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**INTERACTIVE SPATIAL DECISION SUPPORT SYSTEM  
FOR SUPPORTING COLLABORATIVE PLANNING  
A Concept For Spatial Understanding Support System**

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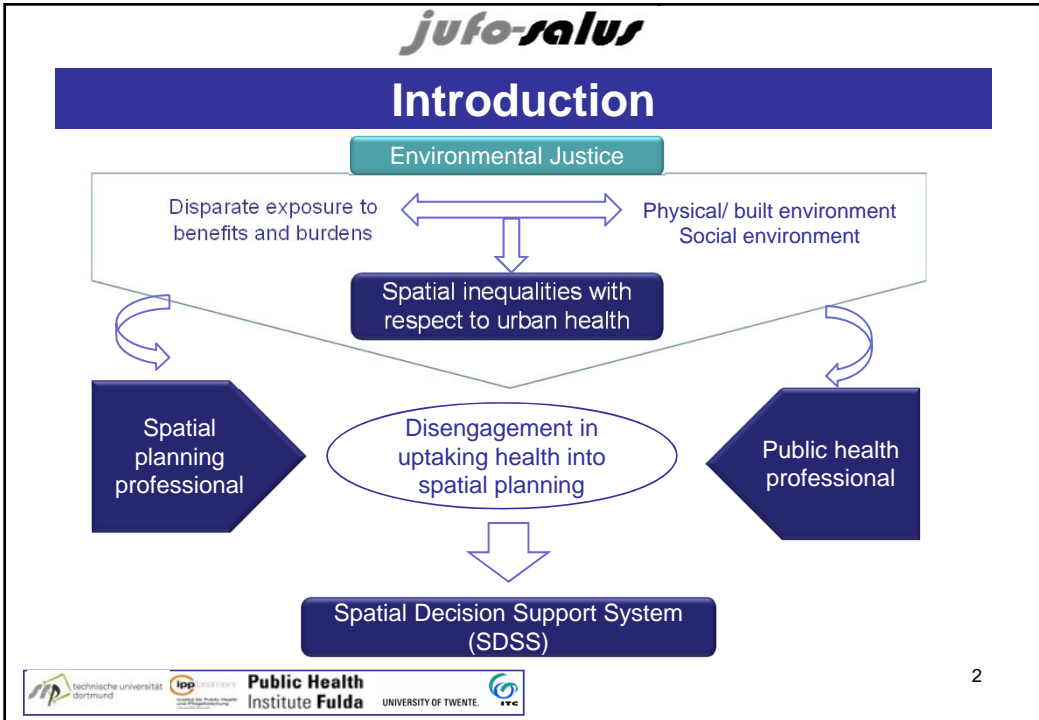



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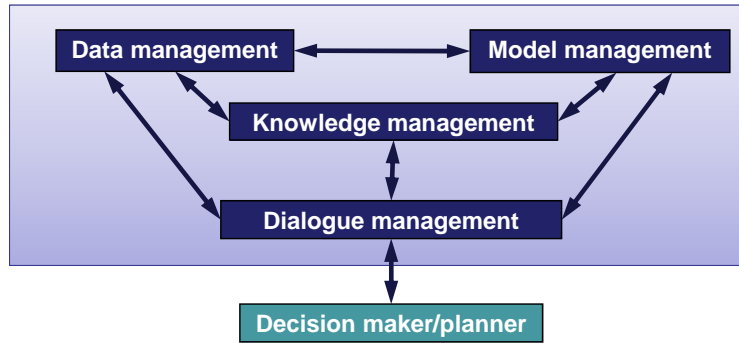
Konferenz Stadtwandel als Chance  
Wuppertal, 28. November 2013



