

Introduction

- Variables that influence the role of academic libraries
- Why an e-Information strategy
- Phases of development
 - e-Information strategy business plan
 - e-Information strategy: 2006-2007
 - Integration with the library's and university's strategic plan
 - The library's strategic plan 2007-2010
 - The Library's e-Information Strategy 2008- & examples of the e-Strategy's successes



Variables that influence the role of academic libraries

- Impact of the Web and Search engines
- Global library digitisation projects e.g.
 Google, European Union
- Impact of e-Research
- Needs of Net Generation students
- Possibilities created by Web / Library
 2.0 to develop a modern academic library



Impact of the Web and Search engines

- Traditional purpose of academic libraries is to provide access to trustworthy, authoritative knowledge
- Information-seeking and behaviour are changing drastically > Web / Net
- In Dec 2004 Google started to digitize 4 big libraries' holdings ("tipping point")
- With everything on the Net what is left for academic libraries?
- Possibilities: providing learning spaces; creating metadata; virtual reference; info literacy; managing licenses; digitizing, digital repositories ...
 (http://www.educause.edu/apps/er/erm06/erm0610.asp)



benefit years to mainstream adoption more than 10 years less than 2 years. 5 to 10 years 2 to 5 years transformational Internet2/Next IP Video for E-Learning E-Learning Repositories Global Library Generation Internet Digitalization Projects Personally Owned Devices With Campus Network Access CRM for Enrollment 802.11 x on Campus high Management. Course Management ID and Access Systems Management Higher Education Enterprise Portals Learning Content Management. Web Services for Next-Generation Library Administrative Management Systems Applications: Open-Source E-Learning Applications: E-Portfolios CobiT moderate Podcasting Learning ΠIL Content RFID Library Materials Management. Tow.

Impact of e-Research

- to describe large-scale, distributed, collaborative science enabled by the Internet and related technologies"
- "a collection of distributed computing resources (data repositories, specialized scientific equipment, computing power, knowledge services) that appears to users as one virtual system"

http://www.educause.edu/apps/er/erm05/erm0563.asp



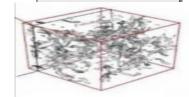
Enable e-Research

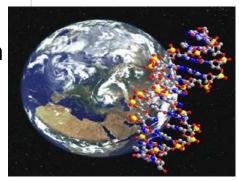
A New Science / Research Paradigm

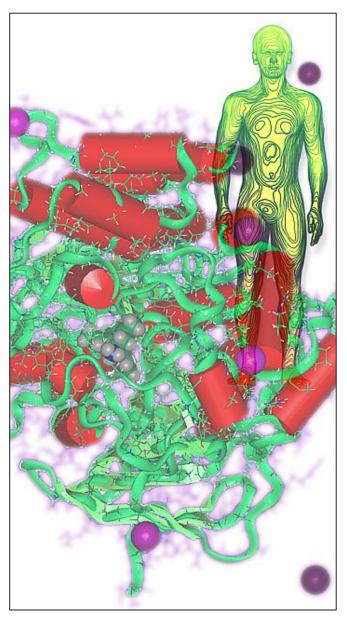
- Thousand years ago:
 - **Experimental Science**
 - description of natural phenomena
- Last few hundred years:
 - **Theoretical Science**
 - Newton's Laws, Maxwell's Equations ...
- Last few decades:
 - **Computational Science**
 - simulation of complex phenomena
- Today:
 - e-Science or Data-centric 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



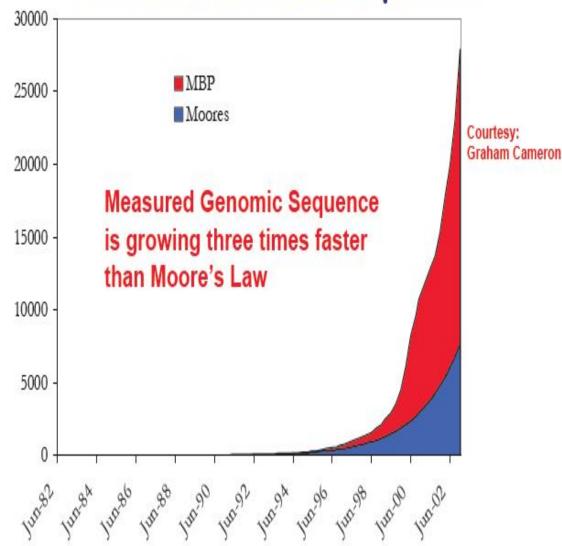
$$\left(\frac{a}{a}\right)^2 = \frac{4\pi G\rho}{3} - K\frac{c^2}{a^2}$$







The Genomic Data Explosion







Role of university libraries in e-Research

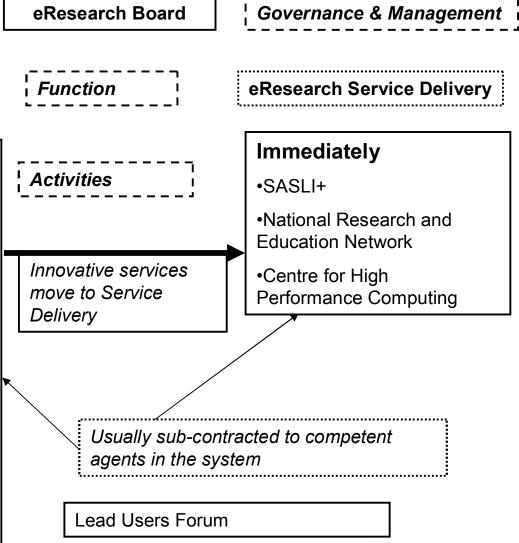
- In the South African context the implication of e-research for information support has been investigated at a high level
- The result is the SARIS (SA research information service) report (http://www.sajim.co.za)
- The proposed e-Research support service is important to university libraries, as they can implement many of the initiatives

eResearch Support Service for SA

eResearch Development & Innovation

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





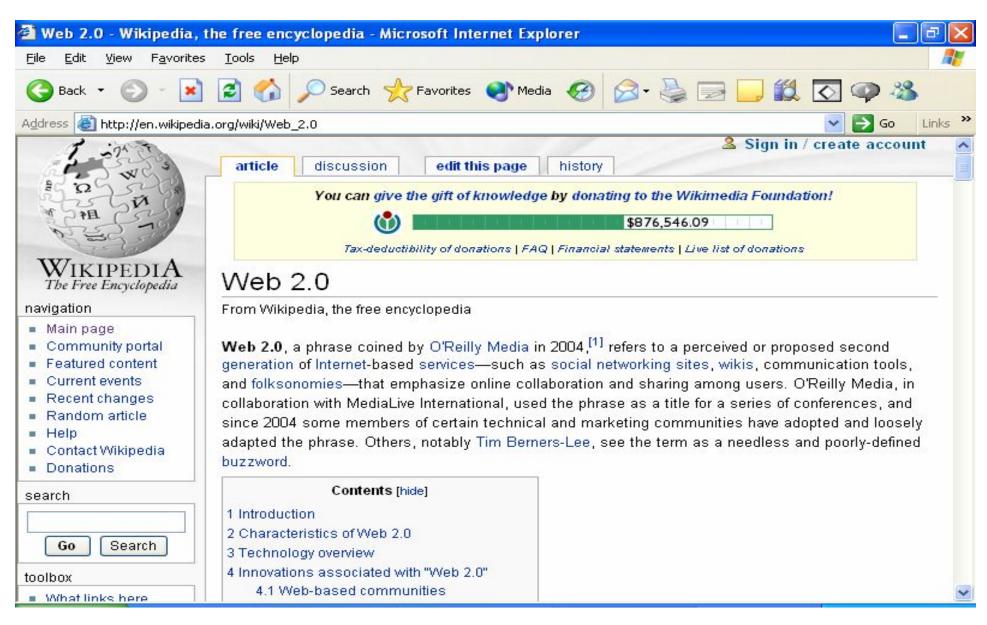
Information needs of Net Gen students

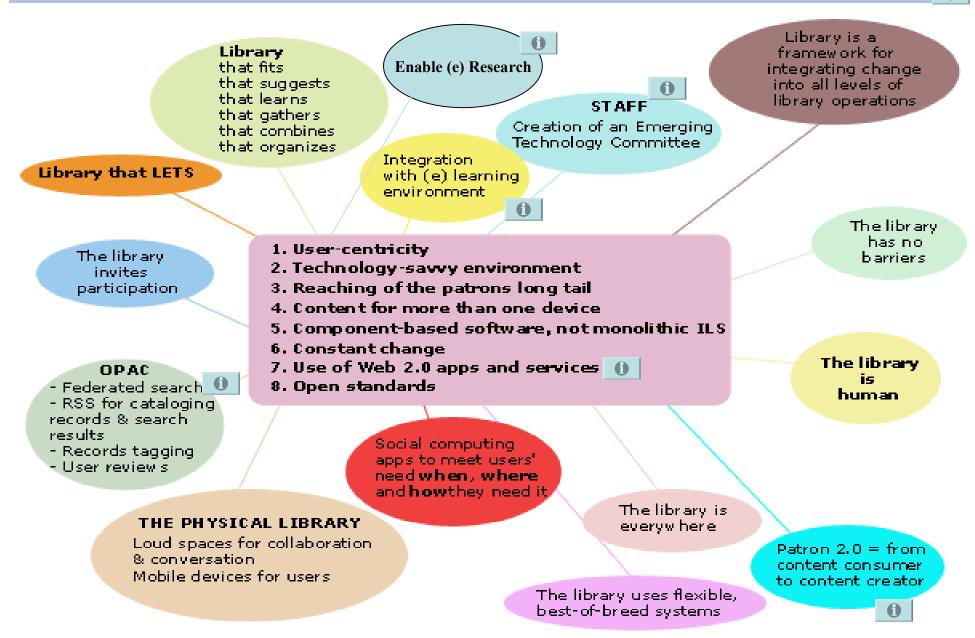
- Technology has led to more modernisation than transformation of the library, resulting in some major disconnects between many of today's academic libraries and Net Gen students
- The most common <u>disconnect</u> between many of today's academic libraries and Net Gen students is students' dependence on <u>Google</u> or similar search engines for discovery of information resources rather than consultation of library Web pages, catalogs, and databases as the main source of access

http://www.educause.edu/apps/er/erm05/erm0523.asp



Possibilities created by Web / Library 2.0 to develop a modern academic library



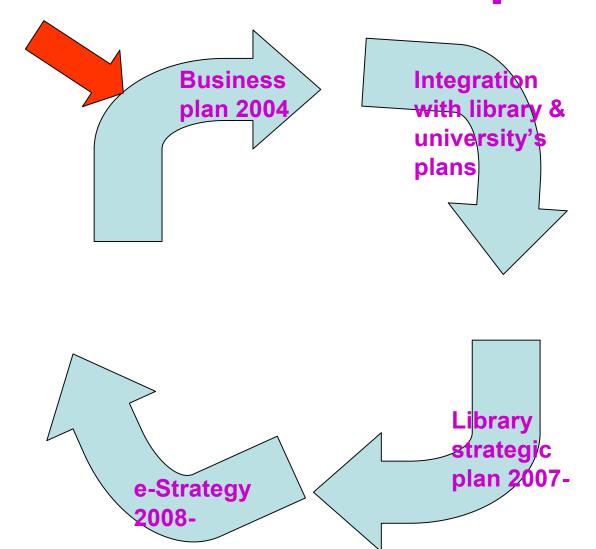


Why an e-Information Strategy?

- Can be seen as a high-level Innovation Strategy for any organisation
- Integrate e-Information applications within a broad framework
- Help to focus the organisation
- Keep the organisation on the cutting edge of new developments
- Establish a framework for capacity e.g. staff, IT to implement the strategy
- Actually just another term (a.k.a.) for a focussed corporate Knowledge Management strategy



Phases of development





E-Information strategy business plan

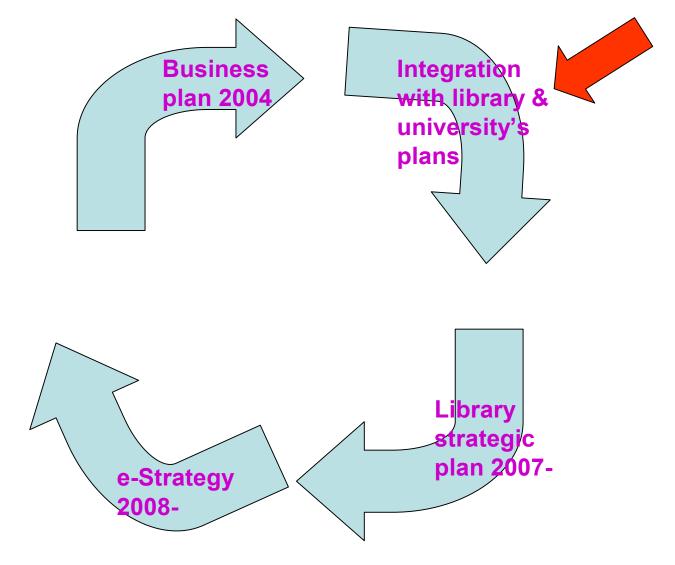
 A business plan for the Library's e-Information strategy was formulated for the period June 2004-December 2005

Content:

- Introduction
- Strategic context
- Vision & mission of the Library; strategic objectives of this strategy
- Information products & services
- Marketing
- Staff issues
- Resources needed
- Recommendations & implementation



Phases of development





The Library's e-information strategy 2006-2007

The aim of this strategy is the creation of an integrated seamless e-Service for the University of Pretoria.

Objectives

- To support education innovation and research excellence at UP;
- To deliver optimal e-information portal services (work flow) to our clients, and
- To take part in and make a contribution to international and national e-information phenomena, e.g. open access, digital preservation, e-Science, content management.

Key sub strategies in order to meet these objectives

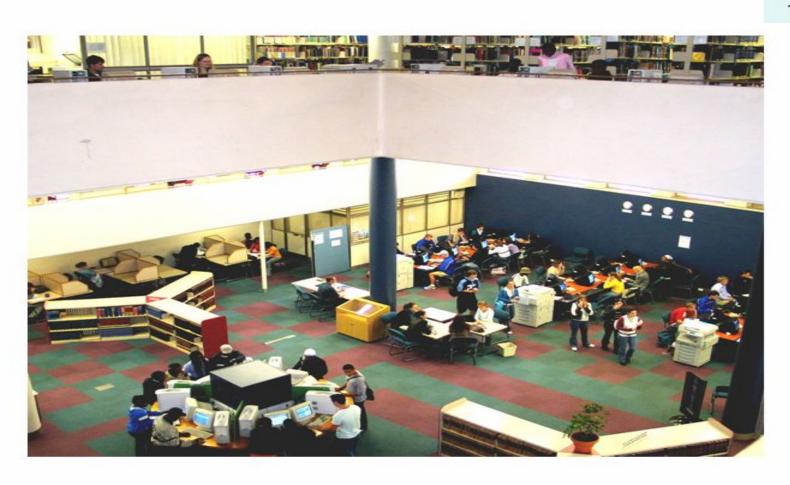
- The creation of an e-information environment for our clients:
- Development of an e-information plan as part of UP's e-strategy;
- Development of learning/e-learning & research/e-research support strategies;
- The adjustment of the Library's structure, business processes, skills and facilities to support the e-information strategy.

