MePK 2008
Invitational workshop: Managing e-Participatory Knowledge: Perspectives, Methods and Systems for Planning
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Mapping Process Memory by Capturing Deliberation in Participatory Spatial Planning

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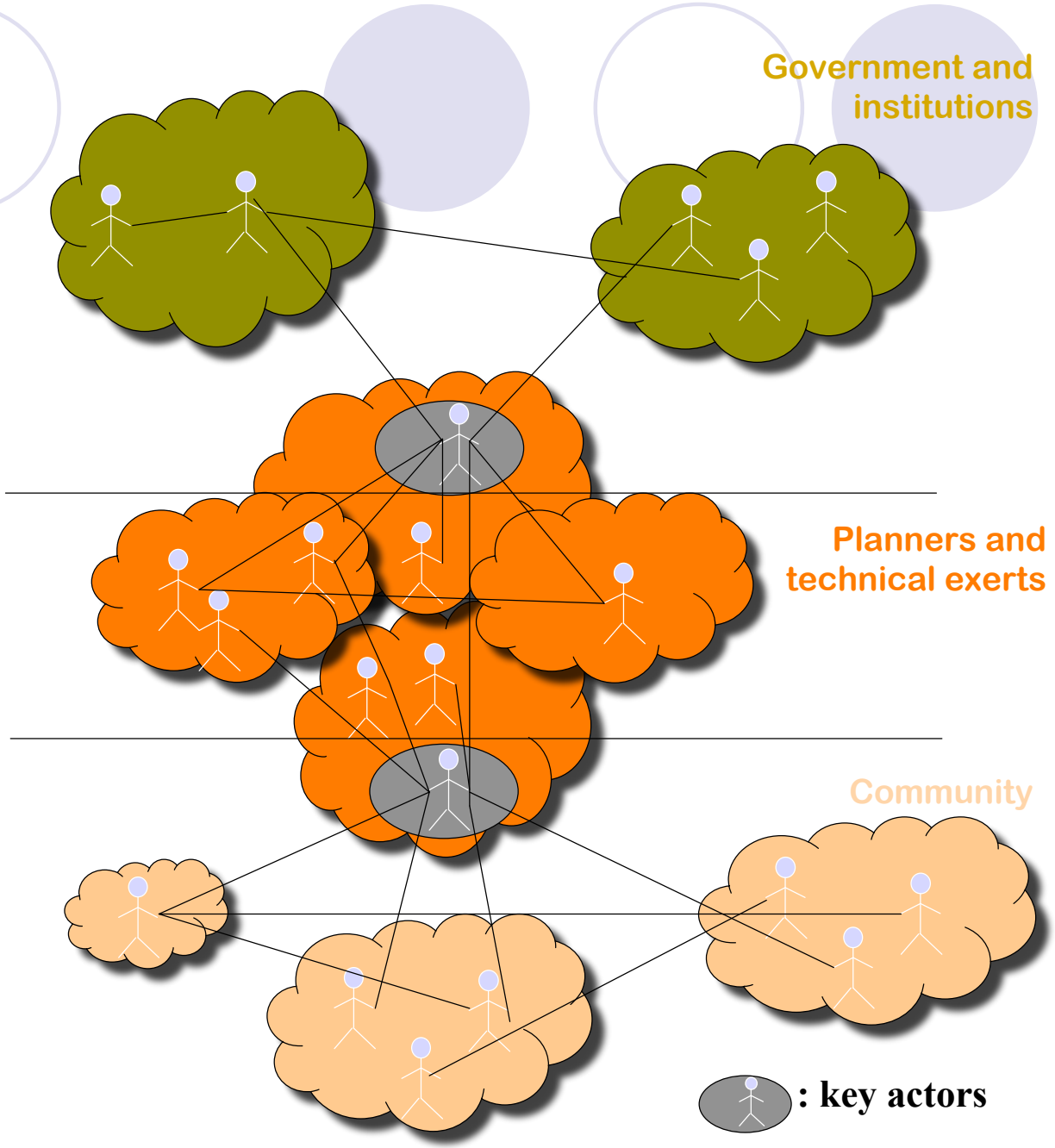
The issue

PSP is a collaborative governance practice involving institutional and non-institutional stakeholders in a collaborative process of deliberation in order to:

- ✓ **build multiple views of problems and resources**
- ✓ **achieve better informed and shared decisions**

The challenge is to trace the intense process of information and knowledge exchange and production through deliberation and reflection

…loss of democratic sharing of information and building knowledge about the project between stakeholders; weakening of transparency and accountability of the PPP itself.



overall aims

Support Participatory Planning Processes in order to improve:

- ✓ management and transferability of complex, evolving and eclectic information and knowledge produced during participatory processes
- ✓ transparency, evidence and accessibility of the rationale behind decisions, explaining and showing the transition from consultation contents to decisions

Research hypotheses: the memory system

We are investigating the development of a **memory system** that aims at supporting:

1) **transparency and accountability** of planning decisions by tracing deliberation and trying to link:

- consultation results
- technical choices and
- political decisions

2) **democratic sharing of information and building novel knowledge** about the project:
trying to represent in an integrated environment the information produced and knowledge generated throughout the Participatory Process

How can a process-memory system support our goals?

✓promoting more reflective interaction by making tangible the connections between planning options, arguments and other issue/documents;

✓building common awareness and understanding, not only of the planning issues at stake, but also of the diversity of viewpoints and counterarguments in play;

✓maintaining coherence between the past and the future, by helping stakeholders to navigate the history of the project in helpful ways.

Contents

We propose a method and a tools **to manage knowledge** **in participatory planning** **by tracing and storing deliberation in a process memory system**

The Memory Environment: COMPENDIUM

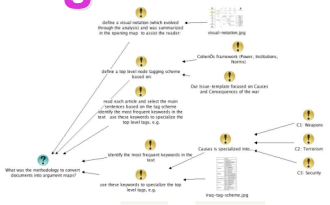
Compendium is a visual hypermedia and sensemaking tool.

Open environment in which dialogues, narratives, conversational models, flux of thoughts can be represented and stored by different mediums:

