



Project no. 018340

Project acronym: EDIT

Project title: Toward the European Distributed Institute of Taxonomy

Instrument: Network of Excellence

Thematic Priority: Sub-Priority 1.1.6.3: "Global Change and Ecosystems"

C5.092 Report on the 4th ISTC meeting and Draft Workplan for JPA-5

Due date of component: Month 45
Actual submission date: Month 45

Start date of project: 01/03/2006

Duration: 5 years

Organisation name of lead contractor for this component: 9 FUB-BGBM

Revision Final

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination Level		
PU	Public	x
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	



EUROPEAN DISTRIBUTED INSTITUTE OF TAXONOMY (EDIT)

WP5: Internet Platform for Cybertaxonomy

INFORMATION SCIENCE & TECHNOLOGY COMMISSION (ISTC)

4th Meeting, September 15-16, 2009

Minutes

Present: CBS, Utrecht: Gerrit Stegehuis; CUB, Bratislava: Eduard Stloukal; FUB-BGBM, Berlin: Anton Güntsch; HNHM, Budapest: Miklós Rajczy; MfN Berlin: Andreas Hammer; MNHN, Paris: Simon Chagnoux (for Henri Michiels); NBGB, Meise: Jean van Onacker; NHM, London: Chris Sleep (for Adrian Smales); NNM, Leiden: Marian van der Meij; RBG Edinburgh: Martin Pullan; RBG Kew: Mark Jackson; RBINS, Brussels: Cathy Emery (for Eric Danon); RMCA, Tervuren: André de Mûelenaere; SMNS, Stuttgart: Angela Jandl; UPMC/MNHN, Paris: Régine Vignes-Lebbe; UVA, Amsterdam: Yde de Jong.

Apologies: FUB-Informatics, Berlin: Robert Tolksdorf; IBSAS, Bratislava: Karol Marhold; MNHN, Paris: Henri Michiels (represented); Missouri Botanical Garden, St. Louis: Chuck Miller; NHM, London: Adrian Smales (represented); RBINS, Brussels: Eric Danon (represented);

Observers: Abigail Barker (RBGK)

Reports: Lisa Banfield (RBG Edinburgh); Pepe Ciardelli (BGBM, Berlin); Andreas Kohlbecker (BGBM, Berlin); Alexander Kroupa (MfN, Berlin); Patricia Mergen (RMCA, Tervuren); Andreas Müller (BGBM, Berlin); Lutz Suhrbier (FUB, Berlin).

Chair: Walter Berendsohn; **Minutes:** Agnes Kirchhoff.

Day 1

1. Welcome, introduction of participants

2. Agenda

No additions to the agenda

3. Version 2 of the Internet Platform for Cybertaxonomy

Introduction: Walter Berendsohn gave an overview over the current situation of work package 5. Good progress was made over the last year, Platform version 2 will be released in time by the end of September. Problems incurred were mostly related to staff changes.

The Platform on the Internet (WP5.2): Andreas Müller presented developments in the EDIT Cybergate, the Common Data Model (CDM) and the Java library. The EDIT Cybergate provides access to the entire EDIT Internet Platform for Cybertaxonomy, as well as its underlying technologies, with a single graphical user access interface. The EDIT Common Data Model (CDM) and the CDM Library provide programmers with a comprehensive set of functionalities that can be used in diverse applications related to taxonomic data.

ATBI and Monitoring field tools (WP5.2): Alexander Kroupa presented developments such as a new data entry form (Excel format), mobile devices (ArcPad, ESRI), a new compression format for map data (jps) and custom forms for mobile devices. Customised forms will be offered to users, open access maps (e.g. of Russian origin) can be provided to researchers; the captured information is stored in external dbase files.

Discussion: Digital photography of lower quality can be integrated into the portable field tool. It was asked if the field tool is compliant with EDIT GIS tools and standards such as INSPIRE: The data are independent from ArcPad or other native formats and can be exported to any format. The data will be served in the GBIF system. Species lists are stored in dbase files for retrieval in the field, new species can be added directly only via proxy (e.g. 'species1'). A CDM based export of species lists from the taxonomic editor is planned.

The ISTC members have no knowledge of parallel developments.

Bibliographic tools (WP5.3): Walter Berendsohn gave status report about the Virtual Taxonomic Library (ViTaL) component. Personnel problems at the NHML require rearranging the work programme. This has been discussed with the NHM library staff. Metalib and SFX (commercial ExLibris library software), is running and works. Metalib facilitates joint access to libraries and digital resources, but at present only the libraries from Kew and NHML are linked to the catalogue. Parallel developments in Biodiversity Heritage Library (BHL) and ViTaL should be synchronised. Apparently, two harvesters are developed, one with ViTaL, and another with BHL international.

Geographic tools (WP5.4): Patricia Mergen presented the developments of the Geoplatform

Discussion: For Platform version 3 a mirror server of the geo-services should be installed at RMCA, Tervuren. At present it is not planned to restrict the use of the services to EDIT members only. The strategy is to find more international partners willing to host a mirror. The EDIT services should be open to everybody to reach sufficient acceptance. It is important that the GIS services are compliant with the INSPIRE directive (INfrastructure for SPatial INfoRmation in the European Community).

Taxonomic core and Taxonomic Editor (WP5.5): Pepe Ciardelli demonstrated the latest version of the Taxonomic Editor.

Discussion: Automatic identification of duplicates: at present this function is not implemented in the Editor, but a duplicate search function is available in the CDM library. The Taxonomic Editor in a multi-user environment: presently, a basic locking mechanism has been implemented, which will be further elaborated in the near future; for Internet access database connections can be used, a secure solution using a terminal server has been tested; the CDM library includes version history functions for multi user purposes (development driven by CATE). Use of different area standards: the Editor as well as the library is capable of mixing different standards for geographic data (e.g. TDWG, Euro+Med).

Security Infrastructure, single sign on (SSO) (WP5.7): Lutz Suhrbier explained the developments for the security infrastructure and called for more users of the SSO technology either as Service Providers or Identity Providers.

Discussion: Certificates: ways to issue certificates have to be examined by the institutions themselves; there might be different possibilities depending on the type of institution (e.g. university, or associated to a university computing centre) and on the country.

Keys and Descriptions (WP5.6): Régine Vignes-Lebbe demonstrated the current developments of descriptive tools and the exchange format for the EDIT Platform.

Discussion: Focus of developments on the SDD format, plans to incorporate other formats like Scratchpads: as Scratchpads are at this time not providing highly structured data, this will depend on future developments.

