# LOCAL VALUES in a NETWORKED DESIGN WORLD

ADDED VALUE OF COMPUTER AIDED ARCHITECTURAL DESIGN

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Editors
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Verbeke, Johan — Hogeschool voor Wetenschap & Kunst, Sint-Lucas Architecture

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# Mediated discourse as a form of architectonic intervention

AUTHORS

Rudi Stouffs, Maia Engeli and Bige Tunçer

Faculty of Architecture
Delft University of Technology
The Netherlands

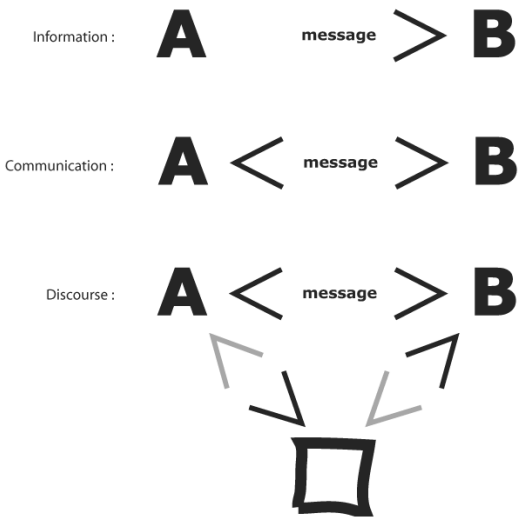
We are currently exploring the concept of mediated discourse in relation to an architectonic intervention and urban transformation project in an educational project and elective course. Led by faculty and artists, students are offered the ability to experiment with various media in the design and development of a multidisciplinary discourse. A web-based e-learning environment also allows the students' activities to form part of a larger discourse that takes place among all participants, including the public. In this paper, we describe the concept of mediated discourse and the various dimensions we distinguish, we present the educational project and its various aspects and participants' roles, we consider the internationalisation of this educational project in a future instance of the course, and we describe the characteristics of the web environment in the context of an educational and software development project for a multimedia learning environment to support group work and discourse.

## Mediated discourse and its dimensions

A mediated discourse as a form of architectonic intervention combines a number of factors and therefore has many dimensions. On the one hand there is the concept of the mediated discourse in its own, which can be regarded as a specific area within the field of computer-supported collaboration. On the other hand there is the context of the architectonic intervention, i.e., an architectural project and the intention to enhance and broaden the possibilities of discourse regarding the intervention or development processes. A further aspect is the improvement of the means and media involved in the discourse. The enhancement of the discourse in an architectural project is necessary because of the transformations that are happening on many levels; technical, political, social, or cultural changes influence planning processes with an increasing momentum. In the following, these aspects, i.e., discourse, computer-supported collaboration, architectural discourse, and media, as well as their combination are described and further discussed.

The research field of mediated discourse has grown into different directions–most prominently in the field of information sciences as well as linguistic studies–therefore some definitions are necessary to clearly specify the approach taken in this paper. A mediated discourse, in our sense, is produced when humans are having a discourse

through one or several media instead of face-to-face. This definition is congruent to definitions by J.C.R. Licklider (1960) and Susan C. Herring (2001). Furthermore, different models of discourse exist. Specifically, we refer to the model following a differentiation between information, communication and discourse (see Figure 1). In this differentiation, "information" is seen as a one-way message delivery and "communication" as the two-way exchange of information. A "discourse," in addition, includes the fact that the communication actually has a noticeable effect on the subject of the discussion. This effect does not have to be a direct one, e.g., a client in discussion with an architect will not redesign the project, but the architect may make changes as a consequence of this communication and the client should then be able to acknowledge the changes. The subject of the discussion corresponds to a shared mental model, as used in communication theories. In a mediated discourse its representation and the communication of its various qualities is supported by the means of one or multiple media.




