Resource Discovery Tools Guide and Evaluation

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Introduction

This guide is written primarily for the benefit of those assisting with an evaluation of resource discovery (RD) tools but we hope it will be of interest to the wider community of e-learning practitioners, because such tools are a powerful means of accessing a wide range of information relevant to learning and they can be easily embedded as a simple link in most VLEs or learning portals.

Casual use of the web (e.g. using Google) is commonplace in finding information but more resources from libraries and subject gateways are becoming accessible this way too. Targeted database searches * using RD tools will produce better quality of results but these tools offer different features which we need to explore *in order to further develop the tools and services that will be useful to e-learning communities*.

Our aim here is to explain some ideas associated with resource discovery and show that using such tools and services can be trivial. That RD tools, however they might be defined, are important in the information age and the knowledge economy is hardly in question. Considerable investments, public and private, have been made in developing them. More than 100 universities in the UK are currently investing in quite complex *commercial RD systems* (SFX and MetaLib from Ex Libris) costing £30K plus, on top of existing e-library services. Such costs and on-going licensing are not extravagant when one considers the ever expanding knowledge base and that libraries might spend hundreds of thousands of pounds on subscriptions to access electronic or material resources. RD tools allow users to find out what resources are available and so the expenditure can be (easily) justified. Such commercial RD systems would however be beyond the means of most FE and community colleges and schools and it is worthwhile in any case *considering some low cost or freely available alternatives*. While *using* RD tools may be straightforward, new technologies and standards underlying their development are emerging. We allude only to these briefly, but it is worth mentioning here that web services (machine-to-machine communication and the semantic web, anticipated by Berners-Lee and others as the next generation internet) are becoming established in this area and a range of other educationally relevant services will be available in the near term.

What is Resource Discovery?

We use the term Resource Discovery to mean the process of identifying and accessing information relevant to learning, though identification (discovery) and access are best considered as separate processes. It is a basic requirement in all tiers of education, whether or not it involves electronic means (using computers, and more particularly the internet), though that is our focus. Students doing project work, teachers preparing lesson plans and technologists advising academic staff all depend on the existing knowledge base in developing their learning and teaching. We would contend that this is true even where teaching and learning is tightly associated with a particular (already well-resourced) curriculum or is more vocational in nature. There is no single resource or source of information which would meet the diverse educational needs of all learners, and one best develops an understanding of any particular subject when it is considered from different viewpoints.

Different kinds of RD tool

Though the distinction between different kinds of tools might be slightly arbitrary, this brief is concerned with RD tools with a strong **educational focus** which (loosely speaking) occupy the space between general search engines commonly used in accessing information available on the web (e.g. Google) and specialist library management systems (e.g. Dynix Horizon). It is exactly because the tools under discussion are designed for communities of learners that make them more useful in excluding certain content returned by search engines which is likely to be irrelevant. Using existing and emerging web protocols and standards they can search across a (world) wide range of information sources (targets), including local library management systems, so can provide for more comprehensive searching.

* The term 'deep web' is used to distinguish between data accessible from databases as distinct from information which can be retrieved from crawling the web such as Google does.

Other than allowing a means of searching some target source(s), different educational RD tools will provide different features. There is often a balance to be struck between the complexity and power of the software versus ease of use.

It may be *possible* to conduct a comprehensive search across a wide range of targets but this may take more time than is convenient for the user; the returned results may be difficult to capture (save) or the resources identified may not be accessed without further authentication, perhaps requiring that a subscription or fee is been paid.

Evaluating RD tools

We are concerned here with evaluating the **D+** (also known as Discovery plus) RD tool, but did not see that it made sense to assess this ignoring other RD tools and services that would be available as alternatives. We look at four different RD tools using a series of screenshots to show what might be the relative merits of each. These are: D+ and DEVIL (Dynamically Enhancing VLEs with Information from the Library) from Edinburgh University, the GetRef service from EDINA, and Google Scholar.

In terms of the evaluation itself, we are trying to determine **firstly whether the e-learning community (would) find such tools and services useful in their own learning and teaching**. More detailed comment is sought on particular features users like or dislike and whether they would find a use for the tools embedded in their VLE. We are also interested in feedback on *Advanced Topics* e.g. re-use of saved search results as reading lists and tighter coupling with VLEs (see *Advanced Topics* below) but our main interest is in potential users of the tools and *actual use and practice* in the e-learning community. The evaluation form attached covers these points.

Issues relating to RD tools and services

We have said that RD tools have certain different features so it is worth considering issues relating to these in general terms before looking more closely at the tools under review.

- Variety of resources available

A wide variety of resources can be discovered depending on the source(s) and this heterogeneity can give rise to some confusion (which commercial and other RD services address). At Staffordshire University for example we currently have three separate web links whereby to search for resources: the on-line catalogue is used to search for books, another service is available for e-journals (SFX) and a third for other e-resources (typically abstract and index databases in a wide range of subjects, returning citations from journals). Perhaps it is useful simply to make the distinction between **e-resources** (full text electronic resources or abstracts, content from e-journals, web articles and learning objects) which may be immediately available on-line and **references** to items which are not (catalogue holdings, material content such as books, CDs etc.. citations of journal articles). This raises issues of discovery and access, which we will return to. Considering the variety of resources which can be discovered, there may also be issues associated with saving resources different in type but this can (usually) be managed easily enough by the user.

- Ease of Use

Most RD tools offer a simple interface requiring the user to enter little more than some search term, though an advanced search facility may also be available. The advanced search facility can be arbitrarily complex depending how the query is formulated and the underlying technologies used in conducting the search but another important consideration relates to **what is being searched**. Some RD tools can be configured to search particular sources which might be especially relevant to a particular college or institution and a particular target database is selected for each individual search. It may be that RD tools of this type satisfy the requirements of most users. Other RD tools might search a range of targets simultaneously in what is termed a *federated* search. The benefit of conducting a thorough search across a range of targets would be a comprehensive set of results but the search would be slower, and the interface is bound to be more complicated in terms of viewing and saving the returned results. It can be confusing that targets may be described only by acronyms – including common subject gateways SOSIG (social science), PSIgate (physics), BIOME (biology and medicine), HUMBUL (humanities) - assuming some familiarity on the part of the user.

- Quality of results

We have said that searches using RD tools will produce better quality of results than using some of the common web search engines, because they are more focused on educational content. Having said that, if the source has relatively few resources there might be nil results returned and if one uses a simple interface depending on a single search term, there will often be results returned that are not relevant to a user's particular requirements (e.g. searching for an author with a common surname). There are ways to improve the relevance of returned results (appropriate selection of target databases and advanced searching), but beyond this, the user would need to know about the different ways in which resources are described. Users other than librarians would likely not know about these structured descriptions, termed metadata (see *Advanced Topics*).

- How Results are saved

RD tools should provide a facility for saving the results of a search. It may be possible to select individual references or resources available as web links which are of particular interest from the returned results list. These results might be saved in various formats. They might be saved and posted to a user's email address or saved to the local hard drive as a Word or .pdf document, or Excel spreadsheet. While this is all well and good, it may be possible (additionally) to save such data in a format for storage and re-use in the form of XML documents (see *Advanced Topics).*

- Discovery, Resolution and Access

It is one thing to be able to discover or identify resources but it might be quite another to be able to access those resources. An RD tool may return a list of results specifying that certain books or journal articles are located in the British Library for example. This information is useful in itself – it is good to have some idea about the existing knowledge on any particular topic. One might request an interlibrary loan via local library services but that could be costly and would be subject to delay in delivery. It would be so much more convenient if that content was available over the web, but if it was, it might further depend on being a subscribed user, usually via an institutional subscription. One of the benefits of high-end RD services is that, when configured to any particular institution's requirements, the user can be informed whether the appropriate (local) copy of the content is available. Hence the reference is said to be 'resolved'; of all the references returned relating to a particular resource, one is identified as accessible via an institution's subscription database.

The other sense in which discovered resources might (loosely) be said to be resolved is when they are immediately available across the web, as may be the case in using Google Scholar *. As with other RD tools however, Scholar might identify resources which depend on subscription, so while the resource might be accessible it may not be available for immediate access. Other RD tools described here can return 'resolved' references by providing additional services in adapting the service to particular requirements (Google Scholar, GetRef, ZETOC) but their focus might be more on discovery than resolution.

- Implementation of RD tools and services

It is as well to make the point here (at least for those concerned with technical support) that the way resource discovery is achieved is largely hidden from users and (so) we have referred loosely to 'tools' or to 'tools and services', but these are not the same thing. A tool (or toolkit) may be available for installing and **local implementation** (providing a local service) and this will require some technical expertise and resources (a computer to run the server software). The main advantages of a local implementation are the facility to customize the software to the particular requirements of an institution or community of practice, and, more generally, that the control of the service is managed locally (e.g. options in running the software: when, where, and how to run it). On the other hand, we have said RD can be easily embedded as a simple link in most VLEs or learning portals, but this may depend on a **service** provided by some third party (if the server software is managed elsewhere): there isn't necessarily any guarantee that the service would be reliable or maintained in the long term. One advantage of using a service, of course, is that the responsibilities and costs relating to management of the service rest with a third party.

* Note the distinction between Google and Google Scholar. The latter is especially for academic or 'scholarly' resources: it will return results of better quality than the former, which searches the whole web.

