

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

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Technology is increasingly providing urban planners and designers with tools and methods to collect and communicate spatial data and assist spatial analysis, such as participatory GIS (PPGIS), urban modelling, simulation models and virtual reality. The presentation of spatial and planning data, however, is only part of the story. Who was involved in the specification of the models that generated these documents? How is the data interpreted by the different stakeholders? How can we capture and integrate diverse perspectives from different community groups, planners, and government? These are the critical questions raised by *Participatory Planning Processes*, which we see as one manifestation of deliberative democracy. PPP motivates requirements for new tools to support the capture, negotiation and integration of information, ideas and arguments.

Participatory Planning Processes (PPP) engage actors in intensive activities to construct complex and heterogeneous knowledge around planning issues. This is constructed mainly in three different ways:

- 1) *Consultation Processes*, in which community are asked to build and share their “visions” about planning issues
- 2) *Expert studies*, in which experts of different disciplines are asked to represent the expert visions of the problem
- 3) *Institutional/political meetings*, in which the modalities and schedule for the planning process are discussed and the decisions about planning solutions are taken.

The knowledge derived from these different, parallel processes, driven and interpreted by different actors, needs to be managed in order to make PPP transparent (accountable), shared and accepted by the local communities . In essence, to make it truly “participatory”.

In the Planning Process, urban plans are conceived as technical descriptions of future visions of public spaces and patterns of development. The burden of PPP is to develop these visions following a collaborative ethos, in which discussion dynamics and negotiation continuously take place between different and heterogeneous groups of interest and communities. Deliberations within and between different groups of define and negotiate planning alternatives. Each planning alternative should consider social requirements to be satisfied, or at least to consider the problems and needs explicated by the local communities. Moreover each planning alternative should consider the capacity and availability of the community to agree on decisions in order to be able to convert them into actions and activities that really affect the community life.

Given the centrality of deliberation and argumentation, we are investigating the possibility of making PPPs more fully participatory through a computer-supported organisational memory capable of providing all actors with persistent traces linking argumentation and the evolving planning documents. We are exploring the possibility of mediating and capturing deliberation (brainstorming and argumentation), both face-to-face and online, in order to:

- promote more reflective interaction by making tangible the connections between planning options, arguments and other documents;
- build common awareness and understanding, not only of the environmental issue 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.

In a PPP case study, a PPP team from I.S.F. (which translates as “Engineers Without Frontiers”) is working with the community of San Pietro Piturno, a small neighbourhood in Putignano Municipality (Puglia Region, Southern Italy). This participatory process, involves inhabitants in the design of a project to regenerate the neighbourhood. Lately the municipality charged the same team to draw up the Integrated Renewal Programme for urban suburbs in the same area.

We have been experimenting with the *Compendium* visual hypermedia tool¹ for mapping information and arguments, as an environment to rapidly build a PPP group memory which captures, indexes, and visualizes the issues, options and arguments generated by the project. Every element in the system (e.g. people, buildings, issues, options, arguments, documents) is a node in a hypermedia database, which provides views defined by a number of dimensions:

- *geographical*: the area or physical object (e.g. building) to which the argument pertains
- *temporal*: when an element occurred along the planning process
- *conceptual*: which discussion(s), about which topics, the element arose
- *social*: which person/stakeholder group contributed the element, and their role

While *Compendium* can be used for the real-time Dialogue Mapping of consultations, the first step in the case study has been to validate its potential through a post-hoc analysis of videos from a series of planners’ consultations with the community (using conventional media: paper plans, stickies for feedback, etc.). Recordings from two face-to-face meetings (6 hours of material) have been mapped into the prototype memory system, to explore the structures, visual language, tagging schemes and views that can be provided. Screenshots from the prototype are presented overleaf, and can be demonstrated more fully at the workshop.

Initial reactions from the ISF team have been favourable. They need to reuse and structure materials from the past meetings with the community, using those as starting point for the new planning process. Our challenge now is to work with them to understand how to support these and other activities, to build confidence with it, firstly as an internal knowledge management tool, and then moving to the point where we hope that it may be introduced to the community. In a second case study, we are trying to open the use of the prototype memory system to a wider community through the WWW, allowing automatic or semi-automating posting of statement and arguments to *Compendium* maps. This complements the first case study by testing the use of the prototype memory system not only as a project team aid but also as mean to inform and involve communities in the participatory planning process.