F*igure 1. Information, communication, and discourse schemes.*

The research area of mediated discourse forms a part of the field of computer-supported communication and collaboration, which is a vast field of research that has gained much importance thanks to the worldwide networking of computers. The aspects, within this field, that are most relevant in the context of a mediated discourse are first of all the new means for the exchange and storage of information and the increased level of transparency that has become possible. Schemes and support systems have been developed for many communication processes, asynchronous ones such as e-mail, bulletin boards, or discussion lists, and synchronous ones such as chat rooms or video conferencing (e.g., Briggs et al. 2001). If the goal is to constructively support a discourse, the subject at hand also needs to be represented in the communication and the discussion or crucial aspects of it should be recorded. In our example we furthermore pay specific attention to the conceptualisation of the discourse itself, thereby experimenting with media that are not yet established in such a context, such as online action games (see Figure 2) and rapid prototyping.

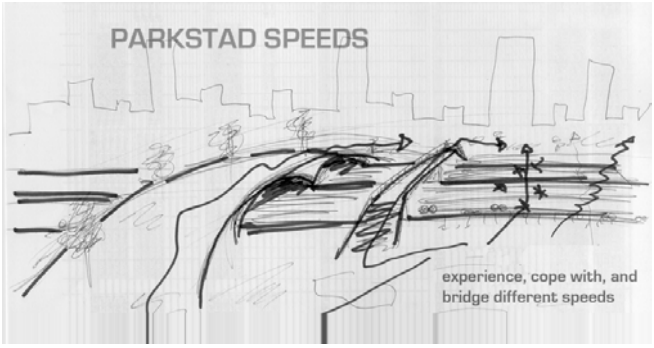



*Figure 2.*
*Sketch for a discourse using a first-person shooter game as the supporting media.*

In the context of architectural projects or urban planning processes the mediated discourse has very specific requirements. On the one hand it must represent visual as well as non-visual qualities of the project and it must be comprehensive and motivating for different parties, specialists as well as laymen.

Since architectural projects are, generally, widely exposed undertakings, there is a need for information, communication as well as discourse during the entire planning and building process. Many different parties are included in the decision-making and realisation processes and, furthermore, many people are affected by an architectural project, who do not directly take part in these processes. Both those that are directly involved and those that are affected have a need for information about the project. While decisions made by parties such as the client, specialists, contractors, and authorities directly influence the process, it may also be interesting to learn from other parties what they think, feel, wish, or desire.

In the Netherlands a new government decision exists in the form of a 5th note on spatial planning (Vijfde Nota over de Ruimtelijke Ordening 2003; published by the ministry of spatial planning and environment and the ministry of economic affairs) that demands a high level of communication for planning projects, including the end user. However, even before this note was written it was common practice to inform the affected community about projects and to take their feedback seriously. Unfortunately, in many other countries this is not a widespread practice; maybe because of the additional effort required, but maybe also because of fear of too many parties getting involved and the possible complication of matters. However, in the end we often see that the involvement of people who are going to be affected can be helpful to gain important insights and prevent possible hindering of the realisation process.

Numerous examples exist, in practice as well as in research, that exemplify different strategies; a few of them shall be introduced here to illustrate the field.
Bijlmermeer is a district of Amsterdam with high-rise apartment buildings in a green landscape established in the 70s and since then in a process of redesign and renewal. The interesting aspect is that there has been a community initiative for land-use planning,

socio-economic revitalisation, improved local administration, and technical assistance, which got approval and monetary support from the EU (URBAN Amsterdam 2003).

WoonWerf.nl is a residential transformation project of a former shipyard near the city of Dordrecht. The project's website uses a game-like interface to probe peoples' preferences, ideas, and concerns with the goal to open up the design process. Ideally, visitors could also compare their ideas against others', which potentially improves the overall quality of contributions (Stouffs et al. 2002).

An interesting research example is Alexandra Tisma's DeltaM project, where a carefully conceptualised web-interface allows clients to compare and rank different projects of the Dutch Deltametropool. An efficient combination of visual and textual information allows one to quickly understand each project and build oneself an opinion. The collection of opinions of independent but related autonomous actors then serves as a pluricentric model for decision-making (Tisma 2001).

