



DELIVER EVALUATION

Detailed Analysis of ReadingListDirect (Sentient DISCOVER)

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Notes of Reference:

This document is intended primarily to inform institutional decision making at the London School of Economics. It may, however, be of broader relevance to institutions interested in Resource List Management Systems and ReadingListDirect in particular.

This document evaluates the pre-July 2003 version of ReadingListDirect, to be known as Sentient DISCOVER from July 2003. As such, the document consistently refers to ReadingListDirect (RLD) and not Sentient DISCOVER (unless appropriate).

This report makes several recommendations to the School. These recommendations are phrased to assume that the School will adopt RLD for ease of expression. No inferences should be drawn from this approach.

All issues identified in this report are specific to LSE. It should not be assumed that all or any of the ideas expressed in this report will be equally applicable to other HE (or FE) institutions.

Version:	
0.1	First outline draft to team for content approval.
0.2	First full release to team for comment and annotation.
0.3	Fully proofed version, including comments from JP.
0.4	Including contractual issues text.
0.5	Second release to stakeholders and project team.
1.0	Stable public version.



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1. INTRODUCTION

1.1 Background

The purpose of the JISC funded DELIVER project is to integrate library resources within an institutional Virtual Learning Environment (VLE). It was clear from formative evaluation carried out early on in the project timeframe that the project should maintain the core functionality of the learning environment as a tool for displaying directed, course specific, learning materials.¹ In this respect the use of key resource lists, as developed by academic course leaders, best maintained this focus. The formative evaluation also revealed a number of support issues with management process and flow of resource lists that could be better addressed and maintained within the partner institutions.

With this in mind, the project undertook an evaluation of three resource list management systems:

- ReadingListDirect from Sentient (soon to be re-launched as Sentient DISCOVER).
- TalisList from Talis.
- The Loughborough Online Reading List System (LORLS) from Loughborough University.

ReadingListDirect (RLD) was chosen by for further evaluation by LSE following an extensive User Needs Analysis and primary evaluation process. The DELIVER team felt that this system best reflected the needs of the LSE environment, and would be well supported by a parallel assessment of the TalisList system at De Montfort University. The third system evaluated in the initial process, the Loughborough Online Reading List System (LORLS), was viewed as a strong candidate by the team, but the development time to add 'missing' functionality required by the User Needs Analysis was not available within the framework of the project.

1.2 Formative Evaluation and User Needs Analysis

Before beginning analysis of commercial systems, the DELIVER project team spent a significant amount of time talking to stakeholders and establishing specific requirements for a resource list management system. This process identified key requirements, which were in turn used measure the functionality of selected commercial products. The full functional specification can be found on the DELIVER website.²

In total, the project team identified 28 key requirements that any commercial system under consideration should address. RLD compared favourably in this evaluation, meeting or addressing 17 of the issues outright. Four further issues could potentially be addressed, depending on the institutional configuration of the system, and seven were initially classed as not met. Further discussion and more in depth evaluation of this system in conjunction with Sentient revealed functionality that could address five of the existing problem issues, one of the issues raised was deemed to be out-of-scope for the product, and one was analysed in more detail and addressed in-house. This meant that all 28 of the issues raised in the initial formative evaluation process had been met, potentially met, or deemed out-of-scope with RLD.

¹ All formative evaluation documentation can be found on the DELIVER website.
<<http://www.angel.ac.uk/DELIVER/deliverables>>.

² Harris, Nicole. "Resource List Management Systems."
<http://www.angel.ac.uk/DELIVER/deliverables/RLM_analysis.pdf>.



Parallel evaluations of TalisList and ReadingListDirect were undertaken by the DELIVER project. This document refers to the evaluation of ReadingListDirect at LSE. A similar evaluation of TalisList has been undertaken at DeMontfort University, and the report of this process can be found on the DELIVER website.³

1.3 Detailed Analysis

The evaluation of ReadingListDirect (RLD) has been extensive, and ongoing throughout the evaluation period (March 2003 – June 2003) in the following stages:

- Import of course data for *all* LSE courses into RLD system.
- Import of existing resource lists from the LSE Library system (Unicorn) into RLD system for 6 pilot courses.
- Development of 6 pilot course resource lists within the system.
- Training of relevant Library staff in use of RLD.
- Presentation of RLD to wider audience.

