SURVEY DATA CENTRALIZATION IN THE CLOUD FOR GEOPAPARAZZI AND GVSIG MOBILE

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WHO AM I?

- cofounder of HydroloGIS, small Italian engineering company

- Osgeo Charter Member

- environmental engineer specialized in hydrology, hydraulics, geomorphology and forestry

- developer of scientific models contained in the JGrassTools library in the fields of: hydrology, hydraulic, forestry

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gisforchange
www.gis4change.org

IN HYDROLOGIS WE ARE ENGINEERS AND DEVELOPERS, AND DO SUVERYS, SOMETIMES…

- speed up the operations in the field

- facilitate the access to the collected data

- we tried different solutions…

...THE RUGGED PANASONIC XPLORE TABLET

…THE ULTRALIGHT ASUS

…THE TRIMBLE JUNO

BUT NONE OF THEM TURNED OUT RIGHT FOR US

AND THEN ANDROID CAME AND MADE IT POSSIBLE TO EASILY SURVEY IN PRACTICALLY…
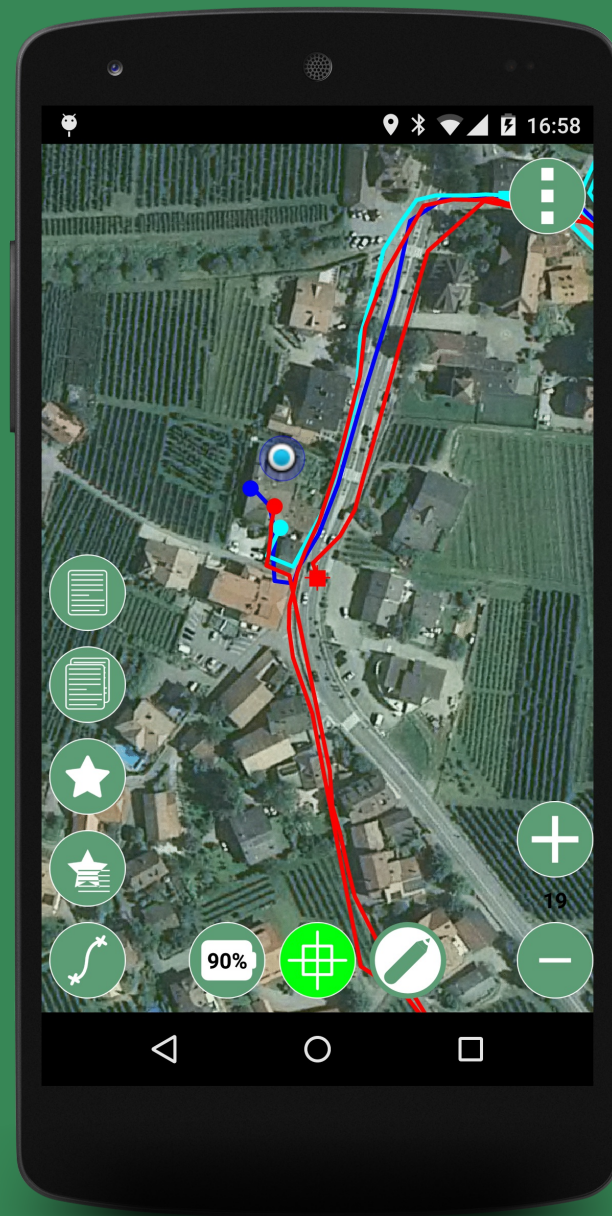
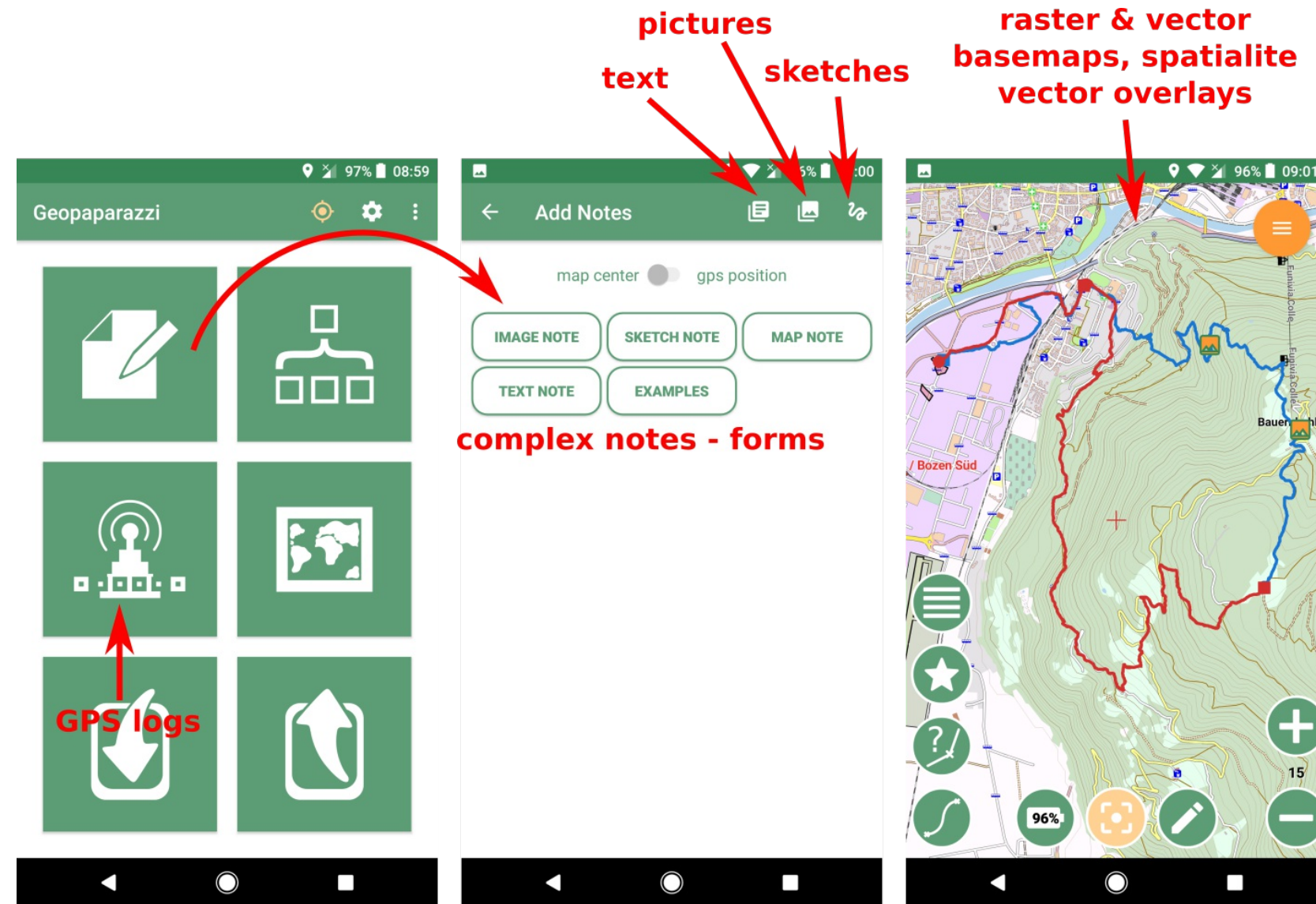ANY CONDITION

AND I MEAN: ANY CONDITION

WHAT IS GEOPAPARAZZI?

- basically an engineering field survey tool but it can be used also for emergency management, general field activities (sport) and tourism