With these points in mind, we are almost ready to explore some RD tools in more detail. There are further issues to consider, most notably how RD tools might be integrated with VLEs but these relate rather more to the future development of RD tools and *Advanced Topics*.
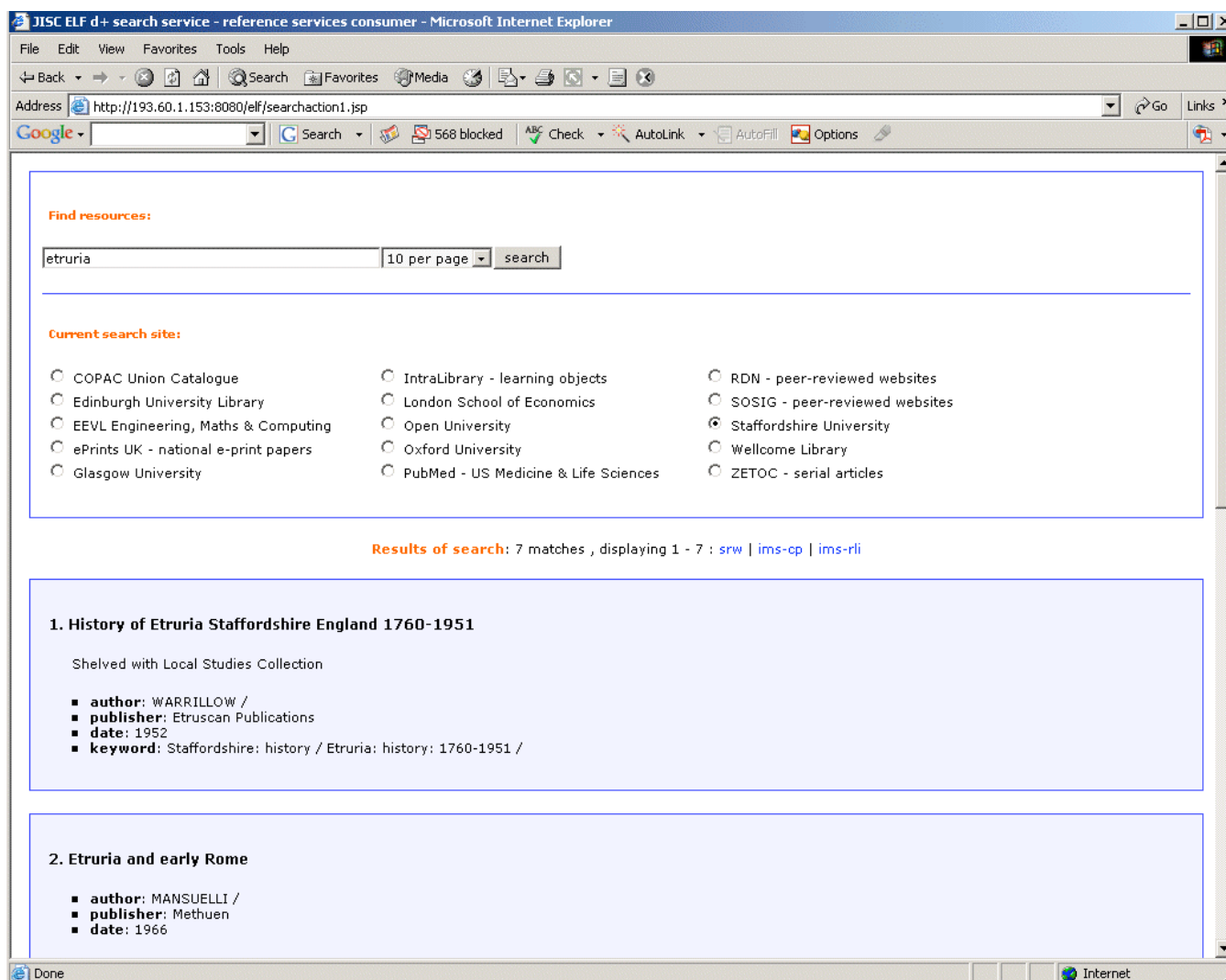
Evaluation of RD Tools

The first task is to determine whether such tools and services are of benefit in their own right, and what are considered essential or desirable features. **Our focus is will be on the D+ and DEVIL tools**, comparing these with the other tools to underline significant features and differences.

D plus

Discovery+: Brokerage for Deep and Distributed e-Learning Resource Discovery, see
http://devil.lib.ed.ac.uk:8080/dplus/

The toolkit is easy to install (Windows) and has a simple interface which allows discovery of quality resources from a range of targets including peer-reviewed subject-specialist gateways, learning object and e-print repositories, individual library and union catalogue databases e.g. COPAC is the merged online (combined open public access) catalogue of major UK and Irish university libraries, plus the British Library and the National Library of Scotland. It can be configured to use a much **wider range of targets**, as listed at UKOLN (see the project website for further details). As the toolkit is open-source software, costs are minimal and features can more easily tailored to suit the needs of individual institutions.

JISC ELF d+ search service - reference services consumer - Microsoft Internet Explorer

File   Edit   View   Favorites   Tools   Help

Back → ⊗ ⊡ ⌂ | Search Favorites Media | ⊡▾ ⊒ ⊡ ▾ ⊡ ⊗

Address http://193.60.1.153:8080/elf/searchaction1.jsp   Go   Links »

Google ▾ | ▾ | G Search ▾ | 568 blocked | ABC Check ▾ | AutoLink ▾ | AutoFill | Options ▾

Find resources:

etruria   [10 per page ▾] [search]

Current search site:

○ COPAC Union Catalogue   ○ IntraLibrary - learning objects   ○ RDN - peer-reviewed websites
○ Edinburgh University Library   ○ London School of Economics   ○ SOSIG - peer-reviewed websites
○ EEVL Engineering, Maths & Computing ○ Open University   ● Staffordshire University
○ ePrints UK - national e-print papers ○ Oxford University   ○ Wellcome Library
○ Glasgow University   ○ PubMed - US Medicine & Life Sciences   ○ ZETOC - serial articles

Results of search: 7 matches , displaying 1 - 7 : srw | ims-cp | ims-rli

1. History of Etruria Staffordshire England 1760-1951

Shelved with Local Studies Collection

- **author**: WARRILLOW /
- **publisher**: Etruscan Publications
- **date**: 1952
- **keyword**: Staffordshire: history / Etruria: history: 1760-1951 /

2. Etruria and early Rome

- **author**: MANSUELLI /
- **publisher**: Methuen
- **date**: 1966

Done   Internet

Figure 1. Local implementation of the D plus toolkit at Staffs. University: *Searching the Library Catalogue*

Figure 1 shows the interface to the D+ toolkit and some of the results returned from the search using the (local place) name 'Etruria' as the search term and selecting the Staffordshire University Library Catalogue as the target. This demonstrator can be accessed from the project website: the user simply enters a search term in the text box (under 'Find Resources'), selects a target database or subject gateway by clicking one of the radio buttons, and clicks on the search button.

The results returned for the selected target here gives basic quite basic information: title of the resource (book, here), the author, the date of publication, and keywords but a richer description might have been returned. As shown in the examples that follow other targets would return web links to abstracts or full text articles. The search results can be presented using customised style sheets, saved to the user's local hard drive in different XML formats (srw, ims-cp, or ims-rli are different metadata formats) or transformed to HTML or other formats.

We believe the toolkit is useful as it stands (we have the tool configured to search Staffordshire University's Library Catalogue) *with the caveat that there are features which could be improved or which may still be in development*. Iimprovements to the interface could include more advanced searching (multiple search terms to return a more relevant result set) and modifications to group web targets separate to bibliographic targets (e-resources v references). Selection and saving of results in different formats is another area for further development (see DEVIL below).

Other significant features of D+ relate to technical details of implementation. While these may be of no immediate interest to most users, the search protocols used allow for the wider range of targets and the fact that it is 'lightweight' and open source allows for easier customization and closer integration with VLEs e.g. with the addition of new features relating to saving and re-use of results. In this context also mapping of metadata (description of resources) between different schema (standards used in informatics) is useful.

