Introducing hypermedia tools in community planning and design

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IT in Europe tends to become a passive reflection of American commercial interests instead of a mean of the production of European culture and society. A change of paradigm is needed from the passive, what we "can" do, towards the active way, what we want to do, deciding what is good and bad, to give an answer to needs and wishes of the society we are building. In the late years the research and teaching activity of CAAD Laboratory at DiPSA concentrate on sustainable planning, community planning and interactive design, developing computer based tools aimed at aiding the process and improving its effectiveness. The research work has been going on rapidly and successfully (some CDs and web sites were edited) but coming at real-life application we faced completely different problems and needed a completely different approach. We were not free anymore to run with "advanced" technology following a vision of the future thus avoiding any form of verification, but we found ourselves obliged to evaluate the present utility of the technology used. This caused a dramatic shift of focus from the technology itself to people who could take advantage of it and the target to reach. In other words working not to create gaps between people who can buy the latest equipment and knows how to use it and people who cannot. Our intention was to increase social participation not reduce it, by selecting people to be involved in building the environment. This meant not only lowering "technological level" of the tools to develop and adding traditional media to the new ones but, even more important, concentrate mainly on the cultural dissemination (or, maybe, "alphabetisation") needed to slowly build the condition for the introduction of even basic computer based tools.

Introduction

IT tends to become a vehicle of american cultural colonization by mean of businessman pretending to be "guru", who easily succeeded because of European approach which is becoming more and more a passive echo of overseas voices.

European academic community should adopt a critical approach and be conscious about the responsibility to produce culture, contents, without losing themselves in easily gratifying but empty experiences and, at the end, culturally destructive.

This is true not only for a businessman thisguised as a sociologist such as Bill Gates, but even for leading personalities like Nicholas Negroponte (1995). The information they speak about is not clearly defined so is likely to become advertising of commercial company.

But "in-formare" means on the contrary "to give form" with a social and culturally defined act involving an ethical construction. The lack of this explicitation doesn't mean there is not an underlying ideology anyway: the same mixing of arrogance and techno-optimism that you can find in "Wired" self-defined "spokesman of digital generation", promoting the dominating techno-libertarism. But this egalitarianism and anarchy is in the old myth

of the frontier the law of the stronger the only ones who can survive and for who this equality works. About anarchy it is enough to notice the homologation of concepts and language of most internet users to understand that behind this pretending anarchy and revolution there is no social and cultural alternative consciously defined and built by a citizen (even of the cyberspace), but on the contrary the tendency of evasion from the reality and the adapting to the contest of a following, dangerous possibility of instant persuasion and plebiscitary democracy (Colombo 1998) (who votes in real time is in the hands of whom decide the agenda).

On the contrary the bigger the quantity of bits the bigger the need of give form to this mass which otherwise will become as shapeless as bigger.

Tendency that is possible to notice thinking at the history of CAAD from the big, maybe too faithful, methodological ambition of the origins to the progressive reduction of contents concentrating on the latest technology coming to the recent tendency of considering a success being able to use a commercial product (independently from user's needs, wishes, problems, etc.).

From here the feeling of the need of recovering the focus of a maybe slow, more difficult, less exciting, construction of the content from the technology itself which growing apart from the use is far from a positive promise.

So it will be necessary to work for a construction of a society in which IT will be a mean, maybe powerful, and not an end, which will be an opportunity of cultural growing and democracy, providing not to build a new discrimination between social classes but new tools to enlarge social participation.

The experience of the University of Roma Tre: the interactive design.

The DiPSA is implicated in the process of involving people in the transformation of territory. Today too many failures in the environment are results of a restricted planning process, to demonstrate that the reality is too complex to leave few designers and methodologists to decide apart from people. Experts are still important but actors who are really involved should manage the decision process, with the participation of most people interested in it.

This is the "interactive design" in which are considered strategic, decisional and evaluative aspects at global level and contemporary experimenting methods and technics to involve local users to know values and local history (which is not only the official one), problems, wishes and needs of people; technics to solve conflicts and find agreement between people about a single problem in a clear way, to evaluate the balance between local and global decisions.

