

Tools Summaries

1. Triana - <http://www.trianacode.org/>
2. SABRE- <http://sabre.lancs.ac.uk/>
3. CATALYSER- <http://www.axiope.com>.
4. System Quirk -<http://www.computing.surrey.ac.uk/SystemQ/>
5. NESSTAR- <http://www.nesstar.com>
6. SurveyMonkey- <http://www.surveymonkey.com>
7. JMP- <http://www.jmp.com>
8. FlashMeeting- <http://cnm.open.ac.uk/projects/flashmeeting/>
9. Apollo- <http://apollo.open.ac.uk/download.html>
10. Clockwork- <http://clockwork.open.ac.uk/>
11. Virtual Participant-
<http://kmi.open.ac.uk/technologies/classic.cfm?name=Virtual%20Participant>
12. Magpie- <http://kmi.open.ac.uk/projects/magpie/main.html>
13. Cashew- <http://kmi.open.ac.uk/technologies/cashew/>
14. AquaLog- <http://kmi.open.ac.uk/technologies/aqualog/>
15. ONTO-H- <http://users.isoco.net/~rbenjamins/Projects.html>
16. MiniGrid - http://www.e-science.clrc.ac.uk/documents/staff/kerstin_kleese/263.pdf
17. E-Viz- <http://www.eviz.org/>
18. QCD GRID- <http://qcdgrid.forge.nesc.ac.uk/>.
19. BinX - <http://www.edikt.org/binx/index.htm>

20. ELDAS- <http://www.edikt.org/eldas/>
21. AstroGrid Workbench- <http://software.astrogrid.org/userdocs/workbench.html>.
22. DIGS Tools- <https://sourceforge.net/projects/digs/>
23. OGSA-DAI- <http://www.ogsadai.org.uk/>
24. Condor and Condor-G- <http://www.cs.wisc.edu/condor/>
25. Globus Toolkit- <http://www.globus.org/>
26. NSCA- <http://www.ncsa.uiuc.edu/Projects/arts.html>
27. Storage Resource Broker-http://www.e-science.clrc.ac.uk/web/projects/storage_resource_broker
28. GridSphere- <http://www.gridisphere.org/gridsphere/gridsphere?cid=2>
29. JiniGrid-http://www.epcc.ed.ac.uk/computing/research_activities/grid/jinigrid/
30. GROWL- <http://tyne.dl.ac.uk/GROWL/>
31. GRENADE- <http://www.sve.man.ac.uk/Research/AtoZ/GRENADE>
32. VIPAR- <http://mrccs.man.ac.uk/research/vipar/>
33. IBM Research Visualisation Data Explorer -<http://www.research.ibm.com/dx/>
34. Question Tool- <http://www.sve.man.ac.uk/Research/AtoZ/QuestionTool/>
35. AVS/EXPRESS Visualisation Toolkit
http://www.avs.com/software/soft_t/avsxps.html
36. Taverna -<http://taverna.sourceforge.net/>
37. Access Grid Toolkit- <http://www.accessgrid.org>.
38. SAKAI - <http://www.sakaiproject.org/>.
39. LionShare - <http://lionshare.its.psu.edu/main/>.
40. Armadillo - <http://www.hrionline.ac.uk/armadillo/index.html>

41 Compendium- <http://www.memetic-vre.net/software/Compendium/>

42 Grace - <http://www.grace-ist.org/>

1 Triana

<http://www.trianacode.org/>

With Triana existing Web Services can be composed, recombined and executed via a graphical interface. Like this, variable complex applications can be built from simpler components. Easily, a composite Web Service can be constructed. Users can share and replicate experiments and carry out ‘what-if’ analyses. By altering existing workflows via the graphical interfaces new constellations of service executions can be explored. UDDI enabling the discovery of Web Services and standard workflow languages are integrated into Triana.