- can collect georeferenced pictures, notes and gps logs

- always at hand when needed

- easy to use and intuitive
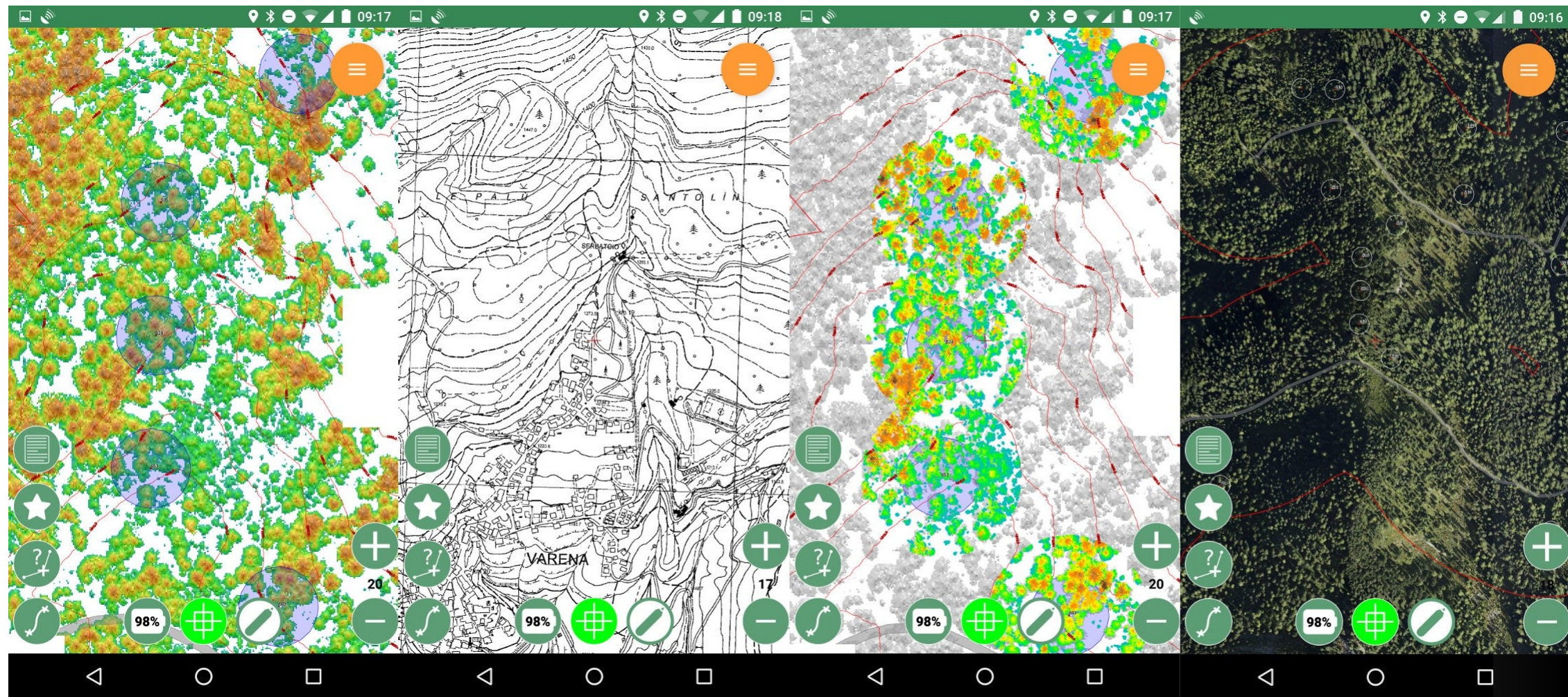
BASE FUNCTIONALITIES

pictures

text

sketches

raster & vector basemaps, spatialite vector overlays

complex notes - forms

GPS logs

ℹ Notes, images and gps logs are saved into the project file.
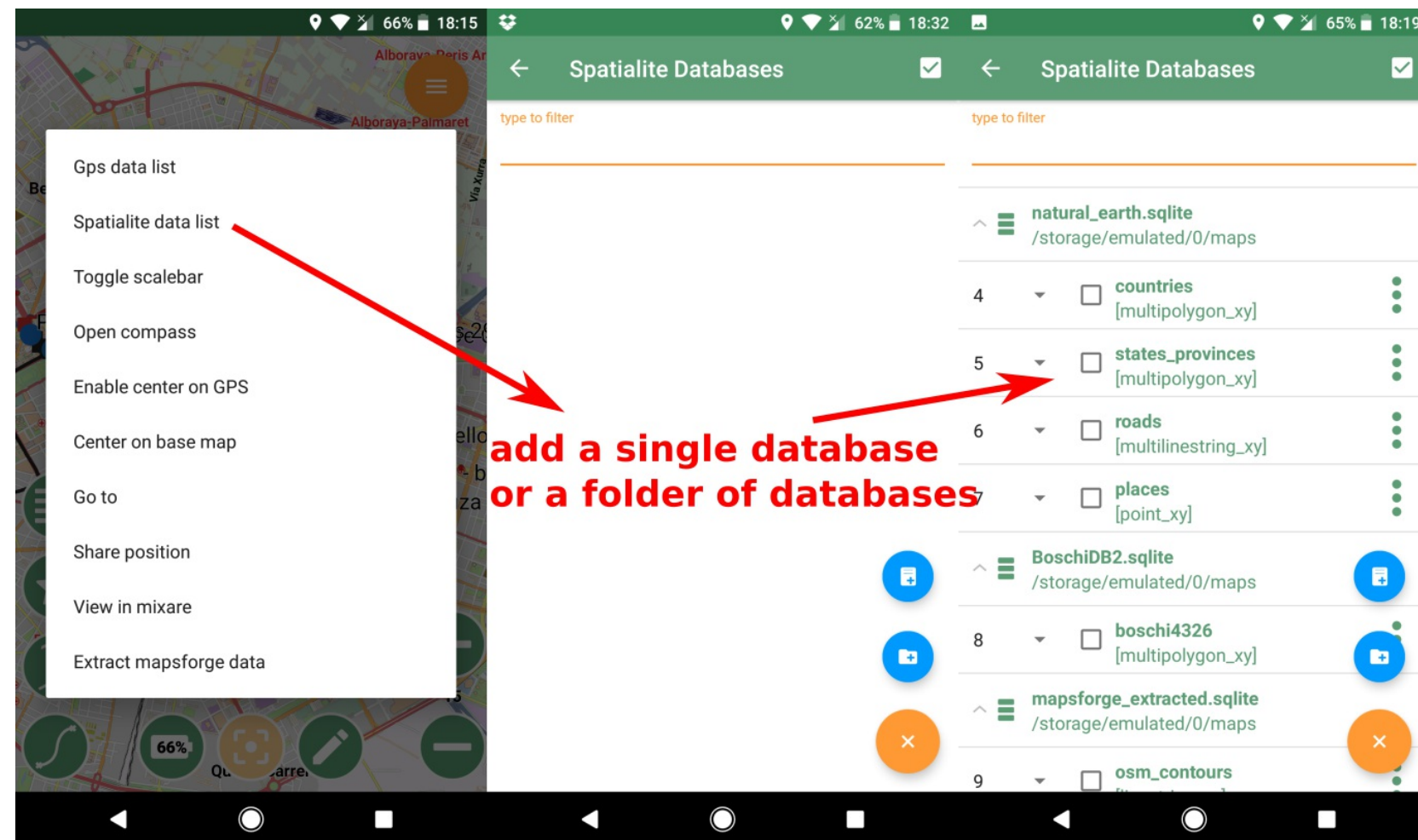
SUPPORTED BASEMAPS

Mapsforge map files (vector, 1 nation in 500MB), MBtiles databases, TMS online/offline, WMS, Rasterlite2 databases
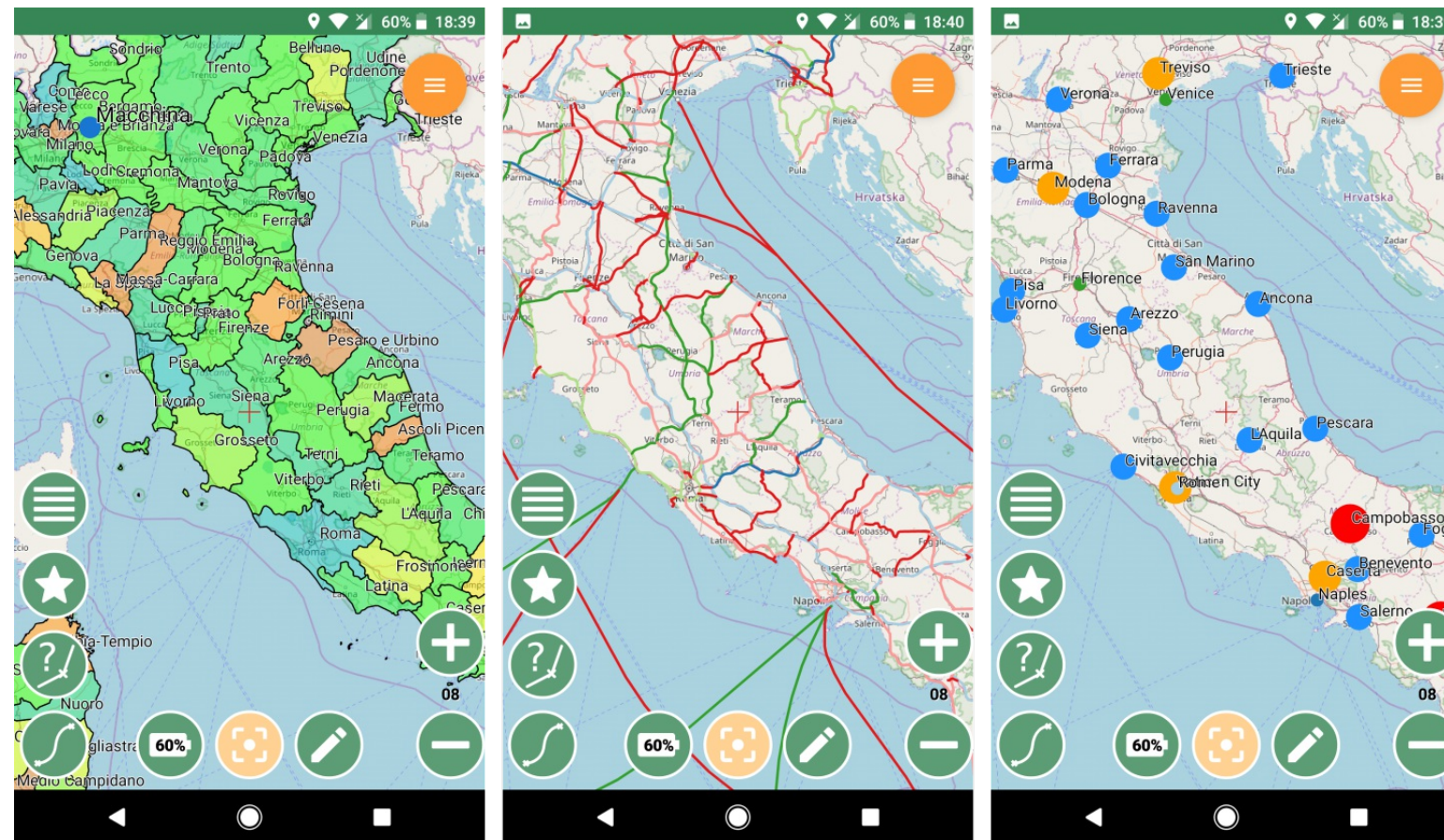
OVERLAY VECTORS: SPATIALITE DB