Of course this new design process needs many different technical contributions (from architects, economist, experts of environment) along the way. These contributions are necessary but what has to change is the idea that only designers and experts could analyse and solve all problems with the commissioner only (private or public), neglecting as a fact every interests, wishes and "minor" needs of inhabitants who should live, but more often undergo, as a matter of fact, that specific plan (for residential, productive, etc.) in that particular part of territory.

The interactive design is a new concept in the practice of working out architectural design and urban plan. It expects in fact that the goal of the design presentation, analysed during the interactive design process, will not be to obtain only the commissioner or user agreement but to start with them a positive dedate. The design should be depict and showed in a clear and exhaustive way. In that sense hypertexts are very effective tools to communicate a big varieties of information related to a specific area. When design and decision processes needs users participation, it is necessary the availability of all the information required.

Therefore, there is the demand of being informed about a variety of aspects or to deepen those superficially known. Hypertext, with its open structure, is useful to become a "collective memory", a kind of common cultural background essential for the interactive process.

The important phase of interactive design is the collective self-learning moment and the creativity of the group able to elaborate and agree solutions in less time and with much general satisfaction.

Main and real results achieved were the establish, from the local government of Rome, of eighteen (until now) local community laboratories called "Laboratori Municipali di Quartiere" (LMQ). In our intention laboratories are the first step of a project which goal is *to produce territory* instead of destroy it: territory, which is not a part of goods to protect compatibly with economic development, but is an interlacement of physical, symbolic, cultural, relational and economics elements which characterise form, quality and style of urban settlement.

A key element of this project is the progressive process of self-identification and self-determination of the communities which will participate to LMQ's activities and directly contribute to elaborate and realise collaborative designs.

Thus strategies will try both to promote the self-identification and development of the involved communities and to empower the ecological rationality of the social choice mechanisms (Dryzek 1987). To this goal situations as following, proved to be most suitable to experiment, are preferred:

(1) «discursive» contexts where inhabitants learn to participate effectively both to discussions groups and to interactive design sessions (Habermas 1981, Dryzek 1987, Forester 1989, Fischer and Forester 1993);

(2) new ways of production, allocation and consumption that comply with the principles of «radical decentralisation» (Bookchin 1993, Dryzek 1987);

(3) actions aimed at making inhabitants aware of (negative feedback) signals coming from ecosystems (Dryzek 1987);

(4) new forms of organisation susceptible of radical change, suitable for supporting the evolution of self-determining communities (Dryzek 1987).

Some well established techniques as "Planning for Real" (Gibson 1984), "Microplanning" (Goethert and Hamdi 1988) etc. should be used as an aid to improve the self-sustainability of an urban area: traffic-calmed residential areas, greening of Housing squares, grass roofs, rehabilitation of urban parks, integrated management of ecological cycles, etc. We already recognised the effectiveness and potentiality of these methods during the interactive design process of a residential road carried out in the Marconi-Ostiense Laboratory (Giangrande and Mortola 1998a and 1998b).

A further class of methods regards some strategic planning approaches as a means of both coordinating projects worked out by the different Laboratories and connecting these projects to the municipality and regional administration programmes. These methods purpose to upset the traditional top-down relationship which is characteristic of the present hierarchic arrangement of our planning system, in conformity to a bottom-up logic which would reflect the principles of "radical decentralisation». In particular the unit will experiment the "Strategic Choice" approach, which rely on paradigms that are different from rational-comprehensive model of planning (Faludi 1973). This approach is a coherent set of techniques and procedures to be used in an interactive, flexible and continuous planning process.

An example of interactive design: the Via Papareschi case.

The transformation of the Via Papareschi in residential street is the result of a design process which involved corporate bodies, associations and single citizens inside the Marconi-Ostiense Laboratory (figures 1 to 7).