The link to the D+ project website at the head of this section provides a more detailed description: the toolkit can be downloaded from here, with instructions on how to install and configure the software.
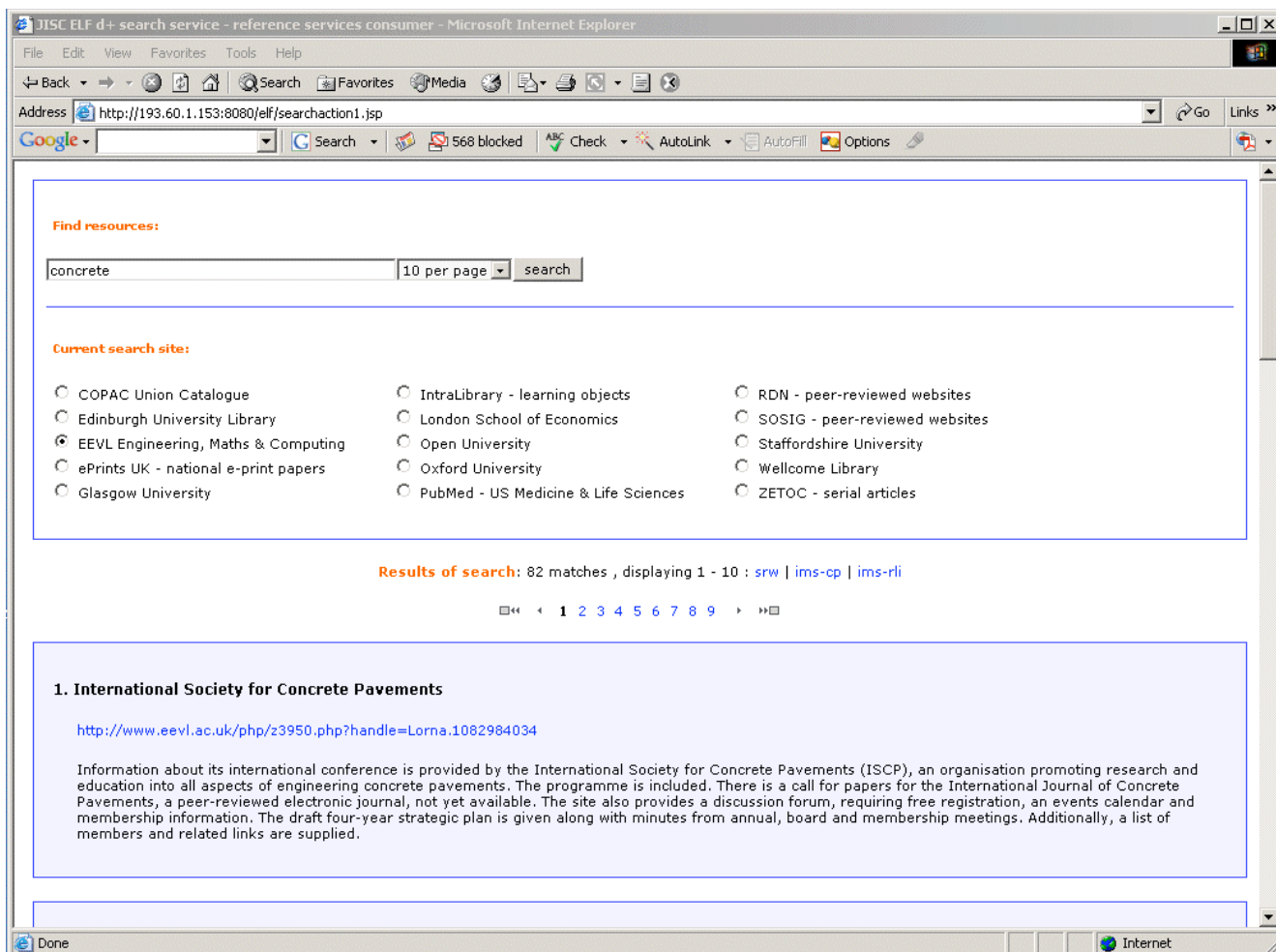
Figure 2. Results returned using EEVL, the Engineering Maths and Computing subject gateway at Edinburgh University: Web links returned in blue may provide access to full text articles. There is a navigation issue here: on viewing the link, open a new browser window and use the back button to return to the D+ search interface.
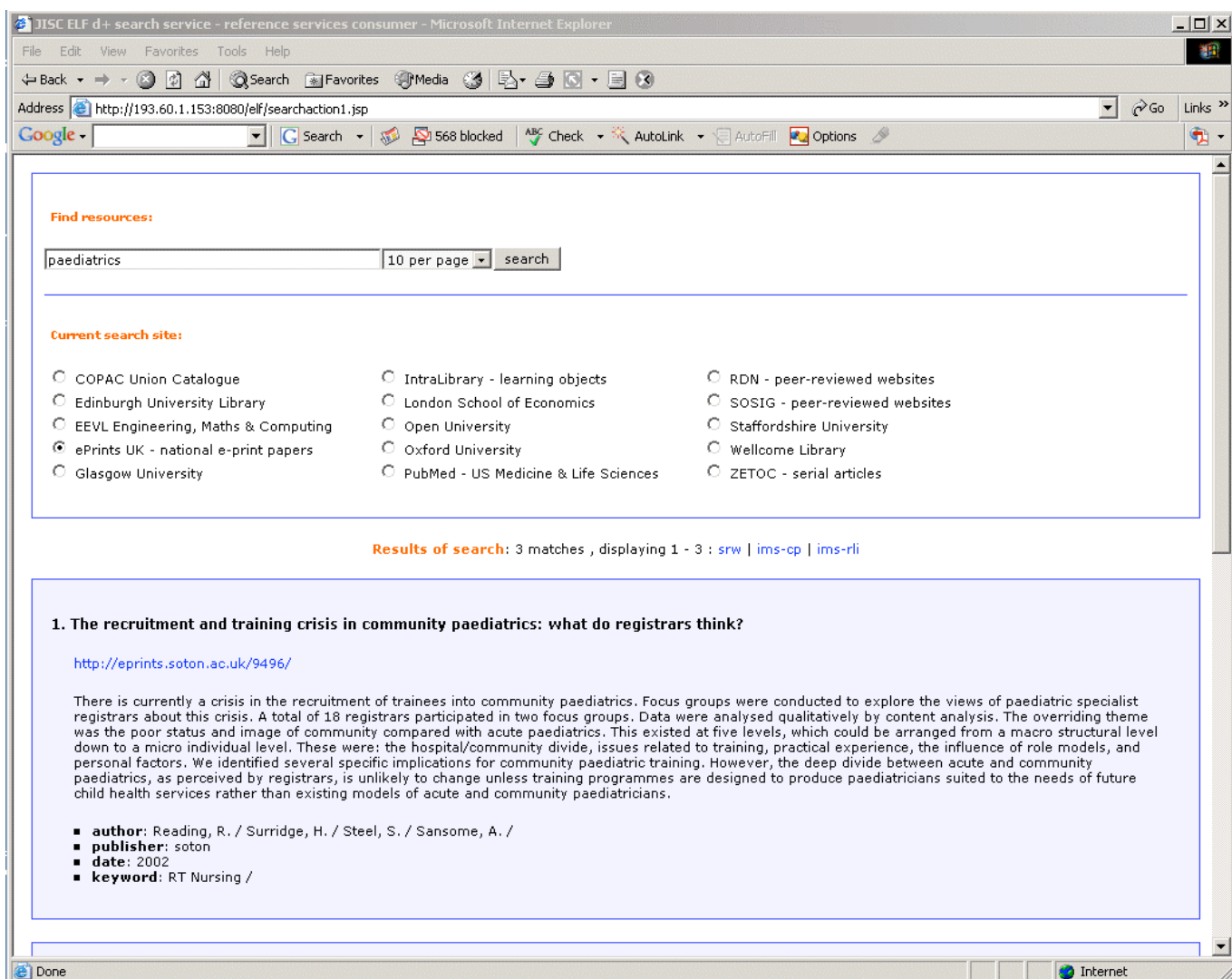
Figure 3. Results returned using the ePrints service from Southampton University: ePrints is dedicated to the freeing refereed research literature online through author or institution self-archiving. Web links returned in blue may provide access to full text articles.
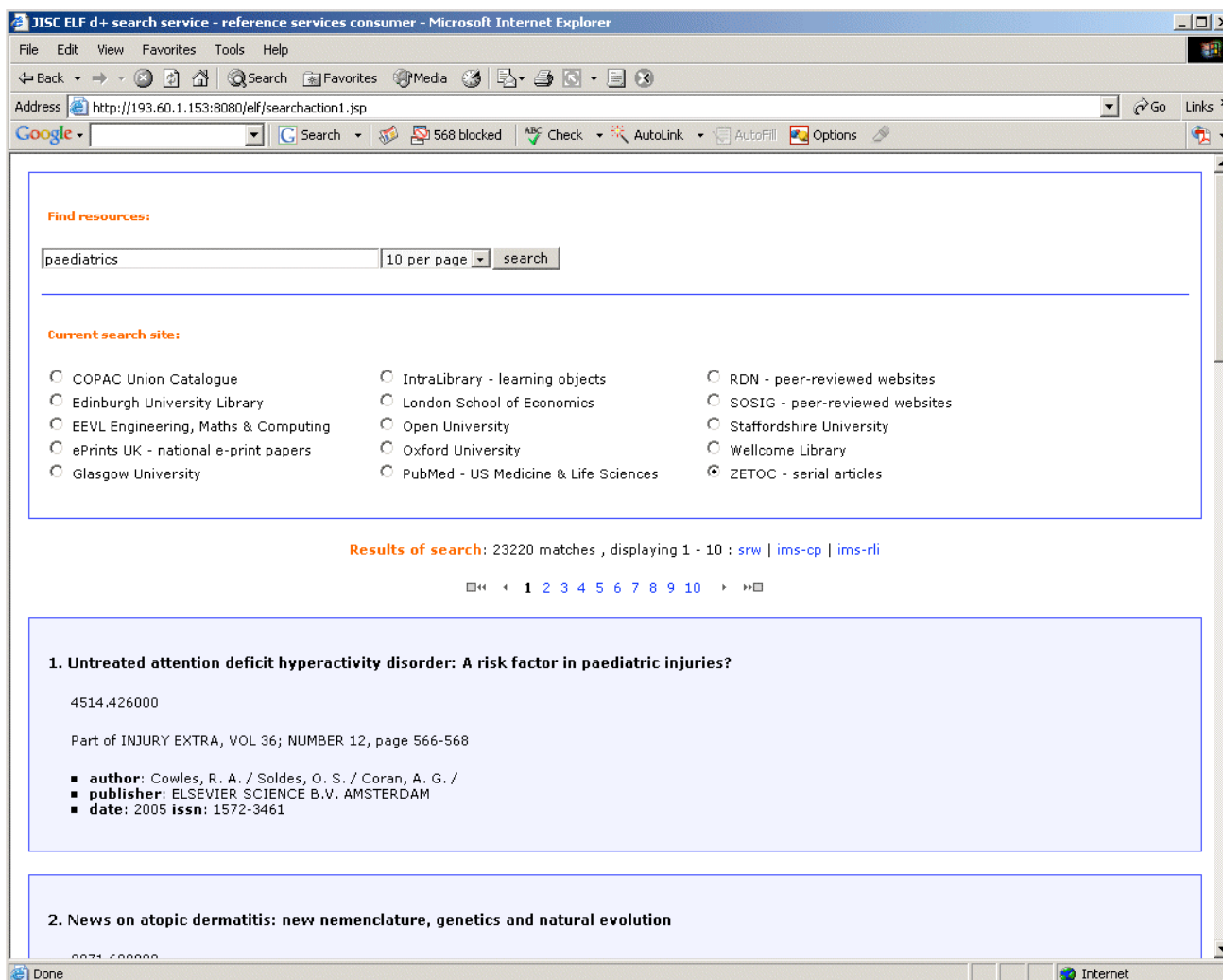
Figure 3. Results returned using the ZETOC service from MIMAS: ZETOC is the Electronic Table of Contents from the British Library (uses the z39.50 search protocol). MIMAS is a JISC-funded national datacenter at the University of Manchester which also offers a link resolution service which may enable access to full text articles. Results could be rendered with a link to other services available at MIMAS.
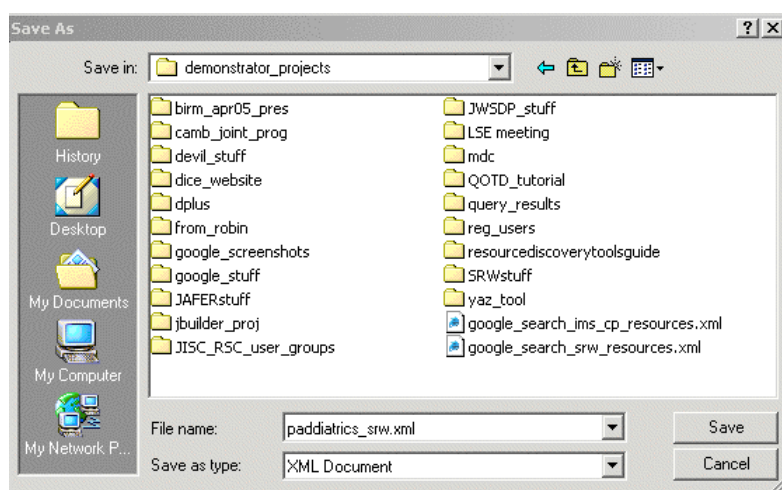
Figure 4. Results can be saved to the local drive by clicking on the srw (ims-cp or ims-rli) links next to the 'Results of search' summary: A file dialogue box appears. Save to a folder of your choice renaming the default file name to something appropriate to the search.