Publication support (WP5.8): Andreas Kohlbecker showed new developments in the Data Portal V2.0 and explained how the planned publication tool will work to turn CDM data into print publications. The data will be exported from CDM to XML format and transformed via XSL into a structured preformatted OpenDocument Text (ODT) file.

Discussion: Who to create the publication design and layout: the CDM will supply several layout themes, which can be selected, but for individual output the ODT file needs to be edited; an administrative interface of the CDM portal will provide layout support; HTML/CSS programming of the layout is also possible for people familiar with these web-languages. The CDM Data Portal makes use of Drupal version 5 whereas Scratchpads use Drupal version 6 for a closer integration with Encyclopedia of Life (EoL). At the moment upgrading to version 6 is not scheduled for the CDM DataPortal.

User testing (WP5.10): Lisa Banfield explained testing methods and the approach to software and usability testing in EDIT. Some funding is available to several partners to support testing, but this will start in 2010.

4. Use of standardised evaluation procedures for platform components

Patricia Mergen presented CASCADOSS (<http://www.cascadoss.eu/en/>) and STERNA (<http://www.sterna-net.eu/index.php/en/>). STERNA emphasises the implementation of an extensive evaluation plan. CASCADOSS is a framework for software evaluation.

Discussion: CASCADOSS evaluation could be used for marketing as an argument for further funding.

It was suggested to carry out an evaluation of Platform version 3 for GIS tools in Sept. 2010. No developer time should be used for this. The evaluation should be coordinated in close cooperation with activity 5.10 (software testing). It was agreed that we should now focus on testing. An evaluation could take place later in JPA5.

5. Integration and sustainability

- Progress report

MoU on use of ViTaL: Walter Berendsohn noted that more libraries of EDIT institutions should be connected to ViTaL. Presently, it is not clear, why the Vital/Library component is not more active.

WP5 MoU are accessible via: <http://wp5.e-taxonomy.eu/blog/mou>

- Further ideas for inter-institutional agreements

Discussion: Walter Berendsohn explained the digitisation strategy with priority on Metadata capture for collections. Collections are sorted according to taxonomists needs but the biggest user groups are outside taxonomy. Indexing would open new applications and funding opportunities. Specific technical help is needed for different collection types. An MoU would be on technical collaboration for achieving this goal. Action should be taken by natural history

collections worldwide. EDIT institutions could act as starting points. The IST Commission takes a leadership role on technical side.

Summary: There is no new ISTC memorandum arising from the suggested topics.

Day 2

5. Integration and sustainability (cont.)

- Platform software licensing schemes and overview of open source programming libraries used

The software licences for the EDIT software were agreed. Up to now, no licensing scheme has been chosen for XPer². MPL (Mozilla Public Licence) is recommended, which allows commercial use of the software.

- Sustainability and maintenance of Platform components

Walter Berendsohn reported on directors meeting (20th July 2009, Paris): the directors draw special attention to the sustainability of EDIT, to muster institutional support, Platform tools must be in use by taxonomists by the end of JPA4. The governance of products should be considered.

Walter Berendsohn pointed out that WP5 will run out of budget by August 2010. Some continuation is enabled through other projects such as PESI and BHL-Europe. The BGBM will take the responsibility for the Editor and Portal, but the commitment of other institutions is necessary to secure continued development and maintenance.

Open-source software development in a community as small as ours should be supported by coordinating staff at EDIT institutions.

The participants discussed the benefits of moving the code from BGBM SVN to a more visible system such as SourceForge. It would indicate the appearance of EDIT and additional functionalities such as forums could be useful. However, the transition from SVN to another system will be complex. The possible efforts for this transition should be evaluated. Experience of CATE could be taken as an example.

The setup of a backup site (mirror) was suggested: Edinburgh volunteers to host a mirror. It was agreed to have all source code in the central repository.

It was agreed that read access to SVN should be open for everybody, but write access should be restricted and coordinated.

A forum and steering panel for the coordination of new requirements was requested.

Governance with decisive power is needed for critical decisions (e.g. for Drupal upgrades, fundamental CDM changes). A constant person from one institution should organise this process and the consortium members should support the funding of the person by the end of next year for 5 years.

It was suggested to integrate EDIT in the business model of LifeWatch. For LifeWatch depending on national commitments it is not yet clear how far the national financing scheme will work. EDIT and LifeWatch have only partly overlaps: EDIT is focussed on the development of applications at institutional level whereas LifeWatch is more focussed on a networking level.

Are there plans to install platform components in participating ISCT institutions? Yes, if the researchers at the institutions require this from the IT departments. The products should be introduced to the researchers. CBS will continue to use its own system. Kew is in a decision making process at the moment.

6. Preparing for the 5th Joint Programme of Activities

Activity 5.1 Integration of IST departments; over-all WP5 coordination.

Walter Berendsohn asked the ISTC members, who would be interested in an EDIT platform introduction session (training, demonstration) at their institution.

The following ISTC members expressed interest: RBINS, Tervuren: beginning of January; SMNS, Stuttgart: January; RMCA, Tervuren: not before the documentation is finished; MNHN, Paris: January; NNH, Leiden: not before January; MfN, Berlin: December or January; NHM, London: January.

Some sessions could be organised in joint events: Belgium (RMCA, RBINS, NBGB); Berlin (BGBM, MfN); London (RBGK, NHML).

The Demonstration sessions could be synchronised with the recruiting for usability testing. Volunteers for usability testing are asked to contact RBGE. RBGE will recruit testers at TDWG. The ISTC institutions are invited to consider how new projects can collaborate with EDIT to derive additional synergies.

The Biodiversity Service & Application Tracker (BDTracker), a collection of links to software, tools and resources useful to taxonomists, needs to be updated and extended now. It was discussed if the BD tracker should be handed over to TDWG or GBIF. Walter Berendsohn will ask TDWG for their requirements to move the BD tracker.

Activity 5.2 Platform Implementation and Data Model

Developer tutorials: It was discussed if there is need for more developer tutorials, and for more non-English tutorials. Tutorials can be offered in other languages only if the translation is funded with additional resources. Patricia Mergen will try to follow up translations of demonstrations and documentations in a separate project. Local workshops should be organised by EDIT members.

Activity 5.3. Bibliographic tools

The ViTAL programme is under revision and to be connected with BHL and BHL-Europe.

Activity 5.4 Geographic tools

A video explaining the GIS components is created.

