Sharing maps: the GIS Cloud

Summer School on Digital Humanities
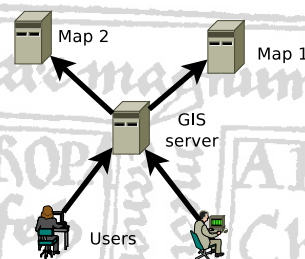### Course material available at
https://github.com/AugustoCiuffoletti/dhss_2021

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Sharing maps: the GIS Cloud

- You cannot add new layers to OpenStreetMaps
  - OSM does not provide an infrastructure for proprietary data
- With resident applications (like QGIS) you can use OSM data and add your layer
- Other services provide an infrastructure for map sharing

- Here the server is an intermediary between the user and the storage
- Sharing restrictions are now possible (unlike OSM)

The uMap service

- Recent project, dated 2014
- OpenSource code (can be installed on a private server)
- Uses OpenStreetMaps data as raster layer
- Users can:
  - import and view vector layers in various standard formats
  - connect to external databases
  - create new layers hosted in uMap infrastructure
- Can add *pop up* notes
  - showing text, images, web links
- The generated map can be edited/shared by a restricted group of users
- Registration is appropriate but not essential

A uMap tour (sect. 5 in the booklet)

- In your browser go to URL `http://umap.openstreetmap.fr`
- Access using the OpenStreetMaps credentials (or even Twitter, Bitbucket or Github, if you have one ...)
  - It is also possible to play without credentials, with limited capabilities
- Select "Create a map"
  - One of the OpenStreetMap rasters appears

Editing your shared map

- Upon map creation you are in Edit mode
  - To exit *edit mode* click on blue Save button and next Disable editing
  - To reenter *edit mode* click on the pencil button, top right on the screen
- On the right two sets of tools:
  - Upper box: editing
  - Lower box: management
  - On the left side, hit 🔍 and search a town ("Pisa")
- If you do not like French names fo Italian towns, choose another raster
  - press ▤ and select "OpenStreetMap "

Add a feature

- Select the feature you want to create (keys on the right)
  - 📍 a point
  - ⤳ a line
  - ▱ an area
- Select one with a click and move to the map
  - A single click creates a point
  - A series of clicks are consecutive points of a line or area
  - A double click terminates the line or closes the area
- When the feature is complete a form appears:
  - the *name* and *description* of the feature
  - play with other menus
- To update a feature click on it and select the pencil
  - the question mark near the word *Description* provides useful hints

Special contents in the **description**

Various active items can be added in the description:

(Notice: they are shown only after Save and Disable editing)

- add an imabe by including its link between two braces:

  `{{http://gardenersnet.com/flower/pics/daffodil04.jpg}}`

- add a generic link by including it between two brackets:

  `[[http://www.google.com]]`

- add an embedded resource, such as a YouTube video, using three braces:

  `{{{https://player.vimeo.com/video/56810854}}}`

Creating a Slideshow

- A slideshow automatically moves through the map visualizing the features you added
  - in the same order in which they have been added
- After marking the features on your map click the *gear* icon and select *Slideshow*
  - Enable the *Slideshow* mode
  - Define the time interval between slides
  - Enable automatic slideshow upon map loading (if you like so)
  - Save
- The familiar icons "play", "pause", "forward", "backward" appears in the bottom right corner
- If you enabled automatic starts the slideshow starts when reloading the map
- No way to re-order your features, but you can export features to QGIS, reorder, reimport in uMap!

How to share, embed, export

To share your map with others (or everyone)

- Press 🔑 on the right
- Update the editors list and visibility restrictions)

To embed your map in a web page

- Press ⊘ on the left
- Instructions for embedding the map in a web page (*iframe* tag)
- "Short url" for simplicity (try it on your smartphone)
- Export your features using various formats
  - geojson - Javascript format
  - kmz - Google Maps format
  - gpx - GPS format (widely portable)

Download the **geojson** format, and look inside...

Time for a uMap *'challenge'* ! (step 1)

Geolocate yourself

- Insert in the map
  https://umap.openstreetmap.fr/it/map/dhss_2021_616270 a feature *point* corresponding to a place you like. Any: residence, domicile, birth, your last hike etc... Put your nickname in the *'description'* of the point and save it visible.

The map for the tower

- Invite a friend that arrives in Pisa by train to see the Leaning Tower. Create a map with a walking path to the bus stop, then the one by bus, and from the stop to the tower. At the bus stop, enter a description indicating the bus number and direction, the stop name and the estimated travel time at the stop. You can use fantasy buses. Finally, enter the short URL in the description of the *point* of the previous step.