

Zhejiang University Libraries and CADAL project

—— Retrospection & Prospection

Administration Center of CADAL
Zhejiang University Libraries
OCT. 2017 @ HangZhou

Outline

- Background
 - ZheJiang University & ZJU Libraries
 - Overview of CADAL
- Retrospection
 - Project review
 - Challenges
- Prospection

ZheJiang University

- Founded in 1897 – Qiushi Academy
- One of the top 3 comprehensive universities in China
- Total area : 426 hectares (7 campuses)
- Floor space : more than 2.5 million square meters



Zhejiang University

- **48,762 full-time students**
 - 24,133 undergraduates
 - 15,092 graduate students
 - 9,537 doctoral candidates
- **8,423 faculty and staff**
 - Full-time teachers 3,500⁺
 - Research personnel 930⁺
 - Auxiliary teaching staff 900⁺
 - Administrative personnel 1,100⁺
 -



ZheJiang University Libraries

- Founded in 1897
- 6 branches libraries
- 20+ college libraries
- total area : 8,6000 square meters
5,282 reader places





Zhejiang University Libraries

Zhejiang University Libraries

- **The collection cover almost all subjects**
- **Total collections : 6,158,000⁺ volumes**
- **Annual book circulation :**
1,000,000⁺ volumes
- **Digital resources:**
3,465,000⁺ e-books
27,300⁺ kinds of CHN e-journals
69,700⁺ kinds of FRGN e-journals

Website: libweb.zju.edu.cn

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Overview of CADAL

- China Academic Digital Associative Library
- CADAL is aiming to construct an academic digital library with high-level tech and abundant digital resources in multi- disciplines, multi-categories, and multi-lingual, which involves participations and services from domestic & foreign libraries, different academic organizations and experts with various specialties.

Overview of CADAL

- In 2001, the Chinese and American computer scientists jointly initiated “China-US million books digital library project”
- Objective: Create a free-to-read searchable collection of 1 million books available to everyone over the internet.



Pan, Yunhe
Member of the Chinese
Academy of
Engineering



Raj Reddy
Computer Turing
award winner





Milestones

- 2001: the project was initiated, known as MBP in US and CADAL in China.
- 2006: 1 million books have been digitalized at the end of phase I.
- 2009: Engineering Research Center of Digital Library (MOE ERCDL) was established.
- 2012: totally 2.5 million items have been digitalized.
- 2015: Encyclopedia of the republic of China was released (<http://cadal.hytung.cn>)

Overview of CADAL

- ZheJiang University Libraries & CADAL
 - CADAL is a research project supported and funded by the Ministry of Education of China.
 - CADAL is led by ZheJiang University libraries and implemented jointly by the domestic and international universities and research institutes.

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Resource Construction

- digital processing bases:



- scribe scanner:



- CADAL has completed digitization of **2.8** million items, and become one of the largest digital libraries.

Type	Total Copies (phase II)	Total Copies (phase I&II)
Ancient Books	39788	239877
Books during Republic of China	33756	175478
Manchurian Railway Profiles	13410	13410
Journals during Republic of China	12673	157598
Dissertation during Republic of China	0	1924
Modern Books	611988	804279
Foreign language Books	597128	768694
CD attached with Books	66803	66803
Chinese Newspaper	199273	199273
Technology Report	47551	47551
Dissertation	0	166925
Overseas Remittance	50065	50065
Graphic Images	112683	112683
Audios and Videos	50468	50468
Total	1835586	2855028

- Resources online

Type	Resources Online
Ancient Books	217590
Books during Republic of China	174846
Journals during Republic of China	149665
Dissertation	166001
Dissertation during Republic of China	1924
Modern Books	706969
Foreign language Books	669572
Technology Report	16480
CD attached with Books	54309
Local Chronicles	9098
Chinese Newspaper	199227
Overseas Remittance	50065
Manchurian Railway Profiles	12910
Total	2428656

- special collections
 - Encyclopedia of the republic of China



- old photograph database

titleInfo:	title: Interior view of Da jue si showing two Bodhisattvas with inscriptions
name:	namePart: Morrison, Hedda namePart: 1908-1991 namePart: Germany role: roleTerm: creator role: roleTerm: photographer
name:	namePart: Bodhisattva namePart: n.d. namePart: India role: roleTerm: associated name role: roleTerm: subject
typeOfResource:	still image
genre:	photographs
originInfo:	dateOther: 1933 dateCreated: 1933 dateCreated: 1946 dateCreated: ca. 1933-1946

1 / 4939

First Prev Next Last

- special collections
 - Buddhist Universal Digital Archive



special collections

Database of Chinese Musical Relics (DCMR)

