Frascati (Rome), ESA-ESRIN, 12-14 October 2015

POLITECNICO DI MILANO
GEOlab - COMO Campus

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NASA Web World Wind: welcome to the new era of virtual globes

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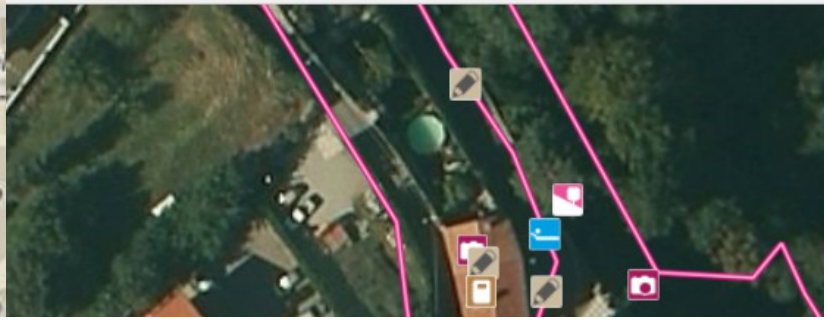
[(2)] NASA World Wind

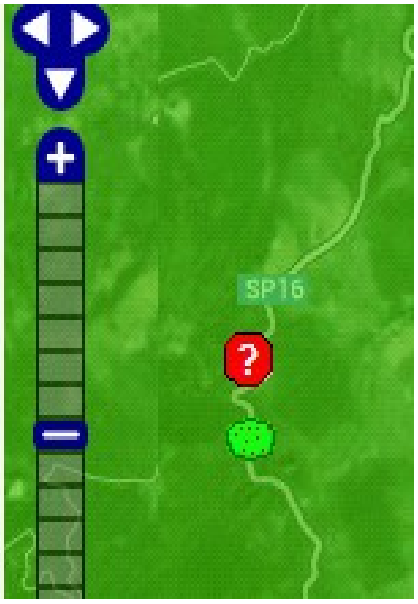
Participatory sensing applications

Bike Parking

Architectural barriers

Cultural elements

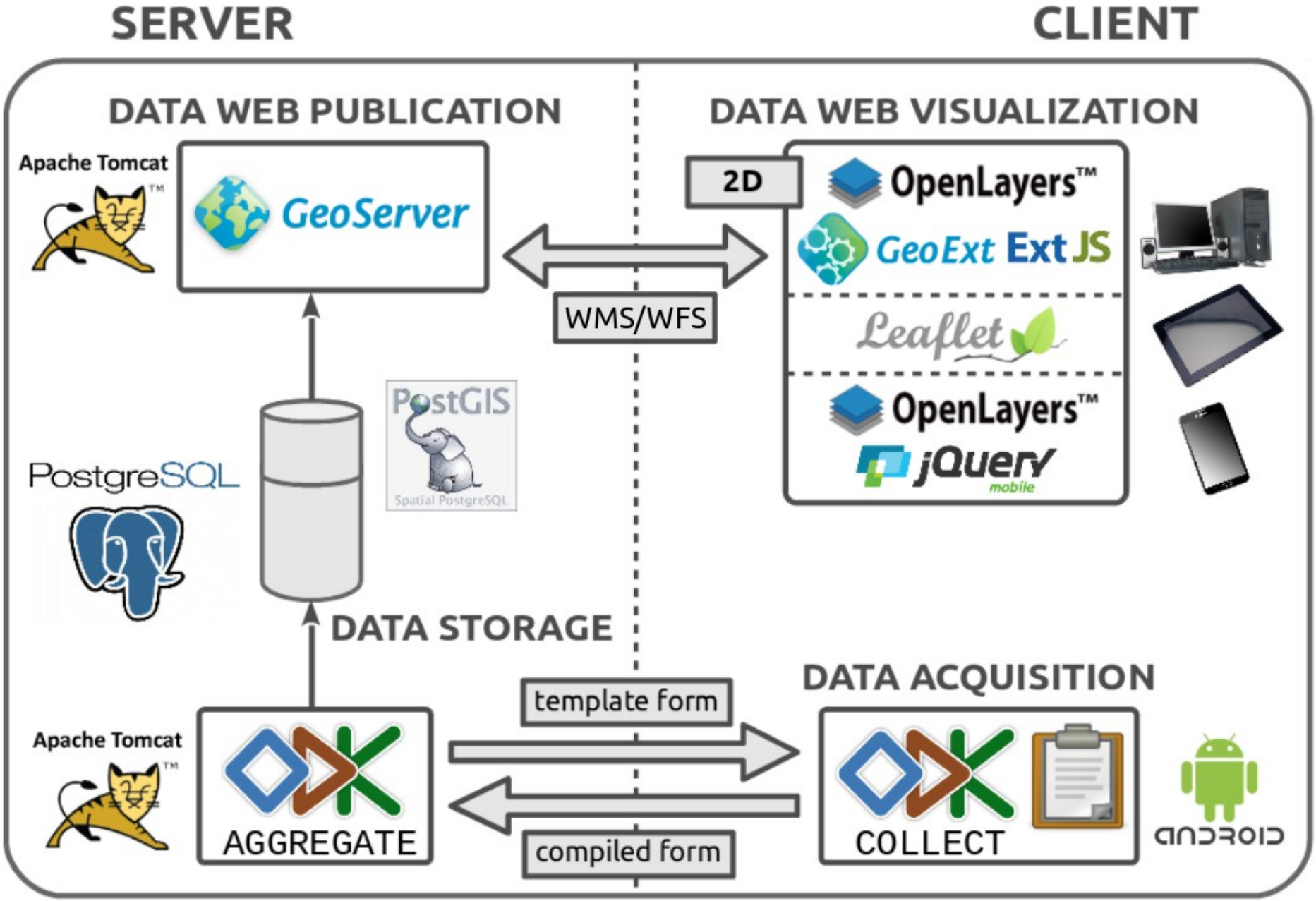


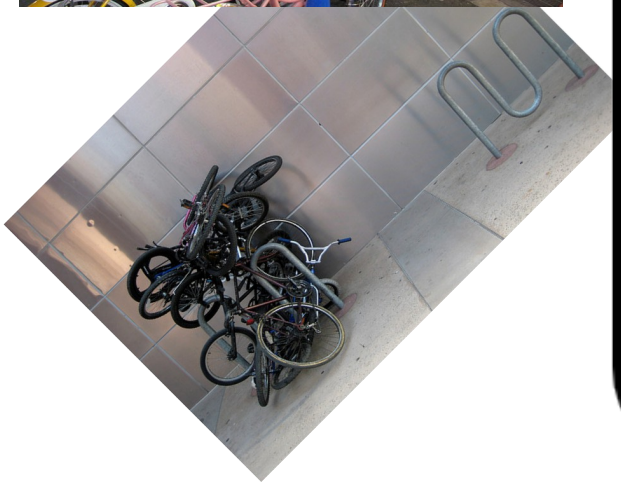


Street furniture

Biodiversity

Participatory sensing FOSS 2D architecture





http://geomobile.como.polimi.it/Osaka/

Participatory sensing: FOSS4G ND social platform

INSTRUCTIONS		
STEP	**WINDOWS**	**LINUX**
1) Install the Java Virtual Machine (JVM)	- Download and install from here	
2) Install the multimedia viewer	- Download and install from here	
3) Launch the Java Control Panel:	- Launch the Windows Start menu - Click on Programs - Find the Java program listing - Click on Configure Java	- Open the Terminal Window - Type: ControlPanel
4) Set the JVM security exception:	- Click on the Security tab - Click on the Edit Site List button - Click Add in the Exception Site List window - Add the IP: 131.175.143.48	
5) Start the application	- Click here or on the banner below	
6) Configure the multimedia viewer	- Select Preferences in the Options menu of the 3D Viewer - Check the VLC radiobutton, click the Browse button and select the following vlc executable file:	
	for 64bit version: C:\Program Files\VideoLAN\VLC\vlc.exe for 32bit version: C:\Program Files x86\VideoLAN\VLC\vlc.exe	/usr/bin/vlc

