Report of ISPRS Joint Workshop on “Pervasive Web Mapping, Geoprocessing and Services”

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The 1st International Workshop on Pervasive Web Mapping, Geoprocessing and Services was successfully held on Politecnico di Milano campus in Como, Italy from August 26 to 27, 2010. The workshop was organized by ISPRS WG IV/5 on “Distributed, Web-based Geoinformation Services and Applications” and Politecnico di Milano, and co-organized by ISPRS WG IV/1 on “Geospatial Data Infrastructure”, WG IV/4 on “Virtual Globes and Context-Aware Visualization”, and ICWG IV/II on “Geo-Sensor Networking and GEOGRID”. The main theme of the workshop focused on Sensor Web Enablement and Geoprocessing Services. However, papers covering many aspects of Pervasive Web Mapping, Geoprocessing and Services were encouraged and presented, especially on the following topics:

- Sensor web enablement
- Open source solutions and open standards/specifications
- Geospatial web architecture and system design
- Geospatial web semantics and ontology
- Adoption of new and advanced web technologies
- 2D/3D visual effects, digital globe and geovisualization on the Internet
- Neogeography and map mashups
- Intelligent web mapping/GIS services
- Geoprocessing services
- Web-based virtual and collaborative geospatial environments
- Web-based SDSS and PPGIS
- Mobile and ubiquitous geospatial services and applications

The two-day workshop was very much focused, organized in a single track technical session. There were 73 abstracts submitted in total and among them 30 were accepted for oral presentation and 20 were accepted for poster presentation. 42 full papers were submitted and included in the workshop.
The technical sessions covered a range of topics in relation to sensor web, web processing services, workflows, web visualization, collaborative GIS, mobile mapping, etc. Some of the particular topics and issues addressed in the technical sessions included:

- **Sensor web**: integrating OGC standards and developing interfaces for sensor observation services, developing interface descriptors for fire/cloud/wind sensing, sensor web frameworks, utilizing citizens as rich sensor data sources.
- **Web processing services (WPS)**: revenue models for services in the cloud, open source server side platforms, data integration workflows, security and scalability for geoprocessing in a cloud, chaining of web services, agent-based models in web services, ontologies.
Workflows: developing tools and workflows for models and data integration in a geoprocessing services environment, man/machine interfaces.

Web visualization: developing 3D geospatial web services, frameworks, and architectures for 3D models, DTMs, visibility and visual impact analysis, temporal analysis.

Collaborative GIS: Addressing ranges of users and involving them in participatory processes, public participation, traffic sensors and monitoring, smart environments for identifying user behavior and context awareness.

The following figure gives a general overview of the topics and issues addressed in the workshop. Details of the paper presentations can be found at http://webmgs2010.como.polimi.it/programme.php.

Closing Session: Summary and discussion

Extensible & scalable web services
Enabling users
Frameworks & workflows
Integration & harmonisation

Semantics
Metadata
Catalogs
Visualisation

Cloud computing
Web sensors
Web services
... 

Analysis & modelling
Participatory GIS / VGIS
Aggregation/collation
Semantics/ontologies
Broadening range of users
...

Metadata
Semantics
Data integration
Transformation
...

OGC
Cooperation
Open Source

Discovery
Accessibility
Useability
Interoperability

The local organizing committee organized a welcome cocktail reception at Palazzo Natta (right in the center of Como old town) on Aug 25, 2010, a social dinner on Aug 26, and a guided city tour of Como on August 28, 2010. Maria Antonia Brovelli, Marco Negretti, Sara Lucca and Luana Valentini from
Politecnico di Milano as well as Giuseppina Vacca from Italian Society of Photogrammetry and Surveying are much appreciated for their hard work in making this event a success!

For further information on this workshop and future workshops in the series, please visit:


ISPRS WG IV/5 website: http://www.commission4.isprs.org/wg5/