The *Diversity Workbench Framework*: Data Retrieval with *DiversityMobile* and Dataflow from *DiversityMobile* to GBIF

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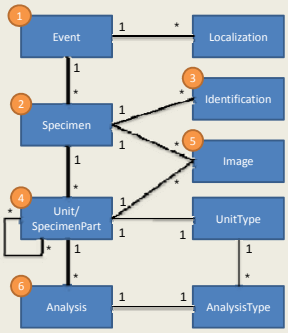
The Diversity Workbench

DiversityMobile

The gathering of data in the field is organized in the component *DiversityMobile* which is set up to enter, modify, or – if necessary – delete ecological and biological monitoring data in the field via a mobile device (www.diversitymobile.net).



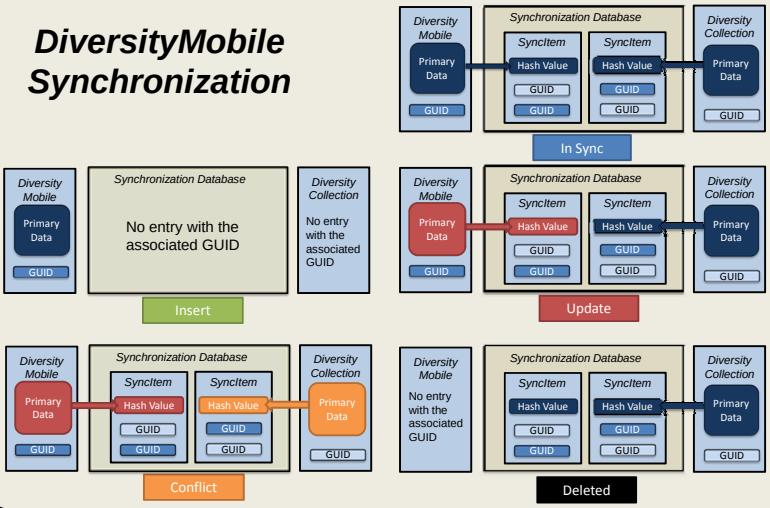
The field data retrieved via the mobile device using the *DiversityMobile* client are stored in a database on this device and associated with a Global Unique Identifier (GUID). This local database contains a set of definitions, e.g. lists of taxonomic names and project-specific settings.

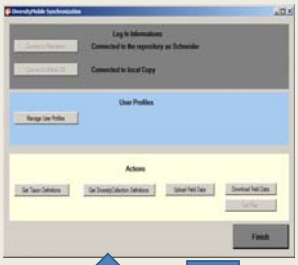
Ecological Research and Monitoring Data

Definitions Stored Data

Primary Field Data

DiversityMobile Synchronization





DiversityMobile Synchronization is transferring the data from *DiversityMobile* to *DiversityCollection* (and vice versa) via the internet.

For every *DiversityMobile* client exists a separate synchronization database with the table *SyncItem*. For each object on the client or the server side exists an entry in the synchronization database containing the GUID and a hash value calculated from the values of the primary data. According to the values of the entries in this table the state of the synchronization is calculated.

The synchronization database contains a table named *FieldState* for conflict detection. In this table, for every field of an object a hash value is calculated. In case of a conflict the hash values differ in the associated entries.

Definitions Stored Data

Primary Field Data

DiversityCollection

The data are stored in the local master database *DiversityCollection*. For a further consistent data flow it is crucial that the database is set up at an institutional data repository which acts as GBIF data provider like the IT Center of the Bavarian Natural History Collections. There the GUID is connected with a persistent Uniform Resource Identifier (URI). The latter is published and accessed by global networks like GBIF.

Institutional data repository

BioCASE

PyWrapper

Data Export

ABCD

GBIF