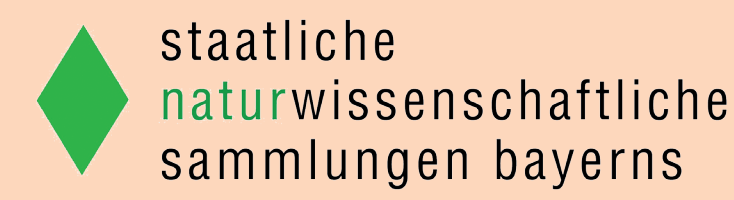# Diversity Mobile

A Smartphone Application for Monitoring Ecological and Biodiversity Data in the Field

snsb it center   staatliche naturwissenschaftliche sammlungen bayerns   Universität Regensburg   UNIVERSITÄT BAYREUTH

DiversityMobile is

- an application for smartphones
- designed for scientists monitoring ecological and biodiversity data in the field
- an alternative to pen, writing pad, GPS receiver, camera, video and audio recorder
- part of the Diversity Workbench (DWB)
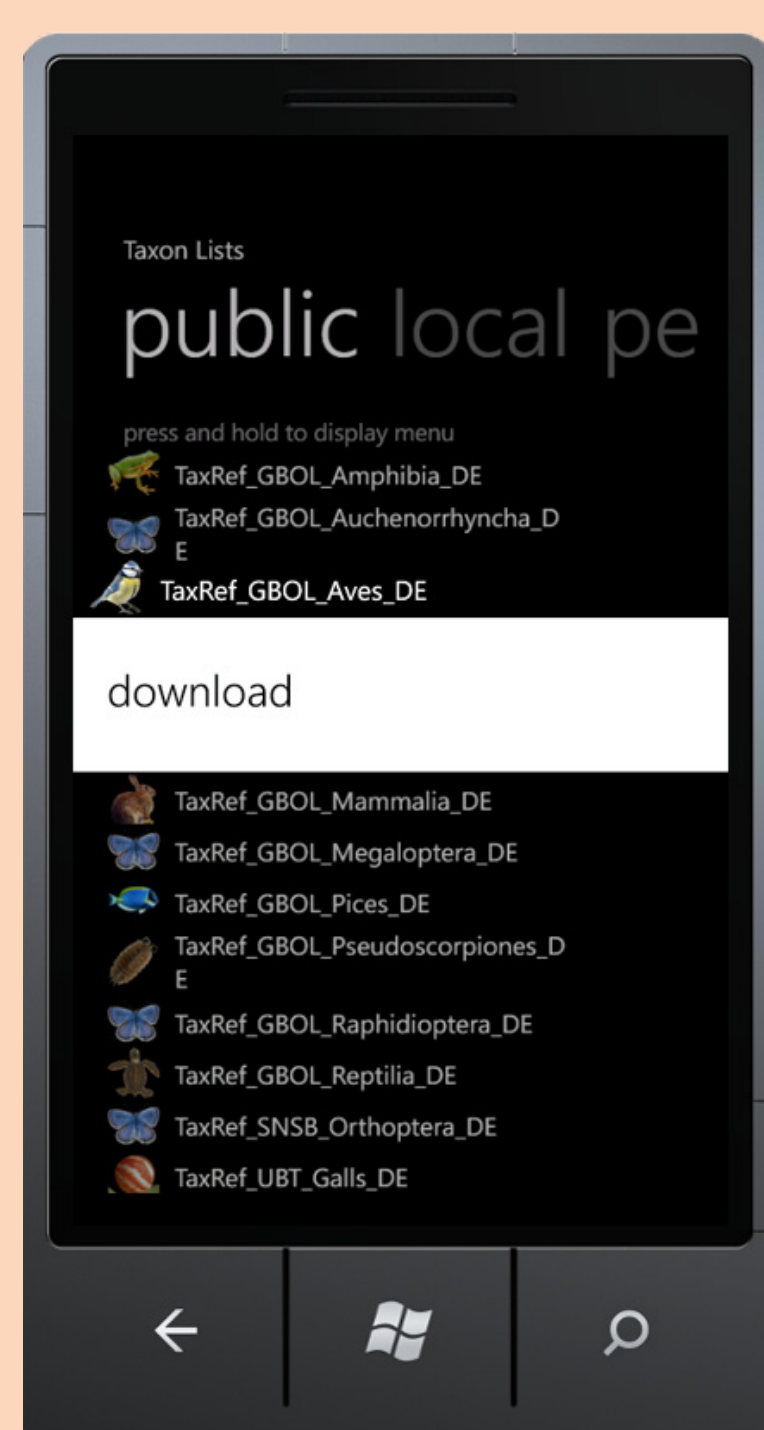- open source and free