Main actors, who took part in the process, were: inhabitants directly involved; representatives of municipality; some teachers and researchers from the University of Rome; the owner of the supermarket and the car park located in Via Papareschi, which financed and realised the project.

Other actors involved in the process were: some teachers of local schools, who organised scholastic visit to the construction yard; members of committees and neighbourhood associations who actively participated in workshop.

All urban and design aspects and management were provided by experts from University, local professionals and officers. Everyone had the possibility to participate, even if without a specific technical competence, in the design process with critics, comments and suggestions which were useful to improve the quality of the design and reduce margins for errors. Designs conceived only in professional studio without any social control or feedback are more likely to be wrong and with the high risk to be not accepted by the community.

At the end of the experience of Via Papareschi, we could point some general observations.

People inside the laboratory acted in a collaborative way. Communication processes, along the entire design stages, bring all the people to share meanings and references schemes, despite of some divergences due to differences of interests and values. The final design was not chosen because it was absolutely the best solution in that context, but because it had the better shared reasons, as a result of the considerations of all the people - professionals and not- who participated in the process.

The social and collaborative learning process developed inside the Marconi-Ostiense Laboratory, during the above design experience and other ones, contributed to remove most of misunderstanding caused by a leadership communication held up. This caused people not to build self identity and confidence in the possibility to change the reality, generating new social, intellectual and politics capitals. This process is preliminary in order that a community could self-identify and combat the consolidate political and economical powers.

The public institutions which participate in the Laboratory activities - university, municipality, etc. – should not give only technical or management consults. They should also contribute to build *social networks*, necessary for the efficiency of the social learning and collaborative process, within the community and, at urban scale, between different communities. This Institutions must overcome their «self-reference» which is a negative condition for action.

Computer based tools.

The work started trying to use in a useful way the IT available and verifying the consequences of this application. The starting points were some hypertexts developed to communicate to people urban processes which were going on in some neighbourhoods of Rome, another to sensitise people towards problems of an important archaeologic park of the city and the last to collect all actions, at urban scale, adopted to improve the sustainability of Rome, all of them were released off-line (on CD-ROM).

The main goal of these hypertexts was to create a communication tool, with the purpose to quickly inform people about the transformation going on in their neighbourhood, supported by a wide range of information.

Hypertexts were not only the "communication bridge" from local government to the people, but also a good medium to bring back proposals, suggestions and design idea developed by the citizens inside the LMQ from a sustainable point of view.

The hypertext was in this way a bi-directional communication tool which, to be really effective, needs the possibility of a real-time access for everyone who wants to communicate. To satisfy this need the staff of the CAAD Laboratory at DiPSA decided to transfer some hypertexts on the Internet. An example are the web pages about the Urban plan of Pietralata-Tiburtina neighbourhood in Rome, while a new one is in progress about Tor Bella Monaca, which is another neighbourhood in Rome with a forming laboratory.

The off-line hypertexts were already useful, even if less flexible of the on-line ones, and also more transparent and clear tools compare with the ones traditionally used by the local government to communicate contents of urban plans and architectural designs. The amount of information collected in only one tool is certainly one of the powerful characteristics: relations, maps of plans, models, designs at different scale, etc.

But the success of these operations demonstrate their limits: wishing to enlarge as much as possible the participation of communities involved in designs, how to develop communication tools without excluding the majority?

These thoughts, about the dangerousness of setting off new excluding conditions, leaded to the active commitment in the creation of the conditions for the diffusion of an effective use of those technologies, in particular in the creation of LMQs as public service structures able to make available to every citizens the access to necessary resources in term of equipment and knowledge.

To reach this goal we started teaching at LMQ staff through both intensive courses and the institution of the post-degree master in interactive and sustainable design (fig. 8), which is followed by lot of them. Topics are relative not only to multimedia tools to facilitate communication between administrators and inhabitants but also to sustainable development, community planning, design methods to improve the environmental quality at the local scale (traffic calming, courtyards, balcony gardens, green walls, green roofs).

