Development of a Library 2.0 service model for an African library

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Agenda

• University of Pretoria context
• Library’s e-Information Strategy & Structure
• Variables that influence the role of academic libraries
• Web 2.0 & Library 2.0
• Development of a Library 2.0 service model
In 2006, student numbers were 49 226. The University has nine faculties and a business school (http://web.up.ac.za)
Library’s e-Information Strategy

• Integrated seamless e-Service
• Objectives
  – Support education innovation & research excellence
  – Optimal e-information (portal) services
  – Participate & contribute to national & international e-information phenomena
• Key sub strategies
  – Create e-information environment
  – E-Information plan
  – Learning/ e-learning & research/ e-research support strategies
  – Library structure, business processes, skills, facilities
Library Structure

E-Information Strategy

Clients & Environment

Subject Librarians

Operations

E-Services

Special Units

Support Units
Variables that influence the role of academic libraries

- Global library digitization projects, e.g. Google, European Union
- Impact of e-Research (a.k.a. e-Science (UK) or Cyber infrastructure (USA))
- Needs of Net-Generation students
- Possibilities created by Web 2.0 / Library 2.0 technologies
- These variables influenced the development of a Library 2.0 service model for the University of Pretoria Library Service
Web 2.0

- Users build networks (professional, recreational etc.)
- People are the content of sites (O’Reilly)
- Emphasize online sharing and collaboration

2.0-style Service Examples
- Google Scholar & Scholar SFX
- User tagging, ratings & comments
- Mashups, Wikis, Blogs, RSS-feeds
- Community citation (CiteULike), photo and book services
- Websites with 2.0 characteristics: Flickr, eBay, De.licio.us (social bookmarking), MySpace, MyTube, LibraryThing
“It's a story about community and collaboration on a scale never seen before. It's about the cosmic compendium of knowledge Wikipedia and the million-channel people's network YouTube and the online metropolis MySpace. It's about the many wrestling power from the few and helping one another for nothing and how that will not only change the world, but also change the way the world changes.”

Time’s Person of the Year 2006: You.
http://www.time.com/time/magazine/article/0,9171,1569514,00.html
Common traits of 2.0 services

- Interactivity
- Respects and leverages user contributions
- Complementary/ compatible/ cross-referential
- Treats info as a conversation
- Emphasis on ease of use
- Sharing – use/reuse/remix/mashups encouraged

(Schneider 2007)
“With Library 2.0, library services are frequently evaluated and updated to meet the changing needs of library users. Library 2.0 also calls for libraries to encourage user participation and feedback in the development and maintaining of library services. The active and empowered library user is a significant component of Library 2.0.”

With information and ideas flowing in both directions – from the library to the user and from the user to the library – library services have the ability to evolve and improve on a constant and rapid basis. The user is participant, co-creator, builder and consultant – whether the product is virtual or physical.”

http://en.wikipedia.org/wiki/Library_2.0
Library 1.0 vs Library 2.0

Library 1.0
- Closed collections
- Collection development
- Pre-organized catalogue
- Walk-in services
- “Read-only” catalogue
- Print newsletter mailed
- Easy = Dumb users
- Limited service options
- Focus on bringing them in
- Catalogue is core operation

Library 2.0
- Open collections
- Library suggestion box
- User tagging
- Globally available services
- Amazon-style comments
- Team-built blog
- Easy = Smart systems
- Broad range of options
- Focus on finding the user
- User services are core

(Schneider 2007)
Key Library 2.0 concepts

• The library is everywhere
• The library has no barriers
• The library invites participation
• The library uses flexible, best-of-breed, component-based systems
• The library is a human-centered organization

(Schneider 2007)
Library 2.0 Service Model

Enable (e) Research

Library that LETS
- Library that fits
- that suggests
- that learns
- that gathers
- that combines
- that organizes

Integration with (e) learning environment

Library staff
- Creation of an Emerging Technology Committee
- Library is a framework for integrating change into all levels of library operations

The library invites participation

OPAC
- Federated search
- RSS for cataloging records & search results
- Records tagging
- User reviews

THE PHYSICAL LIBRARY
- Loud spaces for collaboration & conversation
- Mobile devices for users

Social computing apps to meet users' need when, where and how they need it

Library is human

The library is everywhere

Patron 2.0 = from content consumer to content creator

1. User-centricity
2. Technology-savvy environment
3. Reaching of the patrons long tail
4. Content for more than one device
5. Component-based software, not monolithic ILS
6. Constant change
7. Use of Web 2.0 apps and services
8. Open standards

Enable e-Research

A New Science / Research Paradigm

• **Thousand years ago:**
  Experimental Science
  - description of natural phenomena