Support of vector layers in a Spatialite DB with the possibility to select the layers to visualize and customize the style and labelling.
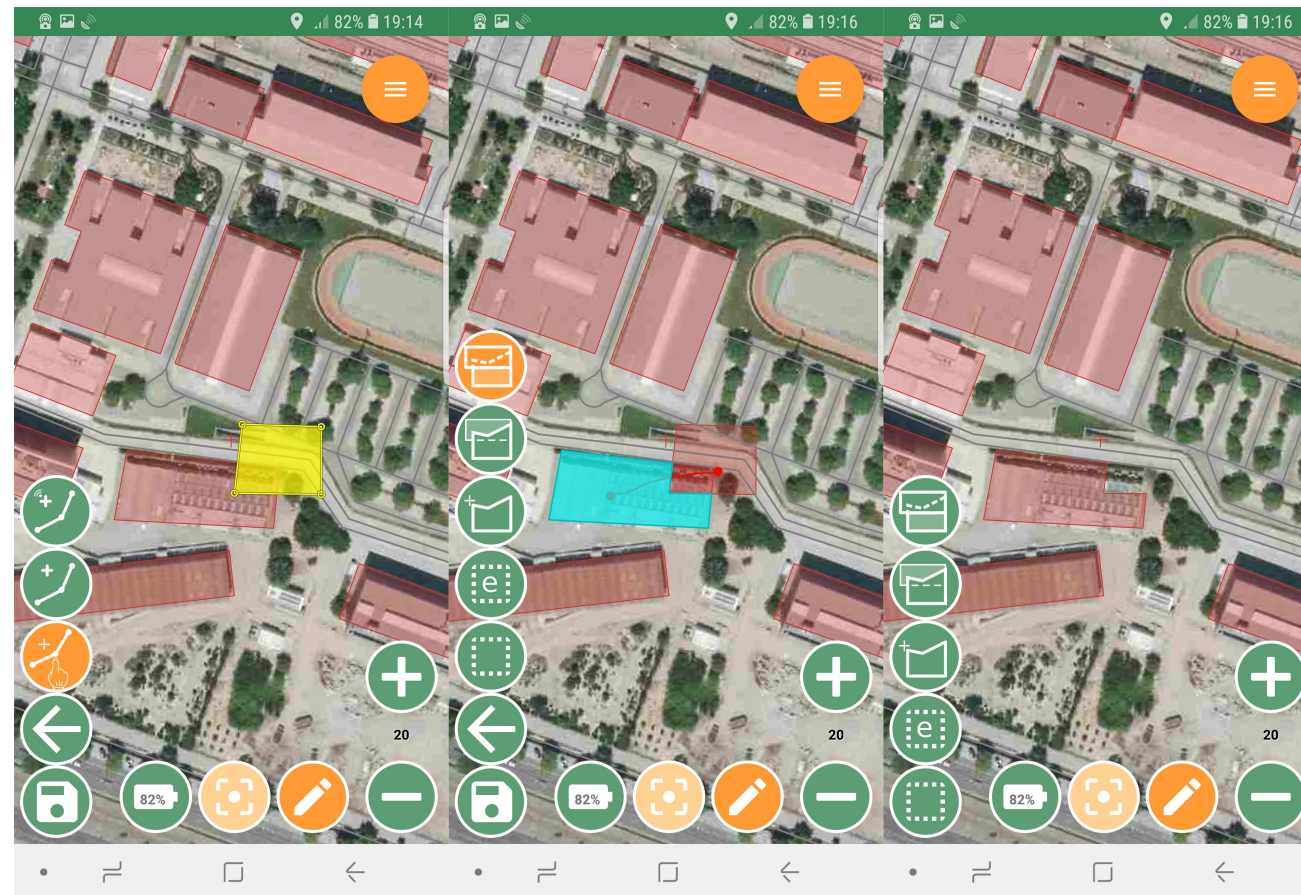
OVERLAY VECTORS: THEMATIC STYLING

Support for unique values thematic styling (readonly) for all feature types (from SLD).
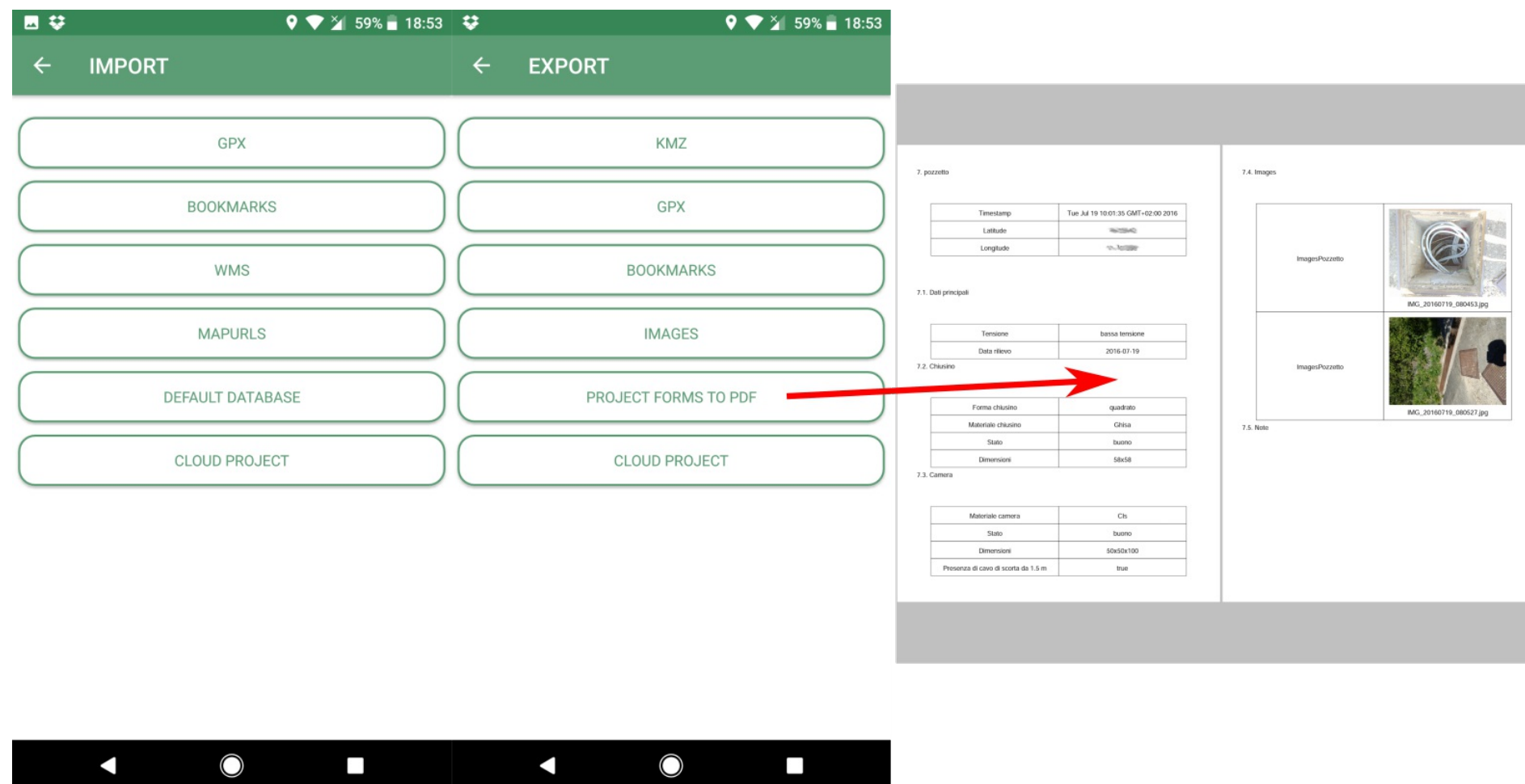
OVERLAY VECTORS: FEATURES EDITING

In the Map View it is possible to create, view, and edit the geometry and attributes of point, line and polygon features held in a Spatialite layer.

IMPORT / EXPORT

Geopaparazzi supports some simple import - export directly from the device.

Complex notes (forms) can be exported to pdf.

PROFILES

- Data management for casual and non-GIS users can be difficult: *Find a basemap (.map, .mapurl, etc), create the Spatialite overlays, create and load a custom form, create a project file and add them to the Geopaparazzi session.*

- Profiles are a way to easily group and switch basemap, overlay, forms, and project files.

- A Profile is a bit of JSON, read by Geopaparazzi.

- You can import, edit and export Profiles directly from Geopaparazzi.

