Digital Gazetteer Service in context of Chinese Culture

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數位典藏國家型科技計畫後設資料工作組
Metadata Architecture and Application Team

Outline

- **A review of gazetteer standards**
- **An approach of constructing Digital Gazetteer for Chinese Culture**
- **Achievements and examples**
- **Future works**

Snapshot[1] - ADL

- 1990s
- The most comprehensive gazetteer content standard (GCS) in the world.
- ADL is a useful basis for information interchange.
- A set of Feature Type Thesaurus (FTT) is also under development as another important standard to enhance digital gazetteer service, besides content standard.
- An XML-based standard.
- Category: 15 (more than 100 elements)

Snapshot² - TGN

- **2000 by the J. Paul Getty Trust**
- **A simple set of gazetteer for art, architecture and culture.**
- **Not only multiple variant names and place types, but also geo-spatial coordinates are included.**
- **Name relationships are not constructed clearly, such as see and see also.**

Snapshot[3] - MARC

- **1960s**
- **Place-name heading in authority format. (MARC formats: bibliographic, authority, holding, and community formats).**
- **Name relationships (i.e. see and see also) are built up apparently for the purposes of authority control.**
- **A geographic location is not recorded as an important label for GIS application.**

Snapshot[4] - A comparison

	ADL	TGN	MARC
Community	Geo-spatial DL	Museum	Library
Elements	15 categories 100 Elements or so	8 elements	10 often-used tags
Source Ref.	☆	☆	☆
Variant names	☆	☆	☆
Name relationship	☆		☆
Feature type	☆	☆	
Location	Administration – A Spatial Coordinate - S	A, S	A

Source of Acquisition

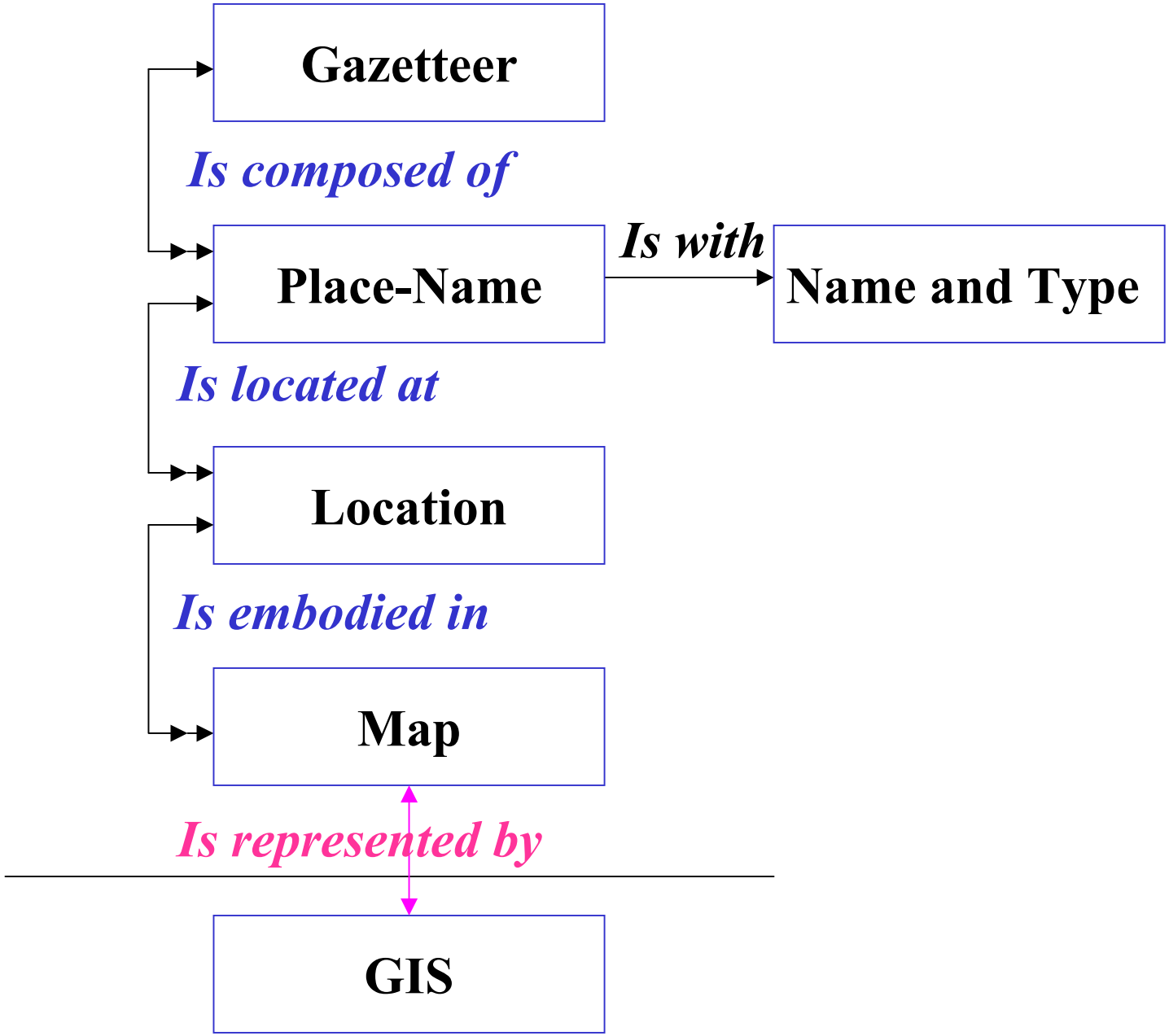
- **Maps**
- **Atlas**
- **Gazetteer**
- **Field reports**

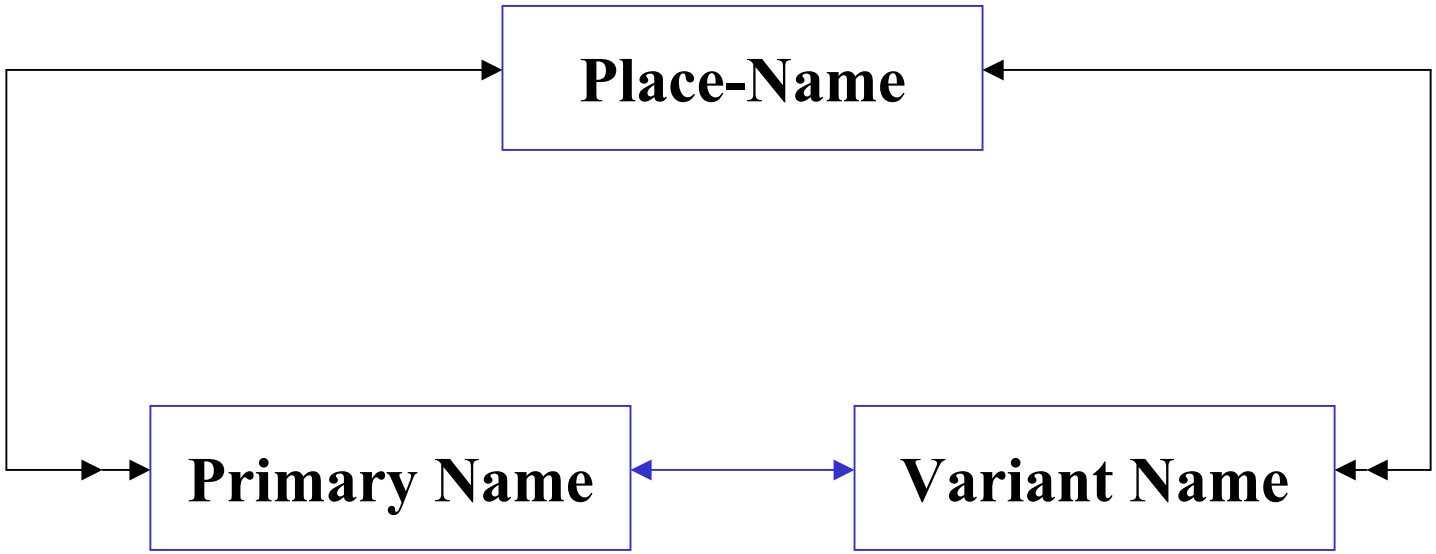
This approach is very similar to TGN.