DEVIL

Dynamically Enhancing VLEs with Information from the Library, see the link at the project web site.

Another RD tool (and service) being developed at Edinburgh, there are similarities with D+ both in the front and back-end design of the tool. There is a cleaner query interface, multiple search terms can be entered using the advanced search facility (to return more relevant results), there is on-line help available, and individual search results can be selected to be saved in a variety of commonly-used formats. Compared with D+, there are improvements to the search interface but only a limited range of targets are available to search from the drop down list. The service could be configured to search a much wider range than is shown here but DEVIL currently uses a more limited protocol. A journal articles database at the British Library is available to search but requires ATHENS login. Figures 5 – 12 and the legends show how to use the service.
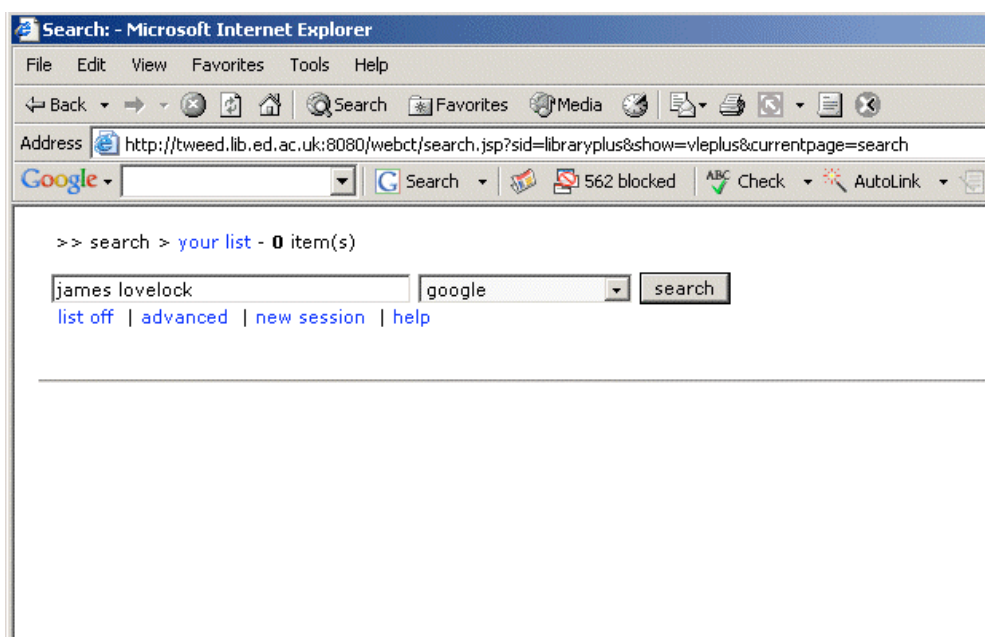
Figure 5. DEVIL resource discovery at Edinburgh University (simple search): The user enters a search term in the text box, selects a target from the drop-down list box and clicks on the search button. The selection here queries the Google search engine.
