

## OPPA 3D – 3D Participation Tool (Stuttgart)

Scenario Rosensteinviertel and OPPA 3D as example for a local planning support tool

### Stuttgart Scenario

Rosensteinviertel is an urban quarter and part of the city centre of Stuttgart. It is part of a huge transport and urban development project which will change the whole face of Stuttgart's inner city and transfer a lot of ground into other land use. The area, which consists of wasteland, railway areas and built-up areas, presently is divided into several areas with different urban patterns and diverse land use. Currently, 7,000 habitants are living in the Rosensteinviertel as well as just about 10,000 employees are working in this district. The demographic trend is dominated by seniors and most of the residents are foreigners.

In context of the development plan, several railway areas will be set free for developing new urban areas. Residential and office areas are planned. In the future, 14,000 habitants will live in the quarter and more than 20,000 employees will move into the district. This development project proposes big changes for the area and for the residents living there now. To show consequences of planning proposals and to find the best possible solution the VEPs 3D participation tool, OPPA 3D, was implemented as a scenario case study in the VEPs project. OPPA 3D could show the effects of different planning proposals, and allowed them to participate actively in the planning process.



### OPPA 3D:

#### Online Public Participation in 3D

For developing OPPA 3D in context of the VEPs project a wide range of requests, such as technical issues as well as planning related tasks and social aspects had to be considered. Following, there is short description of the tool functionalities and the range of use.

#### Functionalities and Range of Use

This tool consists of a 3D model, a discussion forum and a 2D map, all communicating with each other. OPPA 3D shall enable residents to compare different planning scenarios and related environmental consequences as well as enable them to comment on these scenarios in text and map form. The use of 3D-models is expected to ease the comprehension of planning contents for all non-professionals, including demonstrating the consequences of the different planning alternatives. The 3D participation tool aims to improve access to information and public participation in the planning process by allowing anyone interested in planning issues to:

- View information about a planned development in 2D and 3D as part of a consultation process
- Improve the knowledge about the planned development by using 3D-views to help people understand the proposed designs and their environmental impacts
- Make comments on the proposal in either 2D or 3D
- Save comments with spatial relation so the specific view to the comment can be seen by others

#### 1. Participation Tool

The participation model for VEPs to be used in this scenario consists of two parts: the scenario's website and the 3D participation tool. The website on one hand gives all necessary information concerning the district, the development plans, the

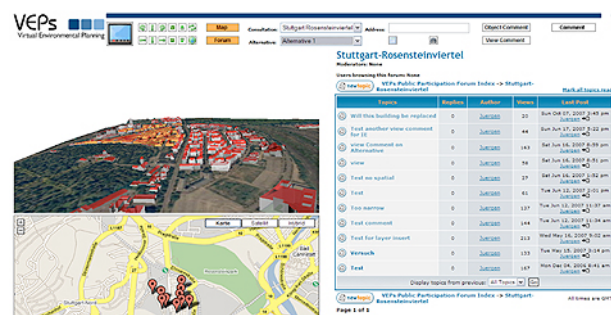
existing data, etc. Also, the functionality of the participation tool will be explained. On the other hand, there will be the linkage to the web-based 3D participation tool, consisting of a 3D-model with various visualization features, a commenting and discussion platform, and an optional 2D overview map. Beneath displaying and commenting/ discussion functions, the 3D participation tool will offer a variety of optional functionalities like dynamic flight through in the 3D viewer, display of different planning proposals, 3D illustration of environmental impacts like noise simulation and flooding, query GIS data and planning or object related information and others.



<http://www.multimedia.fht-stuttgart.de/veps/index.html>

## 2. commenting tool & discussion forum

The commenting tool enables all users to set new comments, respond to existing comments, choose a topic or create a new one, and view all existing topics and comments. The discussion forum is linked to the 3D-viewer and the 2D-map. Most important is to enable discourse oriented discussions (multi-way-communication) and to link comments to the 3D-model so the issues discussed can be seen the same time.



<http://wwwdev.fht-stuttgart.de/ParticipationP3/frame.html>

## 3. Main objectives of OPPA 3D

Main focus of OPPA 3D is the interaction between 3D-viewer and commenting tool as well as the discourse oriented communication. It allows users to query relevant planning data via a web-based system. By visualizing the information in 3D, a lot of planning information and planning background can be conveyed in a realistic, clear and understandable manner. The communication platform, linked to the 3D-model, offers the possibility to link written comments to a visual display to explain in more detail the discussed issue. The multi-way communication enables the user to view all listed topics and comments, to set new ones and to respond to already existing ones. Also, there is the possibility for every user to send comments or questions via email to a specific contact person. The moderator or contact person too has the possibility to answer to comments in public (via the discussion platform) or private via email.

## 4. Potentials for use in Planning Processes

Using the potential of 3D-visualisation in the Internet, planning proposals can be displayed in a new and different way with the convenience of using common 2D-maps on screen. Not only does the 3D-world offer the possibility to walk into and through the area, but environmental impacts related to the spatial characteristics can also be shown.

Considering design and planning issues, 3D-Visualisation gives a range of possibilities to display the planning proposals much more impressively than using 2D maps or static 3D perspective images.

If OPPA 3D is linked to the according spatial database, attributes can be linked to the objects of the 3D model. Users can ask for information like use and ownership of the buildings.

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Stuttgart  
Volker Coors (volker.coors@fht-stuttgart.de)  
University of Applied Sciences  
Stuttgart