

# **IO–Dencies – A *Multiuser Discourse–Machine***

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## **Overview**

### Interaction

- development of a self–organizing collaborative information environment
- environment is based on dynamics of user interest and continuously updated text material
- real–time evolving 3D information environment
- interaction at different semantic levels

### Content

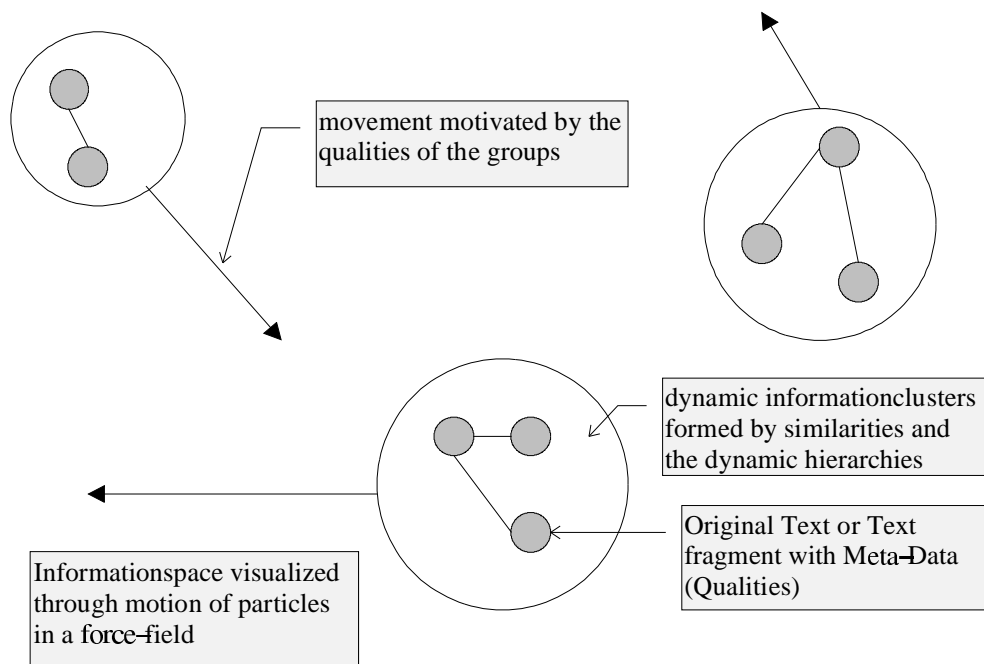
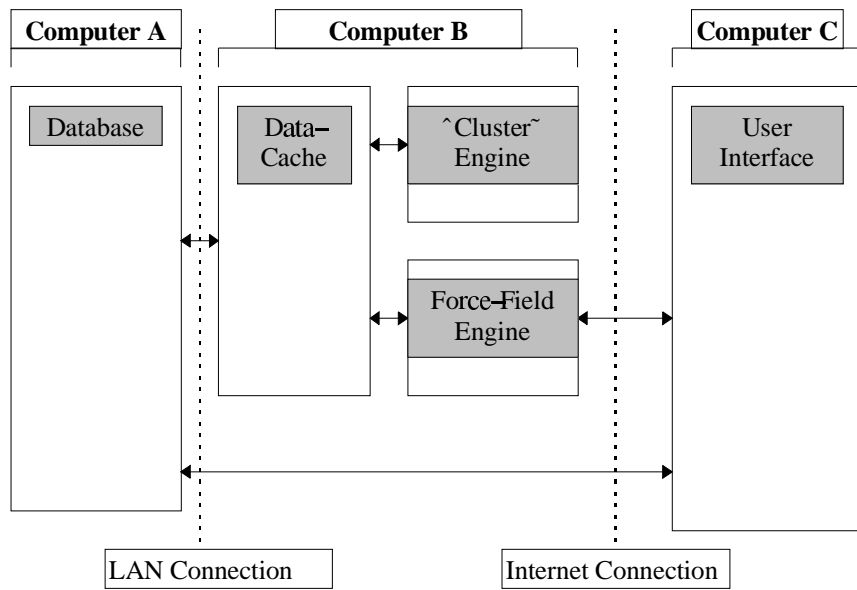
- ◆ urban dynamics created by knowledge generating processes of internet users
- ◆ recontextualizing analysis from urban experts (theoreticians) through city collaborators (architects, urban practitioners)
- ◆ experimental environment: another approach to engaged discussionfields (newsgroups) by visualizing the evolving zones of intensities (information)
- ◆ offering a hybrid environment in which human and machine (systemic) interactions cooperate

### Visualization

- \* usage through the Internet
- \* 2D: support of simple platforms (Java applet)
- \* 3D–low–level: support for PC–type platforms in a 3D environment (native application)
- \* 3D–high–level: relation to the content of information in time (not space) on visualization platforms
- \* development of audiovisual tools to encode activities of users and the selforganizing system

# Software Components and Data Flow

## Hard- and Software Structure



## Database

To store the information – the memory of the system – a database server will be used. This facilitates a multi-platform user interface while offloading the details of storage onto the database software. The database server can reside on the same computer that calculates the dynamics for initial development.

## Data-Cache

Since the software components that process the dynamics of the self-organizing system (Cluster Engine) as well as the user-interface pre-processor (Force-Field Engine) require fast and high-bandwidth interaction with the system state, a data cache will be used.

## Cluster-Engine

This component will be responsible for the self-organizing of the textual information based on meta-data that qualifies the texts and textfragments as well as the user input. The system will process the information in real time.

## Force-Field Engine

To visualize the information environment, a force-field method will be used. This centrally calculated field will be used to control particle systems on each user interface. Information clusters will become visible through the streaming of particles within the force-field. The force field is based on the dataset as a whole and the user input of all users.

## User Interface

A 2D user interface will be used in the initial implementation. The user has an active window into the environment. The view is shiftable and zoomable. Ultimately the texts are accessible through keywords that appear. The way through with the information space can be visualized is not limited to this initial idea. A 3D interface as well as the use of audio will be made in further stages.