Texts

Graphs

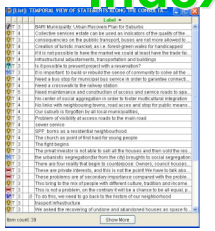
Diagrams



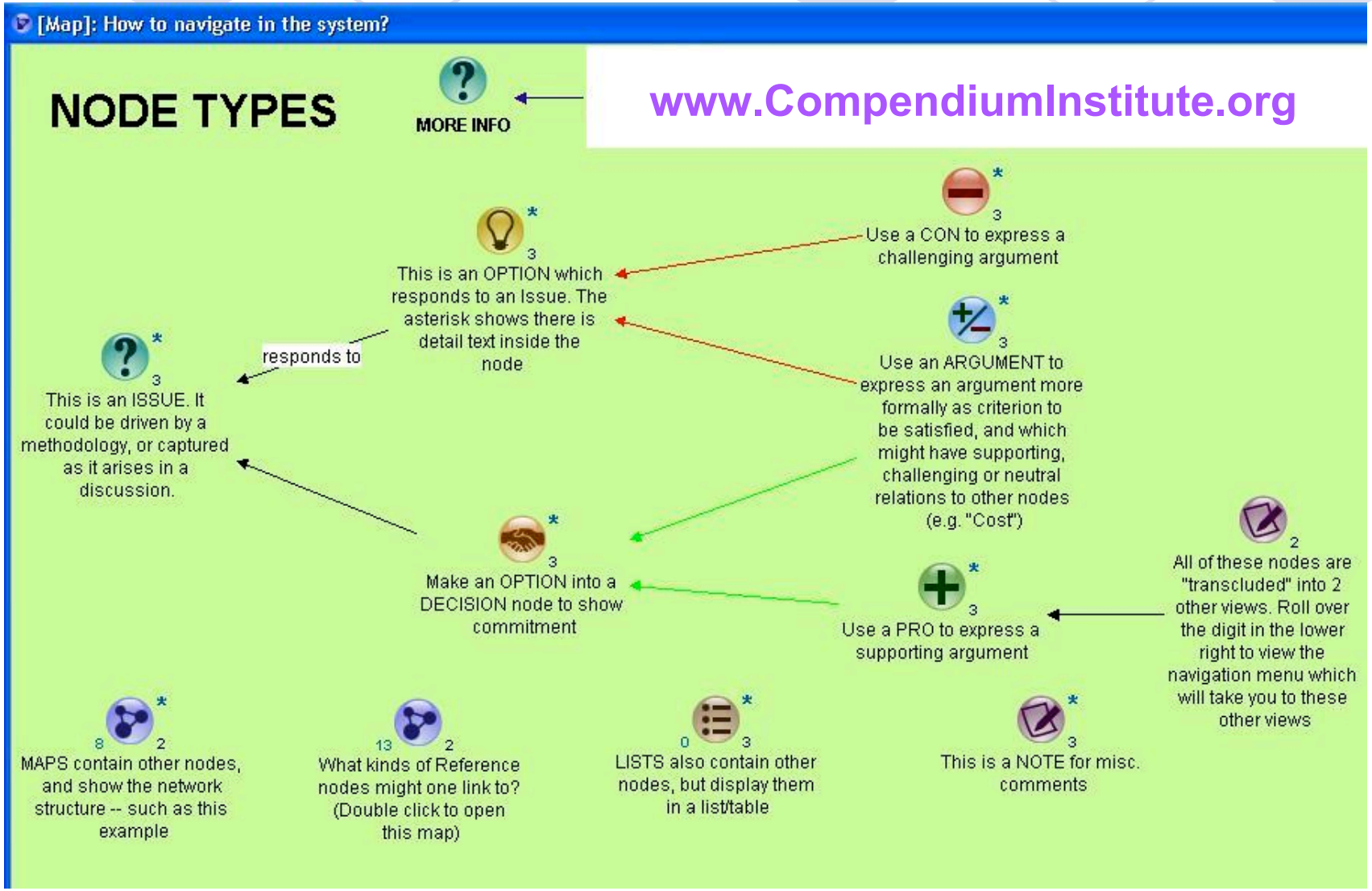
Symbols

Images

Indexes



The Memory Environment: COMPENDIUM



The Memory Environment: COMPENDIUM

Compendium has been used as the environment to build the memory system so as to capture, index, and visualize the issues, options and arguments generated throughout the project

It is a first step toward a “comprehensive issue management system” which start from meeting representation and **try to maintain and organize the meeting contents in order to make it easier the retrieve and exploration of the growing amount of formal and informal information about the project** generated during each meeting.

Knowledge taxonomy

Each element in the system (e.g. people, buildings, issues, options, arguments, documents) is represented as a node of the hypermedia database, indexed by views defined by 5 different dimensions:

- social: which person/stakeholder group contributed the element, and their role
- conceptual: what discussion(s), about what topics, the element arose
- geographical: the area or physical object (e.g. building) to which the argument pertains
- temporal: when an element occurred along the planning process
- Project oriented: role the claim play within the participatory plannig process or within the specific meeting goals

Knowledge taxonomy

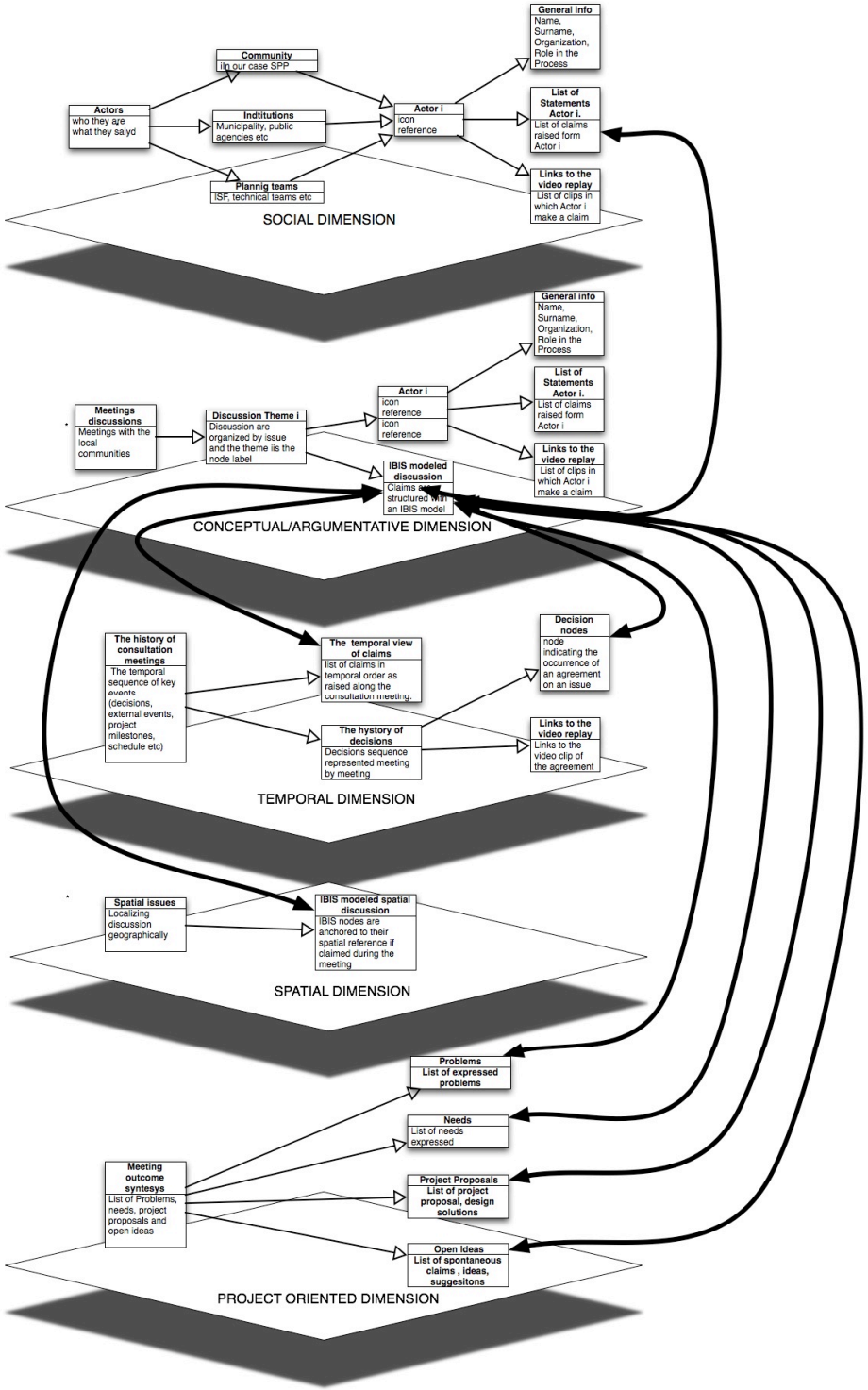
Each view in the system represents different contextual dimensions in which the contents of the deliberation process can be represented and interpreted.

