BExIS 2.4.0 Release Notes 22.07.2014

With this release of the BExIS data management application the security system has been completed. Now users are able to set permissions on individual datasets for individual users and roles. The existing feature security has been extended, now showing also effective permissions in hierarchical settings, for example, a user may inherited permissions from a role she is asociated with.

Another milestone of this release is that BExIS 2 now supports unstructured data. So users are able to register their data with the system (i.e. create metadata) and then upload any type of file (e.g. NetCDF, image, video, etc.) to the system or provide a link to an external resource (e.g. database, fileserver, DOI).

In order to efficiently transfer large files and large numbers of files to the respective server the system has been exended with a dedicated user interface as part of the Data Collection module.

Further, search request are now run against primary data as well, and not only metadata.

Depending on individual permissions, users are able to download any type of data from the system. For tabular data (i.e. structured data) any adjustment made to the view (sorting, filtering, column selection) will take effect in the downloaded file (WYSIWYG). Structured data may be downloaded as Excel spreadsheet, comma or tab separated file.

Besides these new features, extensive testing has been conducted on all components, resulting once more in number of bugs and improvements being identified and fixed.

I. Software Information

- Name: BExIS
- Version: 2.4.0
- Application Type: Web Application
- Platform: Windows

II. License Agreement

The contents included in this software are licensed to you, the end user. Your use of BEXIS software is subject to the terms of an End User License Agreement (EULA) accompanying the software and located in the \License subdirectory. You must read and accept the terms of the EULA before you access or use BEXIS software. If you do not agree to the terms of the EULA, you are not authorized to use BEXIS software.

III. System Requirements

- Operating System: Windows Server 2003 or 2008. For personal or small installations the software is able to run on Windows 7 too.
- Application Server: IIS 7.0 +. For IIS settings see the installation manual

- DBMS:
    - IBM DB2 Express C 10 (version 10.1.2) 32 or 64 bits. BEXIS has not been tested on other versions!
    - PostgreSQL: (version 9.3) 32 or 64 bits. BEXIS has not been tested on other versions!
- Dependencies
    - .NET Framework 4.0, created by Microsoft
    - ASP.NET MVC 3.0, created by Microsoft
    - Lucene.Net 3.0.3, created by Lucene.Net Community
    - Lucene.Net Contrib 3.0.3, created by Lucene.Net Community
    - SharpZipLib 0.86.0, created by ICSharpCode
    - NHibernate 3.3.3.4001 created by NHibernate Community
    - Telerik MVC Extensions 2012.3.1018, created by Telerik
    - Unity Application Block 2.1.505.2, created by Microsoft
- Disk Space:
    - The Software: 20-30 MB
    - The Workspace: 10 MB and more, based on the number of modules and the amount of data

IV. Installation

To install the software, please follow the instructions in the Install_Manual_BPP240.pdf located in the \Manuals subdirectory.

V. System Functionality

The software consists of two main types of components; 1) core components that include Data Lifecycle Management (DLM), Web Interface, Security and some other internally used ones. 2) A collection of coherent features and use-cases bundled as modules so that each module is designed around one or a small set of steps of the DLM workflow i.e., Data Submission, Quality Control/ Assurance, Data Publication and so on.

a) Data Discovery Module

The main purpose of this module is to enable users to search for data available within the system. The module executes user defined queries against the metadata and primary data and provides advanced features such as facets, keywords, categories, filters, grouping, and sorting. Depending on individual user permissions the system provides access to full metadata records, the underlying data structure and the primary data.

Existing Features
- **Discover data using metadata dimensions (aspects, facets) and attributes** (version 2.0.0)
- **Configure search module through a user interface** (version 2.1.0)

New Features
- **Primary data search**: Besides metadata, also primary data is now indexed and searchable. So users are able to search, for example, for specific plot names or variable names

Changed/ Enhanced Features

- The user interface of the search as well as the search manager has been improved

Dropped Features

- NA

Fixed Issues

- NA

Breaking Changes

- NA

Known Issues

- NA

b) Data Collection Module

The purpose of the data collection module is to allow users to submit data alongside with metadata. The module processes the data in accordance with its data/ metadata structure rules to find any inconsistencies and communicates with the user to overcome the issues. The module may also notify or trigger other internal services such as the search indexing engine to make the dataset ready for discovery. Based on the settings of the associated research context/ plan, datasets get versioned.

