

# Arcad – Architecture under Linux

# ALL BUILDINGS

# GREAT AND SMALL

Arcad is a pure-blooded Linux CAD program for architects. With a long history, an active user community and favourable licenses it offers enough to warrant a serious look. Ulrich Wolf does just that



Boris Becker's villa in Mallorca was built in Arcad from the original plans (Architect bureau Hainz, Munich)

CAD programs for architects (CAAD software) should be able to do everything; not so much regarding the variety of functions but rather the methods by which architects work. For this reason there are, on the one hand, ultramodern CAAD programs, which are completely parameterised. This means that, for example, building components such as walls or windows are "Objects" with properties that do not just describe the geometry, but also the material, the price, the manufacturer and much more. On the other hand, there are also programs that treat components, such as doorframes, as mere geometrical shapes with no other properties. Arcad, created by a small company of the same name, falls into the second category.

Arcad comes originally from the world of DOS. Over the past few years however, newer versions have been developed exclusively for Linux. The relatively faithful user community is strongly involved in the development and testing of new software. Arcad has a popular user forum on its Web page, where questions regarding operation are in the main patiently and competently answered.

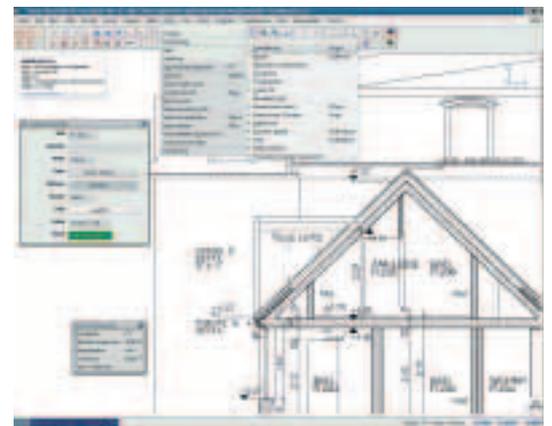
### Favourable licenses

The manufacturer gives favourable Campus-licenses in order to help spread the good word. For 65 euros, the purchaser receives a full program for unlimited duration, inclusive of installation support. The purchaser may use the program unrestrictedly for his

or herself, but contract work for third parties is not permitted. For those who want this option, there are reduced full versions starting at 450 euros; the complete outfit hits the bank at around 8,500 euros. A "Maintenance Fee" of ten per cent of the purchase price per year covers unlimited updates to the newest version.

Arcad is a "3D Volume" program, which also allows design in two dimensions, as some architects and civil engineers prefer this mode of operation. Others can develop 3D models and generate section views from these – the user is therefore given the choice.

The dimensioning of the 3D model is associative, which means that the measurements are automatically changed when modifications are made to the



Space for what is important: the Arcad interface

geometry. This is not however the case for designs in two dimensions. Another disadvantage of the program is that if sectional views (such as plan views or elevations) are produced from the 3D model, these are independent drawings with no link to the model. This allows for quick output because of the small data quantities, however each small modification must be carried out by hand on the section view as well as on the model. Subsequent changes on the model do not automatically update the views.

## Rendering included

Of particular interest for design presentations, is the possibility of rendering 3D scenes. For this purpose, Arcad features a POV-ray interface for Open Source rendering. This also enables users to render films showing fly-throughs of an object as well as real time animations. At present in the beta phase, the acceleration of the 3D functions lies with OpenGL.

Arcad comes with a large library of textures and different elements such as doors, windows, plants and the like. Additional libraries (in the DXF format) can be included through several paths. HPGL, HPGL2 and Postscript are supported as print formats and thanks to Ghostscript, almost any printer can be used.

One of the standout features of Arcad is its intelligent user interface. The pull-down menus are freely moveable and can be faded in and out with a simple tap of the tab key. Each command can be transferred to an icon list and special commands such as zooming, moving or tilting are possible during processing using a combination of mouse and keyboard keys.