The e-information environment sub-strategy consists of the following <u>projects:</u> integrated systems, integrated interface, academic tools, digital reference, ICT infrastructure, e-sources, e-dissertations, academic digital repositories, e-publication and digital preservation.



Integration with the library's strategic plan

 The content of the e-Strategy was integrated in the Library's strategic plan 2005-2010:



1

Vision, Mission, Values

Vision

We strive to be leaders in providing world-class solutions to information and knowledge challenges for achieving academic excellence.

Mission

The AIS leads and facilitates

- Information and knowledge management
- Information literacy
- Designing and establishment of e-information services
- Establishment of a gateway to global information
- Effective scholarly communication

Values

- We generate positive energy for academic business success
- Professional behaviour, ethics and values are our hallmark



Library strategic plan: 2006-2010 (extra funding)

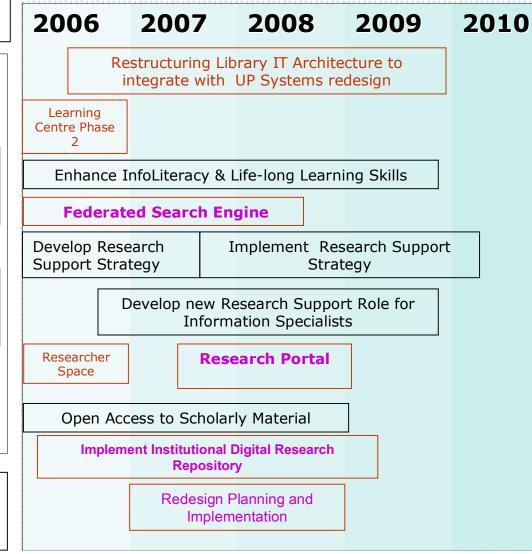
LIBRARY STRATEGIC INITIATIVES

<u>eInformation</u> <u>Strategy</u>

Learning & eLearning Support

Research & eResearch Support

Organisational redesign to create eService



UP STRATEGIC OBJECTIVES

The Academic Enterprise

Marketing & Communication

Transformation

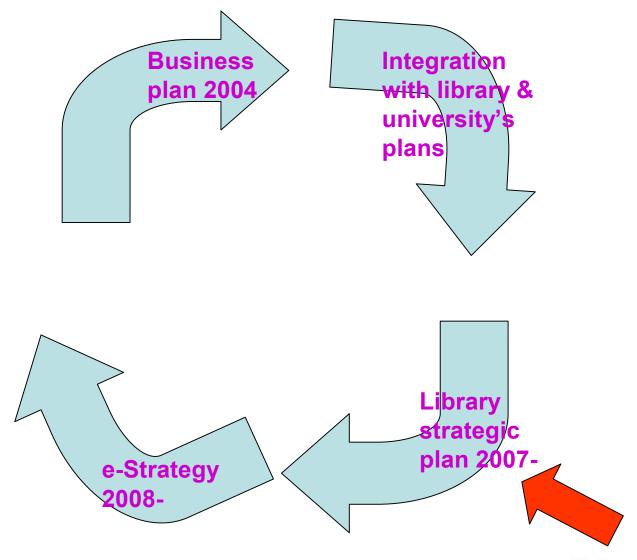


Integration with the university's strategic plan

- "ensuring that the University's library and information services can give academics access to the information they need"
- "E-research and the Library
 - digitisation of rare sources
 - archiving research data
 - development of Virtual Research Environments (VREs)
 - an institution-wide academic digital repository"



Phases of development





Integration with the library's new strategic plan



Mandate

The Library Services is responsible for the management of academic information and knowledge, and for leading the University in information and knowledge innovation





Vision, Mission, Values

Vision

We strive to be a world-class modern academic research library enabling the University of Pretoria to become an internationally recognised research university

Mission

The vision will be achieved by:

- Developing a well balanced and relevant information collection
- Providing access to information in all formats nationally and internationally
- Taking responsibility for information literacy
- Enabling research and e-research
- Contributing to learning and teaching excellence
- Exploiting new technologies and continuously developing facilities for the advancement of learning and research
- Contributing to community development

Values

We value:

- Positive energy for success
- Professional and ethical behaviour
- Diversity as an asset



LIBRARY STRATEGIC AREAS

Information Collection

Information Literacy

Enable research & eResearch

Learning & teaching excellence

Community development

Technology exploitation

Sustainability

LIBRARY STRATEGIES

2007 2008 2009 2010

Redefine the information collection to meet the challenges of the new information environment

Enhance information literacy for academic success and lifelong learning by using an integrated approach

Impact positively on research and e-research

Strengthen the role of the AIS in the facilitation of learning and teaching

Contributing to community development

Develop a Library 2.0 service model

Ensuring the sustainability of the AIS: Human resources, Financial issues, Quality assurance, Physical facilities, Marketing, Risk management

UP STRATEGIC THRUSTS

Academic excellence

People centered institution

Excellence in core functions

Excellence in support functions

Local impact

Transformation

Interfaces

Sustainability



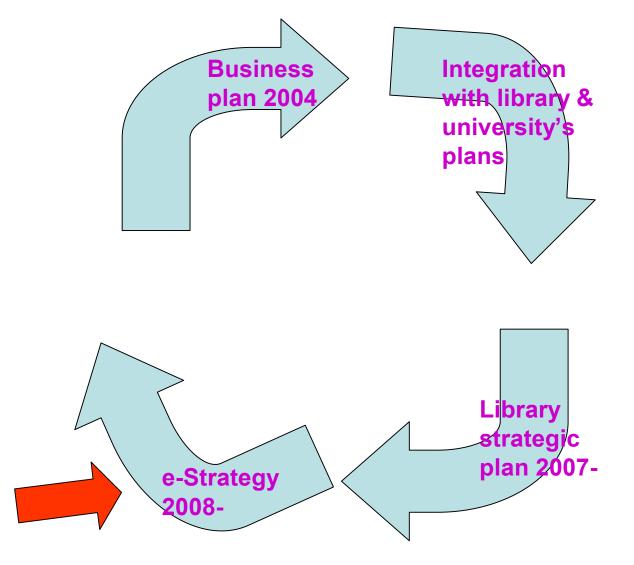
UNIVERSITEIT VAN PRETORIA UNIVERSITY OF PRETORIA YUNIBESITHI YA PRETORIA

Achievements of the previous e-Information strategic process

- Creation of the **e-Service unit** as that part of the Library primarily responsible for the implementation of the e-Information strategy
- Creation of several Library e-Steering committees
- Development and implementation of UP digital research **repository**, UPSpace (https://www.up.ac.za/dspace/)
- Google Scholar and Scholar SFX as **global search engine** of the library's electronic sources. (http://o-scholar.google.com.innopac.up.ac.za/). Also bought the commercial SFX link resolver in 2007
- Created a digitisation centre and established several UP digitisation projects. We are the first library in South Africa to buy the Digibook 10000RGB scanner. We also obtained scanners for microfiche / microfilm, slides and audio. (http://www.ais.up.ac.za/aisintranet/aisnewsjan1/)
- Development and implementation of the **Open Scholarship** strategy (thesis, dissertations, journal articles)
- Start of **e-Books collection** project
- Development of the skills of library staff (conferences, workshops, courses etc)
- Marketing of the Library's e-Strategy, e-Products & e-Services: UP, RSA, Africa & internationally
- UP executive supports this strategy



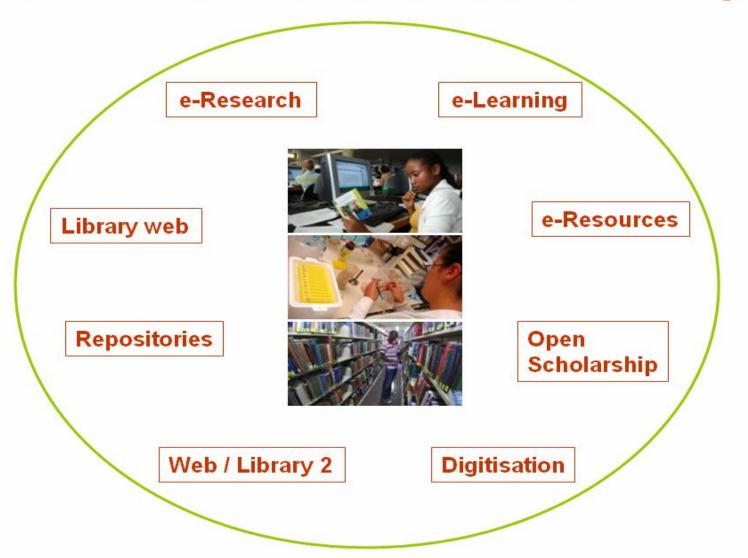
Phases of development



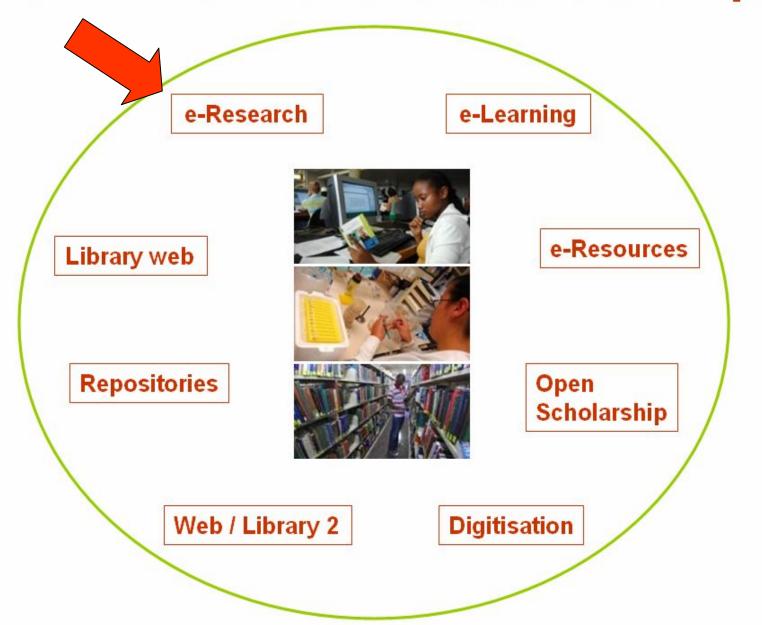


University of Pretoria Library's e-Information Strategy 2008-2010

e-Environment for Scholarship



e-Environment for Scholarship



e-Research

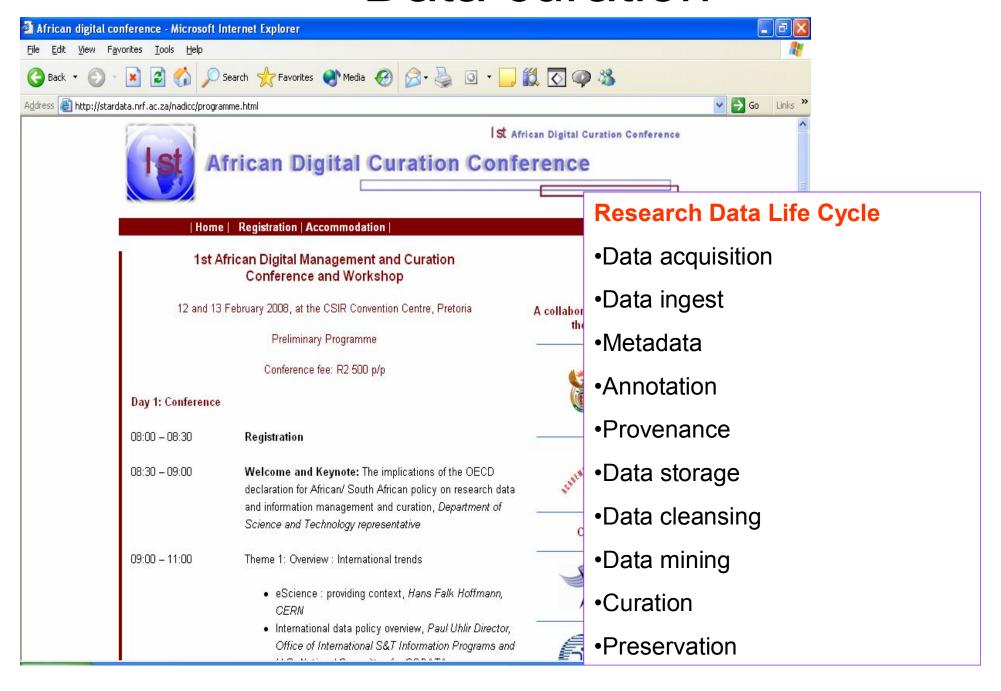
(Heila Pienaar)

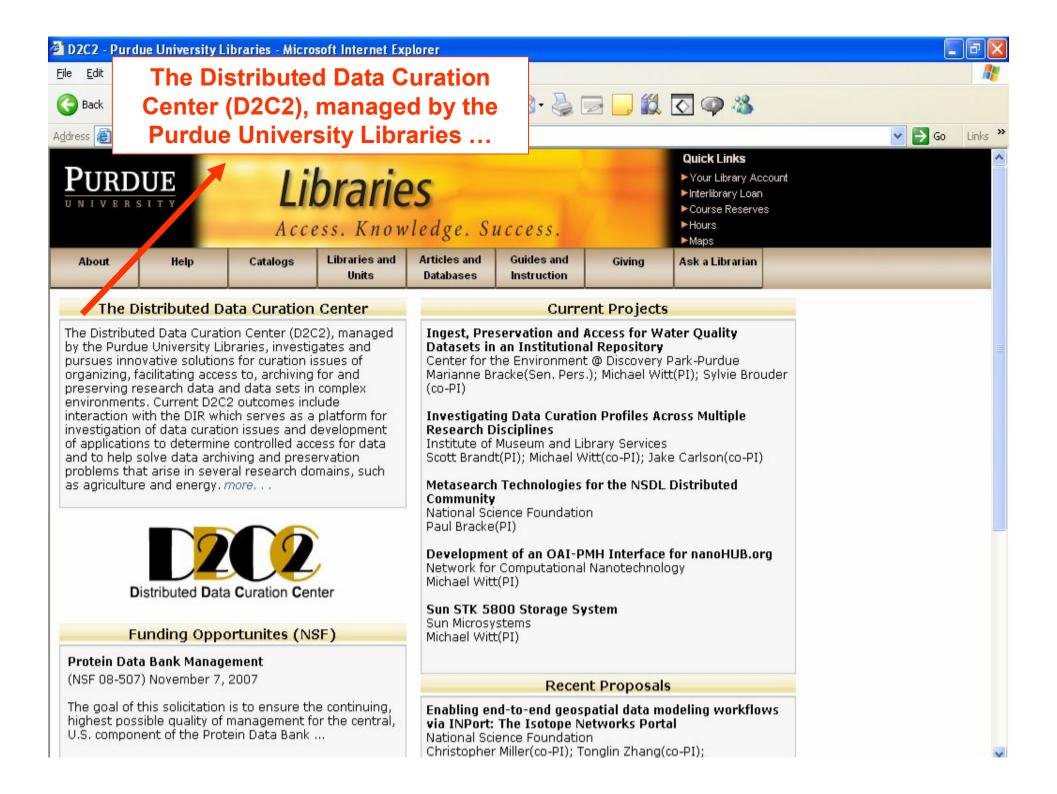
Digital data curation

- Implement digital curation of research data at UP in collaboration with Vice-rector: Research
- Involved with national initiatives
- e-Research environment
 - Develop & implement SA Malaria virtual research environment (VRE) in collaboration with Sera
 - Investigate VRE's for UP
- Digital Scholarship advocacy
 - African Digital Scholarship & Curation Conference 12-14 May 2009 (UP & UB are co-chairs)
 - http://www.library.up.ac.za/digitalscholarship.htm