Features of Chinese Culture

Geographic spatial is the key information, but the temporal factor also complicates the digital gazetteer construction and service as follows:

- **Multiple variant names and their complicated relationships.**
- **The same name means for different places.**
- **The same name is across various time periods with different locations.**


Gazetteer
Is composed of
Place-Name
Is with
Name and Type
Is located at
Location
Is embodied in
Map
Is represented by
GIS



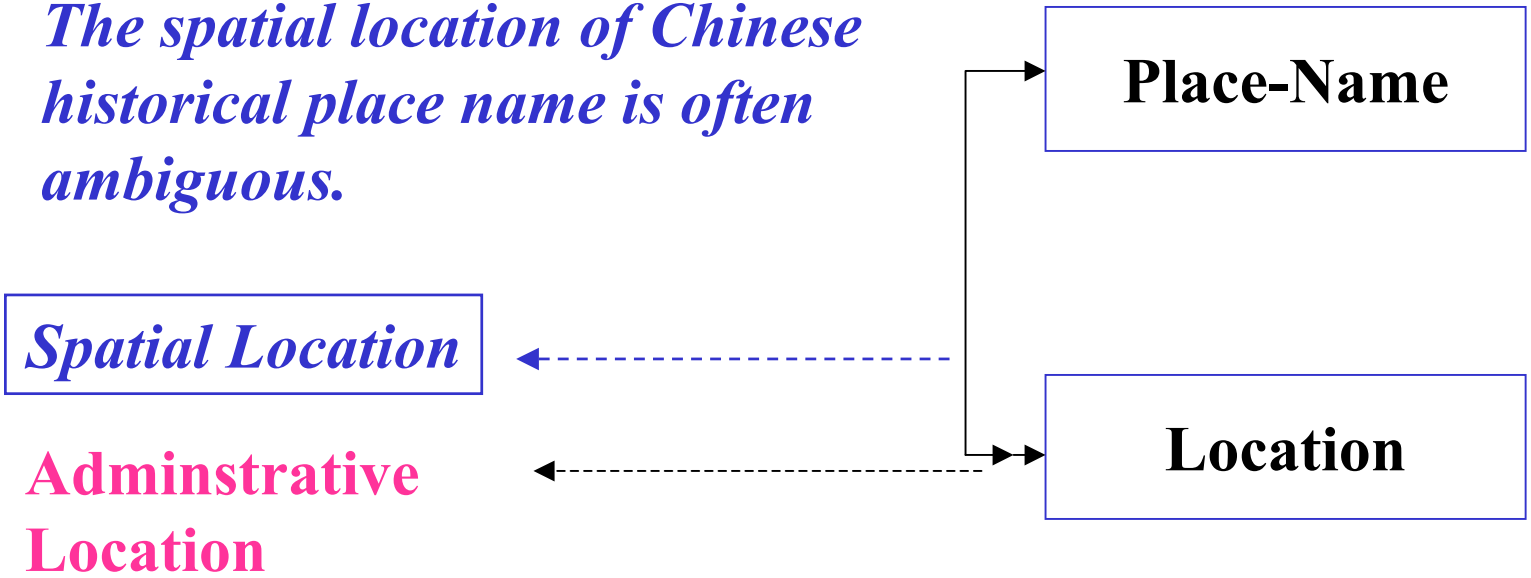
ADL

Primary/Variant Name
Etymology
Language
Pronunciation
Transliterlation
Historical Note
Beginning Date
Ending Date

Chinese

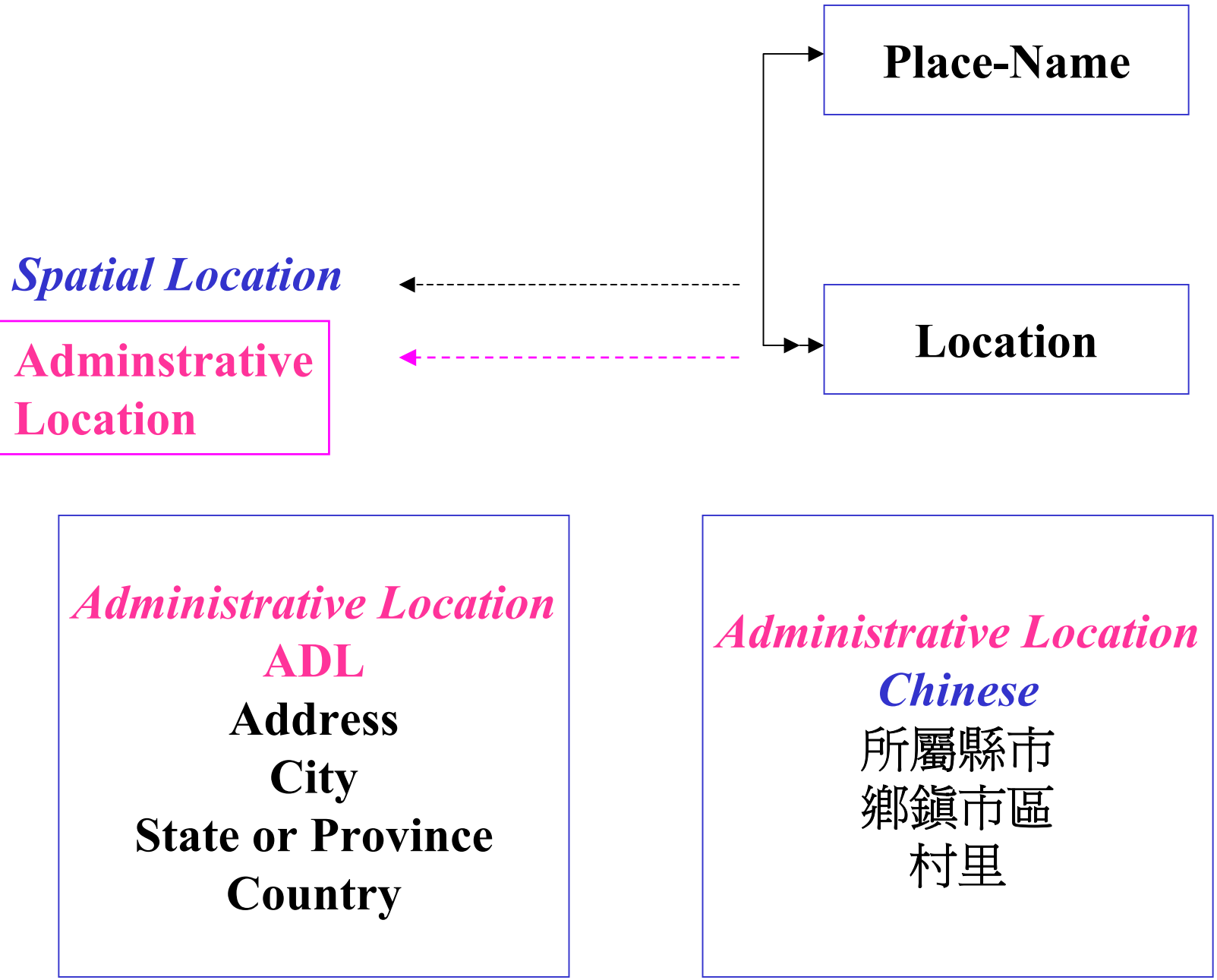
地名名稱/別稱/現舊地名
地名意義
語言別
地名發音/錄音
地名發音拼寫/注音或羅馬
命名族群
地名沿革文歷史簡述
年代_起
年代_迄

The spatial location of Chinese historical place name is often ambiguous.