A map services cache is prepared by Pere Roca Ristol in Madrid (CSIC-MNCN). Mirroring becomes more important for the stability of the system with growing number of users.

There will be more support of the geo-mailing list with the new IT person in Tervuren.

It was recommended to Pere Roca to meet the GIS staff from NHM London, RBG Kew and RMCA Tervuren.

The code-base of the GIS software tools is not included in the subversion repository at present. Reporting in one environment would be helpful for bug-tracking. It should be aimed for better ways of integrating the geographic tools into the CDM components (activity 5.2.)

Activity 5.5 Taxonomic core:

For the Taxonomic Editor, specimen-related functions should be improved.

Activity 5.6 Keys and descriptions:

The display of descriptive data will be extended. The implementation of keys has to be discussed. Natural language descriptions will be provided in cooperation with exemplar groups and a PhD student in Paris.

A joint meeting with Key2Nature is planned for September 2010.

User documentation and guidelines are planned.

Activity 5.7 Communication, security infrastructure

The ISTC members are invited to let the FUB-Inf know if they want to join the single sign on system.

Activity 5.8 Publication tools

There is a priority on the development of the portal installation kit and the support of print publication.

RBG Edinburgh has already developments in this direction. A user friendly tool would be helpful. Pdf format output would be useful as well as predefined formats. E-Publishing should be supported too.

A layer for pre-processing between the library and the output process is planned. It would lessen the dependency on programmers work, but the concept for this is not finished yet.

Activity 5.9 Specimen access

This activity was finished in 2008.

Activity 5.10 Software and usability testing

See presentation and discussion above.

7. A consolidated ISTC for all CETAF-related projects?

SYNTHESYS II members, who are not in EDIT could be invited to join the ISTC.

Should the ISTC be a CETAF structure? Objections from ISTC institutions should be sent to Walter Berendsohn.

The ISTC members support the continuation of the ISTC beyond the project period. The ISTC was received positively in evaluations and by the directors. ISTC members think that the committee could make sense for the following reasons: communication of the IT processes, sharing responsibilities, inform about software developments, discussing IT strategies, planning at the local level, information on running international projects, early warning about new systems being developed, see demos of existing systems, present activities within institutions, inform about duplicate developments, feedback on experience with the use of EDIT products, agreements on standards and co-operations.

8. Next meeting

5. and 6. October 2010, at the BGBM (dates of conflicting meetings need to be checked).

WP5 Draft Workplan for JPA-5

Workpackage 5: Internet Platform for Cybertaxonomy: Tools, Sharing, Networking and Integration

Lead: FUB-BGBM, Walter Berendsohn

Work package number		5		Start date or starting event:		0				
Activity Type				Other specific activities						
Participant id				CDC	MNHN	UKBH	CSIC-MNCN	UvA	NHN	NNM
Person-months per participant:										
CBS	FUB-BGBM	NHML	RBGK	SMNS	RBINS	RMCA	NBGB	MIZPA N	IBPAN	HNHM
CUB	IBSAS	INRA	SMEBD	SP2000	BINRAS	ZINRAS	MO	USNM	RBGE	MFN

Objectives

- General: (i) Creation of the Internet Platform for Cybertaxonomy, oriented towards its practical use for revisionary taxonomy, taxonomic biodiversity inventories and monitoring of taxa.
(ii) Integration of the participating institutions' biodiversity informatics and IT resources and activities.
- Fourth 18 month period: (i) Integrate newly developed and existing taxonomic software using the Common Data Model (CDM), the Java Library based on the CDM, and standard data and communication interfaces. Roll out the second and third version of the Internet Platform, cumulating in a fully functional virtual environment for cybertaxonomy.
(ii) Continue the development of co-operative processes among the institutions by means of collaboration in the ISTC (Information Science and Technology Commission), bilateral exchanges of personnel, joint development and application of software, and the conclusion of Memoranda of Understanding on common practices in the IST sector.

Description of work

5.1 Integration of IST departments; over-all WP5 coordination

- 5.1.1 Liaison with Board of Directors and Scientific Advisory Committee (SAC).
- 5.1.2 (Completed) Documentation of IST.
- 5.1.3 Information Science & Technology Committee (ISTC).
- 5.1.4 Management, coordination, and liaison with other Work Packages (WPs).
- 5.1.5 Promote scientific standards and standard tools.

5.2 Creating the Internet Platform for Cybertaxonomy

- 5.2.1 (Completed) Modelling for Revisionary Taxonomy.
- 5.2.2 (Completed) Modelling for taxonomic inventories and modelling.
- 5.2.3 Define additional technical interfaces for non-EDIT applications.
- 5.2.4 (Deferred to 5.7) Identify suitable communication tools as platform components.
- 5.2.5 (Deferred to 5.6) Identify suitable descriptive tools as platform components.
- 5.2.6 (Deferred to 5.2.9 to 5.2.12) Implementation activities: Revisionary Taxonomy.
- 5.2.7 Implementation activities: ATBI's and Monitoring.
- 5.2.8 Designing the Platform Architecture.
- 5.2.9 Modelling of the EDIT Common Data Model (CDM).
- 5.2.10 Implementing a Java CDM Library.
- 5.2.11 Implementing a CDM Community Store.
- 5.2.12 Implementing CDM Transformation Services.
- 5.2.13 (Completed) Implement Experts Database.
- 5.2.14 Organise integration of software developments at partner institutions with the EDIT Platform.
- 5.2.15 Management of developer group.
- 5.3 Virtual Library of Taxonomic Literature and Documentation as a platform component**
- 5.3.1 (Completed) Survey of current practice and requirements, and agreement on standards.
- 5.3.2 (Completed) Software review and recommendations.
- 5.3.3 Development of the resource catalogue.
- 5.3.4 (Deprecated & included in 5.3.2 & 5.3.6) Planning and implementation of repository.
- 5.3.5 (Completed) Intellectual Property Rights (IPR).
- 5.3.6 (Completed) Pilot interface development and implementation.
- 5.3.7 Interface development.
- 5.4 Geographical platform components**
- 5.4.1 (Completed) Access to resources.
- 5.4.2 Provision of output-oriented tools for Revisionary Taxonomy.
- 5.4.3 Predictive distribution modelling.
- 5.4.4 Gap Analysis.
- 5.4.5 Trials and user documentation.
- 5.4.6 (Relayed to WP8) Training courses.
- 5.4.7 Visualisation webservice.
- 5.4.8 Extended geoplatform functions.
- 5.4.9 Integration of geoplatform with other data sources & formats.
- 5.5 Taxonomic-core platform components**
- 5.5.1 (Completed) Identify taxonomic tools.
- 5.5.2 (Completed) Taxonomic exchange standard specification.
- 5.5.3 (Completed) Testing of taxonomic database components.
- 5.5.4 (Completed) Specification of concept-related workflows.
- 5.5.5 (Completed) Taxonomic editor prototype development.
- 5.5.6 (Completed) Acquisition and conversion of sample data.
- 5.5.7 (Completed) CDM data interface development.
- 5.5.8 (Completed) Fully functional taxonomic editor.
- 5.5.9 (Completed) Power user interface design & pilot implementation.
- 5.5.10 CDM taxonomic editor refinement for platform release 3.
- 5.5.11 Power user interface implementation.
- 5.6 Descriptive and identification platform components**
- 5.6.1 (Completed) Identify descriptive tools and define criteria.
- 5.6.2 (Completed) Testing of descriptive and identification components.
- 5.6.3 (Completed) Interact with providers of descriptive and identification components.
- 5.6.4 Finalise the development of the SDD Import/Export module for CDM.
- 5.6.5 (Completed) Review of descriptive data in CDM v. 1.

