移动互联时代数字资源新型服务探索

Symposium on Mobile Service of Digital Resources
& CALIS 12th Training Week for Database Utilization

北京大学图书馆 朱强 2014年5月 哈尔滨

目录

1 互联网发展与服务创新

2 图书馆数字资源新服务形式

3 面临挑战

4 几点建议

2014年1月，中国互联网协会理事长邬贺铨教授在搜狐科技财富主题论坛报告中提出互联网时代“大智移云”的新特点。

大数据	智慧城市/物联网	移动互联网	云计算
• 通过数据分析发现用户的个性化需求； • 从数据分析中发现规律性。	• 基于新技术，创建新型知识信息化城市； • 物与物、物与人、人与人全面互联； • 以人为本； • 三网融合。	• 更开放，快速更新； • 服务个性化； • 线上与线下共赢； • 不断创新。	• 存储与互联； • 支撑异构信息汇聚与融合。

相辅相成

http://wireless.iresearch.cn/app/20130508/199122.shtml
http://www.oyxet.com/_d276544238.htm
http://wenku.baidu.com/link?url=Sl6BLJ_1myUrB3Z4HhSCYxdvfXkBwQLUU4p8yvgJnfQ48y_OoxAIyjxMMdmRnXyI14DAt2QKKK32BhkslSGgkgs0L5lgob1nd8_AeECoGKS

互联网发展阶段

互联网作为一种网络工具，按其发挥的功能创新，经历了以下几个阶段：

信息通讯

固定电话
电子邮件
FTP
BBS

信息交流

搜索引擎
电子书
图片
视频

社会交往

Twitter
QQ
博客、微博
电子商务
信息咨询

网络服务

网购
出行
娱乐
数字图书馆
远程教育

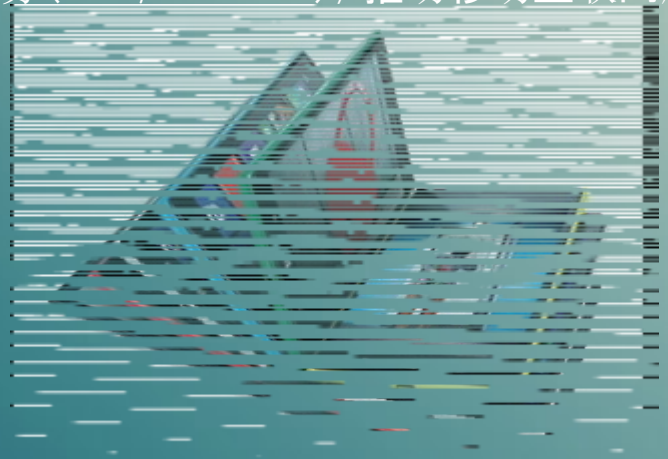
移动服务

智能手机、IPad
微信
可穿戴电子设备
移动图书馆
智能交通
各种App应用

我们步入了移动互联网时代。

移动互联网时代

2013年12月4日，中华人民共和国工业和信息化部（工信部）正式向中国移动、中国电信和中国联通三大运营商发布4G牌照，许可其在全国范围内经营第四代数字蜂窝移动通信业务（LTE/TD-LTE），推动移动互联网应用和服务创新。



终端移动化

服务移动化

内容移动化

企业移动化

移动互联网已经不再是一种单纯的媒体，更多的是人们的一个新的生活平台与生存空间。

——中国人民大学新闻学院教授彭兰

中国互联网协会. 2013年影响中国互联网发展的十件大事[N]. 人民邮电,2014-01-13006.

随着经济与技术的进步，互联网快速得到普及，中国互联网络信息中心（CNNIC）2014年1月发布的《第33次中国互联网络发展状况统计报告》显示，截止到2013年12月31日，我国网民数量已达6.18亿，手机网民数量已有5亿，网民中使用手机上网的人群占比提升至81.0%。

