

Personalizing Information Spaces: A Metadata Based Approach

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Overview

- introduction
- personalization architecture
- prototype implementation
- future challenges

Personalization for whom?

- knowledge workers in a distributed digital library setting
- characteristics of the user base:
 - work for company or organization
 - occasionally collaborate
 - routinely require access to:
 - diverse types of information items
 - resources managed by range of different information systems
 - physically distributed systems
 - may not own information

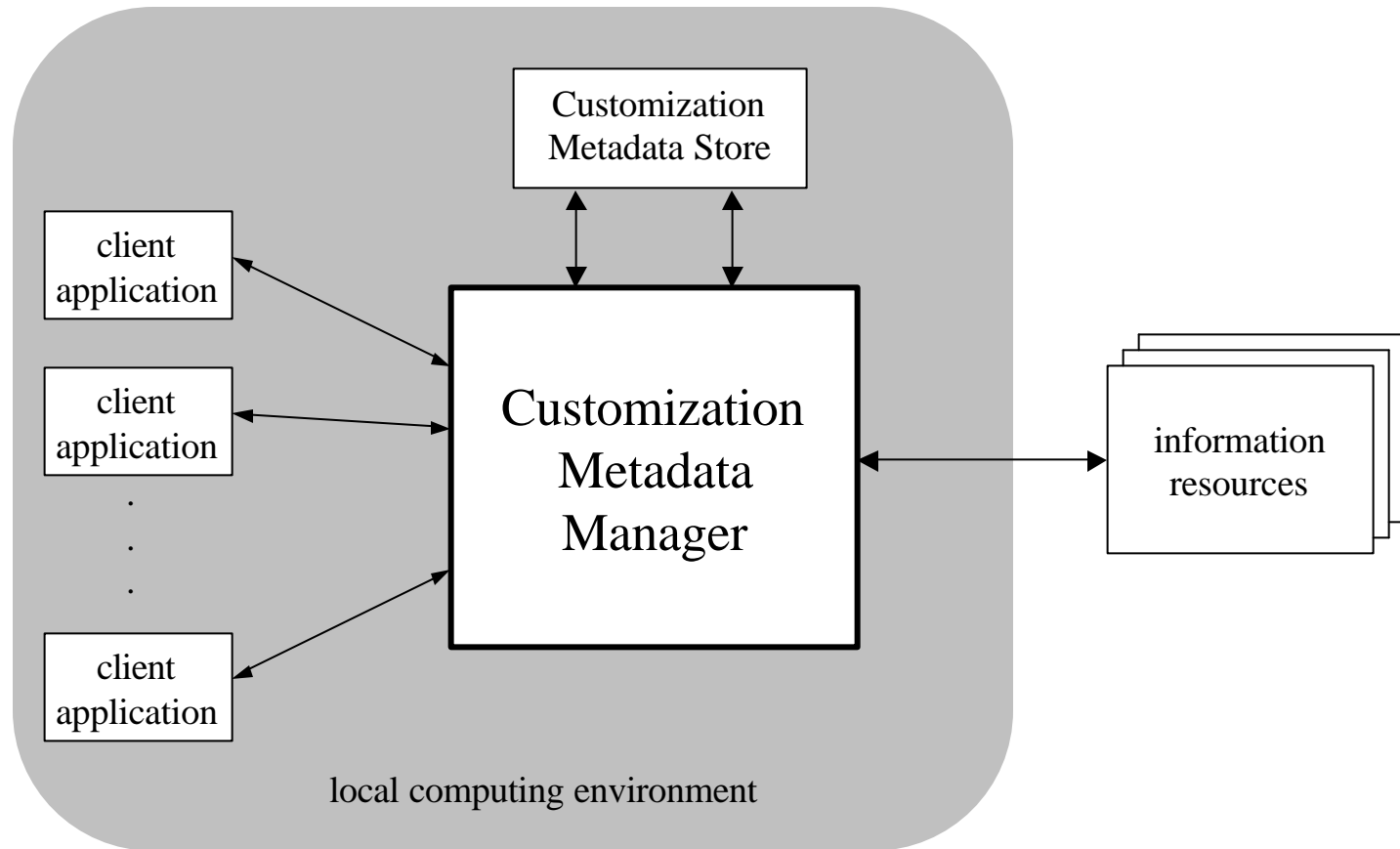
Personal ADaptable Digital Library Environment (PADDLE)

- designed to support knowledge workers
 - especially those with distributed information needs
- intended to accommodate personalization of wide range of information types
- two primary characteristics:
 - decentralized
 - metadata based

Architectural Characteristics

- decentralized
 - personalization not supported by centralized information systems
 - Instead is done locally with respect to the user
- metadata based
 - metadata used to define and track personalizations
 - unconventional use of metadata