<p>5.6.6 Specify user interface for descriptive CDM data (continued).</p> <p>5.6.7 Continued communication and exchange with taxonomic community.</p> <p>5.6.8 Technical integration of descriptive and identification components.</p> <p>5.6.9 Specify and implement CDM Library functionality for the output of structured descriptive content in textual form.</p> <p>5.7 Security Infrastructure for platform data exchange and communication</p> <p>5.7.1 (Completed) Identify suitable communication tools.</p> <p>5.7.2 (Deferred to WP6) Create the communication platform.</p> <p>5.7.3 (Deferred to 5.2 and completed) Setup open review environment.</p> <p>5.7.4 Integrate a Community Single Sign-On (CSSO) security infrastructure.</p> <p>5.7.5 (Cancelled) Integrate Semantic Web Technologies within the platform.</p> <p>5.8 Publication support as platform component</p> <p>5.8.1 (Completed) Review example documents (tagged monographs) delivered by WP6.</p> <p>5.8.2 (Completed) Develop web monograph pilot system.</p> <p>5.8.3 (Completed) Specification of data flow within rapid publication platform.</p> <p>5.8.4 (Deferred to 5.3.3) Implement publication data store.</p> <p>5.8.5 (Deferred to WP6) Rapid publication platform.</p> <p>5.8.6 Data portal maintenance.</p> <p>5.8.7 CDM print publication service (pilot).</p> <p>5.9. (Completed) Specimen access platform component</p> <p>5.9.1 (Completed) Define specimen access interface for taxonomists.</p> <p>5.9.2 (Completed) Implement access interface for taxonomists.</p> <p>5.9.3 (Completed) Interfacing the Web Portal with the CDM.</p> <p>5.10. Software quality and usability testing</p> <p>5.10.1. Coordination of software testing.</p> <p>5.10.2. Software reliability testing.</p> <p>5.10.3 Software usability testing.</p>

5.1 Integration of Information Science and Technology (IST) departments; over-all WP5 coordination

Work package number	5	Start date or starting event:	0
Activity Type	Other specific activities		

<p>Objectives</p> <ul style="list-style-type: none"> • Promote and pursue institutional integration on the level of the use and organisation of IT processes among partner institutions • Initiate MoUs between institutions with IST departments that are part of collaborative activities within EDIT • Maintain the communication with other workpackages, oversee the timely execution of work and implement decisions of the executive groups within EDIT • Ensure the sustainability of the software components of the Internet Platform beyond the EDIT project period
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<p>Description of work</p> <p>5.1.1 Liaison with board of directors and Scientific Advisory Committee (SAC). This is a coordinative function which is used to provide a focussed connection to the institutional decision makers represented in the board of directors, thus enabling the WP to bypass complex hierarchies where rapid decision making is required. Responsibility for this task needs is assumed by one of the</p>

directors involved in the project.

5.1.2 (Completed) Documentation of IST.

5.1.3 Information Science & Technology Committee (ISTC). The Committee is to facilitate the dialogue and collaboration between IST departments and deal with issues such as needed platform interfaces, integration of existing applications, content of possible agreements (MoUs), and future work-plans. The ISTC is to ensure interoperability and (as far as possible) compatibility of components to ease replicated installations.

5.1.4 Management, coordination, and liaison with other Work Packages (WPs). Maintaining the necessary management and coordination structure to manage the WP as to its scientific coordination, liaison with other WPs, the financial processing requirements, meeting organisation, etc. Identification of other projects that could liaise with the EDIT Platform for Cybertaxonomy (with activity 5.2 responsible for the coordination of technical developments across institutions within WP5 and beyond).

5.1.5 Promote scientific standards and standard tools. Continue to foment participation in standardising bodies, particularly in Biodiversity Information Standards (TDWG). Pursue a strategy of synergetic development with other initiatives, particularly GBIF and supporting national initiatives. Foment the use of the interactive website, the *Biodiversity Service & Application Tracker*, a collection of links to software, tools and resources useful to taxonomists, where all applications and services are categorised into an expandable and potentially hierarchical system covering major biodiversity research topics.

5.2.6 Ensure sustainability of software components of the Internet Platform for Cybertaxonomy. Incorporate Platform tools in new projects, reach agreements with EDIT member instituts to take responsibility for defined tools. Seek a model to finance the central coordination of the CDM programming library.

Components

C5.095 Summary report on the development of content in the BD Tracker system (FUB-BGBM, M53), *(will be cancelled, in case of being handed over to TDWG)*

New

C5.?? Demonstration and user training for tools at partner institutions and during congresses (TDWG, EDIT General Meeting)

C5.?? Integration of users from Fauna Europaea and Euro+Med communities

C5.?? 2nd Report on the sustainability of Platform software (FUB-BGBM, M59)

C5.?? Governance issues solved

C5.?? Report on the 5th ISTC meeting

Milestones

M5.?? 5th ISTC Meeting held (FUB BGBM with ALL) M55

5.2 Creating the Internet Platform for Cybertaxonomy

Work package number	5	Start date or starting event:	0
Activity Type	Other specific activities		

Objectives

- Framework construction: Based on the continually refined Common Data Model (CDM), continued construction of the CDM Framework (CDM Java library, CDM community store) in collaboration with activities 5.3-5.10, with EDIT WP6 and WP7, with the CATE, Key2Nature, PESI, and LifeWatch projects, and with other interested parties.
- Testing and developing the framework: (i) Perform integration/compatibility tests for platform

components (for 5.4, 5.5, 5.6). (ii) Continue the process of migrating exemplar group data and workflow to the CDM community store. (iii) Implement synchronisation interface(s). (iv) Implement CDM based interfaces to institutional information systems with the aim of integrating software developments in partner institutions. (v) CDM interfacing with ViTaL (5.3) and GEO 5.4 components. (vi) Extending CDM community store API to the needs of WP7 ATBI site data, with the final aim of providing a model CDM platform for ATBI projects.