Features are

- working offline in the field
  - → with vocabularies and taxon lists
  - → with topographic maps
- recording data and metadata
  - → from observations
  - → from reference vouchers (organisms, environmental samples)
  - → from field analyses (measurements, countings, observation categories)
- gathering and linking multimedia files and their relations to database entries as well as GPS coordinates
- recording associations between organisms
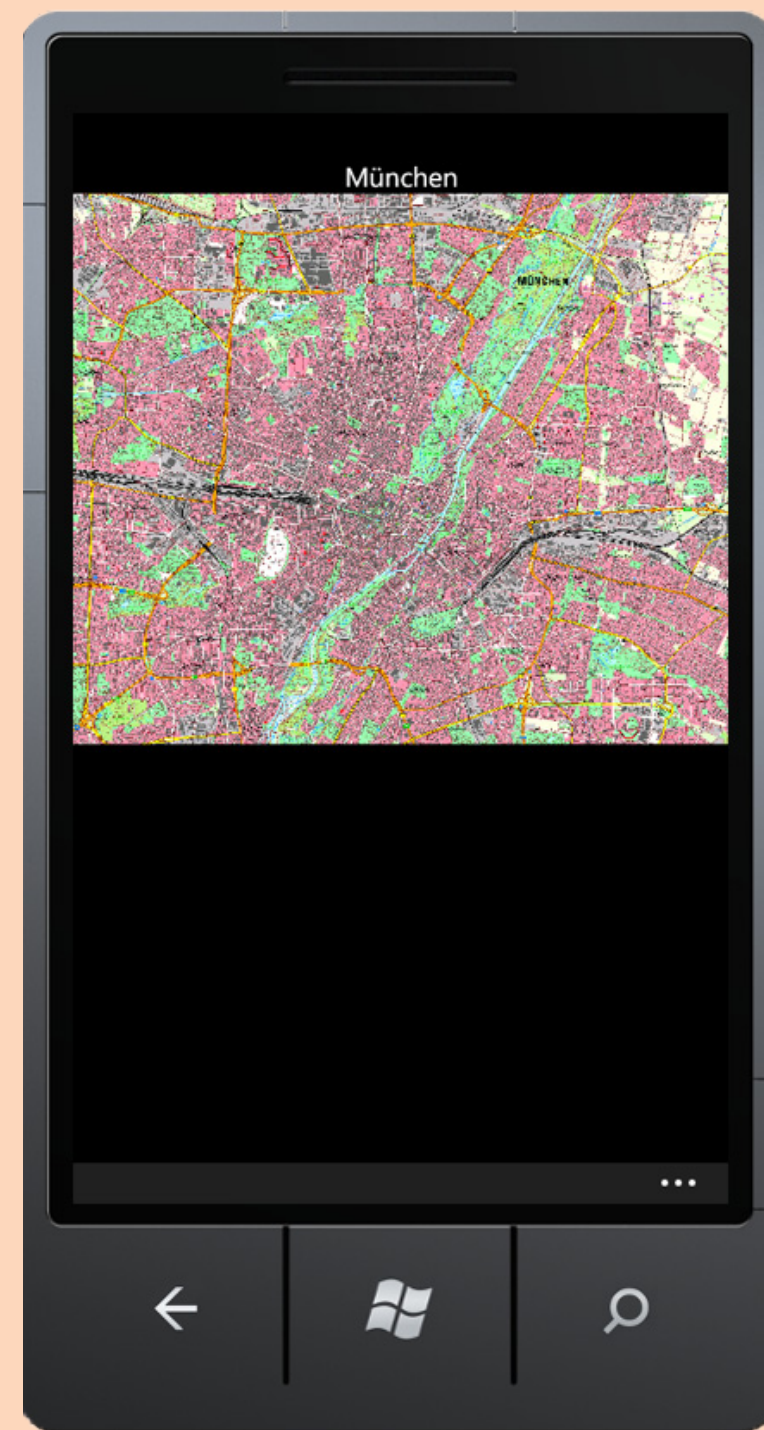
You need