元数据框架		元数据信息	
名称	汕头孔庙钟	资源编号	96-A1-20-00007
编号	文物编号	总号	汕489/分类号J2
年代	诞生时间	清道光年间	
	收藏时间	旧藏品	
人物	创作者	孔子	
	收藏者	汕头市博物馆	
地点	出土地	非出土物品	
	现存地	汕头市博物馆	
类别	大类	乐器	
	细类	打击乐器/金属乐器(青铜)/体鸣类乐器	

汕头孔

Framework of Metadata		Metadata Information	
Name	A Bell from Confucius Temple of Shantou		
Identifier	Resource Number	96-A1-20-00007	
	Original Number	General No.489(Shan)J2	
Date	of Creation	Daoguang Era, Qing Dynasty(1821 - 1850)	
	of Collection	N/A	
Party	Conceptor	Confucius	
	Excavator	Shantou Museum	
Place	Excavation site	No Unearthed Object	
	Collection site	Shantou Museum	
Category	in General	Musical Instruments	
	in Specific	Percussion/Metal/Bronze) Idiophone	

The bell is well preserved, it has a elliptic cavity, a flat lower edge(平唇), and a simple button(钮) on the top which takes the shape of a pair of heads of a beast. A raised square-edged between its lower edge and its shoulder is striking, and the joint is covered by Merit(祝), each side has 2 sections and each section has 9 Meis arranging as 3 rows and 3 columns, so there are 36

元数据框架		元数据信息	
名称	蜀仙双曲谱本	资源编号	96-B3-20-00013
编号	文物编号	无描述	
年代	诞生时间	1907(清光绪三十三年)	
	收藏时间	1956	
人物	作者	李进恩	
	收藏者	谢宝崇	
地点	发现地	福建省仙游县	
	现存地	福建省仙游县谢宝崇家	
类别	大类	乐谱	
	细类	戏曲	

莆仙戏

Framework of Metadata		Metadata Information	
Name	A Musical Score for a Pu-xian Opera		
Identifier	Resource Number	96-B3-20-00013	
	Original Number	N/A	
Date	of Creation	1907(33rd Year of Daoguang Era, Qing Dynasty)	
	of Collection	1956	
Party	Composer	Jinsi Li	
	Protector	Baoshen XIE	
Place	Discovery site	Xianyou County, Fujian Province	
	Collection site	Baoshen XIE's home, Xianyou County, Fujian Province	
Category	in General	Musical Scores	
	in Specific	Opera	

The well-preserved score is a manuscript, with decide-

元数据框架		元数据信息	
名称	敦煌莫高窟第14窟菩萨伎乐图	资源编号	96-D2-15-00015
编号	文物编号	无描述	
年代	诞生时间	晚唐(875-907)	
	保护时间	宋(清(重修)	
人物	创作者	无描述	
	保护者	中华人民共和国国务院	
地点	发现地	甘肃省敦煌市	
	现存地	敦煌莫高窟第14窟南、北二壁	
类别	大类	音乐图像	

敦煌莫高窟第14

Framework of Metadata		Metadata Information	
Name	Performing Bodhisattvas in No.14 of Mogao Caves at Dunhuang		
Identifier	Resource Number	96-D2-15-00015	
	Original Number	N/A	
Date	of Creation	Late Tang Dynasty (875 - 907)	
	of Protection	Song and Qing Dynasties(Repair)	
Party	Author	Anonymous	
	Discoverer	State Council of the People's Republic of China	
Place	Discovery site	Dunhuang City, Gansu Province	
	Collection site	Dunhuang	
Category	in General	Musical Images	

元数据框架		元数据信息	
名称	成都宴乐画像砖	资源编号	96-D8-09-00009
编号	文物编号	无描述	
年代	诞生时间	东汉(25-220)	
	收藏时间	1975	
人物	创作者	无描述	
	收藏者	四川省文物考古研究院	
地点	出土地	成都西郊东汉墓	
	现存地	成都市博物馆	
类别	大类	画像砖	
	细类	宴乐歌舞	

成都宴乐画像


Framework of Metadata		Metadata Information	
Name	A Picorial Brick from Chengdu Depicting a Convivial Scene		
Identifier	Resource Number	96-D8-09-00008	
	Original Number	N/A	
Date	of Creation	Eastern Han Dynasty(25 - 220)	
	of Excavation	1975	
Party	Conceptor	N/A	
	Excavator	Sichuan Research Institute of Cultural Relics and Archaeology	
Place	Excavation site	A tomb from the Eastern Han Period at west Chengdu, Sichuan Province	
	Collection site	Sichuan Provincial Museum	
Category	in General	Picorial Bricks	
	in Specific	Convivial Scene	