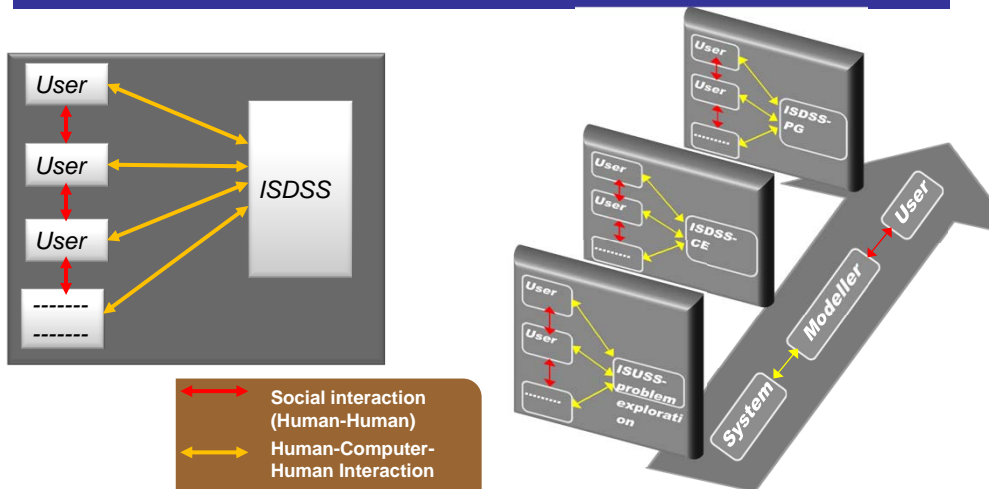


**What is Spatial Decision Support System (SDSS)?**

“technology based computer system designed to support a user or group of users in achieving higher effectiveness in decision making while solving a semi-structured spatial decision problem” (Sugumaran et al. 2007)



**Conceptualizing Interactive Spatial Decision Support System: Three Forms of Interaction**



## Medium & Environment of Interaction



“Touchtable”- Tangible User Interface-  
Interactive medium

Collaborative environment – working together in at same place on same task

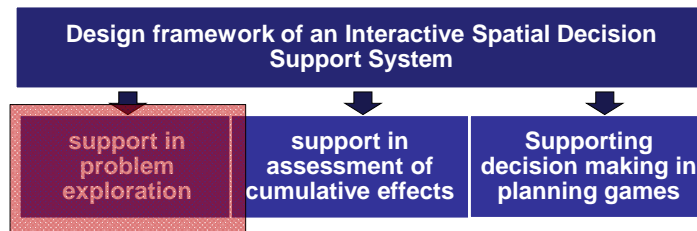


Interaction: Human-Human & Human-  
Computer-Human Interaction

## Research Aim

Develop an Interactive Spatial Decision Support System (ISDSS) for addressing environment related spatial inequalities with respect to urban health

Evaluate its usability to support the integration of urban health into collaborative spatial planning and decision making processes



## Spatial Context

“Gemengelage”- mix land use structure, proximity of residential areas to other land uses and their environmental effects (salutogenic & pathogenic)

- Historically grown mixed use structure
- Due to existing owner structures and the law to preserve existing structures (Bestandsschutz), limited use of planning instruments
- Average life expectancy less as compared to other city districts
- Higher percentage of people with migration background
- Common concern as shown by stakeholders in workshop in Dortmund



