UNIPD RESEARCH UNIT
Progress Report

Francesca FISSORE, Marco PIRAGNOLO, Francesco PIROTTI

PRIN PROJECT: URBAN GEOmatics for Bulk Information Generation, Data Assessment and Technology Awareness
UR UniPD - Team

- Targets for UNIPD
- Expected results for UNIPD
- Progress report
  - finished
  - close
  - work in progress
  - not started yet
- Next steps
1.1 Collect “traditional” urbanscape data (UNIPD)

2. Create an extended 3D data model from existing successful ones and validate it throughout the project by means of cross-checking with project partners’ data (UNIPD).

4. Deploy and share the collected geo data on the Web in compliance with OGC standard web services (CNR, POLITO: server side; POLIMI, UNIPD: client side). The visualisation will be through an ad hoc intelligent geoportal, allowing the 4D navigation as well as some processing of the data.
10. Software tools and procedures for urbanscape data representation and integration (UNIPD)

11. Extended 3D data model white sheet (UNIPD).

12. Extended 3D data model dedicated web page (UNIPD)

13. A distributed and acentric interoperable geo-spatial data infrastructure sharing on the Web the project’s multi source heterogeneous geo-data (CNR, POLITO: server side design; POLIMI, UNIPD: client side design; every RU: implementation).
14. An INSPIRE metadata record enriched with quality indicators for each GEO BIG DATA element managed by the SDI (CNR, UNIPD).

18. Implementation code for integration with the virtual globe webgis (UNIPD).
T1.1 Collect “traditional” urbanscape data

DBT - Topographic database for CityGML buildings

In this phase, shapefile → CityGML conversion and integration in 3D model is tested on small subsets of vector data: when working prototype is available, urbanscape data will be integrated with partner’s contributions.
### T1.1 Collect “traditional” urbanscape data

<table>
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<tr>
<th>Database toponografico</th>
<th>Città</th>
<th>Risorsa</th>
<th>Ultima revisione</th>
<th>Scala</th>
<th>Altezza edifici</th>
<th>Tipologia</th>
<th>NOTE</th>
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</table>

* SIT città metropolitana di Napoli rimanda al SIT della Regione Campania (legge solo mail posta elettronica certificata). Di seguito il messaggio: "Per quanto riguarda le unità volumetriche esse non sono disponibili nel data base topografico. Per quanto riguarda le modalità con cui acquisire il data base topografico del comune di Napoli il riferimento è il geom. Panebianco 081-7966936." Il geometra conferma che il database topografico è disponibile ma non le unità volumetriche. Il costo è di 20 euro a livello da richiedersi con PEC.

** Contattato il SIT città metropolitana di Roma senza risposta.
T1.1 Collect “traditional” urbanscape data
ETL - extract transform and load via Python script - Python + PyXB to interact with OCG schemas

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<th>Namespace</th>
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T1.1 Collect “traditional” urbanscape data
   ➤ ETL - extract transform and load via Python script - Python + PyXB
   ➤ What info to transform “traditional” data ⇒ CityGML?
      ➤ Coordinates 3D
      ➤ UID -
      ➤ Scale (expected accuracy of data)
      ➤ ....
T12. Create an extended 3D data model from existing successful ones ....

CITYGML - “The official OGC Standard for the Modelling and Exchange of Virtual 3D City and Landscape Models”

CityGML also has the concept of ADE (Application Domain Extension) to extend the schema with new classes and attributes which are not explicitly modelled in CityGML. The difference between ADEs and generics is that an ADE is defined in an extra XSD (XML Schema Definition) file with its own namespace.
UR UniPD - Ongoing Work

Seminar: a Gentle Introduction to CityGML

Posted on November 13, 2017 in Events, News, Presentations, Seminars

Seminar titled “A gentle introduction to CityGML as open standard for semantic 3D city modelling”

Held November 17th @ 14:00 in CIRGEO lab at the Agripolis Institute

Speaker: Dr. Giorgio Agugliaro, currently at the Austrian Institute of Technology

For more info contact Francesco Pirotti.

DOWNLOAD FLYER

View seminar videos:

PART 1 - Introduction to CityGML Semantic Modeling

PART 2 - UML and programming using the CityGML Model
T12. Create an extended 3D data model from existing successful ones. Success on test in PD (duomo)

LOD 0

LOD 1
T12. Create an extended 3D data model from existing successful ones ....

CITYGML - next steps
- define reachable LOD
- software for conversion
- interact with POLIMI for visualization
- metadata integration (accuracy, scale)
- Extension capabilities (ADE)
T4. Deploy and share the collected geo data on the Web in compliance with OGC standard web services - Webservices and or GML download
R1. Software tools and procedures for urbanscape data representation and integration

R18. Implementation code for integration with the virtual globe webgis CESIUM vs NASA WW
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THANK YOU

TIME FOR DISCUSSION