GEOPAPARAZZI TOOLS FOR GVSIG

- in gvSIG it is possible to:
    - create background maps as .mbtile
    - create the forms to use in the field with the *form editor*
    - create a spatialite database with SLD style
    - export all the data contained in the project as shapefiles
   - browse geopaparazzi project files

- the plugins are avaliable in the gvSIG addons repository and in the github releases page of the project

- updated documentation and an installation guide for the plugins is avaliable at the HortonMachine website

HOW DO I SYNCHRONIZE MY WORKING TEAM WITH MY SERVER?

CLOUD PROFILES

- add download URLs (and a few other things) for easy delivery of data files

- are delivered from a web server: specify the server in Cloud Settings in Geopaparazzi: Import → Cloud Profiles
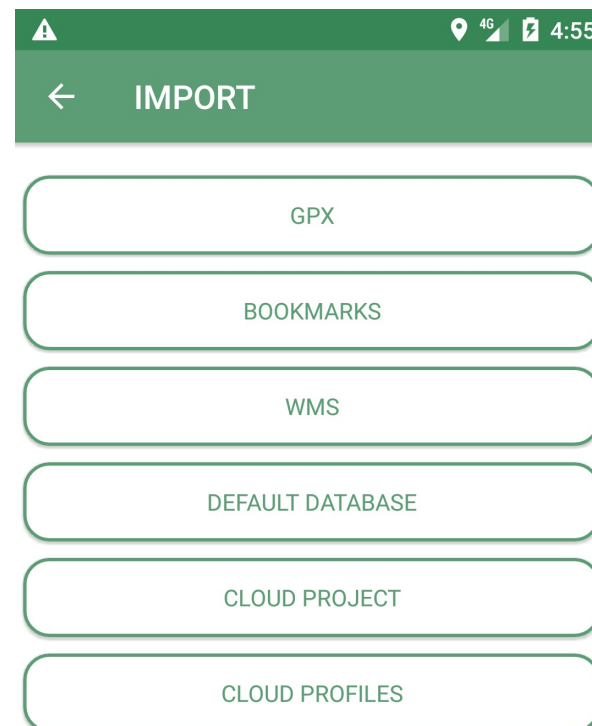
COOKIECUTTER GEOPAPARAZZI REFERENCE SERVER

Out of the box features:

1. Create Cloud Profiles for download

2. Graphical feature editing

3. HTTPS/TLS security

4. User management with email confirmation and social media signup

5. Media storage via Amazon AWS

6. Optimized production and development settings

It has been developed and released by Geoanalytic as free and open source license as well as documented to help users to get started.
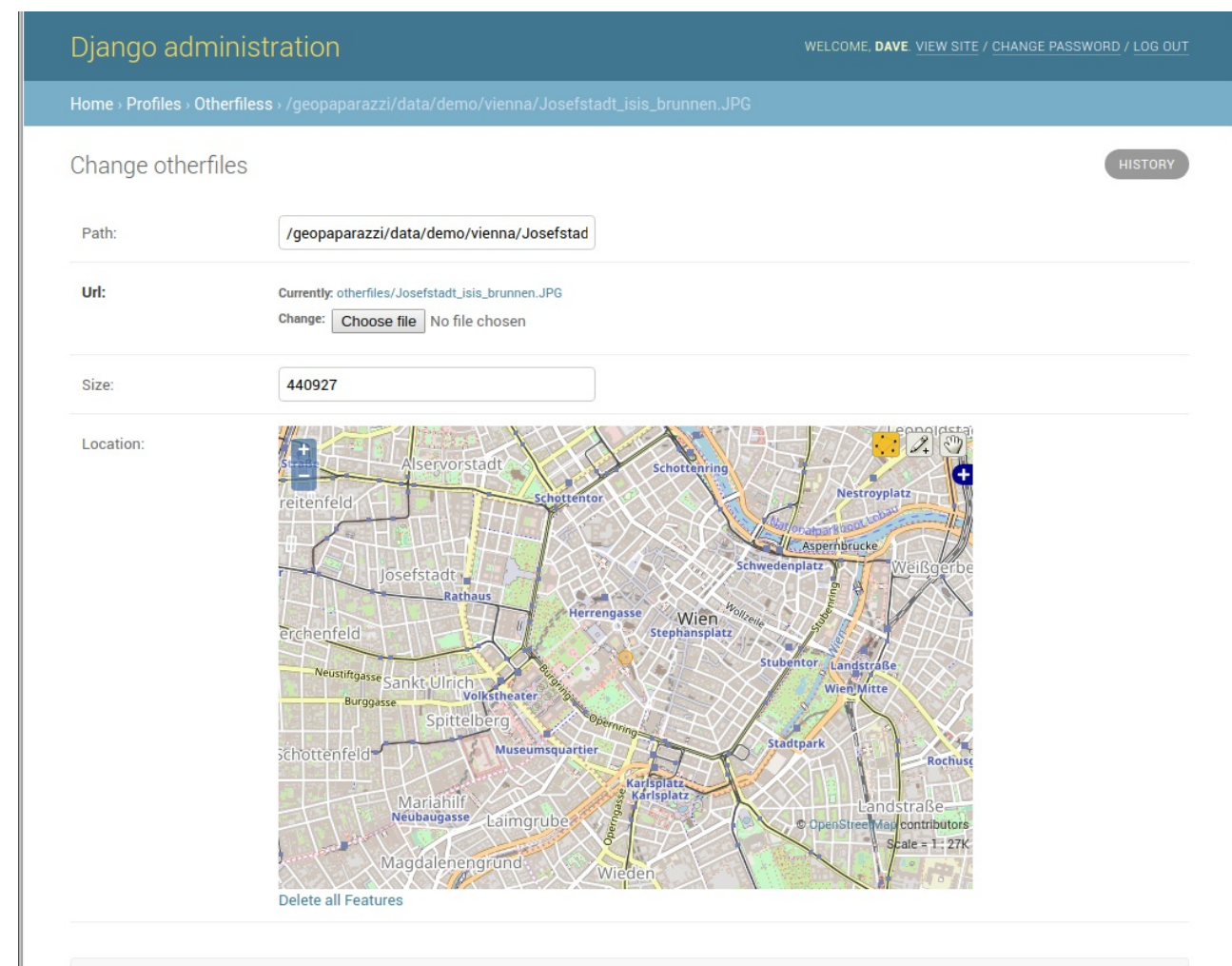
Github page: cookiecutter-geopaparazzi-server

THE GEOPAPARAZZI SURVEY SERVER (GSS)

Username

Password

Login

THE SERVER

The Geopaparazzi Survey Server (GSS) is a web application that allows geopaparazzi users to synchronize their project data with a central server.

Its companion is an Android app named Geopaparazzi Survey Server Sync (GSSS) available on google play.

The app can connect to geopaparazzi projects and synchronize the data contained using the unique device ID to upload the data to the server.

The server can be installed through docker.

INSTALLATION

Installation instructions are available on the project documentation site.

Long story short installation is all about having docker installed and the just run:

```
docker pull moovida/gss:v2.10
```

This will download and install the docker image on your system.

RUN THE SERVER

To run the server just do:

```
docker run -v /home/hydrologis/GSS:/home/basefolder \
                   -p 8080:8080 moovida/gss:v2.10
```

This will start a server that uses **/home/basefolder** as data folder and port 8080 for its webservice.

Open your favorite browser and enter the url:

```
http://localhost:8080
```
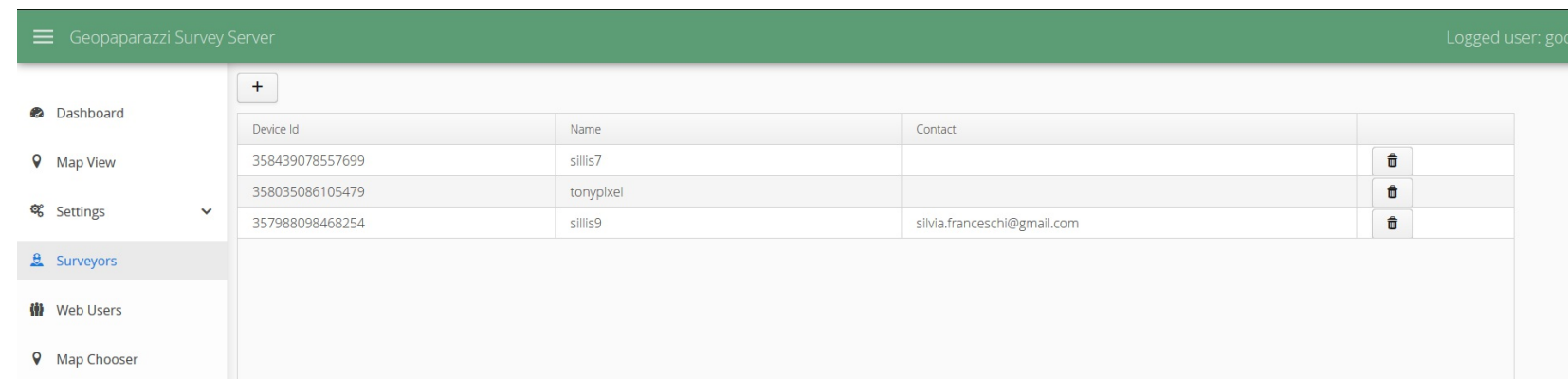
FEATURES: MAP