6.18亿

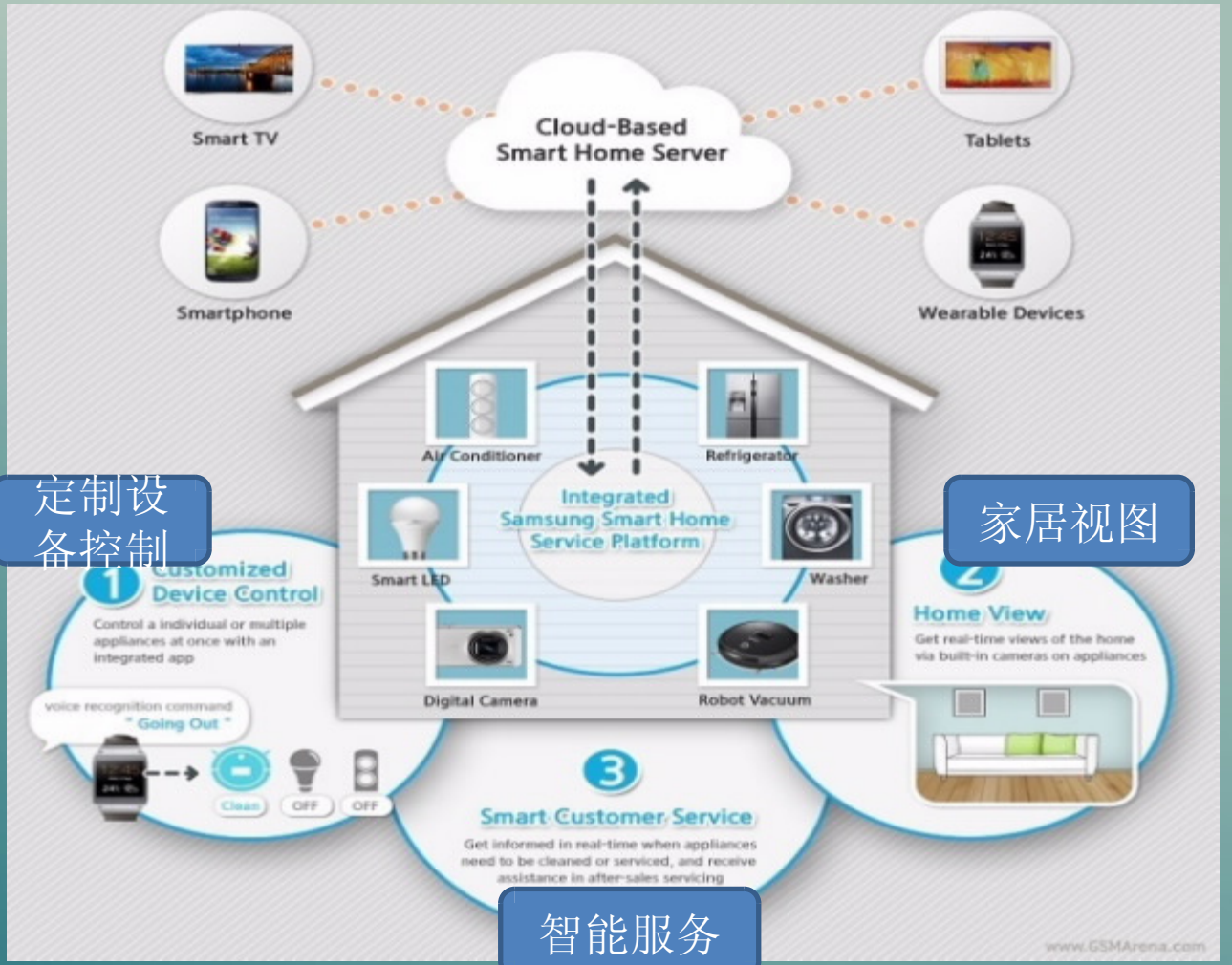
5 亿

手机网民规模持续快速增长，促进了各种手机终端应用的发展。

在3G网络进一步普及、智能手机和无线网络持续发展的背景下，各种手机应用、社交平台、电子商务、网络营销等越来越受关注。

智能家居

2014年1月，三星电子公布了“智能家居”新服务,可将智能电视、家电和智能手机等在一个集成平台上进行互联，通过应用程序和视图来对家中电子设备进行智能控制。



定制设备控制

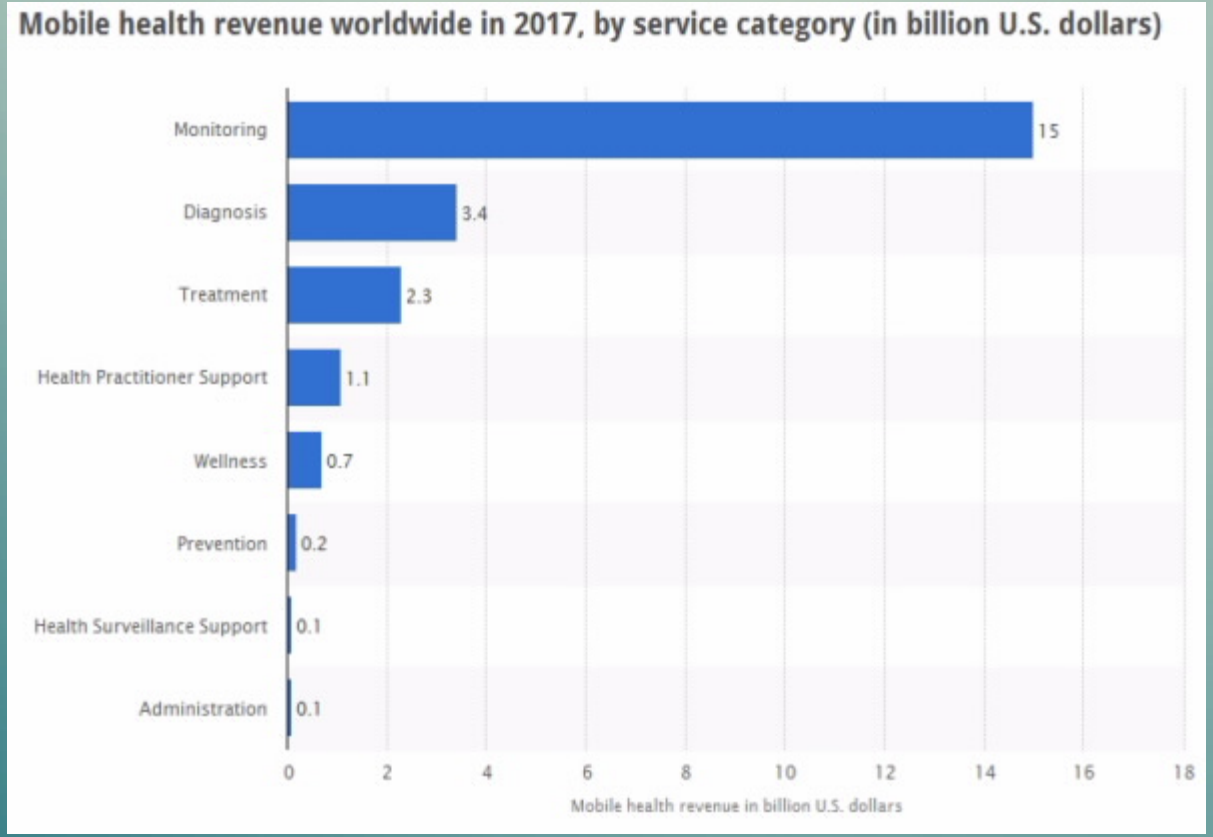
家居视图

智能服务

http://blog.gsmarena.com/samsung-announces-a-new-service-named-smart-home/

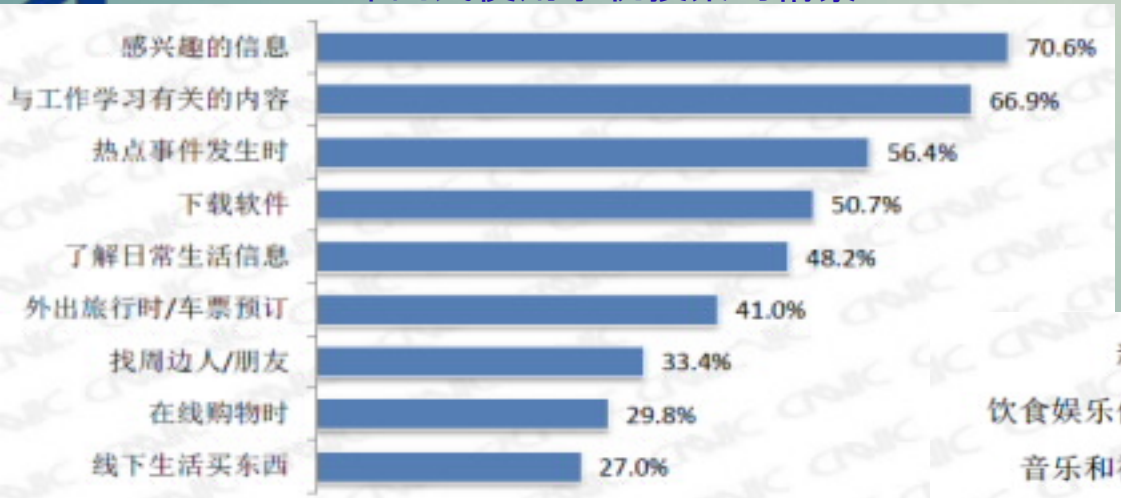
mHealth通过使用移动通信技术——例如PDA、移动电话和卫星通信来提供医疗服务和信息。

移动医疗mHealth

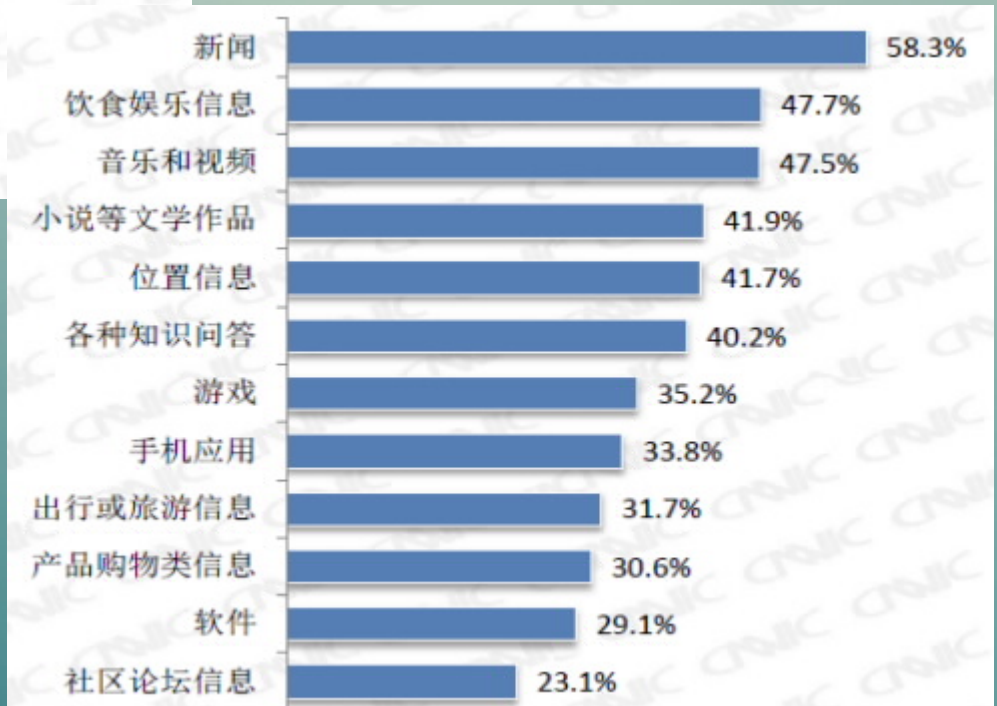


http://www.statista.com/statistics/219266/global-mobile-health-revenue-forecast-by-service-