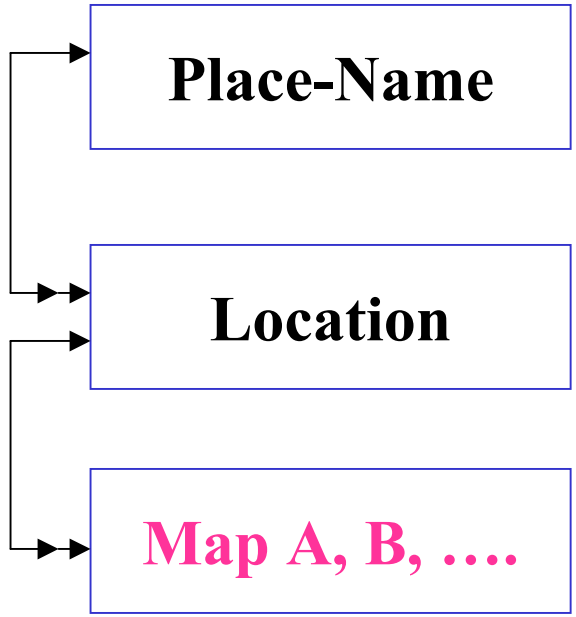
Spatial Location
ADL
longitude
latitude
west/east/south/north bounding coordinate

