



inContext – On Coupling and Sharing Context for Collaborative Teams

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<http://www.in-context.eu>

- ✓ Motivation
- ✓ Design time context coupling
- ✓ Runtime context coupling
- ✓ Illustrating examples
- ✓ Conclusion and future work

✓ Coordinated by TU Wien (AT)



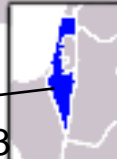
West Midlands **LGA**
local government association

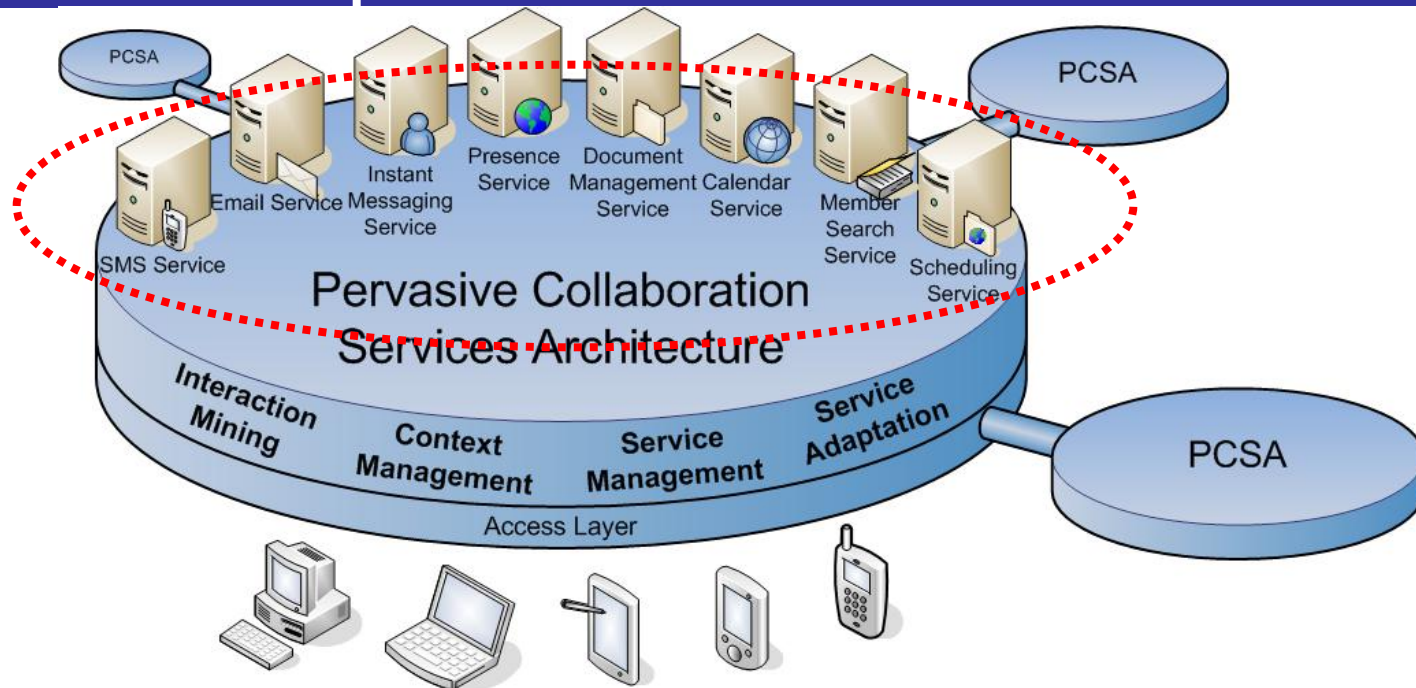


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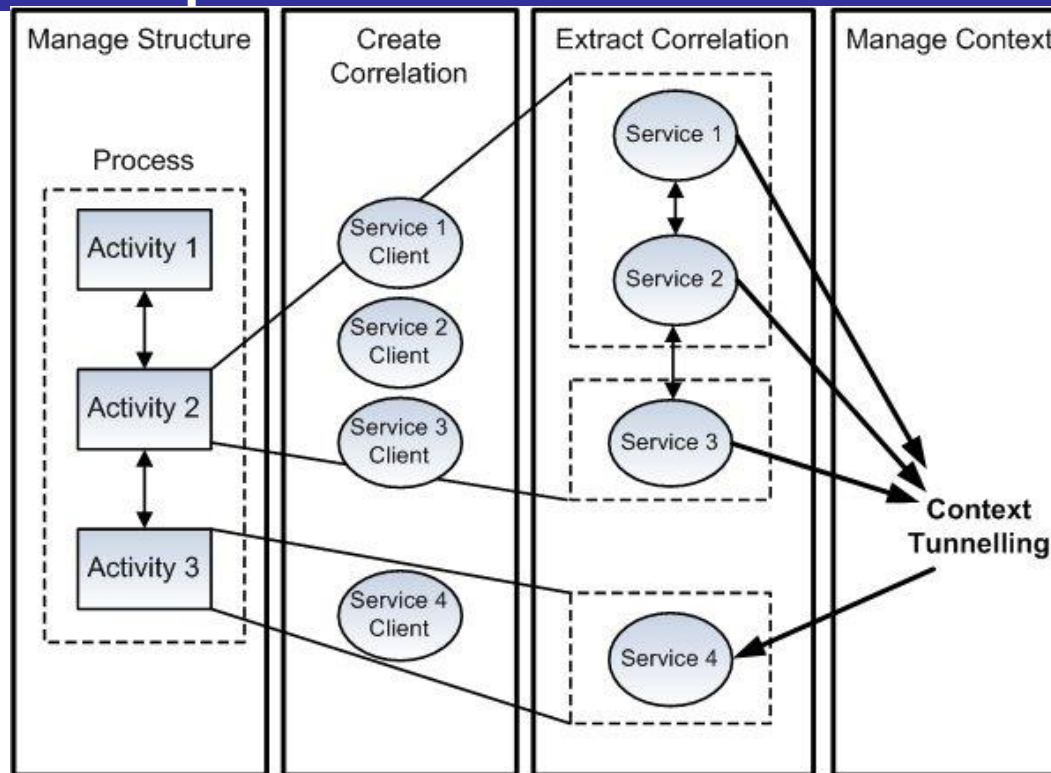




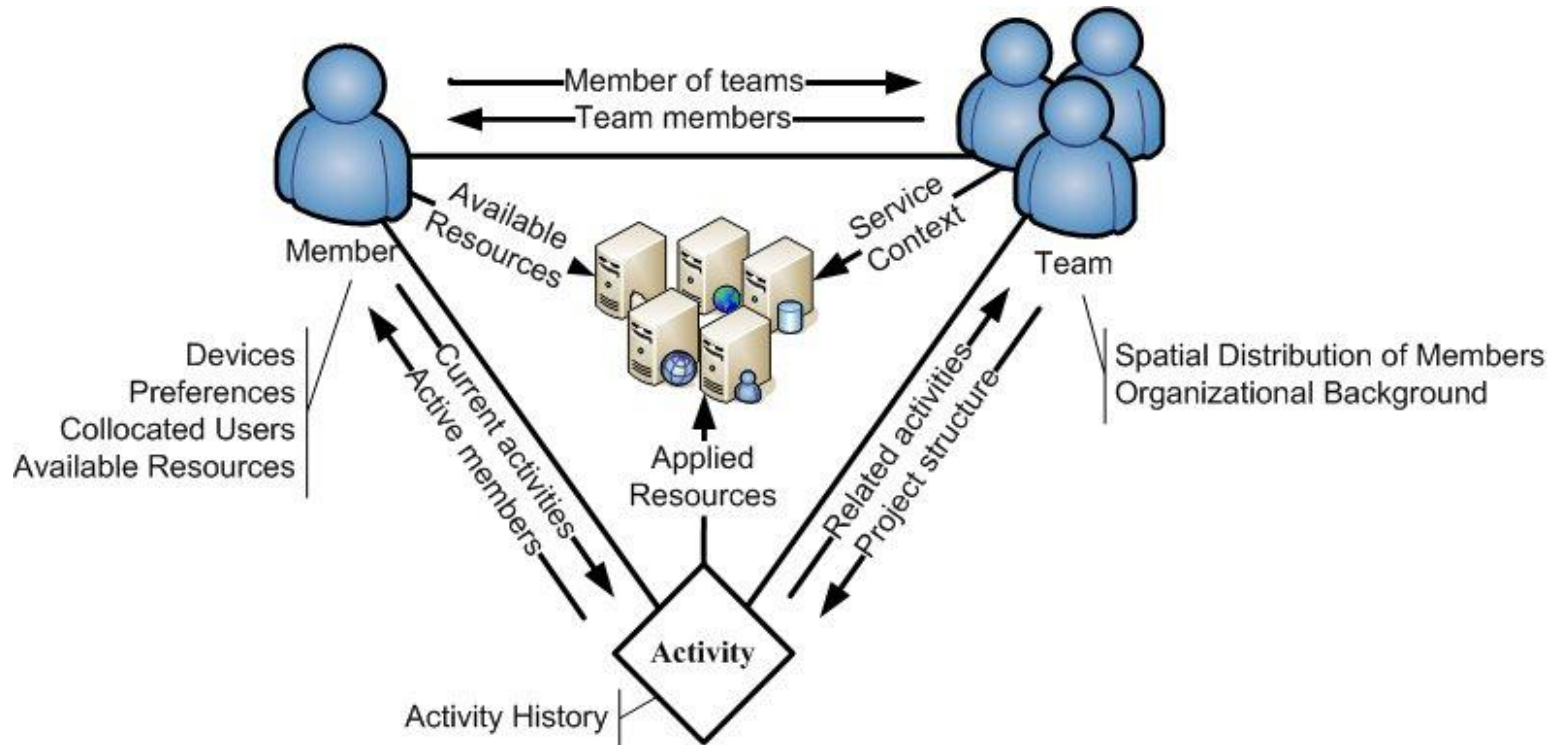
- ✓ A user needs different services even for a single activity
- ✓ How to enable services from different providers to become aware of the overall collaboration context
 - *Services need context from preceding „steps“*
 - *Services should require minimum user interventions*