Each dimension is a focus, a different “prospective view” of the deliberation process.

Different views can trigger different insights and information on the same process.

Each dimension is also a key context of the deliberation process we want to analyze.

The Information Architecture



Social Dimension

Conceptual/ Argumentative Dimension

Temporal Dimension

Spatial Dimension

Project Oriented Dimension

Case Study

A Participatory Planning Process carried out by **Engineers Without Frontiers (I.S.F.)** (association for social promotion of cooperation and development) within the community of San Pietro Piturno (Southern Italy)

San Pietro Piturno



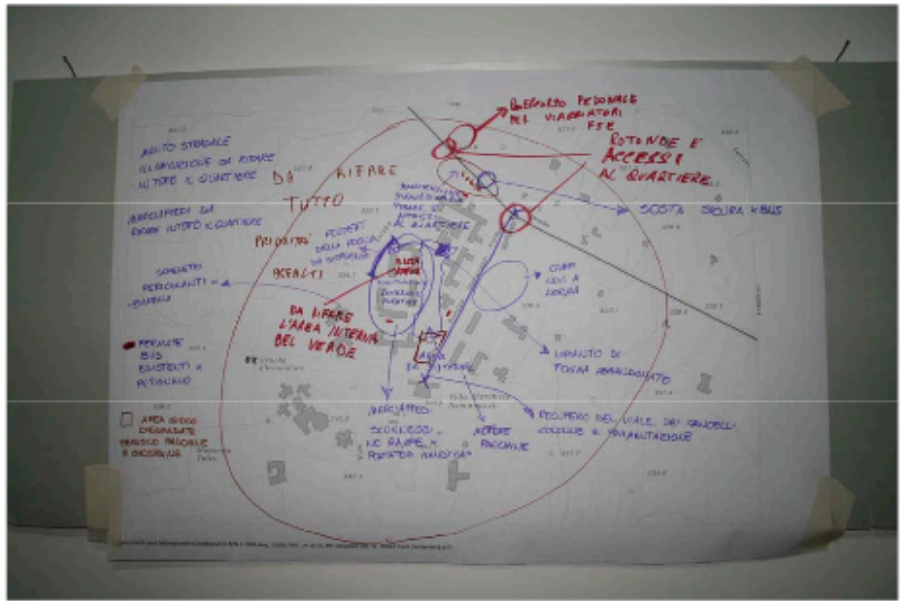





Forum residenti [12/04/2007]

Forum residenti [05/12/2006]

Elaborati prodotti dal Laboratorio di Quartiere



San Pietro Piturno memory support system: SPPmem

The system has been designed in order to help ISF and the Planning Project team in charge of the project:

to capture, index, map and visualize connections between information, issues, options and arguments generated and raised throughout the consultation process

Step 1: A **post-hoc analysis of videos** collected during community consultations in order to assess Compendium's expressive capabilities and elicit ISF reactions

Two recorded face-to-face meetings have been mapped into the prototype memory system, to explore the structures, visual language, tagging schemes and views that can be provided

SYSTEM DEMO……

COMPENDIUM DEMO...

We presented results of the post-hoc analysis of meetings' videos in which a knowledge engineer extracted images, information, and knowledge claims transcribing and editing the videos and then structured these data in the hypermedia database.

This operation introduces a **relevant level of discretionarily.**
The integration between Compendium and FM tries to solve this problem.

Video of meetings can be annotated on the fly during the meeting with FM and then annotations can be imported in Compendium hypermedia database.

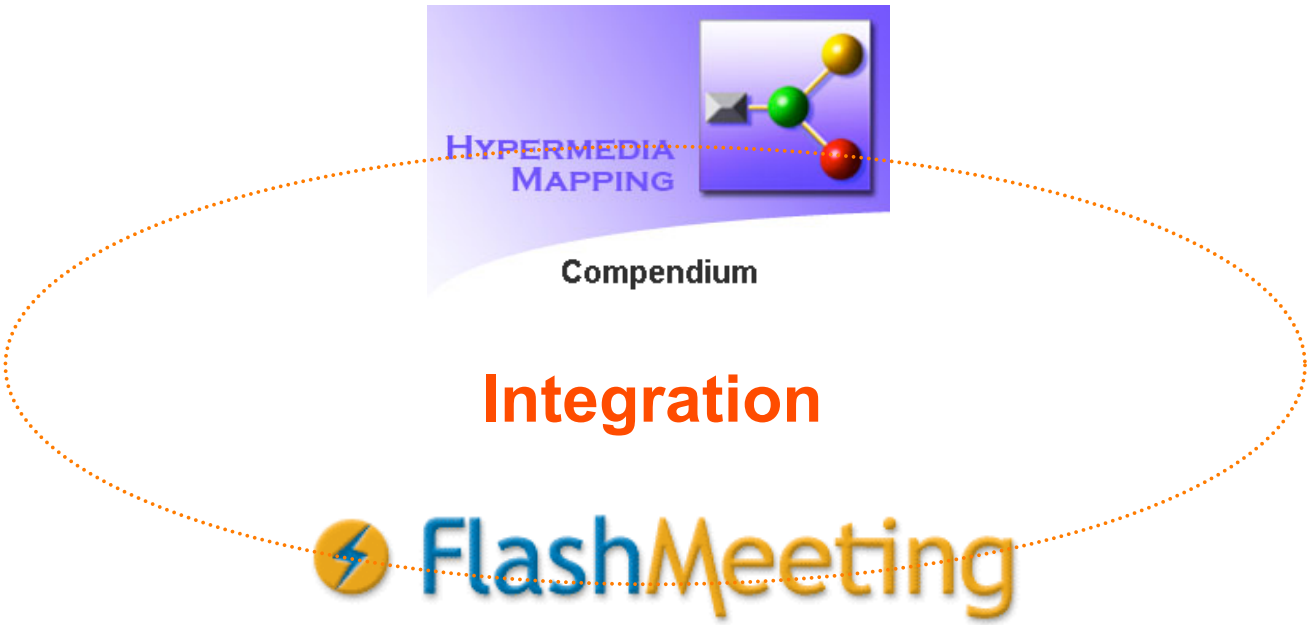
FM is an application that allows a dispersed group of people to meet from anywhere in the world in a “virtual meeting room” in which they can see and talk to each other.

For our purposes FM has been used both:

- ✓ to allow at distance meetings between stakeholders involved in the planning process and
- ✓ to video annotate face-to-face meetings of technical teams, political teams and/or local community groups, in order to preserve transparency when tracing and representing deliberation.