- Documentation: Publish a continuously updated manual defining platform interfaces.
- Rollout of Platform releases 2 and 3.

Description of work

5.2.1 (Completed) Modelling for Revisionary Taxonomy.

5.2.2 (Completed) Modelling for taxonomic inventories and modelling.

5.2.3 Define additional technical interfaces for non-EDIT applications. To achieve integration of components into the Platform environment, formal interfaces have to be defined to make the exchange of data between different components possible and to allow the taxonomist to use functionalities from different programs and components. This holds especially true for interfaces to the central CDM Community Store (see 5.2.11), but also to other components such as the geoservices in 5.4.

5.2.4 (Deferred to 5.7) Identify suitable communication tools as platform components.

5.2.5 (Deferred to 5.6) Identify suitable descriptive tools as platform components.

5.2.6 (Deferred to 5.2.9 to 5.2.12) Implementation activities: Revisionary Taxonomy.

5.2.7 Implementation activities: ATBI's and Monitoring. Investigation, documentation and (where possible) implementation of hard- and software components required by WP7, such as field data capture tools, authority file support (e.g. taxonomic check-lists), associated data-stores (field, base-camp, site/reserve, central), and data interfaces (GBIF, ABCD). Close collaboration with Activity 7.3 in WP7. Ensure compatibility with the CDM and make use of CDM Store and Library as much as possible. [Note: use of geographic components see 5.4.9]

5.2.8 Designing the Platform Architecture. Continue to refine the overall ensemble of platform components and their interaction (see 5.4, 5.5, 5.6 & 5.7) and ensure their integration

5.2.9 Modelling of a Common Data Model (CDM). Develop a second and third version of the CDM for the platform releases 2 and 3 respectively, based on the experience made in the other tasks and activities concerned with software development and interfacing. Seek cooperation with external partners and standardisation bodies such as TDWG. (PM: BGBM 3 (task 5.2.8 u. 5.2.9))

5.2.10 Implementing a Java CDM Library. Continue to implement a java library with classes that correspond to the CDM versions. The library allows Java developers to quickly develop new CDM based applications.

5.2.11 Implementing a CDM Community Store. Continue to implement a data store on top of the CDM library (5.2.10) that exposes a set of webservice that allow manipulation of the CDM data, RSS feeds for changes and other general services useful for platform components. Upgrade to new versions in the course of platform releases.

5.2.12 Implementing CDM Transformation Services. Define and implement services that transform from/to CDM data definitions to/from other existing standards as well as from/to non-standard data used in important applications developed or used by EDIT partners.

5.2.13 (Completed) Implement Experts Database.

5.2.14 Organise integration of software developments at partner institutions with the EDIT Platform. Communicate with partners (EDIT and beyond, e.g. PESI, Key2Nature, CATE) in order to achieve compatibility of taxonomic software developments. Attempt to initiate collaborative software development.

5.2.15 Management of developer group.

Coordinate the EDIT software developments with partner institutions to ensure that all aim at the same main objectives. Maintain a project managing framework to be used by all developers for that purpose.

Components

C5.099 Community store documentation for Platform release 3 (FUB-BGBM with ALL[Developers], M 53).

C5.100 Second report on integration of software developments in partner institutions (FUB-BGBM with ALL[Developers and ISTC], M53).

C5.101 Framework implementation available for Platform release 3 (FUB-BGBM with ALL[Developers], M 53).

New

C5.?? Integration with central services (e.g. IPNI, GNA, Genbank) M 53

C5.?? Report on (external) software components requiring interface definition M 51

C5.?? Implementation of im-/export data interface to library catalogue and digital literature services. M 53

C5.?? CDM refinement concluded and documented for Platform release 3 (M50 May 2010)

C5.?? CDM-PESI integration accomplished and tested:

(PESI) Import interface for Fauna Europaea and Euro+Med Data, export to PESI UI database M 46 s.a. C3.2.7

Milestones

M5.35 CDM refinement concluded and documented for Platform release 3 (FUB-BGBM with ALL[Developers], M 50).

5.3 Virtual Library of Taxonomic Literature and Documentation as a platform component

Work package number	5	Start date or starting event:	0
Activity Type	Other specific activities		

Objectives

- Website and services: Maintain pilot website and portal prototype both for machine and human access. Continuously enhance search functionality and extend the scope of the search to cover additional resources. Regular assessment of site feedback and feature requests with new features implemented as appropriate.
- Content: (i) Metasearch service: federate EDIT partner's taxonomic literature resources and make them accessible to Platform users. (ii) Extend and enhance the Metadatabase of taxonomically relevant references: Improve the coverage of the reference Metadatabase (nomenclatural and bibliographic) used by taxonomists, and extend the services based upon it.
- Nomination for digitisation functionality: Allow users of ViTAL to nominate and prioritise literature items for digitisation. This information will be available to users of the site and also to members of digitisation projects, allowing them to include this information in the prioritisation decisions they make.

Description of work

NB: After Julius Welby (developer activity 5.3) has left the EDIT project and the NHML in February 2009, no replacement to fill his position was found. Only basic developments were continued by non EDIT personnel. As the situation did not improve in the last months it was decided by the WP5 leader and agreed by NHM London to shift the activity 5.3 tasks from the NHM London to MfN Berlin (coordinators of BHL Europe, a project directly related to EDIT 5.3). It is expected that cooperation of BHL and EDIT at one place will result in substantial synergies. The tasks of activity 5.3 are evaluated now in JPA 4 by MfN (budget channelled through BGBM).