The application features a dashboard and a mapview to keep track of surveyors and data uploaded.
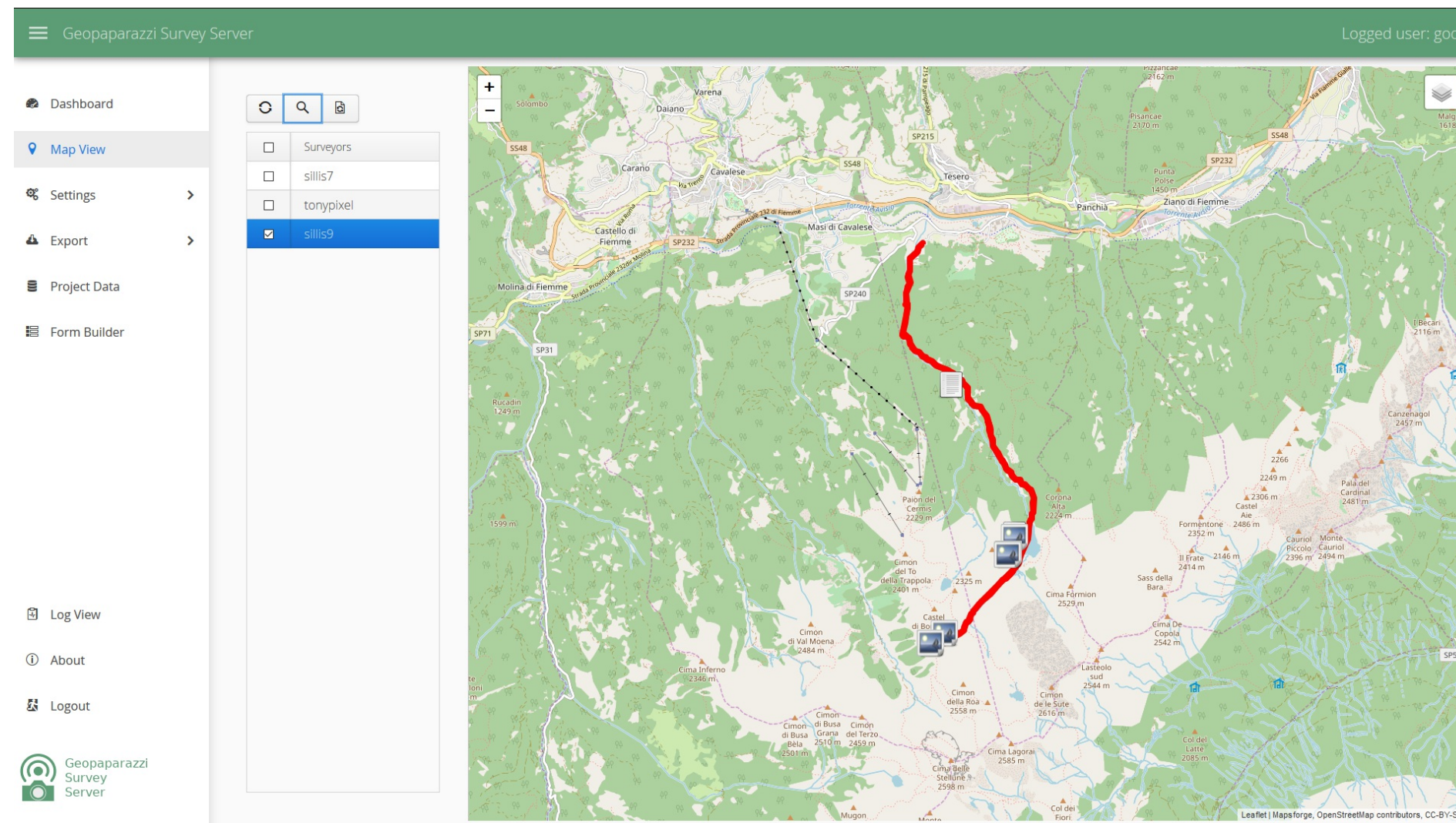
FEATURES: USERS

- create web users and groups: two levels of users, admins and normal users

- configure surveyors: new devices need to be register with the unique **DEVICE ID**

FEATURES: PROJECT DATA

Upload datasets that can be downloaded by the mobile app to allow geopaparazzi to use them.

The view is split into 3 columns, one for each supported datatype:

- basemaps (mbtiles, mapsforge maps)

- overlays (spatialite databases)

- projects (geopaparazzi projects)

The user can simply drag the files in the lower area to upload the files.
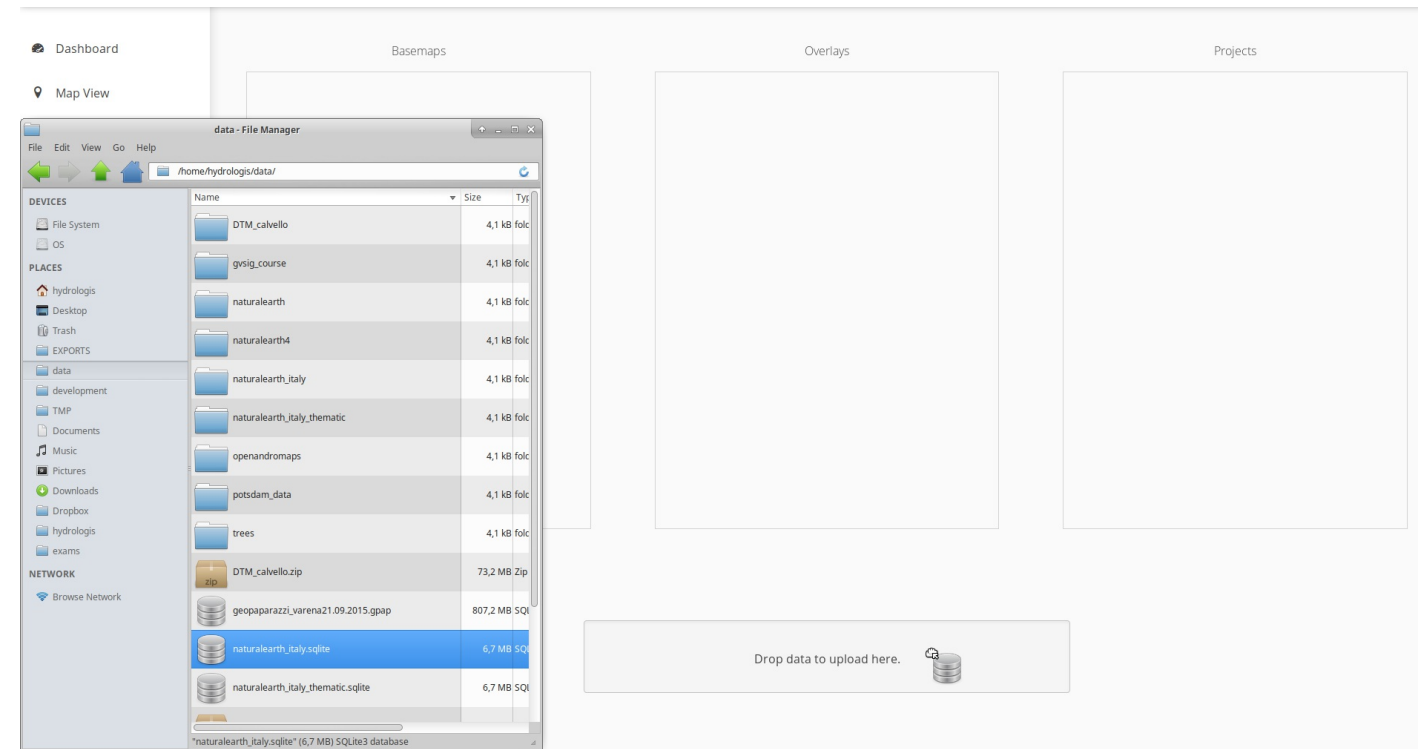
File types are placed in the right tables if recongized.

FEATURES: FORM BUILDER

The form view is an **interactive gui builder for geopaparazzi forms.**

From version 5.6.2 on, Geopaparazzi loads any file that *ends with tags.json* from the *geopaparazzi folder* allowing tags to be kept separate.

