



BExIS++

Forschungsdatenmanagement

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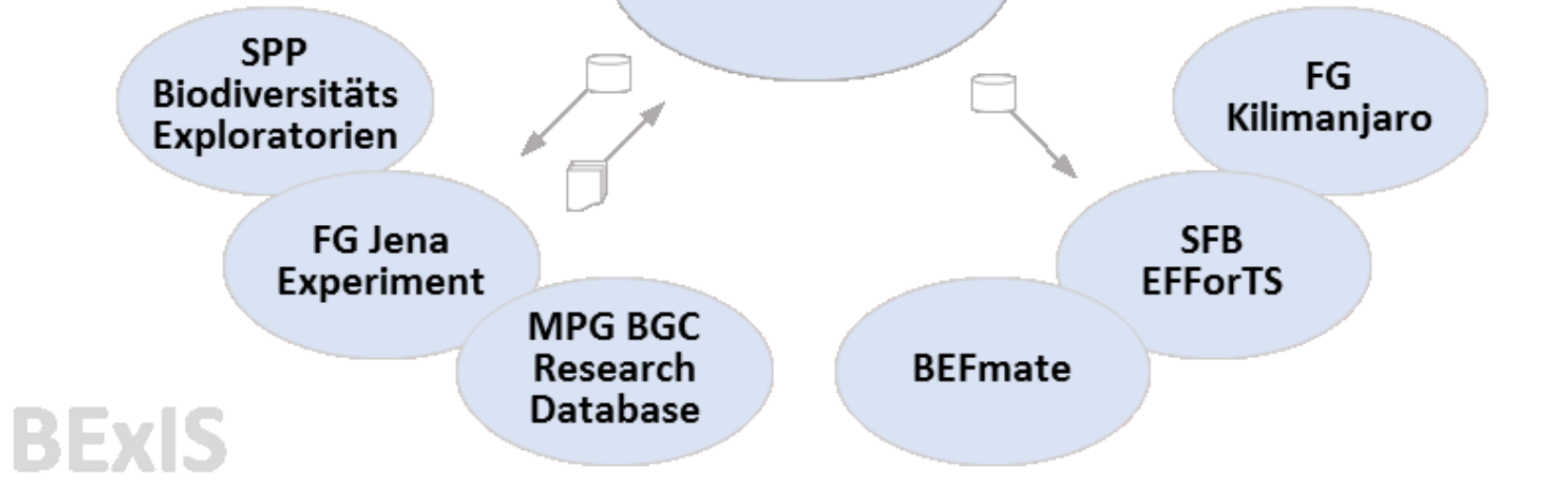
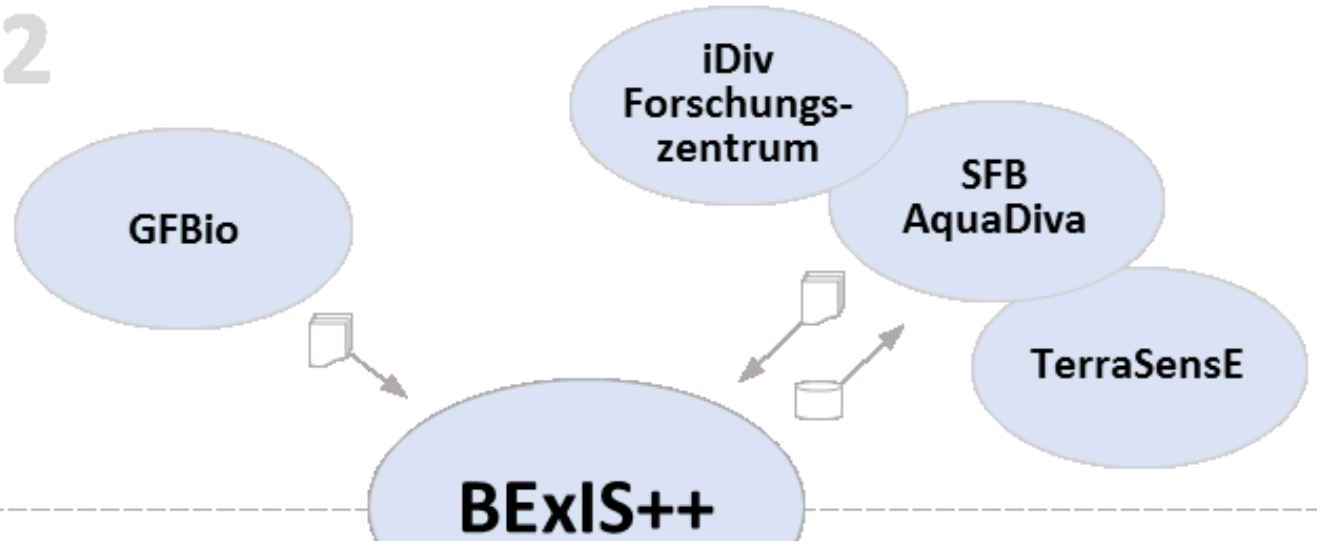
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Deutsche
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BEXIS 2



