CycloMedia

Extra functionality CMIV: Projecting and Positioning

CycloMedia ImageViewer (CMIV) can be extended with extra functionalities. By installing additional software, more possibilities within CMIV can be obtained to use and manipulate Cycloramas. In this leaflet, the extra functionalities 'Projecting and positioning' are reviewed.

Projecting

With this functionality, it is possible to easily project digital graphical files into Cycloramas.

The only action to be taken is to drag the file and drop it over an opened image. The file in question will be instantly pictured in the Cyclorama.

With the aid of CMIV, the entire 360° image can now be observed together with the projected file.

Positioning

A digital graphical file can only be pictured properly in a Cyclorama if the coordinates of the Cyclorama in question are known in the same coordinate system as in which the file to be projected is defined. The recording position of a Cyclorama has an average accuracy of 1 to 2 meters. This 'inaccuracy' can be made visible for instance by projecting a large-scale map or a 3D digital terrain model (see first picture).

With the 'Positioning' functionality, the position of the Cyclorama in question is adapted to the projected digital graphical file.

For this purpose, one has to select three spots of the projected file and indicate the spots of the Cyclorama with which these must correspond. Afterwards new coordinates for the shooting position are calculated and the file in question is projected again. This process can be repeated iteratively if required until the user is satisfied with the result.

Usage possibilities

Cycloramas record the entire 360º environment in a digital photographic shape and thus form an excellent starting position to visualize 'other data' that

Cyclorama with shifted DTM

have a relationship with the photographed reality. In practice, we can divide the 'other data' into:

- (Possible) future changes of the photographed reality. Think for instance about projecting the design of a house to be built or a road, bridge, railroad to be constructed, etc.
- Graphical presentation of collected data of the photographed reality. For instance to project a large scale map.

Projecting designs into Cycloramas is very suitable during the design phase. The designer is directly confronted with the position of the design in reality. At the same time, the projected designs deliver presentable sketches of future changes for all parties interested.

The incorporation of collected data of photographed reality often gives a valuable 'data combination'. When a 2D topographical map is mirrored into a

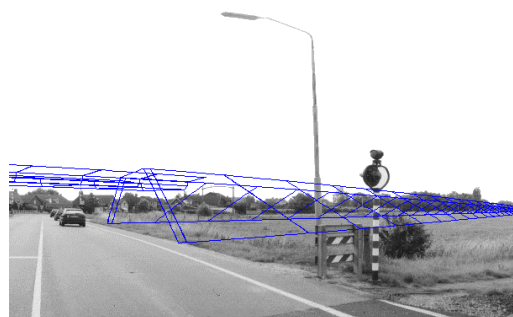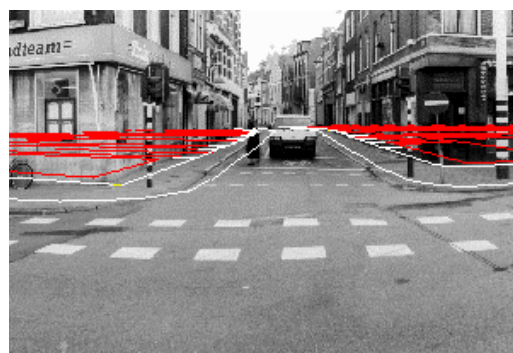
Cyclorama with well-positioned DTM

Cyclorama, eventual differences (like non-mapped houses, wells, trees or kerbs) are immediately discerned. The combination therefore offers the possibility to verify maps from a computer monitor.

When a 2D utility map is projected into a well-positioned Cyclorama, it will be visible to everyone where the various cables and pipes are exactly positioned below street level.
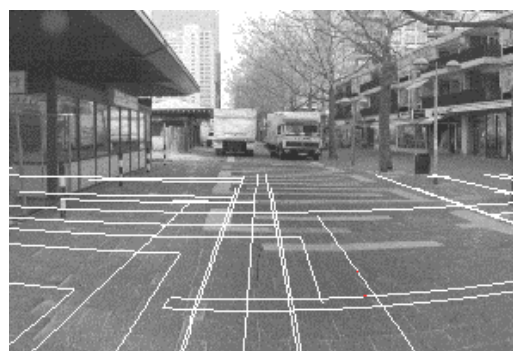
Technical data

- CMIV and the extra functionality 'Projecting and Positioning' work under Windows operating systems 3.11, 95 and NT.
- The addition of extra functionalities to CMIV is performed by means of the installation of so-called plug-ins.
- The 2D and 3D files to be projected have to be available in the DXF-format and may exclusively consist of linestrings and 3D-faces.

Example of projected wire frame

Example of projected 2D topographical map

Example of projected utility map