Data curation





Digital Curation @ UP

Establishment of an Institutional (UP) Policy for the Preservation and Retention of Research Data dated 2007-08-23:

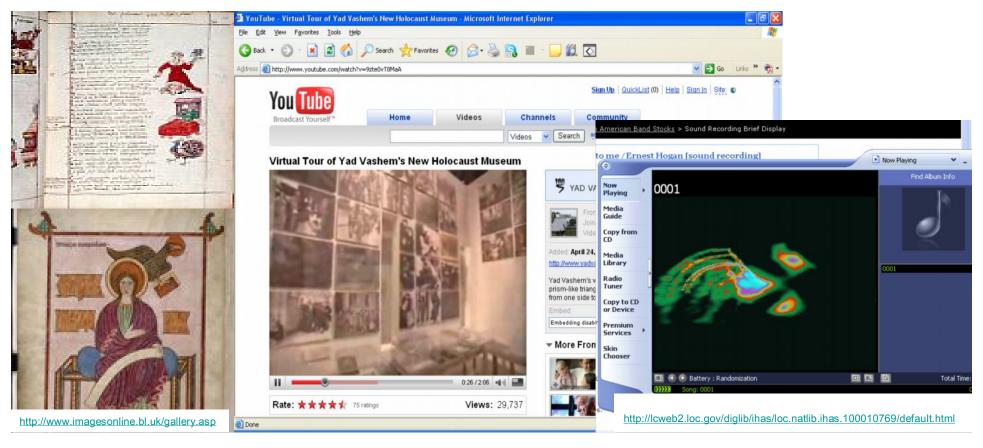
"Data that is in digital form or which can be converted into digital format will be stored and curated on the **digital repositories** created by the **University library**"

This proposal will have a huge impact on the Library as we do not have adequate resources



Open access and the Humanities

 In the humanities open access should similarly refer not only to publications but also to testimonies of cultural heritage, to historical works of art, literature, and science, to image, film and sound collections, to statistical data, etc." (http://bechet.exp.sis.pitt.edu/lis2670/NSF-JISC-report.pdf).



Virtual Research Environment (VRE) for Malaria research in SA A SERA (UP/CSIR) initiative

Malaria VRE components

Web/wiki/blog: search engines. databases: researchers & topics: funders, portals, communication, projects

Red: none Orange: some Yellow: all

Repositories: research results: experiments: literature & documents

Identification of research area

Literature review & indexina

Internal shared database of indexed articles

Skype, smart board, video conferences

Dissemination & artifacts

Identification of collaborators

Proposal writing

Document management system

Real time communication

> Identification of funding sources

Generic software e.g. MS / Open Office

E-learning system for researchers

Scientific workflow

Training / mentoring

Project management

(Collaborative) Electronic Lab book

Integrated data management system

Servers with data files

etc

Sophisticated instruments that generate digital information and data

Mathematical modelling tools; numerical algorithm tools: simulation software; in silico experiments

Access to research networks & super computers; access to labs with in silico screening +

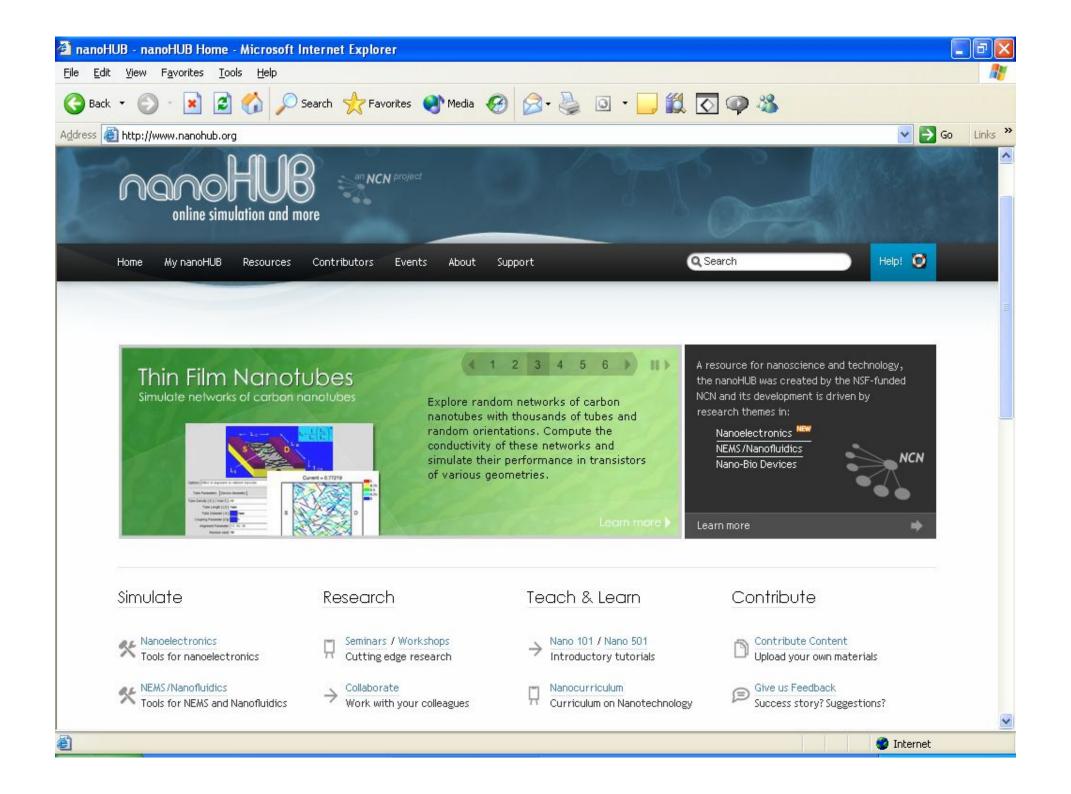
Project management system

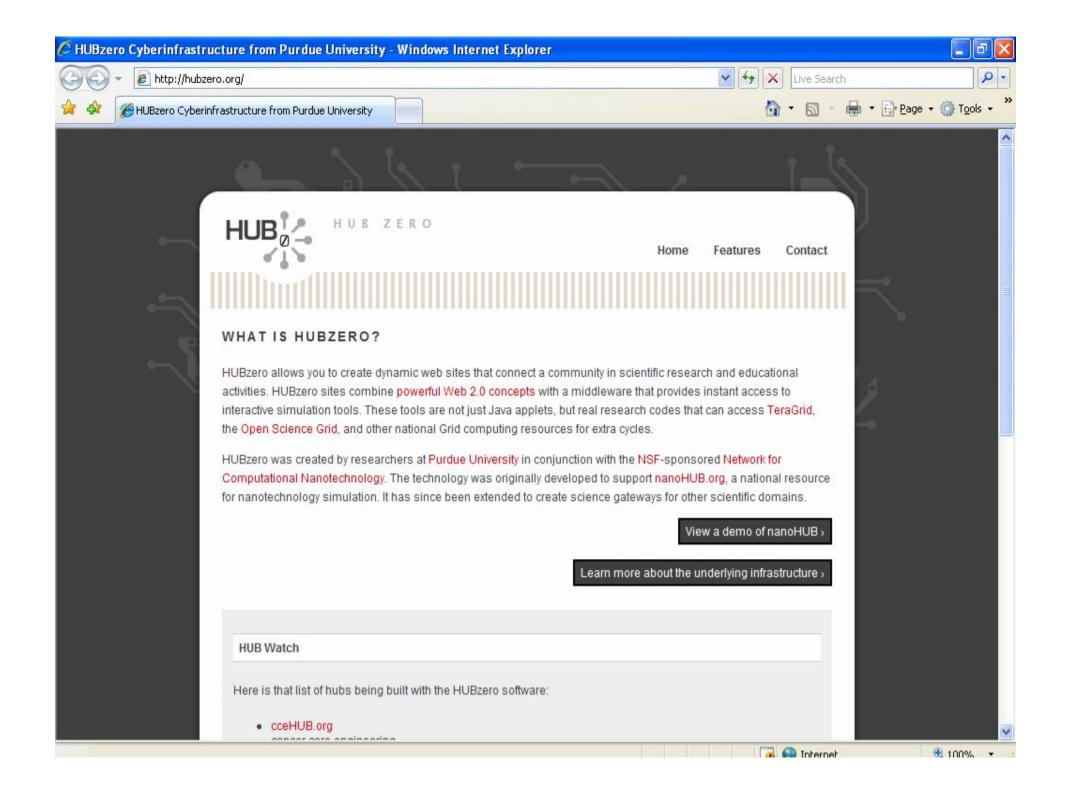
> (Free) Data analysis software

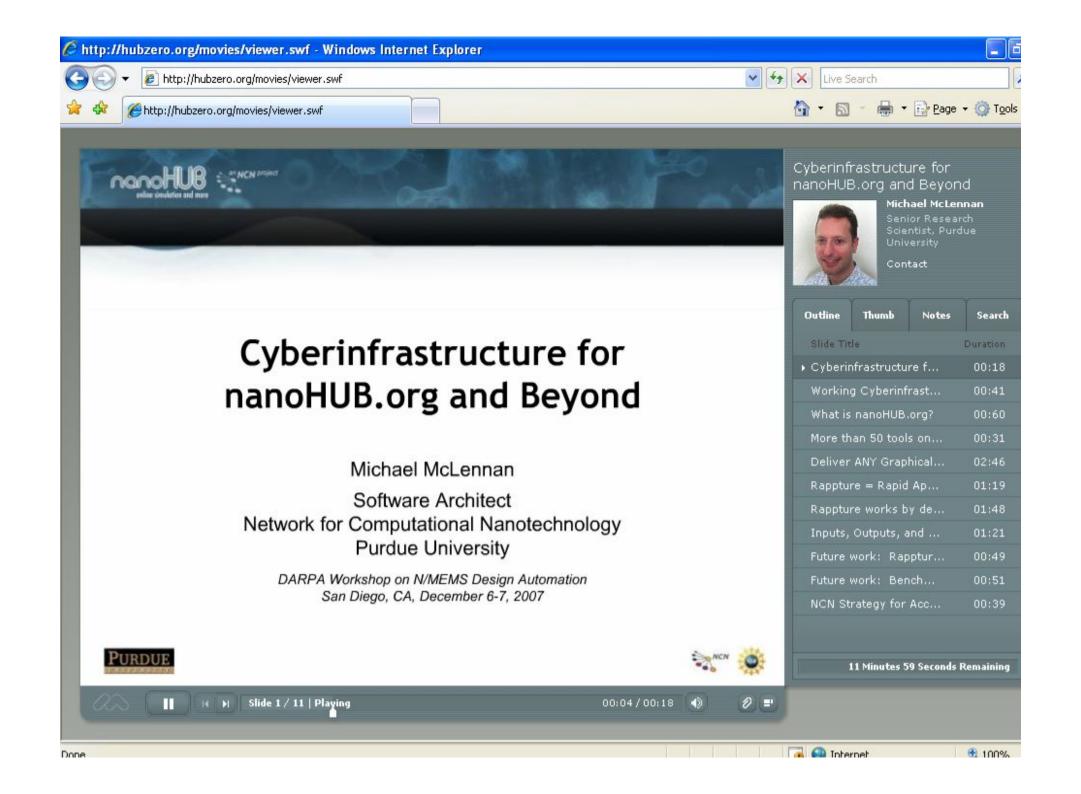
VRE for the Humanities

- Building a virtual research environment for the **Humanities** (BVREH). An initial survey carried out by the BVREH team between June 2005 and September 2006 defined the range of services that a Virtual Environment should offer from information about researchers and their interests and about conferences, lectures and seminars, to integrated communication and collaboration tools to support advanced research. The "Digital Pen and Paper Technologies" project is showing a lot of promise (http://bvreh.humanities.ox.ac.uk/).
- The VRE for the Study of Documents and Manuscripts project naturally follows from the outcomes of BVREH project. In this project a broad-based understanding of user-driven needs has been established, and it was shown how tools and resources for studying texts and document might be implemented in a service-based environment and some annotation and mark-up tools have also been tested. The project team will now proceed to construct an integrated environment in which the data (documents), tools and scholarly instrumenta will be available to the scholar as a complete and coherent resource

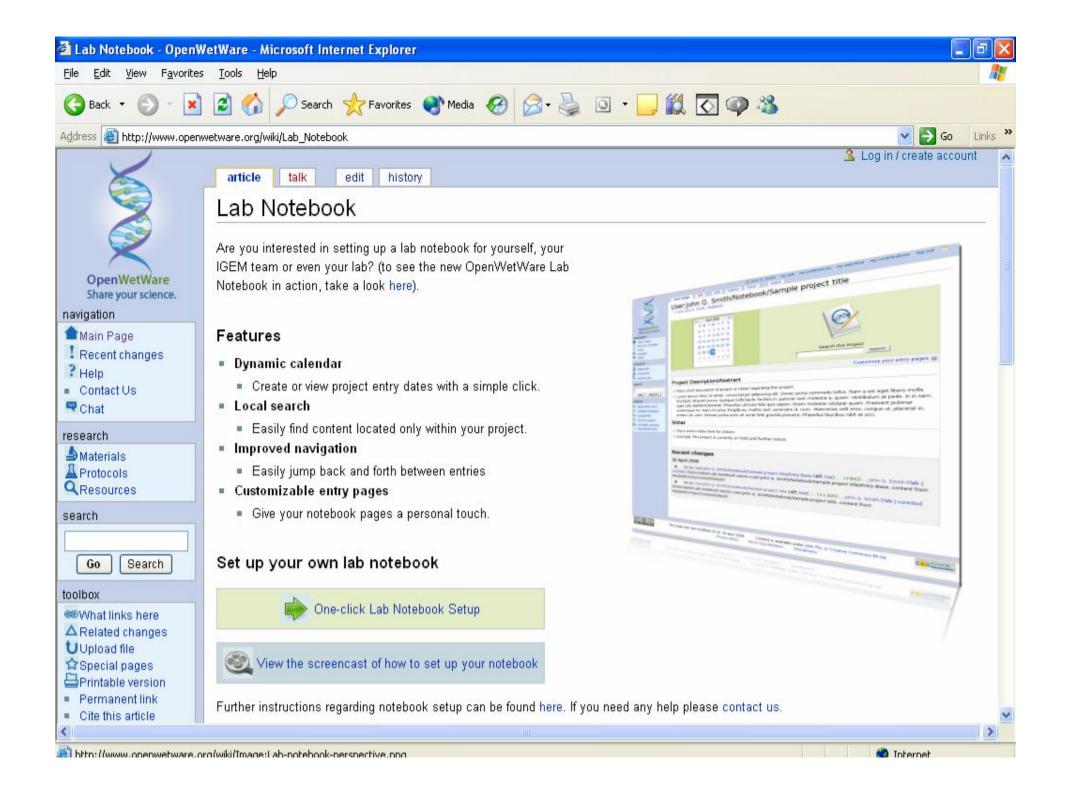
(http://www.jisc.ac.uk/media/documents/programmes/vre2/vre18sdmvreprojectplan.pdf; http://www.jisc.ac.uk/whatwedo/programmes/programme_vre/vre_bvreh.aspx; http://bvreh.humanities.ox.ac.uk/VRE-SDM).

