

Using PIM Infrastructures to Facilitate User-Generated Services for Personal Use



SYSTEMATIC THOUGHT LEADERSHIP FOR INNOVATIVE BUSINESS

Dr. Olaf Grebner
SAP Research Karlsruhe

Stockholm, 24.11.2009

Summary – Using PIM Infrastructures to Facilitate User-Generated Services for Personal Use



Vision: End-users tailor applications for personal use to satisfy diverse KWer requirements

Problem 1: Personal information scatters across the workplace /personal information fragmentation

Problem 2: No re-use of personal “processes” that KWers apply in their daily work

Proposal: User-generated services with domain-specific services & integrate personal information

The architecture leverages a semantic desktop PIM system to integrate personal information

Architecture brings end-users the benefit of reduced complexity for building tailored applications

Related work: Konduit uses visual programming & personal information, no personal process re-use

Vision: End-users tailor applications for personal use to satisfy diverse KWer requirements



KWers have largely different requirements wrt. applications for personal use

- Different skills: novice to expert
- Different Information Management behavior: Filer vs. Piler
- Different Usage: Active mouse user vs. hardcore keyboard user
- ...

Applications for personal use need to be flexible

- Integrate personal information
- Deal with personal “processes”

Vision: User Generated Services / Visual Programming enable end-users to tailor their applications

- Tailor applications for personal use
- KWer knows personal domain best, derives needs

Problem 1: Personal information fragmentation

- KWers structure & manage their personal information
- Personal information is scattered across the workplace

Problem 2: No personal process re-use

- KWers follow a set of personal processes
- KWers conduct a common set of personal “processes” in their daily work

Problem 3: End-users/developers aren't PIM technology experts

- KWers are (usually) not Personal Information Management Technology Experts
- E.g., modeling constructs, programming PIM systems

PIM = Personal Information Management

SAP RESEARCH

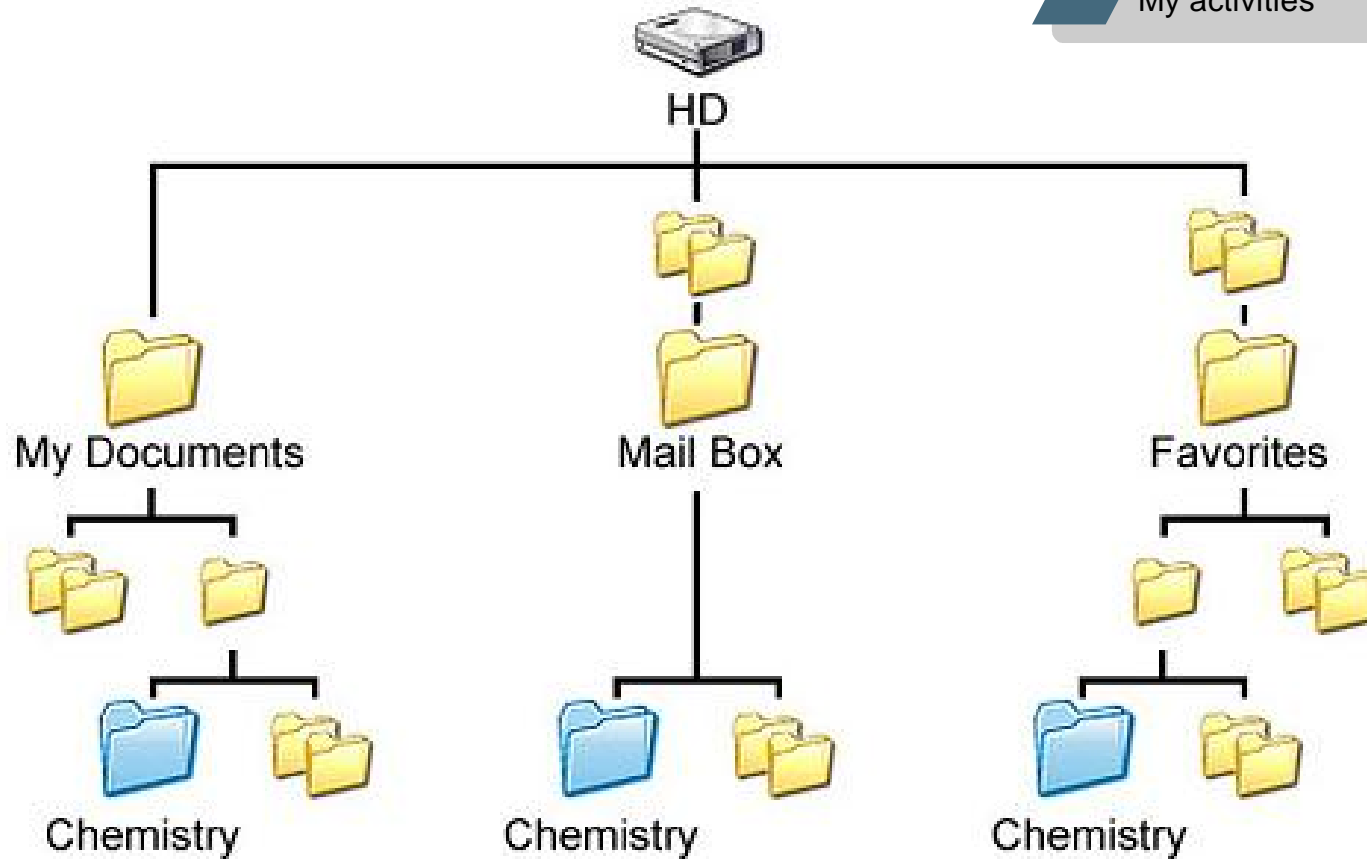
Problem 1: Personal information scatters across the workplace /personal information fragmentation