Meanwhile we continued to design computer based tools but aimed not at hi-tech professionals or executives who invests much time to be technologically up-to-date but at common people used to consider hi-tech as far away as public administration itself. For this reason the program is to very slowly and gradually introduce computer based tools, always as a mean to obtain a specific result.

We are developing tools both to boost the communication with already involved people and to involve a greater number of people (i.e. people who has not time to regularly join the laboratory meetings). A further development to investigate will be the involvement of people not from the community, who could participate to the process (i.e. people from communities who already faced and solved the same problems).

Those tools range from the basic web based hypermedia evolving toward «collective memory» being more and more interactive to gather information and feedback from actors using forms linked to a traditional data-base, news-groups, user-creatable links from maps to comment pages.

Next step will be introducing tools to users in the wider contest of participatory involvement.

To do this we will start gathering data from citizens through paper forms involving schools, associations, stores.

Those data will be applied in «traditional» methods and only later, carefully, computer based tools will try to reproduce, maybe enrich, the process.

Those computer based tools will concentrate first of all on topics on which is easier gather attention of a wider number of inhabitants of the area; thus will concentrate more on communication psychology then on sophisticated technology. In fact those will be avoided, building web pages with features limited to standard HTML, possibly version 2, and e-mail, so facilitating people not expert or with obsolete equipment.

The site will publish information and feedback from citizens gathered increasingly through interactive tools and from LMQ about on-site activities and other initiatives. The web site will be constantly «redesigned» according to the kind of communication and methods derived from LMQ's activity.

Anyway other media will not be abandoned but the hypertext will provide the «collective memory» for other activities. So paper publications and CD-ROM versions will be periodically edited.

Gathered, through above mentioned initiatives, a critical mass sufficient to maintain, and, possibly, develop, more dynamic interactions, slowly, and constantly verifying the real utility and not being content for generic potentialities, increasingly sophisticated technologies may be used.

In applications sufficiently defined and experimented an increasing quantity of competencies and functions could be transferred to LMQ's staff.

Future objectives will be the activation of a web site for every LMQ, mastered by municipality staff and relative to the activities and interaction with inhabitants.

DiPSA, while maintaining a coordination web site and serving as a consultant continuing with the knowledge transfer to LMQ, will keep on evaluating opportunity and experimentation forms of technologies for virtual community like shared 3D environments to allow users to meet and leave opinions in a model of the project they are discussing about in the LMQ.

Issue, still to investigate, remains the consequences of typically "remote" and "global" technologies to typically "presence based " and "local" environment.

Summarising, strategic objectives in promotion of advanced forms of interaction in local communities are:

- stimulate, activating a process of collective self-learning, the self-consciousness of local inhabitants, allowing them to mature personal opinions and group creativity.

- Increase participation to LMQ activities also providing the possibility of a limited remote participation.

- Maximise interactivity through a wide range of possibilities, from meetings in LMQ to paper publications, including postal, telephone, fax feedback to involve inhabitants and valorising their knowledge on the city; from basic internet technology to hypermedia CD-ROM.

- Technological gradualism: those objectives implies not to automatically apply all the technologies available but to select them after evaluating advantages and problems, on the contrary, in the first phase, limiting technological level to allow the wider number of people to use them and, mainly, to concentrate on contents.

- Provide a public access to technologies resources, both knowledge and equipment, for people who could remain excluded.

Conclusions

Probably the period of CAAD pioneers in which the more modest plan draft on an alphanumeric terminal was a big success is finished. Now that big industry is ruling, european academic culture should re-consider those technologies as tools, recovering the attention to contents, even more in our discipline, architecture, which is traditionally characterised by the difficulty, but also the richness, of being technical but, mainly, cultural.

With the accelerating development of communication technology becomes more urgent the commitment to filling this empty space that those technologies are occupying them, at least partially, with social and cultural contents, avoiding to transforming them in a huge advertising space, loosing the occasion to be citizens and not only customers.

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