¹ Compendium Institute: www.CompendiumInstitute.org

Example screens from the Compendium participatory urban planning memory system

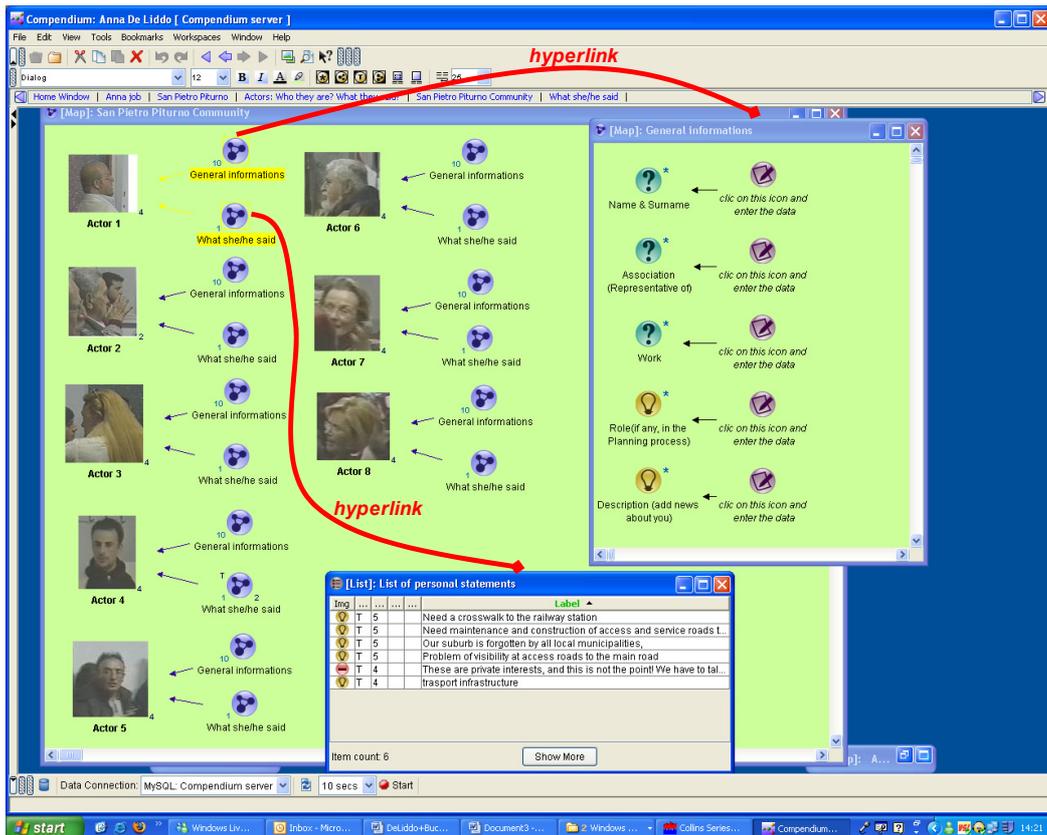


Fig 1: Views representing the *Social Dimension* (Photos of the stakeholders are associated to both general info about them and the whole list of personal statements they raised all along the consultation process)

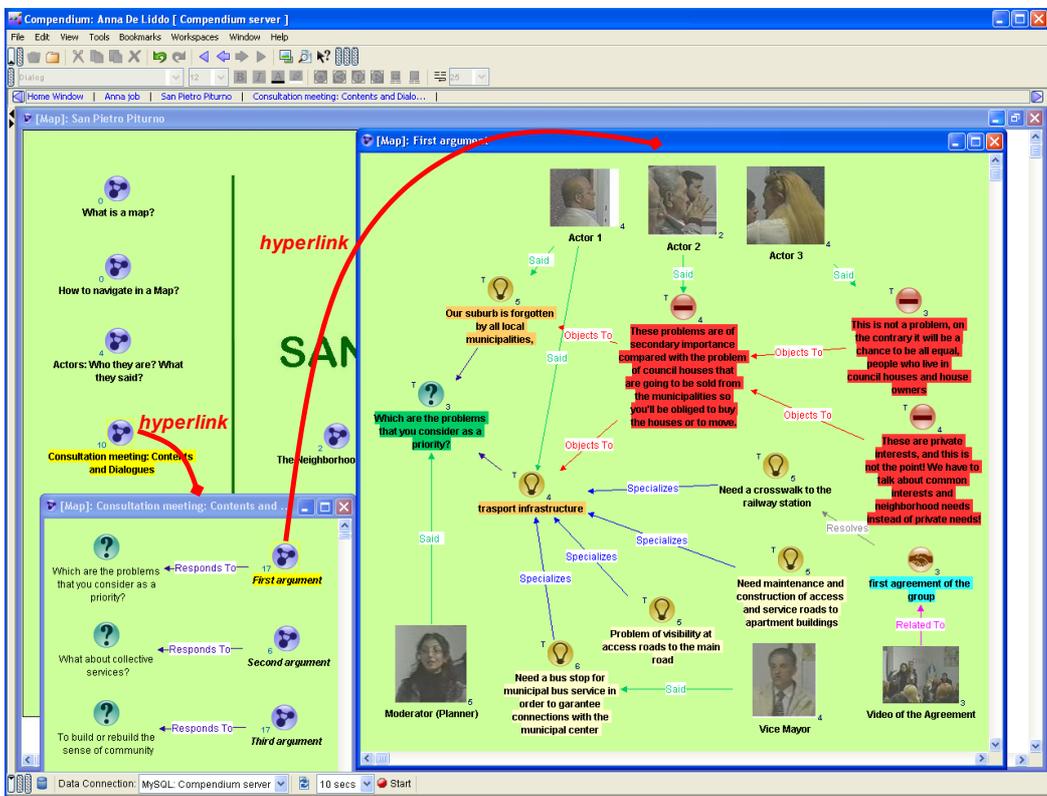


Fig 2: Views representing the *Conceptual Dimension* (Argumentative contents are organized by discussions, and then represented with IBIS model)