http://geomobile.como.polimi.it/policrowd2.0/

http://viaregina2.como.polimi.it/Osaka/

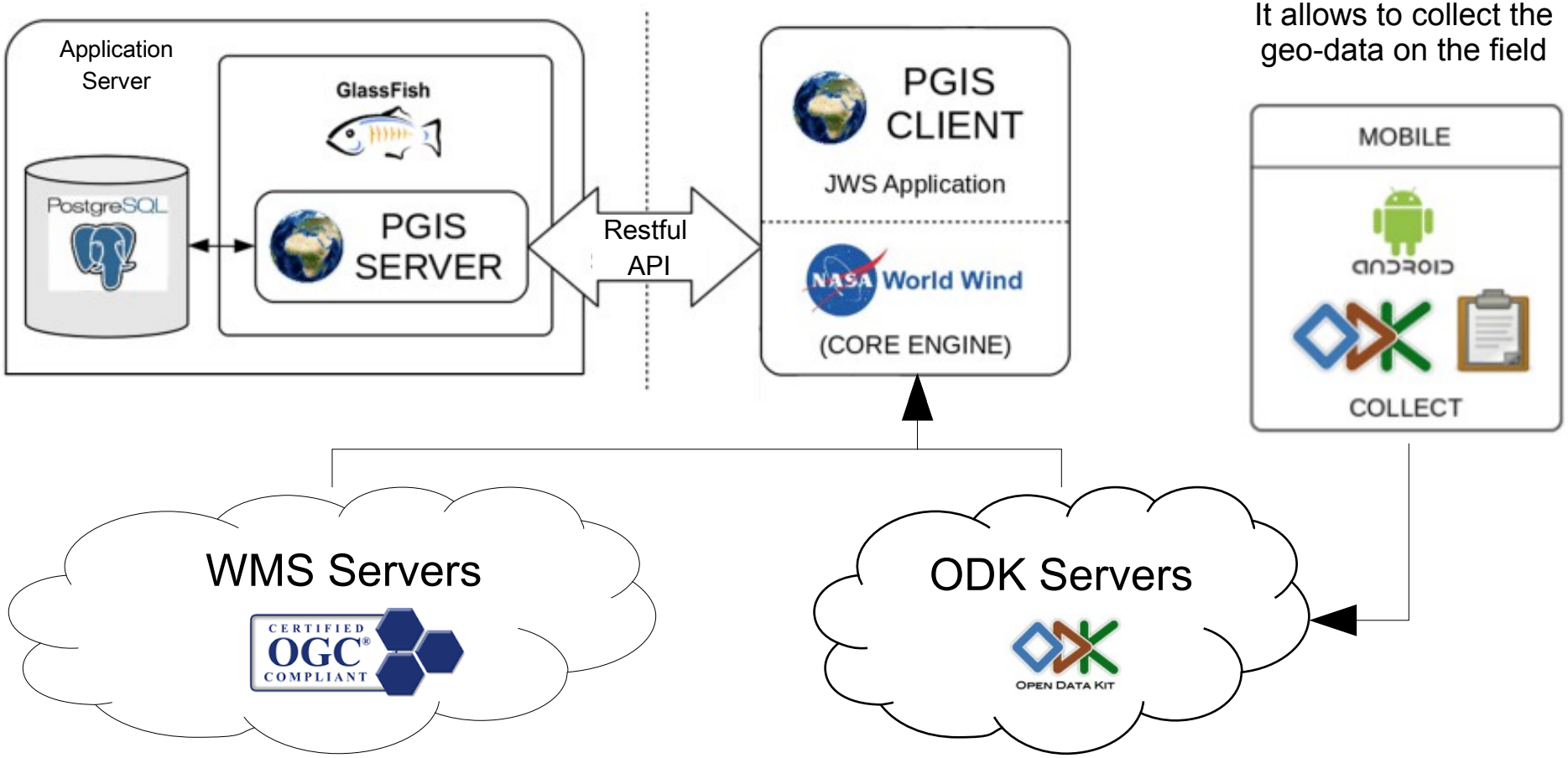
http://viaregina3.como.polimi.it/ViaRegina/instructions_3D_EN.html

PoliCrowd 2.0: Architecture

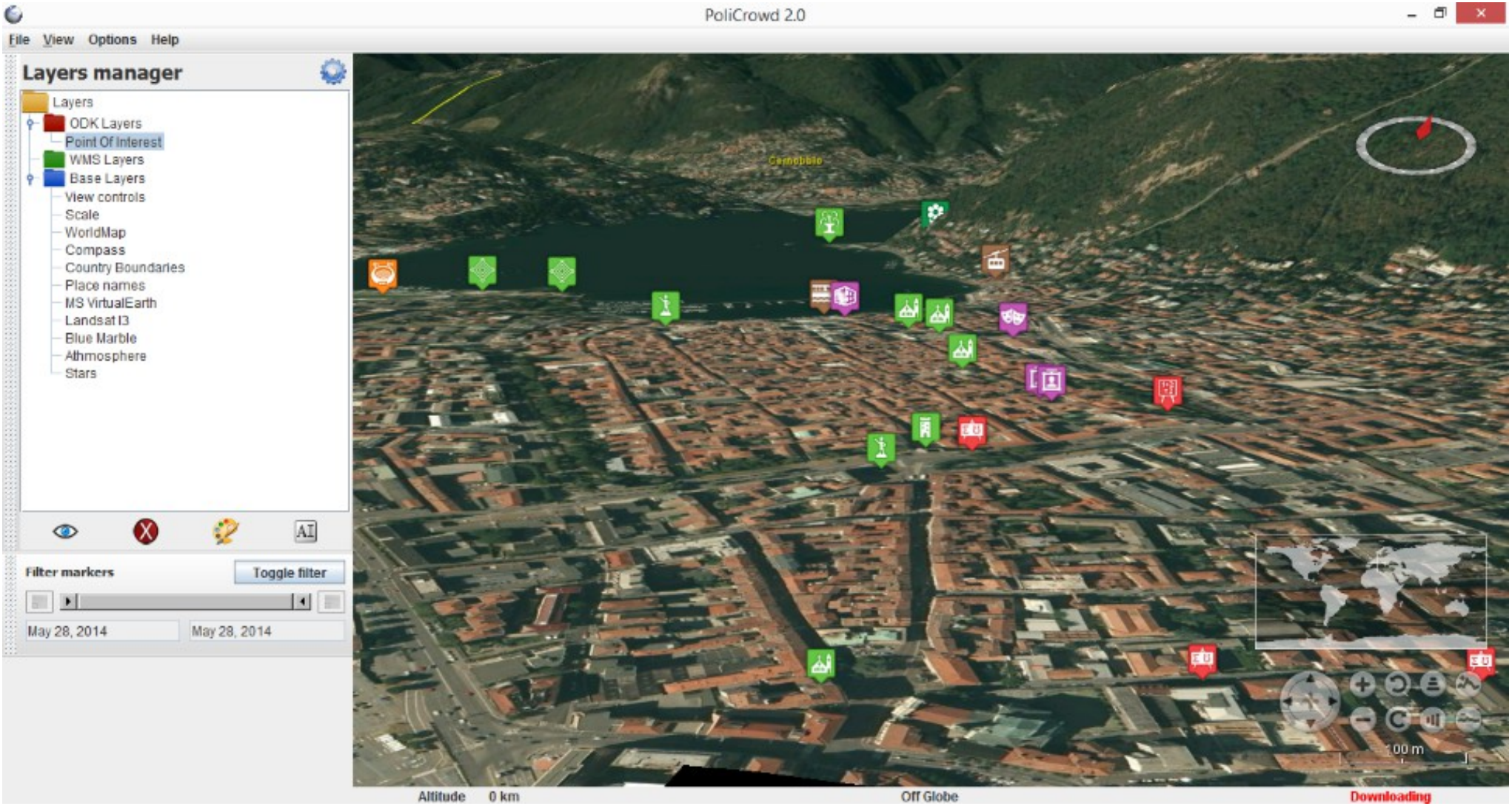
POLICROWD 2.0 SERVER
Management of: accounts (authentications, authorizations), projects, mutimedia contents