Triana is open source – written in Java – and the latest version can be downloaded from <http://www.trianacode.org/>

General keywords: Web Services, workflow

Methods taxonomy: Data publishing and dissemination

2 SABRE

<http://sabre.lancs.ac.uk/>

Sabre is a specialised statistical modelling tool to assist with binary recurrent events. Recurrent events are events dependent on previous events. Binary means that the outcome value of the event is either 1 if the event happens or 0 if it does not happen. Such kind of data is quite frequent in cross-section surveys through retrospective questioning like surveys in employment history. Sabre’s statistical powers help find out about question like how age affects unemployment. Sabre is written by specialised statisticians at Lancaster University.

Sabre can be used both on UNIX and Windows machines. It has a command line user interface and is written in FORTRAN. It is open source and can be downloaded from <http://sabre.lancs.ac.uk/>

General keywords: Statistics modelling, Binary Recurrent Events

Methods taxonomy: Analysis

3 CATALYSER

<http://www.axiope.com>.

Catalyser is a tool for researchers to publish and annotate their data in order to help with other ad-hoc solutions like spread sheets and or Word documents. At the same time Catalyser is not as heavy-weight as database management systems and easier to use. Catalyser lets researchers add their own structure to their existing data.

Catalogues designed with Catalyser are constructed in such a way that they can be combined into databases containing multiple catalogues. The data can be filtered and browsed and be simultaneously accessed via a portal from the web. An entire relational database can be imported into Catalyser while the whole catalogue itself can be automatically published on the web. The original application was designed for biological researchers, but Humanities researchers could be interested in keeping track of and share complex data structures about documents, images, music and manuscripts.

Catalyser has become a commercial quality software and is distributed via Axiope Ltd: <http://www.axiope.com>. The commercial price is £3500, but they offer discounts for non-profit organisations.

General keywords: Data annotation, Publishing

Methods taxonomy: Data structuring and enhancement

4 System Quirk

<http://www.computing.surrey.ac.uk/SystemQ/>

System Quirk (SQ) is a terminology management system. Terminology databases can be created, terms can be looked of in term bases and information related to terms in a term base can be modified. SQ is a term extraction tool that is at the same time useful to organise collections of texts on the computer. System Quirk is actually a collection of tools of which each offers a range of services: Virtual Corpus is a program that allows to organise texts, KonText helps analyse texts. Ferret analyses texts for compound terms. Browser/Refiner is a program to create and modify terminology databases. System Quirk is designed to support a broad range of activities in the Humanities from language research and teaching to translators.

System Quirk is written in Java and can be freely downloaded from

<http://www.computing.surrey.ac.uk/SystemQ/>

General keywords: Term, extraction, context

Methods taxonomy: Data structuring and enhancement

5 NESSTAR

<http://www.nesstar.com>

In 1998 the EU funded a research project called Networked Social Science Tools and Resources (NESSTAR) to make available huge quantities of statistical data that are otherwise not approachable, as not yet standardised. Data publishers make their statistical information available as objects, as specified by the NESSTAR object model of statistical data and metadata. Users can access this data with tools, they are used to from using the Web. The client will access the remote statistical data, and the users can perform searches.

The NESSTAR Explorer is Java based and allows users to access the system. Or they use the more lightweight WWW interface called NESSTAR Light Explorer.

NESSTAR Publisher is used to edit and publish the metadata. All these technology can be downloaded for free from <http://www.nesstar.com>

General keywords: Publish statistical data

Methods taxonomy: Communication and collaboration

6 SurveyMonkey

<http://www.surveymonkey.com>

SurveyMonkey is a survey and evaluation tool. The user can specify question types like multiple-choice answers and create up to 10 questions with 100 responses per survey in the free edition. The professional subscriptions allow an unlimited number of questions and up to 1000 responses per month. Surveys can be designed from scratch or an existing survey can be used as a basis for modification. Survey templates can be created. These are only some of the rich features of SurveyMonkey found on <http://www.surveymonkey.com>

General keywords: Survey evaluation tool

Methods taxonomy: Analysis

7 JMP

<http://www.jmp.com>

JMP is another desktop statistics package that comes with a fairly corporate license fee, but offers discounts for academic use: <http://www.jmp.com>

General keywords: Statistics

Methods taxonomy: Analysis

8 FlashMeeting

<http://cnm.open.ac.uk/projects/flashmeeting/>

FlashMeeting is a video-conferencing software application . All you need is a webcam, a microphone and a webpage for an instant meeting on any platform with different technologies.

