Creating (Map)Spaces for Cultural Exchange

Caverlee Cary, Co-Editor, ECAI Southeast Asia

Xing Liu, GIS Analyst, GIS Center, UC Berkeley

“Cultural Heritage and Collaboration in the Digital Age”
Pacific Neighborhood Consortium Conference, 2003
Maha Chakri Sirindhorn Anthropology Centre
November 8, 2003
Southeast Asia Digital Cultural Atlas

- Initiated by ECAI Southeast Asia as:
  - a proof of concept of GIS for the humanities: **revealing the spatial dimension of cultural phenomena**
  - a proof of concept of GIS for the humanities: **integrating cultural data**
  - a **framework** for inclusive incorporation of affiliate datasets
  - an **illustration of the ECAI approach** to interoperable data layers using the TimeMap suite of tools
  - a potential point of **access for data contributors**: an e-publishing opportunity
  - a potential point of **access for users**: a means of locating inaccessible data

- For further information see ECAI Southeast Asia website (www.gisc.berkeley.edu)
• UC Berkeley employs the TimeMap suite of tools adopted by ECAI and developed by archaeologist Ian Johnson, Archaeological Computing Laboratory, University of Sydney

• Advantage over traditional GIS: Dynamic mapping for data analysis and visualization over time.
Southeast Asia Digital Cultural Atlas: Sponsors

- NATIONAL INSTITUTE OF INFORMATICS, TOKYO
- PACIFIC NEIGHBORHOOD CONSORTIUM, TAIPEI
- GEOGRAPHIC INFORMATION SCIENCE CENTER, BERKELEY
Southeast Asia Digital Cultural Atlas: Institutions

Center for Southeast Asia Studies, Kyoto University
Archaeological Computing Laboratory, University of Sydney
Geographic Information Science Center, University of California, Berkeley and ECAI Southeast Asia
Southeast Asia Digital Cultural Atlas: People

- Southeast Asia Cultural Atlas collaborators presenting at this Pacific Neighborhood Consortium Conference include:
  - Royol Chitradon (NECTEC)
  - Leedom Lefferts (Drew University)
  - Surat Lertlum (AIT and CCRMA)
  - Roxanna Brown (Bangkok Museum and UCLA)
  - Phan Thanh Bao and Phan Thanh Tung (Quang Nam Center for Monument Conservation and Heritage)
  - Charles Wheeler (University of California, Irvine)
  - Dawn Rooney (Independent Scholar)
  - Mamoru Shibayama (Kyoto University)
  - Alan Potkin (Digital Conservation Facility, Laos)
  - Phisan Santiamnont (Chulalongkorn University)
Integrating disparate datasets in a dynamic environment
Dynamic Data: interactive, real-time engagement

• Linked animated resources:
  – electronically recorded events, rituals, performance (documentary)
  – computer aided design, multimedia, virtual reality (creative)

• Change over time
  – emergence of sites, places, cultures
  – incidence of artifacts
  – evolution of phenomena

• Creative map authoring in which users select
  – map background
  – datasets
  – symbology
Dynamic Data: Sunda, Indonesia

- Insular Southeast Asia
- Excerpt of filmed “wayang” theatrical
- Documentary footage
- Contemporary performing arts
- Living culture of the community
- Contributor: Professor Andrew Weintraub, University of Pittsburgh
Dynamic Data: Phimai, Thailand

- Mainland Southeast Asia
- Important cultural site
- Virtual reconstruction
- Combination of the documentary and the imaginative
- Culture of classical Southeast Asian state
- Khmer culture (a focus at this conference)
- Contributor: Professor Richard Levy, University of Calgary; part of project with Thailand collaborators
Dynamic Data: Emergence of important cultural centers over time

(courtesy of Damian Evans, University of Sydney)
Integration: Different Scales of Data

• Outerspace?!

• Large-scale regional

• Small-scale regional

• Local
Controlling Scales in Timemap

- Layer management allows for effective control of datasets at different scales.
- Not as straightforward for datasets that using projection systems different from the norm.
Integration: Different Media

• Photo archives of objects
• Photos taken at sites
• Site plans and maps
• Music
• Movies
Integration: Different times

• Datasets associated with wide range of time periods

• Measures to control time in TimeMap:
  – Time bar
  – Time graph
Spatial and Temporal Data Integration

- AVI creation “on the fly”
- Reflects changes over time in given geographic extent
- Integrates time with space
Dynamic Integration of Data: On-Line Demo
(URL: www.gisc.berkeley.edu/seadca)

- Southeast Asia Atlas Prototype data samples online:
- Developed in TMWin and registered in ECAI Metadata Clearinghouse
- **Users can selectively download prototype data from the web and integrate them with layers from Metadata Clearinghouse or their own locally-stored datasets**
- Flexible, dynamic; allows real-time updates, changes, additions
Southeast Asia Digital Cultural Atlas

- Illustrates multiple discrete datasets overlaid in common, map-based digital environment using GIS (See poster display)

- “Walk-through” of approach during lunch hour, today and tomorrow following ECAI Southeast Asia team meeting (all are welcome)

- FOR FURTHER INFORMATION: contact ECAI Southeast Asia Editors:
  - cari@uclink.berkeley.edu
  - lleffert@drew.edu