BEXIS



BExIS++ Sub-Projects

Technical Sub-Project

Modularization of existing BExIS by developing a generic software

Curricular Sub-Project

Teach students how to collect & publish primary field data by using existing IT-infrastructure

Organizational Sub-Project

Development of a operational concept for system-access, scientific data publication and establish a community of contributors & participants



Curricular Goals

Ecology Students (B.Sc./M.Sc.) :

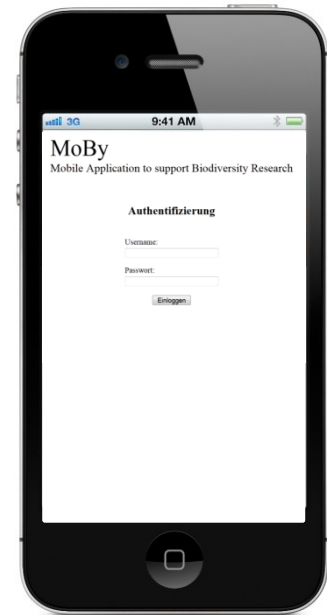
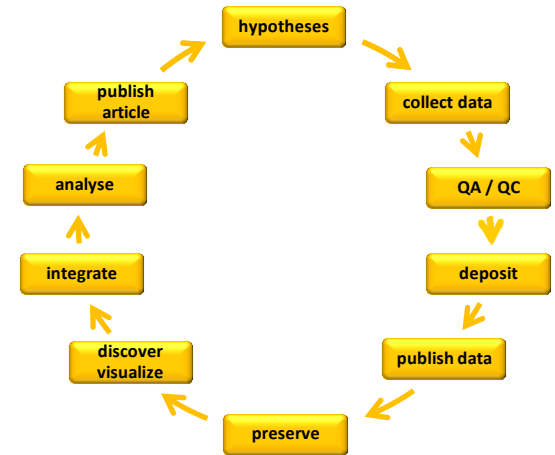
- introducing research data management & Data Life Cycle concepts
- training in digital field data collection & on existing IS (EOL, GBIF, BExIS, ...)

Computer Science Students (B.Sc./M.Sc.) :

- software development projects (e.g. mobile application)
- Raising awareness for Biodiversity/ Ecology data handling needs

FSU Graduate Academy (PhD)

- Course: Research Data Management – Make Your Data Count!