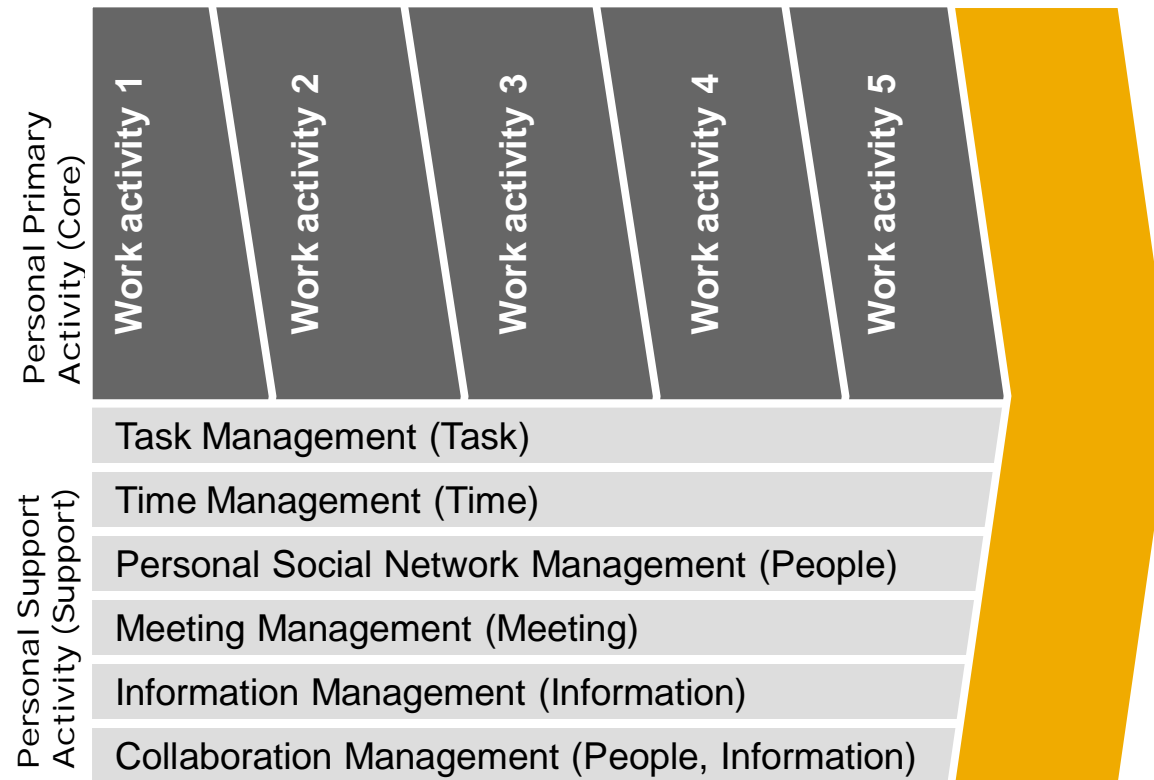
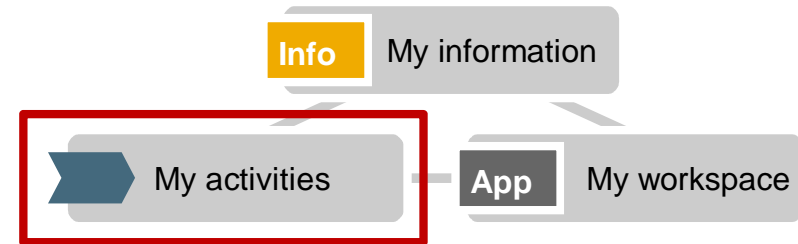
Info My information