- Smartphone running Windows Phone (OS 7.5 to 8)
- Windows Phone Marketplace Login
- Diversity Workbench Login
  (only available for approved research projects)

Taxon Lists

A number of reference lists for taxon names are freely available for DiversityMobile (DM) usage. They can be downloaded from an SNSB web server and saved on the smartphone. There is no further need to type in the full taxonomic names of organisms. Only the first one or two letters of the genus (and species) names are required. For instance, 'ac ps' will select for *Acer pseudoplatanus*.
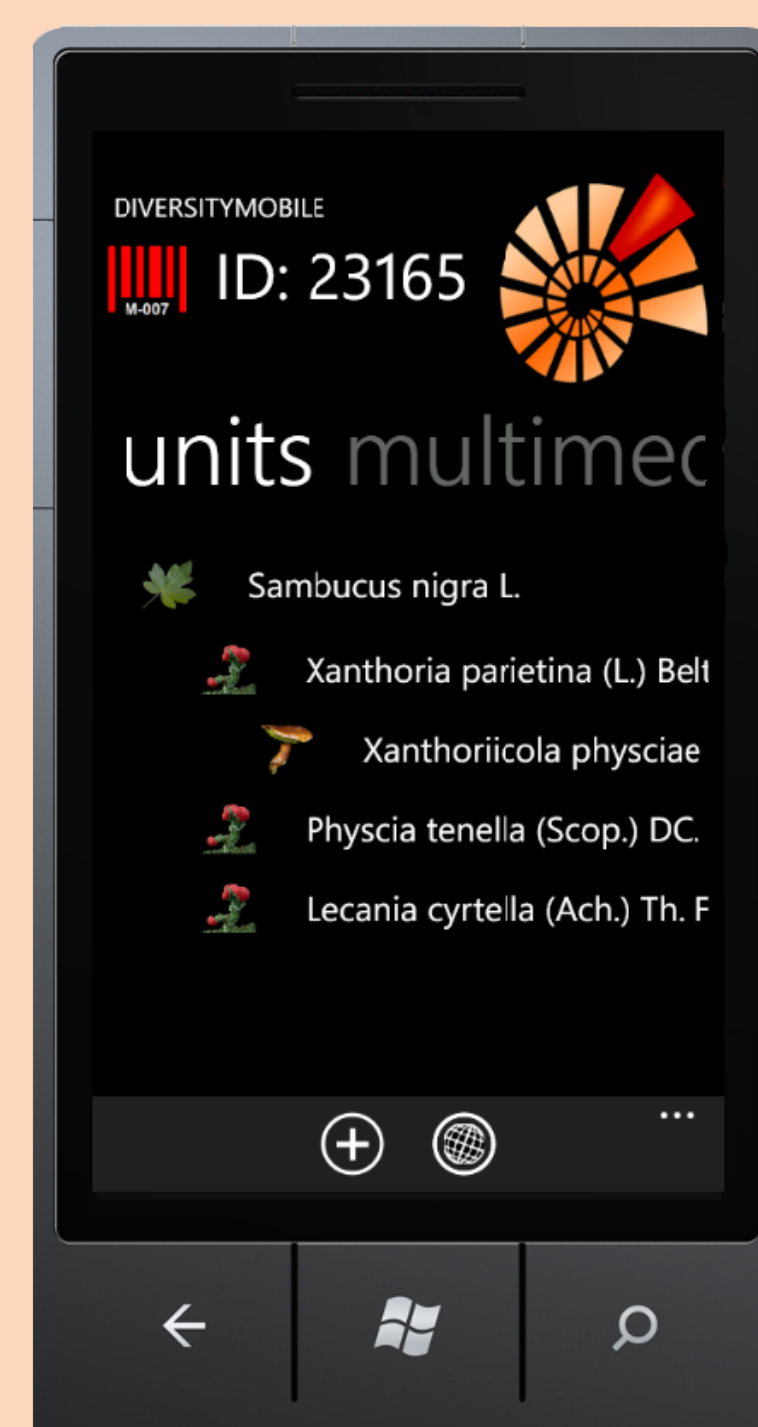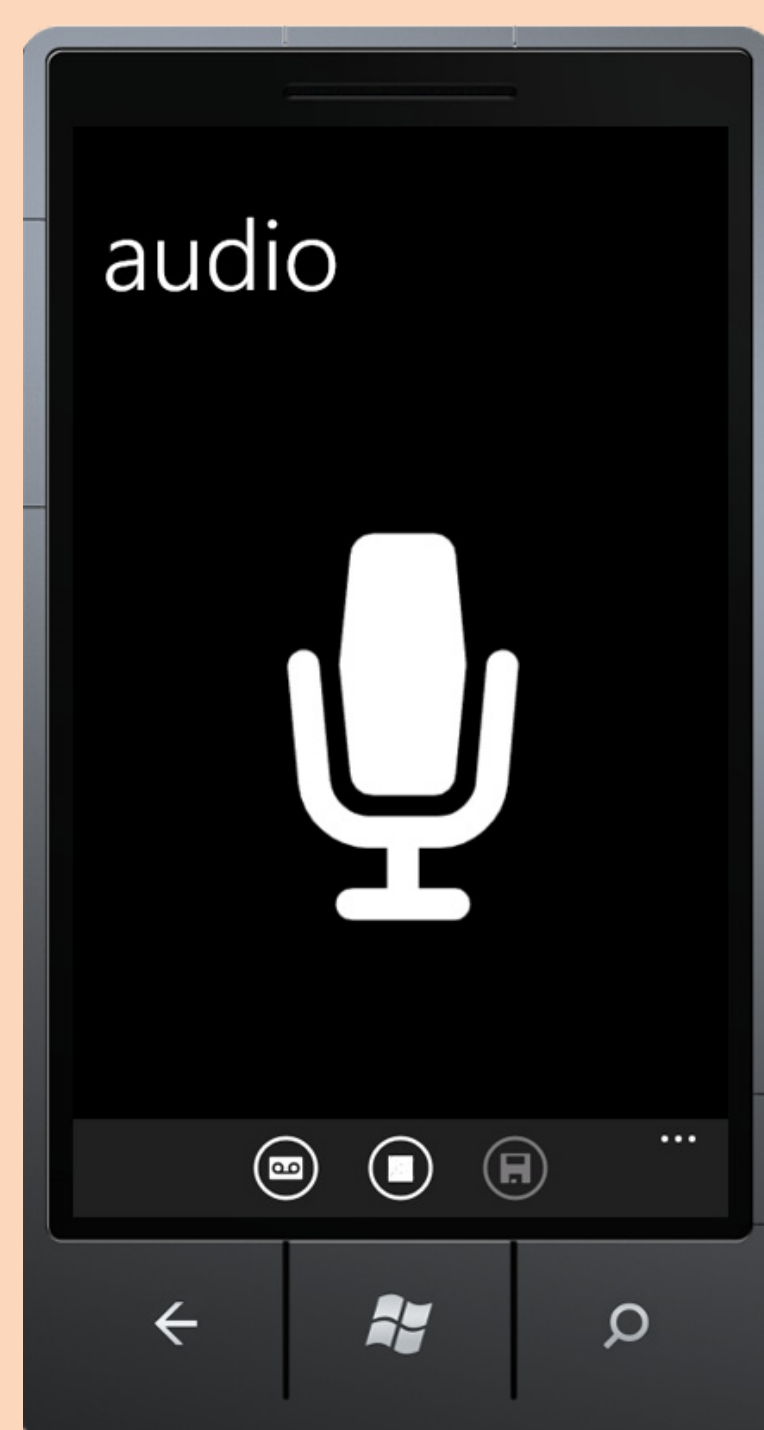
Maps & Geo-Objects

DM provides the option to use topographic maps and self-created geo-objects as underlying layers to visualize the current position, previously stored research localities and field trip routes. Maps can be downloaded from a web server and subsequently be used offline in the field. Marked points indicate the geographic position of the smartphone and the coordinates of earlier records.