POLICROWD 2.0 CLIENT
It allows to interact with the data uploaded by the users

MOBILE CLIENT
It allows to collect the geo-data on the field

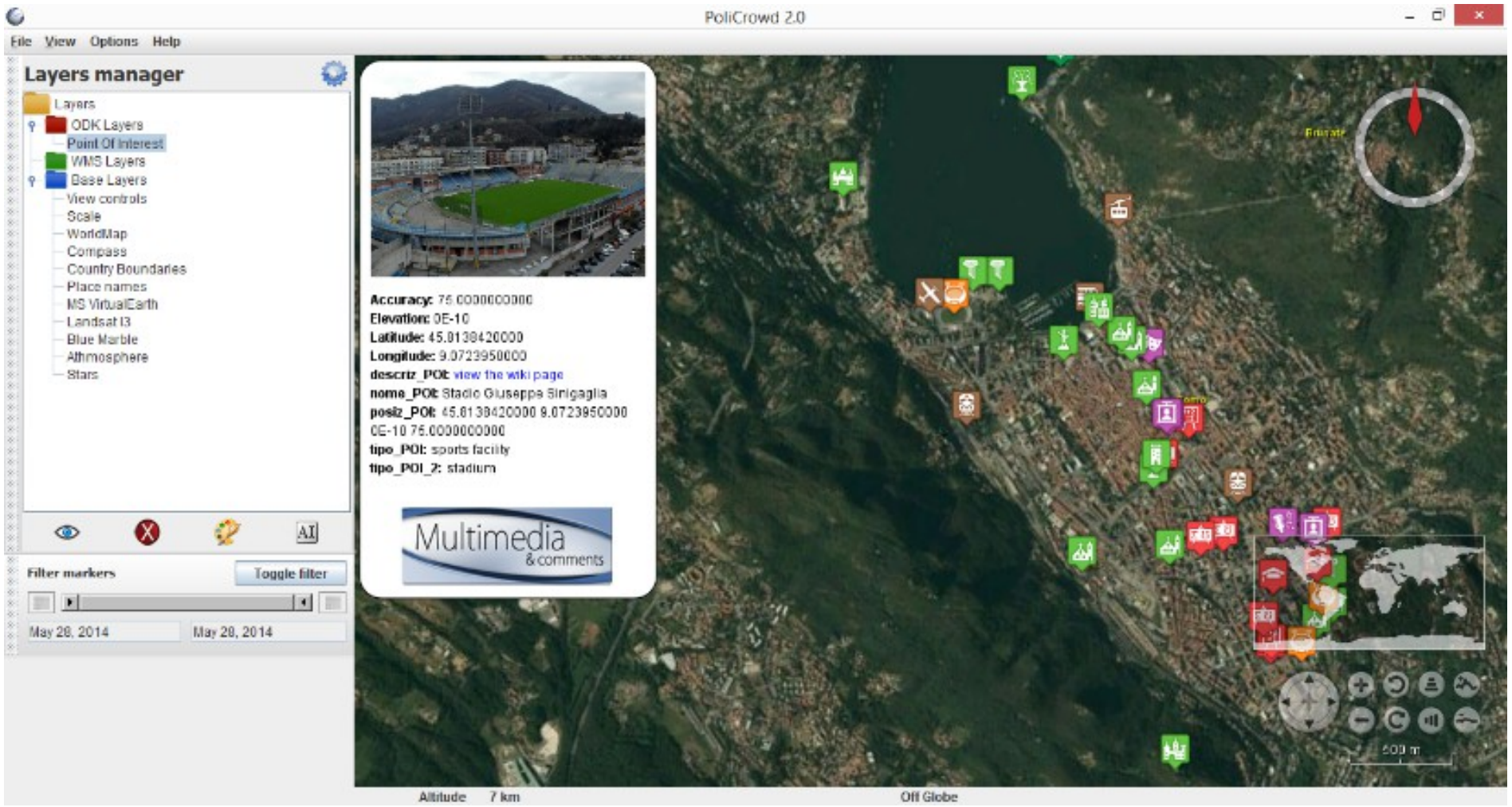


PoliCrowd 2.0: 3D data visualization



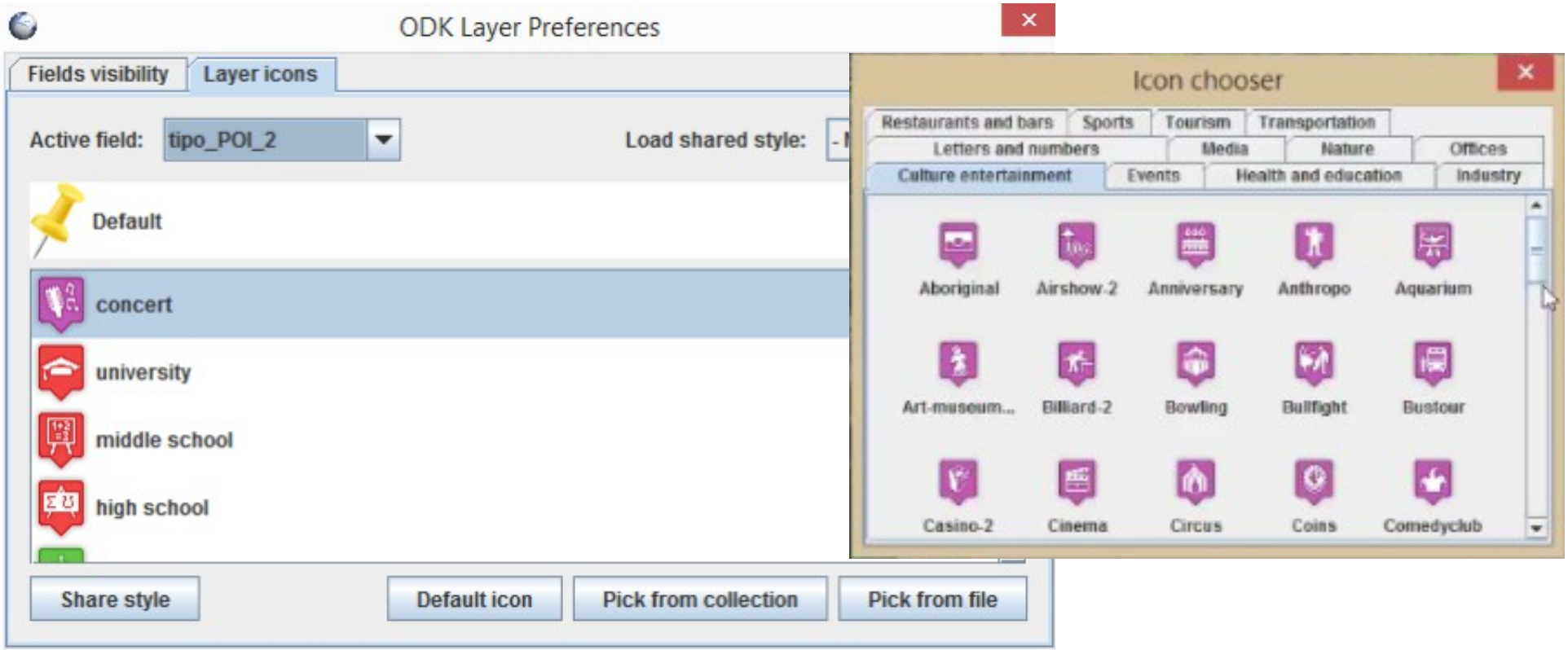
PoliCrowd 2.0: POIs information

- Clickable POIs placemarks
- Visualization of the ODK Collect-reported information (including picture)



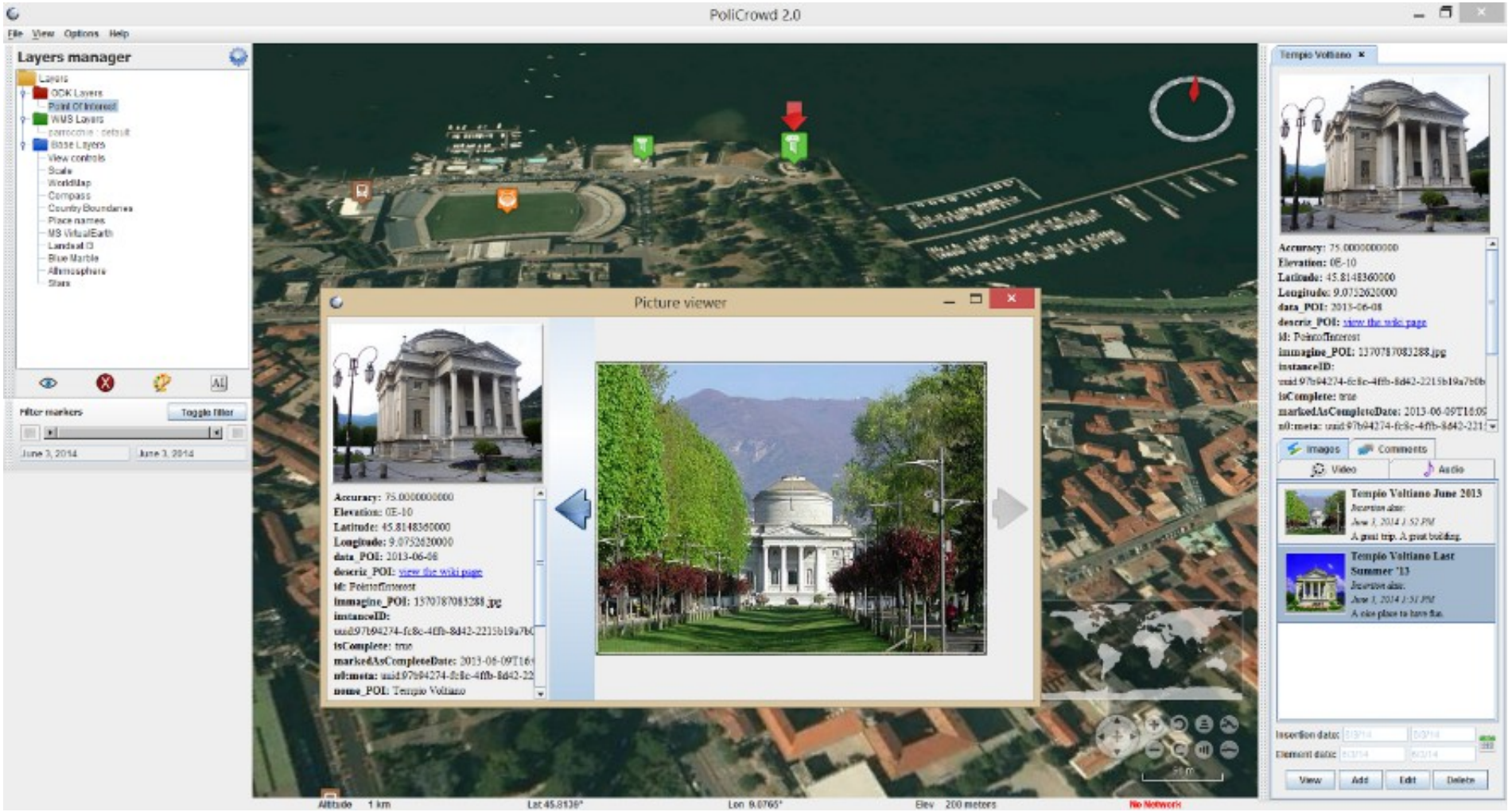
PoliCrowd 2.0: ODK Layer customization

- ODK layers are fully customizable, thanks to a suitable layer management interface
- Users select the fields they want to display for each layer of a given project, and personalize marker icons by picking them from a default collection or providing them manually
- Styles are also shareable, so that users can take advantage of the already available icons provided by other users in their own projects