Compendium FM integration

A new procedure of integration between Compendium and Flash meeting has been tested for **video recording and annotation in face-to-face meeting**

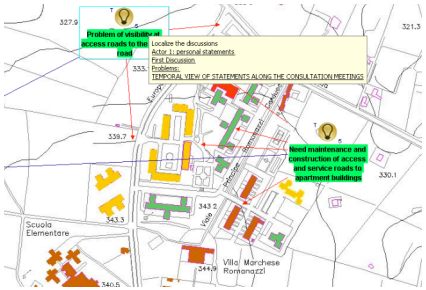


Flash-meeting for video recording and annotation in face-to-face meeting

Step 2

Meeting moderator annotates interventions, ideas, modifications, decisions.

Internet connection



A pp presentation with the planning map is projected on the wall

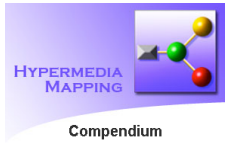
Step 1

FlashMeeting

A flash meeting session starts

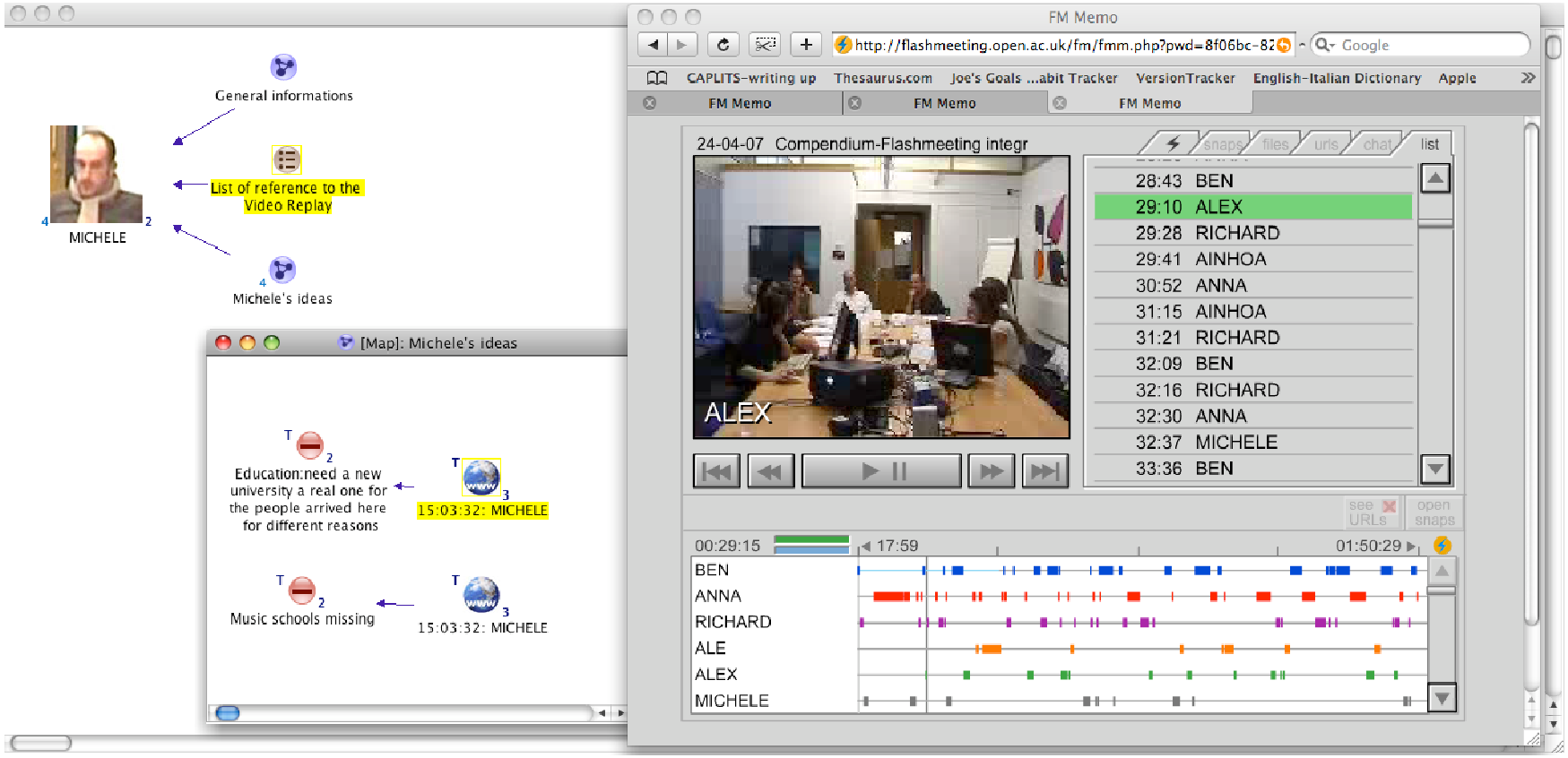
Integration

Step 3

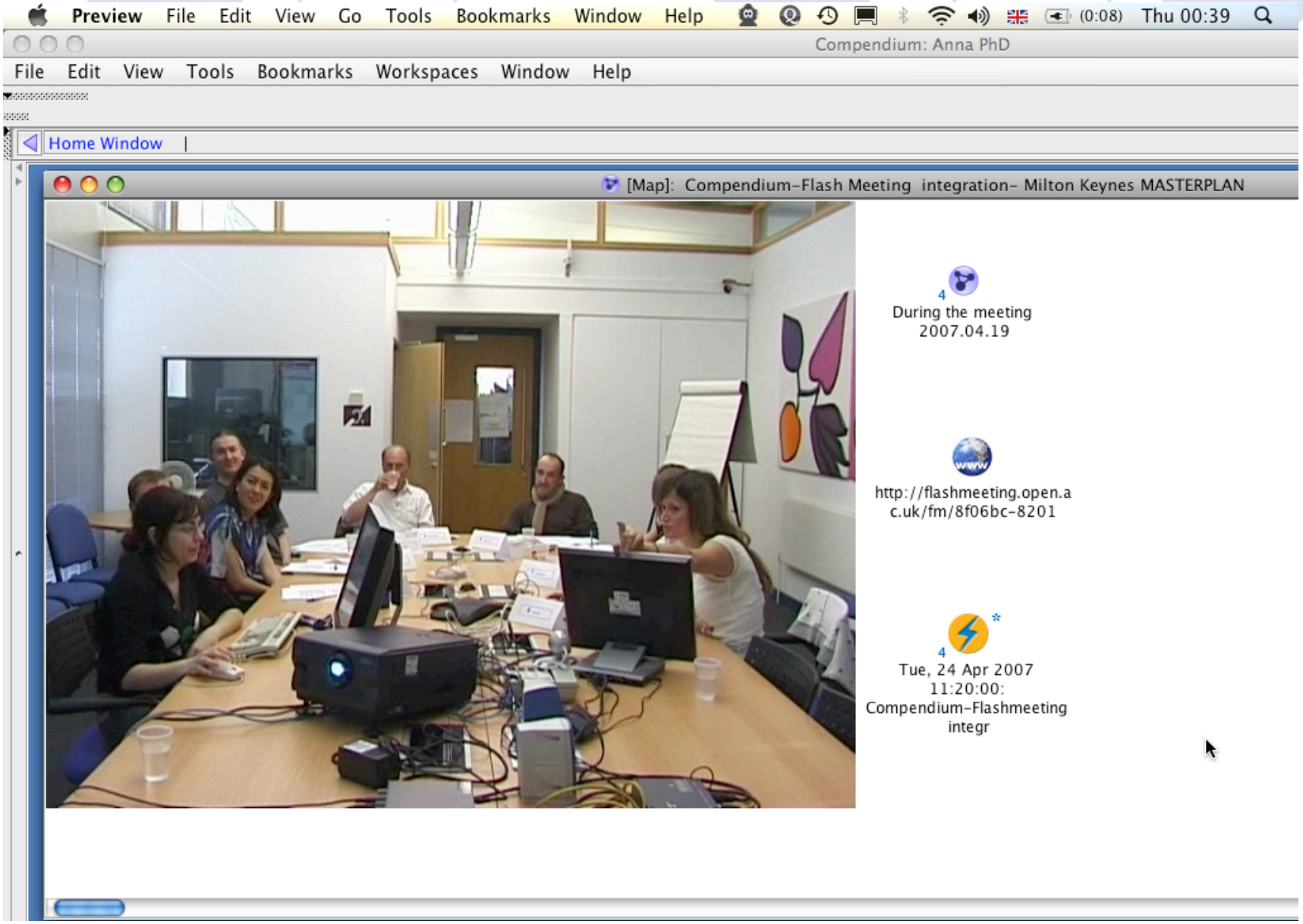


KM: convert the flash meeting results in Compendium Memory System

