



Building a Virtual Research Environment for the Humanities

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<http://bvreh.humanities.ox.ac.uk>

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What is a Virtual Research Environment?

Definition of a VRE:

“A set of online tools, systems and processes interoperating to facilitate or enhance the research process within and without institutional boundaries.”

Mike Fraser - OUCS

What is a Virtual Research Environment

- A framework into which tools, services and resources can be plugged, rather than a free-standing product
- More loosely aggregated than a typical VLE
- Joining together existing components in addition to developing new

What is a Virtual Research Environment?

- Research administration
- Resource discovery & access management
- Data creation, use and analysis
- Collaboration and communication
- Research publication, curation and preservation

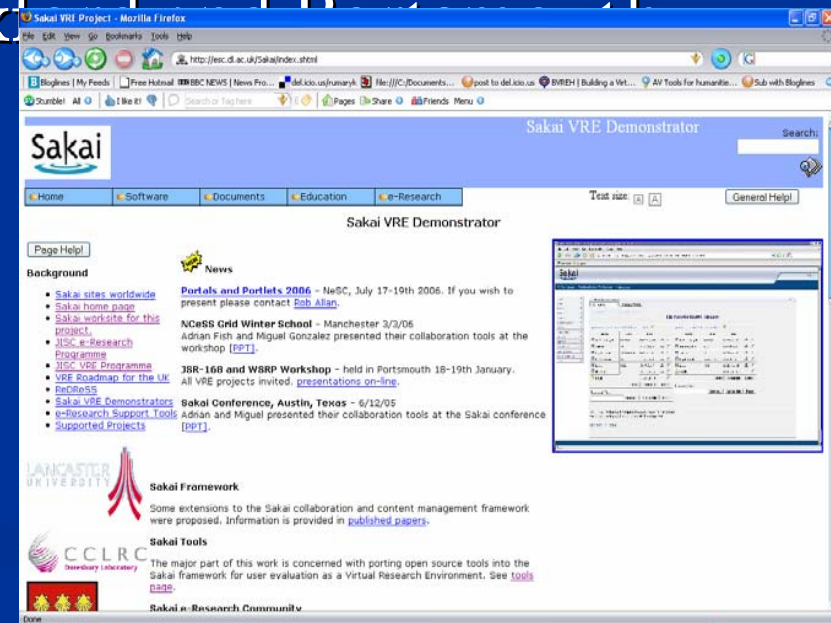
VREs at Oxford

- Part of UK wide JISC programme (~ 15 projects)
- Three projects at Oxford
 - Sakai VRE
 - Integrative Biology VRE
 - Building a VRE for the Humanities

<http://www.vre.ox.ac.uk/>

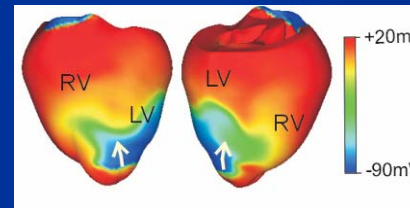
Sakai VRE Project

- Sakai: OSS Portal framework originally for VLE use
- JISC project to extend and adapt for VREs
 - Lancaster, Daresbury, Oxford, 1 and 1 D...
- Oxford integrating Shibboleth authentication system (Research Technology Services, OUCS)