- create a new tags file (*workshop*) with a button (*bar*) and a tab (*info*)
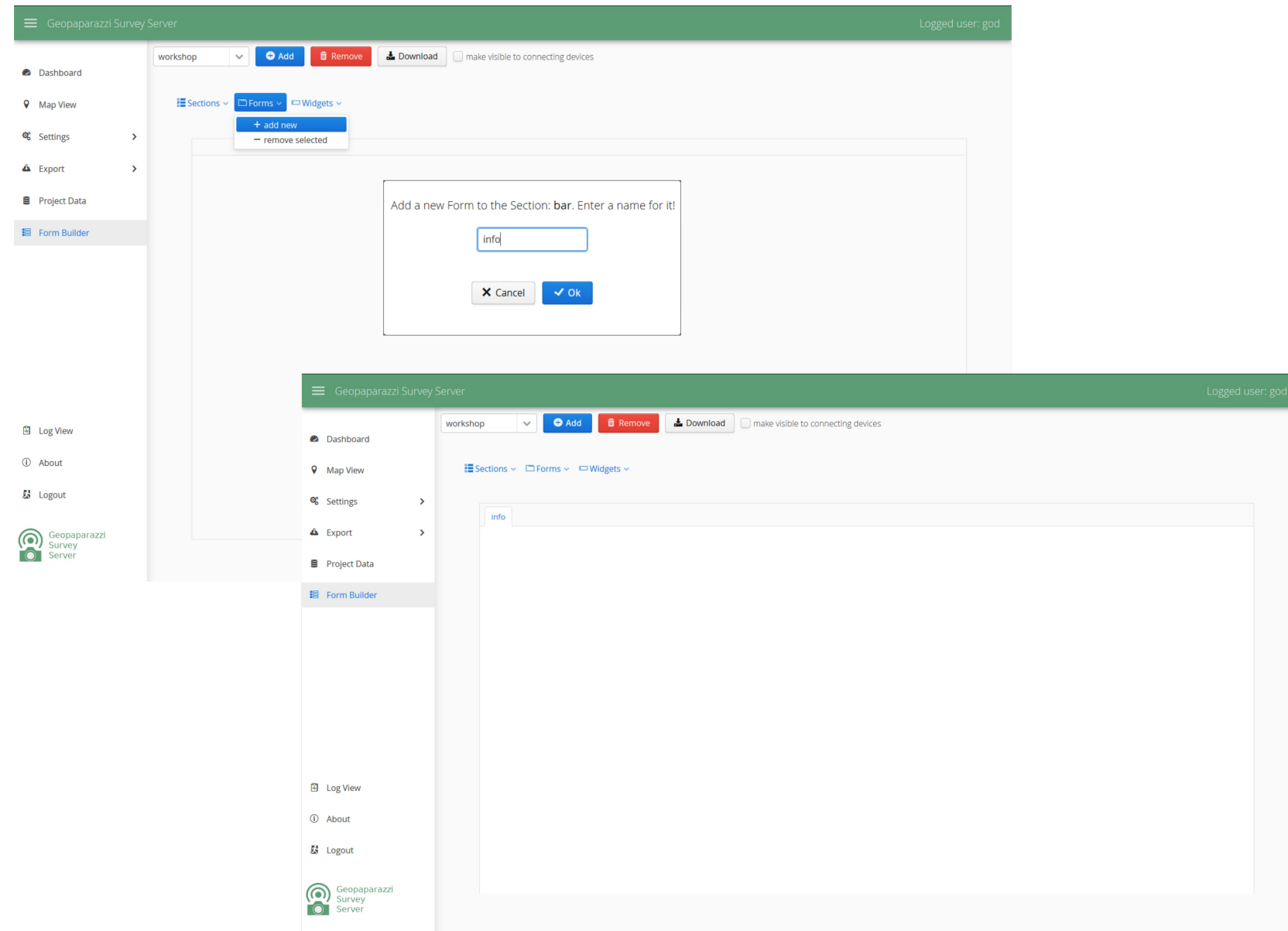
- add a widget to the tab: choosing among the available possibilities
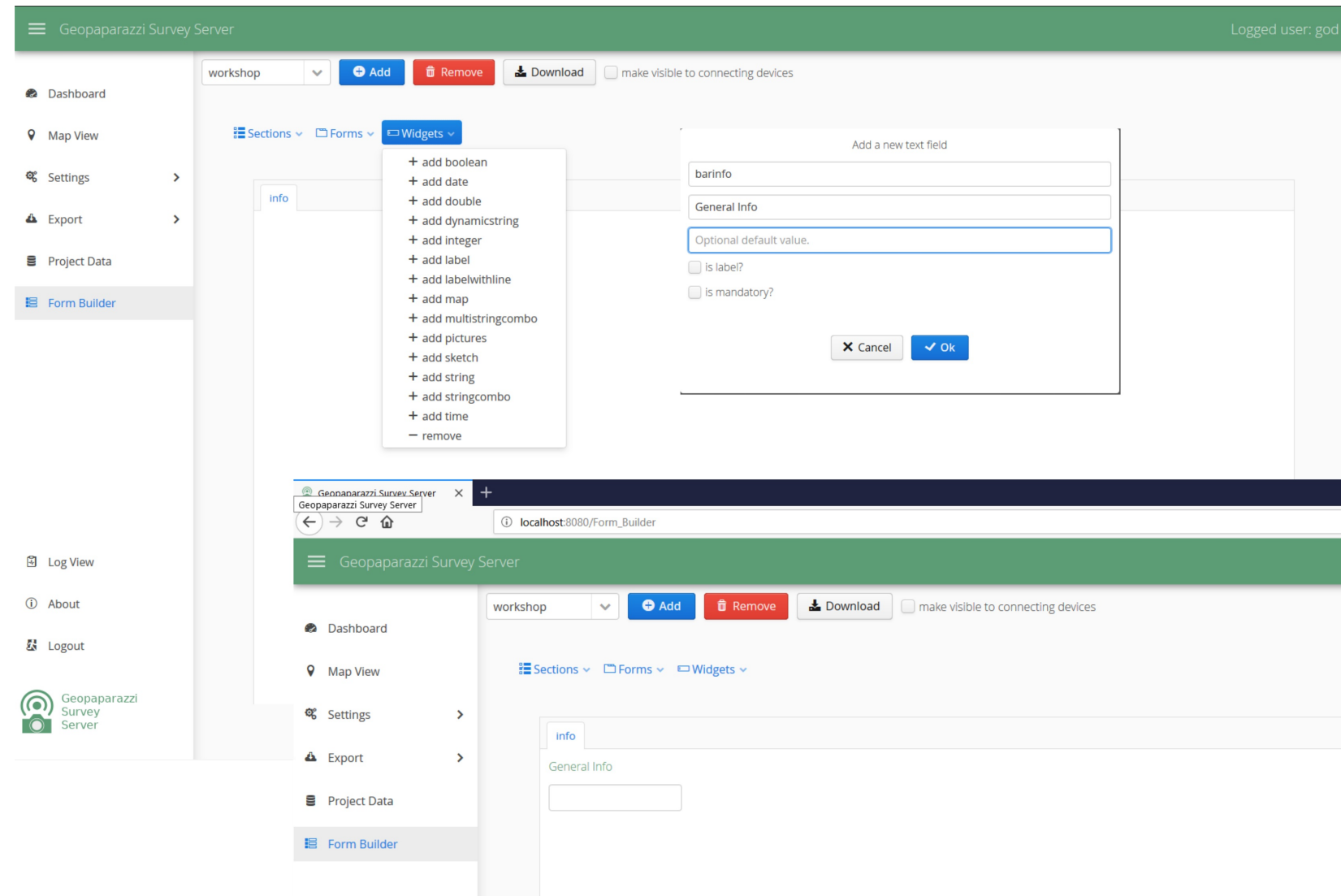
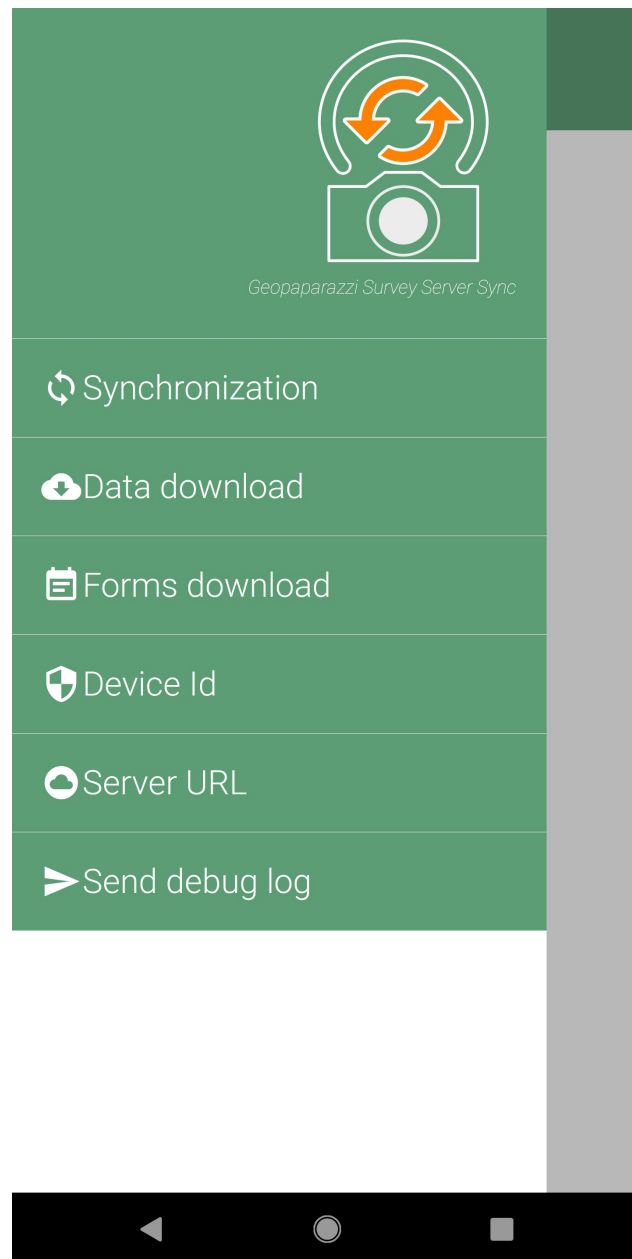- add a combo box with entries stored in a text file
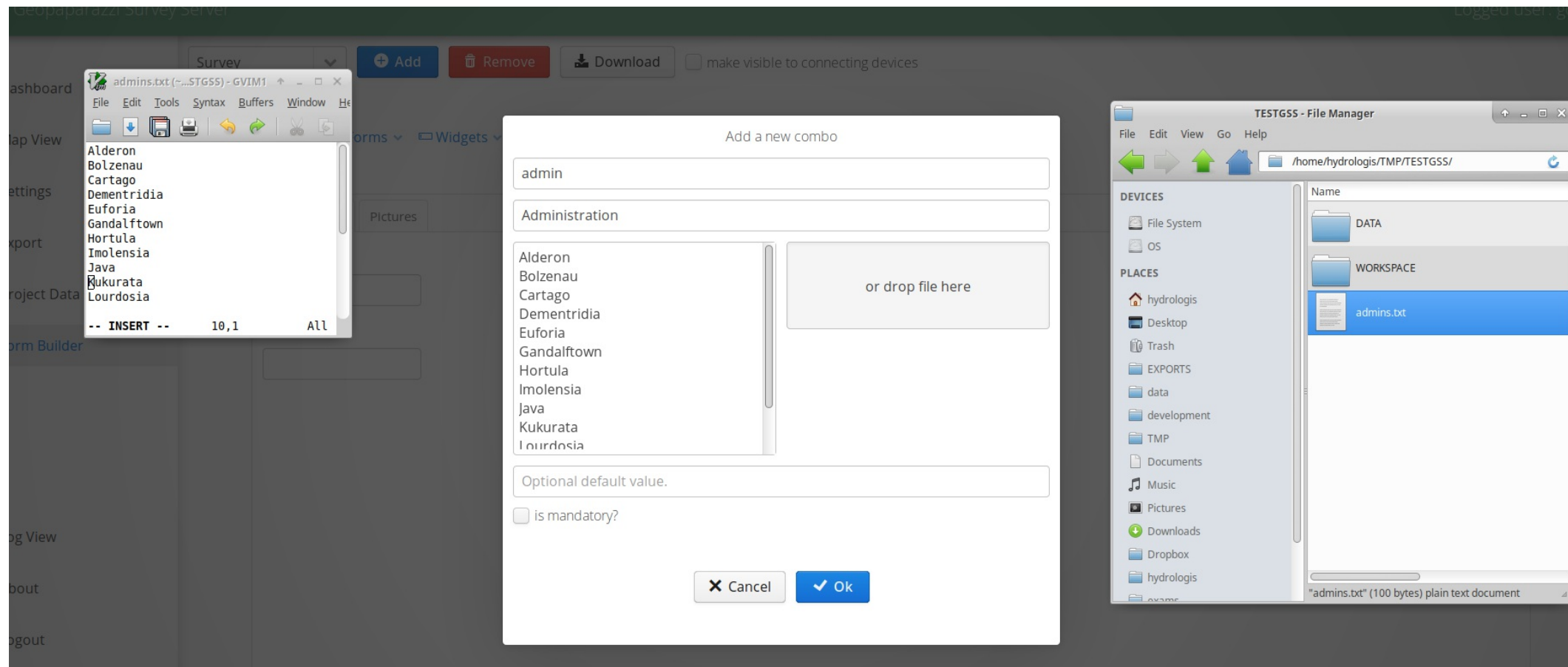
- and set the default and mandatory options
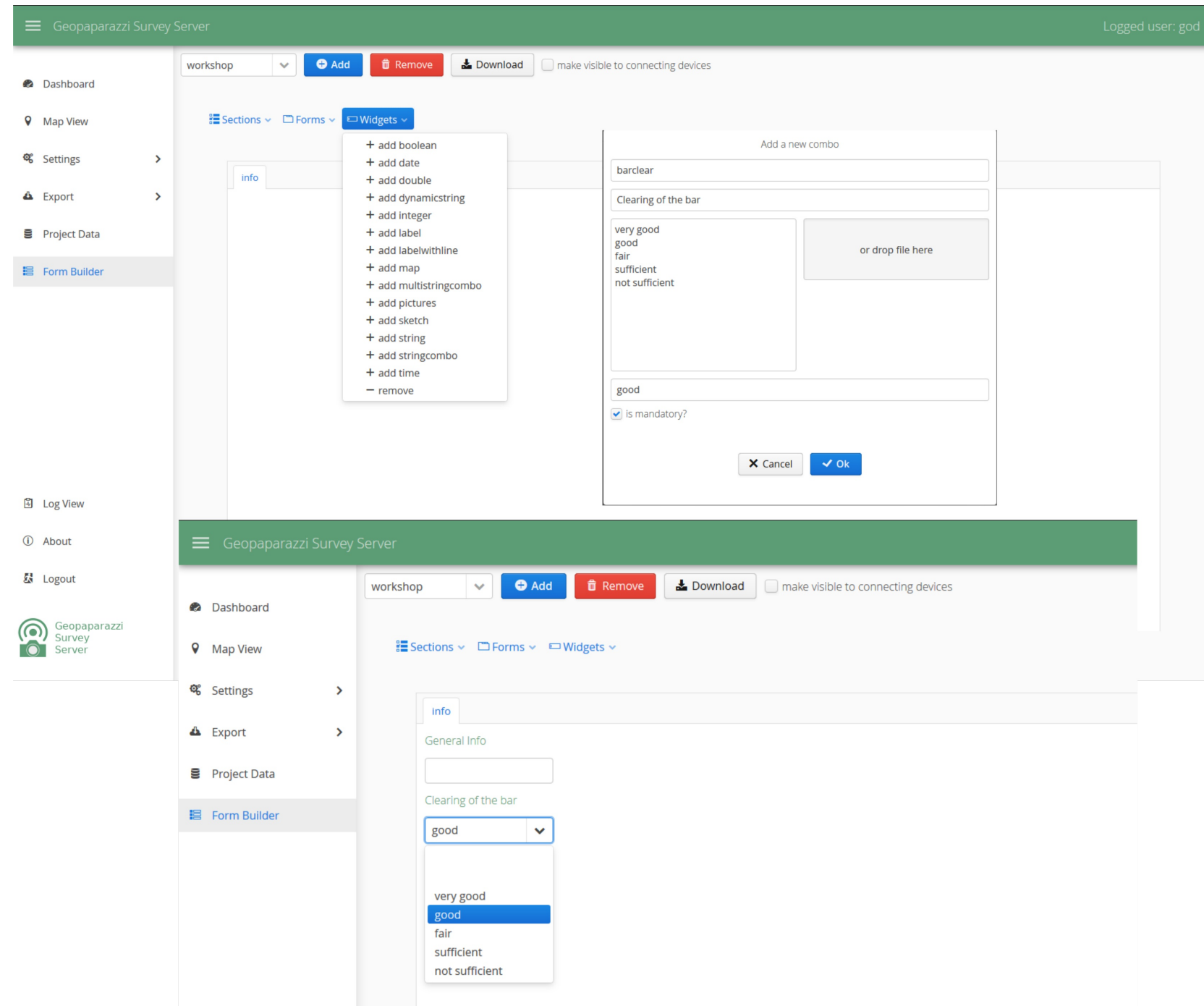
THE MOBILE APP, GSSS

