movimento italiano modellazione e simulazione

5th Technical-Scientific Symposium
Torino November 3rd, 4th, 5th 2005

Digital Interactive Diorama of the city of Turin

A complete three-dimensional model of the city of Turin and its surrounding towns, accessible via Internet and used by Turin city Council for the olympic promotion

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Ultramundum Foundation, while spreading its UltraPeg technology for the on-line fruition of virtual worlds, has produced, with the sponsorship of Turin city Council, the virtual model (P.I.D) of the cities of Turin, Grugliasco, Collegno, Rivoli, Pianezza, Nichelino, Settimo and Caselle.

The model allows for the free interactive and three-dimensional exploration of all the area on a standard personal computer. The PID is completely open source and its Tabulae (the basic elements of the technology) are freely accessible and modifiable by everybody.

Turin its the first large city to have a complete public three-dimensional model explorable in real time.

Until today, only portions of cities or small towns have been modelled with technologies like the one used, due to the prohibitively huge amount of data to process to generate a three-dimensional model of an area with hundreds of thousands of buildings, like the one of Turin and its surroundings.

The Turin city PID allows for exploration on a standard personal computer with a modern video card. Esoteric hardware is not necessary.

Thanks to the patented UltraPeg technology, the Turin PID offers an interactive fly on all the city and allows for a descent to ground level in any street to walk among the buildings. Getting altitude the speed increases accordingly to allow for an exploration experience easy and really natural.

Every city building is present, with a prism precisely defining the ground perimeter and height. In this way the volume is perfectly modelled.

In this first step, precise models with high realism of some important city monument have been inserted. In the second phase, now in process, each building will be modelled in every detail.

The Turin city Council traffic department has inserted olympic venues to allow for their visualization, inside the entire city. Suggested paths from outside toward this venues are represented too.
In this way the PID will be used for the first time in the city promotion before and during the winter olympic event.

The product will be available for download from the Turin city Council official web site.

Many other uses are possible and will be presented, with applications in the fields of projects making and planning, of tourism, of study and promotion of the city image.

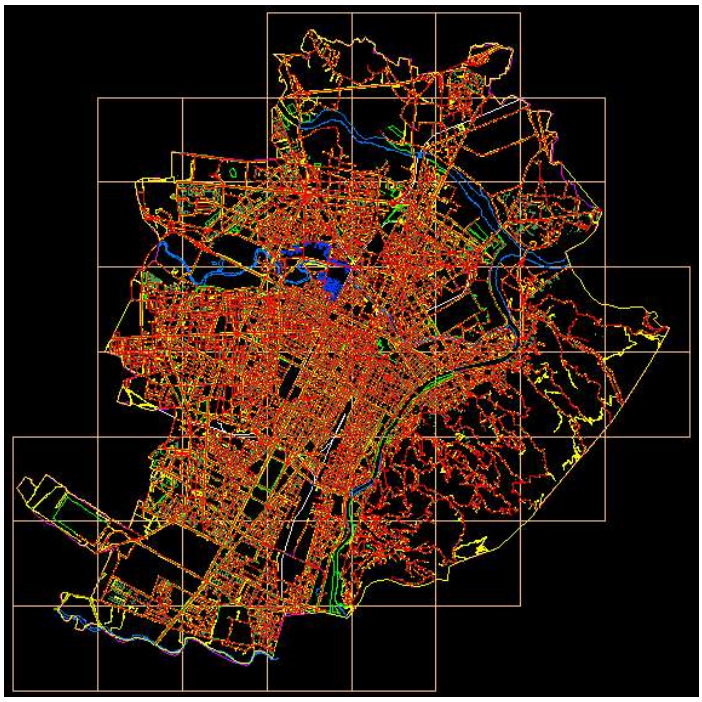
The PID is not a closed software, but a platform that can be used in many different fields and can be expanded and modified at will.

All the software is open and accessible and/or modifiable by everybody. All data will be published into the Foundation software archive with complete documentation.