Quasi-naturalistic case study driven with a group of citizen in Milton Keynes (UK) in which they were discussing about Milton Keynes Master Plan and future lines of development for the city. The meeting has been video recorder and annotated with FM. Results have been integrated with meetings notes taken with Compendium so that every statement is associated to the video replay

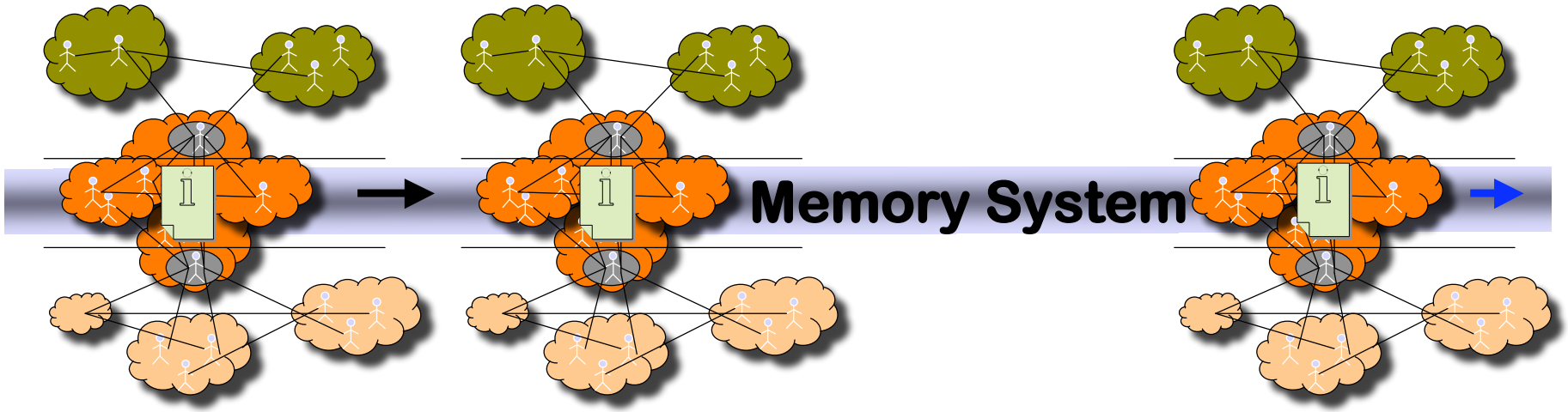


COMPENDIUM-FM DEMO...



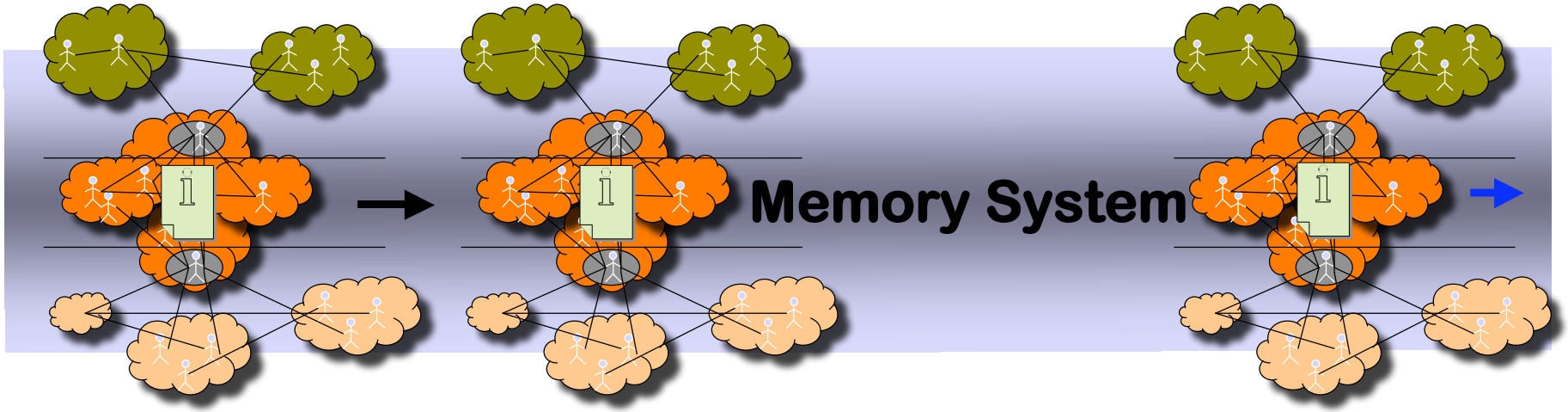
In this application we have tested the memory system:

1. to represent and reconstruct the group memory of consultation meetings
2. to allow the planning team to navigate and reuse the contents of those meetings
3. To allow video annotation both for at distance an face-to face- meetings. So to make more effective, less discretional and more transparent the knowledge structuring process