The GSSS can be installed on Android devices from the play store.
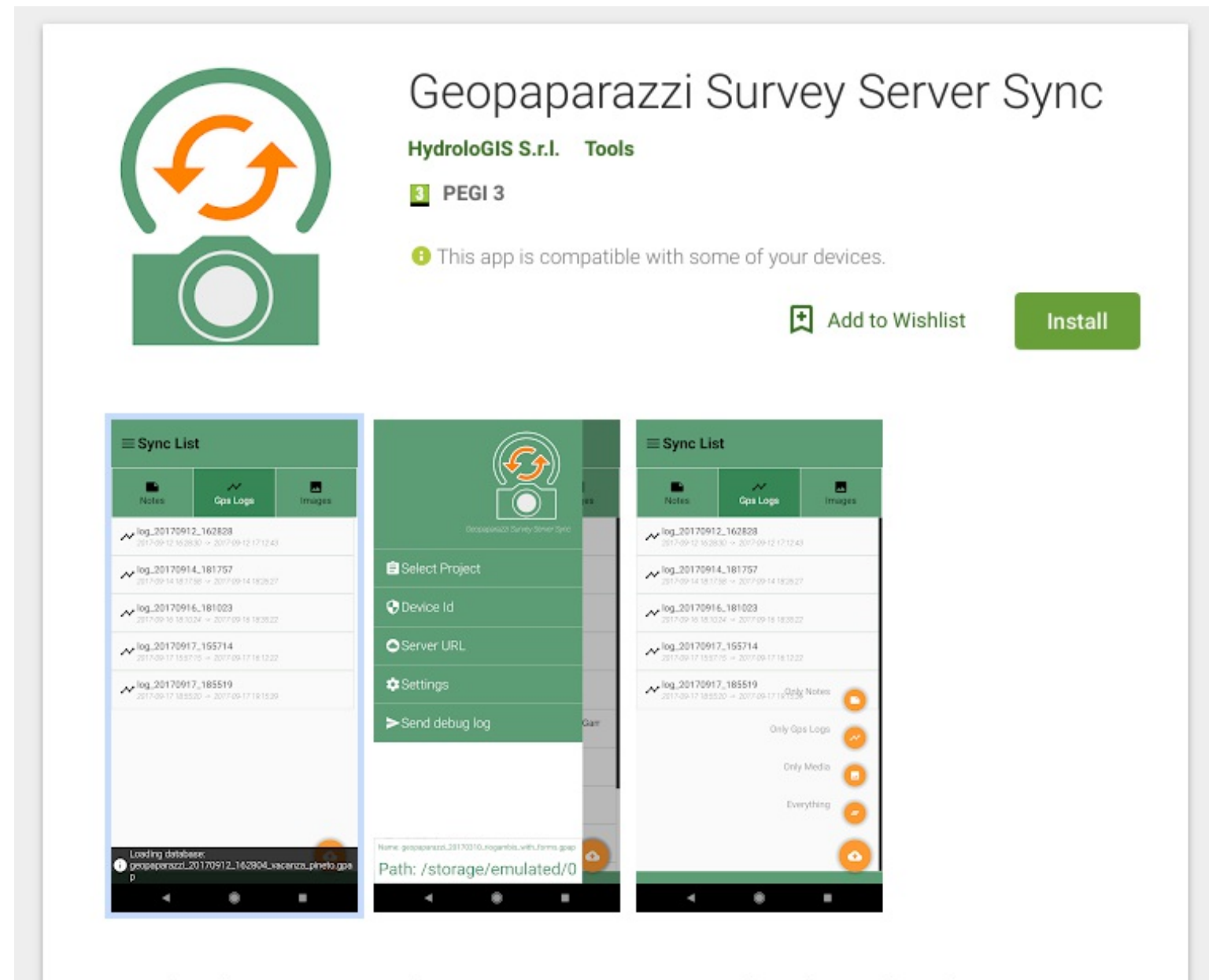
THE MAIN VIEW/SIDE MENU

