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Zhejiang University Libraries and CADAL project: Retrospection & Anticipation

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Good afternoon. At the beginning of my presentation, I would like to apologize that I changed my presentation last night. There will be some difference between my presentation and the printed materials in your hand. I wanted to change my presentation to make it more clear, so I thought it would be helpful.

#2

My presentation has three parts; the background and then, retrospection, and anticipation.

#3

I will introduce the Zhejiang University at first. It is founded in 1897 and named as Qiushi Academy. Now, she is one of the top three comprehensive universities in China and the total area is 533 hectares between five campuses.

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The university has over 40,000 full-time students and 8000 faculty and staff.

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As for the Zhejiang University Library, it was also founded in 1897. It have six branches libraries and over 20 college libraries.

#6

These are various pictures of our university libraries in the different campuses.

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Zhejiang University Libraries' collection covers almost all subjects and over six million volumes. We have annual book circulation of one million books.

#8

Various websites of our libraries and you can get more information on our sites.

#9

To the CADAL project it is named as China Academic Digital Associative Library; since this project is initiated by Zhejiang University, The Zhejiang University became the organizer of this project for decade years. Zhejiang University library is the administrative center of this project led by our vice-president of our university is one of the sponsors of this project. The CADAL project is aiming to construct an academic digital library with high level technology and abundant digital resources in multi-disciplines, multi-categories, and multilingual which involves participations and services from domestic and foreign libraries, different academic organizations, and experts with various specialties.

#10

This is the scenario of our project. It started from 2001 proceeding in three phases.

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These are some milestones of this project. In 2001, the project was initially known as the Million Book Project (MBP) in US and the CADAL in China. In 2006, one million books have been digitalized at the end of phase I. In 2012, a total 2.5 million items have been digitalized.

#12

For the initiation, the Chinese and American computer scientists jointly initiated a China-US million books digital library project in 2001. The project objective is to create a free to read searchable collection of one million books available to everyone over the internet. This is a photo with the two sponsors of this project, Professor Pan Yunhe, who was a member of the Chinese Academy of Engineering and he is also the vice-president of our University of Zhejiang. Dr. Raj Reddy is the professor from Carnegie Mellon University in US.

#13

In September 2002, the National Development and Reform Commission, Ministry of Finance and Education issued several opinions on the '211 projects' during 10th five-year plan which agreed the implementation of the China Academic Digital Associative Library (CADAL) to provide information support for teaching and scientific research in colleges and universities. I think that you will know another project named CALIS administered by Peking University. The CADAL project and CALIS project together constructed the framework of China Academic Digital Library and Information System.

#14

In the phase I, we have 16 university libraries participating including almost the top 16 universities in China.

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To the project phase II, the domestic partners increased up to 70.

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A lot of overseas cooperation institutions also joined.

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These are some achievements of the project. We have built one of the world's largest professional digitization centers in Shenzhen Trade Free Zone and other digitization centers in more than 40 universities. We can digitize 21 million pages and 70,000 books per month. It is a large amount of digitization capacity.

#18

We also built eight data centers around China and 33 service centers providing full time service for colleges and universities.

#19

By now we have completed the digitization of 2.7 million items and have become one of the largest digital libraries in China.

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As for the online resources, we have over 1.8 million items online.

#21

Here are some access statistics for the CADAL portal in the last year. The users browse more than a 500,000 pages per day and the daily downloading exceeds 260,000 pages. The daily book search requests from non-duplicated ID exceed 184,000, more than 47% of which are from the public network users. Our portal IP is below.

<http://www.cadal.zju.edu.cn>

#22

In the last year, more than 1900 national universities visited CADAL portal and the

CADAL service.

#23

And there are 500 international schools that visited CADAL portal. The number one is American and the number two is Japanese.

#24

Here is the figure from the top 20 universities that had browsed the CADAL portal. The amount of reading exceeded 9.44 million items. Some universities have half of our circulation from the CADAL portal and then their own library circulation.

#25

Here is some cooperation between CADAL and foreign institutions. On November 9, 2012, CADAL signed a contract with Berlin National Library of Germany to share and study Chinese history and culture through virtual database and network platforms.

#26

On November 25, 2012, the Deputy Director of Japanese National Congress Library led a group of five experts that visited CADAL.

#27

At the beginning of last year, CADAL signed a contract with Internet Archive to accept a total donation of 700,000 English books, a digital lending agreement to share four million copies of the electronic resources and seven containers with about 150,000 English books have arrived at Zhejiang University. The Internet Archive is a non-profit organization in the US. I think it is the biggest non-profit digital library in the world.

#28

On March 27, 2013, at the CADAL regional cooperation center in Hong Kong an unveiling ceremony was held at the City University of Hong Kong. Academician Pan Yunhe, Executive Vice-President of the Chinese Academy of Engineering and Professor Guo Wei, President of City University of Hong Kong attended the ceremony.