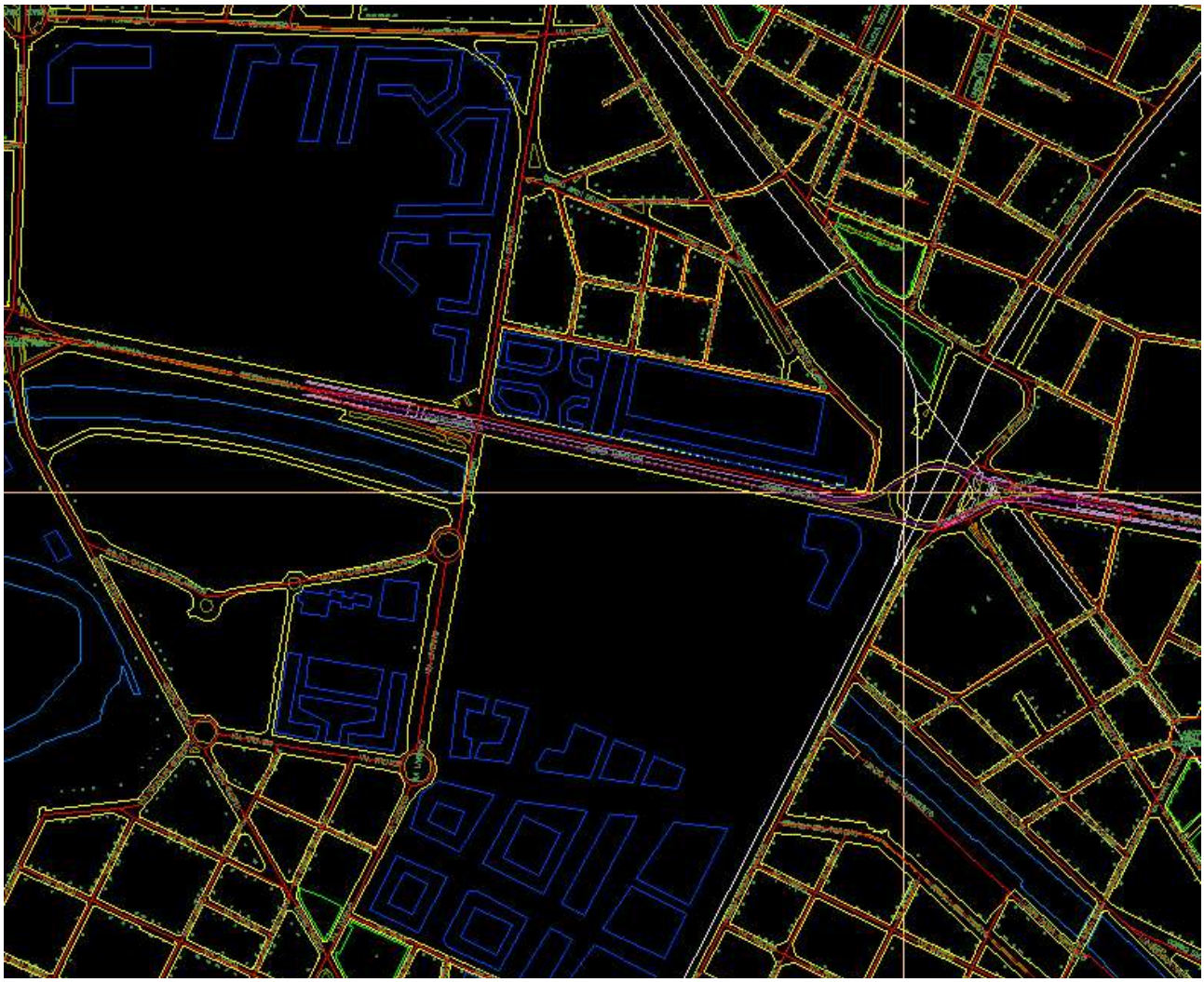
Any Tabula, the data structure at the root of Ultramundum Foundation's UltraPeg technology, can hold multiple data types. For the Turin city PID informations on buildings positions, root maps, olympic areas placements and specific schematics have been imported from Autocad files and other databases.

The Autocad file importer, called UltraTools, allows for fast and almost automatic acquisition of public databases, converted in a very short time to three-dimensional elements. All these data can then be explored in real-time.

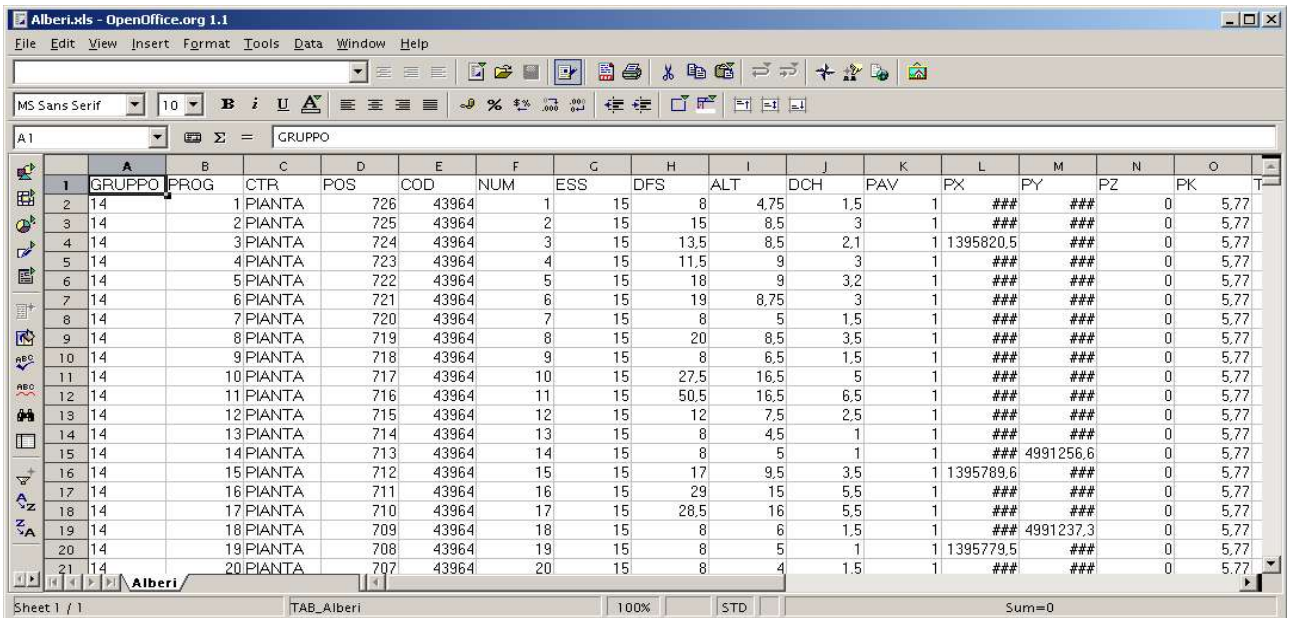
The digital cartography of the city has been processed...



