**basic concepts**

**conceptual model**


A scheme in which different design phases and scales are defined, together with appropriate tests at the different levels.

**core object model**


Translation of the Conceptual Model into the “Core Object Model” (COM), which defines a structured object model for the description of buildings and built environment.

**object-model**

The Masterplan Level contains the Masterplan Elements (Masterplan Block, Terrain, Structure & Infrastructure)

The BLOCK Level contains the Block or Type Elements (spaces, space assemlies, ...)

The ROOM or SPACE Level contains the Building Elements (Walls, Floors, Columns, Beams, Openings, ...)

**transitions**

Transitions are sets of rules that operate on a filtered set of elements. These rules contain actions that add/remove elements but also actions to change the properties of elements.

**representations**

Representations are a collection of links between CAAD Entities (architectural building elements) and the Graphical Entities that are used to describe them.

The Project will be represented in different ways (text-based, 2D, 3D), but the building data is always independent of the graphical engine.

**commands/events**

The “command” pattern gives a usable pattern to implement the OET (Object Event Table), which describes the desired functionality of the application.

Different events (“create”, “destroy”, “modify”, “select”, “transform”, “import/export”) will be implemented to interact with the project data, from within the prototype application.

**plugin structure**

By providing a generic interfaces, we strive to maintain a flexible set of classes, that could be extended, in a plugin-like system.

The goal is not the "plug-ability", but the necessary abstraction level to allow a more independent development of parts of the data-structure and application. In the future this provides means to focus on specific development tasks independently.

**rep. = 2-way interface**

The “building model” generates different representations, but they work as the real user-interface into the building model. A user-designer interacts (graphically) with the graphical entities to change project data.

**prototype**

The Prototype Application IDEA+ is NOT an attempt to create commercial software. It is a testing environment to illustrate the viability of the architectural design concepts and the desire to support the workflow of an architect/designer, for the early-design stages. It is meant to provide a development platform for future research projects and to integrate different research topics from the past.

**data structure**

The analysis of the theoretical framework still requires a thorough research. Architectural elements are separated from their graphical representations (lines, surfaces, solids, text, ...).

**OT/00/18 - research topics**

1. Finalisation of the object model
2. Design Phase Transitions
3. Scale level Transitions
4. The structure of the database in a client-server configuration (not further elaborated)