Recording Data

DM is set up for recording data of observations and collected specimens. The application supports different input modes: single collecting or observation events as well as entire series of observation events during an excursion or expedition can be stored. Additionally, habitat details, taxonomy, measurements, associated taxa, etc. can be recorded with DM.
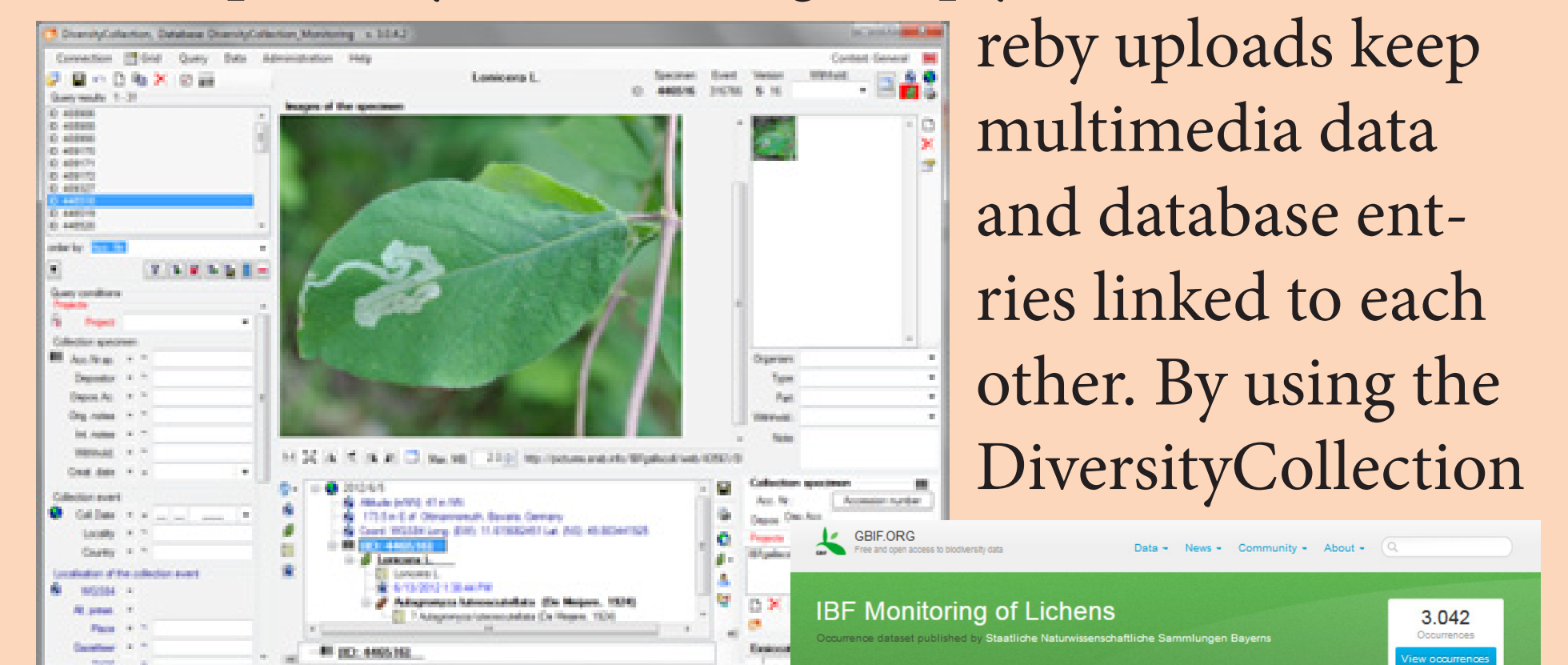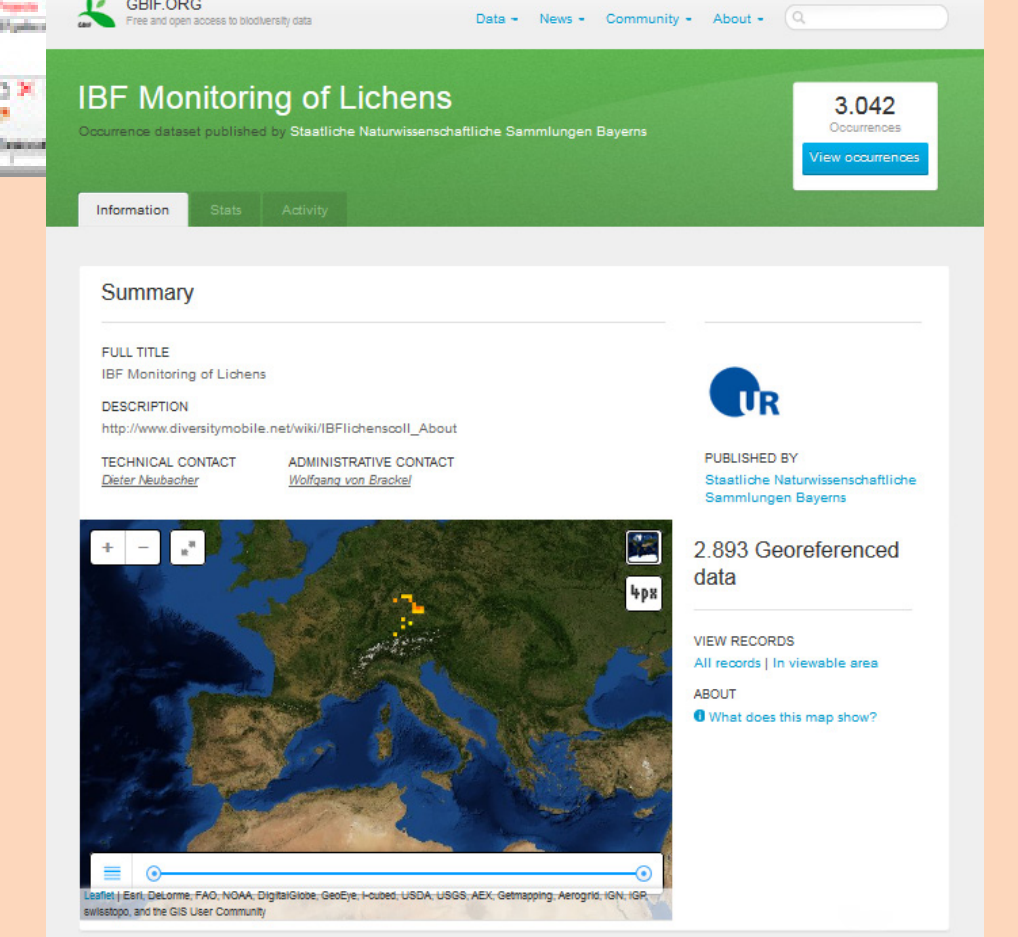
Multimedia & GPS