FlashMeeting is not free and is running on a KMI server. As the applet is implemented in Macromedia Flash, it is very lightweight. FlashMeeting can be downloaded from <http://cnm.open.ac.uk/projects/flashmeeting/>

General keywords: Video-conferencing

Methods taxonomy: Communication and collaboration

9 Apollo

<http://apollo.open.ac.uk/download.html>

Apollo is a user-friendly knowledge modeling application focused on basic primitives, such as classes, instances, functions, relations etc. Apollo is not bound to any knowledge representation language and can be adapted to support different storage formats.

Apollo is written in the Java programming language and is available for a download from <http://apollo.open.ac.uk/download.html>.

General keywords: Knowledge modelling

Methods taxonomy: Data structuring and enhancement

10 Clockwork

<http://clockwork.open.ac.uk/>

Clockwork is a web-based knowledge management for collaborative engineering in order to support teams in sharing knowledge-enriched simulation models of dynamical systems. Clockwork supports reuse of simulation, modelling knowledge across the organisation and cautious knowledge sharing between engineering companies. The Clockwork approach will combine knowledge-rich dynamical simulation tools, formal documentation and informal design rationale to closely integrate working, learning, collaboration and negotiation, within and between organisations.

General keywords: Knowledge modelling
Methods taxonomy: Data structuring and enhancement

11 Virtual Participant

<http://kmi.open.ac.uk/technologies/classic.cfm?name=Virtual%20Participant>.

Virtual Participant is an agent-based technology to monitor electronic conferences. It helps find topics that have been previously discussed and informs the conference about previous contributions to discussions.

Access to Virtual participant can be requested here

<http://kmi.open.ac.uk/technologies/classic.cfm?name=Virtual%20Participant>.

General keywords: Electronic Conferences
Methods taxonomy: Communication and collaboration

12 Magpie

<http://kmi.open.ac.uk/projects/magpie/main.html>

Magpie supports web users in making sense of the content of webpages. Magpie is an annotation technology that allows users to associate meta-information with web-resources. Magpie acts as a complimentary knowledge source to immediately receive background knowledge about web topics. Magpie automatically associates a knowledge layer to a web resource. The Magpie tool aims to identify and filter out the concepts-of-interest from any webpage it is given. The current set of concepts can be influenced by a selection of a particular ontology of concepts and relations based on past browsing of the users

Magpie is fairly lightweight and provides at the same time sufficiently robust and flexible features for semantically enriched browsing. Magpie to be used within a browser can be downloaded for free from here:

General keywords: Web Annotation
Methods taxonomy: Data Capture

13 Cashew

<http://kmi.open.ac.uk/technologies/cashew/>

Cashew (Composition and semantic enhancement of Web Services) helps with semantics for a composition for web services. The reason compositionality is such an

important property of semantics is that this allows a semantic model to be built by composition alongside the definition of syntax, for instance in an interactive editor, as well as being the enabling property of semantics for modular analysis.

Cashew's web presence can be found here:

<http://kmi.open.ac.uk/technologies/cashew/>

General keywords: Web services

Methods taxonomy: Data publishing and dissemination

14 AquaLog

<http://kmi.open.ac.uk/technologies/aqualog/>

AquaLog is a question-answering system that takes queries expressed in natural language and an ontology as inputs and returns answers drawn from one or more semantic webs. AquaLog presents a solution in which different technologies are combined together, including natural language processing, ontology-based reasoning, machine learning and user modelling. The work on the AquaLog query answering system is based on the premise that the semantic web will benefit from the availability of natural language query interfaces, which allow users to query semantic markup viewed as a knowledge base. AquaLog is part of the AQUA framework for question answering on the semantic web and in particular addresses the upstream part of the AQUA process, the translation of natural language queries into logical ones and the interpretation of these natural language-derived logical queries with respect to a given ontology and available semantic markup.

