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Knowledge Media Tools for Capturing Deliberation in Participatory Spatial Planning

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Participatory Spatial Planning is a collaborative governance practice in which different stakeholders, from different organizational levels are involved in a collaborative decision-making process. Capturing deliberation along collaborative decision-making processes is a challenging task. Several stakeholders deliberate in different moments, trying to accomplish different tasks, collaborating and communicating with different people and working in different environments. Knowledge derived from parallel processes, driven and interpreted by different actors, needs to be captured, managed and shared in order to make decision-making transparent, shared and accepted by the local communities.

Communication technology and multimedia offer novel way to face the problem of knowledge representation and management. In this demo we present research results of a tool integration project to design and implement a tool-kit to capture deliberation in Participatory Spatial Planning Practices.

Three technologies have been integrated and then applied in real participatory spatial planning cases. Main objectives of integration are: i. to support the capture and integration of information, ideas and arguments from different community groups; ii. to manage all these information and knowledge across tasks (i.e. exchanging information from public consultation meetings and then using it as a reference for technical and political choices) context (i.e. exchanging information between different teams and organizations) and across environments (i.e. using face-to face meeting results to inform web-consultation experiences and vice versa).

We present three tools Compendium, FM and CoPe_it! showing how these tools have been integrated and used for knowledge tracking, linking and exchanging in the course of real participatory planning processes. Compendium is a hypermedia and sense-making tool (for further info please visit http://compendium.open.ac.uk/institute/), which we used to structure and represent contents of public consultation meetings. In this application information units are knowledge claims raised from local community members during consultation processes. These information units (concepts) are structured with an IBIS argumentation model [1] so that it is

easy to reconstruct argumentation chains, contested concepts, agreements, raised questions, possible answers and suggested alternatives (Fig.1).
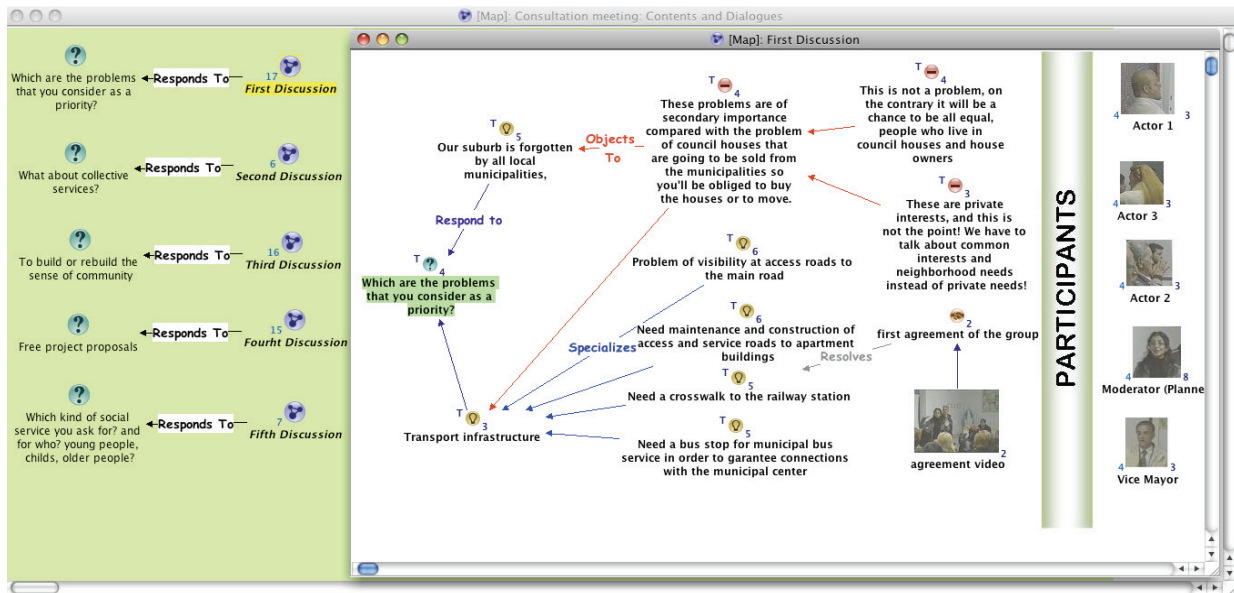

Fig. 1: Concepts raised from community members represented in the hypermedia environment.