The brick is 40cm high, 48cm wide. On the top left, there are two persons sitting on the ground, wearing the bag-sleeve gowns, one of them is playing Se(瑟), from the tail end of the instrument, we can only see a muluocuo-shaped teson generally for fastening the strings. The instrument in picture has no strings at all, but we can see the feet(屐弓) under it. The player is putting half of the instrument on his legs, and the other half is left on the ground, his arms are stretching forward and his hands are playing. Besides him, there is a woman singing. On the top right, there are two persons sitting on the ground, the man wearing a

CLassical Art Research Online Research Services


CLAROS

The world of art on the semantic web



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Collections

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Go Translate


Built on the art of ancient Greece and Rome, CLAROS is an international research collaboration, using the latest Information and Communication Technologies to enable simultaneous searching of major collections in university research institutes and museums.

- EXPLORE →
- IMAGE SEARCHING →
- PARTICIPATE →
- OPEN DATA →


[Podcast of Information Workbench as a Platform for Building Semantic Cultural Heritage Applications, 18th Oct 2014](#)

[Podcast of CLAROS launch event, May 2011, Wolfson College, Oxford](#)


[Podcast from Humanities Research Showcase at Oxford \(2011/11/07\): Humanities in Partnership with Science: The World of Art on the Web](#)




western ceramics




western sculpture




gems and cameos




eastern bronze




eastern ceramics



eastern drawing



prints and drawings



antiquarian photographs

Hosted by the University of Oxford's e-research centre, [OeRC](#)

Research Space(British Museum)

Find: **Things** FROM **Salamis Cyprus** and **CREATED ON** **Year 800 BC - Year 500 BC** and **HAS TYPE** **terracotta**

Find: HAS TYPE terracotta or + and + remove




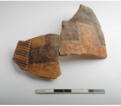






FROM Salamis Cyprus **AND** CREATED ON Year 800 BC - Year 500 BC **AND** HAS TYPE terracotta



- ▶ acquired by (22) 👤
- ▶ found by (8) 👤
- ▶ from (22) 👤
- ▶ refers to (1) 👤
- ▶ has type (22) 📄
- ▶ created on (22) 📅
- ▶ created in (22) 📍
- ▶ from (22) 📍
- ▶ modified in (22) 📅
- ▶ found or acquired at (22) 📍
- ▶ from (22) 📍
- ▶ is similar or same with (11) 🔍

Hide filter

Table Grid Carousel Map Timeline

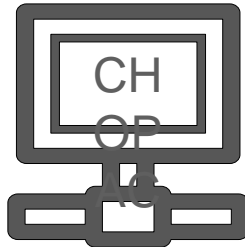
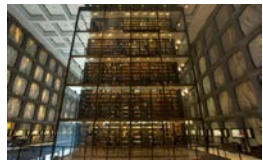
					
http://collection.british...	http://collection.british...	http://collection.british...	http://collection.british...	http://collection.british...	http://collection.british...
					
http://collection.british...	http://collection.british...	http://collection.british...	http://collection.british...		

◀ 1 2 3 ▶

Save as New Set Add to Existing Set

Select dataset(s) to search over

How can we meaningfully publish and integrate Cultural Heritage resources?



Research



Public
Engagement



Education

1. How do you publish internal data so external audiences can understand it, use it, enjoy it...
2. Cultural heritage data isn't static – how do you keep open data up to date? What happens when something changes?
3. How do you integrate data (enrich) while maintaining local meaning and context?
4. How do we derive new knowledge and preserve it?
5. How can you fulfil the requirements of a wide range of audiences?
6. How do you provide stable and sustainable platforms for creating robust user applications?

The developing cooperations

- CADAL is a Partner of CLAROS & Research Space
- Research Space Links ABS & DCMR with other databases
- Research Space provides CADAL with an option to integrate other domestic databases

Service System



Cooperation : China (include HK & Macao)