AquaLog can be found here: <http://kmi.open.ac.uk/technologies/aqualog/>

General keywords: Question Answering

Methods taxonomy: Data structuring and enhancement

15 ONTO-H

<http://users.isoco.net/~rbenjamins/Projects.html>

Onto-H is a tool to help build an ontology for the Humanities to overcome the limitations of general search engines and keyword based searches when it comes to cultural heritage data. One can only search for specific words and their cooccurrence in documents. ONTO-H can be used to disclose cultural heritage information in a scalable way by supporting the annotation process by an “intelligent” editor in a collaborative environment.

For getting more information on Onto-H look here:

<http://users.isoco.net/~rbenjamins/Projects.html>

General keywords: Ontology Humanities
Methods taxonomy: Data structuring and enhancement

16 MiniGrid (used in eMinerals Project)

http://www.e-science.clrc.ac.uk/documents/staff/kerstin_kleese/263.pdf

The eMinerals project is one of the UK Natural Environment Research Council (NERC) e-Science testbed projects. The scientific aim is to use Grid technologies to push forward the capabilities of molecular-scale simulations for the study of environmental processes. In the eMinerals projects computational problems from large scale simulations in Earth Sciences are addressed. In addition to the fact that larger simulations generate larger data files, the problem arises that with higher throughput of calculations comes the need for intelligent file management within an individual study. The eMinerals minigrid has been developed as an integrated compute and data grid

The eMinerals minigrid is built around a heterogeneous set of computing resources, including 4 clusters of PCs, an IBM p-series parallel computer, a Condor pool containing a range of machines and access via Globus.

General keywords: Grid, Molecular Simulations
Methods taxonomy: Analysis

17 E-Viz

<http://www.eviz.org/>

The e-Viz framework tries to create a Grid based abstract visualization system. The system abstracts away from implementation technologies, and in doing so creates a system for Grid visualization, which is transparent and adaptive. The advantage for the user is that she does not have to adjust to new local visualization interfaces each time she changes the application. A generic interface to a range of visualization technologies is presented.

A prototype can soon be downloaded from <http://www.eviz.org/>

General keywords: Visualisation
Methods taxonomy:

18 QCD GRID

<http://qcdgrid.forge.nesc.ac.uk/>

The QCD Grid project provides tools built on the Globus Toolkit to enable data and computational Grids for physicists in the UKQCD collaboration. The purpose of the UKQCD Collaboration is to procure and jointly exploit computing facilities for lattice field theory calculations whose primary aim is to increase the predictive power of the standard model of elementary particle interactions through numerical simulation of Quantum Chromodynamics.

The QCD Grid is written in C and Java and runs on LINUX/UNIX operating systems. The latest stable production release can be found on <http://qcdgrid.forge.nesc.ac.uk/>.

General keywords: Grid

Methods taxonomy: Data Capture

19 BinX

<http://www.edikt.org/binx/index.htm>

BinX is the Binary XML Description Language used to describe the content, structure and physical layout of binary files like the block sizes. BinX is designed to enable transparent transfer of data between diverse platforms. The BinX library allows the reading and writing of BinX XML files and their associated binary data. It supports to read data from binary files, to select partial data from the dataset, to use XSLT to transform structure of binary data and to create binary data and the associated BinX descriptions.

The BinX library is currently written in C++. The latest version can be downloaded from <http://www.edikt.org/binx/index.htm>.

General keywords: XML, Binary Files Description

Methods taxonomy: Data structuring and enhancement

20 ELDAS

<http://www.edikt.org/eldas/>

Enterprise Level Data Access Services (Eldas) are Java based Web and Grid Data Access Services that allow multiple client connections to multiple databases. Services can be deployed and configured using a straight-forward graphical interface and different types of databases can be accessed from MySQL to XML enhanced DB's. Eldas is supported on Linux, Solaris and Windows and built in Java. Eldas can be downloaded from <http://www.edikt.org/eldas/>.