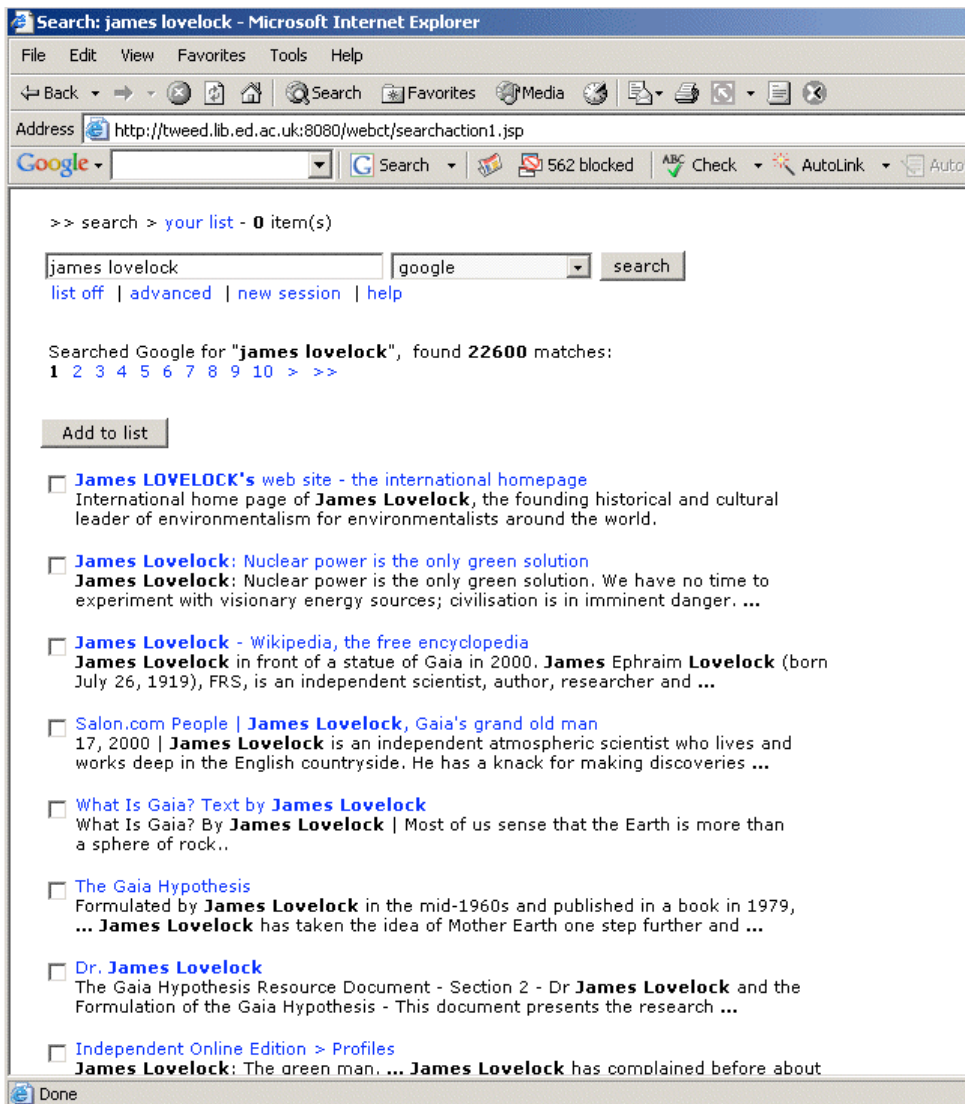
Figure 6. Search results returned: Items of particular interest can be added to 'your list' by clicking in the adjacent check box then on the 'Add to list' button. Web links are shown in blue text.
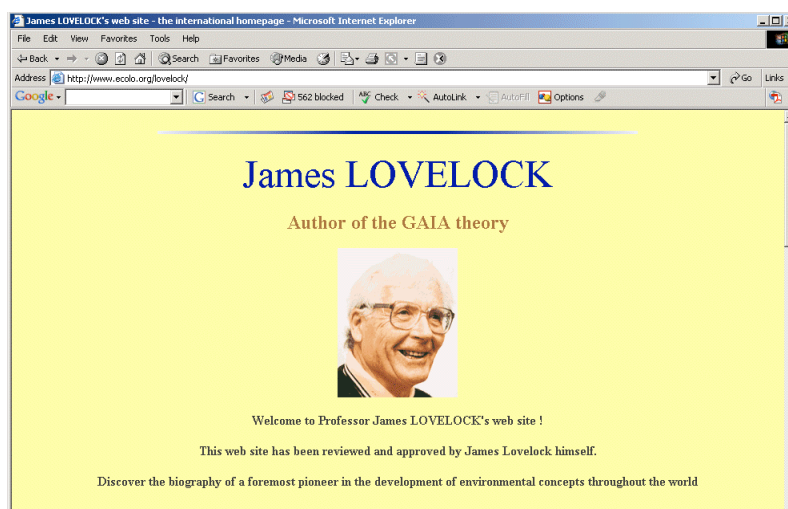
Figure 7. Individual web resources can be inspected by clicking the web link.
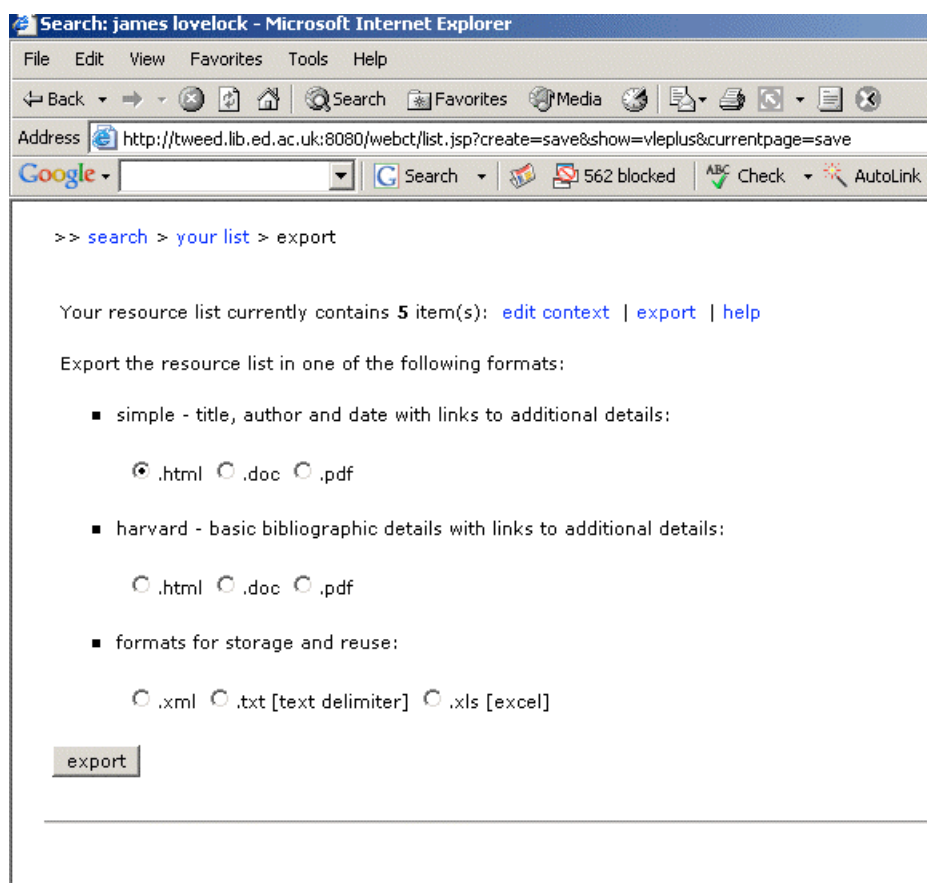
Figure 8. Clicking 'your list' allows you to view and edit the list of resources you saved
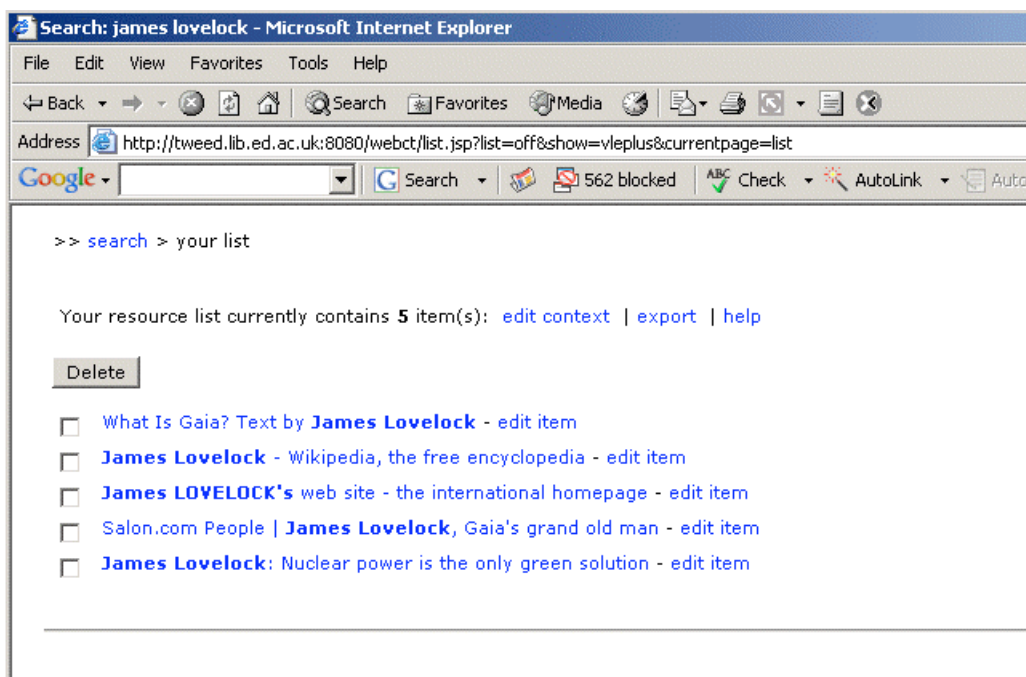
Figure 9. Clicking the 'export' link lets you save your list in various formats: Check the radio button for a particular format and save the file to your local drive (a file dialogue box appears). Give the file some name appropriate to the search.
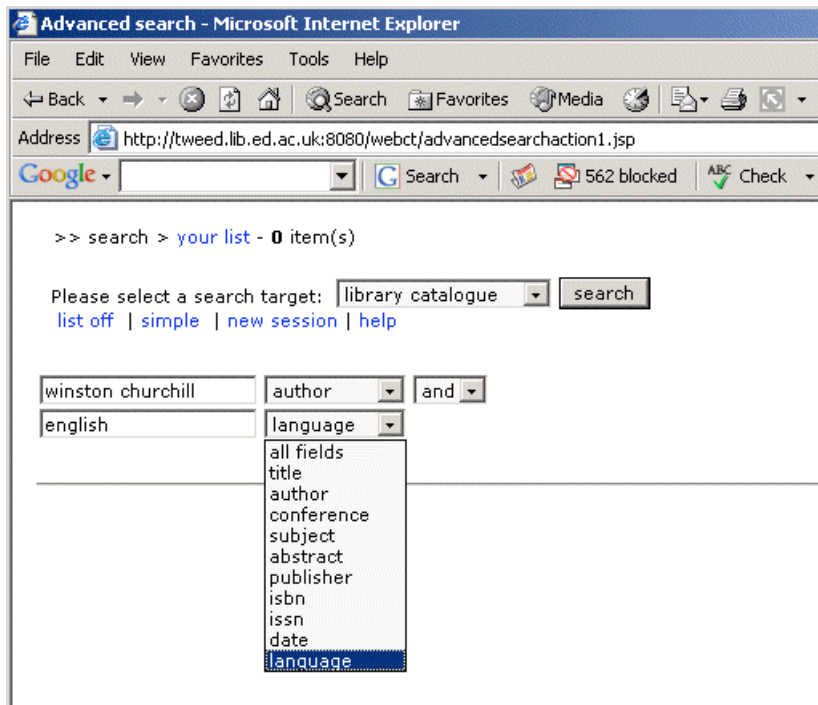
Figure 10. Start a new session. Click on the 'advanced search' link and select a target from the drop down list: allows boolean type queries for library targets
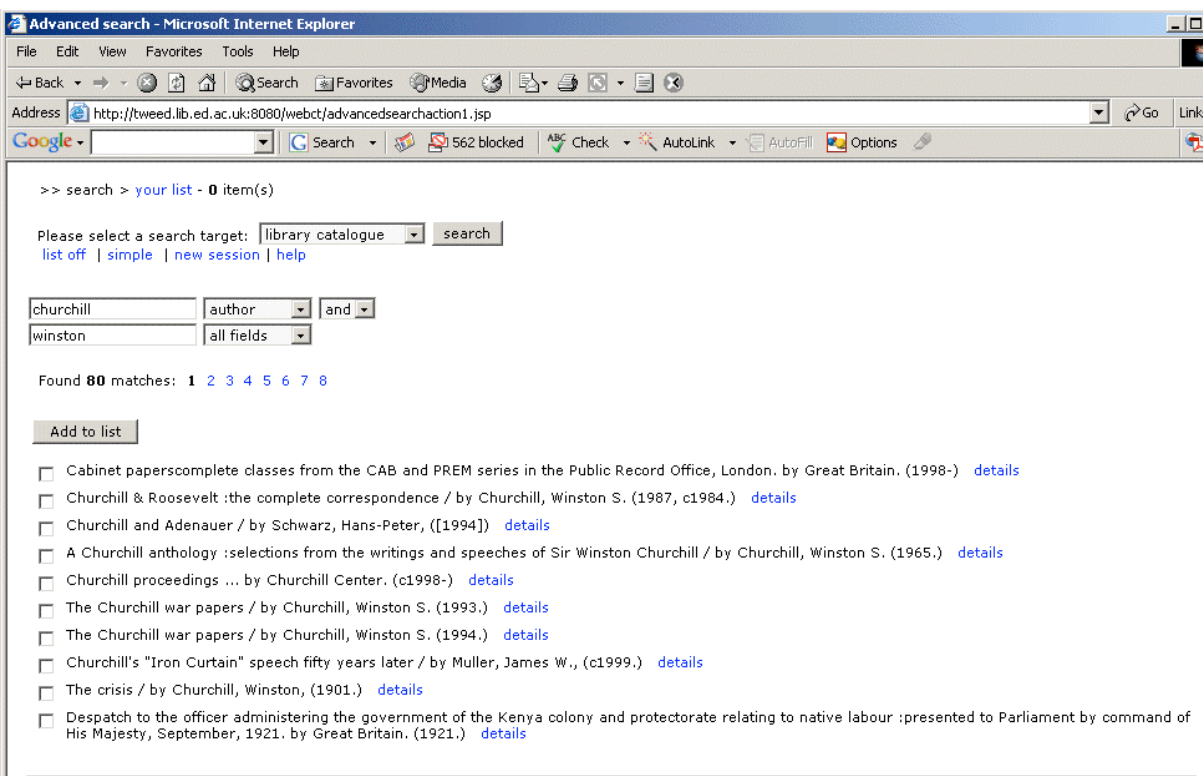
Figure 11. Results from a bibliographic search can be saved to your list as before
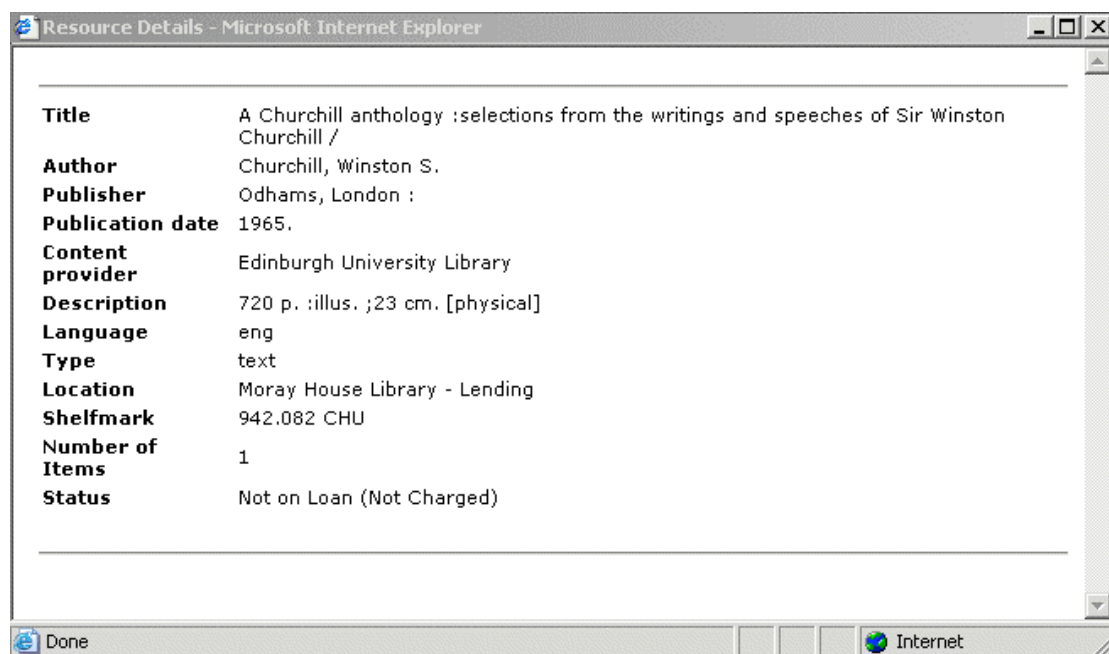
Figure 12. Details from one of the returned results