2013年网民使用手机搜索的情景



2013年手机搜索网民搜索内容



手机成为人们生活、工作与学习的重要组成元素，是人们获取信息与知识的重要途径。图书馆移动服务需深入挖掘用户需求，为用户提供更加周到、个性化的信息服务。

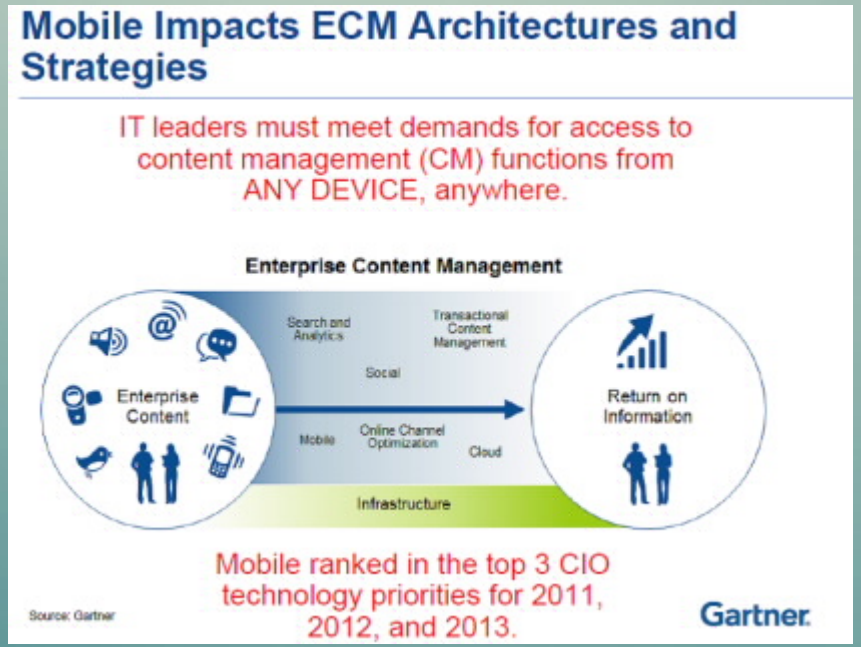
数据来源：CNNIC《2013年中国网民搜索行为研究报告》

今天大多数人使用的智能手机和平板电脑的性能都超过了以前的主机

技术上的巨大进步不仅使得移动设备成为强大的业务工具，也使得员工可以不受时间和地点限制7X24小时为公司服务

包括业务智能化、数据分析、远程协作、社交媒体等各种各样的应用不断涌现

根据IDG的调查，69% 的企业总经理和94%的首席信息官看到让员工使用移动设备的效益以及使企业移动化的重要性



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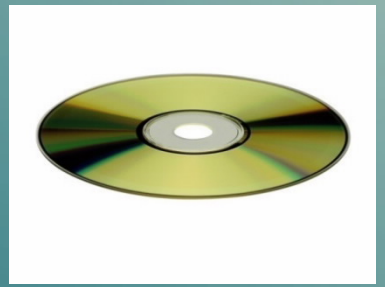
“书”的变迁



出版业发展到以互联网为平台的创作、出版、发行、阅读模式，出现了“电子书”的新形态

—余胜泉:学习资源建设发展新趋势

移动阅读成为人们新的生活方式之一

阅读行为：

数字阅读
网络阅读
移动阅读

阅读方式：

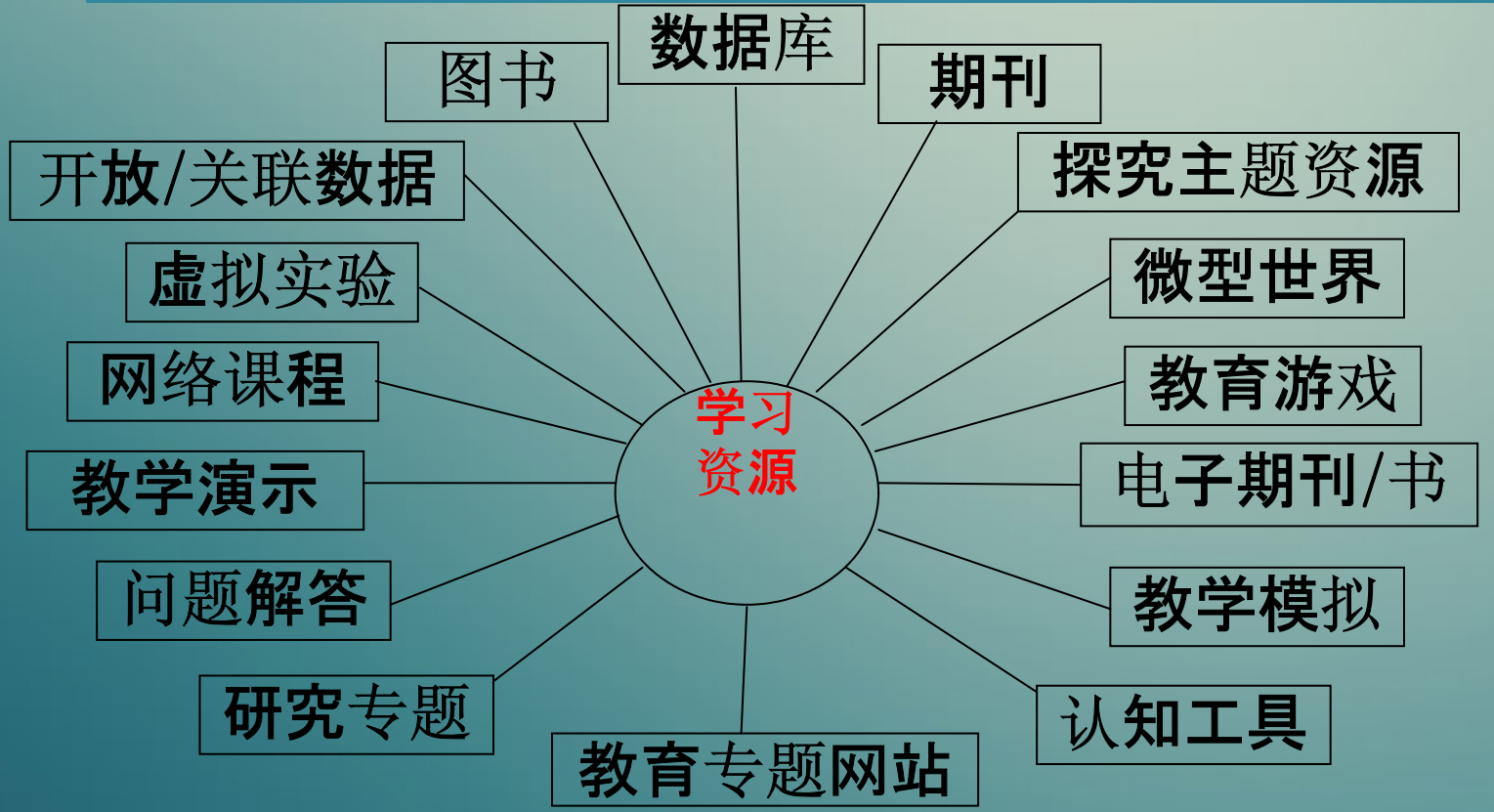
浏览式阅读：即快速阅读，就是一目十行地大致看一下资料所包含的内容，并从材料中提取有用信息。