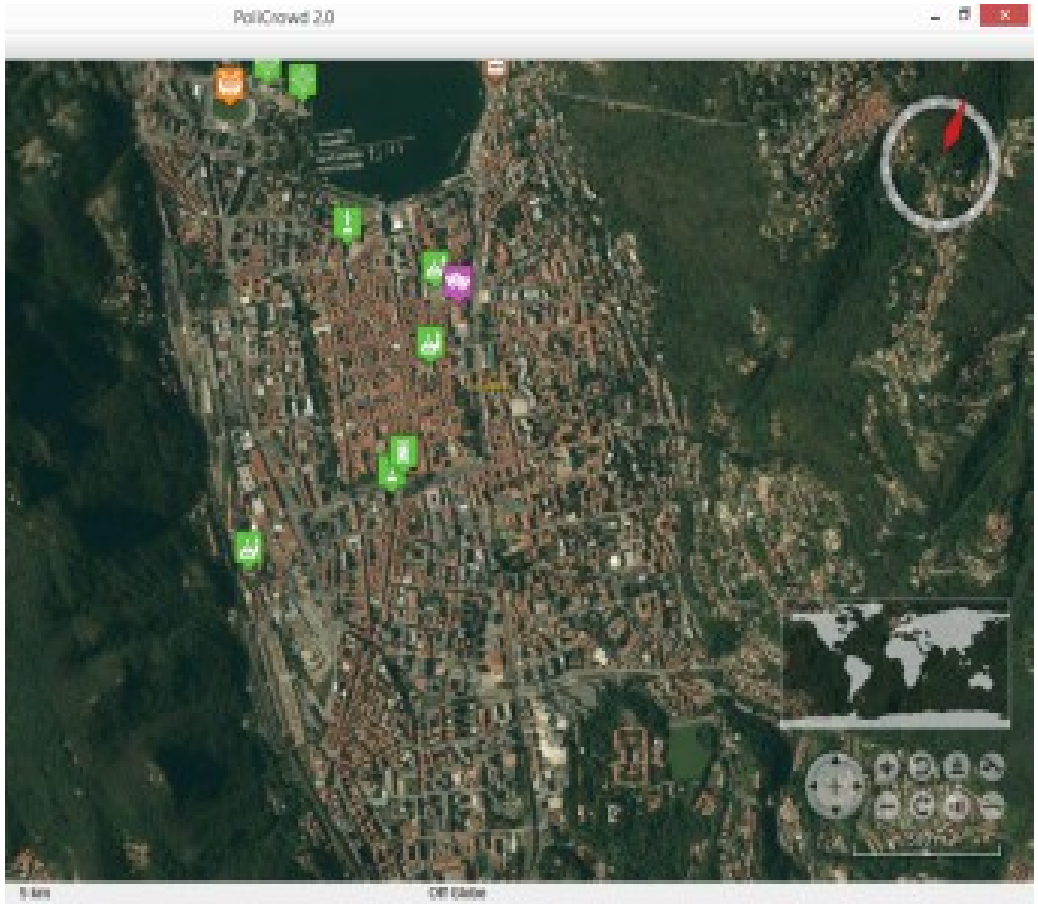


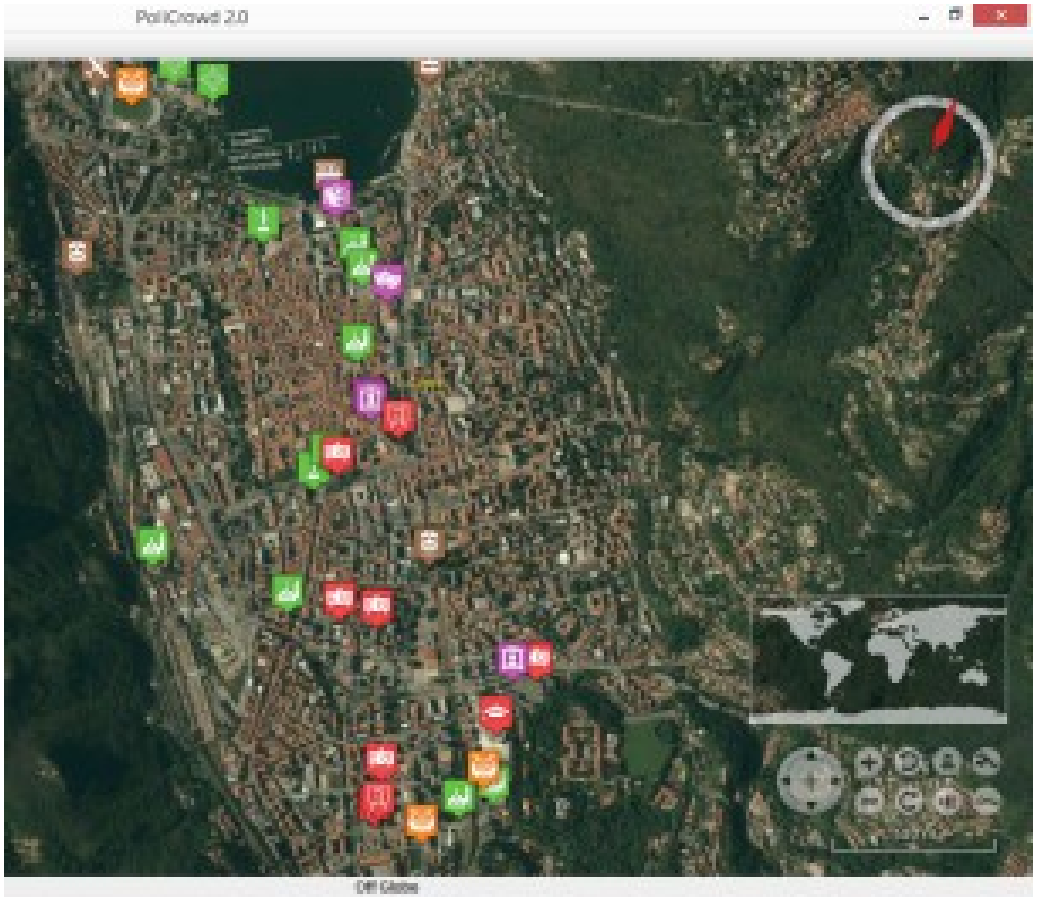
PoliCrowd 2.0: Collaborative POIs information

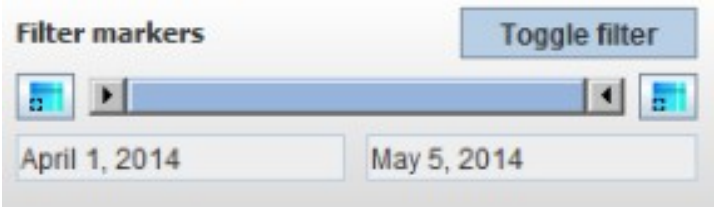
Every marker is open to collaborative contribution: everyone can add his POI-related textual (comments) and multimedia contents (images, audios and videos)



PoliCrowd 2.0: The 4th dimension (time)