...minor adjustments have been made...



...it has been combined with specific databases...



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1	GRUPPO	PROG	CTR	POS	COD	NUM	ESS	DFS	ALT	DCH	PAV	PX	PY	PZ	PK
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Alberi

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...to produce the three-dimensional model that can be explored in real-time on a standard PC:

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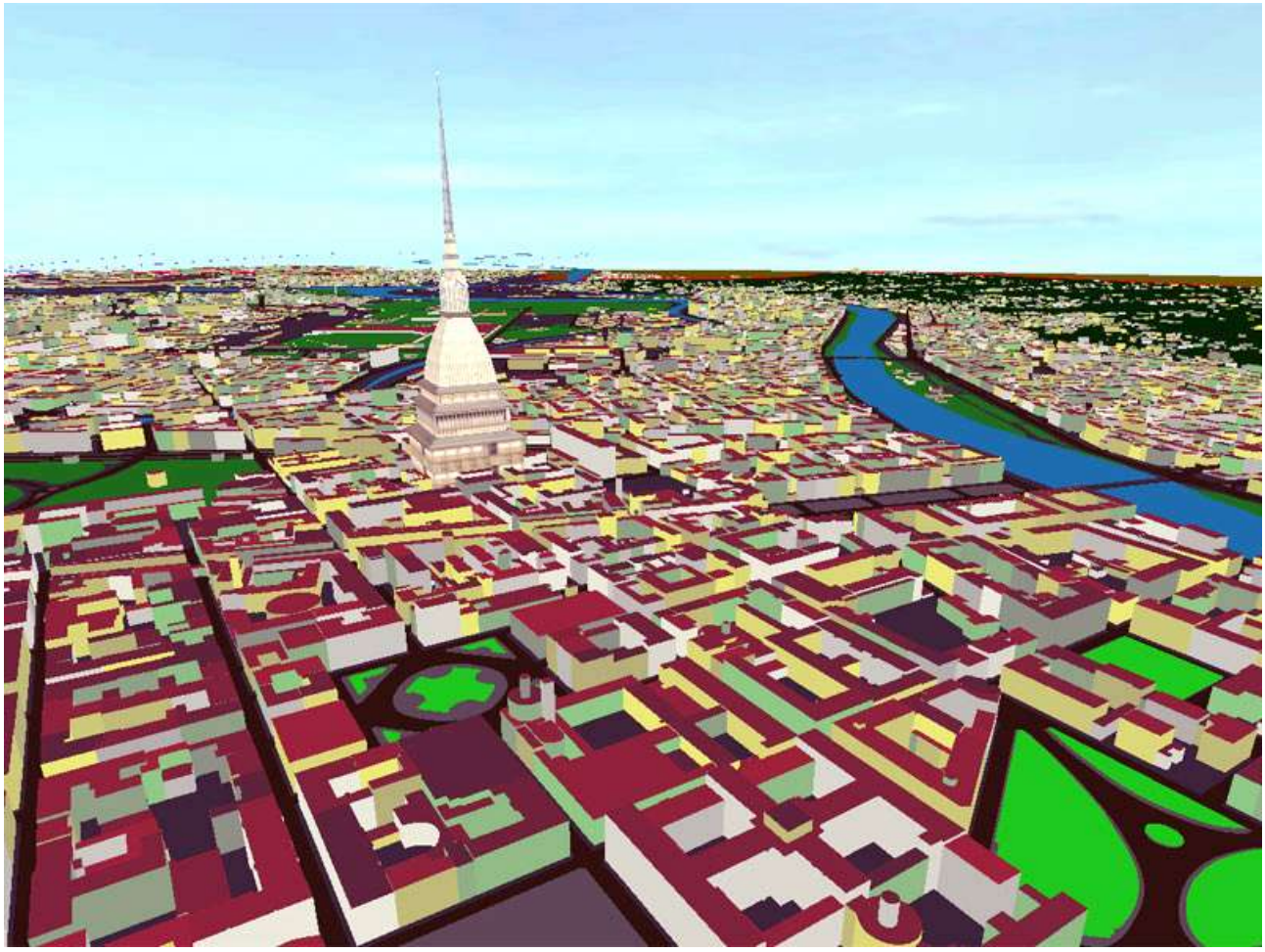

In same areas the quality level can be very high: