Ultramundum: virtual on-line worlds

Development of multidimensional digital environments
accessible via Internet even through low-speed connections.

Fulvio Dominici
Ultramundum Foundation
firstfounder@ultramundum.org

Ultramundum is based upon a revolutionary and newly patented technology involving the storing and representation of three-dimensional environment data.

Some examples of Ultramundum application fields are: videogames, 3D interactive documentary, synthesis movies and TV movies, 3D interactive TV (ultravision) and, in general, all those cases where allowing full 3D exploration by any users is the main goal.

Compared to the known standard techniques, the substantial difference is represented by the memorization of data as concepts, not as collections of digital infos.

Ultramundum actually suggests to develop a huge 'construction box' where any 'little brick' required to make the scene can be found.

In this way only the list of serial numbers of scene elements is stored. By this system, the overall data dimension of a 3D environment is strongly reduced, making Internet real time transmission possible.

Elementary little bricks can be either single elements or very complex aggregates. Whole buildings can be taken and used (as the Mole Antonelliana or Palazzo Madama), parts of them (as porticos, arches, portals) or single elements (as friezes, capitals, simple bricks). Every brick is 'intelligent', that is it can fit any particular application. Not being a mere collection of fixed data but a proper program, a portico can, for instance, enlarge or stretch itself to suit the desired scene.

Being the environment a series of references to the basic collection elements, it can improve automatically in time. In fact, if an author decides to use the Mole Antonelliana in a specifical point, he stores the element serial number and not its actual data. If the Mole 'brick' is improved, all channels related to it are automatically improved, without any further author's work.