#29

In April 2013, Chinese Studies Library Director and the Chinese Collections Director David Helliwell from Oxford University visited CADAL.

#30

Also, on May 2013, Vice-President of the American Research Library Association and Deputy Director of the University of California and Diane Perushek from the University of Hawaii visited CADAL.

#31

I have some highlights of our project including CADAL open API, the personalized recommendation, chapter based digital lending and from digital library to knowledge center.

#32

We have developed a set of open API for our participants, and our participatory libraries can use this open API to integrate CADAL resources in their own WebPAC or OPAC and their users can just search their own web site to find not only their own collections, but also CADAL's bookshelf, and CADAL's electronic discs.

#33

This is the CADAL portal with personalized recommendations.

#34

This is the workflow of their personalized recommendation based on the users' search and, users' borrow, users' annotations, and so on.

#35

This is the result of the recommended books. CADAL's registered users have their own personal portal in CADAL. So, when he visited a CADAL project, he can get the recommended books.

#36

For the other highlights, 60% of the digital resources in CADAL are still under copyright protection. So, our users often ask, including our participants often ask, how to read books within the scope of copyright protection? We developed a solution with a chapter-based digital lending model.

#37

This is the architecture and workflow of CADAL's digital lending model. Simply, when you browse the CADAL's bookshelf, in a few pages you will see this pattern.

#38

You must borrow chapters in the book reader.

#39

The chapter borrowed by the user cannot be borrowed by another user simultaneously. We now have 70 participatory national university libraries or so. For certain books will have almost over 40 physical copies, so while the users browse through the books in chapter, we can in the same time lend these books to over 40 users while we located the physical books that not borrowed out.

#40

And the borrowed chapter can be available for 14 days. After 14 days, they will be returned automatically, or the user can return the books themselves before this limitation.

#41

Based on the CADAL project achievements digital library technology has been promoted and popularized in China. In 2009, the proposal was approved by the Ministry of Education to fund the Digital Library Research Center of the Ministry of Education.

#42

At the end of 2011, the 10th anniversary celebration of Chinese Academic Digital Associative Library was held in Zhejiang University. Academician Pan Yunhe and Professor Raj, which were two sponsors of this project, both delivered keynote speeches and they announced that the digital library will upgrade to smart library and they would be the knowledge center at the end.

#43

In 2012, the Director General of the United Nations Educational Scientific and Cultural Organization (UNESCO), Ms. Bokova, visited CADAL.

#44

In the same year, the Assistant Director General of UNESCO, Ms. Kalonji visited CADAL, too. In the summer of last year, UNESCO passed a resolution to found an engineering knowledge center in China based on CADAL's achievements.

#45

We have the simple introduction of CADAL's project. Right now, I would like to introduce

the future plan of our project.

#46

Actually, there are some concepts popular in the world by now. It is open access, open knowledge, and open innovation. Based on the background we develop our project phase III.

#47

We would like to use cloud technology and cloud integration. Notice as big data we should contract a bigger service. We would like to share knowledge with users interactively and share users with information institutions transparently. Actually, in the traditional digital library constructions, we would just share resources, share experiments between the libraries. We just want to digitize materials to our users, but more and more, the users have greater macro-content online, and by now we want to collect and organize this macro-content in our collections and make these macro-operations as part of our collections and make it available to other users. So, we want to share knowledge with our users. For the information institutions, we would like for our users to be able to just visit one website, or just visit their own library website, they can find all the materials around the world. They do not need to know CADAL or other projects, but they can search and find the resources from one portal. We have four parts to construct: the resources, technologies, service, and cooperation.

#48

For the massive resources, one of the core challenges is to process a large amount of unstructured data, which shows a similar nature with the sea, and thus is called 'Data Ocean', but it is famous as 'big data'. We proposed the data ocean concept four years ago. After that, it is known as big data.

#49

We would like to open the construction of knowledge base and the construction of micro-content and the construction of the resources. All these open construction we just want to transfer the traditional digital library construction from the B2B model to the C2B model. In other words, we want that our users can contribute in designing their libraries and their information institutions.

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This is the co-construction of knowledge base workflow. Any university, institution and individual can provide the following materials for the application. They must have analysis and

comparison of the CADAL digital resources and their own digital resources and then they can apply the co-construction plan. We will assess the application materials with our resources construction committee. If the application is accepted, the applicant should create a bibliographic metadata through CADAL's metadata platform. They can get the digital book from CADAL and complete the digitization in others. They also can choose to submit the full-text to CADAL or to provide a full-text service for CADAL members based on institutional repository without submitting full text to CADAL. In other words, the applications can choose to keep their full text and not submit it to CADAL. They can just provide the metadata to the CADAL portal. The knowledgebase co-constructed be integrated into CADAL transparently with the support of discipline navigation and unified resource discovery by CADAL.