浅阅读：一种浅层次的、以简单轻松甚至娱乐性为最高追求的阅读形式。所谓囫囵吞枣、一目十行、不求甚解，追求的是短暂的视觉快感和心理的怡悦。

轻阅读：“轻阅读”是轻松的阅读，轻快的阅读，轻灵的阅读，“轻”不是没有分量，“轻阅读”是另一种质感的阅读。

学习资源的新型态

—余胜泉:学习资源建设发展新趋势



新媒体服务

新媒体是利用网络技术、移动技术、数字技术，通过互联网、有线网、无线通讯网络、卫星等渠道以及手机、数字电视等终端，向用户提供知识信息及娱乐服务的媒体形态。

微信服务

能在智能手机操作系统上传递文字、图片、语音、视频等信息。

移动图书馆

依托无线技术、互联网、多媒体技术等，使读者能够通过各种移动终端随时、随地地进行查询、浏览、获取图书馆信息资源。

新媒体服　务

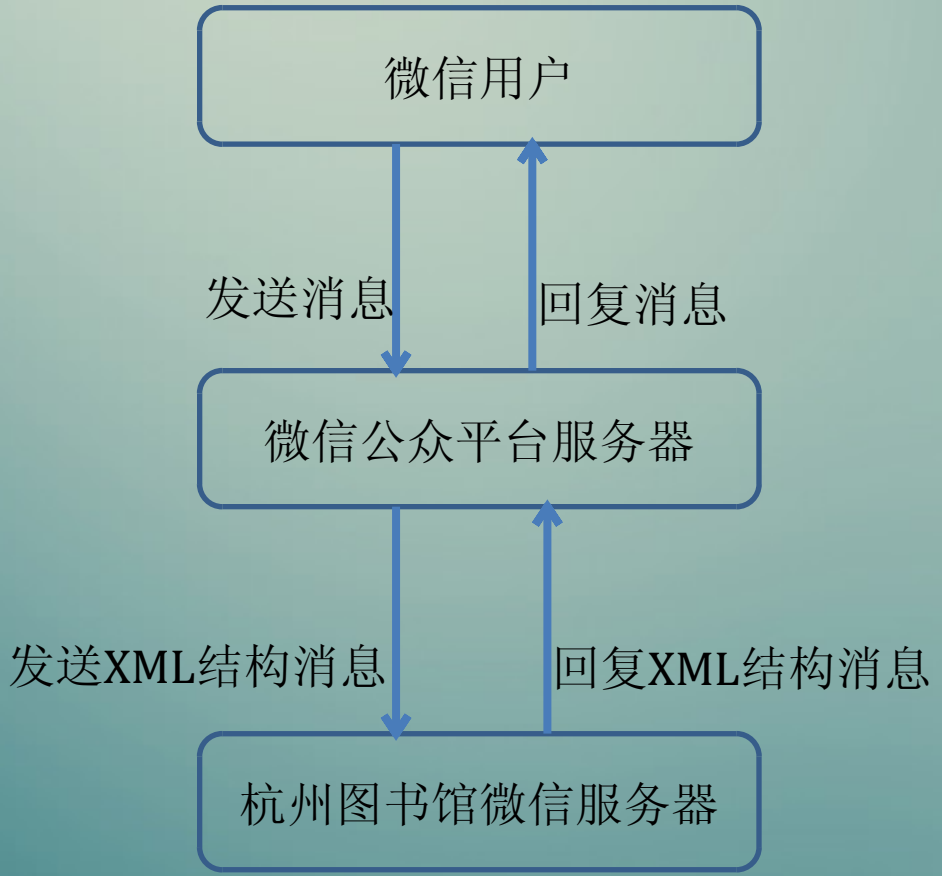
- 形式丰富、互动性强；远程服务；
- 数字杂志、数字广播、移动电视、手机短信、触摸媒体等。

实践：
国家数字图书馆电视图书馆、互联网电视、掌上国图等。

微信服 务

– 使用方便，易于管理，互动性强。

•实践：杭州图书馆微信信息服务



蒋琦琦.微信服务在图书馆应用的探索与实践[J].数字技术与应用,2013(7):201-202,205

移动图书馆

终端设备
- 手机、ipad、PSP、手持阅读器、其它便携设备

服务内容
- 馆藏目录及数字资源的检索、获取
- 电子资源阅读、浏览多媒体、查看图书馆发布的各类信息等等
- 新书通告、荐购
- 读者互动
- 我的图书馆（个人借阅信息查询、预约、续借、文献到期提醒等）

服务方式
- 短信服务、彩信服务、WAP 服务、音视频服务、用户体验调查、其他手机图书馆服务

龙泉,谢春枝,申艳,罗凤平,张晶. 国内外高校图书馆移动服务现状及比较分析[J]. 情报杂志,2013,02:173-177.

贾凤兰. “211工程”高校图书馆移动服务调查分析与对策研究[J]. 国家图书馆学刊,2013,01:26-32.

技术支持

1 代理技术与资源整合技术

解决IP归属问题，资源远程访问与获取；

2 文档转换

可为不同终端设备的用户提供文字、图像等形式的文献全文。

3 移动中间件

为移动服务提供标准化、简单的开发环境与应用平台，实现与PC机应用系统无缝整合和部署。

4 URL重写技术

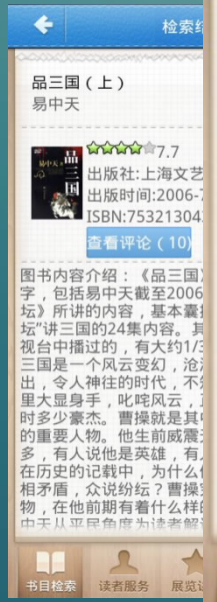
实现文档信息在数据层、操作层和应用层的分步操作。

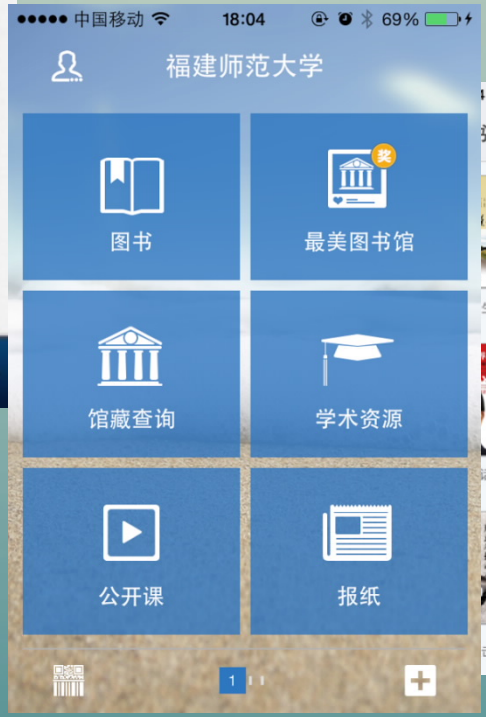
马晗涛 黄文 宋欣 苏吐 图书馆移动阅读服务关键技术综述[J] 中华医学图书情报杂志 2014.03:34-38

图书馆移动服务应用调查

谢强,牛现云等. 图书馆移动服务模式研究[J]. 图书馆建设, 2012, 08:39-43.