<http://www.luxuo.com/wp-content/uploads/2012/05/Ritz-Carleton-mobile-app.jpg>



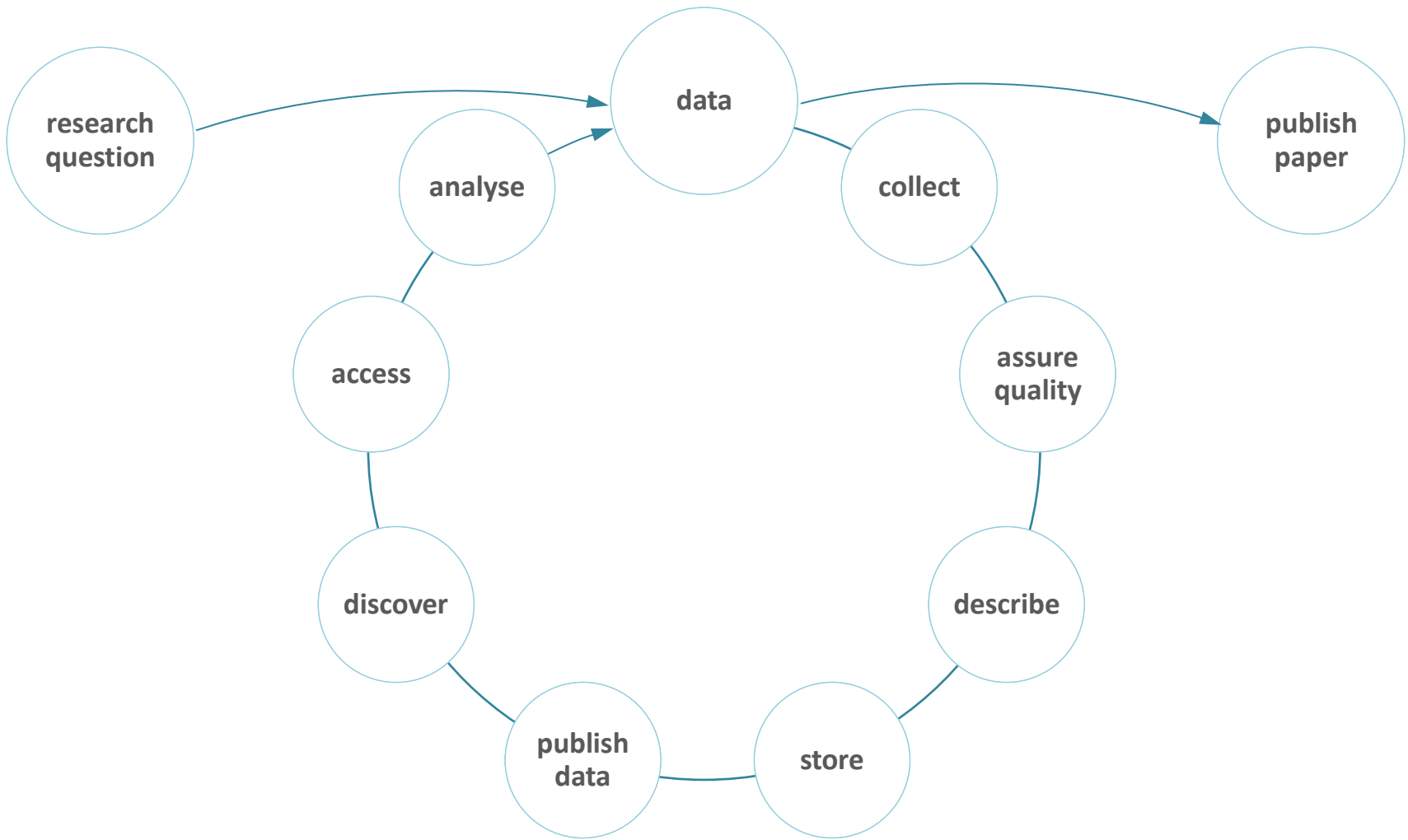
Organizational Goals

- Promoting data management and publishing:
 - Establish a DOI centre at FSU
 - Supporting scientists at FSU
- User Support for BEXIS 2 (Help Desk, Tutorials, Best Practices)
- TDWG 2014 Workshop Proposals:
 - Software solutions for data management in biodiversity research projects (FSU, DWB)
 - How to Teach Data Management in Biodiversity Effectively? (FSU, U. Kansas)



