USP // Web Dashboard

About USP (Urban Strategy Playground)
The USP project develops and evaluates tools and approaches for decision support in early phases of city planning. A stand-alone prototype was developed around a novel parametric-semantic city model representation, where functionalities such as calculations, analysis or simulations can be applied on the fly by the users during the planning processes. As new questions arise or general conditions change functions can be modified and adapted by runtime.
Further Information: http://usp.ai.ar.tum.de

Description
In recent projects and collaborations a major drawback of the current system became obvious. Urban planning information can be extremely complex. The semantic models contain a lot of information as well as the possibility to run calculations and simulations. But through classical media like plans or models only a snapshot can be shared with other participants. A possibility is needed to give others (limited) access to the USP models in a way that they can explore them according to their individual interests and needs.

The aim of this IDP-Project is to develop a web-based USP-Dashboard addressing this problem. In a team of IDP-Students you will work on the full-stack of the web-application (frontend and backend). The dashboard should be highly adaptable allowing the user to customize their frontend using predefined “USP-web-tools” visualizing the results with diagrams, charts etc. Extensions to the web-viewer should be possible, meaning that new functionalities can be provided to the users when needed.

Topics
- development of a system concept
- mapping of the usp-model-files in an efficient way.
- development of a customizable front-end dashboard
- developing a template for the “usp-tools”
- developing a “usp-tools” selection interface
- development of a model viewer as the main dashboard-element
- example “usp-tools” providing different diagrams, charts etc.

Ansprechpartner: Dipl.-Ing. Michael Mühlhaus
Lehrstuhl für Architekturinformatik | Prof. Dr.-Ing. Frank Petzold
tel.: +49 89 289 25291
e-mail: michael.muehlhaus@tum.de
web: http://usp.ai.ar.tum.de