- ✓ E-professional knows his/her part of collaborative process
 - links between actions, relations between users, relevant resources, artifacts, etc.
- ✓ However, services are limited to compositions within applications
- *Context coupling techniques enrich services with overall collaboration context and link context across user boundaries*

- ✓ **To enable context-aware collaboration services**
 - Need to have explicit context information models
 - Well-defined models for associating diverse types of context in today's team collaboration
 - Need a mechanism to correlate and manage context for collaboration services
 - Service independent approach
 - Across distributed, service-based environments
- ✓ **This paper focuses on**
 - Context coupling techniques at design-time and runtime for SOAP-based collaboration services

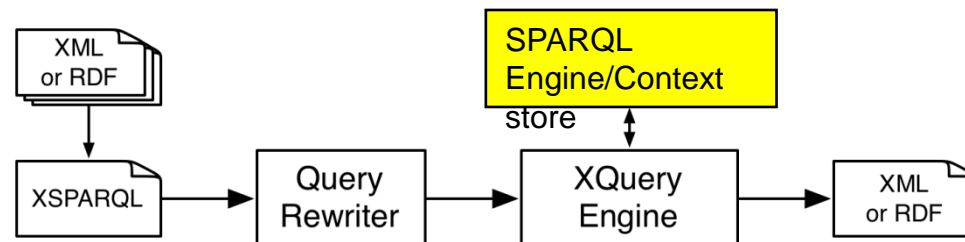


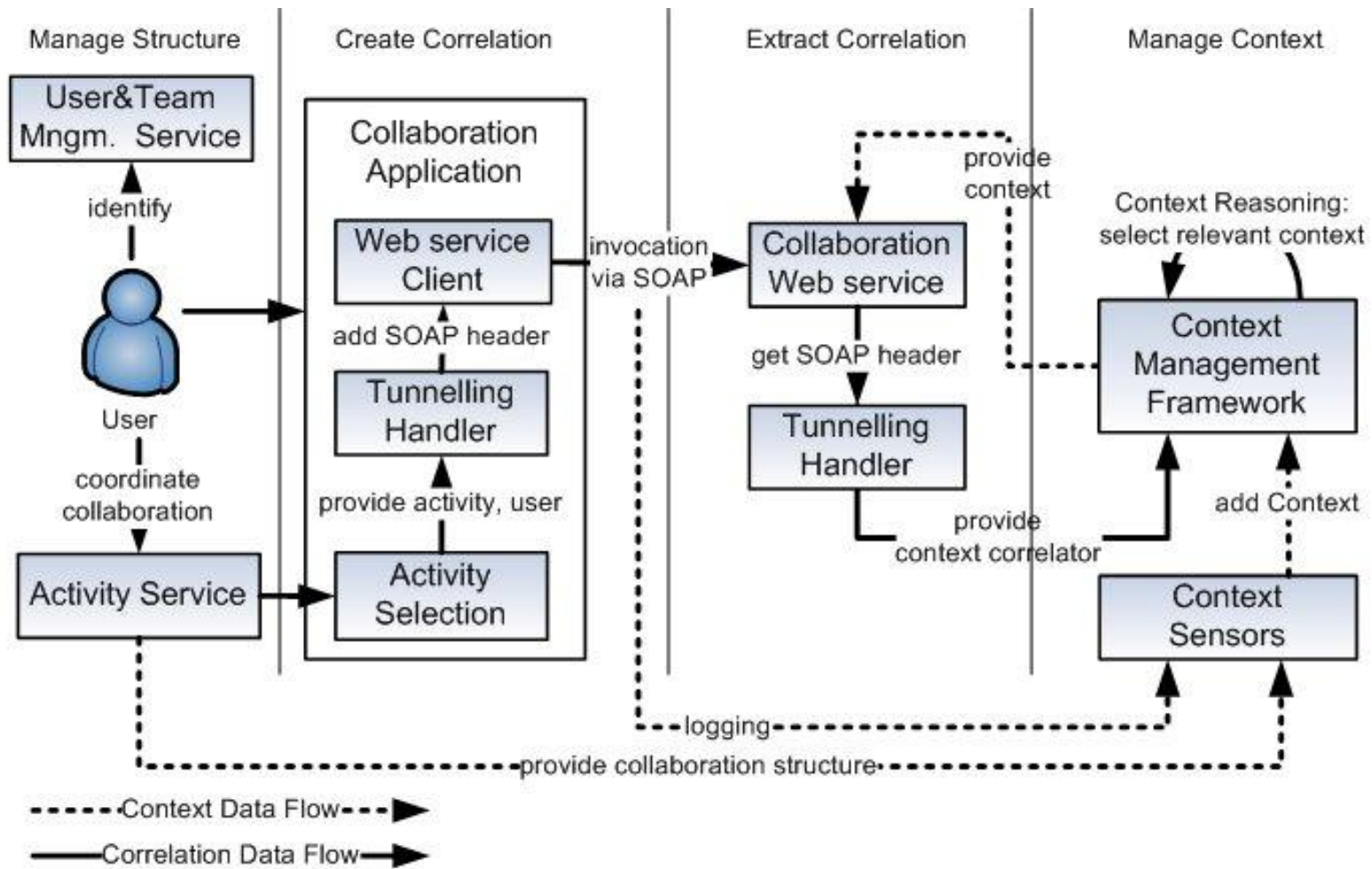
- ✓ Need both design-time and runtime context coupling techniques
 - Collaboration context across user boundaries



- ✓ Model individual context, team context and activity context using RDF
- ✓ Support flexible and extensible models by including domain-specific context models and reusing common RDF context models

- ✓ Supporting distributed context management
- ✓ Using URI to retrieve context information
 - ActivityURI and UserURI
- ✓ Embedding URIs specifying context information into SOAP message header
 - No application-specific source code
 - Extensible mechanism
- ✓ Supporting RDF/XML context Information
 - XSPARQL for querying context data and transforming RDF to XML





```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope
  ...
  <soapenv:Header>
    <ns1:ctxtunnelling
      soapenv:actor="http://schemas.xmlsoap.org/soap/actor/next"
      soapenv:mustUnderstand="0" xmlns:ns1="www.in-context.eu">
      <ns1:Activity>
        http://www.in-context.eu/pcsa#act1
      </ns1:Activity>
      <ns1:User>
        http://www.in-context.eu/pcsa#Rossi.E54
      </ns1:User>
    </ns1:ctxtunnelling>
  </soapenv:Header>
  <soapenv:Body>
    ...
  </soapenv:Body>
</soapenv:Envelope>
```