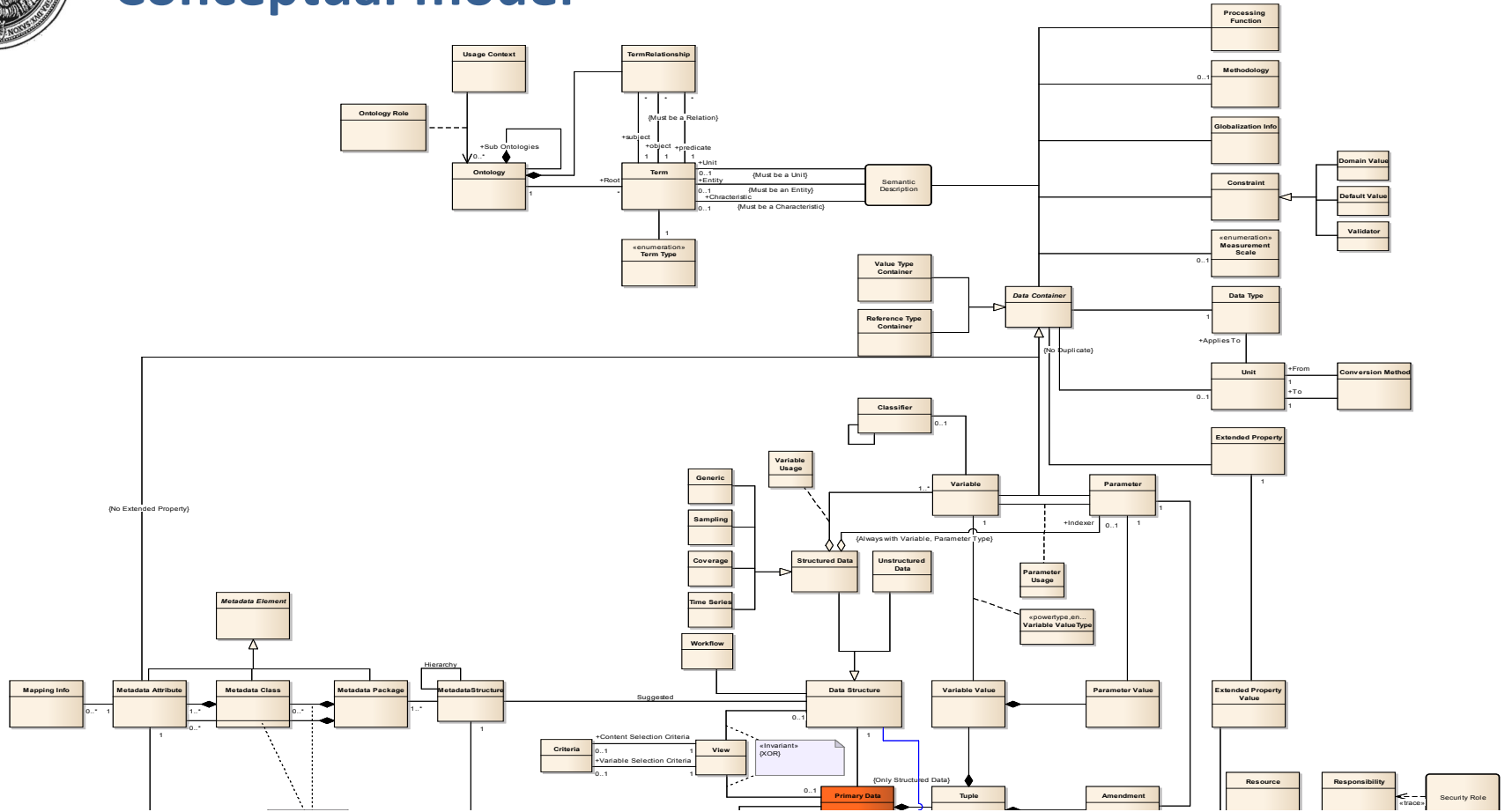


Data Life Cycle





Conceptual model

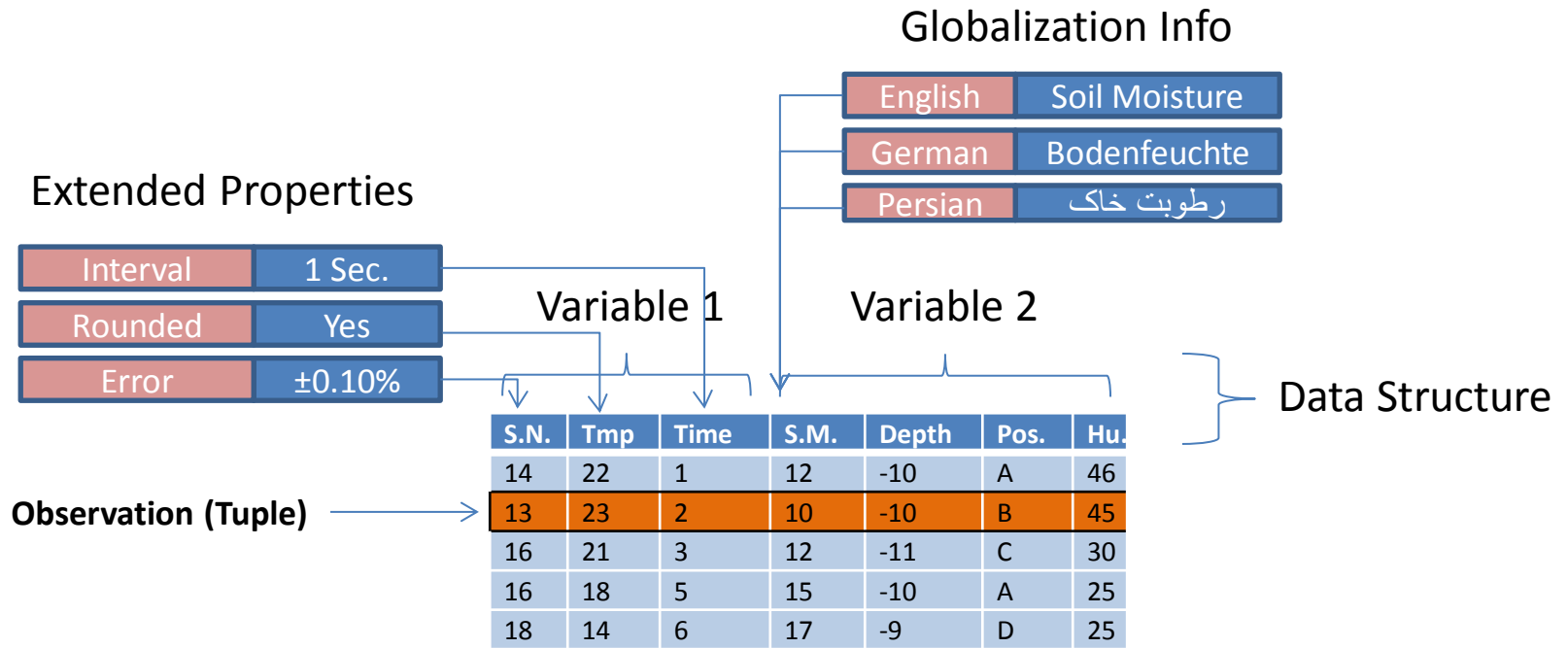


Javad Chamanara und Birgitta König-Ries, 2013, A conceptual model for data management in the field of ecology. Ecological Informatics.