The tasks of the evaluation are:

1. Reformulate the aims of the ViTaL task and provide a number of use cases to clarify the concepts (service-orientation, users, relationship to BHL) in close cooperation with the BHL and EDIT-BGBM teams.
2. Summarise the state of affairs with respect to
 - what is working already, what not?
 - how are things working?
 - what can be transferred, what not?
3. Evaluate if the harvester software should be discontinued (BHL has a similar tool)
4. Provide an overview of ExLibris software capabilities with respect to the aims formulated
5. Clarify the licensing options for ExLibris software (taking into account the licenses held by the MfN's library, which collaborates with FUB library and uses ExLibris software)
6. Assess the doability of the implementation with an absolute deadline Jan 2011
7. First assessment of costs for sustaining the service beyond EDIT.

5.3.1 (Completed) Survey of current practice and requirements, and agreement on standards.

5.3.2 (Completed) Software review and recommendations.

5.3.3 Development of the resource catalogue. (i) Metalib knowledge base development:

Agreement with institutional libraries on their contribution and advice how to add additional content to the knowledge base. Incorporating EDIT institution subscription data as supplied by participating EDIT partner libraries into the ViTaL knowledgebase to support access to content for users from those institutions. Liaise with other OpenURL resolving services to encourage the sharing of data about open content resources. Addition of links to full content resources as these become available, particularly those that are covered by the Metadatabase. Training of new ViTaL developer. **(ii) Development of the Metadatabase):** Improve and broaden the coverage of the metadata harvester for Scratchpads to cover CDM community stores and participating Connotea users, utilising as much of the CDM framework as possible (in particular the CDM store to enable machine access). Evaluate the system's extension to Nomenclators (ZooBank, IPNI, Index Fungorum, Tropicos Names, etc.)

5.3.4 (Deprecated & included in 5.3.2 & 5.3.6) Planning and implementation of repository.

5.3.5 (Completed) Intellectual Property Rights (IPR).

5.3.6 (Completed) Pilot interface development and implementation.

5.3.7 Interface development. Continued implementation of the ViTaL user and machine interfaces.

Components (to be revised)

C5.030 Launch of ViTaL as a functioning component of the EDIT Platform for Cybertaxonomy including system and user documentation to enable effective access (NHML, **Month 41 delivered, not accepted**)

? C5.102 ViTaL User Review. A review of user feedback submitted during the pilot phase and after the launch of ViTaL. (NHML, Month 44).

? C5.103 ViTaL Sustainability review. A review of the commitments already made and the further commitments necessary to ensure the sustainability of ViTaL. (NHML, Month 45).

C5.104 ViTaL Technical review and roadmap. This would incorporate responses to the User Review and also identify and timetable the addition of key resources to the system. (NHML, Month 46)

? C5.105 Specification of im-/export data interface to and from CDM. The specification of scope of interactions between the components of ViTaL the CDM, together with the interfaces and data formats to be used. (NHML, FUB-BGBM, Month 47)

? C5.106 Implementation of im-/export data interface to and from CDM. The implementation of the interfaces and services defined in C5.105 above. (NHML, FUB-BGBM, Month 50)

New

C.?? Revised ViTaL component available for Platform release 3

BHL Europe: Integration of ViTaL Services into other Platform Tools

Milestones

? M5.36 Revised ViTaL component available for Platform release 3 (NHML, M 53)

5.4 Geographical platform components

Work package number	5	Start date or starting event:	0
Activity Type	Other specific activities		

Objectives :

- Documentation of webservice: Provide extensive and user-friendly functional documentation for the geoplatform services through visual instruction methods (training videos), with low-bandwidth fallback solutions (text and images). Provide extensive developer-oriented technical API documentation.
- Functional enhancement for webservice: Continued enhancement of existing core geoplatform, focussing on integration with other (EDIT and non-EDIT) data sources and formats (CDM, GBIF providers, ATBI,...).
- Exploration of extended geoplatform functions: Reporting on functional and technical requirements for integration of extended functions into core geoplatform, specifically with regard to predictive distribution modelling, gap analysis and inventory completeness assessment, and taxonomic/morphological/phylogeographical/paleontological functions.
- User involvement: Workshop with WP7 contributors to geo-Platform to review geo-platform functionality. Enhancement of applications according to feedback on documentation material.
- Spreading the Excellence: Contribution of advice and documentation to organization of joint Geospatial training courses by WP8.

Description of work

5.4.1 (Completed) Access to resources.

5.4.2. Provision of output-oriented tools for Revisionary Taxonomy. Continued development of enhancements, core completed.

5.4.3 Predictive distribution modelling. Report on functional and technical requirements for predictive distribution modelling integration into core geoplatform. Report on the needs and characteristics of software solution(s) needed.

5.4.4 Gap Analysis. Identification of geographic gaps in - and completeness of - local inventories. Report on functional and technical requirements for gap analysis integration into core geoplatform and on the needs and characteristics of software solution(s) needed. Report on an application to select units (countries, regions, grid squares, etc) according to their spatial location and environmental characteristics, in order to obtain minimum numbers of units able to adequately represent the environmental and spatial heterogeneity of an area (ED application).

5.4.5 Trials and user documentation. Compile test data (focus on ATBI and GBIF data). Software installation and testing. Bug reports to software developers and user documentation on website. Develop accessible and user-friendly functional application documentation. Focus on new visual techniques (screen videos), in modular set-up (separate video per function) for maximal flexibility. Develop additional text/image documentation for further elaboration of issues, and as low-bandwidth replacement for instructional videos. Develop developer-oriented online API documentation for future integration of geoplatform webservice in other platforms.

5.4.6 (Relayed to WP8) Training courses. WP5 contribution is through application and API

documentation (5.4.5) and advice.

5.4.7 Visualisation webservices. Services are now extended and enhanced; the core implementation was finished in JPA-3. Continued enhancement of Visualisation REST webservices visualisation of custom user data (point occurrence data or regional distribution data). Focus on integration of GBIF and ATBI occurrence data (see also 5.4.9).

5.4.8 Extended geoplatform functions. Taxonomic, morphological, phylogeographical, and paleontological function integration into the geoplatform. Report on functional and technical requirements for extended geoplatform function integration into core geoplatform. Report on the needs and characteristics of needed software solution(s).

5.4.9 Integration of geoplatform with other data sources & formats. Integrate ATBI site data with geoplatform services. Integrate GBIF data with geoplatform services (see 5.4.5). Enable integration with Open OGC services, and WP5 components (e.g. CDM).

Components

C5.110 Design document for a prototype software for data completeness assessment (gap analysis) for selected test data (e.g. ATBI and other datasets) (RMCA with CSIC, MfN, MIZPAN, IBSAS, CUB & HNHM, M 47 **postponed M49**).