Summarising the field and its implications we can conclude that a mediated discourse in an architectural or planning process has numerous dimensions:

- The subject of discussion is usually quite complex by itself and has to be presented in a comprehensive way in the discourse. From the subject it has to be deducted which information that is generated during the discourse has to be stored and in which form.

- The discussion involves many different parties, decision-makers, and the affected community, each with their own cultural and social context, including both local and global contributors. Each party may have a different level of understanding of the project as well as different interests, which all have to be considered in the design of the respective discourse.

- There is a strong relationship between the form of the discussion and the media used to support this discussion. The selection of the media will be made by the designer of the discourse; for architectural projects it usually is necessary to include visual media, since the project will have a visual impact.

Because we regard the discourse as a part of the project, we also consider the conceptualisation and implementation of the discourse as an architectonic design task.

## The educational project

"Mediated discourse as a form of architectonic intervention" is an elective course and one-time educational project being held during the spring semester of 2003. The course objective is the design and development of a *multidisciplinary discourse*, with a relationship to architecture and the built environment, based in various media, and held between students, faculty, artists, and the public. The involvement of artists is chosen in order to increase the multidisciplinary aspect of the discourse, by emphasising the

interaction between science and art, next to the interaction between designer and public. Important to note is also that the former interaction involves a small and explicit amount of people and can therefore be controlled and ensured, while the latter interaction involves an amorphous body of people, i.e., the public, that can be enticed to participate through various means, but whose participation can hardly be ensured.

"Cultural transformation", the theme of the discourse, is selected in relation to an urban transformation project in the city of Rotterdam: ParkStad (ParkStad Rotterdam 2003). Specifically, the identity of ParkStad and its relation to the surrounding neighbourhoods is under investigation in this discourse. The ParkStad location is currently for a large part occupied by a tram depot and a train yard, it is adjacent to the river and surrounded mostly by older, lower-income neighbourhoods with a high percentage of first-, second- and third-generation immigrants. The urban transformation project ParkStad is being seized as an opportunity to increase the livelihood and the attractiveness of the larger area. With respect to the mediated discourse, the selection of an actual transformation project anchors the discussion in reality and offers the students both a concrete problem and a public. The selection of the theme "cultural transformation" provides the discourse with a social dimension that is actual and of broad interest.

The elective course is open to sixth semester BSc students and MSc students. Students participate in small groups in two workshops. During the second quarter of the semester, each parallel workshop will be guided both by a faculty member and an artist. The faculty member chooses the medium in which the students will develop their contribution. Together, faculty member and artist select a problem statement in relation to the discourse theme to serve as a starting point for the students' investigation.

This investigation deals with the selected medium, the selected problem statement, the objective of the discourse and the artistic and social aspects. In the current, first quarter of the semester, the workshops are led only by a faculty member. Two workshops are currently being offered. The first workshop is led by Maia Engeli and experiments with the use of level design for a first-person computer game (Unreal Tournament™) as a means for the discussion of ideas with the public. Students work individually or in groups of two on the design of their own level in the game, using space and behaviour as the primary design elements (see also Figure 2). The second workshop is led by Ernst Janssen Groesbeek and uses rapid prototyping technologies in order to design a large-scale, composite, movable structure that can serve as an identifying object in the ParkStad location both during ParkStad's construction process and afterwards, integrated into its park. The overall structure is composed of students' individual structures, each fitting within a 50x10x10m space. Students use various software (mainly Maya®) and hardware (in particular, a 3D printer) in this rapid prototyping process.

All students' and other participants' contributions form themselves part of a larger multidisciplinary discourse on cultural transformation in relationship to the ParkStad context, among all participants. In order to foster and capture this discourse, the participants are provided with a web-based e-learning environment (BMVK05 Web Environment 2003; see Figure 3) in which they can access information related to the ParkStad project and results from other events accompanying the course, log their own

activities, access others' contributions, and provide feedback in various ways. As such, this course's web environment provides immediate access to a current reproduction of the discourse. At the same time, it serves to broaden the discourse by allowing anybody to participate by relating, rating, and commenting on contributions.