My activities

App My workspace



Problem 2: No re-use of personal "processes" that KWers apply in their daily work



Proposal: User-generated services with domain-specific services & integrate personal information



Goal (3 levels)

1 Facilitate generation of user-generated services
 ■ E.g., Visual programming to tailor applications

Applications & services

2 Enable re-use of personal “processes”
 ■ E.g., Delegate a task

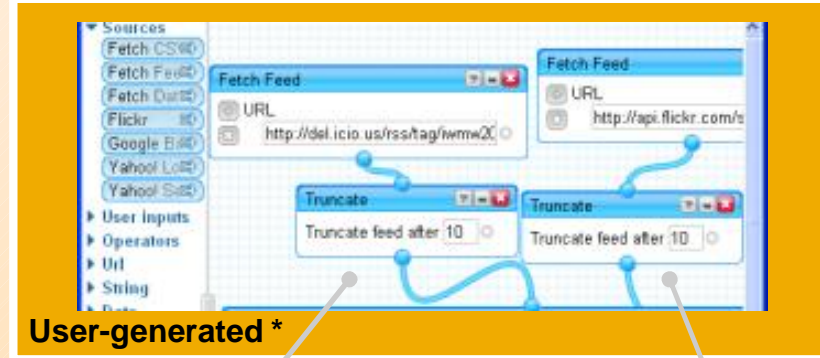
Domain-specific processes

3 Integrate personal information
 ■ tackle personal information fragmentation

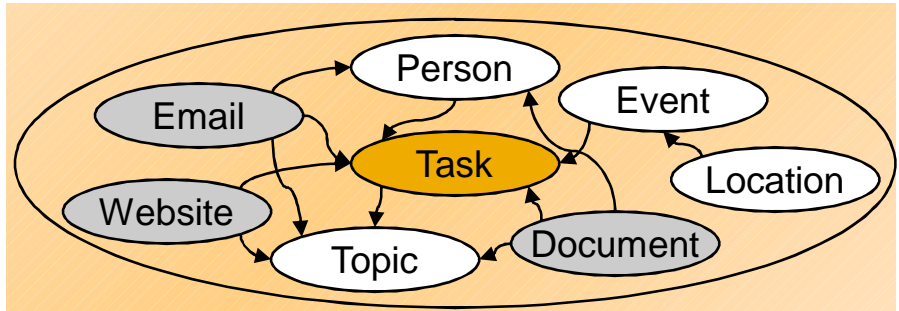
Personal information

Application (end-user perspective)

Applications & services



Domain-specific services



Personal information

■ Service (functional building block) ●—● uses

* Application mockup (Example: Yahoo Pipes)

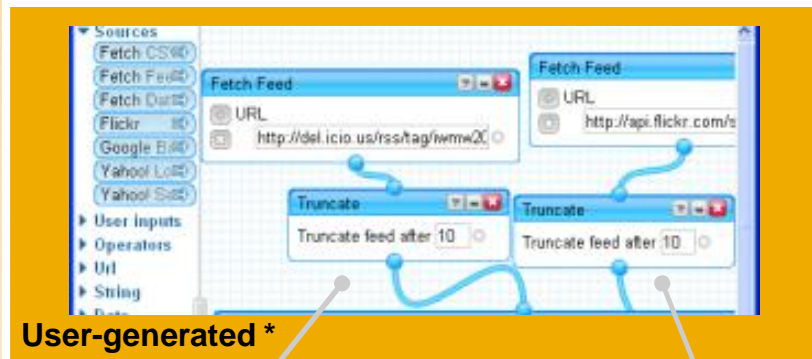
The architecture leverages a semantic desktop PIM system to integrate personal information



Application (end-user perspective)

Architecture (application developer perspective)