C5.111 MapViewer version 3: The EDIT MapViewer with enhanced functionality available (CSIC, RMCA, IBSAS, CUB & HNHM, M 54).

C5.112 Map REST Services further refined and fully integrated into EDIT Platform (CSIC, RMCA, IBSAS, CUB & HNHM, M 54).

New

C5.?? e-conference with developers and contributors for Geoplatform development and function follow-up (MIZPAN, M48).

C5.?? Testing report on installation of a mapViewer Tool mirror (RMCA, M50).

C5.?? e-conference on future-proofing of the Geoplatform components (MIZPAN, M51).

C5.?? comprehensive report on technical continuity and sustainability of Geoplatform tools beyond the EDIT project. (RMCA, M53)

After Aug. 10 (if funding is available):

C5.?? integration testing of various external data sets with the mapViewer tool (e.g. GNOSIS and ATBI data sets) (RMCA, M55)

C5.?? report on integration of Open OGC services, INSPIRE objectives and WP5 components in Geoplatform (RMCA, M56).

C5.?? report on functional and technical requirements for extended geoplatform functions (specialised taxonomic, morphological, phylogeographical or paleontological modules) (CSIC, M57)

C5.?? meta-documentation report : a round-up of all the Geoplatform documentation, code, tools, and data (MIZPAN, M59)

Milestones

M5.37 Report on data completeness assessment (gap analysis) for selected test data (ATBI) (MfN with RMCA, CSIC, MIZPAN, IBSAS, CUB & HNHM, M 46 **postponed M48**).

5.5 Taxonomic-core platform components

Work package number	5	Start date or starting event:	12
Activity Type	Other specific activities		

Objectives

- Organize user input for the specification and continued implementation of the EDIT taxonomic core and editing software, including a power user interface for CDM data stores.
- Develop specifications for advanced concept related-workflows and assess their efficiency.
- Develop and compile software components for taxonomic core interfacing (e.g. import modules and conversion tools).
- Provide appropriate real-world data sets to support CDM modelling and software development.

Description of work

[Note: The specification of technical interfaces is covered by operation 5.2.3.; transformation services are treated under 5.2.12]

5.5.1 (Completed) Identify taxonomic tools.

5.5.2 (Completed) Taxonomic exchange standard specification.

5.5.3 (Completed) Testing of taxonomic database components.

5.5.4 (Completed) Specification of concept-related workflows.

5.5.5 (Completed) Taxonomic editor prototype development.

5.5.6 (Completed) Acquisition and conversion of sample data. Continue to organize the conversion of a set of major European taxonomic datasets (e.g. Euro+Med and Fauna Europaea) and smaller but significant taxonomic projects to the EDIT common data model.

5.5.7 (Completed) CDM data interface development. Continue to implement and provide interface software for the EDIT common data model including data import modules for prominent data formats (e.g. TCS, Berlin model) as well as conversion tools (e.g. from CDM to TDWG rdf).

5.5.8 (Completed) Fully functional taxonomic editor. Use sample data (5.5.6) and user input to refine the existing CDM-Editor prototype towards the fully functional version for Platform release 2. (PM: BGBM 6)

5.5.9 (Completed) Power user interface design & pilot implementation.

Specify an editing software system dedicated to taxonomic power users (e.g. project secretariat staff) complementing the functionality of the EDIT taxonomic editor. The software will allow for performing typical spreadsheet operations such as flexible sorting and searching, search and replace, and copying of multiple data items.

5.5.10 CDM taxonomic editor refinement for platform release 3. Further development and bugfixing of the editor based on user input and testing (5.10). Bug fixes and helpdesk.

Technical improvements to the EDITor: The name editor will be re-implemented using Eclipse best practices. This will mainly impact usability - for instance, copy-paste and navigation using arrow keys will be available with no extra programming effort. As a result, leveraging more Eclipse functionality becomes possible, e.g. richer feedback in terms of warnings and errors and autocomplete options. The property sheet will be re-implemented along the lines of a proof-of-concept phase that was executed earlier this summer. Integration of external services: nomenclators, specimen services, library catalogues (ViTaL), digitised literature. Output of structured descriptive data in the EDITor

5.5.11 Power user interface implementation. Full implementation of the power user interface based on design study (task 5.5.9). Trial maintenance and bug fixing.

Components

C5.114 Refined CDM taxonomic editor available for Platform release 3 (software) (FUB-BGBM with RBGK, NHML, M 52).

C5.115 CDM power user interface fully functional (software) (FUB-BGBM, M 52).

Milestones

No milestones

5.6 Descriptive and identification platform components

Work package number	5	Start date or starting event:	12
Activity Type	Other specific activities		

Objectives

- Ensure the compatibility and interoperability of existing descriptive and phylogenetic tools with the descriptive part of the CDM, thus utilizing the investment in current software. This is to be achieved by documenting existing tools and by loosely coupling the tools with the CDM through TDWG's SDD (Structured Descriptive Data) exchange format.
- Specify and implement CDM library functionality for the output of structured descriptive content in textual form
- Specify the functionality of a CDM-Editor for descriptive data. An integration of nomenclatural, taxonomic and descriptive data editing in a single CDM editing environment is highly desirable. A detailed description of functional requirements both from a developer's and a user's perspective is an essential first step towards that aim.

Description of work

5.6.1 (Completed) Identify descriptive tools and define criteria.

5.6.2 (Completed) Testing of descriptive and identification components.

5.6.3 (Completed) Interact with providers of descriptive and identification components.

5.6.4 Finalise the development of the SDD Import/Export module for CDM

5.6.5 (Completed) Review of descriptive data in CDM v. 1.

5.6.6 Specify user interface for descriptive CDM data (continued). Revision and emendation of existing UML use-case model for handling descriptive data, adding missed use cases and creating detailed use case scenarios. This will result in a functional description and specification of the CDM descriptive data editor.

5.6.7 Continued communication and exchange with taxonomic community. Update of the community website (BDTracker) with taxonomic applications; FAQ document; moderation of forum activity; training actions in coordination with WP8. Exchange and collaboration with related other projects like Key2Nature.

5.6.8 Technical integration of descriptive and identification components. New modules (SDD-CDM import/export, CDM editor, etc.) and existing tools (Xper², DiversityDescriptions, Linnaeus, or other tools to manage descriptive data or to use and to analyse these data) will be integrated into the Internet platform for Cybertaxonomy following the proposal of component 5.50 and the design drawn up in task 5.2.8.