Google Scholar see http://scholar.google.com

Any assessment of RD services would be bound to mention those available through Google. Readers will almost certainly be familiar with Google Web Search, but a variety of more specific search services are now available (see the 'more' link from the Google home page). These services can access the latest News, Maps, and Images etc. Which have been made available on the web; there is also a service to access the full-text of certain Books or further information from publishers and booksellers. We focus here on the Google Scholar service because it has a particular educational focus. 'you can **search** across many disciplines and sources: peer-reviewed papers, theses, books, abstracts and articles, from academic publishers, professional societies, preprint repositories, universities and other scholarly organizations'.

Scholar offers a range of useful search-related services and features which we can't describe in detail here, but they include **locating** (resolving) articles, papers etc... Through its library links program or where the library has its holdings listed with a particular registry. Even assuming these services are not available, relevant quality articles are often available in full text via the web, albeit one might first have to check through and ignore several links the full-text of which might only be available to subscribed users. (The service is also useful to publishers in promoting their content: they are required to offer access at least to abstracts).

The search interface allows for simple and advanced searching, not dissimilar to those we have already discussed. Figure 13 shows results returned for a search and one can see that for each there are title, author, publication date and journal details given and the opening lines of text; the title is also the web link to the article. Usefully too there are links to other papers that have cited the listed referenced article and related web articles (web search).

With regard to saving particular results of interest from the returned list, it looks like there is no special provision for this (at this time) excepting the use of the book-marks facility of the browser used.

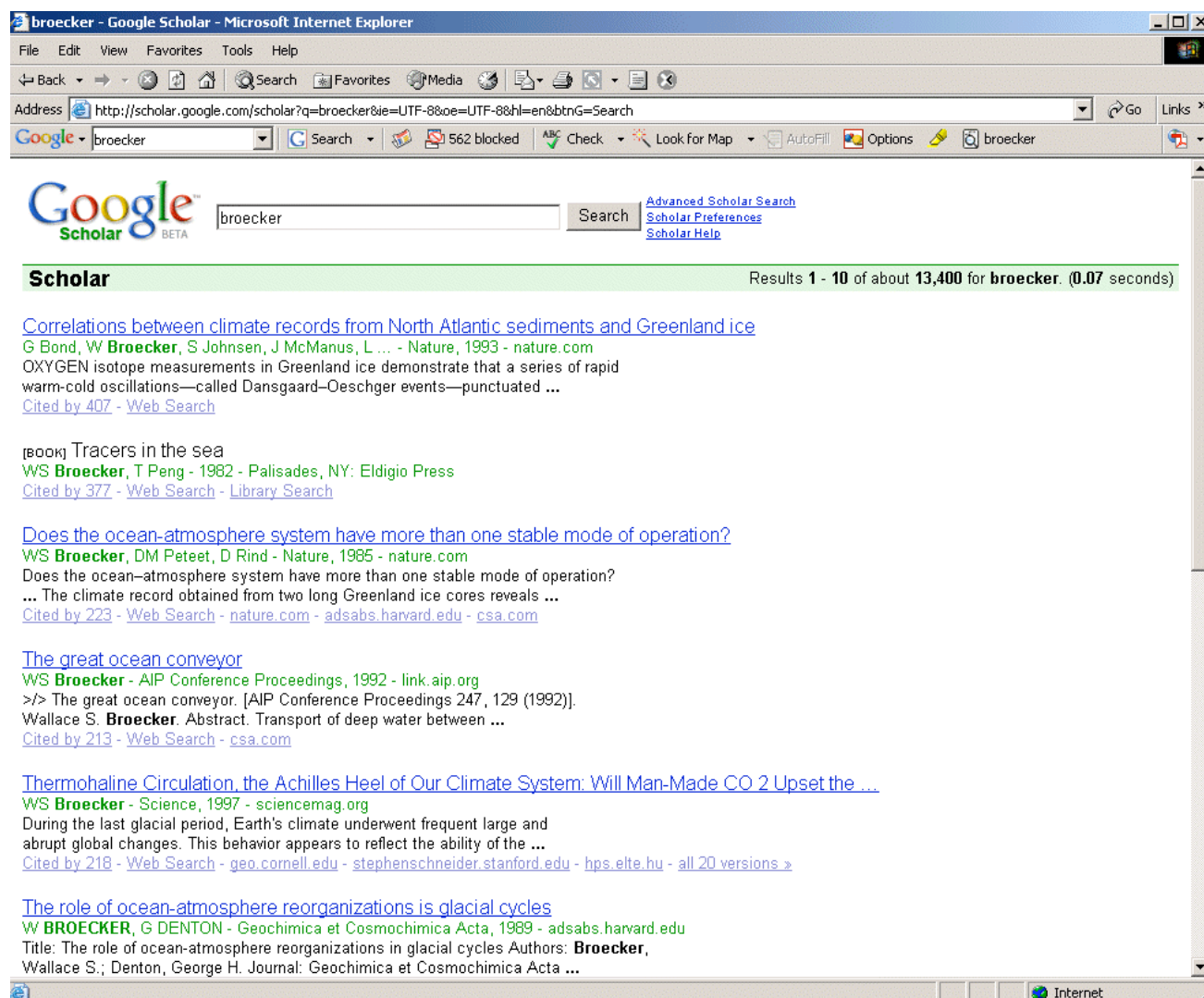There's a link to Google Scholar from the project website.

Figure 13. Results returned using Google Scholar

GetRef see http://edina.ac.uk/getref/

GetRef * has been available for several years now as a service from EDINA, the JISC-funded national datacenter in Edinburgh. From the name of the service, one might guess that it searches mainly (Abstract and Indexing) databases to return references, but it will support protocols to search other web resources and results are returned in a format (OpenURL) that can be used with institutional link resolvers. Users require an Athens account to use the service, available to the UK higher and further education community.

It is somewhat more complicated than the other tools we have looked at in that it offers **federated** searching – search queries are passed to multiple targets simultaneously **. This makes for a more powerful, comprehensive search but the way the returned results are presented requires a little more work on the part of the user ('the familiar and intuitive

*GetRef developed from earlier projects in cross-searching (x-grain) and broker services (zbalsa). See http://edina.ac.uk/projects/joinup/zblsa/cel/ for a useful presentation explaining key ideas in resource discovery.

** The service is currently configured to search a small number of targets which makes searching easier, but EDINA will customize the interface according to each institution's requirements including searching of local library databases. There are hundreds of potential targets available, listed via a link at the home page of the web site.

Binary tree structure, allows the user to access records from all the databases without having to navigate between multiple screens', see below).

The search interface is similar to those we have seen before but the user is required to select from three options relating to the general subject area the query relates to: Arts, Science or Social Science: this makes the search more efficient in excluding targets which aren't relevant.