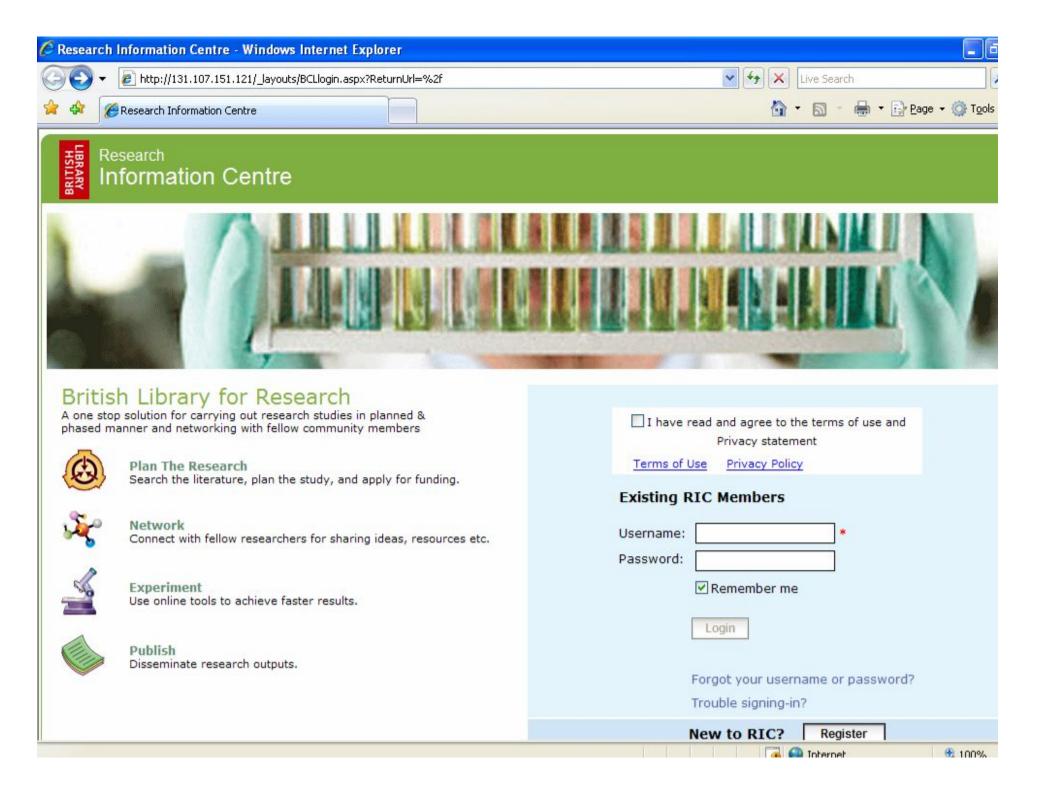


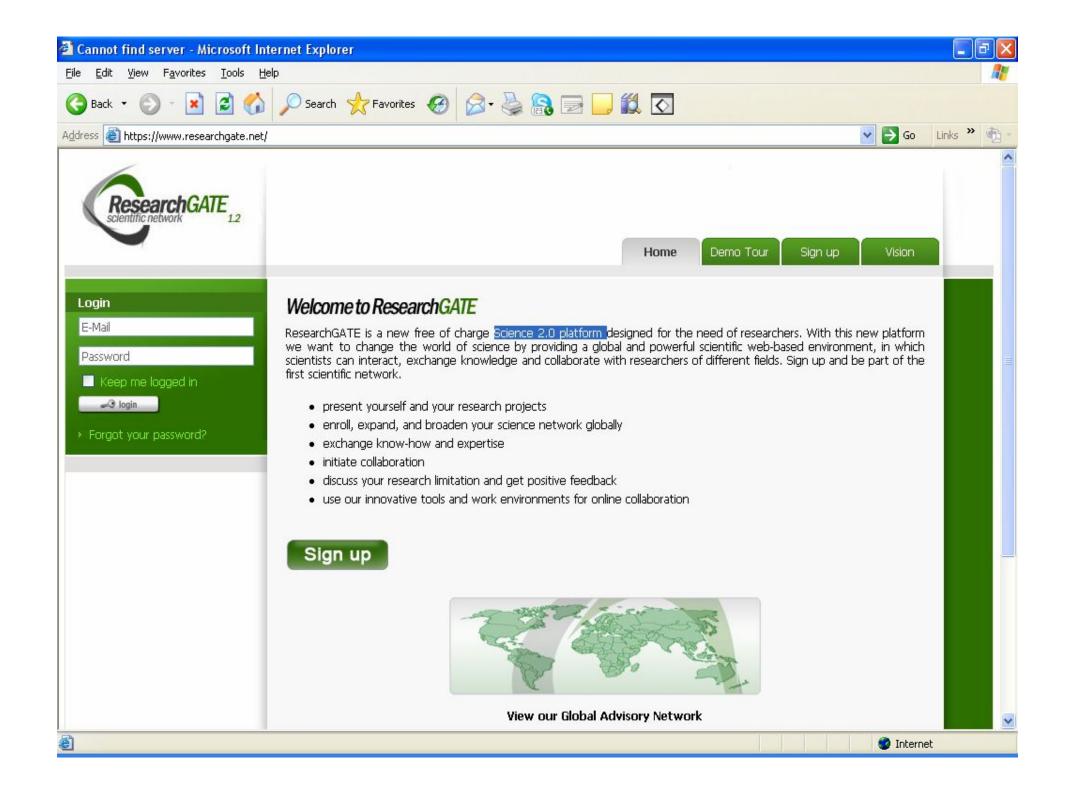


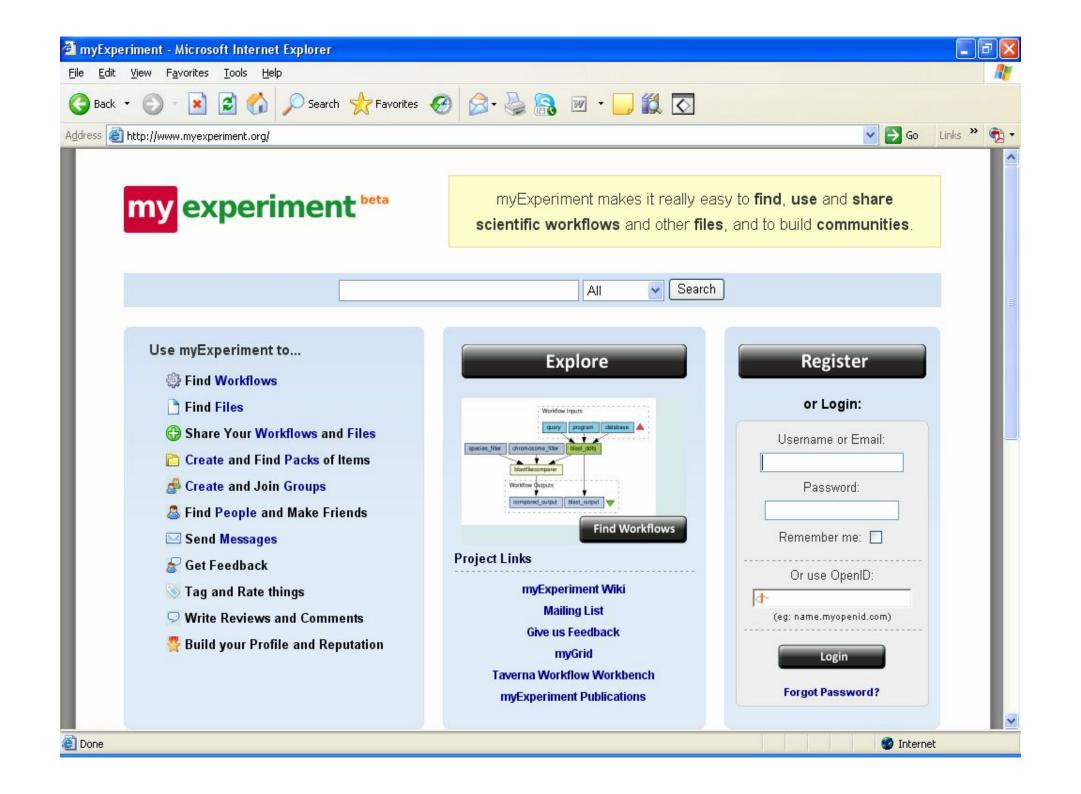


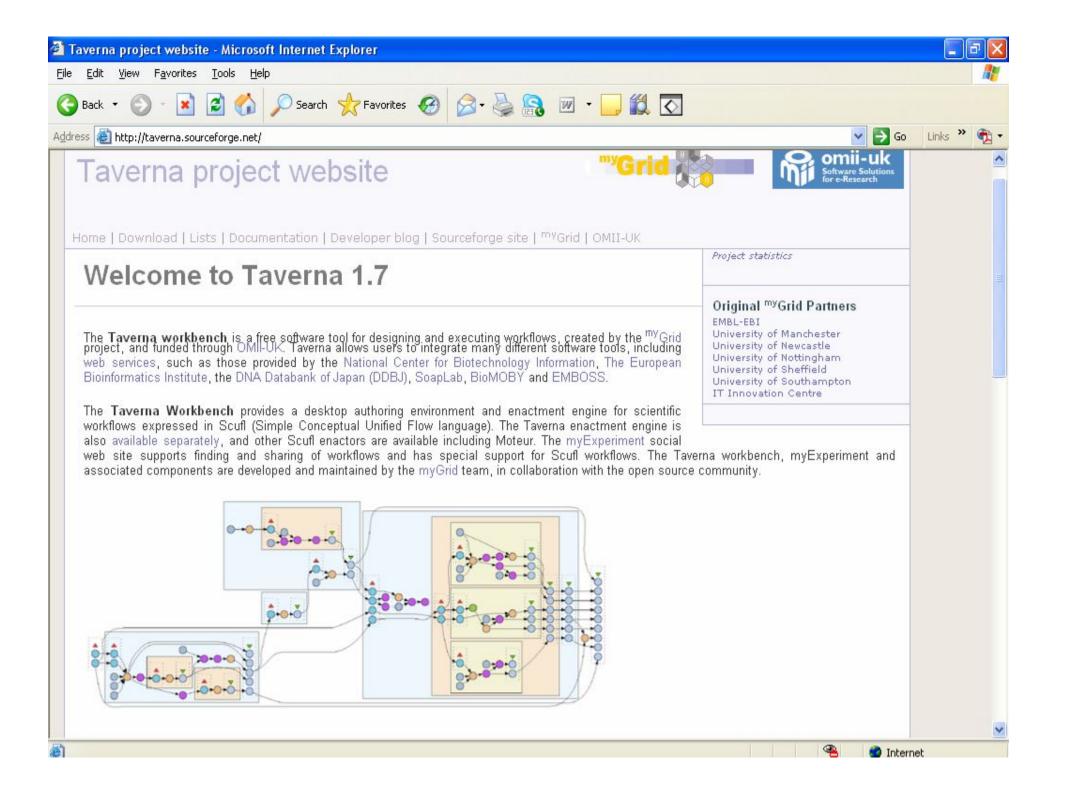


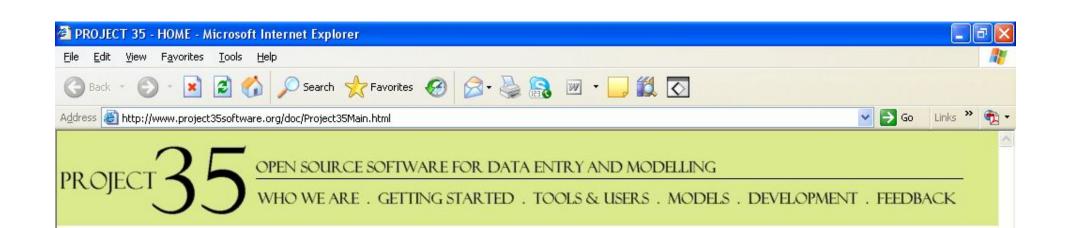












Welcome to the home page of PROJECT35!

Project 35 is a Java-based open source software project that takes an XML schema and renders it as forms for data modelling and data entry. We have tried our best to test the software, and the download comes with a comprehensive set of learning materials. Project 35 is general in its approach and this means that it can handle a wide variety of data models from a wide variety of projects and disciplines. The software can be used in scientific or medical domains or can be used to help catalogue things like comic books. We have designed the tutorials so they include screen shots of data entry forms that are relevant to various domains. We took this approach to remind end-users that the software can be applied to multiple fields.

Project 35 also supports internationalisation by allowing different languages to be supported and provides configuration options to accommodate those users who may need larger fonts or different coloured text and backgrounds in order to see effectively. We also have a version specifically designed for Tablet PCs. It is also possible to link fields to ontology terms and to create alerts for fields.

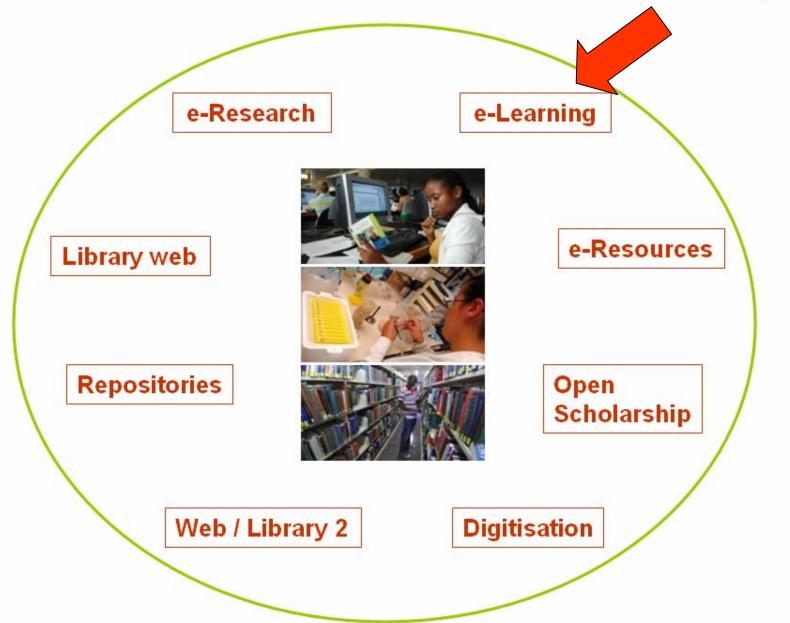
If you have experience with our software, you may want to skip ahead to the section most relevant to you. However, if you are new, then we suggest you start with the 'Who We Are' section and then just follow the main navigation bar at the top of the page from left to right. Each section will have a lot of information but we have tried to organise it so there isn't too much jumping around. We have deliberately kept this documentation simple in terms of its look and feel - don't expect any kind of animation! We have done this to try and ensure our information can be viewed by as many people as possible, some of whom may not have the means to support such fancy presentations. The documentation is available both online and as part of the download.

