

CADminer - The Secret BIM Application

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Seminar Description:

See a demonstration of how to access the wealth of information that your ARRIS drawings hold. CADminer is a stand alone data mining application for CAD, allowing you to seamlessly extract, quantify, share and utilize both graphical and non-graphical design data extracted from your ARRIS drawings. Whatever your field, CADminer will provide access to information stored in your CAD database and help to improve the productivity, speed-to-market and profitability of your organization.

CADminer has a relational database management system that can link the information in your drawings with any dBase or ASCII external information file. The extracted entities in your report can be expanded by the relational link to the information in external files; and, by using GEMlabel (an add-on), you can import this linked information and insert it as a Text Paragraph in your drawing(s) near such entities. This is a new and efficient way to handle the information in your CAD drawing, replacing the non-efficient attribute entities and make editing these attributes a simple task handled in your preferred database editor or spreadsheet program. With CADminer you can attach information (i.e., ATTRIBUTES) to any entity in your drawing

CADminer extends Relational Database Management Systems (RDBMS) by creating a new type of relational link called a "Spatial relational link". This creates a link between the CAD entities and the Space where they are located, and integrates it with the RDBMS. You can create a relational link between an area in your drawing, for example a zone and the entities drawn within that zone, such as associating a telephone with the room where the telephone is located. You can further relationally link this room (zone) with the department (another larger container zone) where it is located.

Furthermore, CADminer can create a link between the in-depth entities within a Repeated Item (RI)—called a *container* RI—and the instance of the RI. This container RI can then be queried to extract the nested information within. For example, you can count and report on the furniture within an RI that represents an *office furniture model* or *workstation* and also relate this furniture to the room number and department(s) where they are located. You can further link the furniture to external data about, say, their manufacturer's model, date of purchase, price, maintenance, etc.—all in one report created in a few seconds at any time, which reflects the current information found in the drawing as well as in external databases.

CADminer is the only program that we know of that can extract information efficiently from one drawing or hundreds of drawing in a single operation and a single report.

CAD Drawing(s)



THE CADMINER™ PERFORMANCE STANDARD:

Whether your projects involve hundreds of CAD drawings, a few drawings with hundreds of layers, or a single drawing with megabytes of data, CADminer™ is powerful, fast and precise.

Extract



Attach

External Files
(Optional)

- Sales
- Suppliers
- Costs
- Schedules
- Equipment
- Corporate
- Employees
- Clients

Report

Information-rich Reports

Visualize

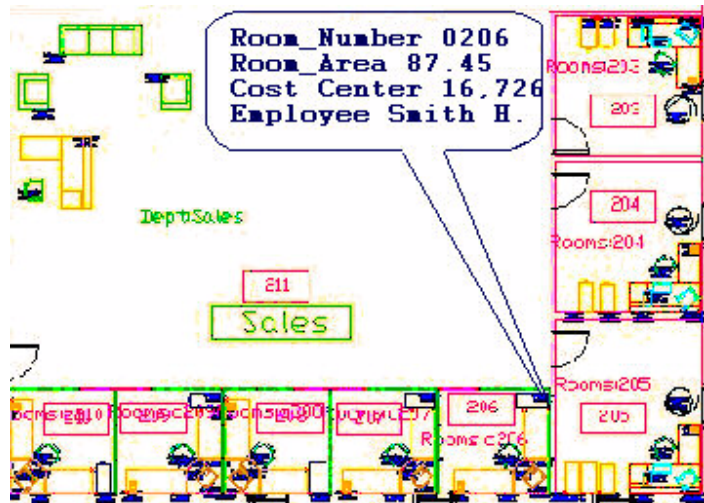
Visualization
(Optional)



In addition to the CADminer's data extraction capabilities, it also offers three additional applications to aid in visualizing the results graphically in your CAD database. Below is an overview of the three visualization products: GEMbel, GEMnew and GEMdim3.