<http://fusion.cs.uni-jena.de/bppCM/index.htm>

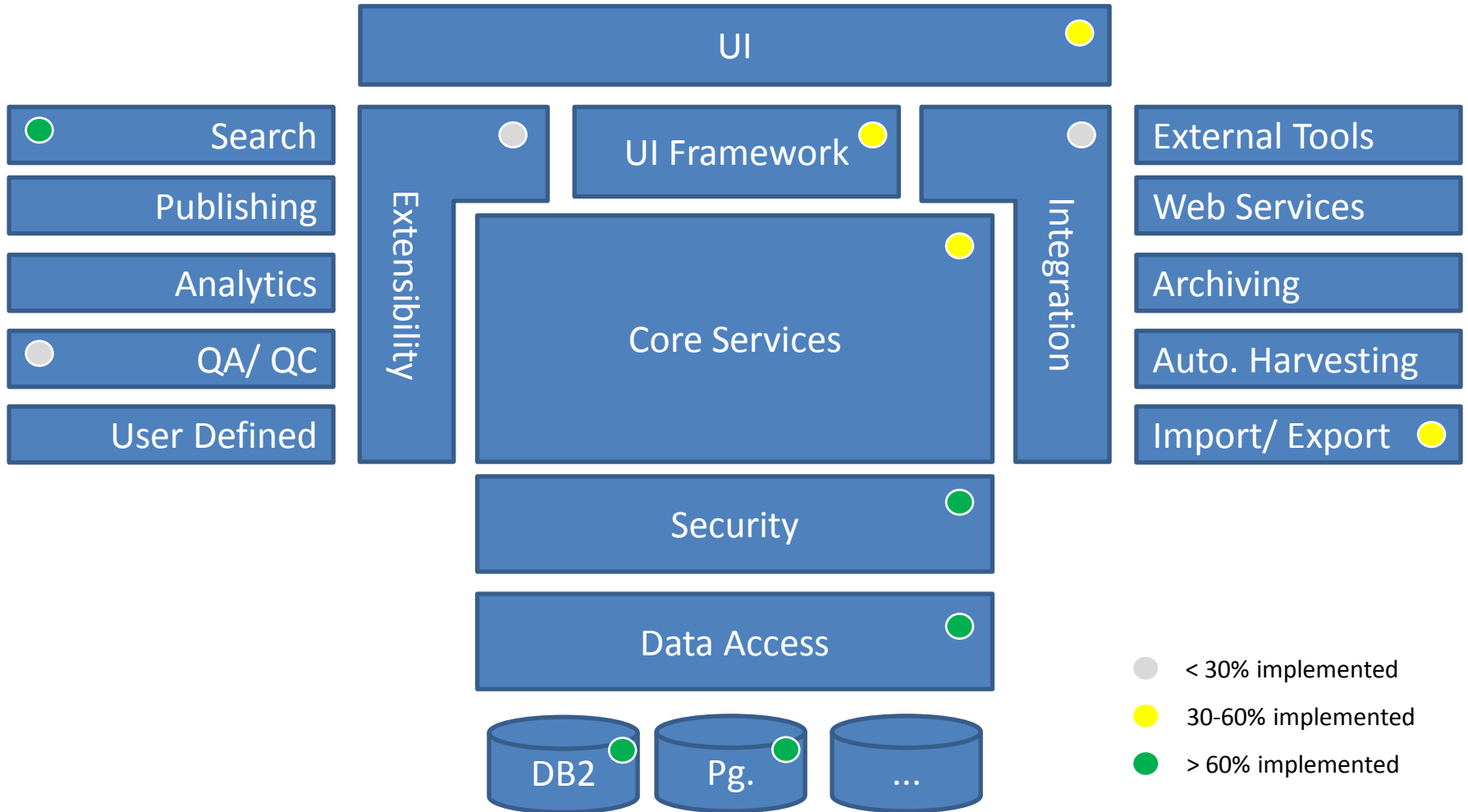


Dataset Concept





Application Architecture





Technology

- Microsoft technology environment:
.NET 4.0, C#, MVC 3.0, Lucene.NET, NHibernate, telerik, IIS
- DBMS:
IBM DB2 + XML, PostgreSQL & , Oracle
- Free and Open Source Software (GNU GPL 3.0 licence)



1st Release of BEXIS 2.0.0 - March 2013

- Core Module
- Data Discovery (faceted search in metadata based on Lucene)

The screenshot displays the BExIS++ Demo web interface. On the left, a 'Category' sidebar lists various facets such as 'Dataset Author', 'Project Name', 'Project Institute', 'Taxon', and 'Processes', each with a count of items. The main content area shows a search results table with columns for 'Functions', 'Id', 'Title', 'Project Name', and 'Introduction'. The table lists 17 items, including LIDAR data, insect raw data, and bat activity data. A search bar at the top right contains the text 'All' and a 'Search' button. The interface also includes a 'Home' link and a 'Log On' button.

Functions	Id	Title	Project Name	Introduction
MD PD DS	3	LIDAR_ALB_100_0.75	BExIS	Structure and scale of forest canop...
MD PD DS	4	LIDAR_SCH_100_0.75	BExIS	Structure and scale of forest canop...
MD PD DS	5	LIDAR_HAI_100_0.75_Sommer	BExIS	Structure and scale of forest canop...
MD PD DS	6	LIDAR_HAI_100_0.75_Winter	BExIS	Structure and scale of forest canop...
MD PD DS	7	Kurzflugler_Raw1	Invertebrates	The effects of land use on arthropo...
MD PD DS	8	Netzflugler_Raw1	Invertebrates	The effects of land use on arthropo...
MD PD DS	9	Wanzen_Raw1	Invertebrates	The effects of land use on arthropo...
MD PD DS	10	Heuschrecken_Raw1	Invertebrates	The effects of land use on arthropo...
MD PD DS	11	Bats_activity_allExploratories_2009	Vertebrates	Assessment of bat occurrence and act...
MD PD DS	12	Bats_activity_allExploratories_2010	Vertebrates	Assessment of bat occurrence and act...
MD PD DS	13	MinSoil_2011_Mineral_Soil_CN	Soil (abiotic)	Determination of C and N concentrat...
MD PD DS	14	MinSoil_2011_Organic_Horizons_CN	Soil (abiotic)	Determination of C and N concentrat...
MD PD DS	15	MinSoil_2011_Roots_CN	Soil (abiotic)	Determination of C and N concentrat...
MD PD DS	16	Bird survey data 2008	BIRDS	Bird surveying data during breeding...
MD PD DS	17	Bird survey data 2009	BIRDS	Bird surveying data during breeding...