Again, we can't describe all the features or related services offered here but Version 2 has recently been launched with new features. The service is available to HE and FE institutions until at least until the end of July 2006. A link to the service is available from the project web site
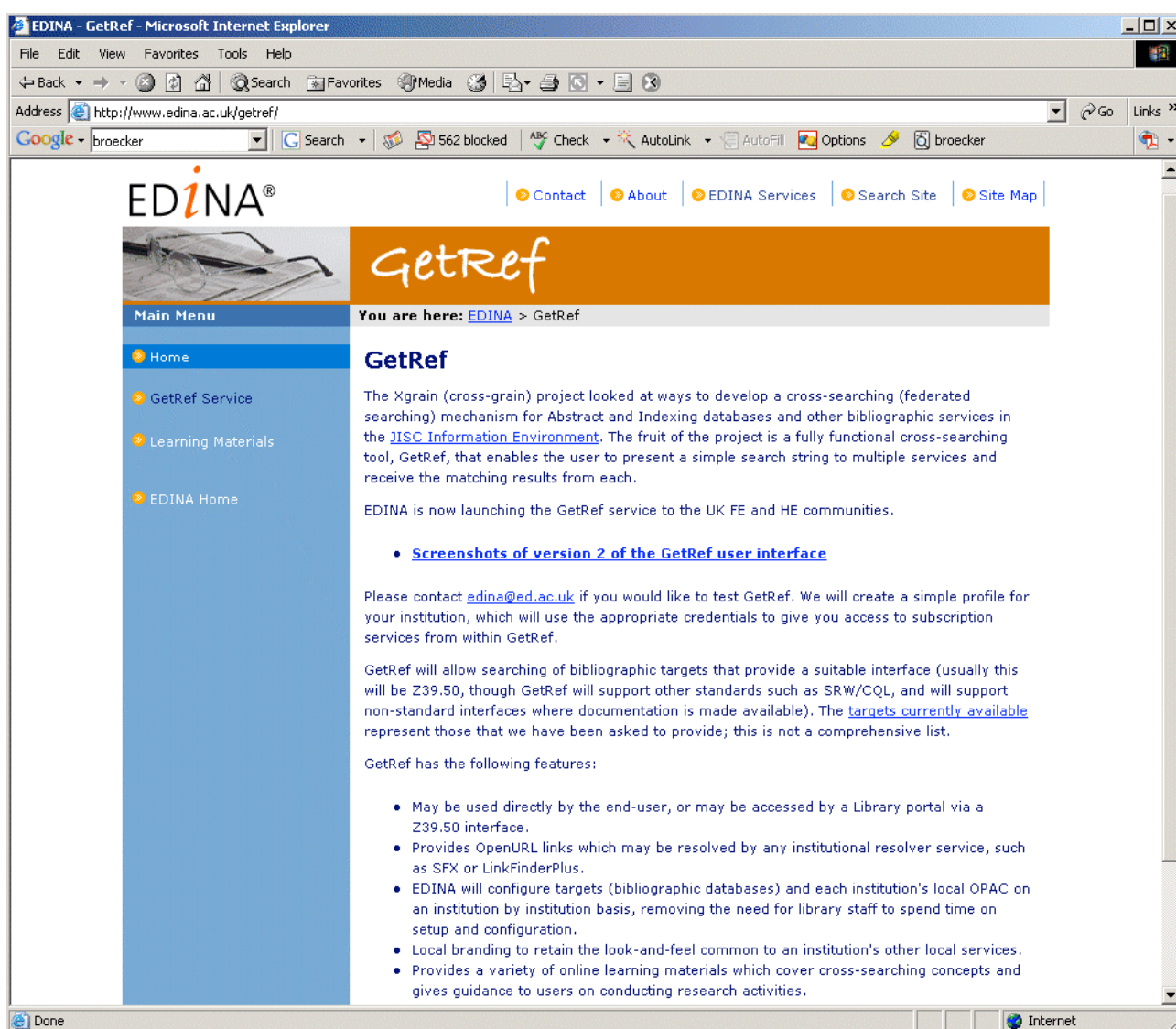
Figure 14. EDINA's GetRef service can be accessed from the Main Menu (Athens authenticated)

The figures and legends which follow show how search results are presented and options for saving selected items of interest. The service also allows reviewing of search histories i.e. all searches conducted within a session.
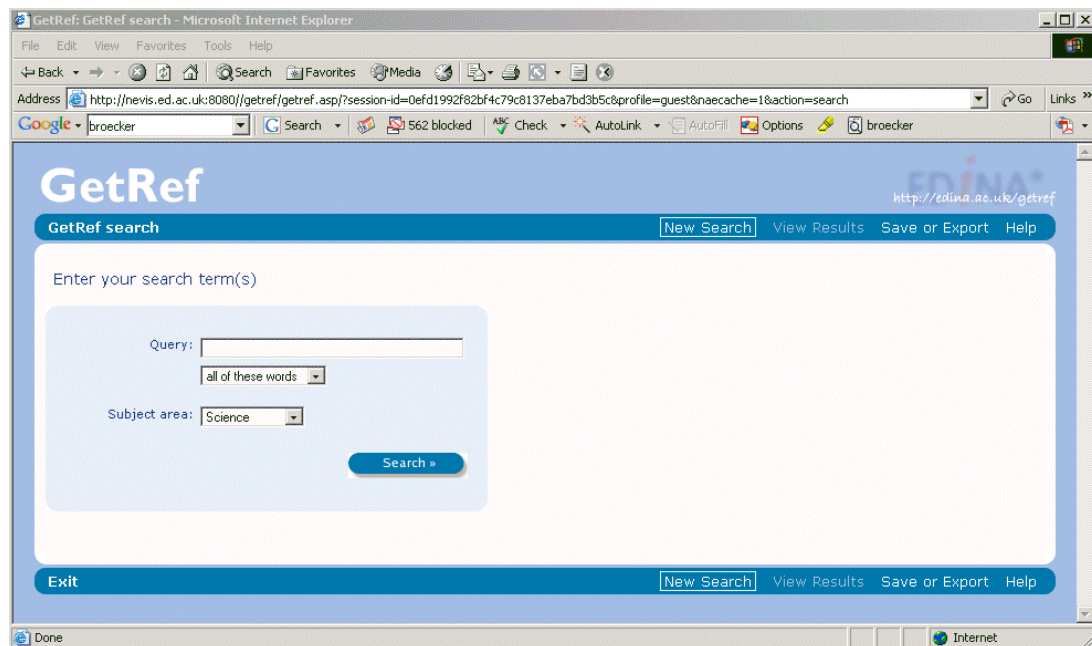

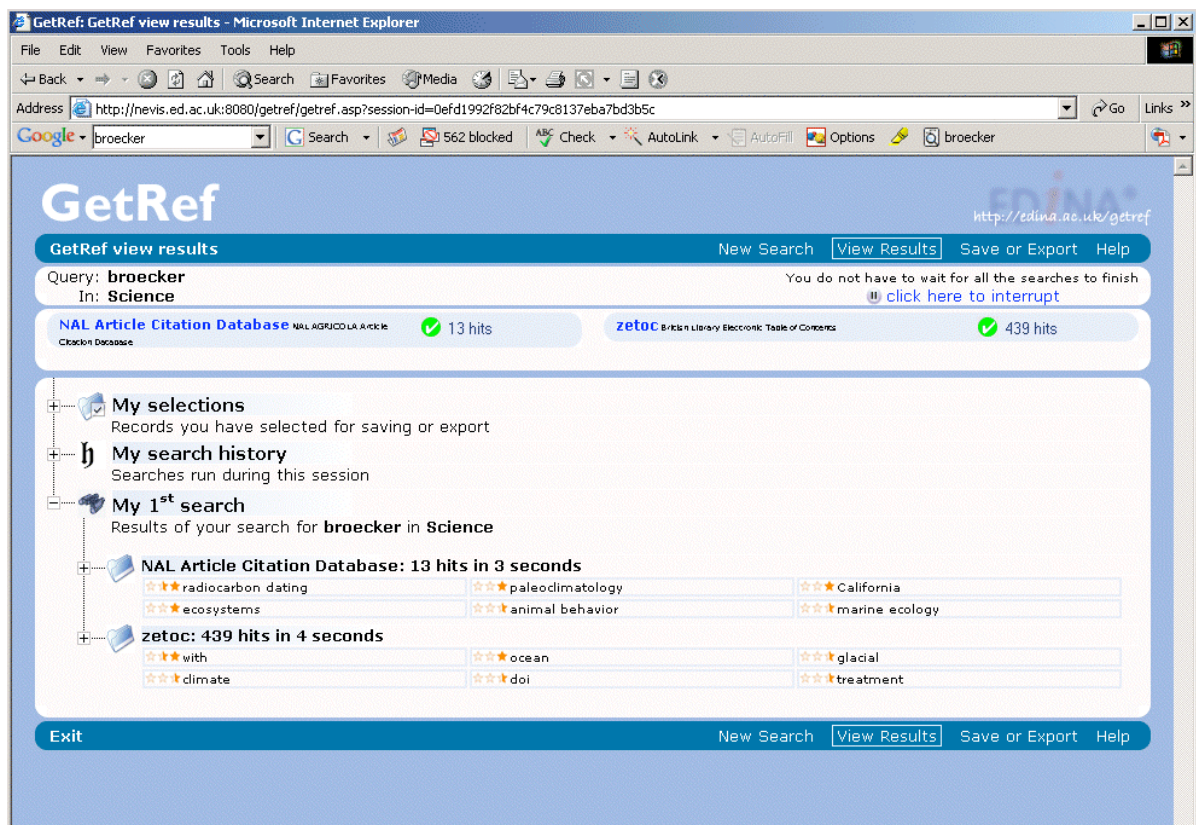*Figure 15. Interface with drop down list for selection of relevant subject area of search*