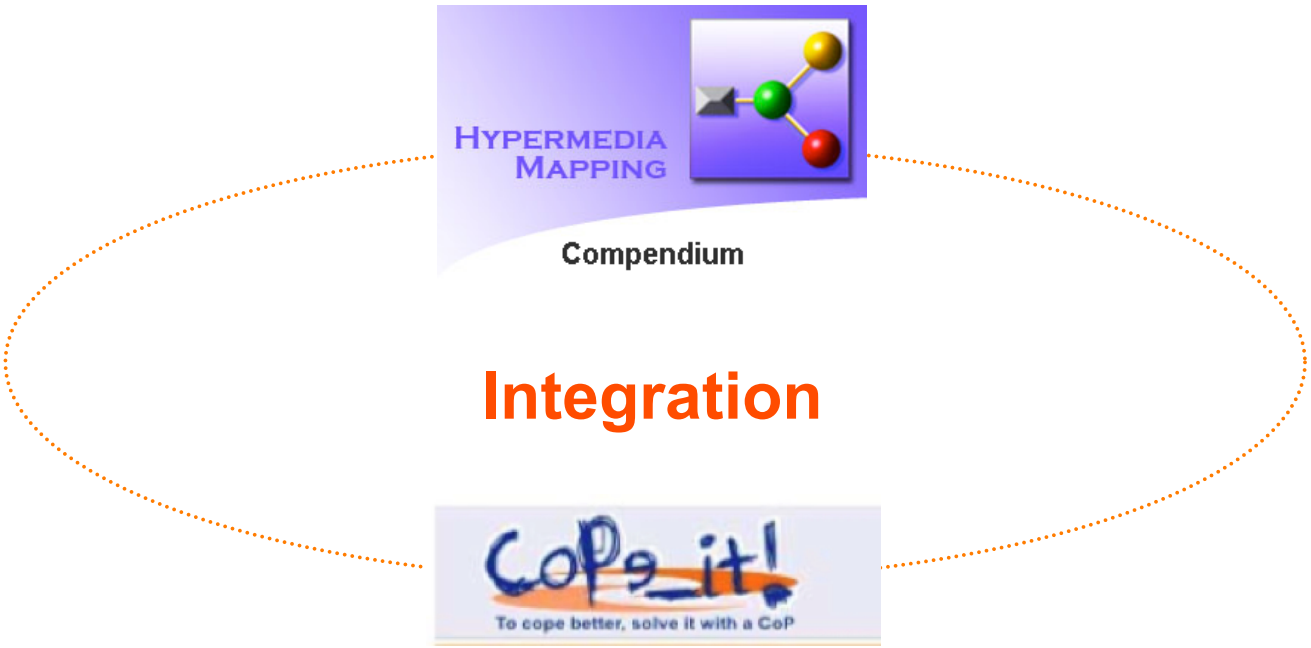


Challenge:

To support these and other activities then moving to the point where it may be introduced to the community



COMPENDIUM-CoPe_it! integration



COMPENDIUM-CoPe_it!

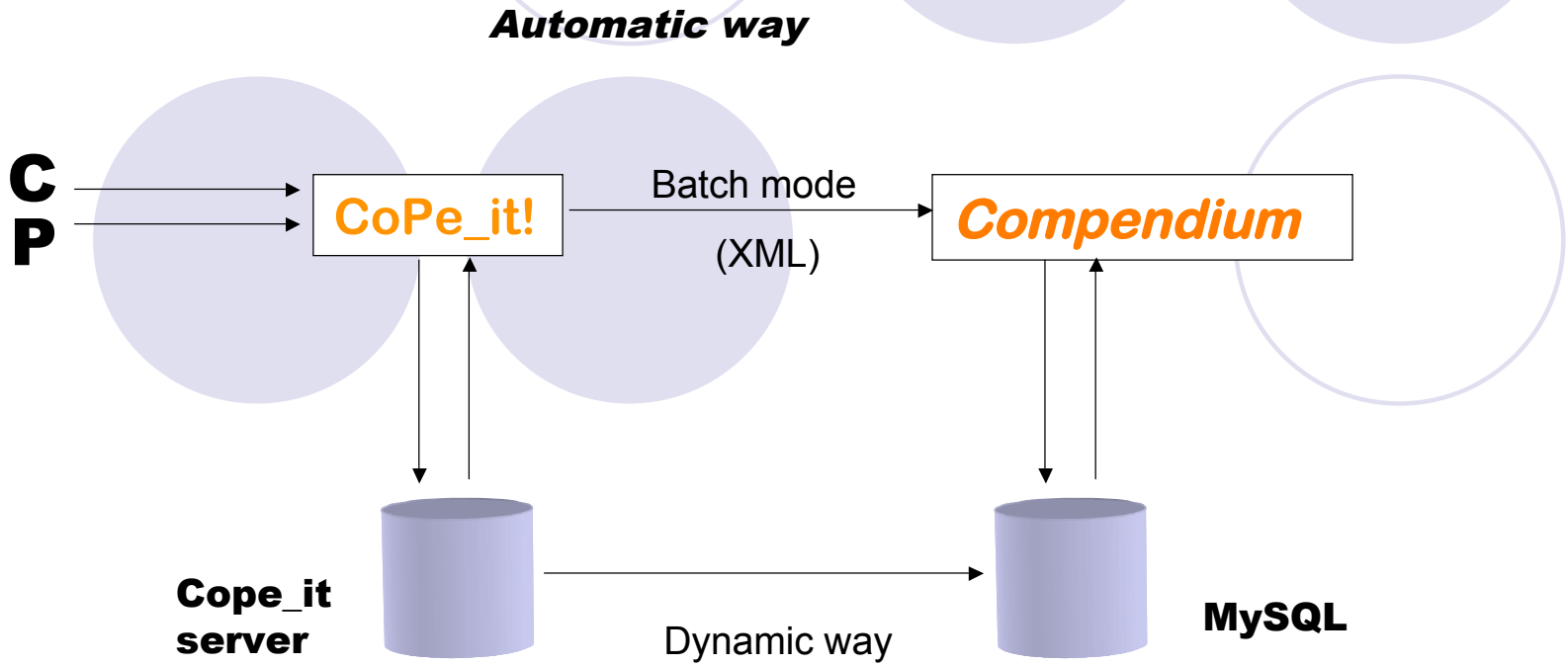
The main objective of Compenium-CoPe_it! integration is:

to extend discussions and deliberation started during consultation meetings to a wider community on the web.