BEXIS 2.1.0 - Sept. 2013

- **Security** (User, Role)
- **Research Planning** (CRUD data structure, units, attributes, data type)
- **Data Collection** (upload Excel, CSV)
- **Dataset versioning**
- **Unicode** support
- **Data Discovery Administration**

BEXIS 2.1.0 Demo

Home Search Plan Collect Administration

Users

Actions	User ID	User Name	Email	Comment
<input type="checkbox"/>	101	roman	roman.gerlach@uni-jena.de	
<input type="checkbox"/>	2	javad	javad.chamanara@uni-jena.de	

BEXIS 2.1.0 Demo

Home Search Plan Collect Administration

Create Data Structure

Bird

Info: Name: Bird Description: Bird observation

Number of Variables: 6 Data Structure ID: 6

Functions	Name	EP PlotID	Date	Acceptor_gentilis	Buteo_buteo	Falco_tinnunculus	Milvus_milvus
<input type="checkbox"/>	Name	EP PlotID	Date	Acceptor_gentilis	Buteo_buteo	Falco_tinnunculus	Milvus_milvus
<input type="checkbox"/>	VariableID	29	45	46	47	48	49
<input type="checkbox"/>	ShortName	EP_PlotID	Date	Acceptor_gentilis	Buteo_buteo	Falco_tinnunculus	Milvus_milvus

BEXIS 2.1.0 Demo

Home Search Plan

Manage Search Component

With this interface you are able to custom through the interface will alter the Lucene BEXIS installation package.

Add Item

Functions	Display Name	Se
<input type="checkbox"/>	Id	Ge
<input type="checkbox"/>	Title	Ca
<input type="checkbox"/>	Dataset Owner	Ca
<input type="checkbox"/>	Dataset Author	Ca
<input type="checkbox"/>	Project Name	Ca
<input type="checkbox"/>	Project Institute	Ca
<input type="checkbox"/>	Taxon	Ca
<input type="checkbox"/>	Processes	Ca
<input type="checkbox"/>	Services	Ca
<input type="checkbox"/>	Keyword	Ca
<input type="checkbox"/>	Introduction	Ca
<input type="checkbox"/>	Dataset Author	Fa
<input type="checkbox"/>	UI Component	Fa
<input type="checkbox"/>	Project Name	Fa
<input type="checkbox"/>	Project Institute	Fa
<input type="checkbox"/>	Taxon	Fa
<input type="checkbox"/>	Processes	Fa
<input type="checkbox"/>	Services	Fa
<input type="checkbox"/>	Keyword	Fa
<input type="checkbox"/>	Quality Level	Pr

Edit

General

id: 32

Display Name: display name of the item in the search user interface

Source Name: name of the field in the lucene index

Metadata Node: Select please corresponding metadata node to be used for the Lucene index

Header Item: tick if this item should be available as a category (e.g. as a grid column)

Default Header Item: tick if the header item should be visible upon page load

Type

Search Component Type: Select please search pattern to be used for this item

Data Type: Select please data type to be indexed

Index Parameters

Store: tick to store the entire item value in addition to the index

Multi Value: tick if this item contains multiple values per field (e.g. Name A; Name B; Name C)

Analyzed: tick if this item should be analyzed for the index (default)

Norm: tick if this item should be analyzed for the index (default)

Boost: 0 specify the priority of this item within the search index (10=highest priority)