We are assuming that this is the first page you have come to in the web pages that come with the software download. If you want to get back here, then just click on the Project 35 logo at the top. Good luck!

Keywords: "Project 35", "open source", XML, "data modelling", "data entry", ontology, Java, "Tablet PC", Garwood. Copyright © 2008 Christopher Garwood and Kevin Garwood.

Digital Scholarship advocacy





e-Learning

(Ina Smith)

Develop e-Skills of Library staff

- Design 60 minutes workshops to support e-Information strategy
- Make these workshops available for other people at cost?

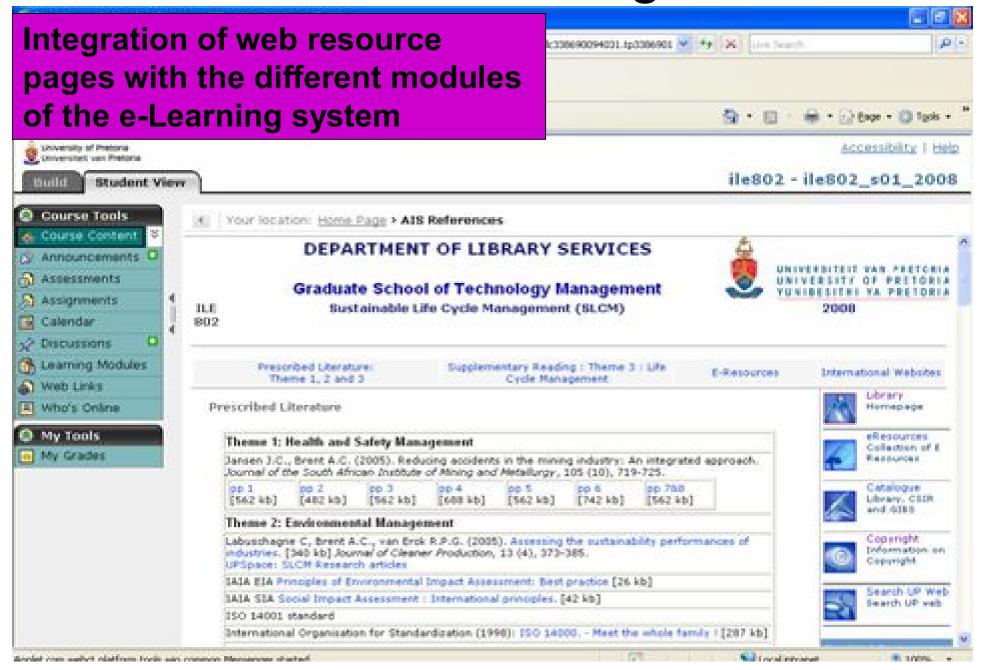
UP e-Learning

Seamless integration of library information with clickUP

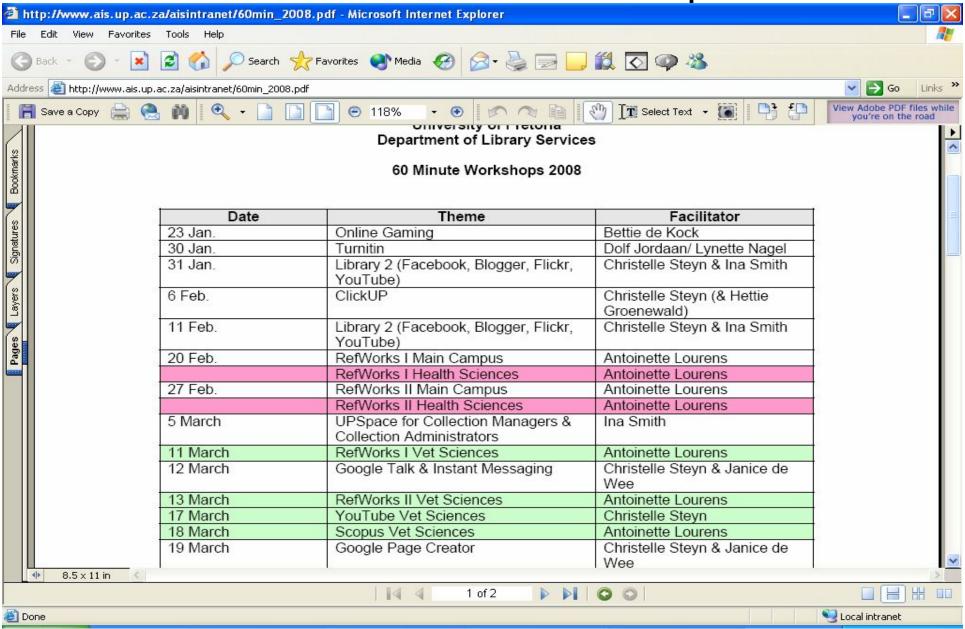
Library e-Learning

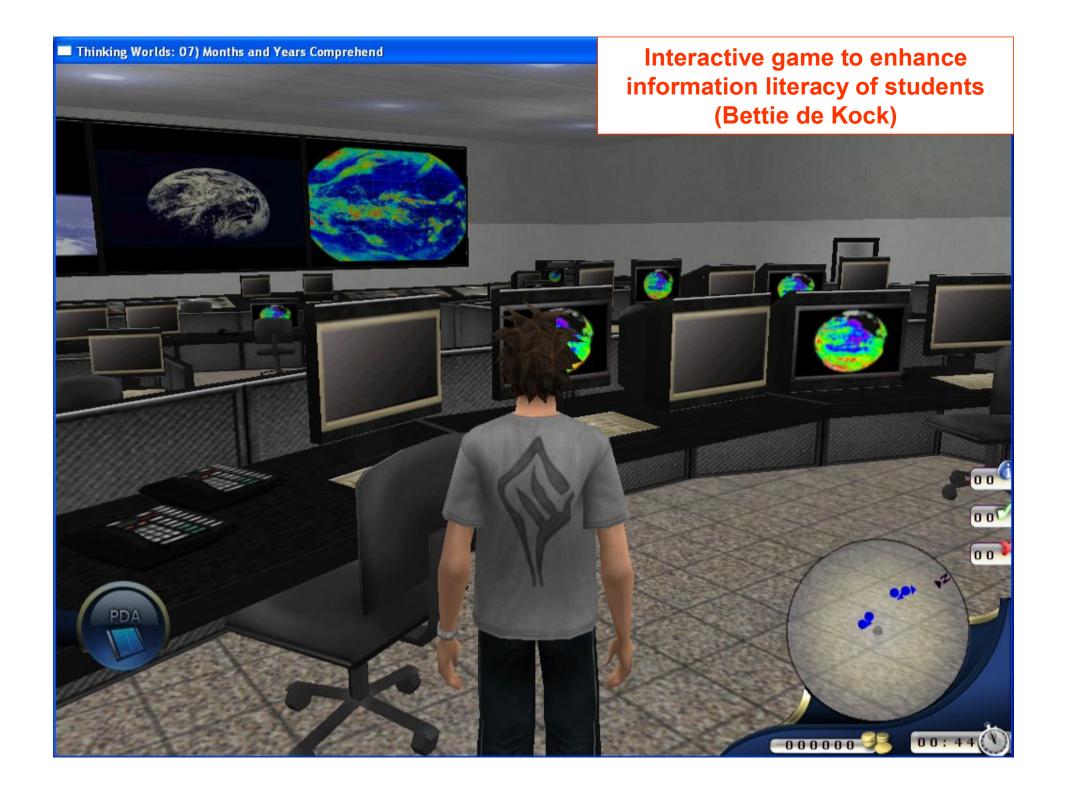
Develop & implement e-Learning modes & modules (e.g. information literacy)