Images, audio and video files recorded by the device may also be managed. Thus database entries about the location and the organism are linked with the respective multimedia files (e.g., vocal signals). This feature can also be used as a voice recorder. GPS coordinates are generated by the device and addressed to the DM database entries for events and observation units.

Upload data in DWB

At the end of a field campaign and being connected to the Internet again, all metadata, GPS data and multimedia files can be uploaded easily onto a DWB data repository via selecting simply one button. Thereby uploads keep multimedia data and database entries linked to each other. By using the DiversityCollection client, subsequent quality control and management of up-loaded data is possible. In addition, data can be published via GBIF and other data portals.
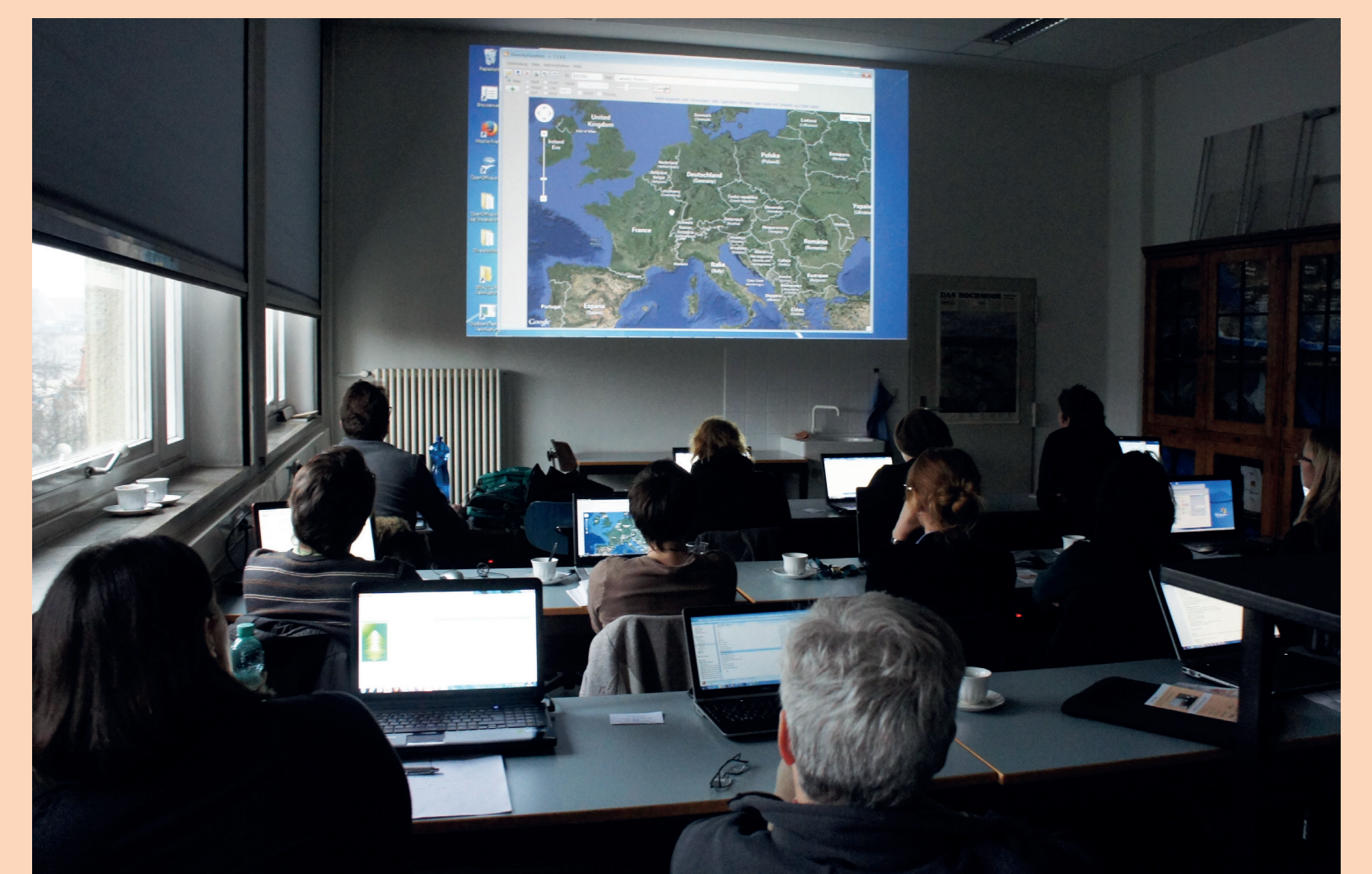
Download

The application is part of the DWB virtual research environment and available for free download on www.windowsstore.com. Please contact the SNSB IT Center help desk to receive a user database account. For detailed documentation and manuals visit http://www.diversitymobile.net. The source code is open and freely accessible on https://github.com/rollingthunder/DiversityMobile/.

Training

Since 2007, the SNSB IT Center regularly organizes training workshops for the Diversity Workbench, DiversityMobile being one component of it.

Authors

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