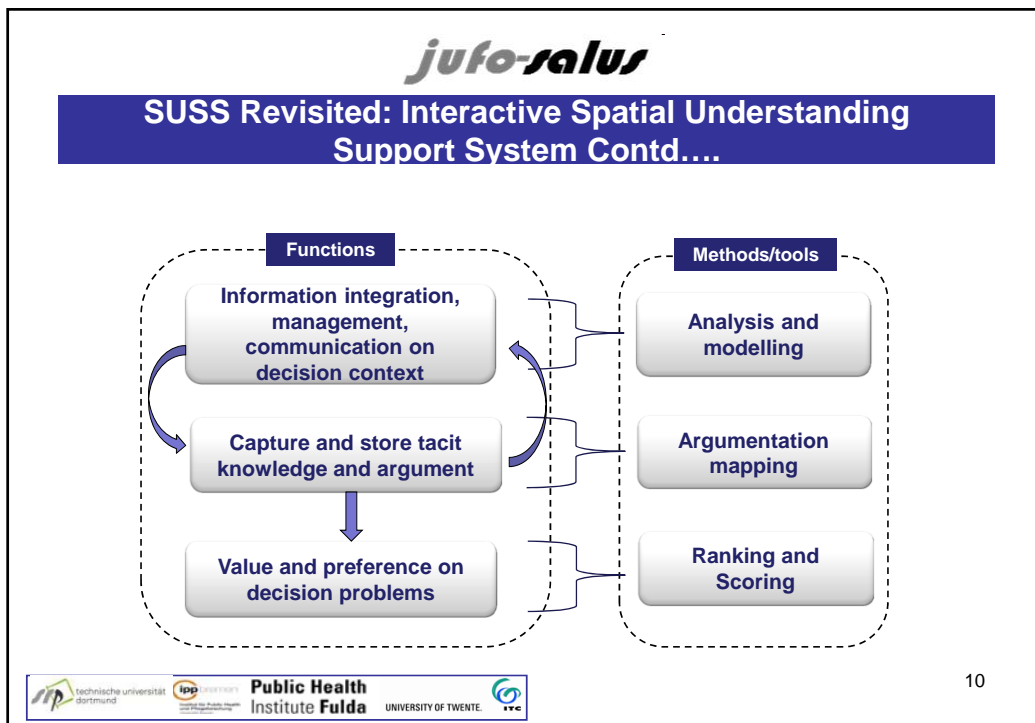
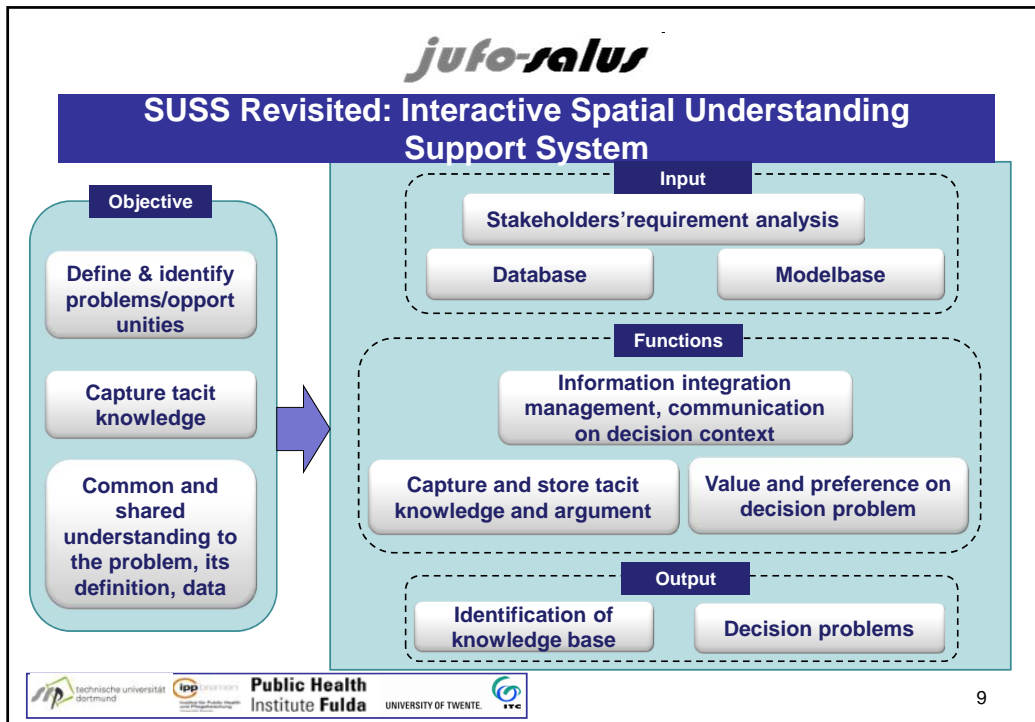
Photo source: Uwe Grützner, TU Dortmund