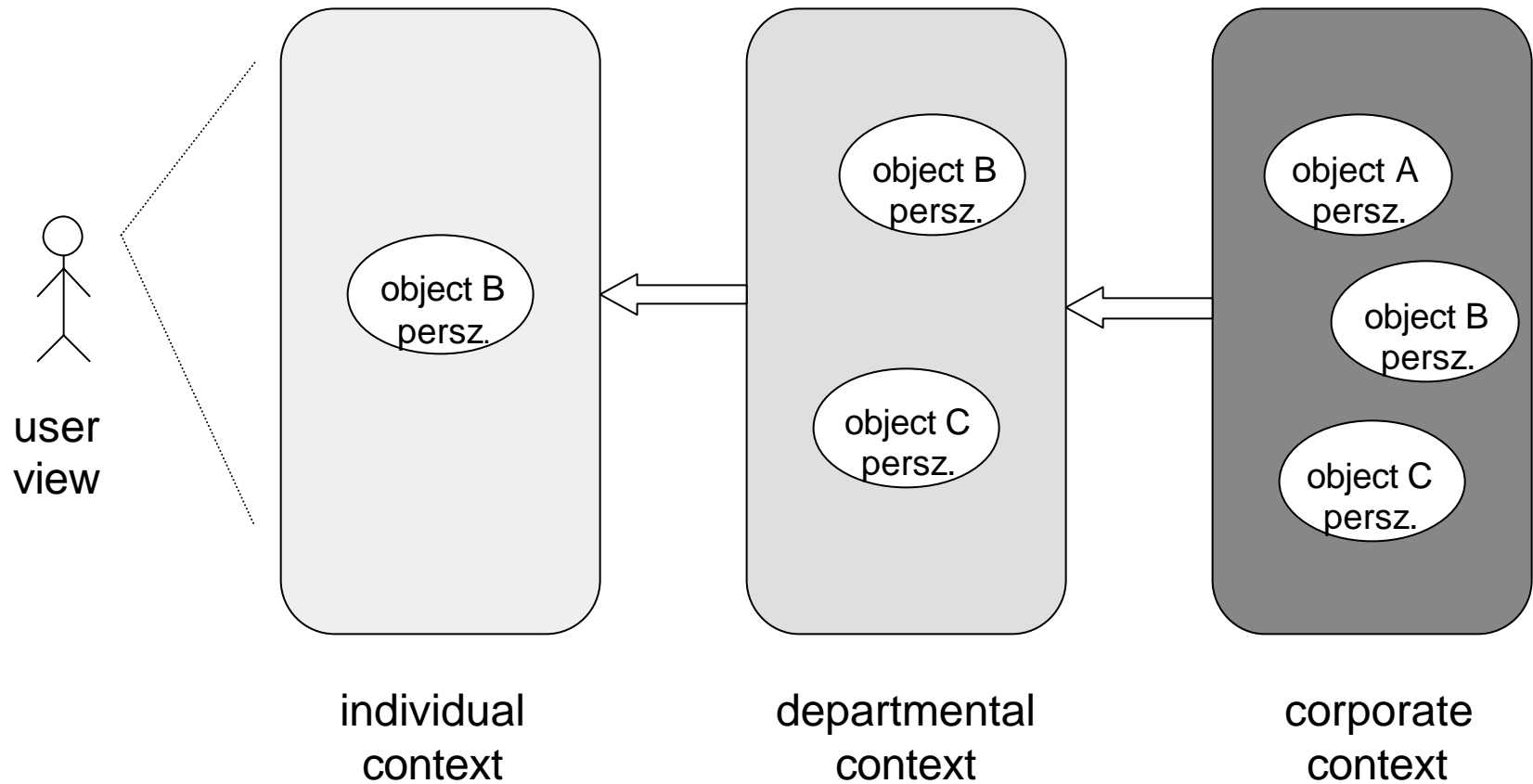
PADDLE Architecture



Contexts

- provide mechanism to group logically related set of personalizations
- users can have multiple contexts
- contexts can be shared
 - serve as a collaboration tool
- can be layered as a way to hierarchically relate sets of personalizations

Context Layering



Prototype Implementation

- implementation environment:
 - Java, Apache web server/servlet engine
 - relational DBMS
 - standard communication protocols
- includes client application
- 3 information systems integrated so far
- currently supports personalization of information item descriptions:
 - modifying field values
 - adding fields
 - deleting (hiding) fields

Client Application Personalization Component

PADDLE - Personal ADaptable Digital Library Environment - Netscape

File Edit View Go Communicator Help

FAW **PADDLE** **DFG**
Personal ADaptable Digital Library Environment

Authoring Component for Metadata Customization

Metadata for Remote Object: "Waste Management"

Author:
Federal Environmental Agency

Content Provider:
Federal Environmental Agency

Contact Person:
Jack Smith

Show Object

Field Manager

save in context:
waste save

Title:
Waste Management in Bavaria Apply

Geographical Relationship:
Germany Apply

Semantic Relationship:
changed Pollution Apply

Temporal Relationship:
new 1994-1997 Apply

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Document: Done

Current Status

- initial results are encouraging:
 - viable method of supporting personalization
 - user acceptance
- however, current prototype only supports limited set of personalizations
 - information item descriptions

Ongoing and Future Research

- extending prototype to include additional:
 - information systems
 - information types
- exploit knowledge contained in customization metadata store
- consistency maintenance
 - between information objects and personalization metadata
- development of standards for metadata used to represent personalizations
 - interoperability
 - interchange