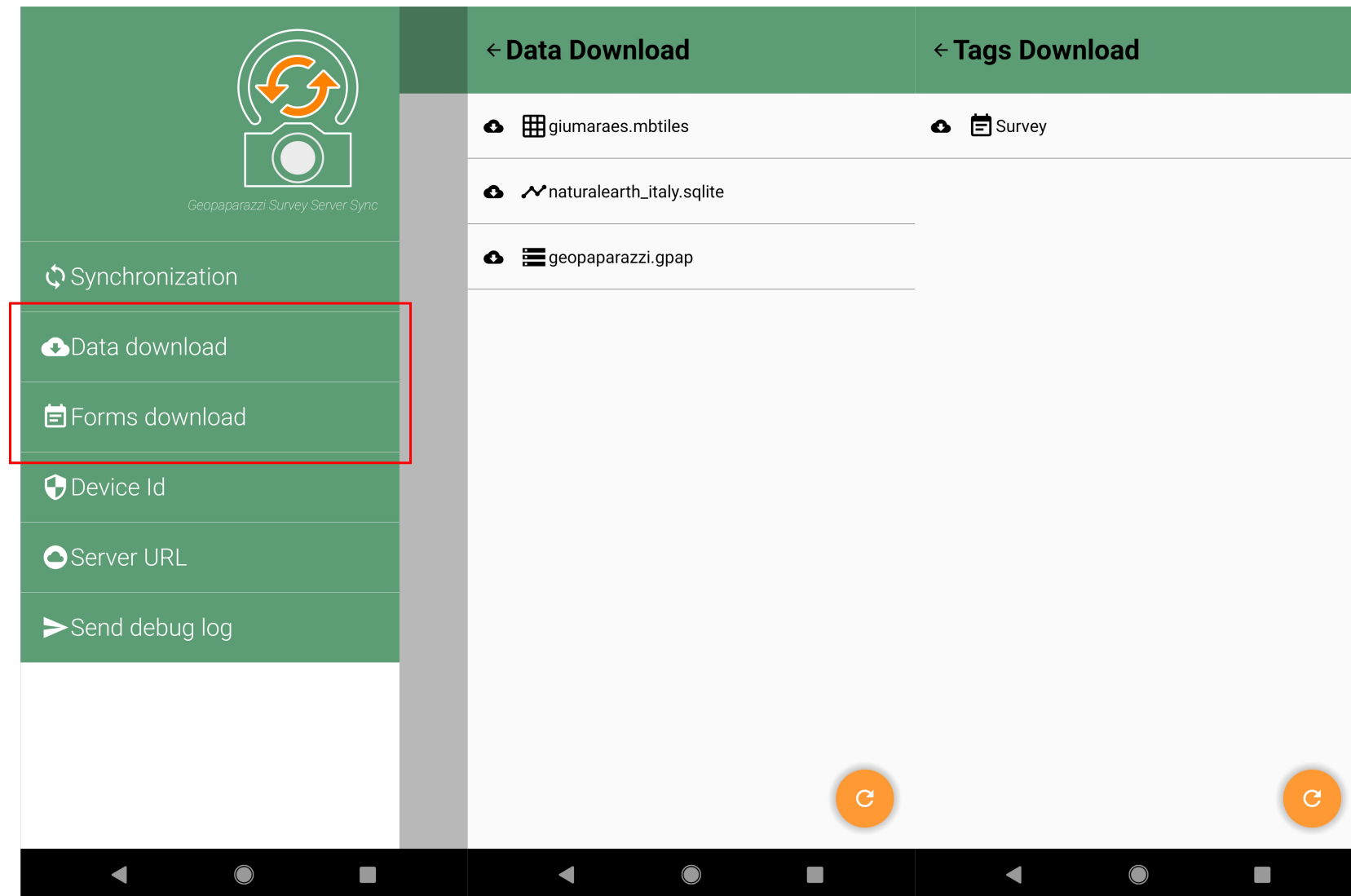Few configurations are necessary to start:

- check if the device has an own unique device id

- insert the url of the server

- download the available data:

  - background maps

  - overlay Spatialite layers

  - complete projects files

- download the available forms

LOAD THE DATA

Once the app is configured, it is possible to load the data by browsing for them in the on line list.

LOAD A PROJECT

And then load a project by browsing for its file (*.gpap) on the device storage.

QUICKLY READY TO GO OUT FOR THE SURVEY!!

SYNC YOUR DATA

It is possible to synchronize everything or just a part.
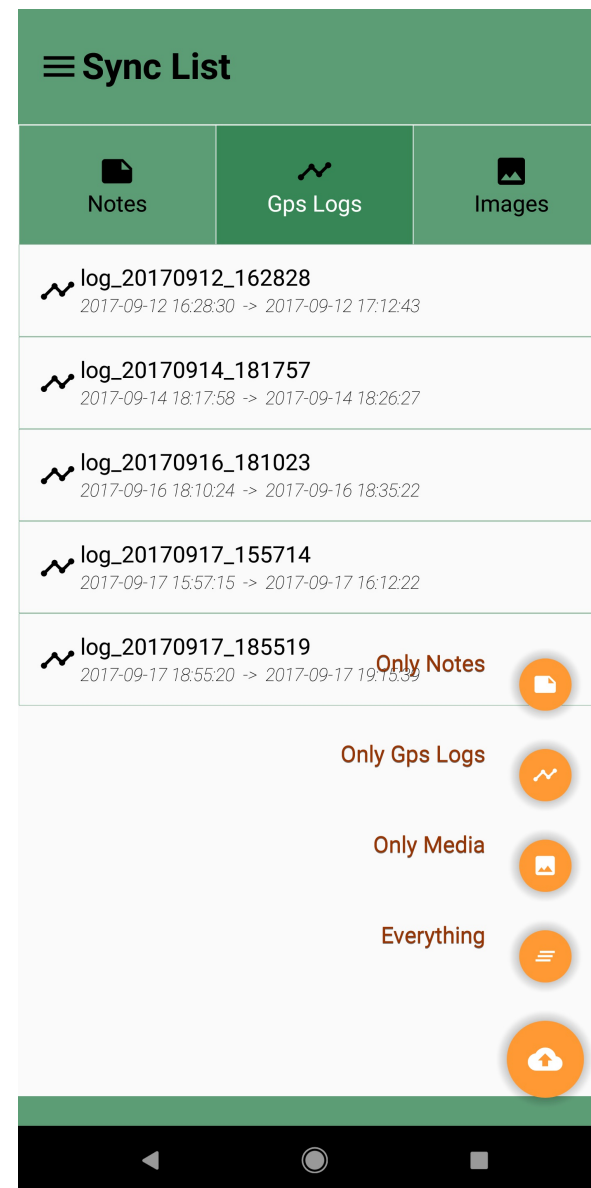
NEXT STEPS

- support for the profiles in the server (GSS) and in the app (GSSS)

- improve the usability and navigation of the GSS (define tags for the projects)

- in general improve the support of the profiles in Geopaparazzi

THANKS FOR YOUR ATTENTION!

Homepage: http://www.geopaparazzi.eu

Need help? Join the Mailinglist.
http://groups.google.com/group/geopaparazzi-users

Have cool userstories to share? Join the facebook group:
Geopaparazzi Users Around The World!
https://www.facebook.com/groups/350587351732480/

Want to translate it in your language?
https://www.transifex.com/projects/p/geopaparazzi/

News about Geopaparazzi:
http://jgrasstechtips.blogspot.it/search/label/geopaparazzi

gvSIG Association
www.gvsig.org

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