**What are the opportunities & problems in terms of environment related urban health & how to address them?**

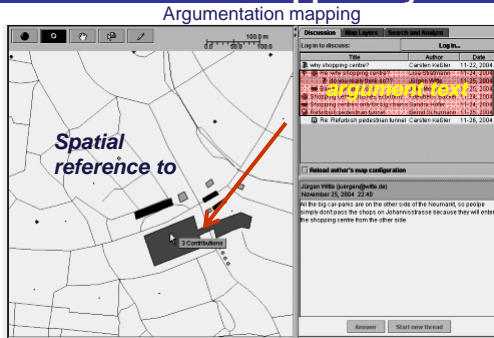
## Buzz word of 90s: Spatial Understanding Support System

- problem structuring paradigm-----probleem solving paradigm
- ‘what is really going on and why’
- spatial information-spatial knowledge
- medium to exchange spatially referenced information- integration of data with social judgement
- accommodate variety of views, opinions and interests from stakeholders
- resolving NIMBY problem of landfill site selection, enhancing public participation, resolving spatial conflicts in local communities (Couclelis & Monmonier, 1995; Horita, 2000; Jankowski & Stasik, 1997)

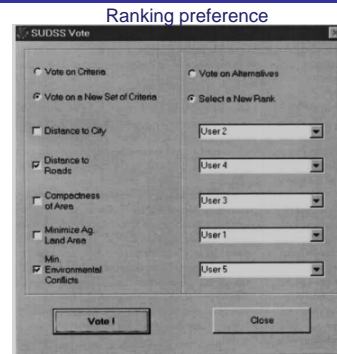
**early phase in planning process in collaborative environment**



**SUSS Revisited: Interactive Spatial Understanding Support System Contd...**



Keßler, C., Rinner, C., & Raubal, M. (2005). *An argumentation map prototype to support decision-making in spatial planning*. Paper presented at the Proceedings of AGILE.

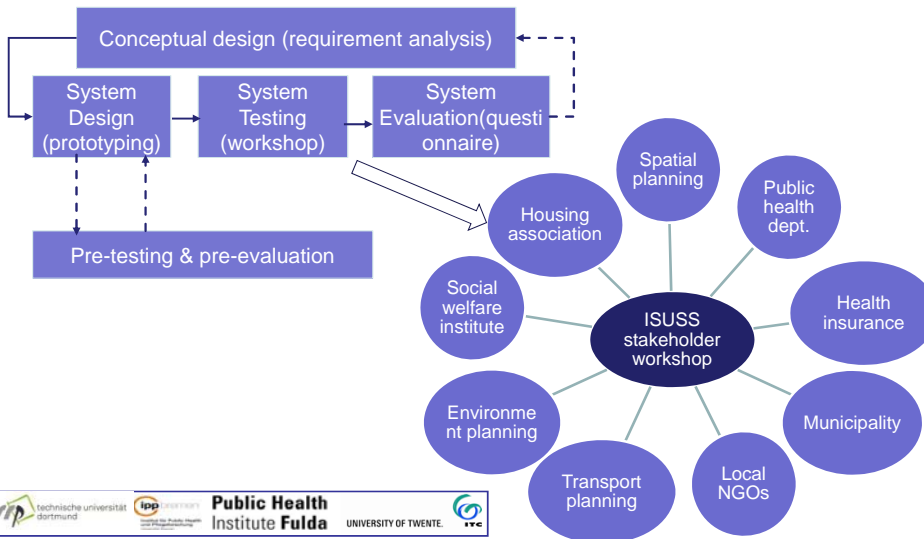


Jankowski, D., & Gallet, M. (2007). *Spatial understanding for public participation: A prototype*



Trigger interaction between stakeholders

**What is next?**



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QUESTIONS?

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