## Clearer interface

As is typical in Linux programs, all three mouse buttons are utilised. Left-clicking on an object calls up the command with which the object was created and thereby takes on all the object's current parameters; clicking the middle mouse button leads to a menu from which the parameters can be changed; and a right mouse click ends the selected operation, as is usual in many CAD programs.

The user can also choose between different forms for the cursor. This is just a plaything for desktop applications but for CAD applications it becomes very useful. For example, objects can be aligned more easily with a cross-hair cursor than with an orthogonal. The "Snap" property of the cursor can also be defined. It can for example be selected to automatically snap to corner points, edges or the like.

For most users, Arcad will be quite easy to learn. This also applies to those without much CAD experience but with previous knowledge in architecture and the building industry. The program includes an extensive manual, which exists however only as a Postscript file – a printed version is not published at present. A less extensive HTML version is likewise included, which,

linked to the standard browser of the system, serves as context sensitive online help. However, the constant appearance of the Netscape window quickly becomes too much to take, so this feature is only really worthwhile in exceptional cases.

## Cutting through bureaucracy

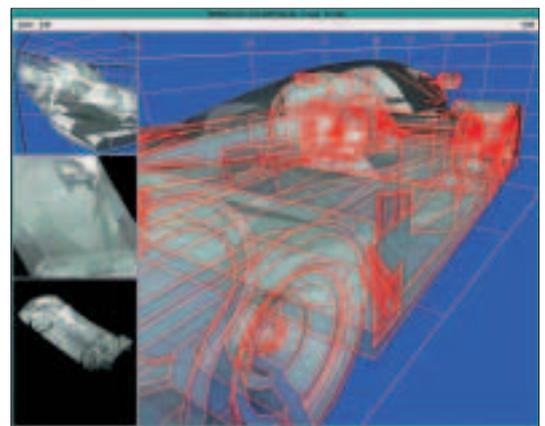
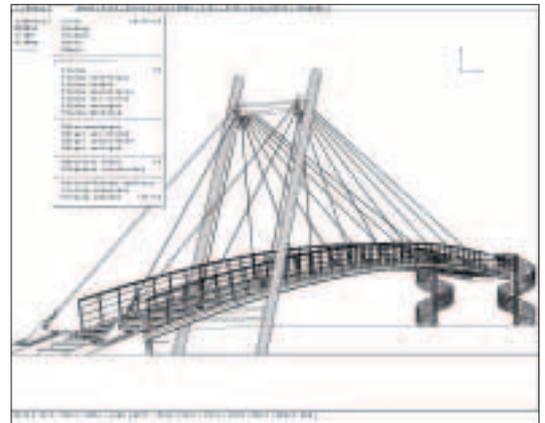
The most important activities next to design in architecture/planning offices are the organisation of the tendering process, and the assignment and invoicing of jobs (AVA). There are numerous independent programs, as well as modules for CAD software, designed for this purpose. However you don't need to resort to any of these if you have Arcad.

The earlier versions of the program already included an integrated AVA, and this has been greatly extended in the present beta version. It is now possible to bill according to the architect's fee regulations, to calculate according to the area in square meters, or to administer tenders and jobs. An address administration and a text processor have even been integrated. The architect need now use no other platform other than fast and reliable Linux.

## Summary

Arcad under Linux offers the opportunity for architects, who work alone or for smaller offices, to switch completely to Linux. This is presuming that you prefer the classical design style with non-parameterised models. The license costs are at the lower end of the scale and the campus license makes a trial both an attractive and affordable proposition.

The manufacturer co-operates and works very well together with the users. Those who like to, can take an active part in the development. The largest risk might be that Arcad is the product of a very small company. If this should find itself in difficulties, a migration to alternative Linux applications would be inevitable. Perhaps then it would become Open Source.



## Info

Arcad:  
<http://www.arcad.delgb/home.htm>