国内多家图书馆已开通移动图书馆服务



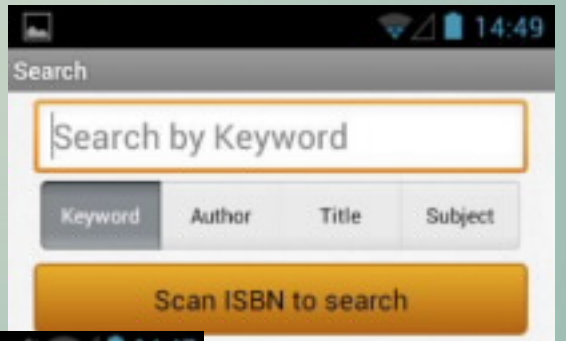


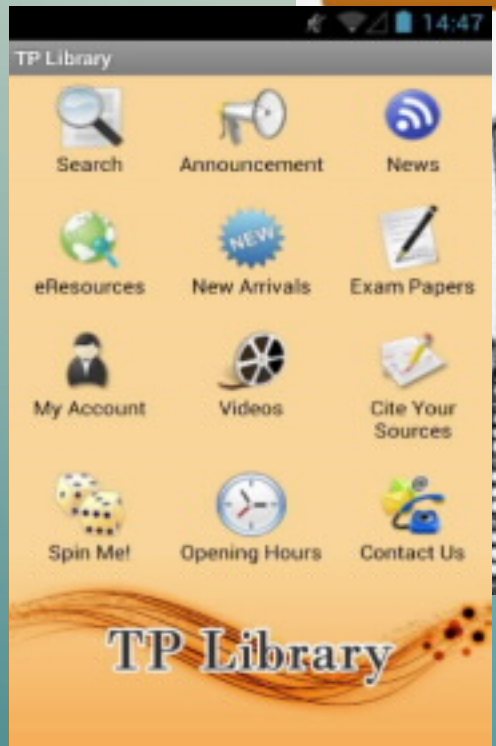
国外数据库
移动服务

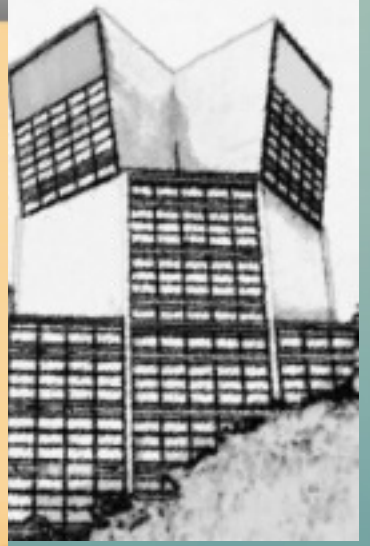
国内数据库
移动服务

国外图书馆移动应用案例

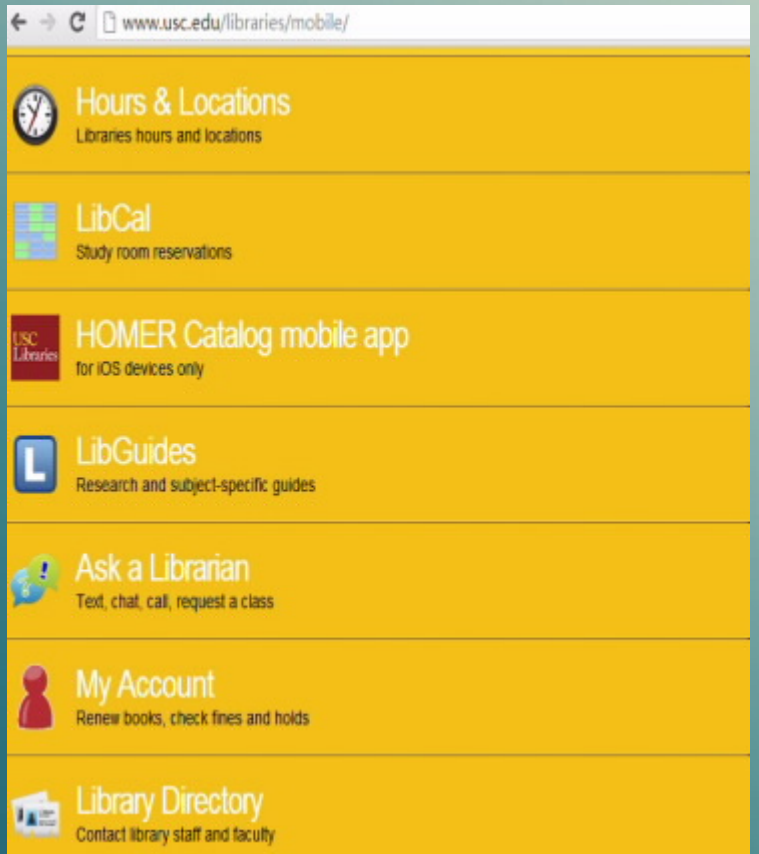
- 新加坡淡马锡理工学院图书馆
  - TP Library 2014年3月最新版本
  - 根据用户权限，可以进行检索馆藏、数据库资源、试题等
  - 预约；
  - 浏览图书馆最新动态；
  - 正在推出手机扫描或摇一摇获取资源的功能。

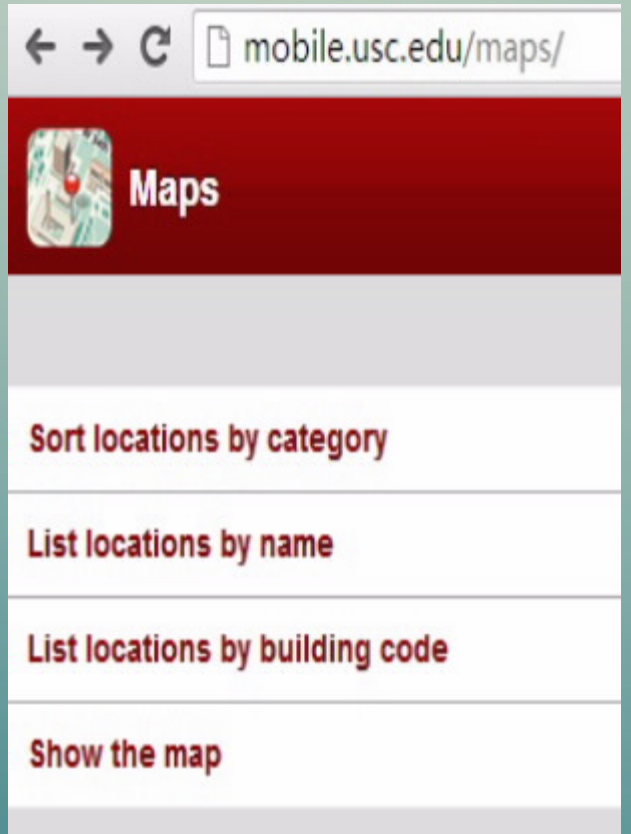






南加州大学图书馆的移动服务





USC Libraries

Hours & Locations

Tuesday, April 29, 2014

Accounting Library
Library is now **closed**.

Architecture & Fine Arts Library
Library is now **closed**.

Business Library
Library is now **closed**.