#51

Here is the example.

#52

This is the database about the stone inscription constructed by Zhejiang University. Now it is focused on the epigraphy images and they provided a proposal to the CADAL project. They want to contribute to these databases of CADAL, but they want CADAL to provide all of the materials, books, periodicals, and dissertations about epigraphy to this database too. And then we will combine all these materials as an open knowledge base to all the users.

#53

For the micro-content co-construction, every registered user is allowed to make his own micro-creations in the portal. It includes label and indexing, book reviews and recommendations, the user's notes, annotations and other micro-creations. The user can make a decision to save his content as private or public. If he chooses to public his micro-creations, it will be revealed as part of the book after censored by the content administrator. If the user chooses to save the content of his micro-creation as private, it will be only available to the creator.

#54

As you see, in this database the users can say, "I have a picture about this epigraphy more clearly or earlier than your picture." He can submit his picture or he also can add it to the metadata of this database and can modify or correct our thought.

#55

This is for the co-construction of resources. We focused on literature digitization and also

we focused the resource OCR. As you know, for the Chinese characters, OCR is the low precision, and it is very difficult. And so we need our users to read the OCR materials and correct it. We want you to provide the text information about those resources, or help proofreading the text information about these resources. CADAL can provide full text searching and resource discovery and offers a certain degree of incentive according to the users' contribution.

#56

This is another example. As you know, we have digitized a lot of *Mínguó* Republic of China materials in the past decade years. We focused on the digitized books, the periodicals of the Republic of China, but we never digitize any newspaper about this period. So, we find a company. They focused on digitizing the newspapers of the Republic of China. So, we combine our materials together and our users can visit these portals to search all of the Republic of China's materials. If he wants to download or read the full text of the books and periodicals, it is a decision by the CADAL portal to make sure that if he is a user of CADAL. If he wants to read the newspapers, the company will decide how to service these users.

#57

As you see here, you can search all the materials in one portal; the books, the periodicals, and the newspapers. You can read the full text of the newspaper. We can get the image of the newspaper together.

#58

For the ubiquitous personalized service, we would like to establish personal libraries; a mash up private cloud from CADAL cloud services. CADAL will provide the registered users some storage space to build their own online study room. Users can access to their personal libraries through any device over the internet. We developed an interface through integration of PC and mobile terminals and we provide synchronization of multiple screens to our users that easily access CADAL's resources.

#59

Our focus is to build a digital library service based on the user-centered and we focus on our users' resources acquisitions, management, content creations, and we want to become their research platform. For example, we will focus on our users' search, borrowing, collection, purchase, recommendation, and exchange of books. At traditional libraries we are only focused on our users' search and borrowing. We will never mind their purchase or their exchange, but in our digital library interface, they can manage all of this behavior, book-centered, user-centered. They can manage their

own books, buy it from book store or online, and they can manage their books downloaded from other digital libraries or CADAL bookshelf. They also can manage the books that they borrow from a library. So, they can manage the book reviews, created book lists, and make a label to a book or write a blog. All this combined together will transform the digital library portal to users' own research platform for their own study rooms.

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Here is an example. We have developed an application on the users' mobiles. It is a simple interface, just a camera symbol, where you click it, you can scan the barcode on the book's cover, and in the management interface you can find the books you own, the books you will borrow, the books you buy, the books you lend. You can organize all this information together. And for this interface, while you scan our book's barcode, you can get the information about these books. The system will search the library that you belong to as to if the library you belong to if the library has these books. If the library does not have these books, you can click the button below to recommend the library to buy these books. If the system finds that CADAL has these digital books, you can click a button to borrow these books. If the system finds your library has these physical books, you can also reserve these books using your mobile phone.

#61

We also help users to find the price of these books. You can buy these books online from Amazon or dangdang.com in China.

#62

In this interface, you also can lend your books to friends. You can click the camera/image button to take a picture, you can put his name in your database while sometimes it can remind you who borrowed your books. You can also classify your books with levels to organize your collections.

#63

For the global cooperation, we want more overseas universities and institutions to join in crowdsourcing models. We can do co-constructing and sharing in aspects of digital resources, technologies, service, and staff.

#64

Here is one of the three models according to actual situation; the participants can provide a certain number of copies of its digitalized resources to CADAL, just as the Berlin National Library in Germany. They provide all the digitized Chinese books to CADAL and share CADAL's collection

with each other. Applicants will also provide a certain number of books for CADAL to digitalize other than digital resources. Some libraries can provide their own special collections to CADAL to digitalize and share with other. Some regions can also have alliances, as in the Hong Kong area led by some relevant overseas agencies participating in CADAL projects as a unit, provide a certain number of digital resources or together with books to CADAL. In all of these three models, CADAL will give the authority to access digital resources service to the users of the applicants within its corresponding IP range.

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That is all for today. Thank you.