5.6.9 Specify and implement CDM Library functionality for the output of structured descriptive content in textual form. Use existing algorithms for creating text from structured descriptive data and transform it into Java code usable within the CDM Library.

Components

C5.123 Selection of a representative taxonomic group in collaboration with WP6 (exemplar groups) and WP7 (ATBI) (MNHN-UPMC, NHML, RBGK, FUB-BGBM, MfN, M 48)

C5.124 Report on technical integration of descriptive tools into the platform of cybertaxonomy (MNHN-UPMC, M 51)

C5.132 Full implementation of CDM Library functionality for the output of structured descriptive content in structured and textual form. (MNHN-UPMC, FUB-BGBM, M 53)

New – after Aug. 2010

C.5.?? - User documentation for the management and integration of descriptive data on the cybertaxonomy platform (MNHN-UPMC, M58)

Milestones

After Aug.2010

M5.39 Meeting with Key2Nature project with the aim of federating the European taxonomic identification community (MNHN-UPMC, M 46 **postponed M54**).

New – after Aug. 2010

M5.?? - Final presentation of the CDM capabilities on descriptive data through the selected exemplar group (MNHN-UPMC, FUB-BGBM, and collaborators WP6, WP7, M 56)

5.7 Security Infrastructure for platform data exchange and communication

Work package number	5	Start date or starting event:	9
Activity Type	Other specific activities		

Objectives

- Design of a security infrastructure for the platform and introduction of a secure Single Sign-On service (SSO) for the platform

Description of work

5.7.1 (Completed) Identify suitable communication tools.

5.7.2 (Deferred to WP6) Create the communication platform.

5.7.3 (Deferred to 5.2) Setup open review environment.

5.7.4 Integrate a Community Single Sign-On (CSSO) security infrastructure within the platform.

The CSSO enables the various EDIT service providers to protect their services and resources defining individual access control policies, while users can access different services using only one identity. The security infrastructure bases on the SAML protocol family (e.g. Shibboleth) and provides its federation concept to realise the community aspect. The task comprises the following sub tasks:

- Maintaining the CSSO infrastructure implementation including: (a) Further development of existing components (e.g Shibboleth Proxy, CSSO API), (b) Upgrading the existing platform to Shibboleth V2.x, which proposes new functionalities like e.g. general user logout to the SSO platform.
- Integrate further platform components with the CSSO security infrastructure.
- Conceptualisation regarding the provision of tools supporting SPs to align individual authorisation policies with the Shibboleth attributes delivered by IdPs
- Technical advice and support regarding a prototype set up of a Shibboleth federation for EDIT including
 - Lobbying activities to motivate further institutes joining the federation

- Supporting the identification process of a suitable and agreeable set of Shibboleth attributes within the federation
- Technical Support for institutes installing Shibboleth components to join the federation
- Concept development to connect smaller non-institutional groups

5.7.5 (Cancelled) Integrate Semantic Web Technologies within the platform.

Components

New – after Aug. 2010

C5.?? - Final release of CSSO security infrastructure and concept development for its post EDIT operability (FUB-Inf, M53)

Milestones

M5.40 Prototype Shibboleth federation built up with further EDIT institutions (FUB-INF, M 53).

New – after Aug. 2010

M5.?? - Motivate other taxonomic institutions to extend the EDIT federation (FUB-Inf, M59)

5.8 Publication support as a platform component

Work package number	5	Start date or starting event:	12
Activity Type	Other specific activities		

Objectives

- Continue development of the EDIT Data Portal and the presentation of data from the three WP6 exemplar groups.
- Implement functionality for printed publications output from the CDM.

Description of work

5.8.1 (Completed) Review example documents (tagged monographs) delivered by WP6.

5.8.2 (Completed) Develop web monograph pilot system.

5.8.3 (Completed) Specification of data flow within rapid publication platform.

5.8.4 (Deferred to 5.3.3) Implement publication data store.

5.8.5 (Deferred to WP6) Rapid publication platform.

5.8.6 Data portal maintenance. Integrate features from new versions of the CDM into the web portal (through contributions from activities 5.2, 5.4, and 5.6 and by means of collaborations with other projects, e.g. PESI (checklisting) and SYNTHESYS (specimen integration).

5.8.7 CDM print publication service (pilot). This service will allow generation of pre-processed text for digital and print publications from the CDM, i.e. configurable combinations of CDM data items and formatting instructions for taxonomic publications that serve as input for final formatting and layout in word-processing or publishing software.

Components

C5.127 Prototype of service to generate pre-processed text from the CDM (FUB-BGBM, M 45)

postponed M 49

C5.128 User documentation for CDM print publication service including workflow description for service configuration as input for popular word-processing and publishing software (FUB-BGBM, M 51).

C5.129 Data portal update for Platform version 3 ready (FUB-BGBM with CSIC, RMCA, MNHM-UPMC, M 53).

New

C5.?? Integration of additional functionality into web portals: Display of structured descriptive data
Integrated access to central services (specimen search, genbank, literature, etc.) M 53
C5.?? Downloadable portal installation kit M 53

Milestones

M5.41 Service to generate pre-processed text from the CDM available (FUB-BGBM, M 52).

5.9 (Completed) Specimen access as a platform component

Work package number	5	Start date or starting event:	12
Activity Type	Other specific activities		

Objectives

- Platform component to integrate specimen access according to taxonomist's needs. Future maintenance is carried out based on institutional resources and contributions from other projects.

Description of work

5.9.1 (Completed) Define specimen access interface for taxonomists.

5.9.2 (Completed) Implement access interface for taxonomists.

5.9.3 (Completed) Interfacing the Web Portal with the CDM.

Components

No further components in JPA-4.

? C.5.??? Specimen access functionality fully integrated with platform components

Milestones

No further milestones in JPA-4.

5.10 Software quality and usability testing

Work package number	5	Start date or starting event:	38
Activity Type	Other specific activities		

Objectives

- Test the Platform software components as to their technical dependability and usability for taxonomists.

Description of work

5.10.1 Coordination of software testing. Recruit, instruct, and process feedback from taxonomists testing Platform software at participating institutions.

5.10.2 Software reliability testing. Try out the functionality of the software components under different hard- and software conditions as part of the debugging process.

5.10.3 Software usability testing. Use the software in the taxonomic work process with the aim of

identifying mandatory, necessary and potentially useful improvements.

Components

C5.131 Reliability and usability testing summary report for Platform version 3 (RBGE with testing partners, M 53).

New

C5.?? - Documented plan for co-ordinated usability testing with testing partners

Milestones

No milestones.