General keywords: Grid Services, Databases

Methods taxonomy:

21 AstroGrid Workbench

<http://software.astrogrid.org/userdocs/workbench.html>

The AstroGrid is a UK based project aimed at building a data grid for astronomy, which will form the UK contribution to a global Virtual Observatory. The AstroGrid Workbench is a graphical desktop application that interacts with AstroGrid services. It provides a user interface to launch parameterised and customise workflows for the AstroGrid as well as remote applications. Running applications and workflows can be monitored. Furthermore a simple programmer's interface for working with AstroGrid services is provided. This interface can be accessed from scripts and other programs. The workbench is written in Java and platform independent. It can be launched from the web at <http://software.astrogrid.org/userdocs/workbench.html>. A high-end internet connection is strongly recommended.

General keywords: AstroGrid, Workbench

Methods taxonomy: Data Capture

22 DIGS Tools

<https://sourceforge.net/projects/digs/>

DIGS stands for Dependability Infrastructure for Grid Services. Tools and techniques are demonstrated to help write dependable and fault tolerant Grid services. DIGS works with Java only at the moment. The tools can be in the future downloaded.

General keywords: Grid Services

Methods taxonomy:

23 OGSA-DAI

<http://www.ogsadai.org.uk/>

OGSA-DAI is a middleware component that allows data resources such as relational and XML databases to be queried via web services. An OGSA-DAI web service enables data to be queried, updated, transformed and delivered. Data integration services can be delivered to remote clients with OGSA-DAI web services. OGSA-

DAI web services can also be deployed in a Grid environment and this allows users to Grid-enable their data resources.

General keywords: Grid Middleware

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Practice –led Research, Data publishing and dissemination, Communication and collaboration.

24 Condor and Condor-G

<http://www.cs.wisc.edu/condor/>

Condor is an open source project developed at the University of Wisconsin-Madison and was created mainly for running CPU intensive jobs that do not need user interaction, like molecular simulations. Jobs are specified in a Condor configuration file and distributed to the various nodes of a Condor grid.

Condor G is Condor based tool designed to work with the Globus toolkit for managing Grid jobs.

General keywords: Workflow Management System

Methods taxonomy: Analysis, Practice –led Research, Data publishing and dissemination, Communication and collaboration.

25 Globus Toolkit

<http://www.globus.org/>

The Globus Toolkit is a fundamental technology component of the Grid, and it allows people to share computing power, databases, and other tools securely online across corporate, institutional, and geographic boundaries without sacrificing local autonomy. The Globus Toolkit consist of software tools and libraries for resource monitoring, discovery, and management, plus security and file management. It serves as the middleware on which both commercial and academic Grid products are built upon.

General keywords: Grid Services Development Toolkit

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Practice –led Research, Data publishing and dissemination, Communication and collaboration.

26 NCSA

<http://www.ncsa.uiuc.edu/Projects/arts.html>

Besides contributing to science and technology projects that have traditionally benefited from cyberinfrastructure, NCSA also collaborates with artists, humanists, and social scientists. These collaborations are mutually beneficial, enabling researchers in these disciplines to advance their fields by leveraging technology and bringing novel perspectives to bear on IT issues. Projects in this area include:

- The Center for Computing in Humanities, Arts, and Social Science (CHASS): CHASS is collaboration between NCSA and the University of Illinois at Urbana-Champaign, and it concentrates on technology transfer between the science and technology domain with the humanities, arts, and social science domain.
- M2K: Researchers from NCSA and the Graduate School of Library and Information Science at the University of Illinois at Urbana-Champaign have developed a music-specific extension to NCSA's D2K (Data to Knowledge) machine learning and data mining environment. The extension, dubbed M2K, comprises approximately 200 music-specific feature extraction and music mining modules.

General keywords: Grid Computing

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Practice –led Research, Data publishing and dissemination, Communication and collaboration, Strategy and project management.

