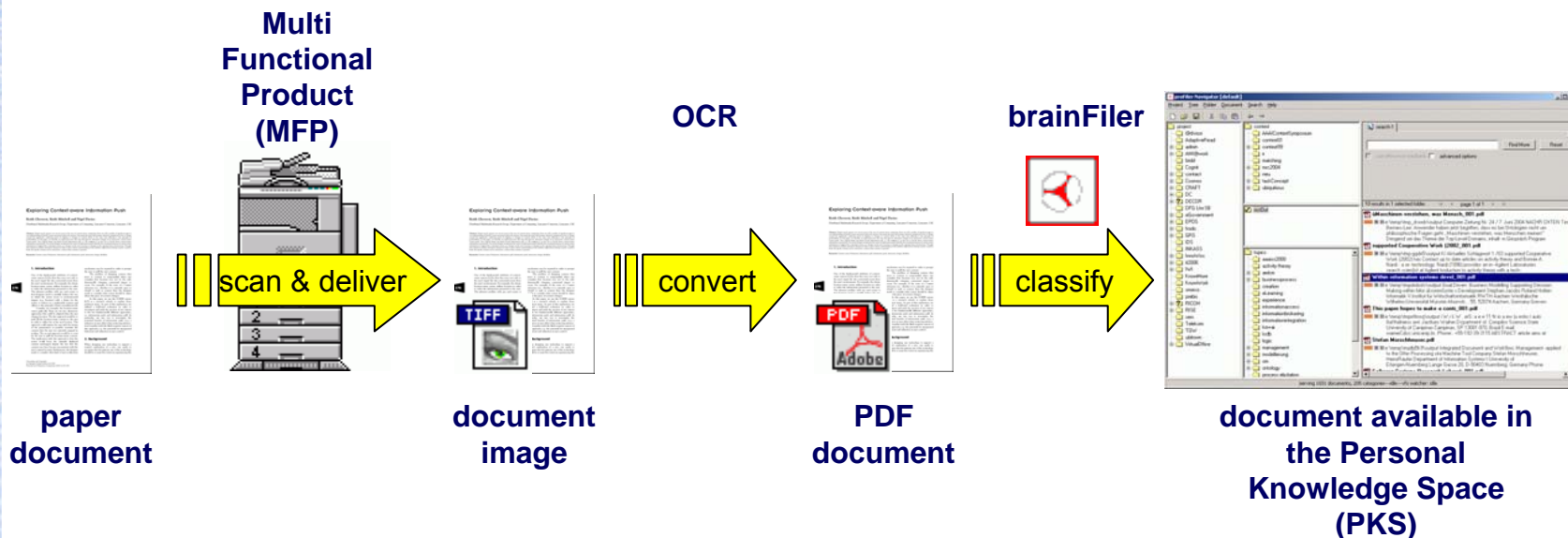
Problems of a paper world ...

Scanning technology is available in offices, so what?

- ▶ Transferring paper to the electronic world is for an office worker not as easy as it should be
 - Too many manual steps
- ▶ It requires time & discipline to organize documents
 - These are already the reasons for the paper piles
 - Where to store the documents to ensure later retrieval?
 - There will be electronic “piles”

Requires an easy to use and minimal distractive solution

Paper2PKS: A first step towards vanishing paper piles



- ▶ Combination of state-of-the-art office technologies
 - MFP (Copy/Scan/Store/Print/Fax) & delivery infrastructure
 - OCR producing PDF with TruePage layout & accessible text
 - Personalized document repository with indexing & classification functionality

Leveraged paper piles: Document search

The image shows a search interface with a search bar containing 'flow forecasting' and a search button. Below the search bar, it displays '812 Ergebnisse, 200 angezeigt' and '1 Antwort(en) von 1 Index-S...'. A list of search results is shown, including 'Integrierte Planung_001.pdf' with a description: 'cash, liquidität, forecasting, risikomanagements, unternehmen, finanzieller Integrierte Planung Cash Flow Forecasting ist ein wichtiger Bestandteil des Risikomanagements...'. Other results include 'Process Manager White Paper.pdf', 'LeymannRoller02.pdf', 'RDHflow(E).pdf', 'JablonskiNeebSchambergerSchlundt98.pdf', 'LeymannRollerSchmidt03.pdf', and 'GolaniPinter03.pdf'. To the right, an Adobe Acrobat Professional window is open, displaying the document 'Integrierte Planung'. The document content includes the title 'Integrierte Planung' and a paragraph: 'Cash Flow Forecasting ist ein wichtiger Bestandteil des Risikomanagements. Die Umsetzung ist weder aufwändig noch teuer. Der Schlüssel dazu liegt in einer vollständig integrierten Infrastruktur.' Below this, there is a large letter 'R' in a box, followed by text discussing 'Rechtliche Bestimmungen' and 'Grundvoraussetzung für funktionierendes Cash Flow Forecasting'.