Figure 16. Search results for author name 'broecker' in the Science subject area: Details on hits returned are shown by expanding the toggle boxes (plus icons). All searches and selected items are saved per session. Database targets here are NAL (US National Agricultural Library) and ZETOC (British Library, electronic table of contents)
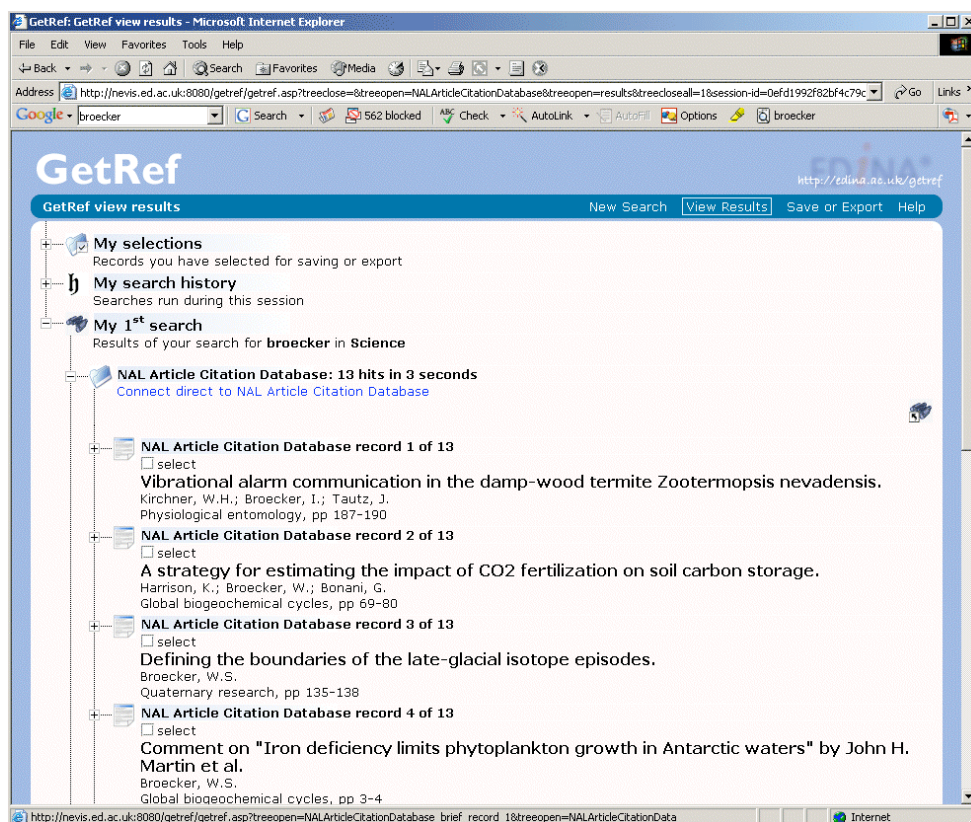
Figure 17. Expanding search results returned in NAL shows bibliographic details. Clicking the 'select' check boxes allows saving results of particular interest to the 'My selections' list. This list can then be captured retrieved using the Save or Export link
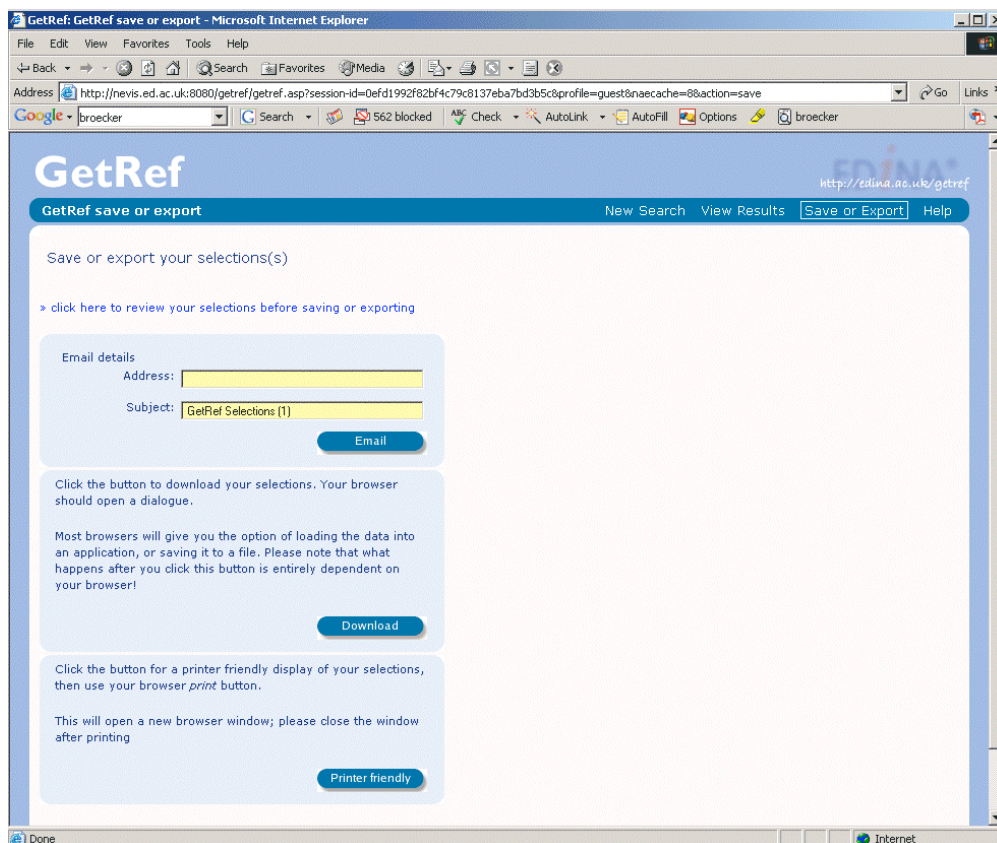

Figure 18. Using the Save or Export link: The saved list 'My selections' can be reviewed and edited then either printed, emailed or downloaded to the local drive.

Advanced Topics

We return here briefly to expand on matters mainly concerned with the further development of RD tools and services. Even if the technical details mentioned don't hold much interest for you, please bear the general points in mind when completing your evaluation form.

• Integrating RD tools and services

It seems an obvious thing to do to embed RD services within VLEs (or portals) and our experience is that it is trivial to link to D+ and other RD services from a variety of VLEs including Moodle, WebCT, Blackboard, Learnwise Olympus and COSE and uPortal (see the project web site). *What seems to be lacking is evidence of the educational relevance of these services* (actual use and practice).

While it may be trivial to provide for basic resource discovery, tools can be either loosely or tightly coupled with a VLE. The DICE project * of which this evaluation is part is concerned with investigating options in tighter coupling D plus and COSE so that resource lists or individual references can be saved and re-used *within the VLE* (rather than simply having results posted to an email address or downloading to the local hard drive). This would best be implemented using XML standards to further promote data exchange (interoperability) across different systems. E-Learning practitioners could search for; exchange and use resource lists as common currency in their VLEs, in the same way reading lists are used conventionally.

* DICE is an acronym (D + and ICE), where the ICE project was concerned with the Interoperation of COSE with E-resources

• Metadata

Metadata is the term given to the way things are described, sometimes a highly structured way (using schema). It is very simple idea which generates a lot of misunderstanding and confusion. Think of the label on a tin of beans: it describes the product name, ingredients, and manufacturer's address. The things we want to describe here are information resources and although different structures might apply to different kinds of resource, there will be descriptors used in common e.g. author, publication date, title will apply to books as well as journal articles.

Metadata is important because it allows us to make very specific requests in searching for resources or other objects. So, one scheme describes resources under nine different headings, one of which relates to Education. Different communities then agree (have agreed) to use a particular vocabulary relating to UK Further and Higher Education so that it would then be possible to search an archive at a particular educational level – City and Guilds, GNVQ, Key Stage 4, University Year 1 etc.

Unfortunately, there is a load (work to do) on the part of users and system designers and educational technologists in learning about these metadata schemes and how they relate to one another. There is work in entering descriptors as resources are deposited in a repository, work in designing systems to recognize these descriptors and work for users in finding resources. To avoid confusing users with metadata RD tools usually offer a simple interface. One can see something of the metadata and protocols used in the advanced interface where this is available but this might only represent a subset of the metadata: the actual results returned might include a much richer description of the resource.

There are different ways to approach the challenges of using metadata. One approach we are exploring is to apply a search engine in a free text search of resource descriptors. The user could then enter the search terms 'GNVQ' and 'Plumbing' to locate resources appropriate to their discipline and level of training **without needing to know about the metadata scheme(s) being used**.

Finally we would say that search results incorporating metadata can be saved in XML formats (ims-cp ims-rli srw etc.) to promote interoperability: information can then be more easily transferred between systems. While these matters may not hold any particular interest for users of RD tools, metadata schema demonstrate the application of standards and specifications which are important in tools development.

- **On other standards and protocols**

Communication protocols also demonstrate the application of standards and specifications which are important in tools development (and use metadata in doing so). Most of the tools we have seen can be configured to use a wide range of targets exactly because the tools and targets use standard protocols. Z3950 is an international standard of long-standing that specifies searching and retrieving information from remote databases. SRU is a web protocol that uses elements of z3950 with results returned as XML and SRW is a further development that uses web service standards. We also mentioned previously that results can be returned in OpenURL format, another standard used by link resolvers to locate and access e-resources from references.

So standards and protocols can be seen to evolve, building on what went before. The advent of web service protocols is particularly significant because other services relevant to education will be available soon e.g. those relating to assessment or personal portfolios. There are implications for Vales and education portals in terms of the new features they might provide, as they are likely provide the interface by which users will access these new services.

Summary

We have looked at a selection of RD tools and services, each of which can be seen to be useful in different ways. Google Scholar can provide ready access to quality on-line resources. The GetRef service offers the prospect of institutional profiling and comprehensive federated searching. The DEVIL service can be used to search a local library catalogue or the web via Google and can capture results in commonly used formats. D+ is lightweight, open source, and can be configured to search various targets using emerging protocols and standards. Significantly it allows for local implementation of a service under your control and leverages implementation of other web services. You will have your own preferences and opinions on using these or other RD tools and services. Please use the evaluation form to tell us about them (see next page for return details).

You can return completed forms to the postal address below, via the email address given, or using the on-line form at the DICE project web site. Do not hesitate to contact us for further information.

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Evaluation Form

Please focus on the D+ (http://193.60.1.153:8080/elf/) and (related) DEVIL toolkits in answering these questions. You should try out these tools for yourself using the links from the project web site with searches relevant to your studies or interests (as many as you can manage). Reading through the guide, trying out the tools and completing this form should take about 3 hours which you might split into several sessions. Please take your own notes or make margin notes on a printed copy of the guide. These are open questions so please reply as fully as you can rather than giving just 'yes' or 'no' answers. Those marked with asterisks are of particular interest to us. You are encouraged to refer to other tools and services described in this guide e.g. Scholar but these are included to put the evaluation in context. Information you submit will be treated confidentially. Thank you for your interest.

About you

Contact details:

Name:

Email address:

College or University:

Occupation or Role:

Subject area of interest:

About D plus and other RD tools and services

1. Do you use RD tools (any of those described here or others)?

2. **Do you think would find such services useful in your learning?

3. **Would you actually use any of them, regularly or from time to time?

4. Do you have comments to make on the range of targets used or subject specific sources that could be included?

5. Do you have comments to make on different types of results returned?

6. Do you have comments to make on the quality of results returned?

7. **Do you have comments observations to make on embedding such services within your VLE or portal?

8. Do you have comments to make on saving (formats) and re-using results?

9. Do you have comments to make on how resources are presented or described (metadata)?

10. Do you have comments observations on access issues (authentication or subscription restrictions)?

11. **Do you have comments to make on using D+ e.g. features to be developed?

12. **Do you have comments to make on using DEVIL?

13. **Do you have comments to make on using Scholar?

14. Do you have any other comments?

D+ resource discovery toolkit evaluation on-line

*Figure 19. The Evaluation form (draft shown here) is also available at the project web **site***