Existing Features

- **Uploading an Excel file** (version 2.1.0)
- **Uploading a delimited file (CSV, TSV),** (version 2.2.0)
- **Adding data to an existing dataset** (version 2.2.0)
- **Create New Structured Dataset**: (version 2.3.0)

New Features

- **Create Unstructured Dataset**: With this feature users are able to create a new unstructured dataset and associate it with a research plan, and a metadata schema (e.g. ABCD). This feature contains a wizard for guided metadata entry in accordance to the selected metadata schema.
- **Push big files to server:** A new interface for uploading multiple large files to the server

Changed/ Enhanced Features

- minor user interface changes of the **Create New Dataset** wizard
- The **Upload Data to Dataset Wizard** has been adapted to support both, structured and unstructured data.

Dropped Features

- NA

Fixed Issues

- NA

Breaking Changes

- NA

Known Issues
- Empty rows within or at the end of Excel or CSV files lead to validation errors and should be removed before adding (i.e. uploading) data to a dataset

c) Security Module

Authentication and authorization of users against the application and modules' functionalities as well as data are main duties of the security module. Defining and managing all security related entities such as users, roles, and permissions are also part of this module.

Existing Features
- **User self-registration** (version 2.1.0)
- **Users and roles management for an administrator** (version 2.1.0)
- **Feature security** (version 2.2.0)

New Features
- **Dataset Security**: manage how users or roles can access (i.e. read, update, delete) the primary data of individual datasets.

Changed/ Enhanced Features
- **Feature security**: The management interface now shows also effective permission inherited from higher level settings

Dropped Features
- Spaces in user names and passwords are not allowed anymore

Fixed Issues
- NA

Breaking Changes
- NA

Known Issues
- NA

d) Research Planning Module

The purpose of the planning module is to provide and manage contextual information related to data management. This covers many different aspects such as supporting users in defining data and metadata structures, units, workflows, procedures, administrative bindings (projects, institutions, people), as well as time and resources planning.

Every research context may have its specific copyright rules, publishing policies, quality control procedures and so on. Entities such as data and metadata structures, units and so on can be shared among different research contexts and users.

A conceptual model showing the connection and relationship between the different terms and entities is available at: http://fusion.cs.uni-jena.de/bppCM/index.htm

Existing Features

- **Data structure manager** (version 2.1.0)
- **Data attribute manager** (version 2.1.0)
- **Data type manager** (version 2.1.0)
- **Unit manager** (version 2.1.0)

New Features

- Create **unstructured data structures**: besides structured data (e.g. tabular) also other types of data are now supported by the system. "Unstructured Data Structure" sounds contradictory, but conceptually these are dataset where the internal data structure is not known to or currently not supported by the system, but they still need to be deferentiated and registered with the system (e.g. JPEG, TIFF, NetCDF).

Changed/ Enhanced Features

- In the Data Structure Manager variables in data structures can be reordered now
- Minor improvements in all related user interfaces (e.g. filtering added, messaging)

Dropped Features

- NA

Fixed Issues

- Error when editing /deleting data structure /data attributes / data types / units is fixed

Breaking Changes

- NA

Known Issues

- NA

e) Data Dissemination Module

The main purpose of this module is to provide users with access to primary data and metadata managed by the system. In the future this module shall also provide support for publishing, orchestrating and harvesting data of the system by external resources.

Existing Features

- **Primary data download as Microsoft Excel file**

New Features

- **Primary data download as comma or tab separated file (CSV)**
- **Download of unstructured data (single file, multiple files in ZIP)**

Changed/ Enhanced Features

- Download of structured primary data has been enhanced to allow **subset download** based on filtering, sorting, column selection (WYSIWYG).

Dropped Features

- NA

Fixed Issues

- NA

Breaking Changes

- NA

Known Issues

- NA

VI. Contact

Help desk:

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