Spatial Location
Chinese
緯度
經度
地圖標示
相關位置



Administrative Location
ADL
Address
City
State or Province
Country

Administrative Location
Chinese
所屬縣市
鄉鎮市區
村里

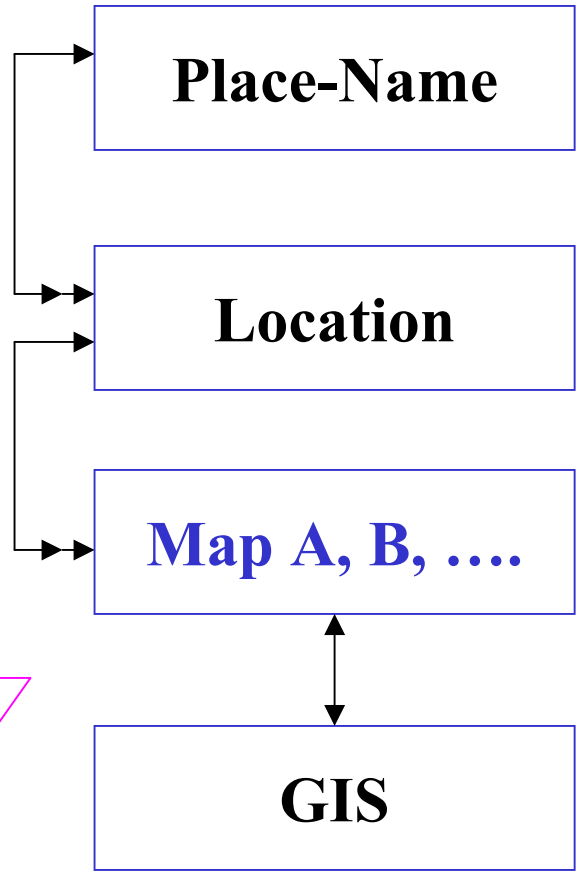


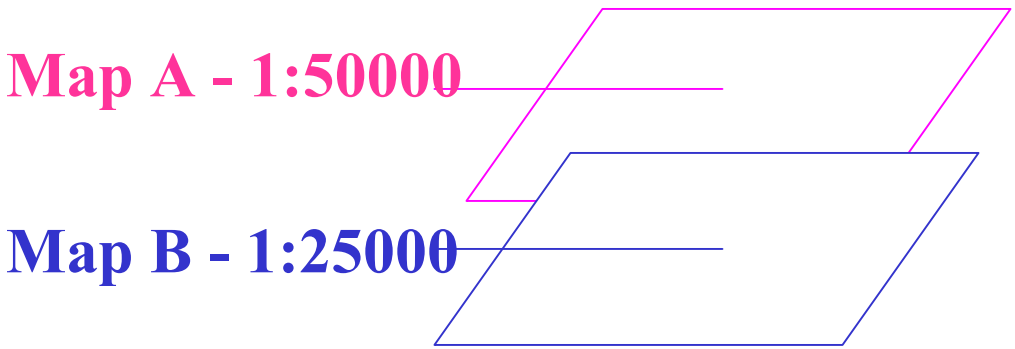
MAP

Chinese

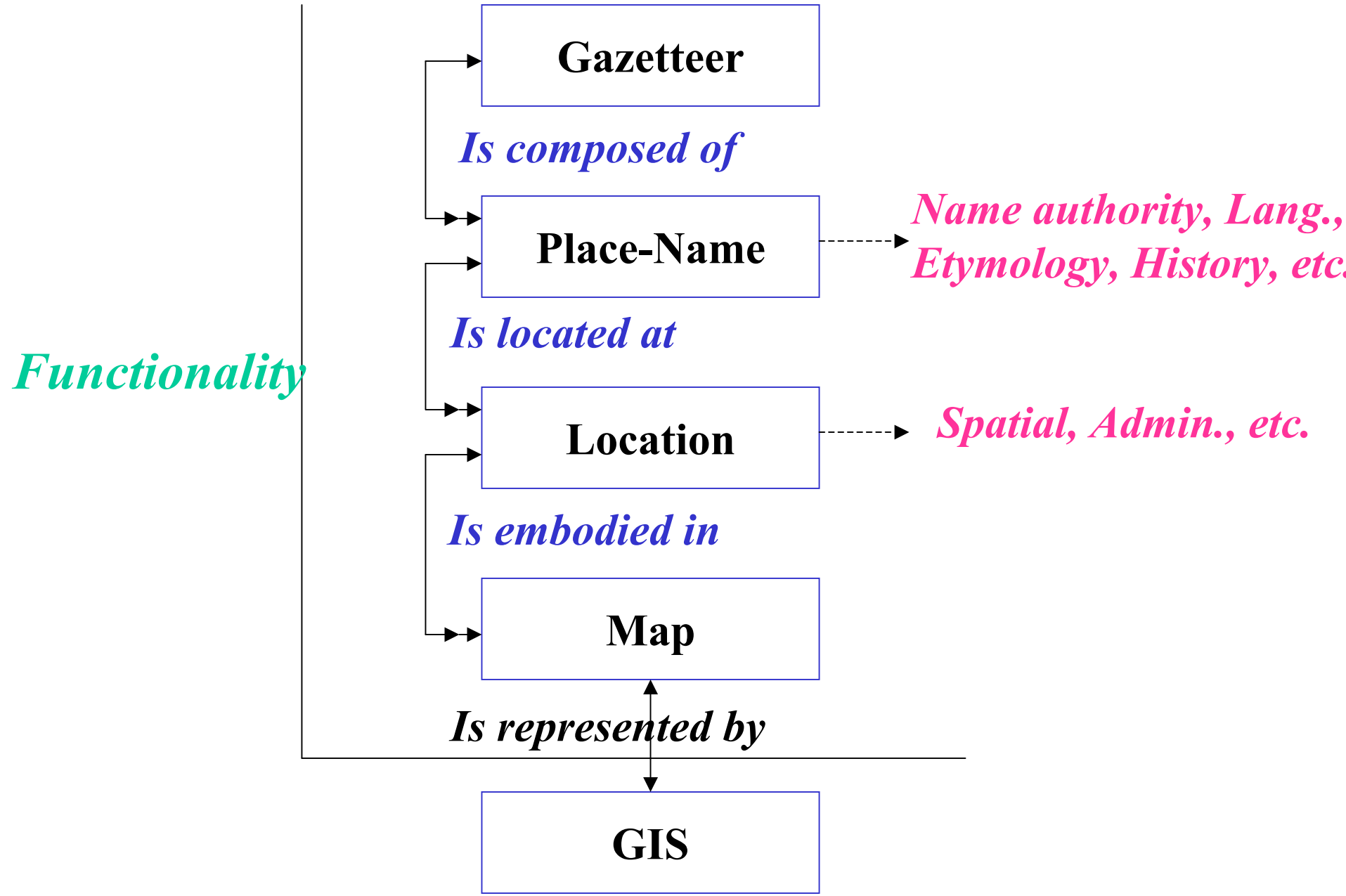
圖名圖號

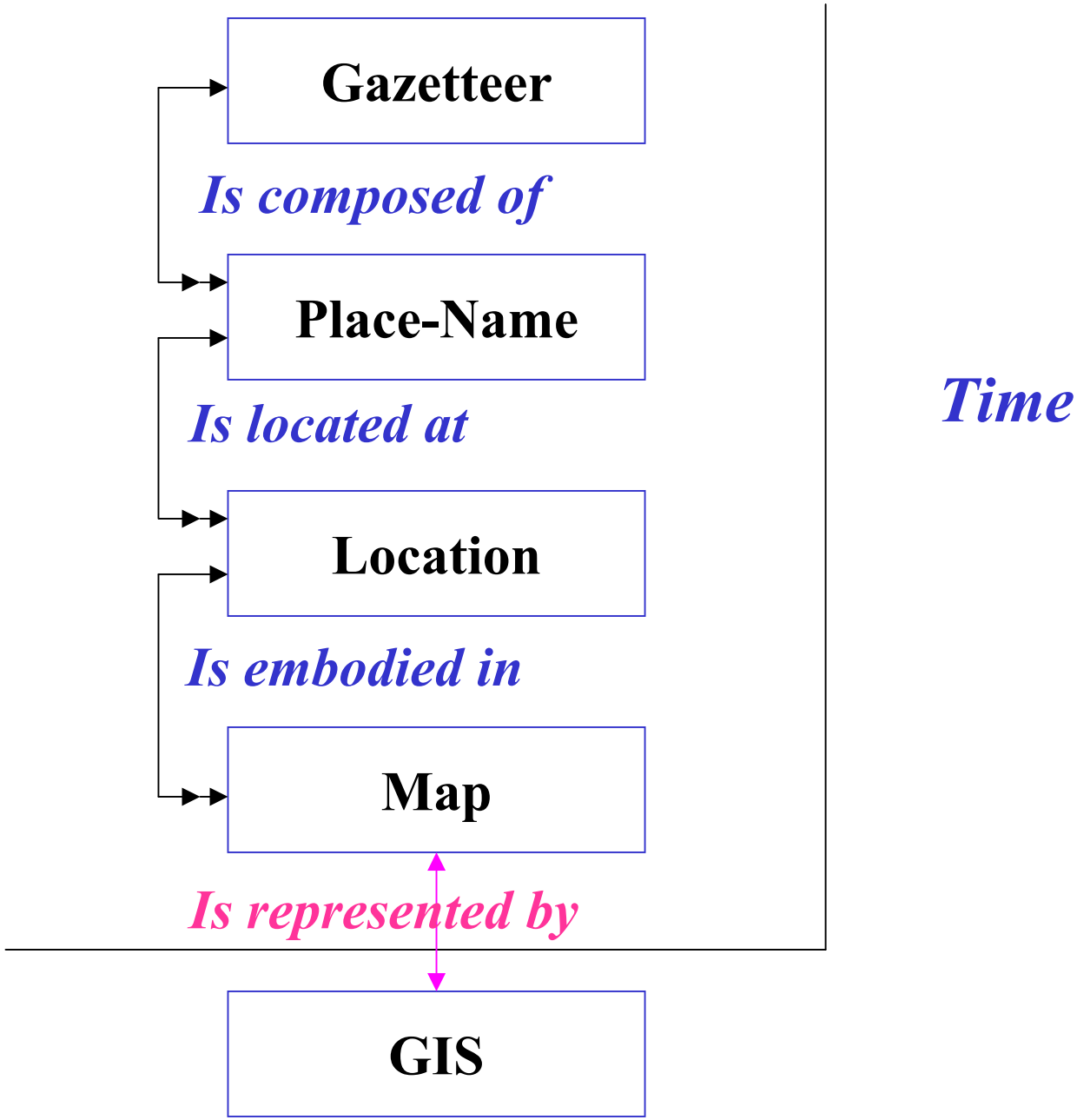
比例尺

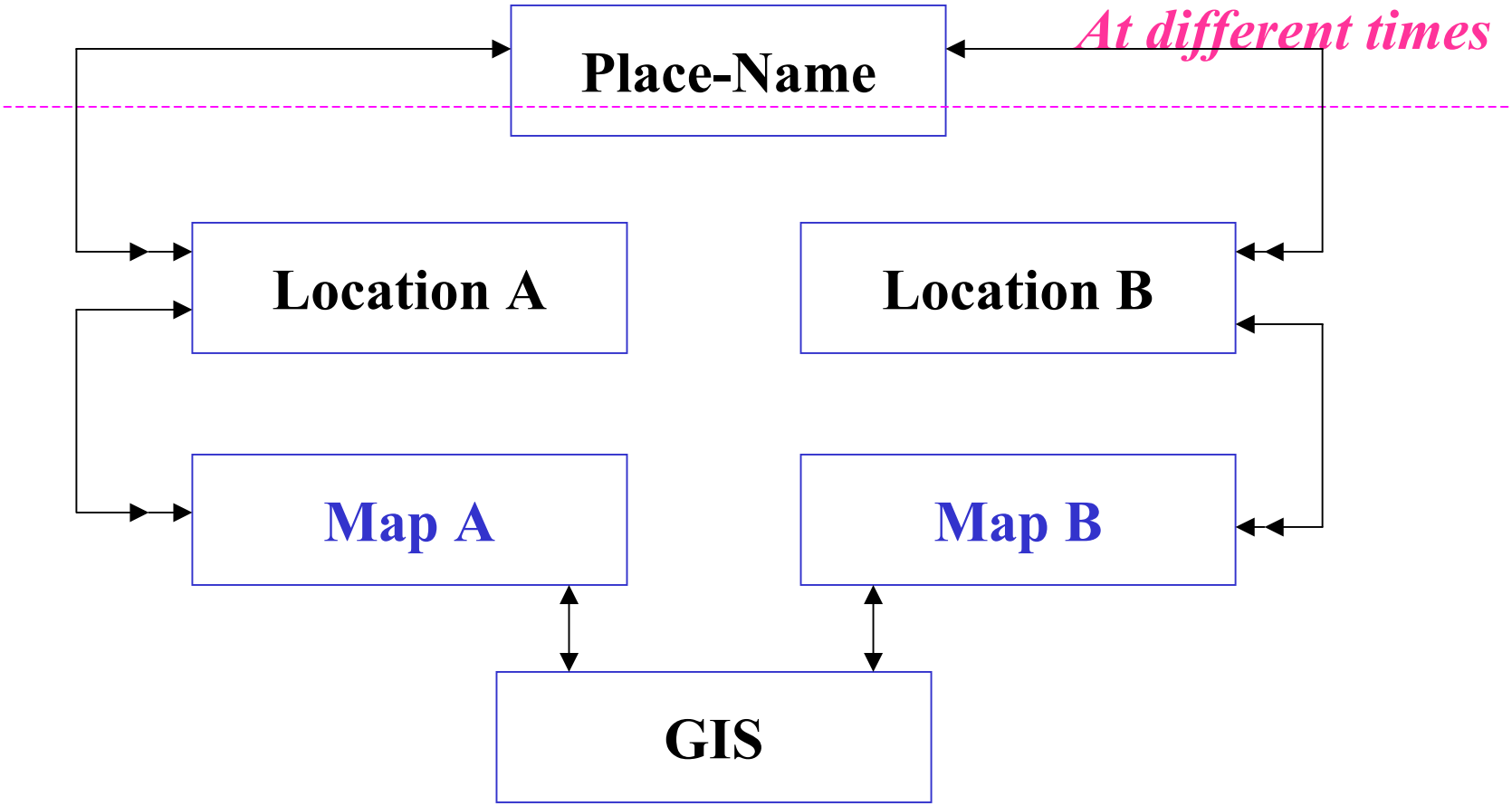


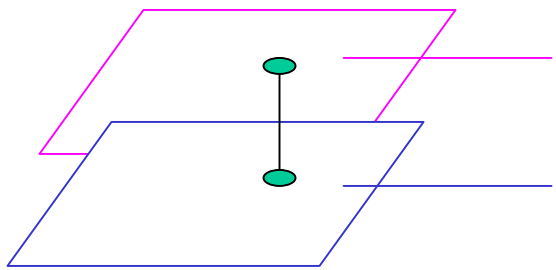


The same place-name can be represented by different maps with various scales in GIS.


Gazetteer
Is composed of
Place-Name
Name authority, Lang.,
Etymology, History, etc.
Is located at
Functionality