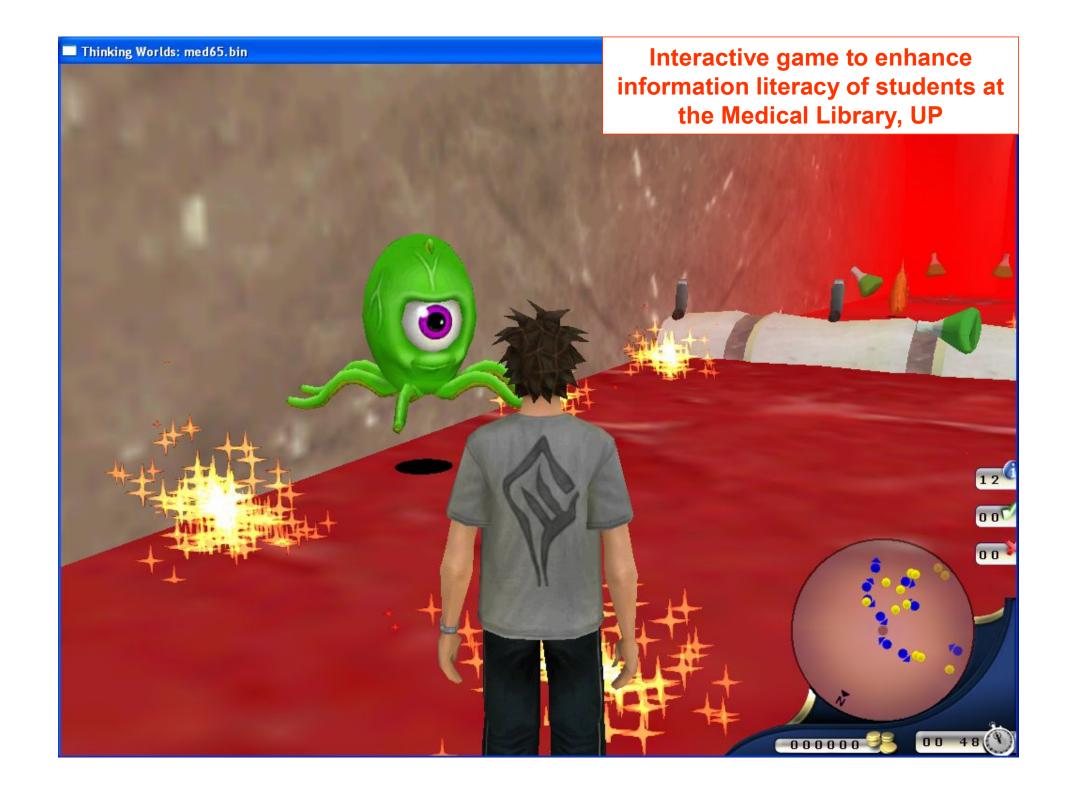
e-Learning

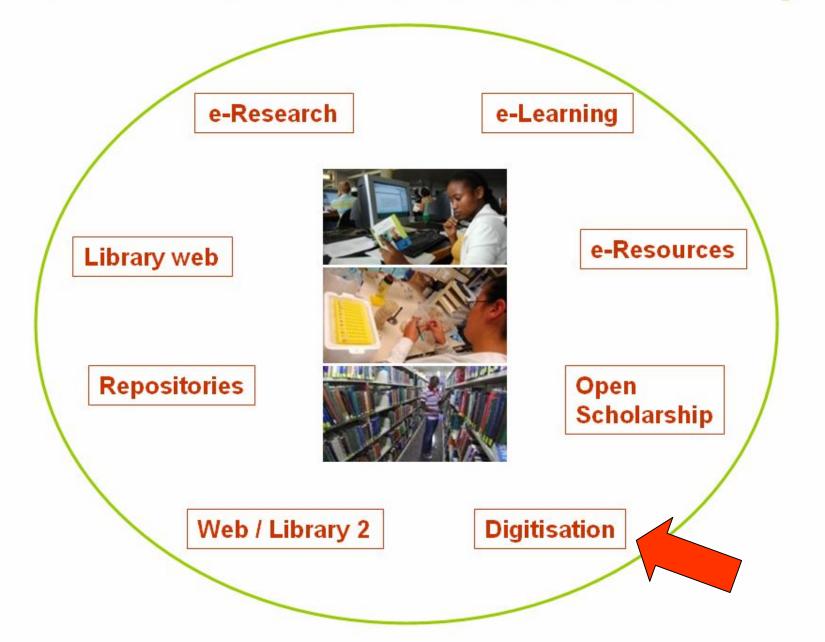


Teaching e-Skills to UP librarians: 60 minutes workshops









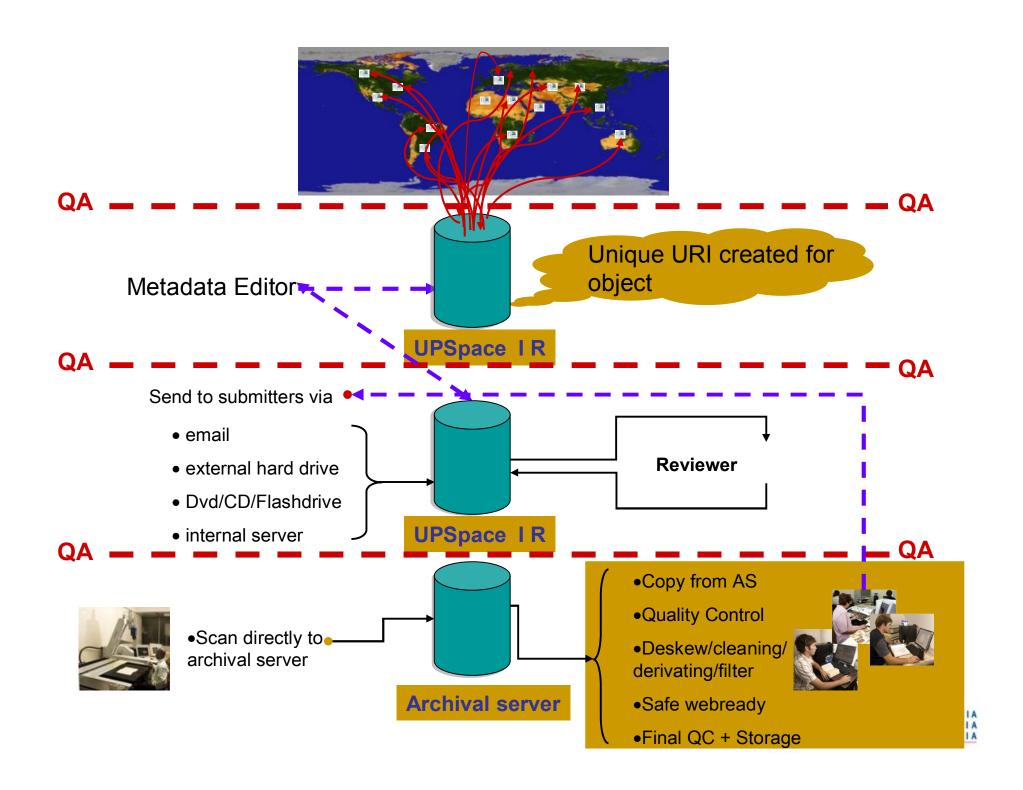
Digitisation

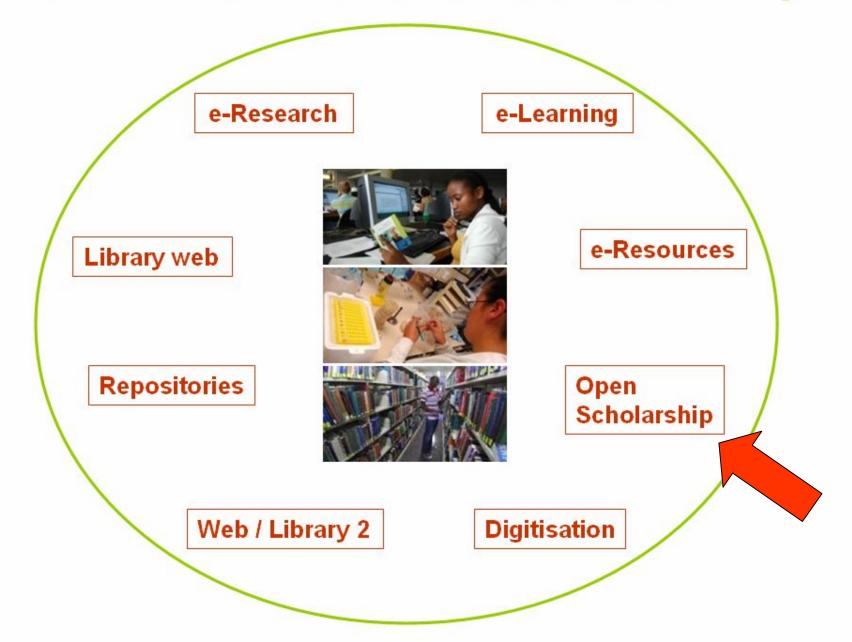
(Ria Groenewald)

- Create physical space for the digitisation centre
- Identify and train an understudy for the digitisation expert
- Investigate digitisation workflow
- Develop system of priorities and co-ordination
- Implement Media24 arrangement
- Implement software and platform for digitised books
- Development of digital preservation strategy









Open Scholarship

(Monica Hammes)

- To develop and implement a strategy in order to change UP to an Open Scholarship institution
- Integrate list of accredited journals with list of journals that support open access



Open Scholarship

Libraries Can Provide Enhanced Access to OA Works

Libraries Can Be Digital Publishers of OA Works



- •Libraries Can Digitize OA Versions of Out-of-Copyright Works
- Libraries Can Preserve OA Materials
- Libraries Can Subsidize Author Fees

"The identification of desirable OA materials is more challenging than the identification of conventional electronic materials because there are a large number of potential suppliers, not a limited number of commercial vendors, and these suppliers

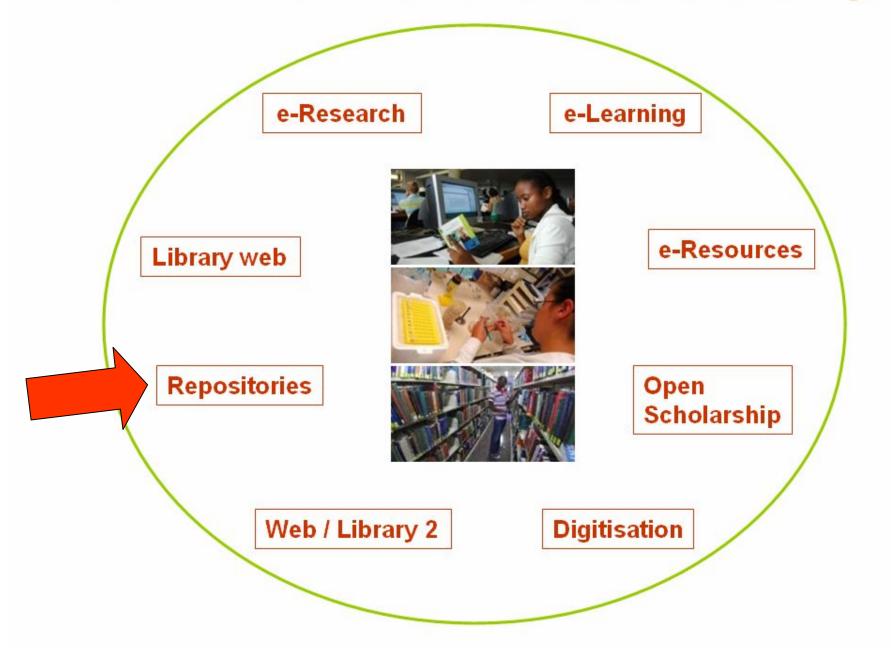


http://vjcp.blogspot.com/2007/10/blog-post.html



Open Access & Libraries
http://www.escholarlypub.com/cwb/OALibraries2.pdf





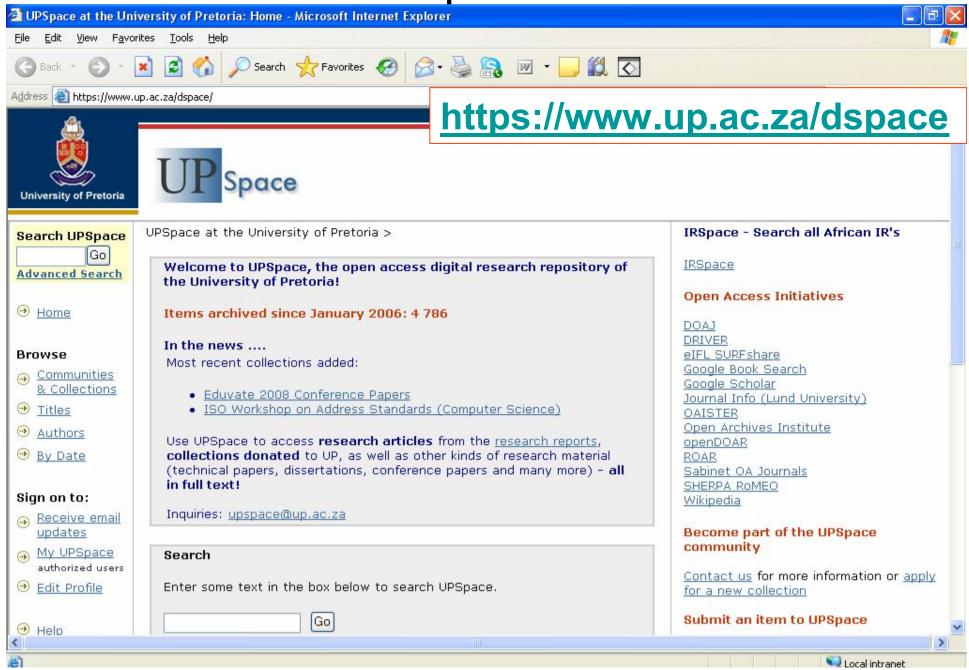
Repositories

(Ina Smith)

- Investigate the possibility that UPSpace can handle the preservation of research data
- Develop guidelines for a trusted repository
- Investigate the migration of the UPeTD collection to the DSpace platform and to integrate it with UPSpace in collaboration with the Open Scholarship team



Repositories



Examples UPSpace Content









ence of high energy proton bon ical and defect properties of sit

FD Auret¹, SA Goodman¹, M Hayes¹, M J Lepot and D-C Look²

Physics Department University of Pintoria Pritoria 0002, Sout Seniconductor Remarch Center, Wright State University, Doyle Intentity and Montfoldering Disorbories, Ast Four Remarch Laf

Published 20 September 2001 Deline at stacks top.org/JPhysCM/13/8989

We report on the electrical and defect characterization omied on single-crystal ZnO, before and ofter ico LS MeV) protons. Prior to benchment we obserup (E1–E4), with energies between 0.10 and 0.57 and, are present in the ZnO. High-energy proton wo electron traps (Ep1 and Ep2), with extremely bit 2.4 and 1.9 cm⁻¹, respectively. Schooley barries If 2.4 and 1.9 cm⁻¹, respectively. Sensonly term several leakage current deteriorated from 1 × 10⁻⁶ A to 1 × 10⁻⁶ A after bombarding it with a dose of 4 Compared to GaN we found that ZrO is remarkably proton bombardineat.

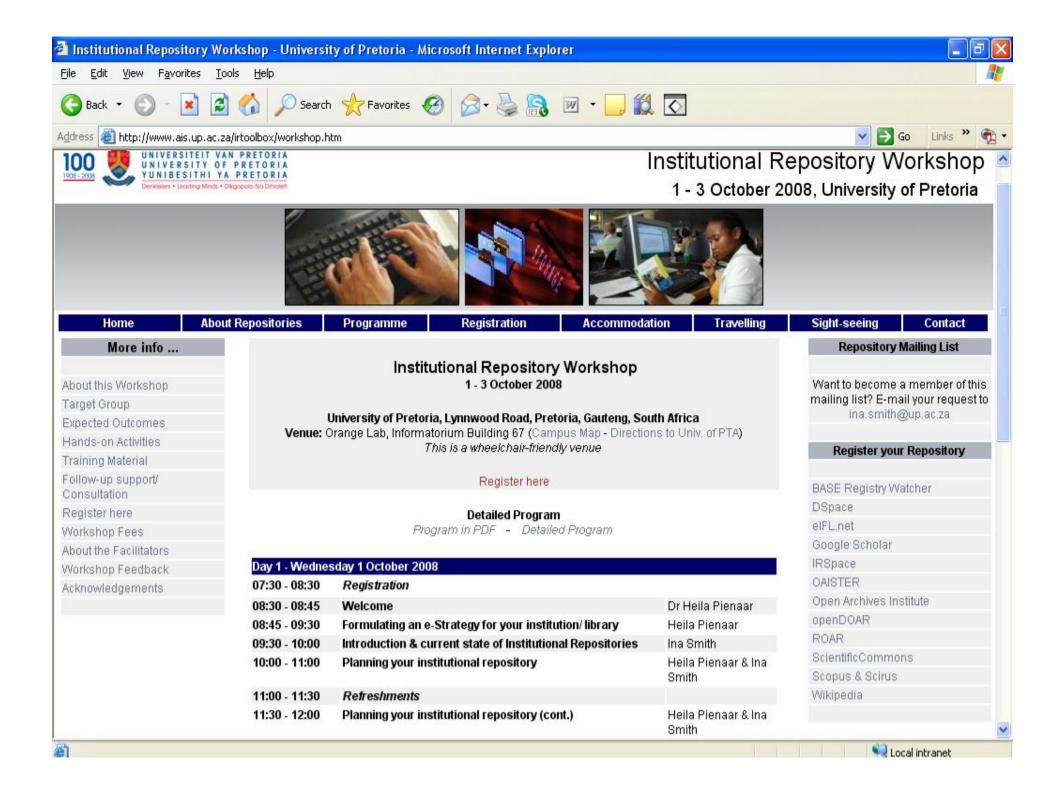
semiconductor moterial with a high band gap, is c semiconductor material with a light rane gap, is.

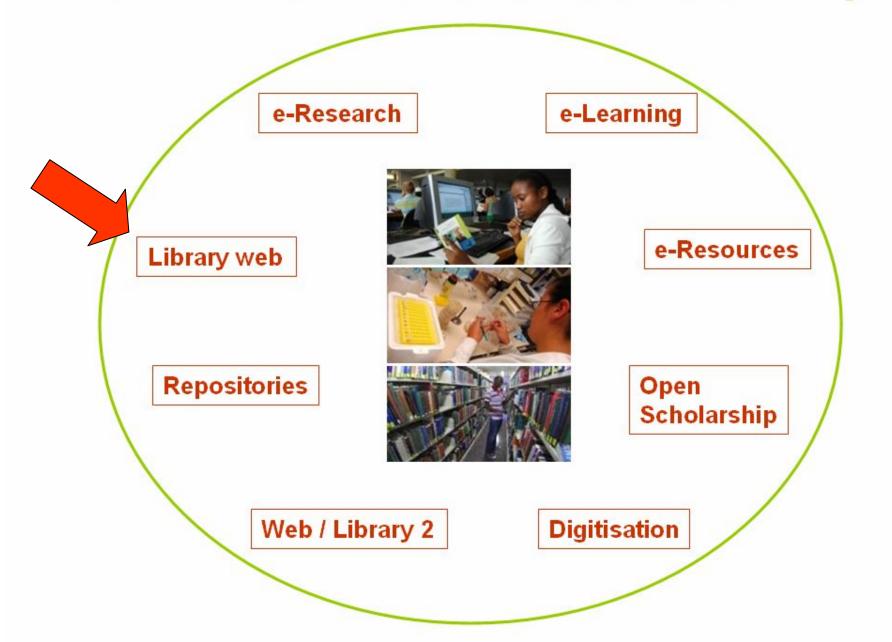
If finds application in phosphors, paints, piezoelecconducting films, the latter being important for it
a recent review, where the properties of ZnO are of used for several other, more sophisticated, electro-op ZaO has an experimental direct band gap of 3.4 eV blue and ultra-violet (UV) light entiting devices, on ell as daylight-blind UV detectors, in in the case for some

re, the large band gap of ZnO renders it suitable for the fabrication of solar and an a substrate or haffer layer for the group fill mirrate based devices. For one, these devices often have so opened at elevated temperatures, typically a hards addition conditions comprising energetic particles. Further practical **©University of Pretoria - Veterinary Science:** Department Anatomy and Physiology