27 Storage Resource Broker

http://www.e-science.clrc.ac.uk/web/projects/storage_resource_broker

The Storage Resource Broker (SRB), a distributed data management product developed by the San Diego Supercomputer Center (SDSC), is now in use throughout the world on a wide range of research projects. SRB is very reliable and versatile for the management of distributed data and has been well adapted for the use in the Grid

environment. It is used by a number of UK e-Science projects to manage their data on the grid and these include:

- Environment from the Molecular Level
- e-Science Technologies for the Simulation of Complex Materials
- Integrative Biology
- National Grid Service

General keywords: Distributed Data Management Middleware

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Practice –led Research, Data publishing and dissemination, Communication and collaboration.

28 GridSphere

<http://www.gridsphere.org/gridsphere/gridsphere?cid=2>

The main objectives of the GridSphere project are to develop a standards based portlet framework for building web portals, and a set of portlet web applications that work seamlessly with the GridSphere framework to provide a complete Grid portal development solution. Portals in essence, provide a secure and a single point of interaction with diverse information, business processes, and people, and are personalized to a user's needs and preferences. Portlets in turn, are visible active components users see within their portal pages. This project is part of a larger collaboration, consisting of several institutions from around the world. GridSphere consists of a Grid portlet web application, which enables end users to make use of Grid technologies. The GridPortlets web application will enable users to upload their Grid credentials and use them to gain access to a variety of Grid services.

General keywords: Grid Portlet Development Toolkit

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Data publishing and dissemination, Communication and collaboration.

29 JiniGrid

http://www.epcc.ed.ac.uk/computing/research_activities/grid/jinigrid/

The JiniGrid project was aimed at investigating the use of the Jini, a Java technology for federating resources, as the basis for a small grid. Jini is a Java based technology

from Sun that supports a kind of plug-and-play for network resources. The resources in this instance can be anything – printers, display devices, data stores and even computing facilities. Jini provides a mechanism for resources to register their services in a federated database and make these accessible to potential users.

JiniGrid uses Jini to provide a Grid like middleware layer. Remote computing servers of various kinds are represented by a uniform Jini service interface. Clients can look up available computing servers and choose between them according to their preference.

General keywords: Grid Middleware

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Data publishing and dissemination, Communication and collaboration.

30 GROWL

<http://tyne.dl.ac.uk/GROWL/>

The GROWL project provides a framework in which Grid services can developed and evaluated in an environment familiar to many scientific programmers. GROWL is a purely client-side Grid programming environment, and as such it does not help create Web or Grid services. The software and functionality is kept to a minimum for ease of installation and use. The GROWL project can provide support to social scientists by promoting the re-use of existing software, which can easily be incorporated into other analyses. It also simplifies programming to the level where at which applications may be constructed simply by plugging components together (e.g. using a graphical build tool), or by using an appropriate scripting language.

General keywords: Client Side Grid Programming Environment

Methods taxonomy: Analysis, Data publishing and dissemination, Communication and collaboration.

31 GRENADE

<http://www.sve.man.ac.uk/Research/AtoZ/GRENADE>

The Grid-Enabled Desktop Environments (GRENADE) project is exploring the impact of Grid computing on the desktop metaphor. By tight integration of Grid capabilities within the user's desktop, GRENADE hopes to improve the usability and visibility of the Grid. It helps the less technical of users to interact and work with the

Globus toolkit. The Grid-enabled desktop approach also helps to integrate personal information resources and processing capabilities on the user's machine with the remote resources of the Grid.

General keywords: Grid Desktop Computing

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Data publishing and dissemination, Communication and collaboration.

32 VIPAR

<http://mrccs.man.ac.uk/research/vipar/>

VIPAR provides access to large visualization libraries via a highly developed GUI, which is easy for new or non-technical personnel to operate. The user drags and drops modules from the systems libraries and connects them to produce a network which in turn produces an associated application and visualization.

General keywords: Data Visualization Toolkit

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Data publishing and dissemination, Communication and collaboration.

33 IBM Research Visualisation Data Explorer

<http://www.research.ibm.com/dx/>

Open Visualization Data Explorer is a full visualization environment that gives users the ability to apply advanced visualization and analysis techniques to their data. These techniques can be applied to help users gain new insights into data from applications in a wide variety of fields including science, engineering, medicine and business. Data Explorer provides a full set of tools for manipulating, transforming, processing, realizing, rendering and animating data and allow for visualization and analysis methods based on points, lines, areas, volumes, images or geometric primitives in any combination. Data Explorer is discipline-independent and easily adapts to new applications and data.