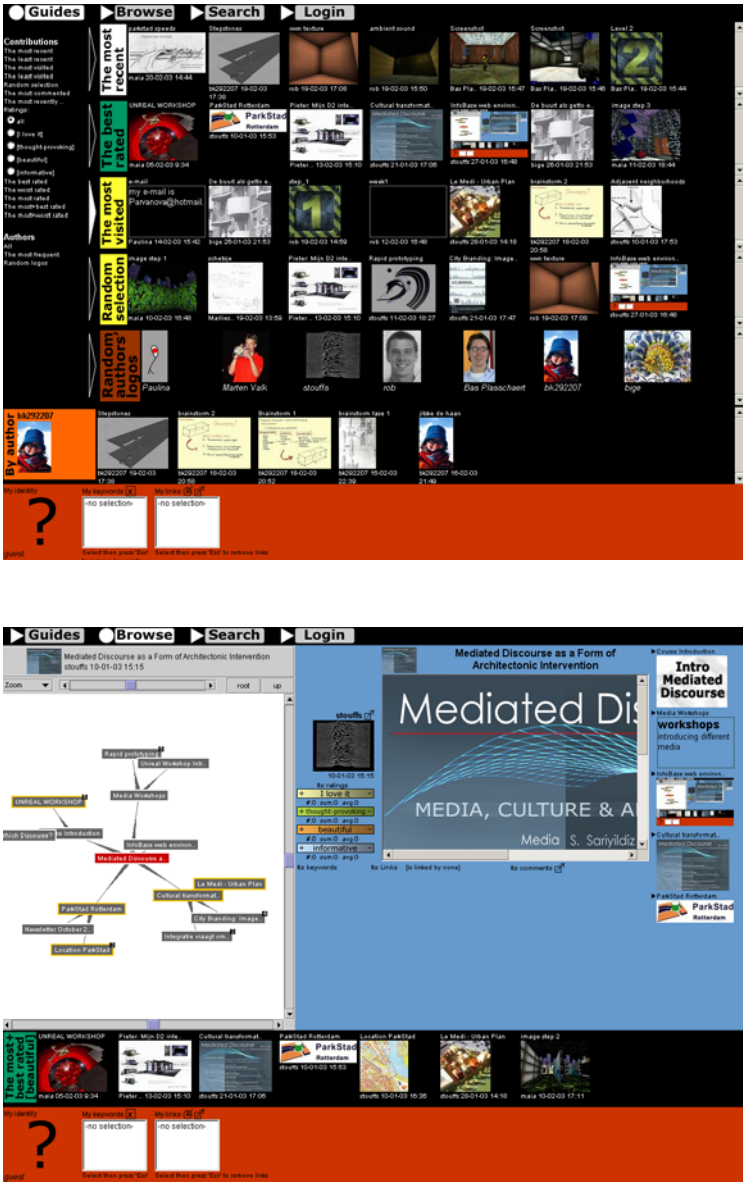



*Figure 3: Two screen shots of the course's web environment.*

The discourse is initiated through two introductory lecture series, at the start of each quarter, and through an excursion organised to the project surroundings, at the start of the second quarter. The project's results will be presented halfway and at the end of the course in a plenary presentation and exhibition, and in a conclusive publication. These not only serve to present the results of the discourse and course to the public but also to the participants of the discourse, offering them a view of the global results to which they contributed individually.

## Internationalisation

We are considering the design of an international discourse using the underlying ideas and set-up of the current "Mediated discourse" educational project. The topic of the course will relate to "digital architectural analysis and design." The course will be held among groups of architecture students from various institutes in different countries. Such an exchange will add to the multi-cultural dimension of the discourse. There are many examples of virtual design studios (e.g., Duarte et al. 2002, Kolarevic et al. 1998); the technology has been more or less established as a means for the realisation of common design tasks over a distance. Our motivation for internationalising the project is that the concept of a mediated discourse serves to strengthen a global, multi-cultural collaboration. The students will analyse a same design using different media, and compare and integrate the analyses. They will also collectively perform a common design task using these different media and provide feedback to one another. The focus is not on the organisation of information, but on the roles the students play in the discourse.