Where does the “intelligence” come from?

Leveraging electronic footprints from user's desktop to a Personal Knowledge Space

PERSONAL KNOWLEDGE SPACE

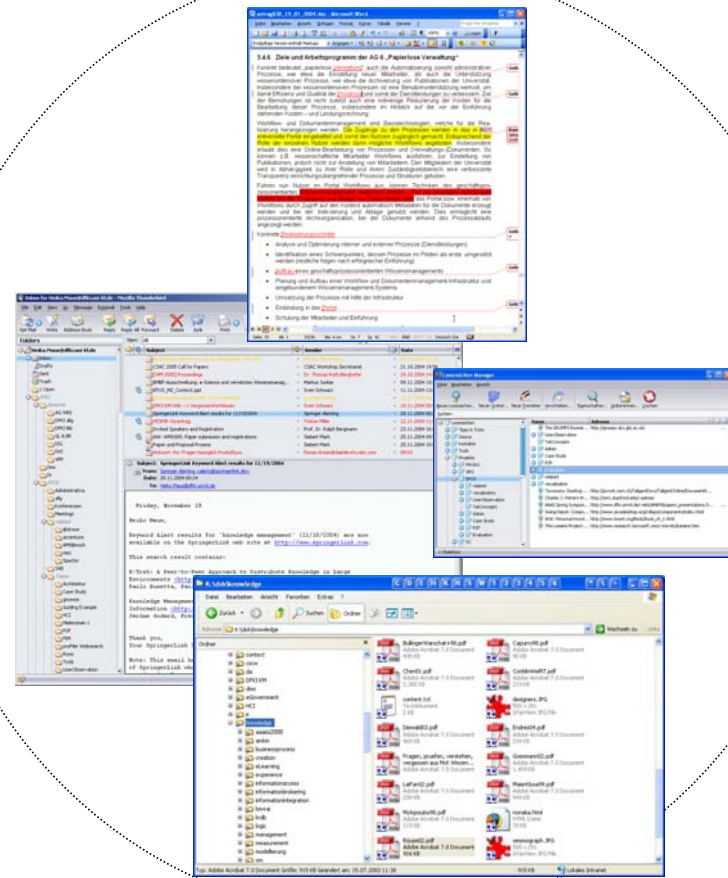
User-adaptive services

Personal Information Model

Personal Knowledge Space



native structures
information objects
user interaction



Leveraging electronic footprints from user's desktop to a Personal Knowledge Space

PERSONAL KNOWLEDGE SPACE

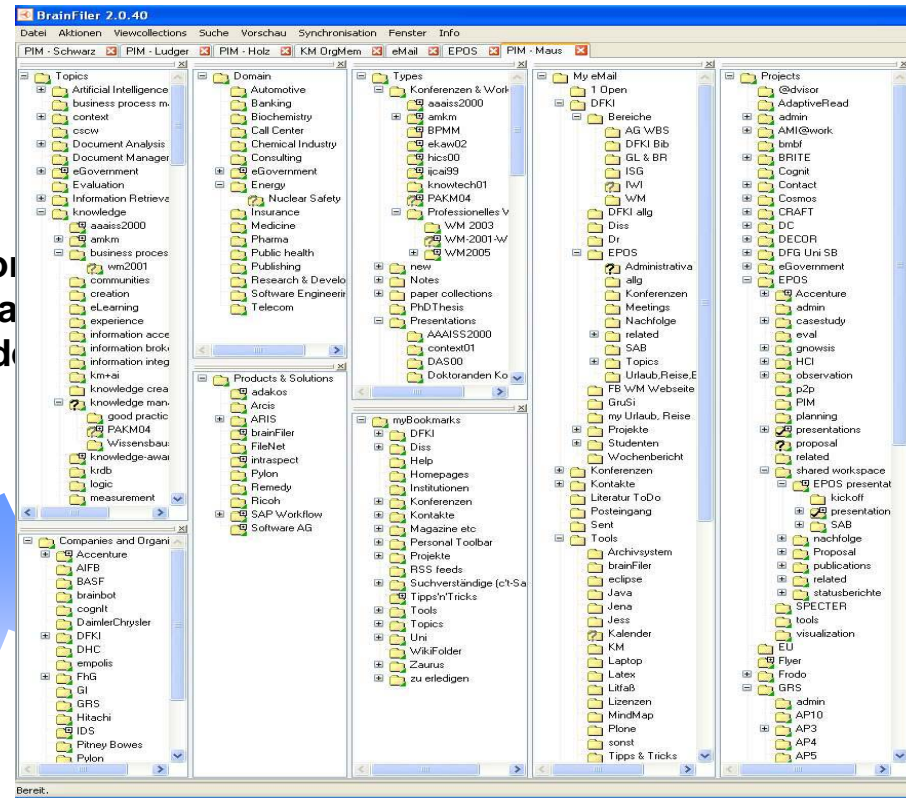
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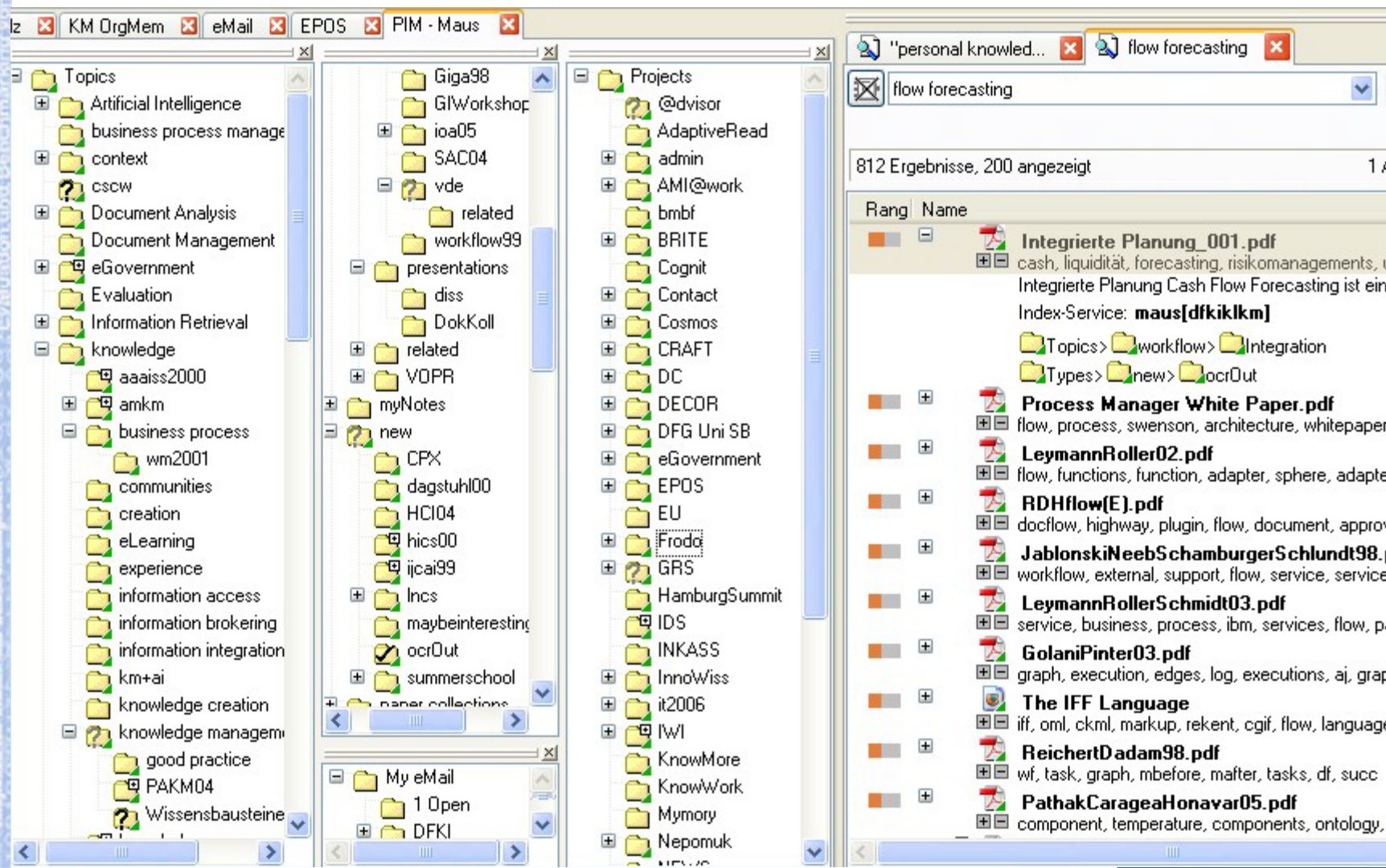


