CycloMedia ImageViewer

(CMIV)

Digital maps

Because of the ongoing automation of labor processes, an increasing need arises for digital data for management and maintenance tasks in these renewed work surroundings. Especially the government, but also some branches of trade and industry are performing many tasks, which are directly related to our geographic environment. Many services and companies therefore move over to the production of 'intelligent' digital maps, usually meant for the use in Geographic Information Systems. A map however is a schematic presentation of reality. In case such a map is supplemented with digital pictures one has the 'in-house' disposal of a full-fledged record of the complete environment.
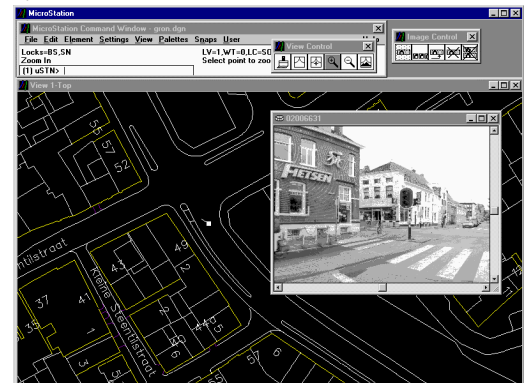
Cycloramas

Frank Data adapts to these requirements by manufacturing on request digital panoramic images of your environment. For this purpose, a car is equipped with a photographic platform on which a camera with a fisheye lens is mounted. With a rotating scanner, each fisheye picture is processed to a digital panoramic image with a horizontal field of view of 360° and a vertical field of view from 30° below up to 60° above the horizon. The complete environment caught in one panoramic image is called a Cyclorama. Moreover, for every image the position and orientation is recorded, so every image can be linked to the proper location in a digital map.

CycloMedia ImageViewer

CycloMedia ImageViewer is applied to view Cycloramas, if required in combination with your digital maps or aerial photos.

It is a Windows software component, which means that every Windows application can be extended with the possibilities CycloMedia ImageViewer offers.

The illustration below is an example of a GIS application, supplemented with CycloMedia Image-Viewer. Besides a digital map and a Cyclorama the image location and the actual viewing direction are indicated. Now it is possible to change the viewing direction using the scroll bars of CMIV and thus view the full 360° environment on your computer monitor. The actual viewing direction is visualized by means of a direction line.

Example of CMIV in connection with MicroStation

CMIV has built-in zooming and manipulating functionalities, so you can point and zoom in on any part of a Cyclorama (see overleaf).

Usage possibilities

CMIV and Cycloramas are used in integration with Geographic Information Systems as used by various companies and (government) authorities. Some examples:

- Town planning and development corporations (development of plans, control of building permits, appeals).
- Surveying (clarification and verification of maps).
- Local rates services (valuation of real estate tax, settlement appeals).

- Supervision of public space (construction, maintenance, advice).
- Municipal record office, conservation (historic image records, advice).
- Aid services (police, fire brigade, calamities).
- Housing corporations, estate agents (support with sale and letting out).

Cyclorama with popup menu

Cycloramas in an 'Optitheque'

CMIV can also be used within networks. An interesting example is the 'Optitheque' in Rotterdam (The Netherlands). Here 90.000 Cycloramas are stored in a central database. Via an internal municipal network, the Cycloramas are distributed to over 125 workstations. The Cycloramas are also offered to third parties via ISDN-connections.

CMIV and extra functionalities

Frank Data puts CycloMedia ImageViewer free of charge to the disposal of everyone that buys Cycloramas or wants to develop software applications, which make use of CMIV.

CycloMedia ImageViewer can be extended with extra functionalities against a low additional price. By installing this additional software, more possibilities can be obtained to use and manipulate Cycloramas (see relevant leaflets).

Technical data

- CycloMedia ImageViewer operates under the Windows operating systems 3.11, 95 and NT.
- CycloMedia ImageViewer uses a special file format in which, besides the image data itself, also information about the image is stored (like

Zoom-in result

coordinates of the recording position and the observation direction of the image). Moreover, the images are stored in a segmented way. Thus, it is possible to read the image data directly from the file when the image is reproduced on screen, without losing performance. With this technique only a small part of the system memory is used (only 16 KB per Cyclorama).
- CMIV does not require an advanced system (386 PC, 4 MB).
- Regularly the CMIV Cycloramas are 3 MB. They can also be compressed (for example to 300 KB). Also higher resolutions (up to 88 MB) are possible.
- By installing so-called plug-ins, CMIV can be extended with extra functionalities (see relevant leaflets).

Advantages CMIV

- The ease of desktop viewing of the environment, independent of travel times and weather conditions.
- Local or central storage of digital panoramic images is possible.
- Unlimited integration with GIS and multi-media techniques.
- By tailored software, high performance is combined with limited system requirements.