Integrative Biology

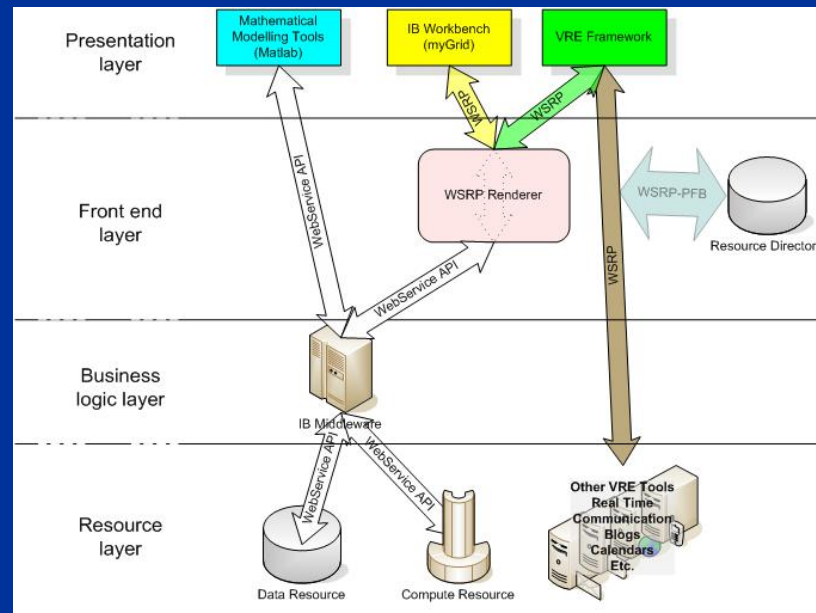
- EPSRC-funded Integrative Biology (IB) e-Science Pilot Project led by Computing Laboratory
 - international consortium; large-scale complex specialised research



- Development of the Grid Infrastructure to support modelling of complex systems relating to cancer and heart disease 'in silico'

IBVRE

- IB VRE: Project to support this with a fully fledged VRE



Building a VRE for the Humanities

- 15 month project (started last summer)
- Capturing user requirements from researchers across the division
- How do the Humanities differ from large scale Science?
- No predefined technology (ground up approach)
- Build 3 to 4 prototypes/demonstrators

User Requirements Survey

- Interviewed a broad range of humanities researchers, research projects, libraries and a number of IT support staff
- Interviews covered all IT use as it relates to research:
 - Current work practice (libraries, collaboration, finding funding, publishing research)
 - Current IT use for above
 - Use of local and external tools

User Requirements Survey

Generic Services

- Finding other people and resources
 - ‘does anyone have equipment to scan my slides?’
 - ‘is anyone else interested in...’
- Support for grants and funding
- Information on conferences, seminars, lectures

User Requirements: Tools for research

- Communication tools:
 - Video conferencing/Access Grid
 - VoIP
 - Chat facilities/IM
- Collaborative document editing
 - Keep track of multiple versions of a draft manuscript

User Requirements: Tools for research

- Locating research material:
 - Search on-line databases
 - Cross Search multiple sources
 - Retrieve and Integrate data from multiple sources (DataGrids)
- Provide a Front End to ease this rather than replacement for existing sources

User Requirements: Tools for research

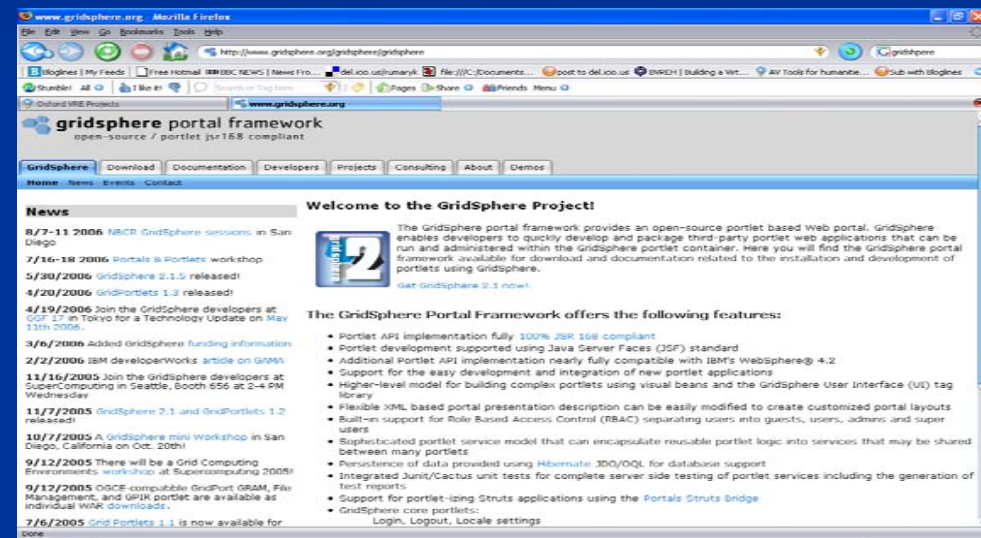
- A personal working space
 - Store
 - View
 - Organise
 - Annotate
- Share work space to enable collaboration
 - personal collection and notes
 - view/edit remotely