Stakeholders were invited to keep a diary of issues as they worked with the RLD system, and this information was passed to the Project Officer for summary and evaluation. These diaries primarily informed the 'wishlist' issues detailed in section 2.6. Formal feedback was gained through two separate questionnaires: a detailed questionnaire filled in by staff attending training sessions, and a more general questionnaire for staff attending presentations.

³ Simpson, Mark. DELIVER Evaluation: Detailed Analysis of TalisList.
<http://www.angel.ac.uk/DELIVER/deliverables/evaluation_talis.pdf>.

2. ANALYSIS AND EVALUATION

2.1 Analysis and Evaluation Process

Evaluation of the ReadingListDirect product has been an iterative process throughout the project timescale. The evaluation has taken many phases and involved many different stakeholder groups.

The primary group of users to be introduced to the system, and the users who have informed the practical elements of evaluation (such as wishlist development) have been DELIVER project staff, LSE Library staff, and staff from the Centre for Learning Technology. Opinions from these groups have been sought and recorded informally, through face-to-face and e-mail conversations, and formally through evaluation forms. The main output from this group of users has been the wishlist, as shown in section 2.6.

The secondary group of users to be introduced to the system were academic staff and support staff. The system was demonstrated to an invited audience of these stakeholders, and opinions were invited at the close of the session. A 'guest' login was also created, allowing staff to use the two training modules set up within the system, and to evaluate the system from a user's perspective.

The two evaluation forms used are included as appendices to this report.

2.2 Analysis: Communication with RLD

Both the Project Officer and the Project Manager have been in constant communication with Sentient, and RLD support staff, throughout the evaluation process. The overall impression of RLD and Sentient staff is extremely favourable:

- All queries were answered in a timely and helpful manner.
- Sentient have demonstrated a willingness to understand and develop specific institutional directions within RLD.
- Sentient have demonstrated a willingness to visit LSE, and engage fully with the staff.
- Sentient have demonstrated a willingness to engage with the community at large, participating in the development of standards, and showing proactive responses to comments from the community.

In terms of ongoing support, Sentient offer a central support desk for RLD that can be contacted by e-mail or phone. Response times from Sentient have been excellent throughout the project. It is vitally important that support response is of a high standard for any system hosted off-campus, and therefore outside the control of central IT support.

The project has not encountered any problems with the RLD system throughout the evaluation phase in terms of functionality.

R001. It is recommended that LSE identify a central RLD contact from amongst the Library staff to liaise with Sentient post-DELIVER.

R002. It is recommended that all issues with RLD functionality be channelled through central Library contact in the first instance.



2.3 Analysis: Training Issues

Three full training sessions were carried out within the evaluation process. Sentient carried out the first training session, and the DELIVER Project Officer conducted the second two sessions. All staff were asked to evaluate the training received at the end of the session.

The general consensus of staff was that the training received, both directly from RLD and from the DELIVER Project Officer, more than adequately introduced the system to the trainees. All staff trained felt confident to continue using the system after the session.

The amount of time required for training was also analysed. The two in-house training sessions were purposefully limited to one hour in duration. The trainees felt that this gave them enough time to understand the system, although some functionality was not covered within the session. If LSE choose to adopt the model of one-hour training sessions, it is recommended that these be supported with take-away training materials.

In response to demand from users, two 'quickstart' guides have been created, outlining the process of adding a resource to a module repository and adding a repository item to a list. These guides are intended as tools to introduce the system to academic staff, and it is strongly recommended that they be supported by full training sessions.

