Interoperability and Distributed GIS Models

Ian Johnson
Archaeological Computing Laboratory,
University of Sydney
Interoperability and Distributed GIS Models

ECAI - the Electronic Cultural Atlas Initiative

The Electronic Cultural Atlas Initiative is a collaborative project which combines global mapping, imagery, and texts. ECAI provides scholars and other users with a research resource based on digital technology which presents complex combinations of data from multiple disciplines visually and immediately.

2001 ECAI Conference in Sydney, Australia
Towards an Electronic Cultural Atlas: e-Publishing in and data interoperability in the Humanities

Electronic Cultural Atlas Initiative
360 Stephens Hall
University of California, Berkeley
Berkeley, California 94720-2300

Email: ecai@socrates.berkeley.edu
Phone: (510) 643-1529
Fax: (510) 642-9466
URL: ecai.org
Web GIS

- Server-side bitmap generation
- Client-side mapping
  - 2 tier
  - Multi-tier
ECAI Metadata clearinghouse

- SQL server database
  - Metadata definitions
  - Descriptive metadata
  - Connection metadata
  - User information

- Advantages
  - Tight data control
  - Extensibility
  - Internet-wide accessibility
  - User authentication
What is a metadata clearinghouse?
Web editing client

Edit Metadata

Metadata for: Plan of Sydney and Portion of the Harbour, 1866

To delete an entry: leave text fields blank; select "DELETE THIS ENTRY" in pull-down menus.

Inserting a pipe symbol (|) in text will split it into multiple entries when the data is saved.

To change scheme, add a new entry, and leave existing entry blank.

We recommend completing as much of this form as possible before adding any extra entries needed.

Please wait while data loads.

<table>
<thead>
<tr>
<th>dc.title</th>
<th>Subject, informative title. May repeat title from &quot;Creation Information&quot;, Mandatory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plan of Sydney and Portion of Harbour, 1866</td>
</tr>
<tr>
<td>dc.creator:CorporateName</td>
<td>Name of corporate owner of the dataset (including reference)</td>
</tr>
<tr>
<td></td>
<td>Illustrated Sydney News</td>
</tr>
<tr>
<td>dc.subject</td>
<td>Subject keywords — separate with pipe symbol (</td>
</tr>
<tr>
<td></td>
<td>Historical Map</td>
</tr>
</tbody>
</table>
ECAI Clearinghouse - search

Web Browser & TMView

ECAI Clearinghouse Search Results

To draw a map, check boxes to indicate the datasets to include, then click Make Map button.
Click on the name of a dataset for information about the dataset, or "www" to go to the web site, or "tp" to download the associated TimeMap project file.

Key (**) indicates password required.

2: Electronic Cultural Atlas Initiative (ECAI) Home Page
3: University of Sydney School of Archaeology Home Page
5: Australian Centre for the Asian Spatial Information and Analysis Network (ACASIAN)
8: Historic photos (20th C) of Sydney including many oblique air photos from 1930s
9: Chinese Biographical Database maintained by Marilyn Levine
26: National Archaeological Database (NADB) Reports [USA]
45: Household data for The Rocks 1865
48: Stein's photographs of archaeological sites, early 1900s
60: Getty Thesaurus of Geographic Names (TGN)
61: Sydney local government areas
Interoperability and Distributed GIS Models

Drill-down into data
Interoperability and Distributed GIS Models

- Java applet & TMView

ECAI Clearinghouse - map
Interoperability and Distributed GIS Models

ECAI Clearinghouse - map

Java applet & TMView
Interoperability and Distributed GIS Models

ECAI Clearinghouse - map

- Java applet & TMView
WWW data sources

- MrSID image server
- URL data sources
  - Shapefiles
  - GIF & JPG files
  - Independent geographic registration
  - Automatic unzip
- Easy registration through web browser
Time Map™

- A methodology for handling time-enabled spatial data (particularly applied to cultural data)
  - **Time-enabled map viewer**
    - Map layers constructed through SQL queries on local datasets
    - Data-driven links to URLs
    - Intelligent layer visibility
    - Time selection bar
    - Map animation
  - **Extensible metadata clearinghouse**
    - Access through clearinghouse to heterogeneous data servers
    - Digital library vs data access
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TMView MapSpace manager
Interoperability and Distributed GIS Models

TMView Map Viewer
TMView Map Viewer

China sample project

- World Cultural Heritage sites
- Major rivers
- Provinces (1:4M)
- China outline (1:4M)
- China DEM (10km)
- Worldwide DEM

Map showing various geographical features of China.
Intelligent layer visibility
Saving MapSpaces

- **TMView MapSpace**
  - Saved in clearinghouse or on web site
  - Automatic registration of metadata
  - Editorial control
  - Locatable by searches

- **TMJava MapSpace**
  - Temporary (6 months) unless registered
  - Identified by email address or ID#
Embedded maps

- Interactive maps embedded in web pages
- Live download of data from ECAI-registered datasets
Map animation

- AVI files direct from the map
Contact details

- http://www.timemap.net

- Ian Johnson
  johnson@acl.archaeology.usyd.edu.au

- Andrew Wilson
  wilson@acl.archaeology.usyd.edu.au