- | | | | |
|--|--|--|--|
| <ul style="list-style-type: none"> ● 清华大学图书馆 ● 北京大学图书馆 ● 浙江大学图书馆 ● 复旦大学图书馆 ● 南京大学图书馆 ● 西安交通大学图书馆 ● 武汉大学图书馆 ● 中山大学图书馆 ● 四川大学图书馆 ● 上海交通大学图书馆 | <ul style="list-style-type: none"> ● 北京师范大学图书馆 ● 吉林大学图书馆 ● 华中科技大学图书馆 ● 中国人民大学图书馆 ● 中国农业大学图书馆 ● 厦门大学图书馆 ● 暨南大学图书馆 ● 华南理工大学图书馆 ● 北京交通大学图书馆 ● 华东师范大学图书馆 | <ul style="list-style-type: none"> ● 同济大学图书馆 ● 兰州大学图书馆 ● 北京中医药大学图书馆 ● 景德镇陶瓷学院图书馆 ● 中国海洋大学图书馆 ● 重庆大学图书馆 ● 山东大学图书馆 ● 苏州大学图书馆 ● 南昌大学图书馆 ● 陕西师范大学图书馆 | <ul style="list-style-type: none"> ● 内蒙古大学图书馆 ● 井冈山大学图书馆 ● 河南大学图书馆 ● 湖南大学图书馆 ● 中央美术学院图书馆 ● 广西大学图书馆 ● 云南大学图书馆 ● 南京农业大学图书馆 ● 浙江师范大学图书馆 ● 华中师范大学图书馆 |
| <ul style="list-style-type: none"> ● 汕头大学图书馆 ● 青海师范大学图书馆 ● 东北师范大学图书馆 ● 东南大学图书馆 ● 新疆师范大学图书馆 ● 西北农林科技大学图书馆 ● 中央广播电视大学图书馆 ● 浙江大学城市学院图书馆 ● 中国民航飞行学院图书馆 ● 华南师范大学图书馆 | <ul style="list-style-type: none"> ● 西南交通大学图书馆 ● 新疆农业大学图书馆 ● 电子科技大学图书馆 ● 西藏大学图书馆和现代教育技术中心 ● 西北工业大学图书馆 ● 中国美术学院图书馆 ● 北方民族大学图书馆 ● 河北师范大学图书馆 ● 上海师范大学图书馆 ● 西南政法大学图书馆 | <ul style="list-style-type: none"> ● 石河子大学图书馆 ● 哈尔滨工业大学图书馆 ● 浙江理工大学图书馆 ● 宁波大学图书馆 ● 浙江大学医学院 ● 湖北大学马克思主义学院 ● 杭州高新区(滨江)社会发展局 ● 中国国家图书馆 ● 中科院国家科学图书馆 ● 浙江中医药大学 | |
| <p>内地
Mainland</p> | | | |
| <p>港澳
Hong Kong & Macao</p> | | | |
| <ul style="list-style-type: none"> ● 香港城市大学图书馆
Run Run Shaw Library ● 香港中文大学图书馆
The Chinese University of Hong Kong Library ● 香港浸会大学图书馆
Hong Kong Baptist University Library ● 香港大学图书馆
The University of Hong Kong Libraries ● 香港理工大学图书馆
The Hong Kong Polytechnic University Library | <ul style="list-style-type: none"> ● 珠海学院江茂森图书馆
Kong Mou Sum Library ● 岭南大学冯森活图书馆
Lingnan University Fong Sum Wood Library ● 澳门大学图书馆
University of Macau Library ● 澳门科技大学图书馆
Library of Macau University of Science and Technology | | |

Cooperation: North America

北美 North America

- 卡内基梅隆大学
Carnegie Mellon University
- 伊利诺伊大学厄巴纳-香槟分校图书馆
University Library of Illinois at Urbana-Champaign
- 哈佛大学图书馆
Harvard University Library
- 哥伦比亚大学图书馆
Columbia University Libraries
- 密歇根州立大学图书馆
Michigan State University Libraries
- 普林斯顿大学图书馆
Princeton University Library
- 斯坦福大学图书馆
Stanford University Libraries
- 加州大学伯克利分校图书馆
University of California, Berkeley Library
- 芝加哥大学图书馆
University of Chicago Library
- 康奈尔大学图书馆
Cornell University Library
- 耶鲁大学图书馆
Yale University Library
- 杜克大学图书馆
Duke University Libraries
- 互联网档案馆
Internet Archive
- 英属哥伦比亚大学图书馆
University of British Columbia Library



Cooperation : Europe



欧洲 Europe

- 牛津大学中国中心
University of Oxford China Center
- 牛津大学电子资源中心
Oxford Electronic Research Centre
- 大英博物馆
British Museum
- 德国国家图书馆
German National Library
- 法国国立科研中心
Centre de recherche nationale en sciences humaines



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Challenges

- Technical: Different databases follow different metadata standards, in different languages
- Practical: The academic database co-construction needs experts from various areas collaborate closely
- Legal: Copyright issues
- Ideological: Resource Sharing is not commonly accepted
- Methodological: The positive and negative effects of Digital Humanities.

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Prospection

- Approaches
 - Cloud technology & cloud integration
 - Big data & big service
 - Sharing knowledge with users interactively
 - Sharing users with information institutions transparently
- Contents
 - Integration of massive resources
 - Integration of advanced technologies
 - Ubiquitous personalized service
 - Global cooperation



Welcome to Join in

- <http://www.cadal.cn/xmjj/glbj.htm>
- <http://www.cadal.cn/jrwm/>

- Cooperation

- Digital resources
- Digital library services
- Digital library techniques
-