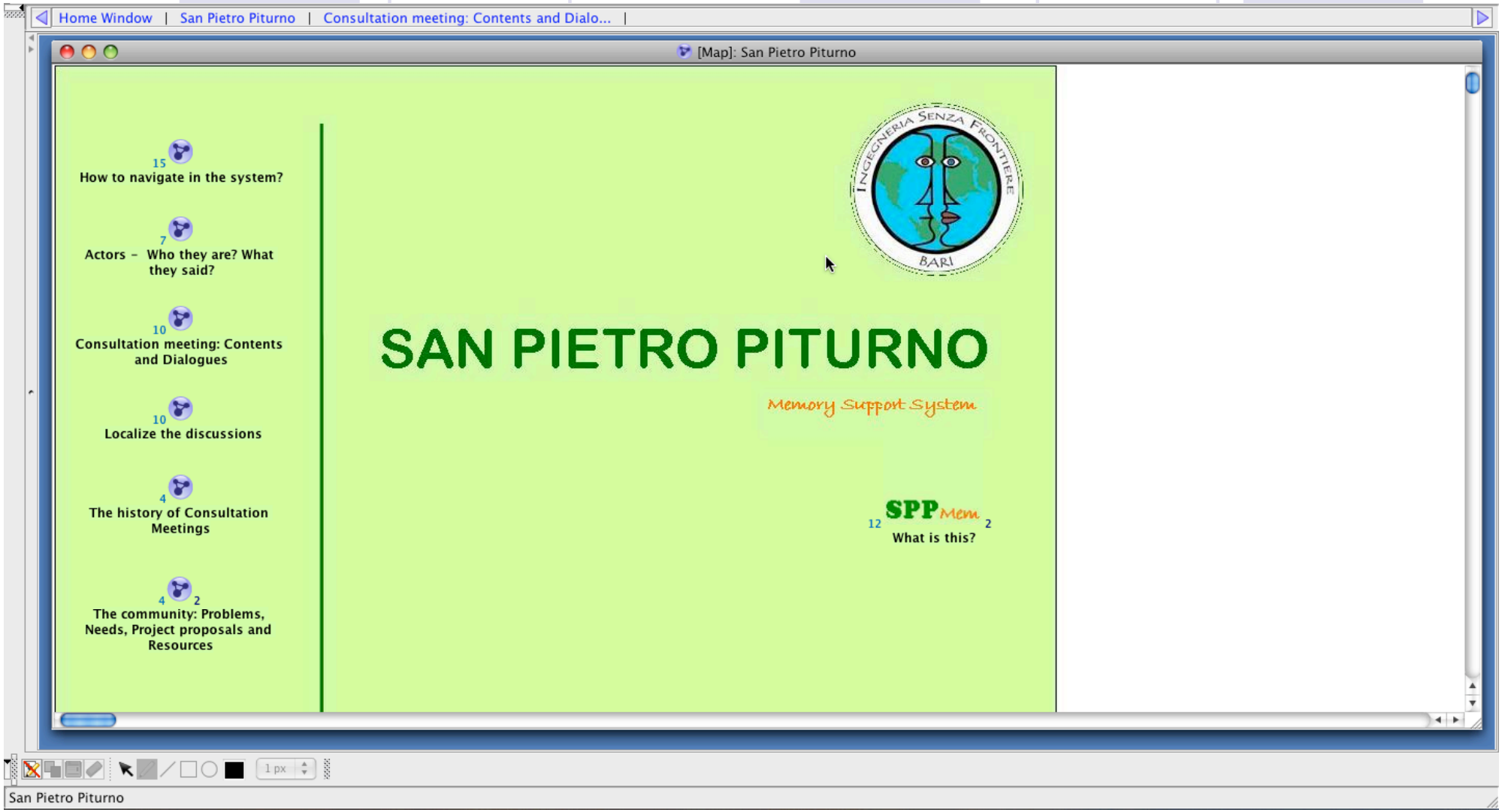
Cope_it! is an on-line argumentation tool that can be used with different communities (planners, citizens, technical groups) to discuss different topics and themes emerging during the planning process.CoPe_it is a tool designed and implemented within the European project PALETTE that aims at facilitating and augmenting individual and organizational learning in Communities of Practice (CoPs).

The Integration project

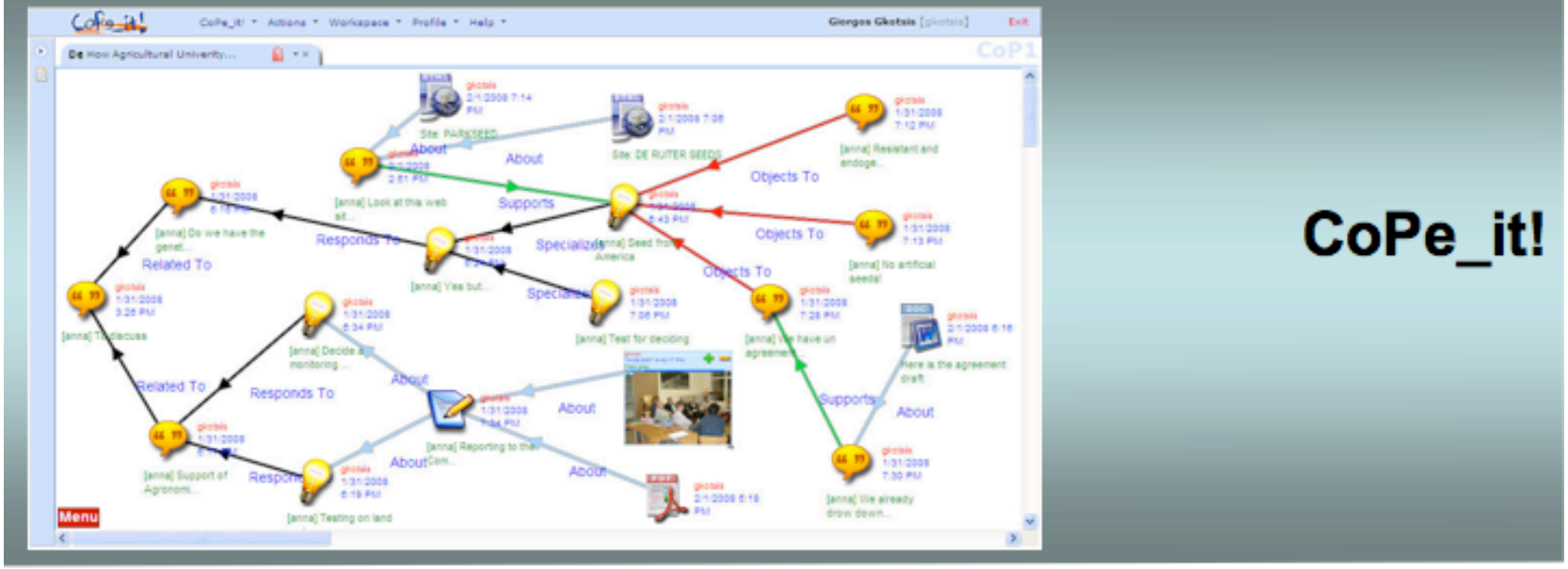
We **opened the use of the memory system to a wider community on the WWW**, semi-automatic posting of statements and arguments to the Compendium maps



CoPe_it! DEMO...


Home Window | San Pietro Piturno | Consultation meeting: Contents and Dialo... |
[Map]: San Pietro Piturno
15
How to navigate in the system?
7
Actors – Who they are? What they said?
10
Consultation meeting: Contents and Dialogues
10
Localize the discussions
4
The history of Consultation Meetings
4 2
The community: Problems, Needs, Project proposals and Resources
INGEGNERIA SENZA FRONTIERE
BARI
SAN PIETRO PITURNO
Memory Support System
12 SPP Mem 2
What is this?
1 px
San Pietro Piturno

An application example



FM<->Compendium<->CoPe_it!