Furthermore each concept is constantly referred to the author raising it, can be linked to the geographical area of interest and/or to the process phase it is referring to. Compendium allows representing the concepts in several contexts, preserving the hyperlinks between contextual views. Several application examples shows that different views can be key for different planning tasks [2]. Furthermore we present results of the pos-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 (result of the FlashMeeting project, for further info visit http://flashmeeting.open.ac.uk) seeks 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. In Compendium environment, FM-videos annotations are converted in indexes to the video-replay and are used as references for the knowledge claims and concepts. In this way, when navigating the meeting contents, users can replay the meeting pointing to the moment in which the specific claim has been done. This feature is a powerful enhancement to capturing deliberation because it makes the deliberation process fully transparent.

The following image (Fig. 2) gives an idea of how FM and Compendium integration can support tracking, storing and managing information and knowledge generated in face-to-face meeting.
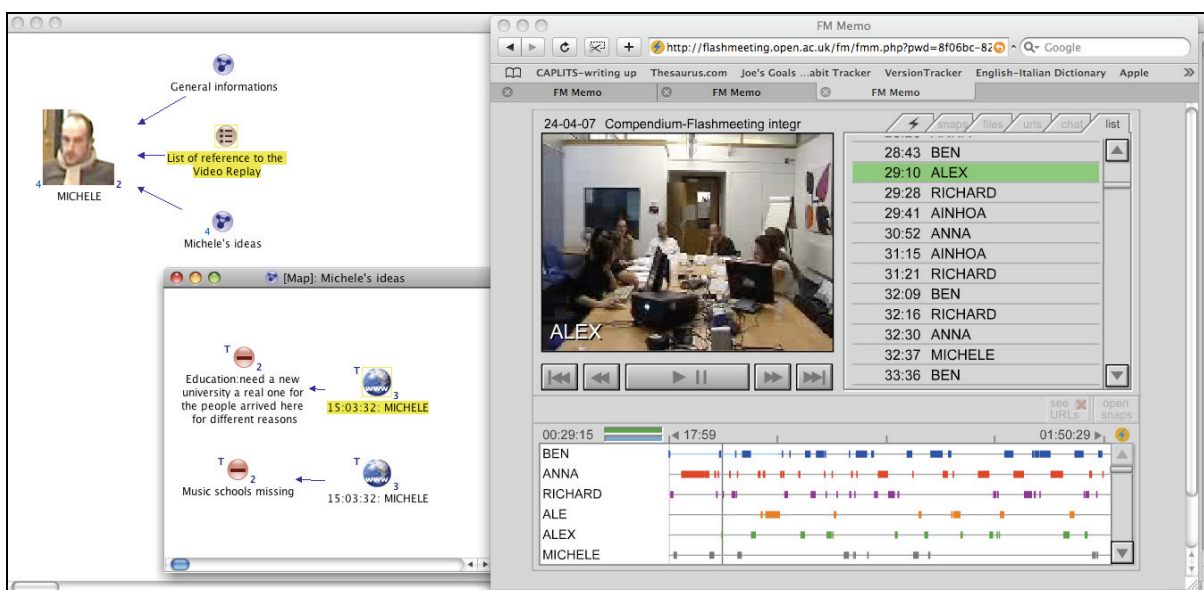
Fig. 2: Integration between Compendium (on the left) and FM (on the right).