Location
Spatial, Admin., etc.
Is embodied in
Map
Is represented by
GIS


Gazetteer
Is composed of
Place-Name
Is located at
Location
Is embodied in
Map
Is represented by
GIS
Time





Beijing in Yuan Dynasty

Beijing in Ch'ing Dynasty

***The same place-name** across different time periods can be represented by different scale maps in GIS, for instance, **Beijing**.*

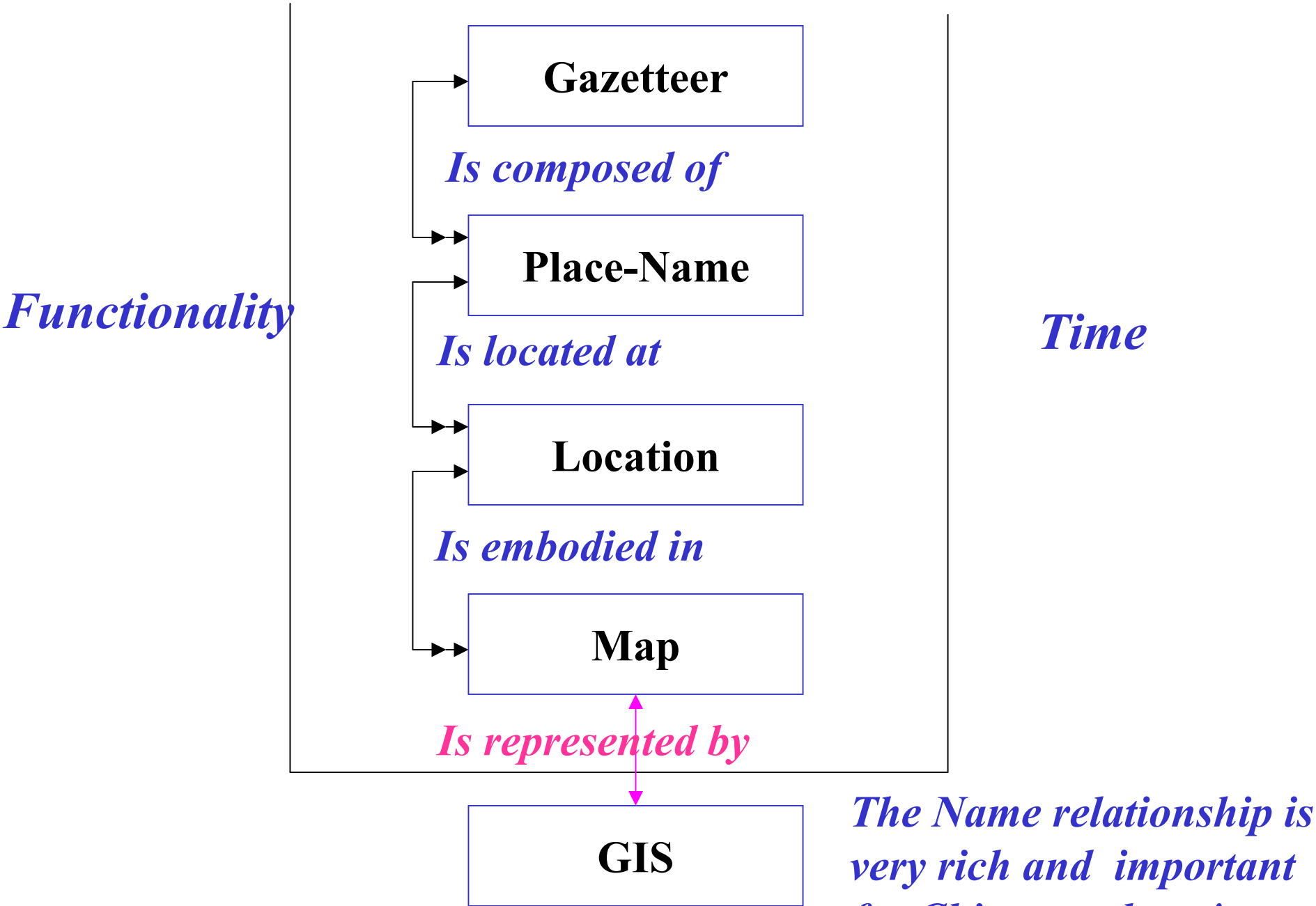
Example

歷史上有『北京』的地名

中文地名	英文地名	現今地名	開始時間	結束時間	所屬朝代、行政區	
北京	Beijing		936	946	五代十國_晉	Detail...
北京市	Beijing Shi	北京市	1911	0	北京市	Detail...
北京	Beijing		1115	1234	金	Detail...
北京	Beijing		960	1127	北宋_河北東路	Detail...