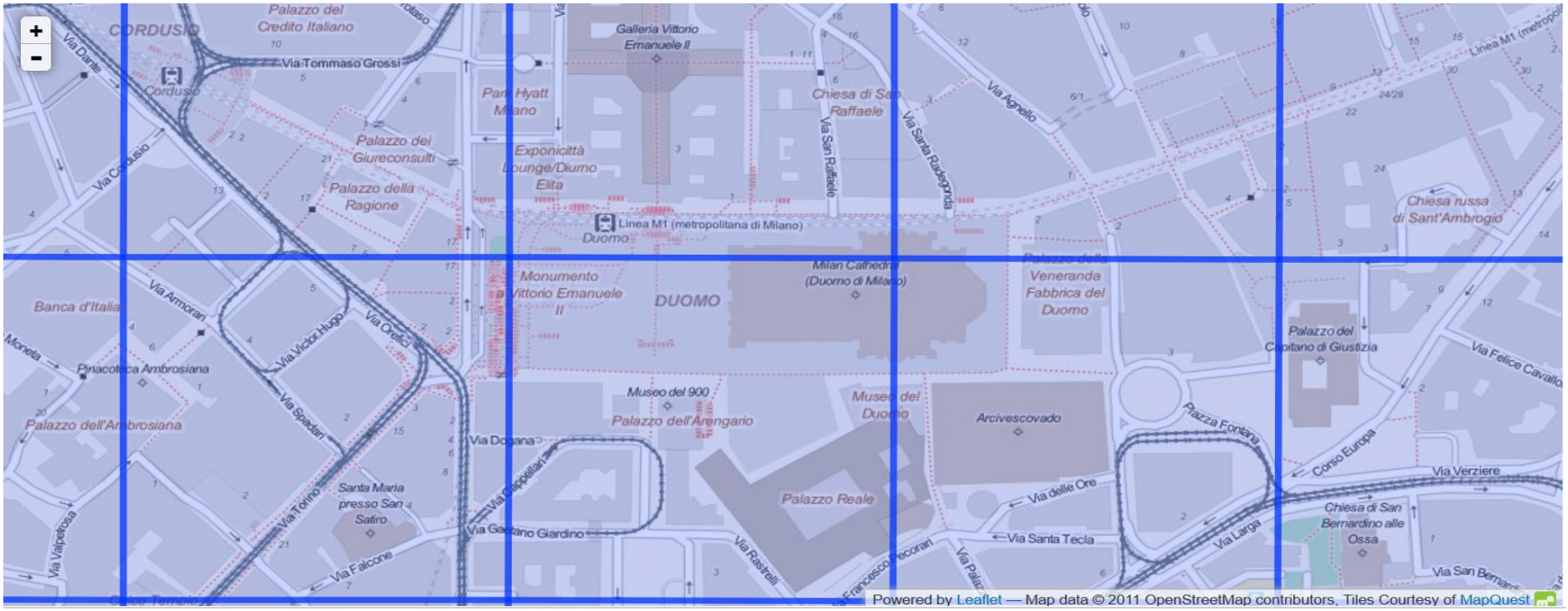


Geocrowdsourced data viewer

- Received SMS: a Call Detail Record (CDR) is generated each time a user receives an SMS
- Sent SMS: a CDR is generated each time a user sends an SMS
- Incoming Calls: a CDR is generated each time a user receives a call
- Outgoing Calls: CDR is generated each time a user issues a call
- Internet: a CDR is generate each time
  - a user starts an internet connection
  - a user ends an internet connection
  - during the same connection one of the following limits is reached:
    - 15 minutes from the last generated CDR
    - 5 MB from the last generated CDR
- Geolocalized Tweets (Anonymized twitter users)

Geo Big Data: Milano GRID

- Two months of data, with a temporal step of 10 minutes
- Grid of 100 x 100 cells with size = 235 m x 235 m



https://dandelion.eu/datamine/open-big-data/

SPAZIODATI NODE DI TRENTO FONDAZIONE BRUNO KESSLER TELECOM ITALIA

BigData to netCDF

Create netCDF file selecting dates and Output data

Choice one

Select start and end dates to create the netcdf.

Eventually you can select all the days inside start and end or single days in the week.

Start date

2013-11-08

End date

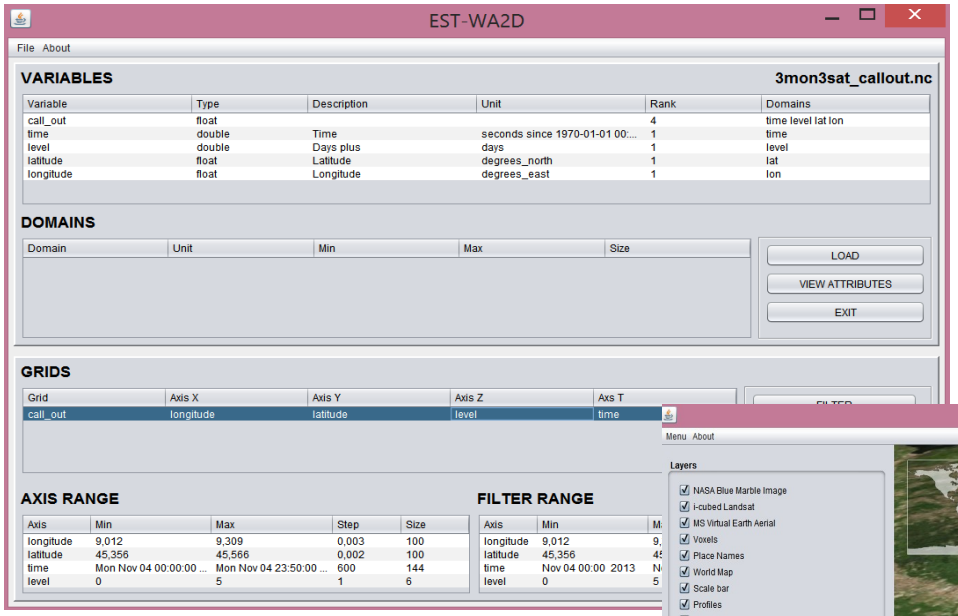
2013-11-10

Week day

Subsequent days

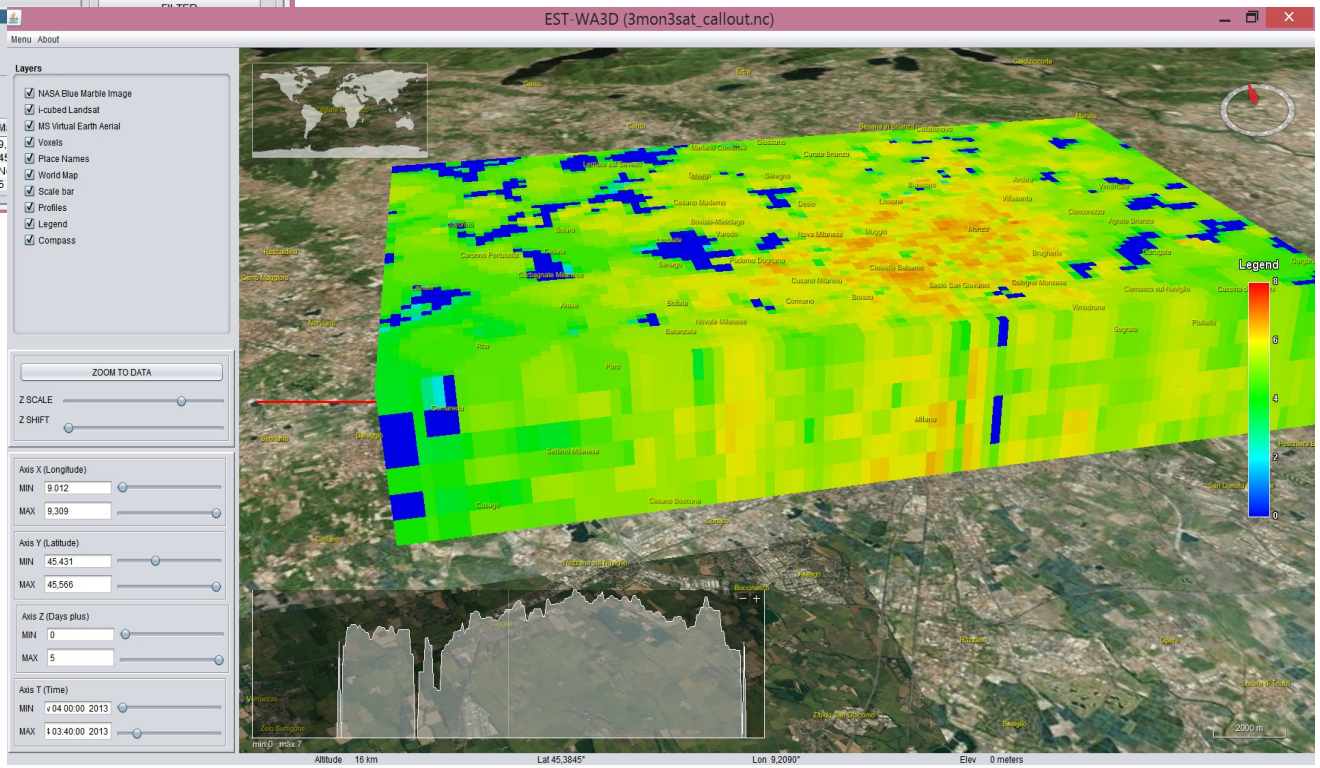
http://landcover.como.polimi.it/BigNetCDF/