General keywords: Data Visualization Toolkit

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Data publishing and dissemination, Communication and collaboration.

34 Question Tool

<http://www.sve.man.ac.uk/Research/AtoZ/QuestionTool/>

Question Tool is a tool designed to facilitate (possibly distributed) events such as seminars, lectures, etc, where there is a need to moderate questions. It allows participants to ask questions via a web browser. A moderator, or chair, or (in Question Tool jargon) a 'manager', can then feed the questions to the presenter. It is very useful in a Grid enabled scenario where the audience might not be in the same room or even in the same country. It allows the audience to pose questions at real time from any geographical domain.

General keywords: Question Moderating Toolkit

Methods taxonomy: Analysis, Data publishing and dissemination, Communication and collaboration.

35 AVS/EXPRESS Visualisation Toolkit

http://www.avs.com/software/soft_t/avsxps.html

AVS/Express is a comprehensive and versatile data visualization tool for both non-programmers and experienced developers. Rapid data analysis and rich visualization techniques combined with an intuitive, graphical application development environment helps provide powerful visualization methods for challenging problems in a vast range of fields, including science, business, engineering, medicine, telecommunications and environmental research.

General keywords: Data Visualization Toolkit

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Data publishing and dissemination, Communication and collaboration.

36 Taverna

<http://taverna.sourceforge.net/>

The Taverna project aims to provide language and software tools to facilitate easy use of workflow and distributed compute technology within the eScience community. A workflow in essence merely describes how data flows through an experiment, from input (say DNA sequence) through analysis (gene prediction), and perhaps several other tools (DNA sequence to protein sequence, then protein sequence to predicted function) and finally to the desired output.

General keywords: Grid Workflow Toolkit

Keywords: Data capture, Data structuring and enhancement, Analysis, Practice-led Research, Data publishing and dissemination, Communication and collaboration.

37 Access Grid Toolkit

<http://www.accessgrid.org>.

The Access Grid promises tools to support structured meetings of researchers in group-to-group collaborations. The advantages of direct communication in face-to-face meetings are combined with the ability to share instantly digital items among the groups. The applications that the Access Grid Toolkit are organised around so-called virtual venues. A venue is a virtual space in which meetings can take place. A user can connect to the venue by a 'venue client' which is available for the most common platforms. With the client other users can be seen or data streams can be sent to the central server. In a typical scenario, users will gather together in a venue, select a data set, choose an application and a server to run this data on and in the end evaluate the results collaboratively.

For more information including documentation and downloads, look at <http://www.accessgrid.org>.

General keywords: Group-To-Group-Communication, Grid Methods taxonomy: Communication and collaboration

38 SAKAI

<http://www.sakaiproject.org/>.

Sakai is a collaborative learning environment. It offers various tools and features to help teachers, researchers and students facilitate collaboration. Most common is the creation of course web sites, but research projects can also use SAKAI for collaboration. SAKAI is used by several Virtual Research Environments in the UK like the 'Sakai VRE Demonstrator' <http://tyne.dl.ac.uk/Sakai/> or another example from history is based at Hull: <http://www.uea.ac.uk/his/research/projects/vre/>.

The Sakai Project began in January 2004 as a collaboration between the University of Michigan, Indiana University, MIT, and Stanford University, along with the Open Knowledge Initiative and the uPortal consortium, and a grant from the Mellon Foundation. Development is continuing under the Sakai Educational Partners Program, a community source model for developing open source projects. More details about the Sakai Project can be found at <http://www.sakaiproject.org/>.

General keywords: Virtual Learning Environment, Content Management System

Methods taxonomy: Communication and collaboration

39 LionShare

<http://lionshare.its.psu.edu/main/>

LionShare is a peer-to-peer (P2P) networking technology that combines the ability to exchange files with data extraction and analysis capabilities. LionShare offers a secure, authenticated environment and servers on which files can be stored for common use. Data can be described using standard metadata schemes to ensure interoperability.