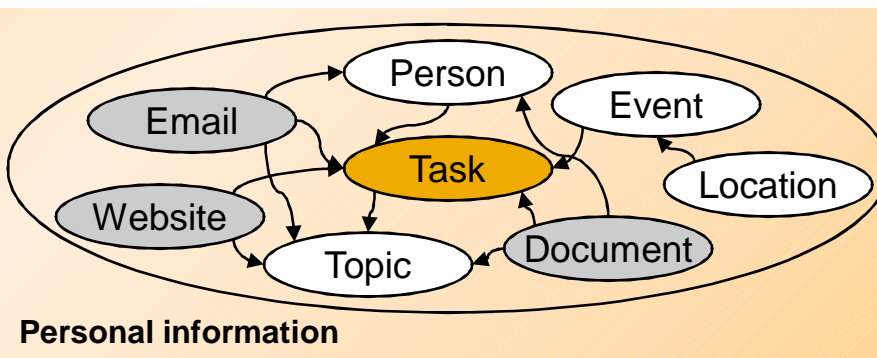
Applications & services



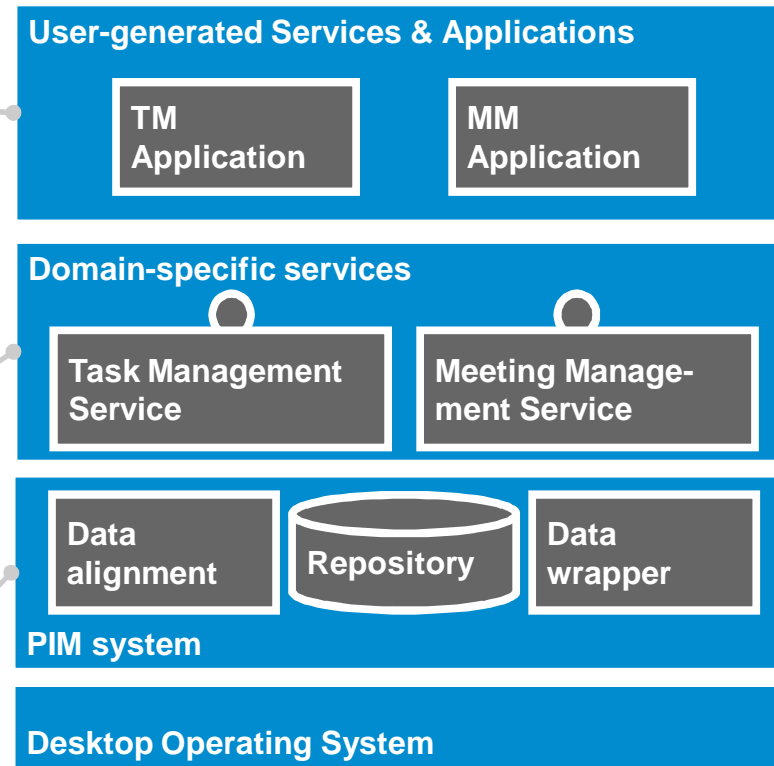
User-generated*



Domain-specific services



Personal information



TM = Task Management, MM = Meeting Management

■ Service (functional building block) ●—● uses

* Application mockup (Example: Yahoo Pipes)

Architecture brings end-users the benefit of reduced complexity for building tailored applications



Applications & services

- | | |
|--|---|
| <ul style="list-style-type: none">■ Offering a domain-specific interface | <ul style="list-style-type: none">■ Opens development to domain-knowledgeable developers■ Omitting need for deep personal information management tooling expertise |
| <ul style="list-style-type: none">■ Re-use existing business logic for KWer activities | <ul style="list-style-type: none">■ Only user interface needs to be re-developed & designed■ E.g., task delegation to send off a task to other people |

Domain-specific processes

- | | |
|---|--|
| <ul style="list-style-type: none">■ Common PIM system infrastructure | <ul style="list-style-type: none">■ Applications don't need to each redundantly implement a proprietary stack■ PIM system infrastructure is re-usable |
| <ul style="list-style-type: none">■ Consistent handling of personal information across applications | <ul style="list-style-type: none">■ Domain-specific services ensure a consistent handling of personal information across applications. |
| <ul style="list-style-type: none">■ Platform independent | <ul style="list-style-type: none">■ Domain-specific services use only the PIM system services and don't directly access operating system services |

Personal information

Related work: Konduit uses visual programming & personal information, no personal process re-use

