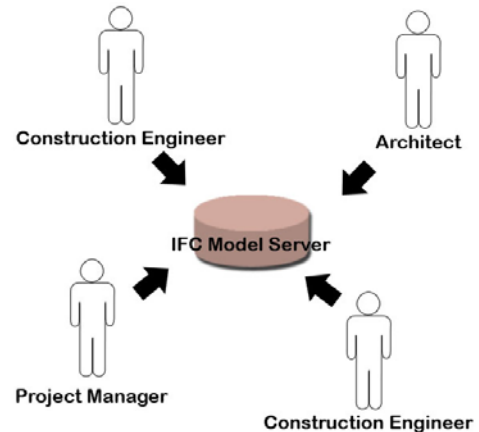


Title: IFC-Model Server

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Overview: International Foundation Classes (IFC) is an open standard developed by the International Alliance for Interoperability (IAI). IFC's are used to model buildings through their whole lifecycle with the aim to provide an universal basis for process improvement and information sharing in the construction and facilities management industries. There are few IFC-Model Server on the market, but they are expensive and not yet widely spread. The project is in collaboration with a customer from Greece which develops an application for 4D construction planning and controlling.

Problem definition: Construction project participants need a tool to access and modify IFC-models (usually saved as ASCII Files) concurrently without losing performance and scalability. This should be provided by an IFC-Model Server which stores IFC-Models into a database and keeps track of concurrent modification, transactions and versioning/change management.

Task formulation: Students will enhance the IFC-Parser (developed at i4Ds) with a functionality that enables the parser to generate IFC-Classes with Hibernate Annotations. These classes can be used by application servers (or the Java Persistence API) which allows the storage of IFC-Models in a database.

Furthermore, students have to develop a GUI which allows the storage and retrieval of existing IFC-Models in and from the application server.

An optional task might be the development of a Web Service Layer, allowing an easy access to the IFC-Model Server for third party applications.

A documentation in English would be preferred.

Technologies: Java (Swing, Annotations), Hibernate, Application Server (JBoss), Transactions API, Parser Generator, Ant

Links: <http://www.i4ds.ch/dfd/ccc/ifc/main.html>
<http://www.iai-international.org/>
http://de.wikipedia.org/wiki/Industry_Foundation_Classes