Technical Helpdesk for National LCA Databases

Training on Advanced Dataset Development and Global Network Access – Setup and Operation of Online Databases and Portals

Content from: Reynaldo Felix and Juan Pablo Chargoy, CADIS

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Setup and Operation of Online Databases and Portals - Contents

- LCI System Characteristics
- Online and Web based Systems
  - ✓ Programming languages
  - ✓ Development frameworks
- Online and Web-based Systems Security
- Data protection and confidentiality
- User profiles (Author, Reviewer, Data provider), DB administration
- Dataset development phases: Data input, Review, Publishing
- Support databases availability
- Dataset searching criteria
- Compatibility with LCA software
System development
- Web-based or online?
- Programming language
- Development framework
- Database manager
Online and Web-based Systems

• A **web-based system** runs from a browser, on an outside server using the Internet.

• An **online system** uses an Internet connection to access the information it needs. It doesn't necessarily need to make use of a browser.

It's important to note that a system can be both. Any web-based system is also an online system. But not every online system is web-based.
Web-based systems – SWOT analysis

S
- Easy access from everywhere
- User friendly
- Multilanguage
- System updates are transparent to users

O
- Real time dataset development
- Remote collaboration
- Centralized DB
- Easy user administration

W
- Local connection speed
- Server capacity
- Higher internet data use

T
- Security
- Data privacy
- System vulnerability
- Cyber attacks
Online systems – SWOT analysis

S
- User friendly
- Multilanguage
- Lower internet data use
- Licensing control

O
- Real time dataset development
- Remote collaboration
- Centralized DB
- Easy user administration

W
- Needs local SW install
- Server capacity and availability
- Updates need software reinstall

T
- Security
- Data privacy
- System vulnerability
- Cyber attacks
System development - Programming languages
Provides *libraries* of *objects* (buttons, Windows, controls, etc.) and *processes* (math, file management, etc.) to speed up application development (web, stand-alone and/or mobile).
Database management

• Administre resources in the database.
• Maintains safety of data, access control, and allows backup, among many other tasks
  – MS-SQL server
  – ORACLE
  – MySQL
  – PostgreSQL
System Security

• Licensing
• User profile
  – Access control
  – Password management and recovery
• Data protection and confidentiality
• Database management
• Database backups
• Version control
User profile

- Datasets: view, edit, review, create, delete, import, export
- Catalog inputs: view, edit, review, create, delete
- Users: add, remove, dataset assignment, group management
- User profiles: permits management

Access and permits control based on user profile
User profile

- Password recovery
- Session inactivity timer
- System Log

Access and permits control based on user profile
Data protection and confidentiality

• Maintaining data privacy
• Working groups
• Dataset assignment (individual, group)
• Dataset publication, general or restricted access
Data and user management

- Data users
  - Published datasets
  - Working groups
  - Assigned datasets

- Reviewers
- Author/Capturist
Dataset development phases

- Data input
- Reviewing
- Publishing
Dataset development phases

LCA software
- Ecospold format
- ILCD format
- GLAD descriptors compliant

Reviewers

Data users

Author/Capturist

Published datasets

LCI DB

LCA Databases Helpdesk

Version 11-17

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Support databases

- Open and commercial LCI databases
- Using dataset references and metadata from other databases
Databases

- Ecoinvent
- ELCD
- Needs
- Bioenergiedat
- USDA_crop_data_1_1
- Mexicaniu
Support databases

• Elementary flows are available in most of databases and can be used.
• Databases have different Intermediate flows depending on their scope and application, geography, etc.
• Both commercial and open databases can be referenced through metadata descriptors.
Dataset searching

• Built-on searching tools
• Important to provide with search tools in the LCI database:
  • Find text, Filter, Ordering, etc
• Searching criteria
• Using GLAD Meta Descriptors and/or other attributes used for dataset documentation would assure future compatibility with search engines and other databases.
LCA software

LCA software supports different data formats and most of them have some variations in the format.

Also some differences in modeling concepts and features can be found.

But most of them have a common core of features and models.
Data Formats

• Define how data is stored and how data is exchanged between different applications.

• The most widely used formats are Ecospold and ILCD.

• Most LCA software supports these formats with specific adaptations for which documentation is often not publicly available.
EcoSpold v1 structure
ILCD v1.1 structure
XML formats

Source: Training on Data Acquisition and Dataset Development – Part 8 – Linking datasets, databases, and LCA software.
August 2017 Versión. (Content: Andreas Ciroth, GreenDelta and Amir Safaei, ecoinvent) Location: LCA Databases Helpdesk – www.scpclearinghouse.org
Central, multi-lingual, user interface, enabling access to nodes worldwide, ensuring interoperability through agreed nomenclature and metadata descriptors.
For helpdesk assistance –

- **Become a Helpdesk member:**
  - To access the Helpdesk exchange space (or any other Clearinghouse area), you will need to create an account in the Clearinghouse (www.scpclearinghouse.org):
  - Toward the bottom of the homepage you will see a button labeled ‘Join the Community now’. Click on this link and open a form to allow you to create a login and profile.
  - Once logged in, you can modify or update your profile or explore the various SCP topic areas.
  - Go to ‘About’ and then to ‘Exchange Spaces’ where you will see Lifecycle Approaches in the drop down menu and one menu level below that is the Technical Helpdesk.
  - The Technical Helpdesk space will be available to any visitor, logged in or not. Without being logged in and joining the helpdesk space, any visitor can look at the various sections of the helpdesk space, but cannot contribute any content.
  - In order to become a member of the helpdesk space, on the homepage under the summary, is “Request space membership”. Click here, you will automatically be given rights of a members to contribute content, since it is a public group.
  - For your next login, you go directly to http://spaces.scpclearinghouse.org/ and then choose the Technical Helpdesk space in the dropdown list.

- **Helpdesk Manager - Bruce Vigon, Consultant to SETAC,**
- **Helpdesk Coordinator – Kristina Bowers, UN Environment, Economy Division**