PoliCrowd
A Social World Wind Platform

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PoliCrowd is a Web-based 3D Participatory GIS application

- born to promote the world's tourism and cultural heritage
- interaction with user mobile devices for uploading Points Of interest (POIs)
- POIs three-dimensional visualization on World Wind virtual globe
- user collaborative contribution in POIs characterization
- creating, saving and sharing customized maps with the community
Initially developed in a project presented at the NASA WorldWind Europa Challenge (Florence, INSPIRE Conference 2013), it will be applied in next months in “I cammini della Regina” (“The paths of Regina”) INTERREG Project, where Via Regina is one of the oldest paths for historical and cultural exchanges between Italy and Switzerland.
Participatory GIS - an Open Source architecture

SERVER

GeoServer

PostgreSQL

Apache Tomcat

AGGREGATE

CLIENT

2D

OpenLayers™

GeoExt JS

Leaflet

OpenLayers™

jQuery mobile

WMS

template form

compiled form

COLLECT
Execution of the field-survey

✔ Application main menu:

ODK Collect > Main Menu

ODK Collect 1.3 (1030)
Data collection made easier...

- Fill Blank Form
- Edit Saved Form
- Send Finalized Form
- Get Blank Form
- Delete Saved Form
Guided form compilation:

You are at the start of Point Of Interest. Swipe the screen as shown below to go backward and forward.

- **backward to previous prompt**
- **forward to next prompt**
Guided form compilation:

Date of report of the point of interest

*Insert the current date or the date the report is referred to.*

13 Jun 2013
Guided form compilation:

- point with panoramic view
- monument
- historical/monumental building
- place of worship
Guided form compilation:

Classification of the point of interest

Classify the point of interest you wish to report by choosing one of the following options.

- castle
- villa
- palace
- lighthouse
Guided form compilation:

- **Name of the point of interest**
  
  *Type the name of the point of interest you wish to report.*

  Villa Olmo
Guided form compilation:

Position of the point of interest

Be sure to be outdoors and check that the device GPS is on. Alternatively, you can also determine the position by connecting to a wi-fi network.

Latitude: N 45°48'6"
Longitude: E 9°5'43"
Altitude: 0m
Accuracy: 5m
Guided form compilation:

Picture showing the point of interest

*Take a picture of the point of interest using the device camera or upload a picture available on the device.*

- Take Picture
- Choose Image
2D data visualization - computer

http://geomobile.como.polimi.it/PointOfInterest/POI_pc
http://geomobile.como.polimi.it/PointOfInterest/POI_pc
2D data visualization - tablet

http://geomobile.como.polimi.it/PointOfInterest/POI_tablet
2D data visualization - smartphone

http://geomobile.como.polimi.it/PointOfInterest/POI_smartphone
PoliCrowd architecture

SERVER
- MySQL
- GlassFish
- PostgreSQL
- GeoServer
- Apache Tomcat

VGI SERVER

CLIENT
- VGI CLIENT
- JWS Application
- WorldWind
- CORE ENGINE

WWW

JSP SERVLEET

WMS

KML

WMS
Points Of Interest 3D visualization at the **first Level Of Detail**

- altitude of the point of view over the globe higher than 3000 meters
- representation of all the POIs with a **common icon** (i.e. a pin)
- dragging on POIs is not allowed
Points Of Interest 3D visualization at the **second Level Of Detail**

- altitude of the point of view over the globe between 3000 and 1000 meters
- representation of POIs with icons showing the **category** they belong to:
  - points with panoramic view
  - monuments
  - historical/monumental buildings
  - places of worship
  - places of artistic/cultural activities
  - sports facilities
  - transport stations
  - events

- dragging on POIs is allowed only for **POIs owners**
Points Of Interest 3D visualization at the third Level Of Detail

- altitude of the point of view over the globe less than 1000 meters
- representation of POIs with icons showing their classification: a POI belonging to the monuments category can e.g. be classified as
  - statue/sculpture
  - fountain
  - historical monument
- dragging on POIs is allowed only for POIs owners
Querying Points Of Interest

- clickable POIs placemarks
- visualization of Android ODK Collect-reported information (including picture) in a balloon which extends the DialogAnnotation class
User interaction with POIs

✔ Upload page for registered users

Add Related Media and Comments

Data: 25/05/2013
User: Italian citizen
POI: place of worship
Classification: church/basilica
Name: Basilica di San Fedele
Description: http://en.wikipedia.org/wiki/Basilica_di_San_Fedele_(Como)
Lat: 45.8097
Lon: 9.0846
Alt: 0.0000
Precision: 75m
Owner: marco
User interaction with POIs

Viewing the image list relative to a POI

Review Images
Projects catalogue

✔ Creation and Visualization of user projects
Adding layers to the project

✔ Adding layers from the layer catalogue
Contacts

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