現今地名爲『北京』的歷史地名

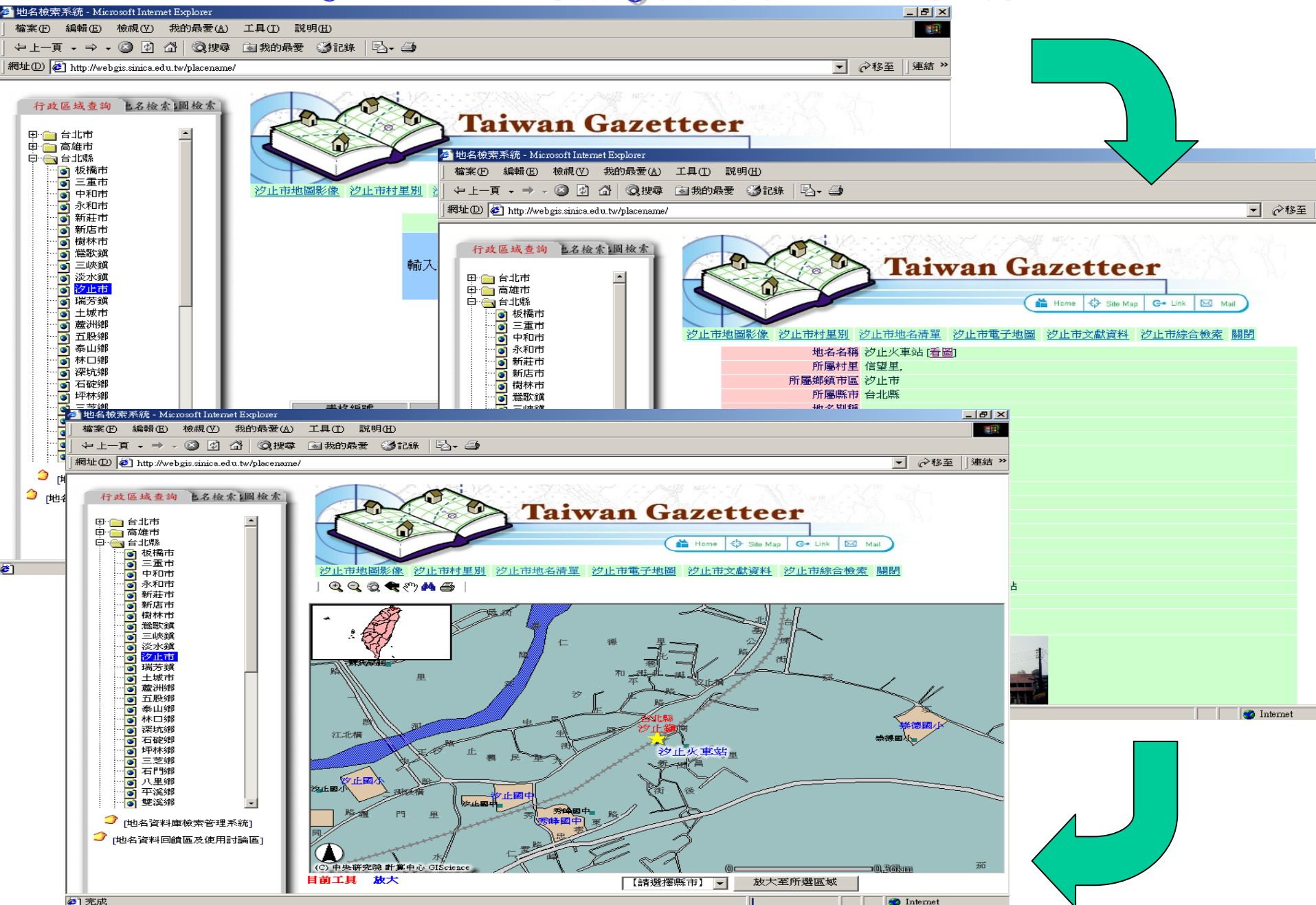
中文地名	英文地名	現今地名	開始時間	結束時間	所屬朝代、行政區	
大興		北京市	1644	1911	清_直隸	Detail...
大興		北京市	1368	1644	明_京師	Detail...
北京市	Beijing Shi	北京市	1911	0	北京市	Detail...
宛平		北京市	1644	1911	清_直隸	Detail...
順天府		北京市	1644	1911	清_直隸	Detail...
京師		北京市	1644	1911	清_直隸	Detail...
宛平		北京市	1368	1644	明_京師	Detail...
順天府		北京市	1368	1644	明_京師	Detail...
京師		北京市	1368	1644	明_京師	Detail...
大都路		北京市	1271	1368	元_中書省	Detail...
幽州府		北京市	907	979	五代十國_遼	Detail...
幽州		北京市	386	534	北朝 魏_幽州	Detail...
燕都		北京市	386	534	北朝 魏_幽州	Detail...
薊縣		北京市	386	534	北朝 魏_幽州	Detail...
燕國		北京市	265	316	西晉_幽州	Detail...
薊縣		北京市	265	316	西晉_幽州	Detail...
廣陽郡		北京市	0	0	秦_廣陽郡	Detail...
薊縣		北京市	0	0	秦_廣陽郡	Detail...


Gazetteer
Is composed of
Place-Name
Functionality
Is located at
Time
Location
Is embodied in
Map
Is represented by
GIS
The Name relationship is very rich and important for Chinese culture!

Achievements

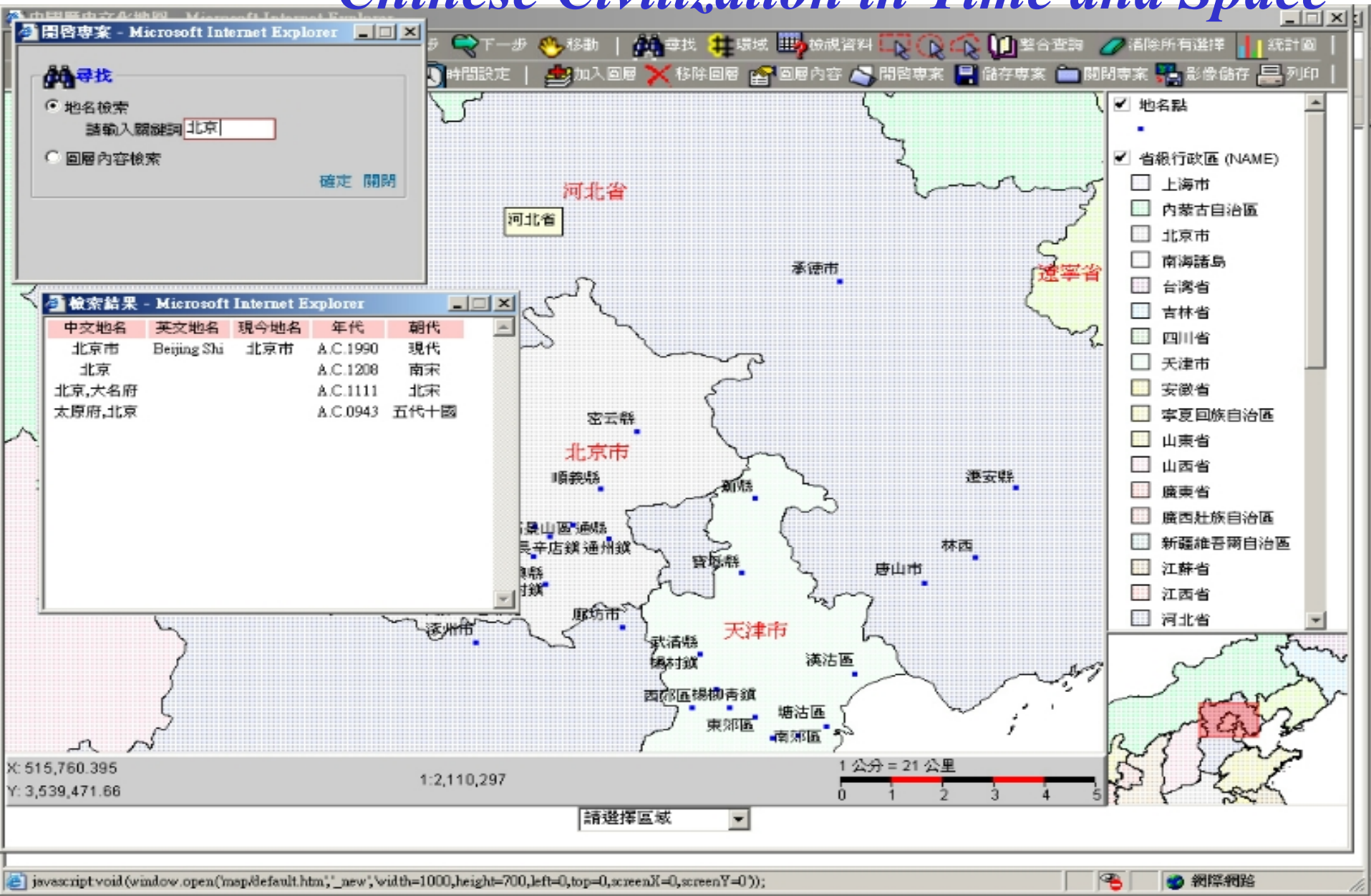
- **Taiwan Gazetteer**
- **Chinese Civilization in Time and Space**
- **An XML-based Testbed for ADL GCS**
- **Chinese Version of ADL GCS**
- **A Feature Type Set of the Ministry of Interior Affairs in Taiwan**

