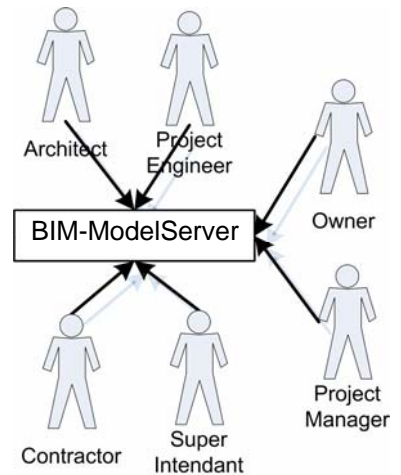


Title: BIM-ModelServer

Supervisors: Prof. Fritz Häubi, Prof. Dr. Manfred Breit
Markus Benz (remote from UCLA),
Nicky Hochmuth, Marco Rietmann

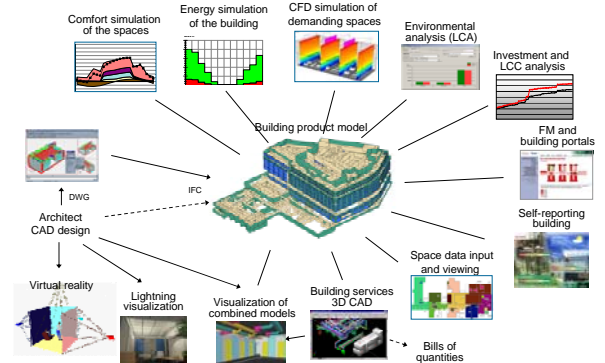
Overview: The i4Ds performs research in the development of tools that enable, support and speed-up the interdisciplinary design in the architecture, engineering and construction industry (AEC). Building Information Models (BIM) are digital representations of buildings, their 3D objects, functionalities and relations. The BIM-ModelServer provides the possibility to store BIM data on a server, thereby making these models - their versions and interdisciplinary sub models - concurrently available for different project participants over the different life-cycle phases of buildings.



Problem definition: Currently available disciplinary tools like 3D CAD systems represent their models in proprietary formats which widely prohibit interdisciplinary design. Consequently, project participants can hardly work concurrently on the same project. Therefore, a server based BIM data storage concept should be developed which allows the model integrity over design versions of different disciplinary sub models (i.e. architecture, engineering, construction). The International Alliance for Interoperability has developed a BIM representation called Industry Foundation Classes (IFC) which has recently been implemented as import and export filters in major disciplinary 3D CAD systems currently available.

Task formulation: The development of the BIM-ModelServer will take place in close collaboration between the involved students and the researcher at i4Ds. In particular, this means that goals are formulated step by step depending on the status of the work and the occurring problems.

In a first step, a remote data structure concept introduced in a previous project will be reviewed and finalized. This concept will then be used to represent the BIM data in IFC using parsers developed at i4Ds. The handling of different model versions and interdisciplinary sub models is the next major step. Based on given IFC-BIMs the cooperation of the BIM-ModelServer and its IFC enabled 3D CAD Systems should be demonstrated.



Requirement: Documentations must be composed in English.

Technologies: Java, Hibernate, Application server (JBoss), Ant

Links: i4Ds : www.i4Ds.ch
IFC : <http://www.iai-international.org> und <http://www.buildingsmart.de>

Project type: Projektarbeit P5 Projektarbeit P6 [Bachelor Thesis]

Team Size: 1 Student 1-2 Students 2 Students