User Requirements: Tools for Research

- Bibliography Management
- Assistance in Publishing online
 - Personal Content Management System
- Links to Institutional Repository

Technology: Portals

- Most common technology for current VREs
- Standards exist:
 - JSR168
 - WSRP (SOAP)
 - enable reuse across portals (or should)



Technology: Portals

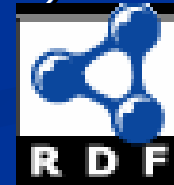
But...

- Commonly deployed Portals use own API and...

- VREs not synonymous with Portals
 - Richer applications
 - Desktop widgets (Google Desktop for researchers)
 - Physical devices
 - Mobile devices

Enabling Interoperability

- Metadata
- W3C Standard - Semantic Web technology
 - Resource Description Framework (RDF)
- Annotations
 - e.g. Annotea server
- Describe logical structure with taxonomies/ontologies
 - Web Ontology Language (OWL)



Demonstrators

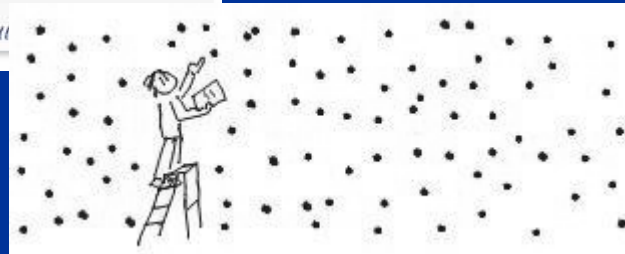
- Currently building the following demonstrators:
 - Eighteenth Century Workspace (Jane Austen)
 - Application of Physical Tools
 - Virtual Workspace for the Study of Ancient Documents
 - Research Discovery Service

Eighteenth Century Workspace

- To support a study of Jane Austen's work
- Current thinking to integrate four online resources:
 - Samuel Johnson, *A Dictionary of the English Language* (1755)
 - Eighteenth-Century Collections Online (ECCO)
 - Chadwyck-Healy Literature Online
 - British Fiction 1800-1829: A database of production, circulation and reception

Physical Tools

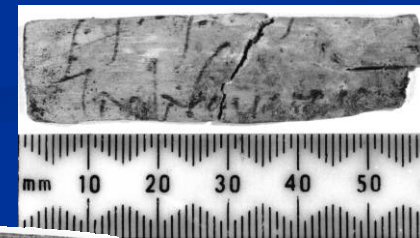
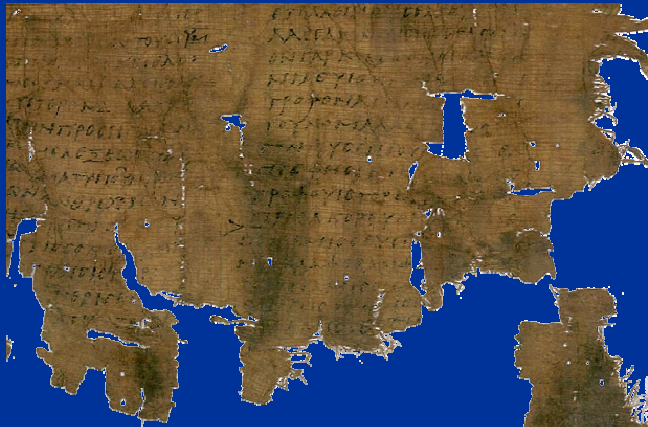
- Physical tools such as communication and novel user interface devices such as digital pen and paper (Anoto) and Personal Interface to the Access Grid (PIG)



It's all about keeping track of 669 845 157 115 773 458 169 very small dots.