Cinematic Arts Library
Library is now **closed**.

Doheny Library
Library is now **closed**.

Gerontology Library
Library is now **closed**.

USC Libraries

Thomas and Dorothy Leavey Library Hours

Spring 2014 Hours: January 13, 2014 - May 16, 2014

Mon-Thurs 24hrs
Fri 24hrs
Sat 24hrs - 12am
Sun 9am - 24hrs

Show Map
Check in at foursquare

Martin Luther King's Birthday
[1/19] Sunday: 12pm-8pm
[1/20] Monday: 12pm-8pm
[1/21] Tuesday: 8am-24hrs
Presidents' Day
[2/16] Sunday: 12pm-8pm
[2/17] Monday: 12pm-8pm
[2/18] Tuesday: 8am-24hrs
Spring Recess
[3/14] Friday: 24hrs-midnight
[3/15] Saturday: 9am-5pm
[3/16] Sunday: 12pm-8pm
[3/17-3/21] Monday-Friday: 8am-5pm
[3/22] Saturday: 9am-5pm
[3/23] Sunday: 12pm-8pm
[3/24] Monday: 8am-24hrs
Exam & Graduation Period
[5/3-5/13] Saturday-Tuesday: 24hrs
[5/14] Wednesday: 24hrs-8pm

Mobile Resources

USC Libraries Mobile

- USC Libraries mobile website
- USC Libraries mobile catalog app for iOS new
- Quick Search mobile website
- USC Health Sciences Libraries app for iOS & Android

Mobile Research Databases

Mobile websites vs. Apps: Mobile websites can be viewed on your device's web browser; Apps, on the other hand, need to be downloaded onto your phone from the App store/Google Play store.

Because these database mobile websites and apps are gateways to subscription content they often require several steps to gain access to full text content (described in the "Special Instructions" column), similar to when you attempt to access one of the libraries' databases from off campus.

Mobile Databases	Features & Content	How to get it	Special Instructions
iPhone/iPad app & Android app (Free)	**ACS Mobile** Read, save and share articles from the **American Chemical Society**. This app includes access to: • New ACS ASAP Articles (edited and published online ahead of the print), personalized across the entire	iPhone/iPad app Android app	In order to access USC subscription content with this app, you must connect to USC's network using USC Wireless Plus. This is necessary in order to authenticate you as being affiliated with USC. If you haven't already done so, you must first complete a 2 step process of registering and configuring your device to access USC Wirless Plus.

MOBILE RESOURCES

- USC Libraries Mobile
- Mobile Research Databases
- Mobile Catalog

Mobile Resources : Catalog

Available now — HOMER mobile catalog app for iOS devices

With the all-new USC Libraries mobile catalog app for iOS devices (iPhone/iPod Touch/iPad), you can search for books, journals, and other library content, renew materials, and place holds — all on the go! Use the nifty barcode scanning feature (iPhone/iPod Touch only) to snap a picture of the barcode on any book at the bookstore and check to see if it's available at the library.

Please be aware that the mobile app version of the catalog does not have all of the features and functionalities of our standard Homer catalog. (For instance the option to page items from Grand Library is not available from the app).

Scan the QR code below to download the app from the Apple App Store. The Android version will be available in a future release.

iPhone/iPad app

User Guide

MOBILE RESOURCES

USC Libraries Mobile

Mobile Research Databases

Mobile Catalog

Mobile website	**ARTstor** Includes over one million digital images in the arts, architecture, humanities, and sciences.	Mobile website	You must first register for an ARTstor account by accessing the database from the USC Libraries' website, while on campus, in order to access USC subspription content from your mobile device using this website.
iPhone/iPad app & Android app (Free)	**EBSCOhost databases:** Provides USC with access to over 55 databases, both multidisciplinary and subject-specific. Some of the disciplines covered include: • Business • Communication & Film • Education • History • Music • Social Work • Women's & Gender Studies	iPhone/iPad app Android app	You must first access an EBSCOhost database from the USC Libraries' website (on your mobile device or a computer) and then click the link at the bottom of the page, New: EBSCOhost iPhone and Android Applications, in order to get an authentication key, link and instructions emailed to you.
iPhone/iPad app & Android app	**eBrary** (ebook reader) Search, read, and download thousands of e-books that USC has purchased from eBrary. • Up to 10 ebrary E-books can be downloaded at the same time using this app. • Downloads are available for 14	iPhone/iPad app (iOS 4.3 or newer) Android app (version 2.1 or higher)	There are several initial steps you must complete before you can view USC's eBrary ebooks with this app: 1. Set up an eBrary account by accessing eBrary from USC's Libraries' website 2. Create an Adobe account 3. Once the eBrary app is installed on your device you'll be prompted to login

 iPhone/iPad app & Android app	**Gale: Access My Library (AML) College Edition** Provides access to all of USC's Gale databases and full text content, including: • Biography in Context • Business and Company Resource Center • 19th Century Newspapers • Gale Virtual Reference Library • Literature Resource Center • Sabin Americana, 1500-1926 • U.S. History in Context and much more	iPhone/iPad app Android app	**Inital set-up steps:** After downloading the app to your device: 1. First select the state, California, then select the city, Los Angeles, and then University of Southern California. 2. Then select the button, "Need Password" and enter your USC email address. 3. Gale will send you the password to gain entry to USC's subscription content. 4. After entering the password, click the "Access Library" button. 5. Then click the "Update My Resources" button. This should take a few minutes to load USC's Gale databases into the app. 6. Once completed, the "Access Library" button should reappear. Once you click this you will see new buttons for "Gale Databases" and "Gale eBooks". These options will appear from now on when you use this app.
 Mobile website	**GeoScienceWorld** A nonprofit collaborative resource for research and communications in the earth sciences, which is built on a core database of peer-reviewed journals and is integrated with the GeoRef index. The organization gives global researchers a single point of	Mobile website	In order to access USC subscription content via this mobile site, you must click the "Authorize this Device" button on the mobile website. You will then be prompted to enter your name and USC email address. And then you will be given a voucher code and URL to enter on your device. You can do this from a computer or on your device, but you must be connected

Mobile website	**JSTOR** Access to full-text scholarly journal articles. **The mobile beta site is meant for discovery of articles.** You can email citations to yourself and then download the articles when you get to a computer connected to the USC network (either on campus or via remote login).	Mobile website	You can email citations to yourself and then download the articles from a computer connected to the USC network (either on campus or via remote login).
Mobile website	**LexisNexis Academic** Includes full text national and international news, business, financial, legal, medical, biographical, government resources	Mobile website	The best way to access subscription content using this mobile website is to access LexisNexis Academic via USC Libraries' website and then selecting the blue **Mobile** button at the bottom left of the LexisNexis homepage.
iPhone/iPad app & Android app (Free)	**Naxos Music Library** An online classical music library. It offers streaming access to more 70,000 CDs; over 800 new CDs are added to the library every month. The mobile apps allow you to listen to your personal and account created playlists on the go.	iPhone/iPad app Android app	In order to access USC subscription content with this app, you must connect to USC's network using USC Wireless Plus. This is necessary in order to authenticate you as being affiliated with USC. If you haven't already done so, you must first complete a 2 step process of registering and configuring your device to access USC Wirless Plus. 1) You must first register your device/computer for use on the USC Wireless Plus network--Instructions are availalbe on the bottom right menu under heading: **Setting Up USC Wireless Plus**.