Property Parameters

UI Component Type: choose a UI component Type according to the number of options (1-3 = item, 3-15 = list, >15 = range)

Selection Type: choose a selection type based how many choices should be allowed (single, multiple)

Sort Direction: default sort direction for this item (ascending, descending)

dateFormat: bgc:format metadata node providing the date format

Analyzed: Metadata Node

<input type="checkbox"/>	bgc:id
<input type="checkbox"/>	bgc:title
<input type="checkbox"/>	bgc:owner
<input type="checkbox"/>	bgc:author
<input type="checkbox"/>	bgc:projectName
<input type="checkbox"/>	bgc:institute
<input type="checkbox"/>	bgc:taxon
<input type="checkbox"/>	bgc:process
<input type="checkbox"/>	bgc:service
<input type="checkbox"/>	bgc:keyword
<input type="checkbox"/>	bgc:introduction
<input type="checkbox"/>	bgc:author
<input type="checkbox"/>	bgc:projectName
<input type="checkbox"/>	bgc:institute
<input type="checkbox"/>	bgc:taxon
<input type="checkbox"/>	bgc:process
<input type="checkbox"/>	bgc:service
<input type="checkbox"/>	bgc:keyword
<input type="checkbox"/>	bgc:qualityLevel



BEXIS 2.2.0 - Dec. 2013

- Security (Feature)
- Data Access (download Excel/template)
- Stabilization

BEXIS 2.2.0 Staging

Welcome dblaa! [Log Off]
Default [Change]

Home Search Plan Collect Administration

Roles

+ New Role

Actions	Role ID	Role Name	Description
	8	Scientist	for contributing scientists, access to search, plan and collect
	6	Public	for public available features, up to now: search
	5	Admin	administration rights, access to all features

BEXIS 2.2.0 Staging

Welcome dblaa! [Log Off]
Default [Change]

Home Search Plan Collect Administration

Select File

Please select a data file to be uploaded to the BEXIS repository.

Very large data files that may take several minutes or hours to transfer, should be uploaded to the server before entering the Upload Wizard. Please contact your systems administrator for assistance.

BEXIS 2.2.0 Demo

Welcome demo! [Log Off]
Default [Change]

Home Search Plan Collect Administration

Drag a column header and drop it here to group by that column

Identifier	EP PlotID	Family	individuals total	Species
1	AEG31	Neuroptera	2	Panorpa vilgaris
2	AEG23	Neuroptera	1	Micromus variegatus
3	AEG23	Neuroptera	1	Chrysoperla pallida
4	AEG23	Neuroptera	1	Panorpa vilgaris
5	AEG23	Neuroptera	1	Chrysoperla pallida

Displaying Items 1 - 5 of 8

Download

Öffnen von 8_2_Netzfluegler_RawLxism

Sie möchten folgende Datei öffnen:

8_2_Netzfluegler_RawLxism

Vom Typ: Microsoft Excel-Arbeitsblatt mit Makros (17,1 KB)
Von: http://besiz2.vmguest.uni-jena.de

Wie soll Firefox mit dieser Datei verfahren?

Öffnen mit Microsoft Excel (Standard)

DownThemAll!

d1a OneClick!

Datei speichern

Für Dateien dieses Typs immer diese Aktion ausführen

OK Abbrechen



What's next? - Release Plan

2.3

- > Research Planning
 - \ metadata creation
- > System
 - \ PostgreSQL support
- > Security
 - \ datasets

2.4

- > Research Planning
 - \ metadata schema import
- > Data Collection
 - \ geospatial data support

2.5

- > System
 - \ update routine
- > QA/QC
 - \ consistency, conformance

April 2014

Juli 2014

September 2014



Outlook 2nd Phase (2014-2017)

Usability

- Plug'n'Play module integration
- Single sign-on support
- Semantic-based and personalized data discovery
- Visualizations tools for data discovery and exploration

Features

- Support sensor/lab/geo data types
- Ressource management module
- interlink with international data archives
- Data integration, manipulation and analysis/mining
- Quality control framework

Community building (user/developer)



Demo

Contact: roman.gerlach@uni-jena.de



Vielen Dank!

Contact: roman.gerlach@uni-jena.de