LionShare was developed out of Penn State's Visual Image User Study (VIUS) and is open source. All further information can be found at <http://lionshare.its.psu.edu/main/>.

General keywords: Data Sharing, Data Analysis

Methods taxonomy: Data structuring and enhancement

40 Armadillo

<http://www.hrionline.ac.uk/armadillo/index.html>

Armadillo basic premise is to retrieve information based on a pre-determined ontology, and populate it with instances and as such, aims to provide machine-readable content for the Semantic Web. The initial ontology is centred upon the Historical Data Mining project and focuses upon dates, names and places based around 18th century London. Armadillo profiles and combines data with an evidence based approach. It uses the statistical likelihood of deviations in spelling, typographic formatting and contextual information to deduce the most likely outcome from references to places, dates, or names. Armadillo's ontology based approach and ability to discard redundant data overcomes traditional problems associated with conducting research across distributed databases.

General keywords: Semantic Web based information retrieval tool

Methods taxonomy: Data capture, Data structuring and enhancement, Analysis, Practice -led Research, Data publishing and dissemination, Communication and collaboration.

41 Compendium

<http://www.memetic-vre.net/software/Compendium/>

The Compendium tool is part of the Memetic Project. It can be used to record the flow of meetings and capture key ideas through an approach called dialogue mapping. A Dialogue Map visualizes discussions as a conceptual network that grows during a meeting, and across meetings. Compendium had three particularly interesting features. Firstly, it features a visual system of noting the nodes and links which are used to map key issues, possible responses and relevant arguments. Secondly, The user interface is optimised for real time use in meetings, and meeting maps can be thought of as real time semantic annotations being constantly updated as the meeting progresses. Thirdly, because nodes can be assigned with user-defined semantic tags, Compendium offers a flexible medium for managing connections between nodes across different contexts. Nodes can link to any application document or URL which can be dragged and dropped into the map.

General keywords: memetic, meeting mapping, semantic annotation

Methods taxonomy: Communication and collaboration.

42 Grace

<http://www.grace-ist.org/>

GRACE is an information retrieval tool designed to act as a unique knowledge platform that offers a wide range of functionalities by maximizing the use of the existing resources. Rather than forcing investments in new infrastructure, GRACE enables storage and knowledge resources, according to specific information needs.

At the heart of GRACE's approach lays the concept of the Knowledge Domain. This is a complete virtualization of multiple content sources through an ontology that reflects the conceptualization of the reality that is specific to a particular group of users. These three crucial aspects - information resources, ontologies, and user communities - are fused in GRACE into a single conceptual frame. This is the Knowledge Domain.

This approach allows for what they call a 'highly-innovative' approach to the information retrieval from multiple content sources in parallel. Documents are subjected to post-retrieval processing during which they are normalized to a canonical format (including the common document format, metadata schema, etc.), and then integrated into a single presentational structure. This could be through re-ranking them uniformly, categorizing them into a pre-existing classification schema, or by creating an ad hoc set of cluster labels extracted from them.

In contrast to the existing systems that perform post-retrieval integration of the search results, GRACE pre-indexes the documents from the multiple content sources by employing ontology engineering. This is accomplished in three steps:

1. The concepts from the underlying ontology are used as the queries that are systematically submitted to the multiple content sources in order to retrieve the relevant documents. This submission is repeated periodically, in order to ensure the frequent update of the GRACE index.
2. The retrieved documents are analyzed, and according to their lexical content they are assigned to various concepts in the underlying ontology.

The ontology is then used for querying and browsing as an index, which points to the relevant documents, regardless from the content source from which they originated.

Because utilising ontologies in this manner is computationally intensive, Grids, and in particular Data Grids, become attractive for the information retrieval. GRACE is specifically designed for the information retrieval from distributed sources. Information retrieval in this context refers to retrieval of unstructured, textual information, usually stored in various formats, and which is distributed.

General keywords: information retrieval, data grid, ontologies

Methods taxonomy: Analysis, Communication and Collaboration