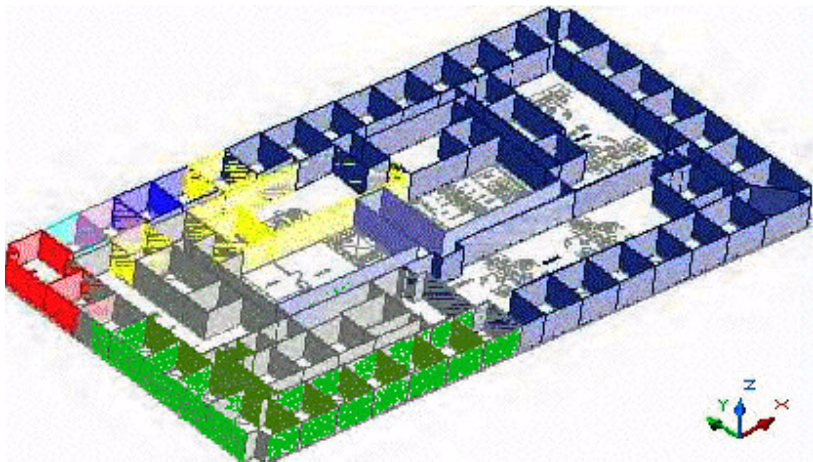
GEMlabel Plug-in

GEMlabel annotates your CAD drawing with the extracted information. The text appearing near each entity is identical to the output report produced by CADminer™. Annotation of the drawing can also include information retrieved from an external file via CADminer's™ relational database, as shown here.



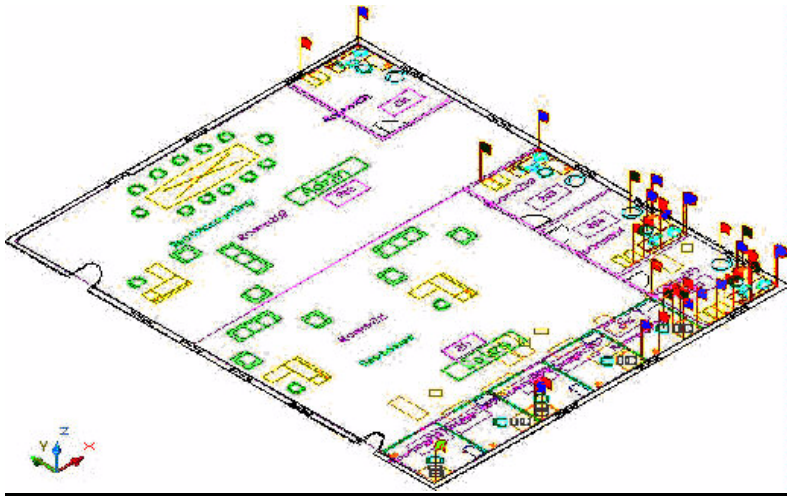
GEMlabel Plug-in

GEMview visualizes the entities selected by CADminer™ by highlighting or changing their color, pen, thickness, line-width, line-type, etc. Similarly the non-selected entities and all other entities can be visually altered.



GEMdim3 Plug-in

GEMdim3 inserts a symbol near each entity selected by CADminer™ for the unique comparison and reporting of your CAD information. The symbol's colors can represent the different variables; the sizes are equal to the square root (or, if the object is 3D, the cubic root) of the measurement sought, satisfying a high level of visual integrity.



Presentation Overview:

1. Review the basic concepts and process of CADminer
 - Determine What Data Will be Evaluated
 - Establish Search Template Parameters
 - Extract Data
 - Format and Report Data
2. Demonstrate in real-time the same steps listed above using sample database(s)
3. Make modifications to the database and re-run report both graphically and non-graphically (if possible).
4. Make modifications to the search template criteria and re-run report both graphically and non-graphically (if possible).
5. Demonstrate one or two advanced concepts such as
 - Links to external database(s)
 - Customization using MINERtools
6. Question and answer

ARRIS Samples and CADminer Search Templates

Sample ARRIS databases and CADminer search template (.cst) files provided with this seminar description are subdivided into three categories:

- 1) **DataMining** templates can be found under the directory “Data-Mining” contains the following samples:
 - Landscape
 - Parametric-Ris
 - Wall-Door-win
 - Indepth-RI’s
- 2) **External Attributes** templates can be found under the directory “External Attrib-RDBMS” contains the following sample:
 - More-Attrib-to-Zones
- 3) **Facilities Management** templates can be found under the directory “Facilities-Management” contains the following samples:
 - Phones_Directory
 - Office_Manager
 - Hospital