The second integration I describe is the integration between Compendium and 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 a on line argumentation tool that offers different ways to represent argumentative discussions (for further info please visit http://copeit.cti.gr/site/index.html). CoPe_it! provides on line workspaces in which community members post and share ideas, resources, and arguments collaboratively generating argumentative maps. Users can add different knowledge items: ideas, comments, notes and any local file on his machine like (word files, pdf, jpg images etc). Knowledge items can be also changed and connected with personalized links. Nodes can be arranged and moved freely in the workspace, and they can also be clustered using adornments.

Although addressing different tasks, *Compendium* and *CoPe_it!* show high integration potentials mainly because, they share similar communication principles and visualization means. As we see in the following image (Fig. 3) Compendium and Cope_it! provide environments in which knowledge objects like statements, narratives, images, documents can be represented and organized as nodes and links in a graph like structure. In essence, CoPe_it! makes some Compendium features available on line [3].
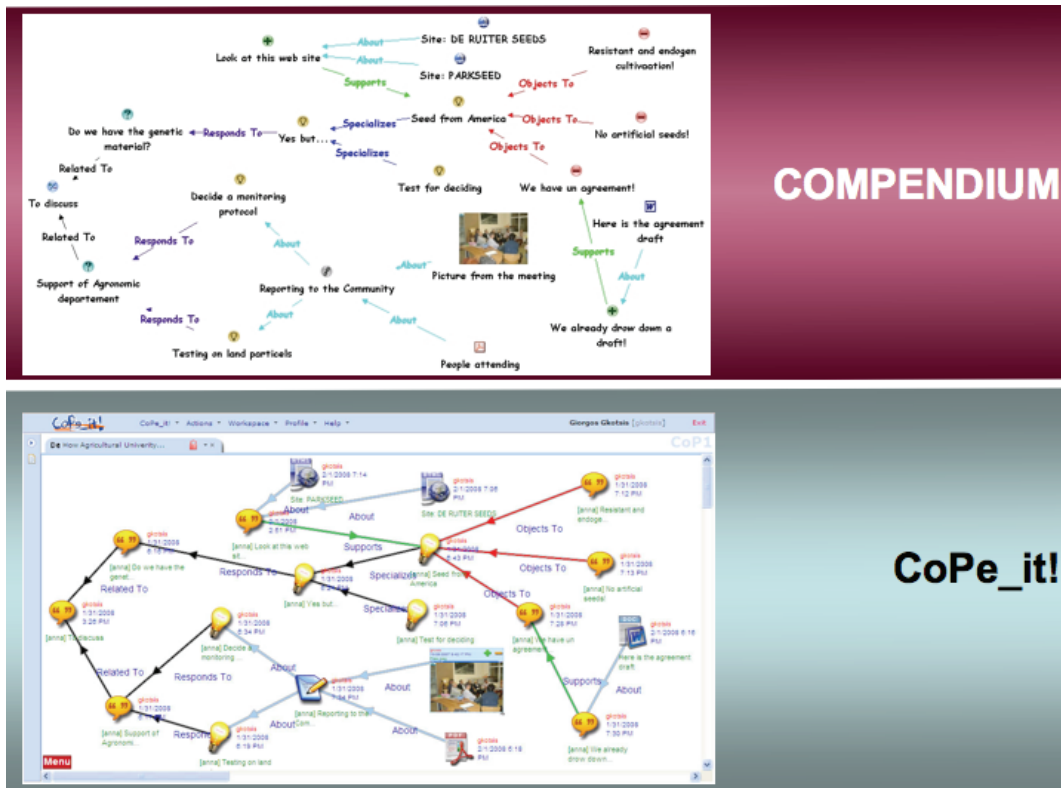
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Fig. 3: Integration of Compendium and CoPe_it!

In this demo we showed how Compendium can be used as a valuable support to capture deliberation and to represent and manage knowledge generated during deliberation processes. Furthermore we showed how its integration with FM can offer a valuable support to preserve transparency in deliberative practices. Finally 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.

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