• **Last few hundred years:**
  Theoretical Science
  - Newton’s Laws, Maxwell’s Equations …

• **Last few decades:**
  Computational Science
  - simulation of complex phenomena

• **Today:**
  e-Science or Data-centric Science
  - unify theory, experiment, and simulation
  - using data exploration and data mining
  • Data captured by instruments
  • Data generated by simulations
  • Data generated by sensor networks
    – Scientist analyzes databases/files

\[
\left( \frac{a}{a_0} \right)^2 = \frac{4\pi G \rho}{3} - \frac{K \varepsilon^2}{a^2}
\]

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The e-Science / e-Research Data Life Cycle

- Data Acquisition
- Data Ingest
- Metadata
- Annotation
- Provenance
- Data Storage
- Data Cleansing
- Data Mining
- Curation
- Preservation
The Living Cell – A Grand Challenge for the Physical Sciences

- Decoding the human genome
- Proteomics
- Computation and information processes
- Immunological responses
- Cell structure issues
- And many more…

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The Genomic Data Explosion

Measured Genomic Sequence is growing three times faster than Moore’s Law

Courtesy: Graham Cameron

© 2006 Hans Hoffmann
E-Research Support Service for SA

Future eResearch activities
- Research Portal (incl global searching)
- Data Transfer and Sharing (processes and protocols, 3As, helpdesk)
- Open Access (Standards, common software, institutional repositories)
- The eResearch Librarian (Training and re-orientation)
- Digital Curation Services (Standards, software, marketing & training services)
- Portable & access constraints

Immediately
- SASLI+
- National Research and Education Network
- Centre for High Performance Computing

Usually sub-contracted to competent agents in the system

http://www.sajim.co.za
Integrated VRE for Malaria Research in South Africa

To improve research efficiency
To create a conceptual model of the entire research process in South African context
To surface the VRE needs/constraints across CSIR/UP boundaries – linked to a specific project
To identify the conceptual requirements for developing a pilot VRE for the CSIR/UP project

Virtual Research Environment

Researchers: Drs Heila Pienaar (UP) & Martie van Deventer (CSIR)

Developing a Malaria VRE demonstrator with Web 2 Tools
Creation of emerging technology committee

Library e-Service Steering Committee
Library e-Service Steering committee: terms of reference

1. **Purpose:** The main purpose of this strategic steering committee is the **creation of the Library e-Service** and the **co-ordination of Library e-Activities** in support of UP research, teaching and learning.

2. **Composition:**
   - Library executive management team member responsible for Library e-Information strategy is ex officio chair
   - Library executive management are ex officio members
   - Chairs of Library e-Steering committees are ex officio members
   - Leader of Library IT unit is ex officio a member
   - Faculty library managers (2 or 3) to facilitate innovation transfer

3. **Terms of reference:**
   - To co-ordinate the implementation of the Library e-Information strategy
   - To co-ordinate Library e-Services, e-Products & e-Initiatives on a strategic level
   - To create & align Library e-Steering committees e.g. Library Web steering committee, Library System steering committee
   - To co-ordinate the different e-Budget requests & spending e.g. IT budget, IT systems budget, Library strategic plan
   - To align Library IT policies & architecture with UP IT policies & architecture
   - To create & maintain the necessary personal networks with UP, national, regional & international stakeholders, opinion leaders & experts
   - To be aware of & to implement new relevant IT trends & e-Applications
   - To communicate & market new e-Trends & e-Applications
Integration with e-Learning environment

Academic Information Service
Engineering, Built Environment and Information Technology
801/2 Life Cycle Management (LCM) of Safety, Health and the Environment (SHE) 2007

Prescribed Literature:
Theme 1, 2 and 3

Supplementary Reading: Theme 3:
Life Cycle Management

E-Resources

International Websites

Prescribed Literature

Theme 1: Health and Safety Management


Federated search
Google Scholar + Scholar SFX = Solution for Africa
Access full text within “3 clicks”

Knowledge Management: An Introduction and Perspective

Karl M. Wiig, Chairman, Knowledge Research Institute, Inc.

Leaders of successful organizations are consistently searching for better ways to improve performance and results. Frequent disappointments with past management initiatives have motivated managers to gain new understandings into the underlying, but complex mechanisms – such as knowledge – which govern an enterprise’s effectiveness. Knowledge Management, for firms being a management “field,” is broad, multidimensional and covers most aspects of the public domain concerning how to manage knowledge explicitly. There were studies, results of corporate effort, and conferences on the topic.

