Providing Permanent Access to Digital Cultural Heritage Data in the Domains of Cartography and Geoinformation

CODATA Conference

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Cultural Heritage

- *cultural heritage refers to "properties and sites with archaeological, aesthetic and historical value"*
  (UNESCO World Heritage)

- *virtual heritage refers to instances of these properties and sites within a technological domain.*

Archiving GIS Projects/Production Systems

- **Dozens of institutions**
- **Hundreds of researchers**
- **Hundreds of projects**
- **Thousands of data sets**
- **Hundreds of different data models**
- **Thousands of GIS layers**

→ Nobody really likes the idea of archiving

Metadata (first order) (1)

Identification

- ID
- Name
- Author
- English name
- Abreviation
- Description
- English description

Time and spatial extent

- Date of publication
- Place of publication
- Spatial extent
- Scale
- Spatial reference system

Metadata (first order) (2)

Metadata

- *Date of metadata creation*
- *Date of metadata last updating*
- *Language*
- *...*

Miscellaneous

- *Origin*
- *Resolution*
- *Format*
- *...*

Professional Queries

requirements:

- *Spatial searches through large (GB/TB/PB/EB) image data sets*

- *<u>Complete</u> search through heterogenous data sets based on the location of a single image or place*

- *Reduction of operational hours spent for data acquisition and search*

- *User-friendly interface*

- *Complex documents may be very hard to preserve over time*
  - GIS project files
  - Layer definitions
  - Web services or API interactions

- *Image outputs capture some sense of final product--but lose underlying data intelligence*

Complexity of Applications

- ***Complex vector formats: multi-file, multi-format***
    - No non-proprietary, well-supported format for vector data

- ***Shift to web services-based access***
    - Data becoming more ephemeral

- ***Often: Inadequate or nonexistent metadata***
    - Impedes discovery and use

- ***Increasing use of spatial databases for data management***
    - The whole is greater than the sum of the parts but the whole is very hard to preserve

- ***Content packaging***
    - No geospatial industry standard

Complexity of Applications

- *How often should continually changing vector datasets be captured?*

- *Tap into data custodian understanding of production patterns and uses*

- *Tap into local innovation*

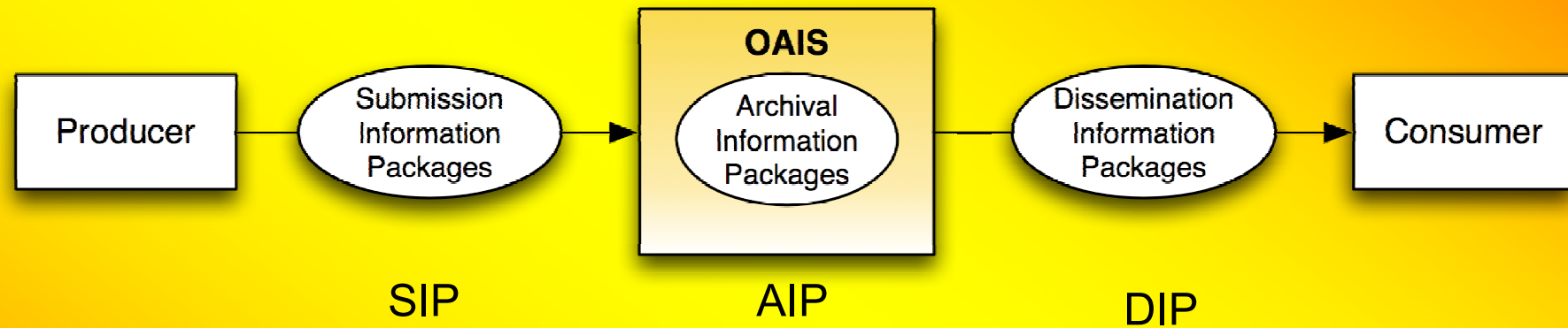- *Learn about local business drivers for data archiving*

OAIS

- **O**pen **A**rchival **I**nformation **S**ystem (OAIS)

- 2002: created by the Consultative Comittee for Space Data Systems (CCSDS)

- 2003: International Norm ISO 14721

- is a *reference model*

OAIS: three models

- information model

- environment model

- process model

Environment model

The way of Information Packages in and out of Open Archival Information System

conclusions

- *OAIS is applicable for geoinformation*

- *delivers terminology and basic functionalities*

- *has to be specified for the domain of geoinformation*

- *importance of conformity not clear*

- *alternatives?*

1. ***Who wants to use data?; how many people who want to use data are there?; how to make data available?***

   1. Researchers,
   2. Public administration workers,
   3. People responsible for cultural heritage,
   4. People responsible for the implementation of European Landscape Convention,
   5. People responsible for environment protection,
   6. People responsible for regional development,
   7. People responsible for farm tourism,
   8. People responsible for regional market,
   9. People responsible for spatial economy,
   10. Business people,
   11. People interested in renewable sources of energy, and others.

2. **Data about cultural landscape should be within reach.**

3. **Within cultural landscape the following should be also archived:**
   1. Local music,
   2. Smell of a village, and others.

4. **How one can archive data (such as music, village, dance)?**

5. **People are part of archiving.**

6. **Social behavior.**

7. **Intelligence of these people.**

8. **Handing down from generation to generation.**

9. **How one should describe data?**

10. **What are the expectations?**

11. **What one uploads = What one downloads.**

12. **Archiving within cultural landscape it is not only scanning and mapping.**

13. **Have we ever archived risks (for example a flood)?**

14. **A new role of archiving. There are no limits when it comes to archiving since these data are later useful.**

15. **Archiving data and even institutions (for example a ministry).**

16. **How to archive photographs within cultural landscape (also for a comparison)?**

17. **How to archive a local identity within cultural landscape?**

18. *How to archive a local economy – with identity – within cultural landscape (events from the past)?*

19. *Archiving is a potential for communication.*

20. *Cultural Land Management System.*

21. *Computer archiving.*

22. *There are alternatives (typical) (more solutions/variants) of a great importance.*

23. *Priorities – lacks.*

24. *Who generates data? Who uses data?*

25. *Who provides data?*

Recommendations:

– Establish archive and long term data access strategies

– Establish a policy and procedure for the provision of access to historic data, especially for framework data layers.

– Best practices for data snapshots and retention

– State Archives processes: appraisal, selection, retention schedules, etc.
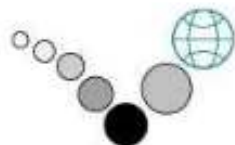
– Who, What, Why, When, Where, How

ICA ACI

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DCH 2012
INTERCARTO 18

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Interdisciplinary Conference on

Digital Cultural Heritage and

Cartography

St. Dié, France, June xx-yy, 2012

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(available later)

Abstracts submission

Notification of acceprtance

Martin Waldseemüller Map
in Wikipedia (de)
in Wikipedia (en)
a walk in St. Dié

"Der Kartograph"
KNECHT Publ.

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Thank You for Your Attention !

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