Taiwan Gazetteer: Gazetteer → GIS

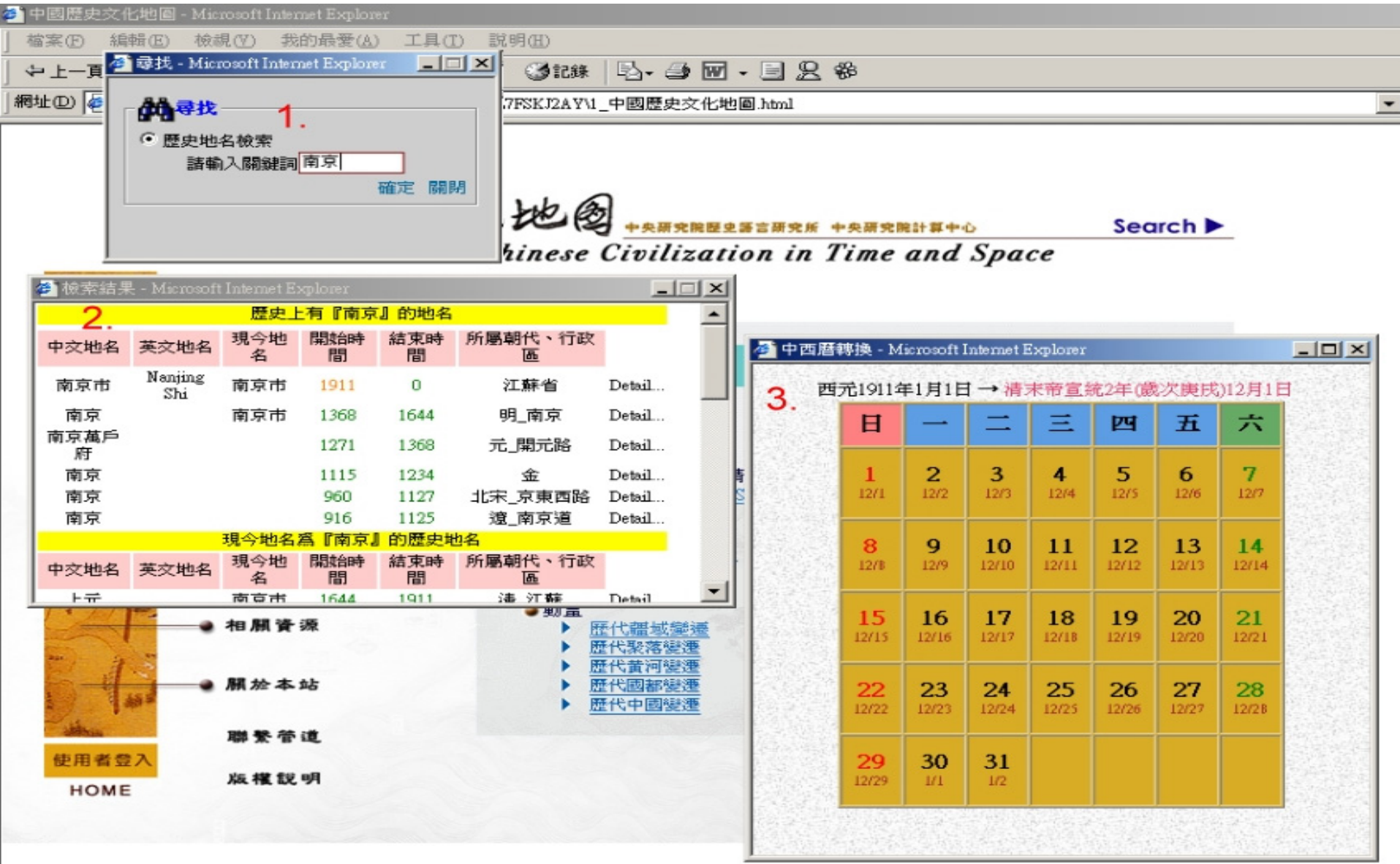


Gazetteer for Chinese History

Chinese Civilization in Time and Space



Gazetteer for Chinese History
Chinese Civilization in Time and Space

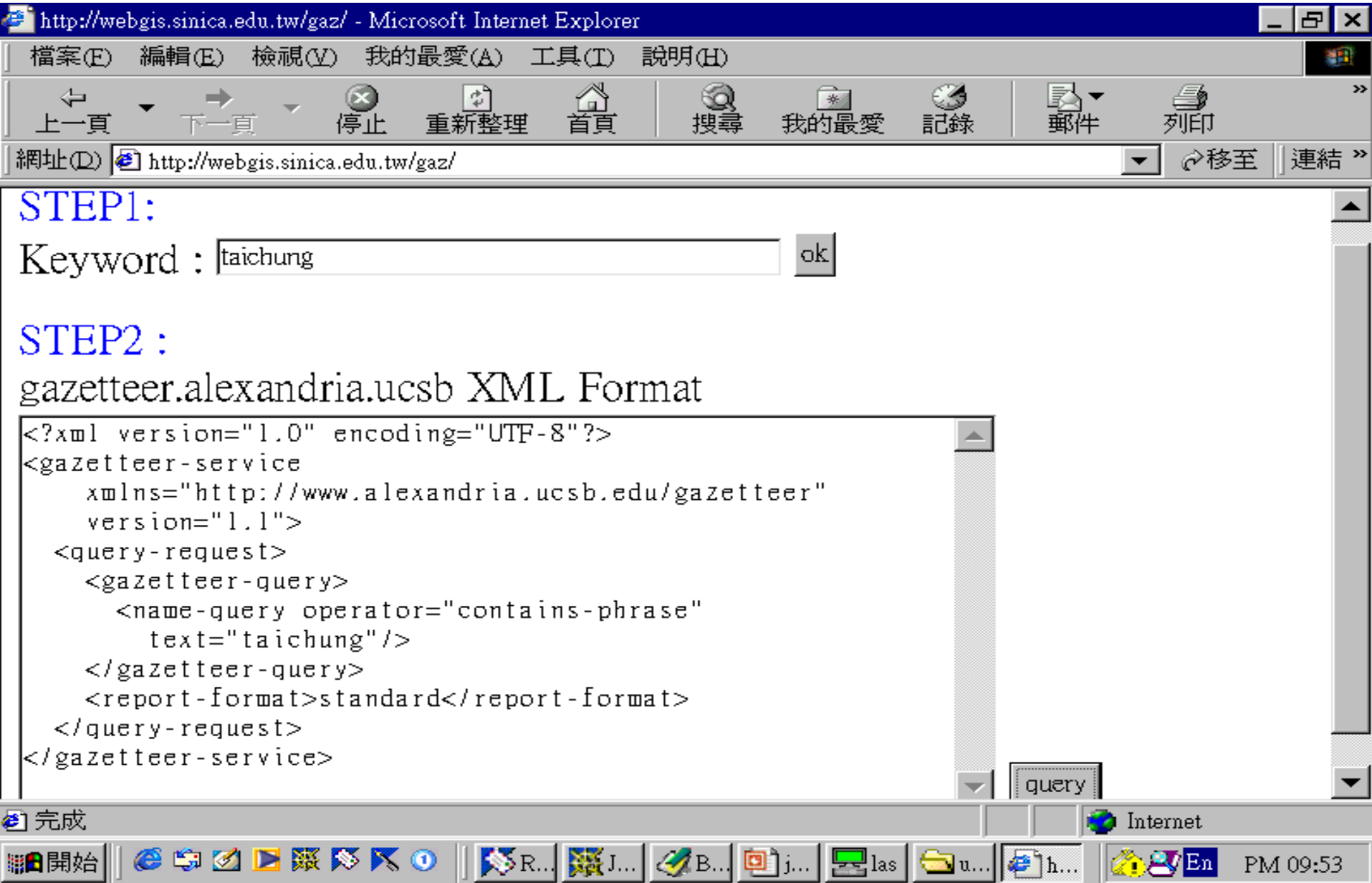


GIS → Gazetteer → Fulltext

GIS → Gazetteer → Union Catalog

GIS → Gazetteer → Person

XML-based Testbed for ADL



Future Work[1]

- The hybrid approach based on the concept of Application Profile and RDF will be adopted for the use of ADL, TGN and USMARC.
- To extend XML-based ADL (content standard) as a sharing service framework for file exchange and distributed retrieval on digital gazetteer.
- A set of place-name relationship attributes is required to construct for Chinese culture.

Future Work²

- **The mechanism and concept of thesaurus control will be employed for developing Feature Type of Chinese culture.**
