CADEMIA Version 4.0 RC1: Change Log

Professional part management: Until now, only a very limited amount of standard parts were available in CADEMIA. An agreement has now been made for CADEMIA users to use the CADENAS PARTcommunity platform. This Internet platform contains numerous part catalogues of well-known manufacturers. The platform can be visited by a standard WWW browser. The parts are found by specifying search criteria and are then downloaded to the local file system. DXF files and raster images are particularly useful for CADEMIA. The usage of the PARTcommunity is free for CADEMIA users.

We very much appreciate the joint venture with CADENAS. We are confident that the PARTcommunity platform is a key factor to using CADEMIA even more efficiently from now on.

Component groups: From now on CADEMIA components like lines, paths, texts and images can be united as an arbitrary complex group. The behaviour of a group is comparable to the behaviour of a single component. For instance, a group is graphically rendered, it can be selected, the coordinates can be transformed or the graphical attributes can be changed. Since groups can be grouped themselves it is possible to create hierarchies. Once selected, groups are recognized by the round control point symbol. Segment control points are generally omitted.

• Adding of groups: New groups can be added to the database. Entities from a DXF file, components described by a CADEMIA macro, or existing components can be combined in a group. Existing groups can be ungrouped again.

• Editing groups: To edit a group it has to be opened. An open group is recognized by an entry in the status bar and by the orange colour of the coordinate system and the temporary geometry. All CADEMIA commands refer to the open group. For instance, components are automatically added to the open group. To terminate the editing of the group it has to be closed. After the group is closed the containing group is automatically opened. Nested groups require repeated close commands until the main group – the database – is opened. A special command has been added to close all groups along the group path independently of the nesting depth.

• Attributing groups: If a group has its own graphical attributes like draw paint and line pattern, then these attributes take priority over the graphical attributes of the combined components. If a group attribute is off then the respective attribute of the combined components is applied.

Extrinsic features: A distinction is drawn between intrinsic and extrinsic features. While intrinsic features are defined by the respective component an extrinsic feature is to be defined by the user. Extrinsic features are not necessarily supported by a component.

From the set of standard components it is the group that allows extrinsic features to be assigned. Features of type String and/or Text can be added to groups and can be removed later. In contrast to String features, Text features have a visual representation. For instance, Text features can be used for individual title blocks.

DXF: Imported or exported DXF blocks are mapped to CADEMIA groups. Differing units between CADEMIA and DXF can be specified while importing the DXF file. The text justifications "aligned" and "fit" are supported after introducing a scale factor along the text base line in CADEMIA. ATTDEF and ATTRIB entities are mapped to extrinsic text features in CADEMIA. The DXF import is now undoable. Further enhancements are documented in the file *historyCADEMIA.txt.*

Diverse: The construction preferences and the orthogonal construction are now to be handled in a more intuitive way. Orthogonal construction is supported in the drag tool. Intersecting segments can be directly picked when constructing intersection points.

The digitize mode has been removed. Mouse clicks inside a graphic window are processed as follows:

1. Pick: If an existing point of a component is inside the cursor square then this point is accepted.
2. Grid: If a grid point is inside the cursor square then this point is accepted.
3. Digitize: The clicked point yields.

The user coordinate system (UCS) can be specified more intuitively. The behaviour of numerous CADEMIA components has been enhanced especially for the case of a rotated UCS.

Drawing scale, user unit and window layout are stored on the computer of the user and are restored when CADEMIA starts and when a new database is created.

The database modification status is shown in the frame title bar.

Keyboard shortcuts to measure distances (Shft+Cmd/Ctrl+D), angles (Shft+Cmd/Ctrl+A) and coordinates (Shft+Cmd/Ctrl+L) have been defined. The commands have been integrated in the tool bars.

Further enhancements are documented in the file *historyCADEMIA.txt.*