Library web

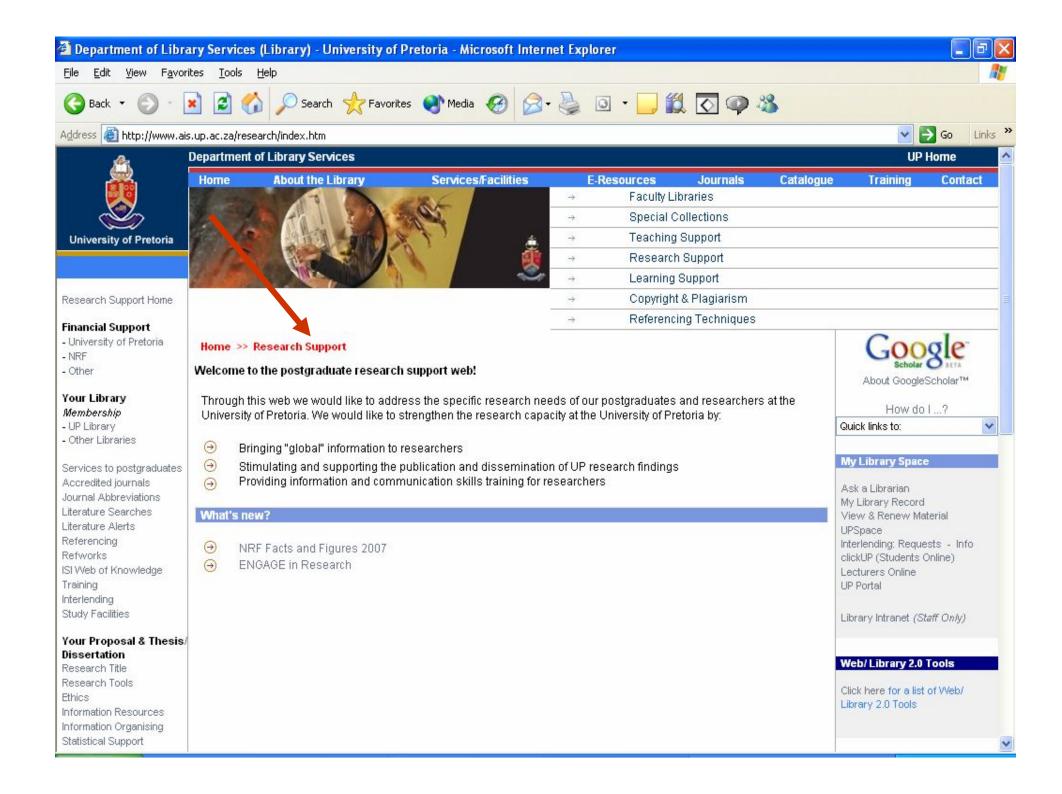
(Monica Hammes / Christelle Steyn)

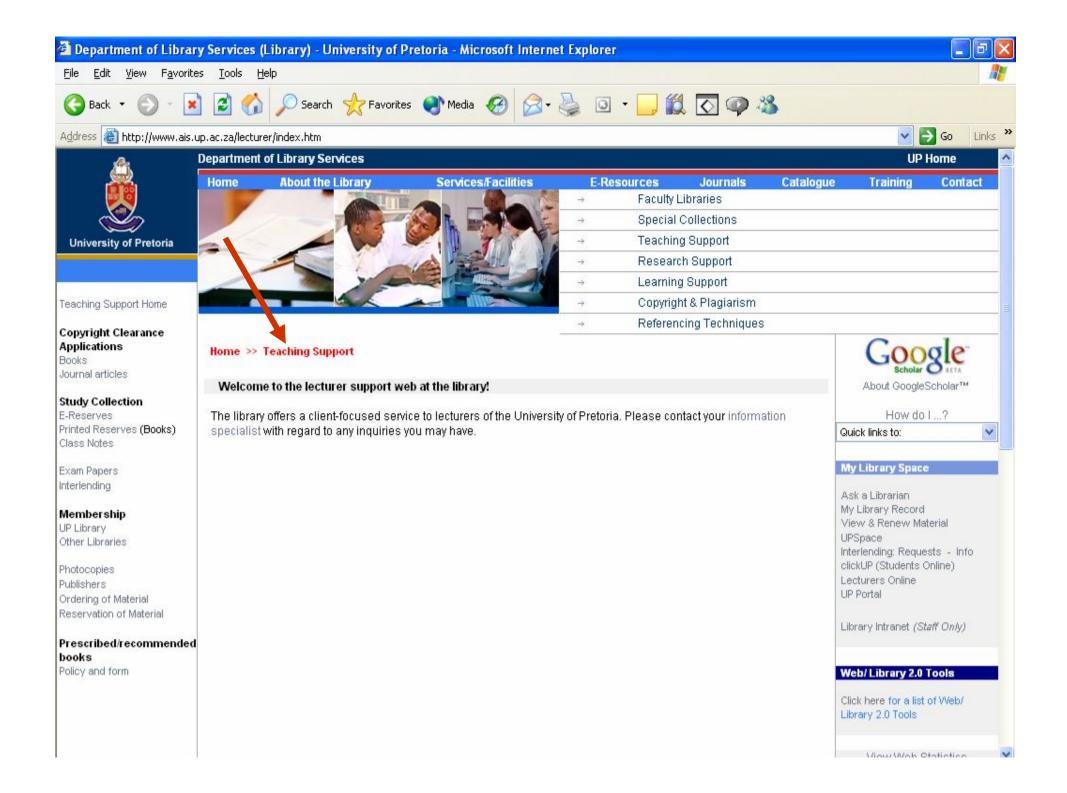
- Change look & feel of web as soon as UP web situation is stable
- Investigate functionality of web in view of UP implementation of Oracle / PeopleSoft e.g. the content management system and the portal software

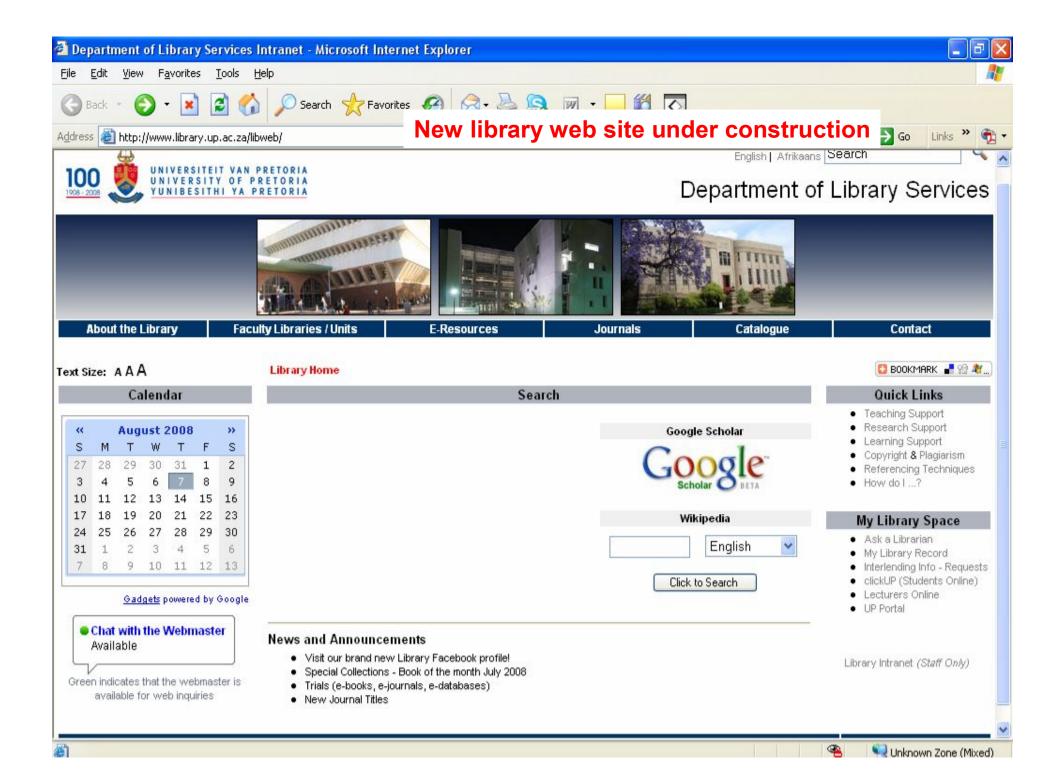


Library web

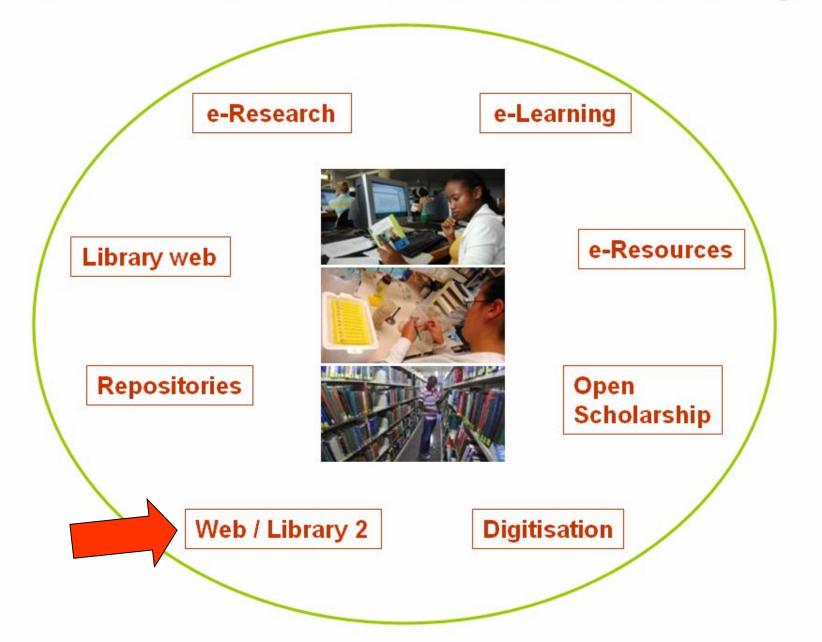








e-Environment for Scholarship



Web / Library 2

(Heila Pienaar)

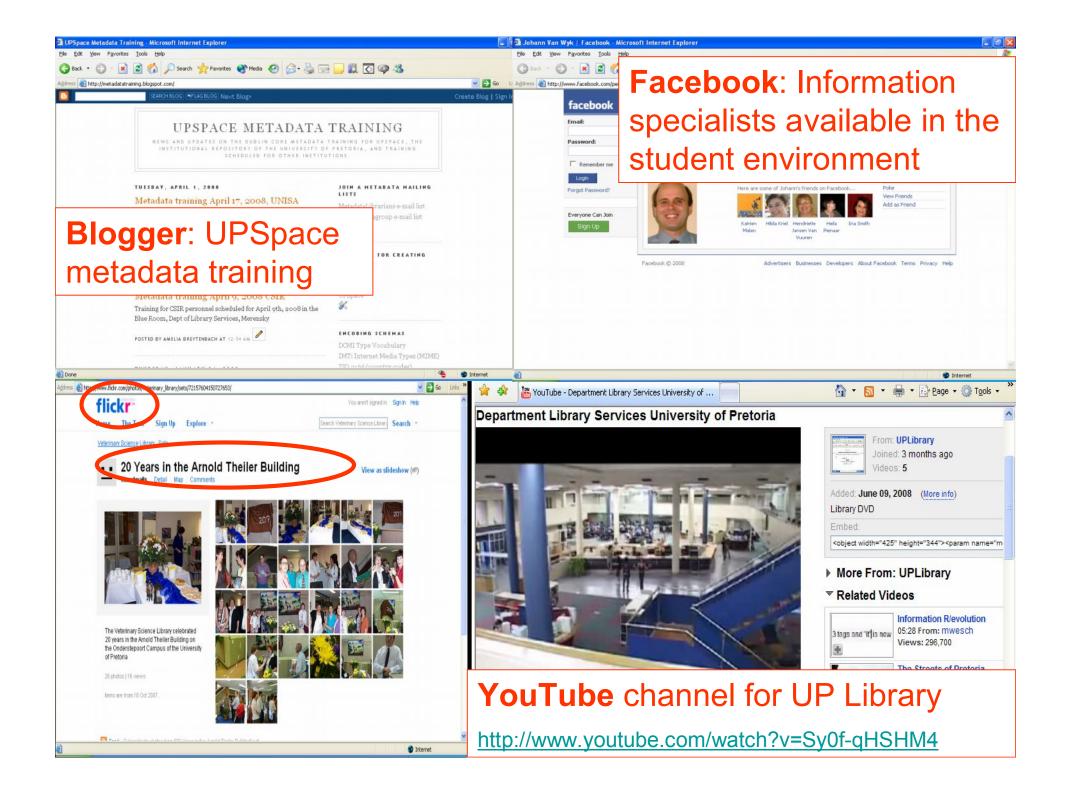
- Develop a Web / Library 2 strategy & implementation plan
- Enhance the clients' e-Environment with Library 2 services and products ("go where the users are") / Invite clients to participate in library content / Increase engagement of library staff on social sites
- "Increasing staff engagement on social sites should be included in every library's strategic plan"; "By inviting participation, the connection between the user and the library, changes. And so do the perceptions." OCLC Report. 2007. Sharing, Privacy and Trust in Our Networked World. http://www.oclc.org/reports/sharing/default.htm