- **A mapping connection of Feature Type between ADL and the Ministry of Interior Affairs in Taiwan will be conducted for extended use.**

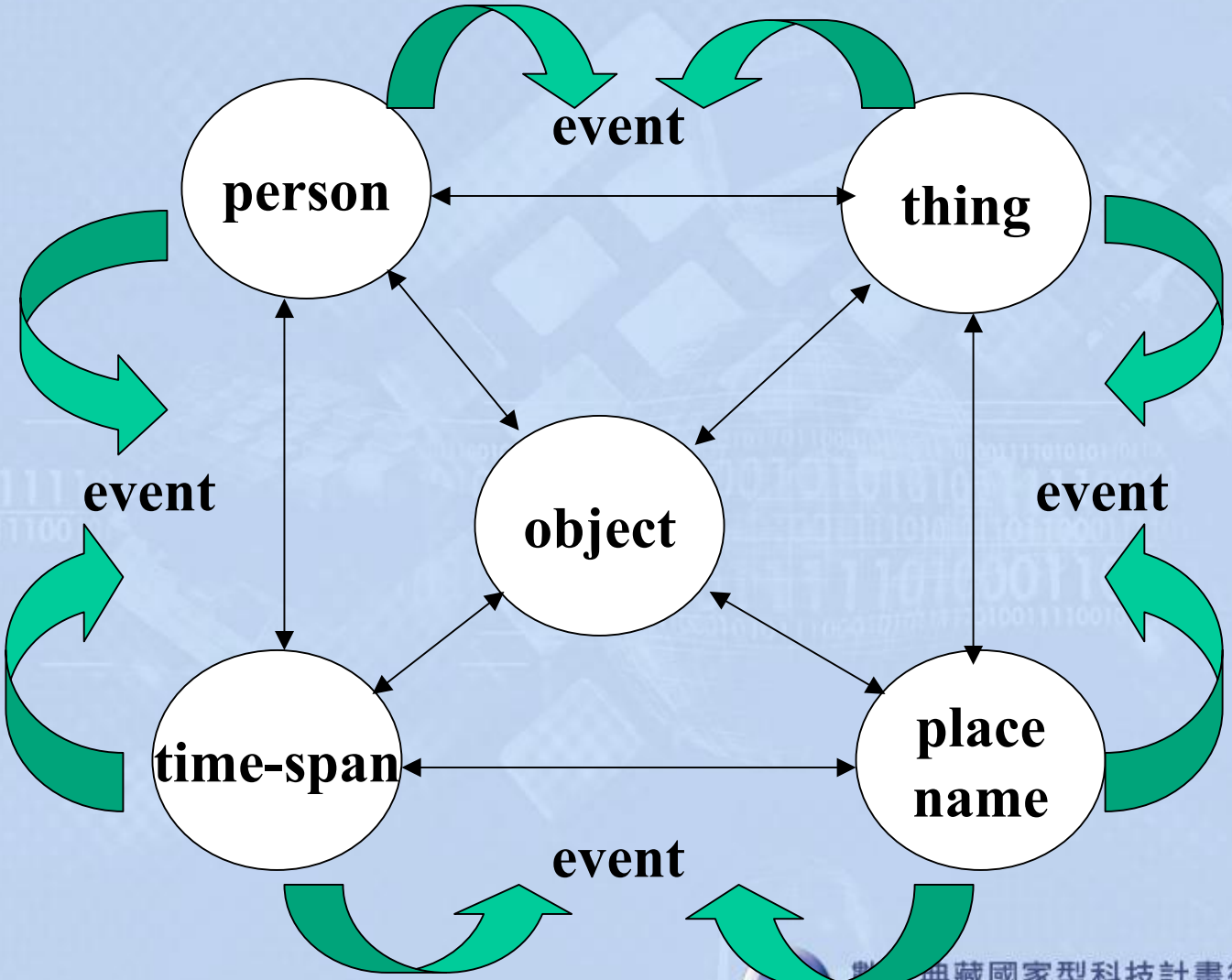
Future Work[3]

- **Find a solution for solving multilingual issue of syntax and semantic for content standard and feature type, especially for a mapping between English and Chinese language.**
- **A clearinghouse for digital gazetteer service will be constructed for enhancing collaboration and interoperability, such as ADL and ECAI.**

Future Work[4]

- More projects within the National Digital Archives Program in Taiwan are used as case study to build up the generic best practice for Chinese culture.
- More two-directional linking among generic metadata attributes will be established, and gazetteer is one of them.

Generic Metadata Attributes



MAAT Website

Thank for your join, and welcome any comments!