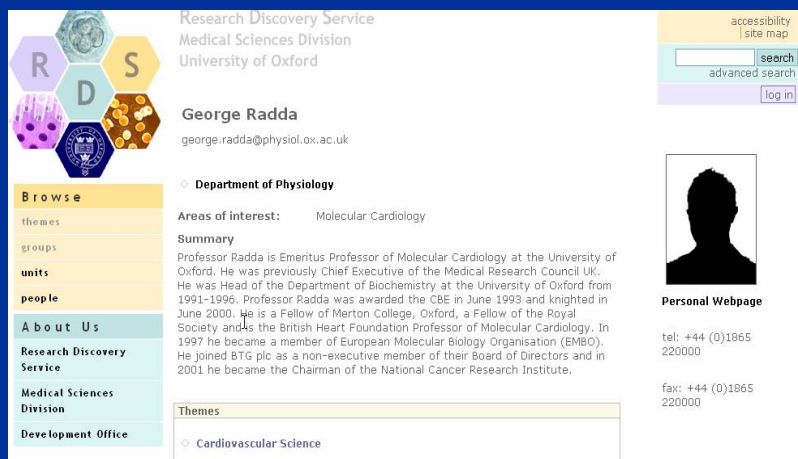
Virtual Workspace for the Study of Ancient Documents

- An interface allowing browsing and searching of multiple image collections, including tools to compare and annotate the researcher's personal collection



Research Discovery Service

- Medical Sciences and ACDT project
- Database of researchers and research interests across the division
- BVREH adapting for the Humanities



The screenshot shows the Research Discovery Service profile for George Radda. The header includes the service name and the Medical Sciences Division of the University of Oxford. A navigation menu on the left lists 'Browse' (themes, groups, units, people) and 'About Us' (Research Discovery Service, Medical Sciences Division, Development Office). The profile for George Radda (george.radda@physiol.ox.ac.uk) is shown, including his department (Department of Physiology) and area of interest (Molecular Cardiology). A summary of his career is provided, mentioning his roles at the University of Oxford, the British Heart Foundation, and the National Cancer Research Institute. Contact information for his personal webpage is also listed.

Research Discovery Service
Medical Sciences Division
University of Oxford

George Radda
george.radda@physiol.ox.ac.uk

Department of Physiology

Areas of interest: Molecular Cardiology

Summary
Professor Radda is Eminent Professor of Molecular Cardiology at the University of Oxford. He was previously Chief Executive of the Medical Research Council UK. He was Head of the Department of Biochemistry at the University of Oxford from 1991-1996. Professor Radda was awarded the CBE in June 1993 and knighted in June 2000. He is a Fellow of Merton College, Oxford, a Fellow of the Royal Society and the British Heart Foundation Professor of Molecular Cardiology. In 1997 he became a member of European Molecular Biology Organisation (EMBO). He joined BTG plc as a non-executive member of their Board of Directors and in 2001 he became the Chairman of the National Cancer Research Institute.

Personal Webpage
tel: +44 (0)1865 220000
fax: +44 (0)1865 220000

Themes
Cardiovascular Science



Where does this fit within our institution?

- Links to Central Admin/Research Services
- Institutional Repository
- Use of Standards to allow interoperability
- VREs need to interoperate between universities too!

What might this mean for a faculty?

or department!

- Need for interoperability at unit level
- e.g. RDS
 - collect/maintain information locally
 - exposed for reuse/aggregation within a VRE component
 - could be via web services (SOAP or REST)
 - or even a regularly submitted MySQL dump
- For this to work, data structures need to be compatible
 - probably means coordination at divisional level

What might this mean for a faculty?

or department!

- Many projects producing electronic research resources based across the faculties
- Local ITSS well placed to promote interoperability when offering technical advice
 - if we can integrate at technical level (plumbing) and at semantic level then resources will plug into larger research environments providing greater benefit to researchers

What next?

- Currently just demonstrators
- Any continuation in conjunction with OeRC
 - Acting as a hub for e-Research at Oxford



Feedback/Questions

- Keen for feedback
 - to fill in gaps
 - pointers to humanities research projects we might have missed

- Any questions?

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OUCS

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