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By the collaboration between:



BEEBOOK ON XPLORE

the new Android system for the field geologist

The continuous progress of the digital world pushes constantly the evolution of the geological methods also for field work. Since the advent of hardware like tablet pc, specially if rugged, and palmtop, geologists and IT operators look for a way of mapping with adequate software tools.

LINEE of Urbino University designed and developed a number of applications for field work. The commercial MapIT and the open source BeeGIS in Windows environment are mobile GIS software used so far for field mapping also by a number of environmental and geological agencies.

However, the last frontier for field survey is the Android world with its light tools like tablets and smartphones. Those tools are very efficient because of the light weight, limited dimensions and good screen legibility. Looking toward this prospective, the collaboration among academic lab of LINEE and private company as Geofunction aims the development of a functional but also easy to use app.

Beebook must be a sort of "transparent" GIS for field work, combining the management of raster and vectorial maps and layers with tools for drawing GIS features, collecting organized data, sketching field annotations in a sort of geological field book.



The main characteristics are:

- off-line raster management, GeoTIFF and other raster format using GDAL libraries;
- on-line map visualisation (Google Maps, Bing Maps, OSM, WMS, WFS);
- SR management and conversion using PROJ.4; • vector file mash-up (KML and SQLite);
- editing of vector data on the map (lines, points, polygons);
- export of vector data in KML, CSV, SQLite (Spatialite) format;

- note: GPS or manual point inserting linked to other application files (pictures, spreadsheet, etc.);
- form: creation, edition and filling of customized form;
- GPS: status control, tracker and positioning on map;
- sharing: synchronization and sharing of data, forms, positioning

Beebook has been tested in the field in a number of tablet of smartphone. However, the often tough work conditions in the field requires rugged hardware. Thanks to an agreement with Bancolini Symbol (www.bancolini.com) we could carry out field tests with an Xplore RangerX. This lightweight, fully rugged Android tablet allowed us to work also in rainy and dusty environments with good results.

The software development is a work in progress at the moment. Being an open source project, a collaborative contribution is very welcome



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