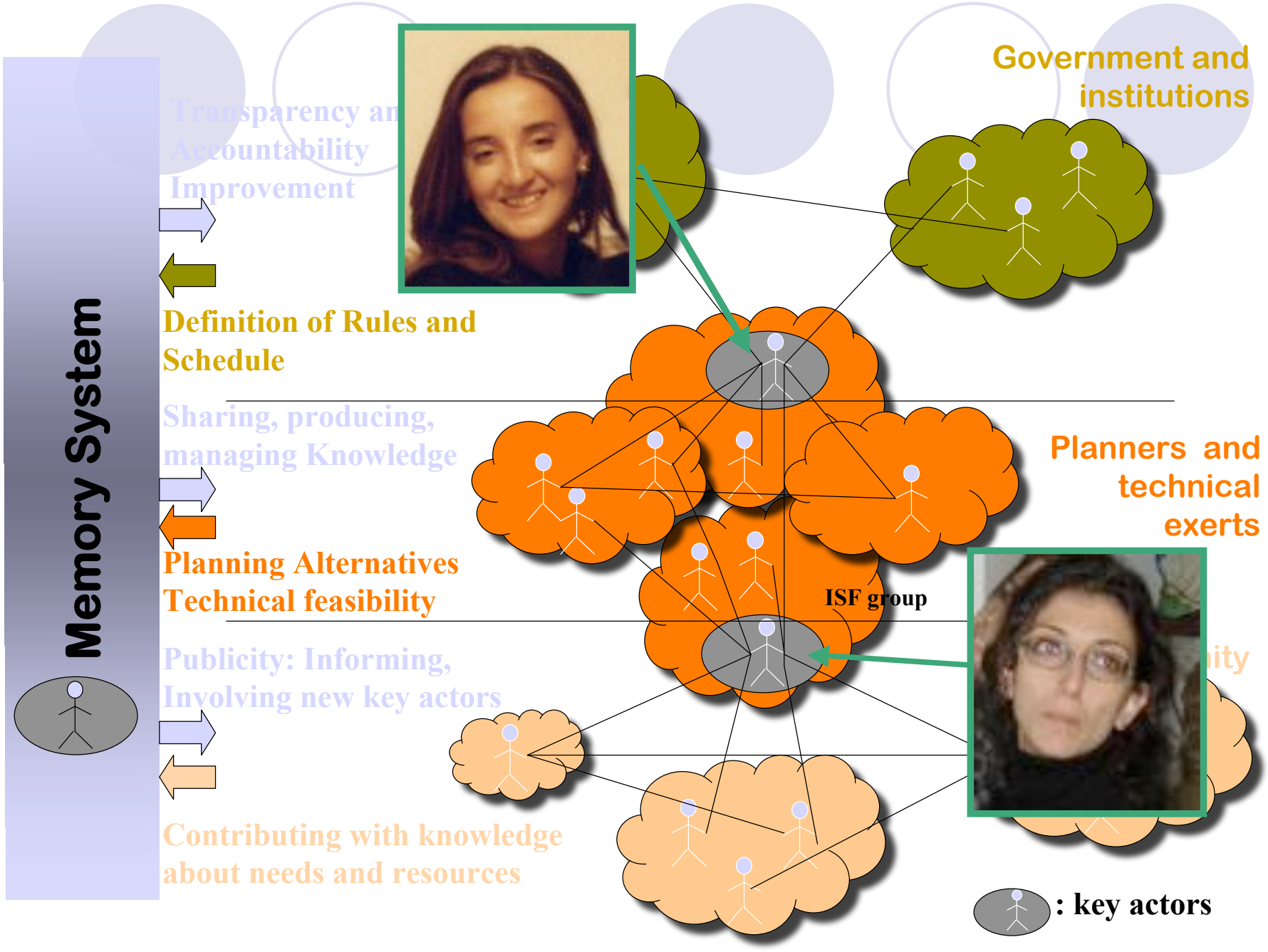
The integration between Compendium and CoPe_it! shows how **deliberation can be enlarged to a wider community** on the web by coupling on-line and off-line consultation into **a unique process of knowledge exchange and production.**

The integration between Compendium and FM **enhanced transparency in deliberation capturing** both in face-to-face and at distance meetings.

Tools integration for managing knowledge across contexts and environments

	KNOWLEDGE COMMUNICATION MODES (Knowledge generated in the same or different geographical sites)		KNOLWDGE ENVIRONMENTS (Knowledge generated on-line or off line)		PLANNING ACTIVITIES CONTEXT (Knowledge generated during different planning phases)		
	Face-to-face	At distance	Real world settings	Virtual	Consultation	Design	Problem and strategy setting
COMPENDIUM	x		x		x	x	x
FM	x	x	x	x	x	x	x
COPE_IT!		x		x	x	x	x

EVALUATION


Memory System
Transparency an
Accountability
Improvement
Definition of Rules and
Schedule
Sharing, producing,
managing Knowledge
Planning Alternatives
Technical feasibility
Publicity: Informing,
Involving new key actors
Contributing with knowledge
about needs and resources
Government and
institutions
Planners and
technical
exerts
ISF group
: key actors

Evaluation of the System expressive capability

Two meetings with :

✓Consultant of SPP municipality and coordinator of the Planning Project teams

✓ISF president

Initial reactions have been favorable

The consultant was enthusiastic about using the tool to make visible the planning process in the final decisions (by building the links between consultation results and technical choices)

The ISF team was enthusiastic about using the tool:

✓to structure and reuse materials from the past meetings with the community, using those as starting point for the new planning process.

✓as an internal knowledge management tool for ISF organization

Evaluation

✓Four semi-structured interviews to test general reactions and explore possible uses of the system for different task and different expertises interviews to representatives of different organizational level (community, technical and political level) like ONG organization, Decision Making, Institutions and Spatial Planning domains

✓20 Questionnaires to new users for testing system usability and information structure effectiveness

✓Two pair, and four single behavioural observations of system exploration by the user; in order to explore the system capability to retrieve information about the project. Both conducted to new users and planning experts

Evaluation results

Results show that the system is easy to explore and easy to learn.
System ability to retrieve information is very high and users appreciate system features and potentiality as soon as they get used to it.
System potentials expressed from the users are: Flexibility in knowledge exploration and structuring; ii. high capacity of knowledge and information analysis iii. valuable support for making decisions transparent and legitimate, iv. good support for enlarging participation.

Limits underlined are: I. ethical problems of knowledge ownership and privacy matter when disclosing personal information about stakeholders, ii. not sufficient reporting features; less effectiveness of system representation when used for reconstruct the design rationale trough story-telling practices.

Conclusions

ICT tools can offer a valuable support to represent deliberation ans managing and integrating the knowledge and information produced during deliberation processes

how? enabling structured memory building and memory exploration processes

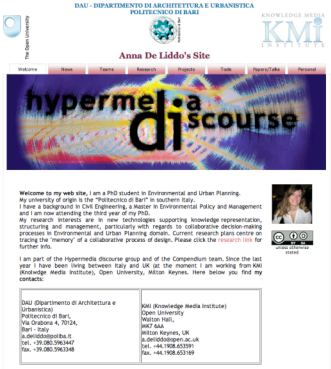
Memory building activities can bridge knowledge to action in three ways at least:
1) putting knowledge in multiple-contexts,
2) showing the effects of past actions in similar or different contexts,
3) understanding the reasons for that context to be.

By performing these activities the Memory Support System enables:

✓ **better-informed decisions and actions**, based on multiple-context explorations and cross-temporal comparisons with other cases (other knowledge applied to the same action, or other actions derived from the same knowledge);

✓ **higher transparency and understanding of the scopes behind planning decisions and actions** (exploring reasons behind decisions helps in understanding where the process is going and why, so that we can monitor and eventually change, on going, the process direction; this helps to better orient actions toward the goals of the actions themselves.

Thanks for your time!



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http://kmi.open.ac.uk/people/anna/index.html