Geo Big Data: Milano GRID



Interactive multidimensional web visualisation EST-WA

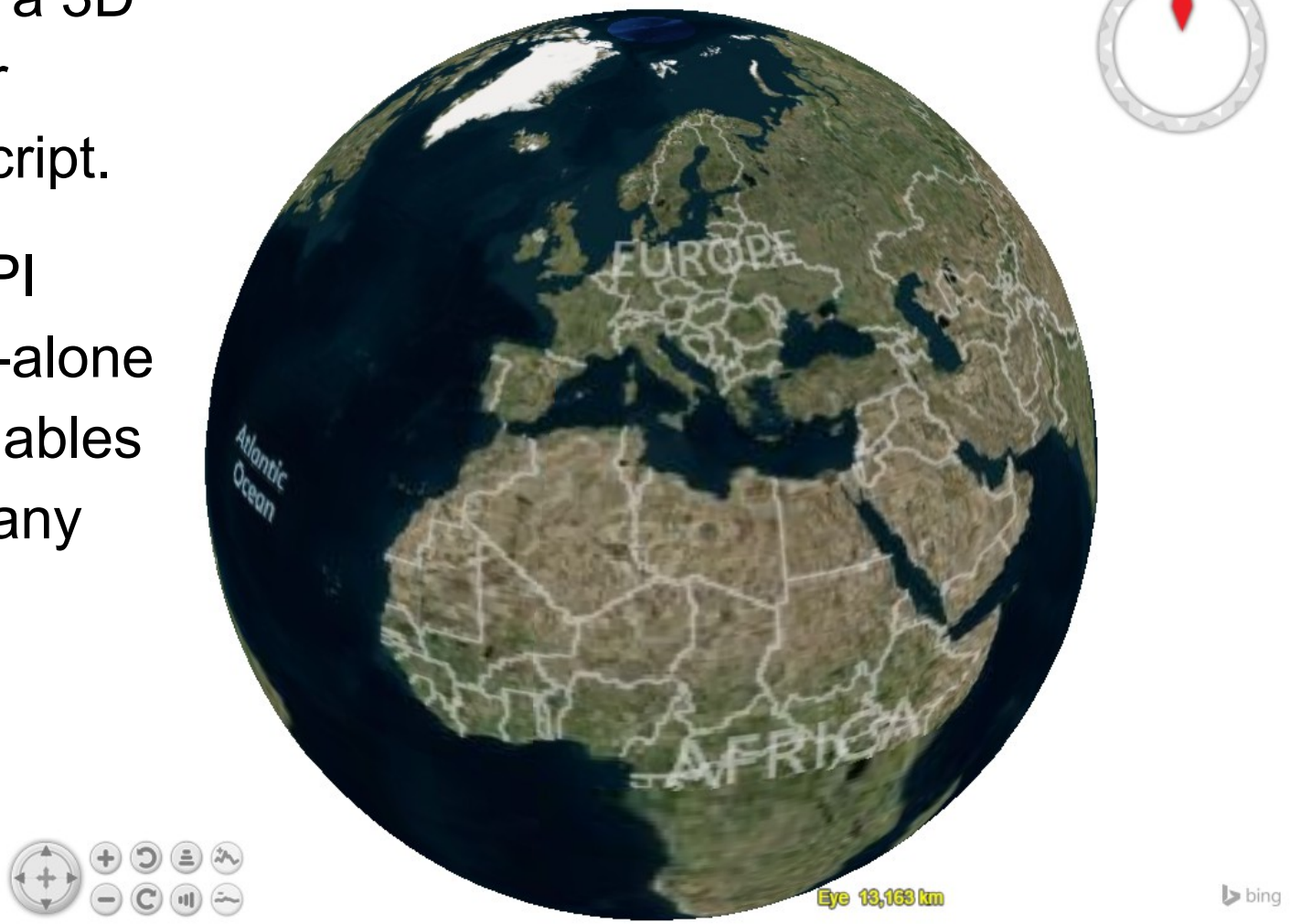
Filtering



What is Web World Wind?

Web World Wind is a 3D virtual globe API for HTML5 and JavaScript.

It is a library and API rather than a stand-alone application. This enables it to be included in any web page or web application as a component.