✓ Context Tunneling Handler

- SOAP Header extensions: carry over User/Activity ID in service calls, enables tunnelling, monitoring, mining
- Prototypes for AXIS1, AXIS2 and .NET
- Context aware services can exploit it, but no obligation → no specific change for services
- Enable context ranking and constraints

✓ Different high-level interfaces to the Context Store

- getContext(XML, XSPARQL)
- setContext(XML, SPARUL)

inContext - Mozilla Firefox

File Edit View History Bookmarks Tools Help del.icio.us

http://srvvirt2.softeco.it/inContext2/projectEnvironment.zul

Kostenlose Hotmail BBC NEWS | Entertai... webbed - Definition Fir... BBC - homepage - Ho... my.del.icio.us post to del.icio.us Links anpassen Windows Media Windows

International Conference on Concurr... WP5 inContext WP5

User: Thelma Jones Role: groupleader

Welcome Documents Maps User Search Meetings Activities Relevant Users

Gabbiano

Health 121

Wolverhampton 2009

New Project

User Mgm

Team members
Dom Christoph
Black Bob
Jones Thelma
Bennet Alex

remove

Drag users to add

Wolverhampton 2009

- oFair Execution
 - ohelicopter landing
 - oFair Preparation
 - kick off meeting

Organizational Activity Details

Name: helicopter landing

Description:

Start Date: 06/27/2008

Duration: Days: 1 Months: 0 Years: 0

Progress

Priority

Activity Actors

Jones Thelma (Coordinator)
Bennet Alex (Contributor)

remove

Drag users to add as actors

Add/Remove a relevant location for this activity dragging it here

Instant Messaging
Login:tjones7273@jabber.org
Messages
wolverhampton_2009 [13:01]:
Thelma Jones has joined the project chat
Wolverhampton_2009

To:

send

Drag here a user or click on a received message to choose the receiver

inContext users
Bennet Alex
Jones Thelma
Alessi Giorgia
Fanti Davide
Mazzon Alessandro

Filter:

Drag here a user to see his/her information

Activities

Activity Type: Organizational

Name*:

Parent Activity* drag here the parent activity

Description:

Start Date:

Duration: dd mm yy

Priority

Estimated Efforts low

Coordinator*:

drag here the coordinator

Actors

Documents

Wolverhampton 2009

- Technical Documents
 - project_presentation.ppt
 - LandingInstructions.doc
- Meeting Documents
 - Fair2006Report.doc
 - Fair2007Report.pdf
 - KickOffAgenda.txt

Relevant Documents:

Add Documents
Add Folders
Show/Hide Search Documents

Drag into the trash documents and folders to delete.

Maps Service

Double click on the map to select a location

Map Satellite Hybrid

Map data ©2008 Tele Atlas

Select or search a location to drag its coordinates

Address: Search

Relevant Locations:
Landing Point [CURRENT ACT]
Office [CURRENT ACT]

javascript:; 23-25 June 2008, Lisbon, 14th ICE www.in-context.eu

Start inContext - Mozilla Fir... 2ndreview Microsoft Office P... ice08-final [Compatibi... Inbox for trung@inf... DE 13 13:04

- ✓ inContext techniques for coupling and sharing context for today's collaboration services
 - Developed generic RDF/OWL-based context models
 - Provided generic runtime service-based context coupling framework: SOAP header extensions, distributed context management, XSPARQL
 - Based on multidisciplinary research efforts: Web services engineering + ontology/semantics + collaborative computing
- ✓ Working on a reference architecture for context-aware collaboration services
- ✓ Utilizing context coupling and sharing techniques for the FP7 COIN IP to support human interactions in collaboration

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inContext project: <http://www.in-context.eu>

What: the inContext demo, much more than this talk

When: Tue, 24 (tomorrow)

- during the coffee breaks

- at 10 am and 15 pm

Where: the coffee room

Who: you and the inContext team

How: live demo and discussion