movimento italiano modellazione e simulazione

4° Convegno Tecnico Scientifico
Torino 25, 26, 27 Ottobre 2004

Interactive Digital Model of the Turin province

Virtual reconstruction of the italian province of Turin

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Ultramundum Foundation, while spreading its UltraPeg tecnology for the on-line fruition of virtual worlds, has produced, with the sponsorship of Turin Province, the virtual model of the entire province, called P.I.D (Interactive Digital Diorama).

It is not a map, but a true software diorama, with an high level of detail, of the entire territory. This tool will be the basis for many applications, for technical entites, citizens and organizations. The technology used is very similar to the open source one at the roots of Linux and will allow anybody the access to these contents.
The components used, called Tabulae, are publicly available and may be reused for may different products.

Using tha P.I.D. tools, Province can visualize any project in 3D and show it via Internet to other public organizations or to citizens.

The P.I:D. platform will be enhanced in time with new multimedia content, creating a sort of ‘3D enciclopaedia” of the territory.

The model allows for free interactive and three-dimensional exploration of the Turin province on a standard personal computer. The user can position at whatever altitude and move on the entire area at different speeds.

This area is so large and complex that it would be impossible to explore it on a standard personal computer. A dynamic data loading and algorithmic model generation technique has been developed. All data, derived from Province’s official digital maps, have been reprocessed to became suitable for real-time exploration. Different layers with decreasing resolution have been wrapped in Tabulae and are shown at any user distance from the ground.

Soils cathegorization allowed the Foundation to use its automatic detail generation systems. Forests, soil and other ground elements are generated by algorithm-based automatic distributions.

Buildings are visualized in a schematicl way, but the Foundation is already working on the second part of the project, developing procedural building models, generated by standard tabulae publicly available.
A procedural building model generator has been presented and is already available on the web site of the Foundation. This demo implements the technology current under development. At the end of the second phase of the project, all buildings of the entire Turin province will be shown in real-time with 'on-the-fly' generation, based on the official cartography.

MAIN POINTS:

1. New patented software technology, completely developed in Turin.
2. No-profit Foundation for the diffusion of this new standard.
3. First Province ever to develop a tool of this type.
4. Exploration is possible at any level of detail.
5. Available on the Internet,
6. Distributable also on CD-Rom
7. Standard palatform, everybody can now access the cdigital cartography.
8. Any project may be visualized via Internet at low cost..