In spite of the wide geographical distribution, most professional managers did not realize the importance of explicit and systematic Knowledge Management (KM) – and this realization is still limited. The observation by Quinn, Anderson and Fincham in the Harvard Business Review that “Surprisingly little attention has been given to...
Library Catalogue (OPAC) RSS Feeds
### Library Catalogue – Book Cover

**Author**
McNabb, David E.

**Title**
Knowledge management in the public sector: a blueprint for innovation in government / David E. McNabb.

**Publisher**

**Location**
Mamelodi Open Shelves

**Call No**
MAM 352.38 McNABB

**Status**
IN

**Phys Descr**
xxvii, 325 p.: ill.; 24 cm.
Patron 2.0 = from content consumer to content creator

Current best example is our academics’ & students’ involvement with collections on the University’s digital research repository, **UPSpace**.

The Library is responsible for the management of this repository.
UP Digital Institutional Research Repository

Specialist / expert roles:
- Metadata: Amelia Breytenbach
- Digitisation: Ria Groenewald
- Open Access: Elsabé O./ Monica H.
- IT Specialist: Leonard Daniels
- Consultant: Theo Bothma

UP Digital Repository
UPSpace Manager: Ina Smith

Special Collections
Collection Manager: Pieter vd Merwe

EMS
Collection Manager: Ujala Satgoor

Education
Collection Manager: Johann van Wyk

EBIT & NAS
Collection Manager: Elna Randall

Veterinary Sciences
Collection Manager: Erica vd Westhuizen

Health Sciences
Collection Manager: Magriet Lee

Humanities & Theology
Collection Manager: Maureen du Pisanie

Law
Collection Manager: Shirley Schröder
The influence of high energy proton bombardment on the electrical and defect properties of single-crystal ZnO

F. Ilinca, S. A. Goodman, M. B. Linford, and D. C. Look

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Online at dx.doi.org/10.1016/S0001-8708(01)00009-0

Abstract

We report on the electrical and defect changes induced on single-crystal ZnO, before and after the irradiation with 8 MeV protons. Prior to bombardment, we observed two defects, \( D_{\text{pp}} \) and \( D_{\text{pp}} \), with energies between 0.10 and 0.17 eV, respectively. After 7 days of electron beam irradiation (at room temperature) with a dose of \( 10^{17} \) to \( 10^{18} \) protons/cm\(^2\), a new defect, \( E_{\text{G}} \), with an energy of 0.14 eV, was observed.

Compared to GaAs, we found that ZnO is a suitable material for proton bombardment.

Introduction

Zinc oxide (ZnO) is a wide-gap semiconductor material, with a high band gap, making it suitable for solar cells. It is a promising material for applications in optoelectronics, including photovoltaic devices. The properties of ZnO are well-suited for various applications, such as high-speed transistors, light-emitting diodes, and gas sensors. The bombardment of ZnO with high-energy protons can alter its electrical and defect properties, making it a suitable material for proton bombardment.
Use of Web 2.0 apps & services at our Library

feedblitz

RSS Feeds
Contribute/ Review

Check the catalogs in your library.
- Libraries worldwide that own item: 169
- Search the University of Pretoria Library catalogue

Title: Ontologies: a silver bullet for knowledge management and electronic commerce /

Author(s): Fensel, Dieter
Publication: Berlin, New York: Springer, Year: 2003
Description: ix, 130 p.; ill.; 26 cm
Language: English
Standard no: ISBN: 3540410021 (alk. paper); 590364416023 (alk. paper); National Library: S00336; LC: 2001-18970

Subject(s): Ontology, Database management, Electronic commerce, Semantic Web

Notes: Includes bibliographical references (p. [129]-139)

Class/Descriptors: LC: QA76.9.D66; Dewey: 005.74

Responsibility: Dieter Fensel
Vendor Info: Otto Harrassowitz Baker and Taylor YBP Library Services (HARR BTCP YANH) 59.00 DEM
Document Type: Book
Entry: 20010111
Update: 20070814
Accession No: 01CLC: 59036440
Database: WorldCat
International examples of Web / Library 2 tools

- Amazon
- Stockholm Library
- Google / LMS Mashup
- Virtual world & library
- Tagging
In conclusion … we are well on our way to become a Library 2.0 Library!

- E-Learning
- OPAC
- Client feedback/Reviews
- Federated Search Engine
- User-centered & Web 2.0
- RSS Feeds
- Blogs
- Wiki's
- Etc.
- VRE
- eService Steering Committee
- Patron 2.0 - UPSpace

UPSpace
Bibliography


*Time’s Person of the Year 2006: You.* http://www.time.com/time/magazine/article/0,9171,1569514,00.html


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