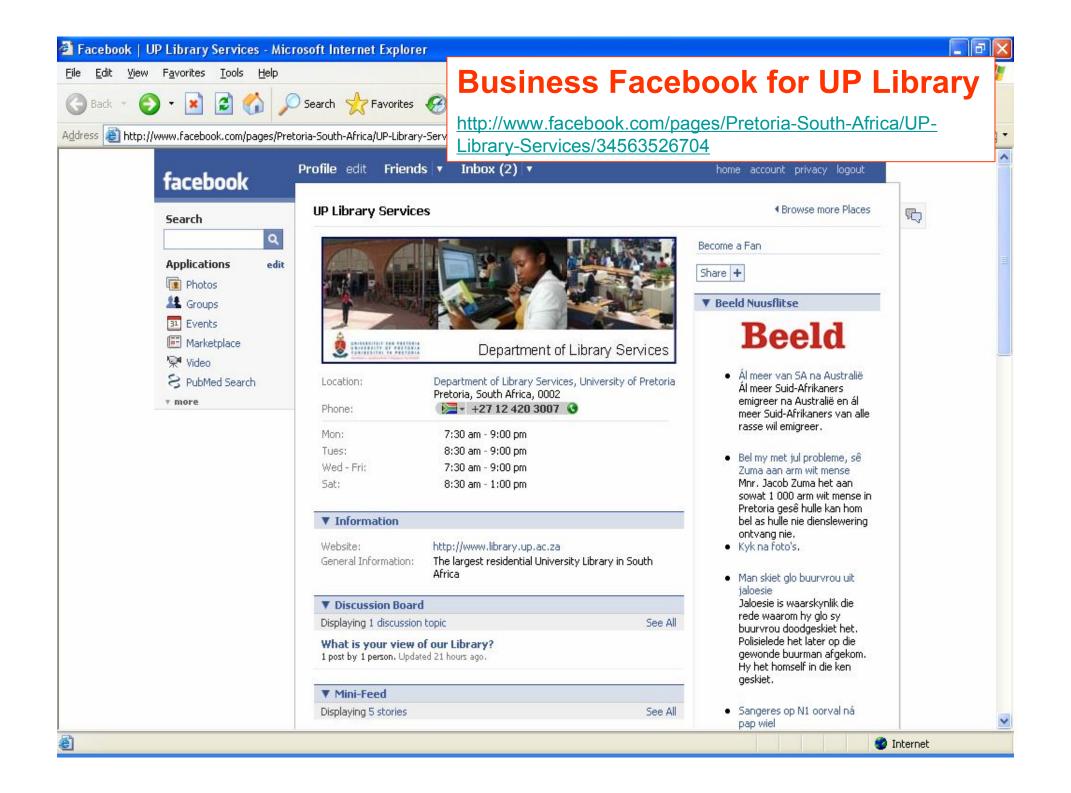


Implementation design

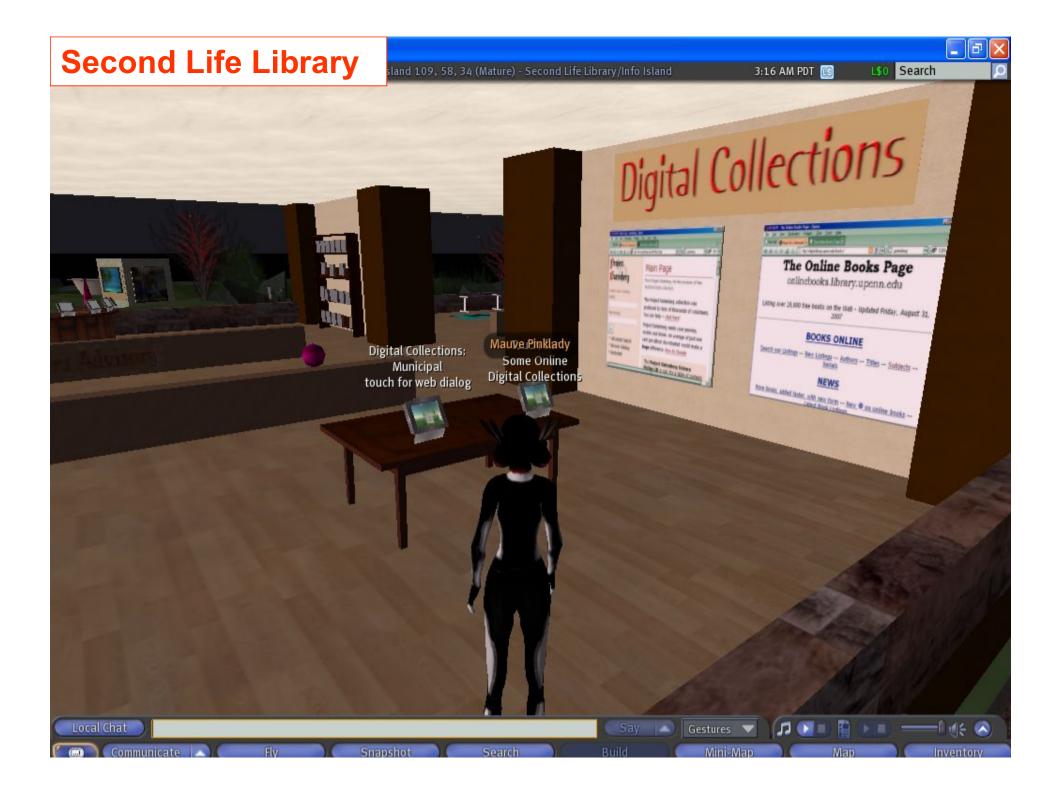
- Step 1: Workshop with 15-20 library colleagues 15 Jan
- Step 2: <u>Training sessions</u> on Facebook, Flickr, YouTube & Blogger for library staff 31 January
- Step 3: <u>Survey</u> of library applications end March
- Step 4: Second <u>training session</u> August?
- Step 5: <u>Demo</u> session September / October
- Step 6: <u>Evaluation</u> of <u>impact</u> on academics & students October



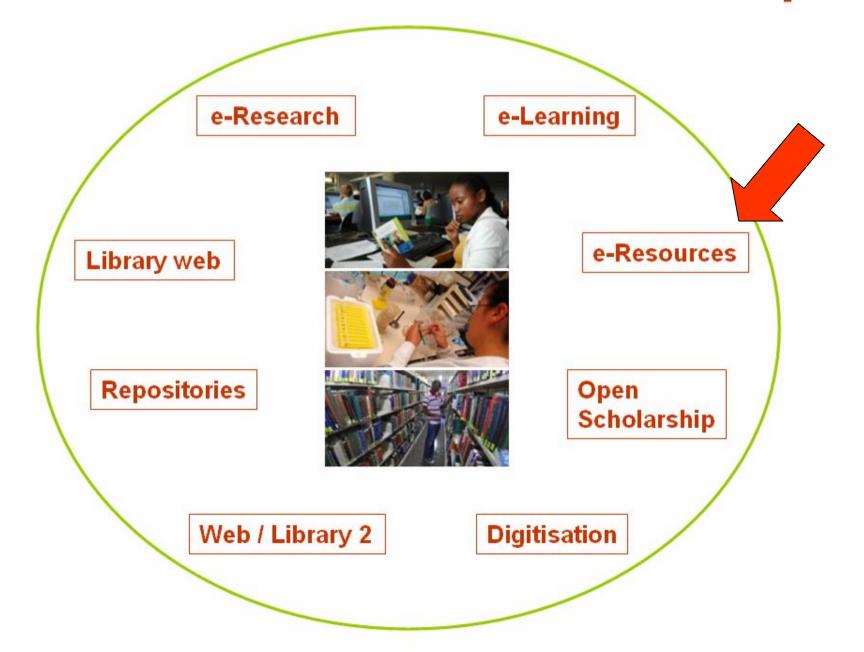








e-Environment for Scholarship



e-Resources, global search engine & catalogue (Soekie Swanepoel)

- Develop a strategy to make these resources part of the clients' eenvironment
- Integrate these resources into interactive interfaces



e-Resources

Web 2 content

Impact of open access movement

Sophisticated search engines

Open catalogues

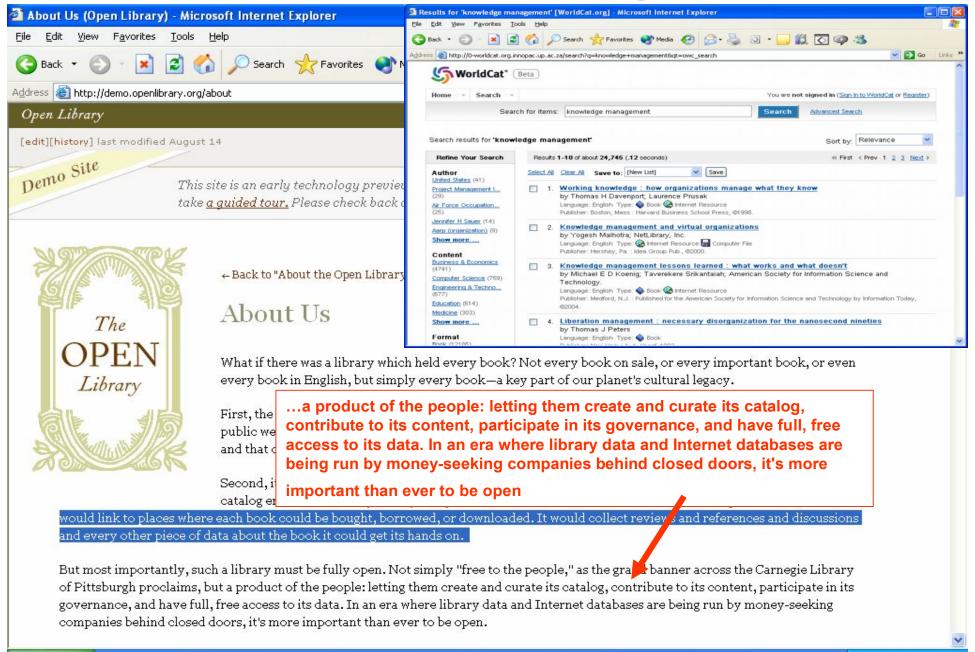
Interactive journals

Digitisation

Data curation and manipulation



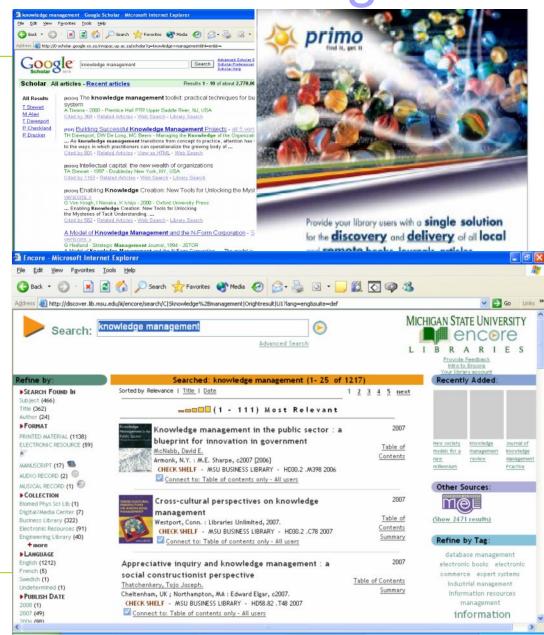
Open catalogues



Sophisticated search engines

Proponents of AI techniques say that one day people will be able to search for the plot of a novel, or list all the politicians who said something negative about the environment in the last five years, or find out where to buy an umbrella just spotted on the street. Techniques in AI such as natural language, object recognition and statistical machine learning will begin to stoke the imagination of Web searchers once again.

http://www.news.com/Spying-an-intelligent-searchengine/2100-1032_3-6107048.html



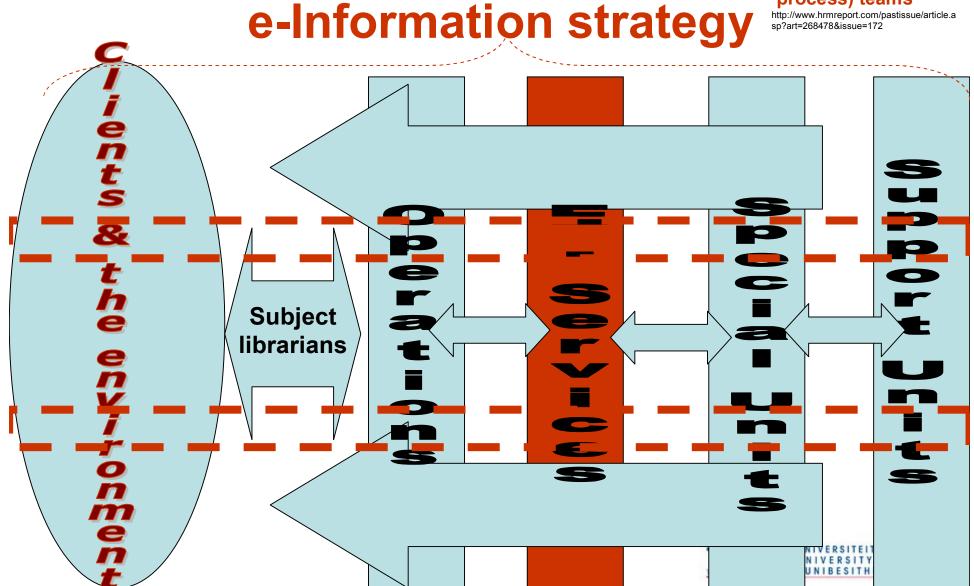


Library Structure

Matrix (project /

process) teams

http://www.hrmreport.com/pastissue/article.a sp?art=268478&issue=172



Governance

- Deputy-director: e-Information Strategy & e-Research Enablement is responsible for the development & implementation of the strategy
- e-Service unit is responsible for the research, development, implementation & maintenance of e-products & services that support the strategy
- e-Steering committees (matrix teams) are responsible for co-ordination and development of their respective areas



e-Steering committees

- Library e-Service steering committee: Heila Pienaar
- e-Research steering committee: Heila Pienaar
- e-Learning steering committee: Ina Smith
- Digitisation steering committee: Ria Groenewald
- Open Scholarship steering committee: Monica Hammes
- Repositories steering committee: Ina Smith
- Library web steering committee: Monica Hammes
- Web / Library 2 steering committee: Heila Pienaar
- e-Resources steering committee: Soekie Swanepoel



Roles & responsibilities of steering committees

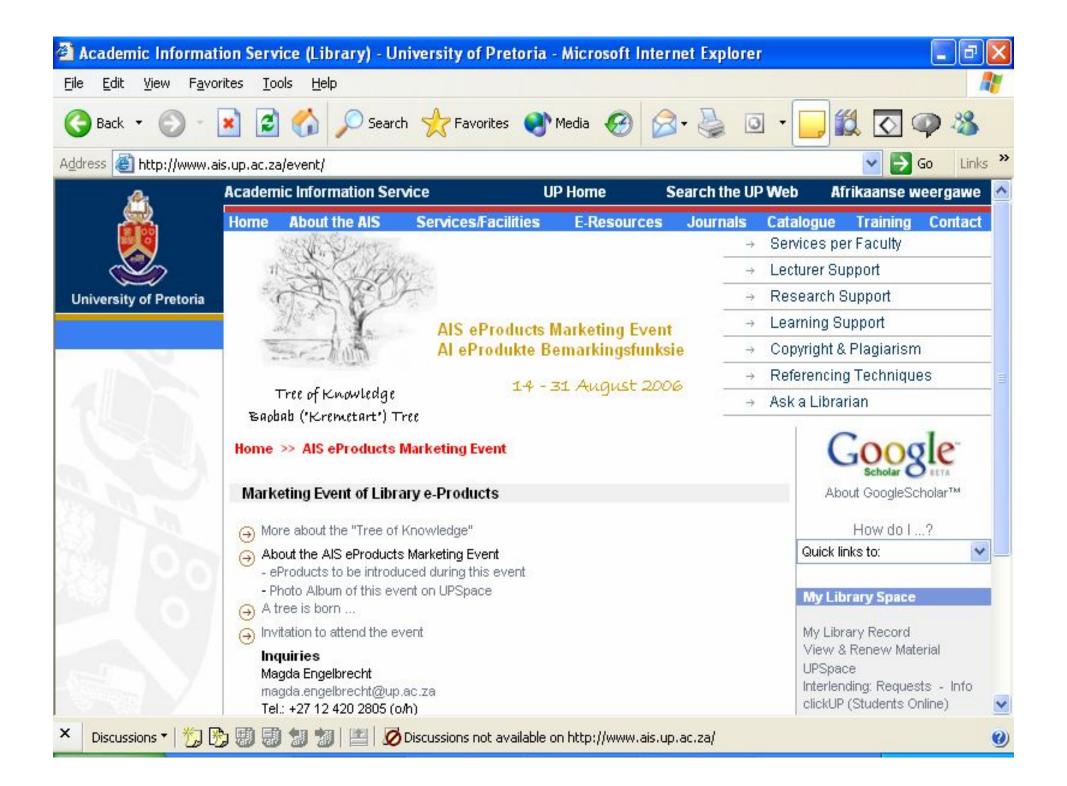
- Chairs are responsible for the establishment of their steering committees
- Steering committees are responsible for their own strategic & implementation plans
- Steering committees to co-ordinate with one another
- Steering committees to discuss progress etc with the e-Service steering committee on a regular basis
- Steering committees are responsible for good communication and interfaces between line and project perspectives



Marketing

- This strategy is responsible for its own marketing
- Chairs of the different areas must coordinate marketing efforts
- In collaboration with the Deputy Director:
 Specialist Services











The UPSpace stand attracted a lot of attention.

In conclusion: we are moving in the right direction ...

e-Environment for Scholarship



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