3D geoinfo07

Call for Papers

2nd International Workshop on 3D Geo-Information:
Requirements, Acquisition, Modelling, Analysis, Visualisation

12-14 December 2007, Delft, the Netherlands
www.3D-GeoInfo-07.nl

The Workshop aims at bringing together international state-of-the-art research in the field of 3D geo-information. It offers an interdisciplinary forum to researchers in the closely related fields of:
- Data collection and modelling: advanced approaches for 3D data collection, reconstruction and methods for representation.
-Data management: topological, geometrical and network models for maintenance of 3D geo-information.
-Data analysis and visualisation: frameworks for representing 3D spatial relationships, 3D spatial analysis and algorithms for navigation, interpolation, etc. Advanced Virtual Reality and Augmented Reality visualisation.
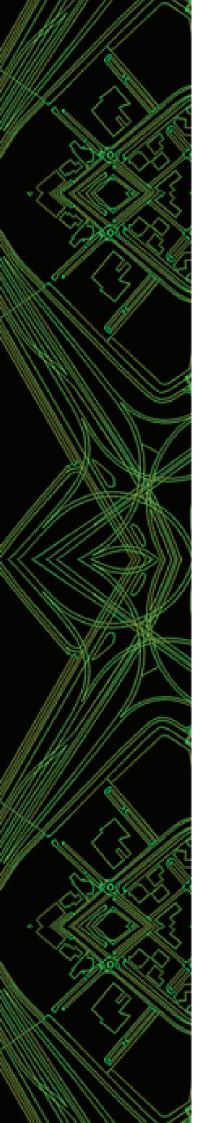
The Workshop is intended as an interactive platform for both presentations on cutting-edge research and discussions on open problems. The workshop will consist of a mixture of single-track presentations and discussion (PD) sessions and parallel working group (WG) sessions on specific themes (Requirements, Acquisition, Modelling, Analysis, Visualisation), according to the following format: current problems to be solved, potential solutions, and recommendations by WG (discussion under coordination of a chair and final presentation of the results at the closing plenary session). The presentations will be selected based on their quality by the scientific program committee (peer review of full papers). The setting of this innovative event will be the ancient city of Delft.

Conference topics

Contributions are invited on all topics within the field of 3D geo-information, including
- 3D geo information requirements (based on analysis of applications)
- 3D data collection
- 3D object reconstruction
- 3D terrain modelling
- 3D data models (vector, voxel, constructive solid geometry, tetrahedrons, curved surfaces, etc.)
- 3D GIS
- 3D in spatial database management systems
- 3D topology
- 3D visualisation, Augmented and Virtual Reality
- 3D spatial analysis
- 3D simulation
- 3D and time
- 3D and levels of detail (scale/resolution)
- 3D and mobile applications

Submissions in other related areas will also be considered, especially in 3D applications (e.g. 3D cadastre, 3D utilities, 3D city and urban planning models, 3D marine cadastre) that lead to fundamental new insights. New insights on indoor/outdoor modelling and above surface/surface/subsurface modelling, as well as land and marine applications are explicitly part of the scope of the workshop.

Background

Due to the rapid developments in sensor techniques more and more 3D data becomes available. Effective algorithms for (semi) automatic object reconstruction are required. Integration of existing 2D objects with height data is a non-trivial process and needs further research. The resulting 3D models can be maintained in several types of 3D models: TEN (Tetrahedral Network), Constructive Solid Geometry (CSG) models, Regular Polytopes, TIN Boundary representation and 3D volume quad edge structure, layered/topology models, voxel based models, 3D models used in urban planning/polyhedrons, and n-dimensional models including time. 3D analysis and 3D simulation techniques explore and extend the possibilities in spatial applications beyond visualisation.

The workshop will be a good opportunity for the exchange of ideas on 3D requirements and comparison of the different techniques in 3D acquisition, modelling and simulation.

Submissions

Potential contributors are invited to submit full papers (max. 6000 word manuscript) describing original and unpublished fundamental scientific research. All submissions must be sent electronically via the online submission system (available from March 1, 2007). Full-paper submissions will be thoroughly reviewed by three members of the international programme committee. High-quality submissions will be accepted for presentation at the Workshop and published in the new Springer Lecture Notes Series on Geo-Information. Papers must be written in English according to the Springer formatting guidelines. The templates (preferably the Latex template) can be downloaded from http://www.springer.com/geosciences under 'For Authors'. The templates will also be made available at the Workshop website (http://www.3D-GeoInfo-07.nl). Deadline for submission of full papers: April 22, 2007.

Important deadlines

Electronic submission system online	March 1st 2007
Deadline for receipt of full papers	April 22th 2007
Notification of full-paper acceptance	June 15th 2007
Deadline for modified full-papers	September 15th 2007
Workshop	December 12th –14th 2007

Supporting organisations

The workshop is the second in a series on 3D geoinformation. The previous events did take place in Kuala Lumpur, Malaysia, at 7-8 August 2006 (www.fksg.utm.my/3dgeoinfo2006).

The workshop is also supported by the AGS research centre and two on-going Space for Geo-information projects, all related to 3D geo-information, within the Netherlands:
• Centre for Advanced Gaming and Simulation (AGS): One of the main research themes involves modelling the world. This includes all that is required to create and visualize realistic models of the world. The challenges are to create digital models of real-world objects, both natural objects and man-made objects. Typical techniques to be investigated are data integration, reverse engineering, and automatic scene generation from geographic information systems.
(website http://www.gameresearch.nl/research.html).
• Project RGI-013 'Virtual reality for urban planning and security': Presenting geo-information in 3D virtual reality enhances to raise the accessibility of government plans and improves the insight in the spatial environment. This project develops methods for the efficient data collection of 3D geo-information using terrestrial surveys of a laser scanner and a panoramic optical camera (translated from http://www.rgi.nl).
• Project RGI-011 '3D topography': There is an increasing need for real 3D topography due to a broad range of applications. Four prototypical applications are analysed with regard to the user wishes and the resulting 3D model requirements. On this basis, a new 3D topographical product model is further developed together with new methods and techniques and for data collection, storage and analysis (translated from http://www.gdmc.nl/3dtopo).

Organisation

Programme chair	Peter van Oosterom, Delft University of Technology
Local organising committee	Peter van Oosterom, Sisi Zlatanova, Friso Penninga, Elfriede Fendel, Eveline Vogels – Delft University of Technology, George Vosselman – ITC Enschede, Marc van Kreveld - Utrecht University

Programme committee

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Rod	Thompson	Queensland Government (Australia)
George	Vosselman	ITC Enschede (the Netherlands)
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Peter	Woodsford	1Spatial / Snowflake (United Kingdom)
Alexander	Zipf	University of Applied Sciences FH Mainz (Germany)
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Contact

For further information see the website http://www.3D-GeoInfo-07.nl or send an e-mail to 3Dgeoinfo07@tudelft.nl.