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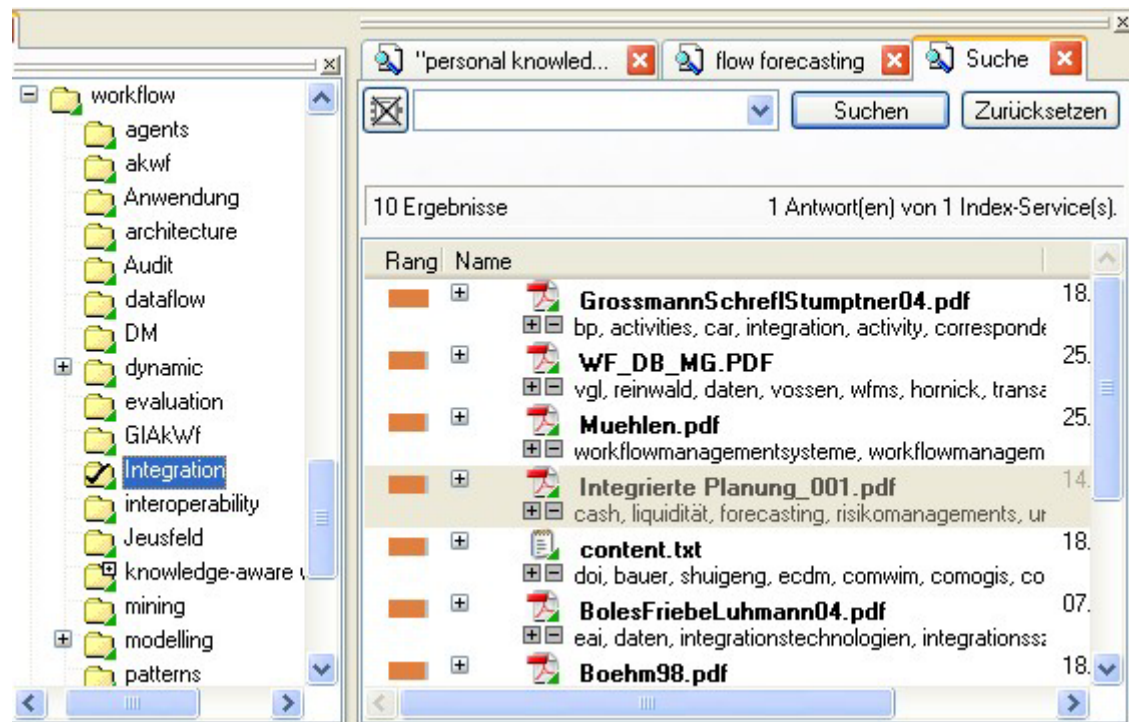
Personal Information Model allows to classify documents according to the user's subjective view

PERSONAL KNOWLEDGE SPACE



Personal Information Model allows to classify documents according to the user's subjective view

- Browse topic “Integration”:



How do we achieve “active” objects?

Task-specific, proactive document delivery for knowledge work

- ▶ Knowledge-intensive tasks require information from various sources
 - such as email, web, file system, document repositories
 - *and* the knowledge worker's paper piles
- ▶ Embedding a workflow system enables information support from the Personal Knowledge Space
 - The workflow system reminds user of relevant documents
 - Users can easily attach relevant documents to tasks or workflows

Maus Heiko - UserManager

Gantt Graph TaCos

Console Worklist Workflow Models Tree

Model Work Commit Revert Finish Assistant Back Fwd

Path: < Req Engineering for MFP Stakeholder Analysis for MFP Identify primary level stakeholders >

Description Browser Profiler ProcessRole Context

Overview Information Task-relevant Information InfoNeeds TaskConcepts

Search keyword: Write brainFiler project-proposal FRODO v Search

Rang	Name	Datum	Größe
	Message from ... [brainfiler meeting] [RICH_MFP@dfki.de]	29.10.2004	156 KB
	LvE: Wochenbericht KW 36/37 / 04 [Ludger van Elst]	10.09.2004	5 KB

Attach to the relevant information of this task: Attach

Why „Appliance“?

- ▶ Important requirements for an appliance:
 - Ease of use
 - Minimal disturbing
 - Direct benefit
- ▶ IOA Paper2PKS allows “scan & don’t care now”
 - “Intelligence” by utilizing the Personal Knowledge Space as well as workflow context
- ▶ Former paper piles are now active objects in the Personal Knowledge Space
 - Paper documents are stored in a personalized document repository
 - Accessible via search & browse categories
 - Embedded in everyday work of a knowledge worker
 - Documents are proposed if relevant for a task



- ▶ EPOS – Evolving Personal to Organizational Knowledge Spaces
 - <http://www.dfki.de/epos>
- ▶ FRODO TaskMan – Weakly-structured Workflow
 - <http://www.dfki.de/frodo/taskman>
- ▶ Virtual Office of the Future
 - <http://www.ricoh.rlp-labs.de/>