A virtual design studio environment has to include a collection of various tools and functionalities to support synchronous and asynchronous communication between participants, to organise one's own information, to publish and present information, to share information, and to develop a discourse. However, we do not merely intend it to be a collection of facilities, but it has the didactic goal of preparing students for a real-life design environment in terms of collaboration, communication, and the exchange of information with others. As globalisation receives more emphasis everyday, architects increasingly need to deal with international collaborations. In addition, such a design collaboration gives students a chance to work with colleagues from other universities and countries and build a cross-cultural connection.

## The InfoBase project and web environment

In the context of a design studio, students benefit from one another by sharing design information and by providing feedback on each other's design. Such a process can be strengthened, especially during the design conception phase, by facilitating a discourse among students, faculty, and other interested parties. By adopting an electronic environment to support this discourse, both the result and the process can be captured and presented to the participants during and after the discourse. The development of a web-based e-learning environment to support discourse forms part of a larger educational and software development project, entitled, "InfoBase: a multimedia

learning environment to support group work and discourse." The goal of the InfoBase project is the design and development of an e-learning environment that offers students, especially in design and architecture fields, the means and tools to organise their learning activities in cooperation with others. The focus is on information and document management, presentation and publication, communication and discourse, and cooperation and group work. The design of this environment is considered in relationship to an educational process in which the student becomes familiar with the use of ICT for supporting discourse and cooperation. The ultimate goal with respect to this educational process is to support the formation of networks or working groups, within an integration of education and research, leading to the prospective establishment of virtual knowledge centres.

In the context of the InfoBase project, the "Mediated discourse" project serves as an educational experiment in which various ideas regarding information, communication and discourse, both in terms of functionality and interaction, are explored and evaluated. The goal of this exploration is to evaluate the strengths of such an environment in supporting a discourse between students, teaching faculty and researchers in the context of a design research laboratory in which students execute individual MSc projects under a common research theme. These ideas are gathered from past experience (Tunçer et al. 2001), a workshop with students as current and future users, and insights into information characteristics that are important with respect to social processes (Kooistra and Hopstaken 2002). With respect to the latter, we distinguish two types of characteristics, relating to content and process, respectively. Concerning content, these characteristics define constructive and objective qualities, as expressed in the data. Concerning process, these characteristics define relational and subjective qualities, as expressed in the metadata. Relational and subjective information qualities are very important with respect to the value that is associated to data. Value in this respect is a relative notion and is very much dependent on the group and its social processes. Moderation, validation and encoding of information as well as personal feedback are all important means towards capturing and expressing value.

In the "Mediated discourse" web environment, participants are offered the ability to link contributions, either in reaction to a previous contribution or in relationship to others, to rate contributions according to four different and independent aspects, to comment on contributions and their earlier comments, and to associate keywords to contributions. These keywords are organised into a semantic structure in the form of a graph. Using these various metadata, three different views are presented to the user. The first offers the user a list of various guides, where a guide presents a selection of data based on and sorted according specific metadata criteria (see Figure 3a). Examples of such criteria are the best or worst rated contributions, contributions having the most links from or to them, and the most or most recently commented contributions. The second view offers the user an overview of the semantic structure of keywords and enables the user to search the data space according to these keywords. The third view offers the user an overview of the information structure composed by the individual contributions and their reaction links (see Figure 3b). The user can browse all of these structures.

## Conclusion

The goal of the "Mediated discourse" educational project and elective course is to explore the use of media and e-learning in support of architectonic discourse, and to offer students the ability to take part in this exploration and learn from it. Next to the media and discourse, emphasis is placed on the multidisciplinary character of the discourse, which will be strengthened by the participation of artists during the second quarter of the semester. In order to generate broad interest, we chose as the theme of the discourse for a current social phenomenon with a strong relationship to architecture and the built environment. While the range of participants places the discourse on a more global scale, the theme of the discourse is intentionally related to a local and concrete context, the ParkStad project. The success of the educational project will be evaluated on its own and in relation to the InfoBase project, through interviews and questionnaires, the publication and exhibitions, and an analysis of the information captured through the e-learning environment.

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