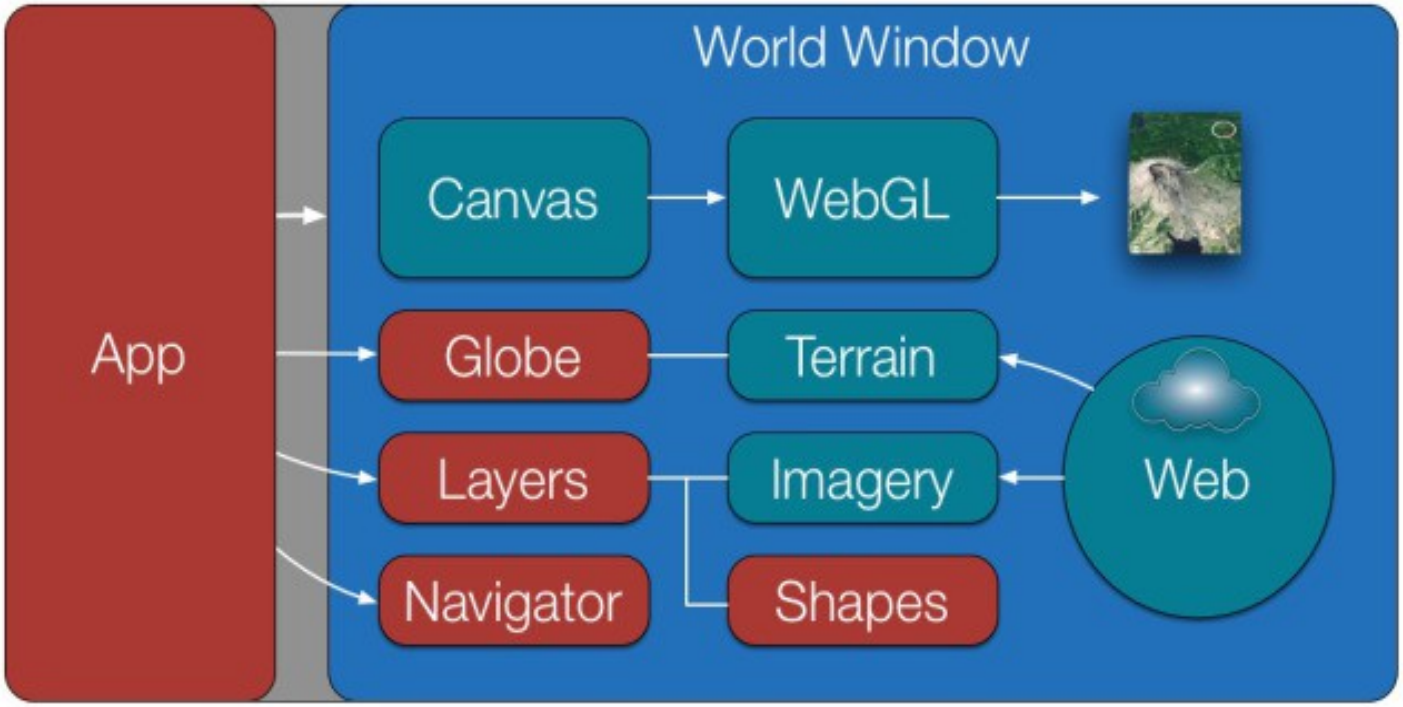
How does it work?

It has a WebGL internal core but provides a javascript interface to operate with it

WWW is open source and available to download on github:

- https://github.com/NASAWorldWind/WebWorldWind

where also is possible to try different examples.



red objects

=

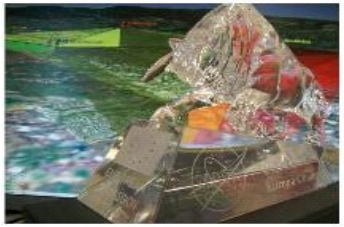
the parts accessible from the APIs

How does it work?

- High-resolution terrain and imagery, retrieved from remote servers
- Layers: they contain all the information displayed in the World Window. All imagery, shapes and decorations such as the compass are defined in layers.
- Supports REST, WMS and Bing
- Display multiple globes and maps on the same page

NASA World Wind Europa Challenge 2015: winners

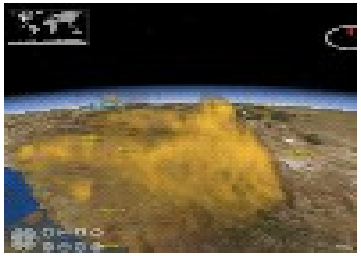
FOSS4G EUROPE COMO 2015



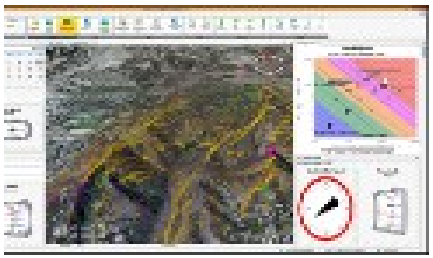
http://eurochallenge.como.polimi.it

Global earthquake forecast system
Trillium Learning & Kodiak Island Borough District

LiDAR data visualisation and analysis
University of Kansas

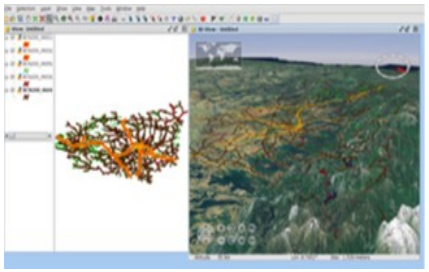


GeoSim cloud-based 5D visualisation
University of Denver



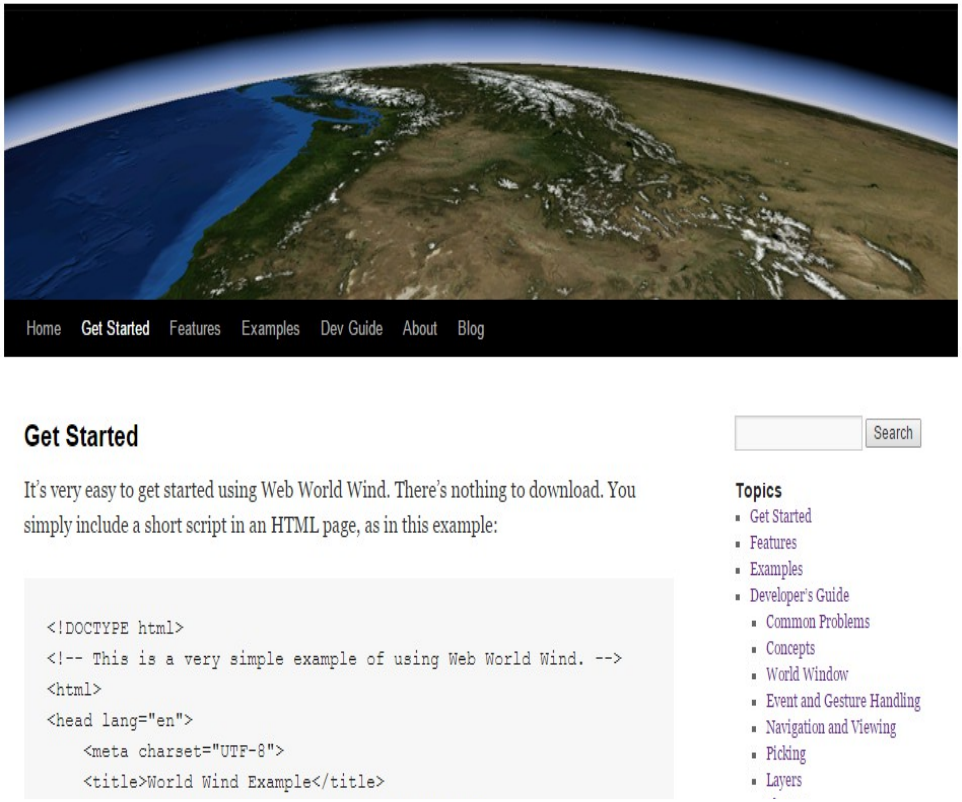
Wildfire management tool
EMXSYS

wwwOSM
Trilogis srl



gvSIG 3D
gvSIG Association

Get Started!



14th October 2015, Scientific Communication and Visualisation Session(C1A)
NASA World Wind, World Data Viewer

On the web world wind website a starting guide is available:

- http://webworldwind.org/get-started/

You can find a developer's guide, where there are some tutorials on how to use the basic functionalities of WWW:

- http://webworldwind.org/developers-guide