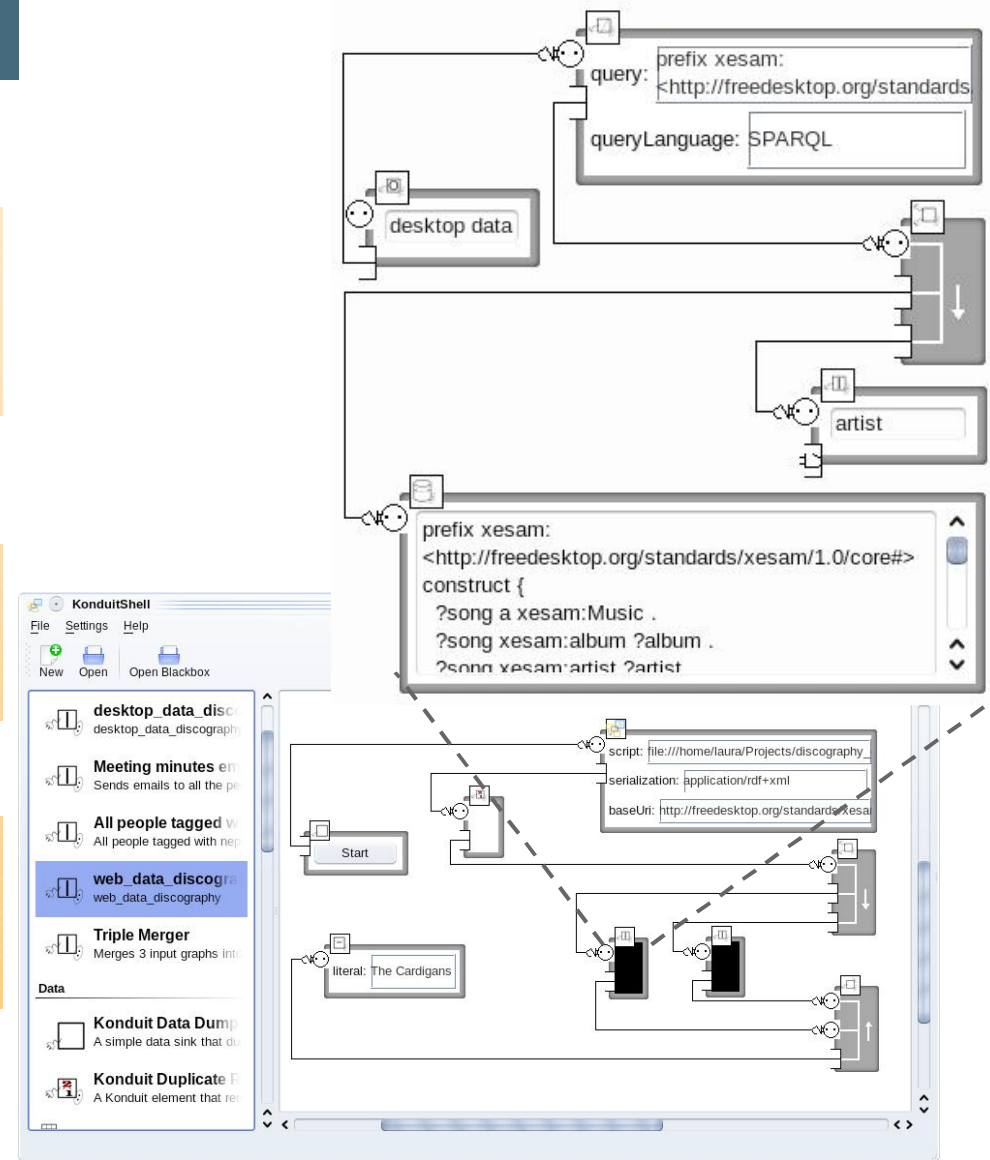


Konduit [Dragan et al. 2009]

Y Facilitate generation of user-generated services
■ E.g., Visual programming to tailor applications
Applications & services

X No re-use of personal “processes”
■ E.g., Delegate a task
Domain-specific processes

~ Requires RDF data from both desktop & web sources
Personal information



Y = Fulfills fully; X Doesn't fulfil; ~ = Fulfills partly

Summary – Using PIM Infrastructures to Facilitate User-Generated Services for Personal Use



Vision: End-users tailor applications for personal use to satisfy diverse KWer requirements

Problem 1: Personal information scatters across the workplace /personal information fragmentation

Problem 2: No re-use of personal “processes” that KWers apply in their daily work

Proposal: User-generated services with domain-specific services & integrate personal information

The architecture leverages a semantic desktop PIM system to integrate personal information

Architecture brings end-users the benefit of reduced complexity for building tailored applications

Related work: Konduit uses visual programming & personal information, no personal process re-use