Capturing, Mapping and Integrating Argumentation as Project Memory in Participatory Urban Planning

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PP 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 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; capturing traces and contextualizing them to the evolution of the Planning Project
Memory System

Transparency and Accountability Improvement

Definition of Rules and Schedule

Sharing, producing, managing Knowledge

Technical feasibility and Planning Alternatives def.

Publicity: Informing, Involving new key actors

Contributing with local knowledges about needs and resources

Government and institutions

Planners and technical exerts

Community
How?

**mediating and capturing deliberation** in order to:

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

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

- maintain coherence between the past and the future, by helping stakeholders to navigate the history of the project in helpful ways.
The Memory Environment: COMPENDIUM

**Compendium** is a visual hypermedia and sensemaking tool. It enables the rapid construction of multimedia group memory environments (many case studies). Used to build a PPP memory so as to capture, index, and visualize the connections between information, issues, options and arguments generated throughout the project.

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

- Texts
- Graphs
- Symbols
- Images
- Diagrams
- Indexes

The Memory Environment: COMPENDIUM

[Map]: How to navigate in the system?

**NODE TYPES**

- **ISSUE**: This is an ISSUE. It could be driven by a methodology or captured as instances in a discussion.
- **OPTION**: This is an OPTION which responds to an issue. The asterisk shows there is detail test inside the node.
- **DECISION**: Make an OPTION into a DECISION node to show commitment.
- **CON**: Use a CON to express a challenging argument.
- **ARGUMENT**: Use an ARGUMENT to express an argument more formally as criteria to be satisfied, and which might have supporting, challenging or neutral relations to other nodes (e.g., "Cost").
- **PRO**: Use a PRO to express a supporting argument.
- **MAPS**: Maps contain other nodes, and show the network structure — such as this example.
- **REFERENCE**: What kind of Reference nodes might one link to? (Double click to open this map)
- **LISTS**: LISTS also contain other nodes, but display them in a listable format.
- **NOTE**: This is a NOTE for miscellaneous comments.

[www.CompendiumInstitute.org]
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 memory support system: SPPmem

"SPP Mem" is a Memory support system designed for the Regneration Programme of urban suburbs in San Pietro Piturno (SPP) in southern Italy.

The system has been designed in order to help ISF and the Planning Project team in charge of the project to capture, map and visualize not only information about the Programme but also about the 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.
San Pietro Piturno memory support system: SPPmem

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How to navigate in the system?

Consultation meeting: Contents and Dialogues

Localize the discussions

The history of Consultation Meetings

The Technical Plan: "The Neighborhood Agreement" Project

SAN PIETRO PITURNO
Memory Support System
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 4 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
Social Dimension (Photos of the stakeholders are associated to both the general info about them and the whole list of personal statements they raised all along the consultation process)
Conceptual Dimension (Argumentative contents are organized by discussions, and then represented with IBIS model)
**Geographical dimension**: the area or physical object (e.g. building) to which the argument pertains
Temporal dimension: when an element occurred in planning process
**Temporal dimension**: when a decision or agreement in the planning process
Preliminary results and future agenda

In this case study we have tested the system as a **Project Memory aid**:

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
In a second case study:
We plan to open the use of the memory system to a wider community on the WWW, allowing automatic or semi-automatic posting of statement and arguments to the Compendium maps.

Challenge:
To support these and other activities, to build confidence with the memory system, firstly as an internal knowledge management tool, and then moving to the point where it may be introduced to the community.
Integration of the system with an **online argumentation support tool** (CoPe_it)
**Manual, human assisted way**

Cope_it \rightarrow KM \rightarrow Compendium

**Automatic way**

Cope_it \rightarrow Batch mode (XML) \rightarrow Compendium

Cope_it server \rightarrow Dynamic way \rightarrow MySQL
http://kmi.open.ac.uk/projects/hyperdiscourse

Compendium: The action research platform around which we're developing the Hypermedia Discourse approach is Compendium. This supports real-time knowledge construction in meetings, or can be used for personal information management and reflection. This is a robust hypermedia mapping tool that is freely available with a growing community of practice, and developer community. Now integrated with the Moodle virtual learning environment as part of the LabSpace.

Screeencasts: Knowledge Mapping Open Educational Resources

Memetic: Memetic is an extension of Compendium's meeting capture capability by integrating Compendium maps with the Access Grid video conferencing system, generating semantically-indexed meeting replays. Now you can jump to the point in a meeting replay when a particular argument was made, when a document was opened, or when an agenda item was discussed.

Screeencasts: Booking, recording and replaying Memetic meetings

Thank you