Mobile site & iPad app (Free)	**Pubget** Searches Medline (PubMed/Ovid Medline) and retrieves citations. Pubget is a search engine for life science PDFs beyond Medline as well. .	Mobile website Select "University of Southern California" from drop-down menu. iPad app	
Mobile website, Android app (Free, but Android has a paid version, *PubMed Pro*)	**Mobile PubMed** Searches all PubMed citations.	Mobile website Links to free full-text articles only **(will not retrieve USC-subscription content).** Android app	
Mobile website	**Refworks** Gives you access to all of your references stored in RefWorks from any mobile device. You can search, add or remove reference, create new folders, and add comments or text to the Notes field.	Mobile website	You must first set up a USC RefWorks account
iPhone/iPad app & Android app	**Sciverse Science Direct** A full-text scientific database offering journal articles and book chapters from more than 2,500 peer-reviewed journals and more than 11,000 books. The app allows you to read, save, and share articles.	iPhone/iPad app Android app	You must first register by accessing Science Direct from the USC Libraries' website The paid version allows you to set up alerts, browse by journal and download PDF versions of articles (PDF option available for iPhones only) Overview & Description User Guide

iPhone/iPad app (Free)	**SpringerLink** A database containing articles and chapters from over 2,500 peer-reviewed journals and over 50,000 E-books covering all subject areas	iPhone/iPad app	In order to access USC subscription content with this app, you must connect to USC's network using USC Wireless Plus. This is necessary in order to authenticate you as being affiliated with USC. If you haven't already done so, you must first complete a 2 step process of registering and configuring your device to access USC Wirless Plus. 1) You must first register your device/computer for use on the USC Wireless Plus network--Instructions are availalbe on the bottom right menu under heading: **Setting Up USC Wireless Plus**. Select your operating system: • Windows 7 or Windows Vista • Windows XP • Mac Snow Leopard 10.6 • iPad/iPhone 2) You must then configure your device/computer in order to access USC Wirless Plus. Again directions are on ITS's site under Setting Up USC Wireless Plus
WorldCat® Mobile website	**Worldcat.org Mobile Beta** Lets you search the collections of libraries in your area as well as libraries all over the world.	Mobile website	
Safari Books Online Mobile website	**Safari Books Online**	Mobile website	You must be on USC's network to use the mobile site. Safari uses the IP address from the network to log you into the correct account. Refer to this FAQ page for more information.

目录

1 互联网发展与服务创新

2 图书馆数字资源新服务形式

3 面临挑战

4 几点建议

高校图书馆实施移动服务面临的挑战

1. 资源建设 » 资源的多样性和资源的同质化。
2. 服务平台 » 功能的局限性和用户体验。
3. 图书馆管理 » 多种服务模式与平台并存，图书馆管理理念和机制不适应。
4. 数据监护和管理 网络环境下，图书馆需要应对大数据服务。

图书馆实施移动服务需考虑

- 战略规划
- 基础设施
- 应用平台
- 组织管理

目录

1 互联网发展与服务创新

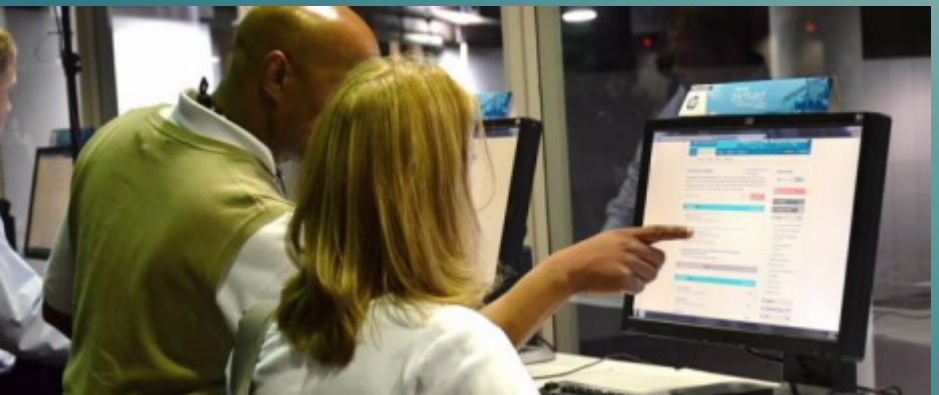
2 图书馆数字资源新服务形式

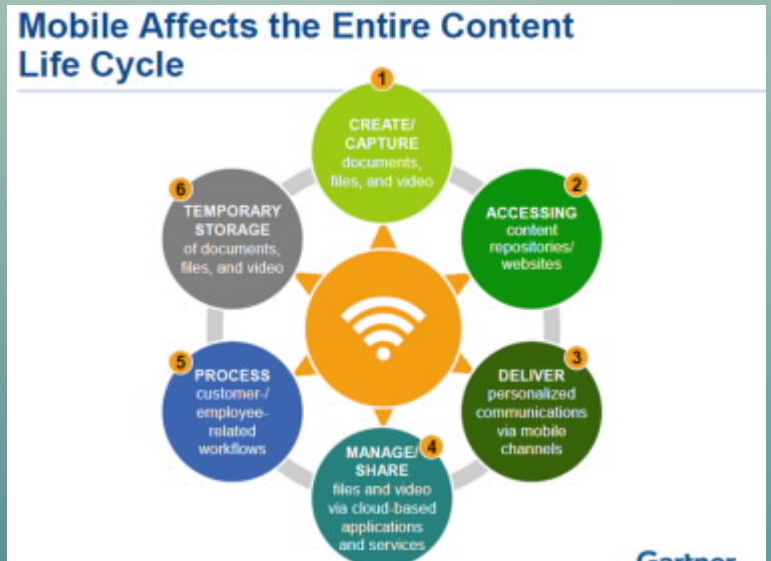
3 面临挑战

4 几点建议

1 加强内容管理

- 用新的技术管理和组织内容
  - RDF、语义网、本体、知识图谱、可视化…
  - 各种内容(文字、图片、音频、视频等)的整合





2 更新完善系统

高性能

多功能

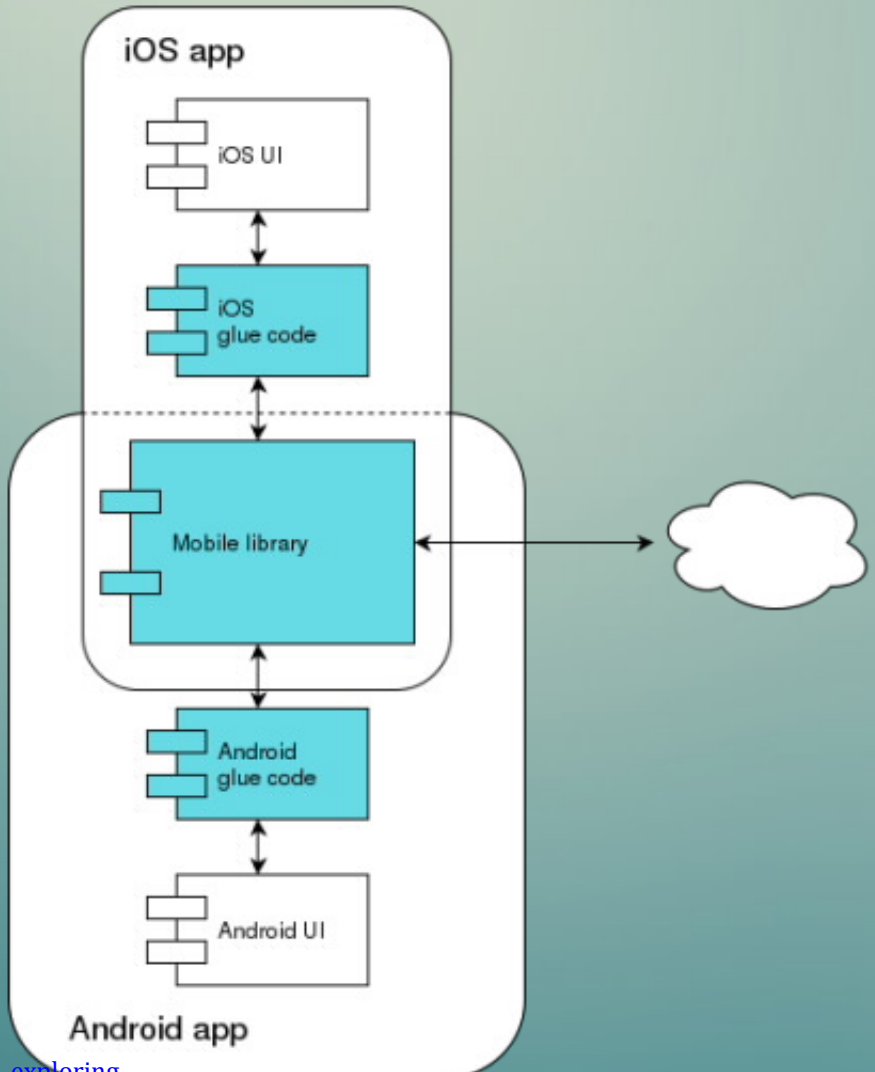
高可用性

系统安全

用户体验好

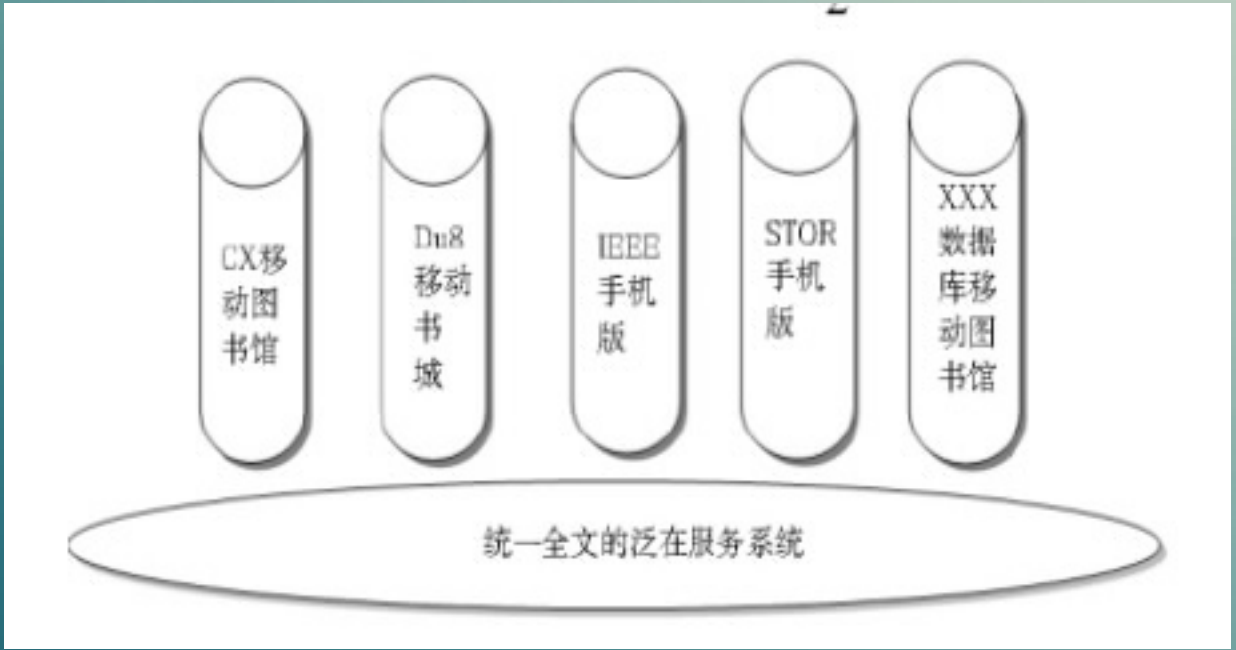
跨平台服务
Write once, run anywhere.
具有兼容性，开放性。

- 桌面虚拟化
  - Increase workforce flexibility
  - Leverage the latest mobile device technologies
  - Adapt to business change
  - Enable new levels of mobility, security, and cost reduction
- 支持BYOD和CYOD
  - FEWER DEVICES/PLATFORMS TO SUPPORT
  - LOWER CAPITAL EXPENDITURES
  - PREDICTABLE COSTS
  - EASY ORDERING AND FULFILLMENT
  - FASTER PROVISIONING
  - LESS DOWNTIME



http://www.skyscanner.net/blogs/developing-mobile-cross-platform-library-part-1-exploring

3 数据库平台的一体化服务



为了解决单独数据库移动服务的局限性，图书馆应建设一个通用的一体化移动服务平台

李臻,姜海平. 图书馆移动服务变迁与走向泛在服务解决方案[J]. 图书情报工作, 2013, 04:32-38.

4 基于用户的单一认证(CARSI技术)

在现有基于IP段实施资源访问控制的基础上，提供基于用户认证的资源访问

是数字资源建设与服务的一项革命性技术

对图书馆的益处

- 监测：可以知道哪些师生访问了哪些数据库
- 控制：比IP段控制粒度更细，可以仅授权某部分师生访问某些数据库
- 节省采购成本：仅针对希望服务的师生采购某类资源

对师生的益处

- 在可上网的任何地点访问本校的数据库，不需要VPN
- 使个性化服务成为可能

5 加强用户参与

- 图书馆资源服务不再是单向输出，需要用户主动提供信息需求，促进图书馆资源和服务的发展。
- National Institute of Education（NIE）Library ——LibGuides
  - 引导用户检索资源
  - 一个交互协作的平台，学生或学者均可以根据自己的需求与意愿，登录在线模块，为特定的类创建内容,学科领域或研究主题。

用户交互

NIE
LIBGUIDES
LibGuides » LibGuides Home
Admin Sign In
LibGuides Home Tags: libguides home
Welcome to NIE Library's LibGuides.
Last Updated: Mar 18, 2014 URL: http://libguides.nie.edu.sg/home Print Guide
Home
Find by Subject
Library Tools
Citing Help
Citation Counting
Mobile Apps and Sites
Home Print Page
Search: This Guide Search
Introduction
Welcome to NIE Library's LibGuides. Research assistance, subject guides and useful resources compiled by your friendly librarians!
We have specially created these LibGuides to provide you with online instruction on how to find information quickly and efficiently.
Browse By
All Guides
By Category
By Librarian
Recently Published Guides
Mobile Apps and Sites
by Nenny Aryanti NOORMAN - Last Updated Mar 11, 2014
For research-on-the-go
22 views this year
APA Style
by Hilary HO - Last Updated Mar 16, 2014
105 views this year
Music / Music Education
by Yong Yeow Wong - Last Updated Mar 11, 2014
17 views this year
Psychology, Counseling and Guidance Care
by Stephanie OW - Last Updated Mar 11, 2014
8 views this year
NIE LibX
by Stephanie OW - Last Updated Mar 11, 2014
Tag Cloud
360 link alternative sources apa apps article linker bookmarklet browser plugin citation citation analysis
citation counting citation reports counseling curriculum educational leadership
find@nie google scholar
guidance care language
library tools libx
linguistics link resolver mobile services mobile sites physical education psychology search bar
subject guide

谢　谢！