- R003. It is recommended that the Library take forward the 'quickstart' guides, developing and branding according to institutional guidelines.
- R004. It is recommended that the Library allow interested staff access to the two training modules via the guest login, as a system 'taster'.
- R005. It is recommended that the Library consider making use of direct training supplied by RLD to train appropriate IT cluster support staff in the use of the system. The additional cost of this training is considered in the implementation plan in section 3.3.
- R006. It is recommended that all training from this point be carried out in-house, in response to demand from academic staff, and that the sessions are planned as one-hour introductory sessions. This training should be fully supported by the development of suitable training and guidance materials.

2.4 Evaluation: User Feedback

The timescale of the DELIVER project, and the RLD evaluation, allowed little time for gathering in-depth feedback from potential academic users. A select group, invited by the Library and Centre for Learning Technology, were introduced to the system through a lunchtime presentation. The Centre for Learning Technology has also distributed guest log-ins to pilot course leaders, and other interested parties.

- R007. It is recommended that the Library continue the evaluation process of RLD throughout the roll-out of the system to ensure user needs are met. This information should be shared appropriately with Sentient, and the RLD user group <readinglistdirect@jiscmail.ac.uk>.

2.5 Trial Data

As part of the evaluation, the resource list data for six courses within LSE was entered into the system, and manipulated to test the functionality of ReadingListDirect. Each of the courses had very specific needs from a resource list system. Three of the trial lists were entered as per paper based lists and holdings within the WebCT course, and three were entered as per information held within the current Unicorn system to test the robustness of data held.

The initial information for the courses was imported from the existing Unicorn resource lists into 'module repositories' by Sentient, who also developed a basic resource list of all items for each course. Imports of book resources from the Unicorn system were successful. Imports of offprints were not successful, due to the different models of handling offprints in each of the systems. The Unicorn system cites the chapter reading, with the full text reference as commentary. The RLD system cites the full resource, with the chapter reading as commentary (i.e. 'read chapter two'). Sentient use ISBN and ISSN numbers to import references into the RLD system. As these numbers are not consistently held for offprints at LSE, it would be difficult to rectify this problem.

All of the courses were successfully developed within RLD by the Project Officer. A reasonably good understanding of the system, of Library resources and resource locations, and the needs of the individual courses were all required to successfully develop the more sophisticated lists. Academic staff would need support to fully develop intricate citations and lists, as might be expected with any technology-based solution.

The lists were developed as detailed below.

– **Lists developed as per current Library system**

LL101. Within the system, LL101 represents the most basic resource list option. The course is structured with one single list containing the items imported from the Unicorn list. No additional comments have been added to the system.

AN102. This list demonstrates the flexibility of the system in using sub-headings to divide the list. It also shows the system coping with different resource formats, as videotape holdings are separated, annotations added, and linked to the Library catalogue. This link could very easily be replaced with a link to a streamed video, subject to any licensing restrictions that might apply to such access.

ID200. This list demonstrates a very detailed interpretation of the information held in Unicorn. All of the offprints have been separated, and links have been created to e-journals where available. During the creation of this list, 18 e-journal links (more than 10% of the resources listed) were added, improving accessibility to resources for students.

– **Lists developed as per paper-based / WebCT lists**

DV400. This list was developed to reflect the information provided in student handouts as much as possible. The list was divided into individual lists per lecture, and represents good use of the full functionality of RLD, introducing course comments, annotations, use of web links, and personalised subheadings to reflect the lecturer's preferences.

GY430. This list was developed in a similar fashion to DV400. It highlights an interesting function of RLD in recommending books for purchase. It was useful to note that RLD



highlighted the fact that one of the books 'recommended for student purchase' was currently out of print.

HY202. This course shows a highly developed use of all the options available in RLD to display a rich course list, echoing the outline provided to students by the lecturer.

It would be interesting to note how closely the lists developed from Library-held information truly reflect the layout and functionality desired by lecturers.

- R008. It is recommended that the Library review offprints for duplication of holdings as e-journals. It is recognised that this will be costly in terms of staff time, but could yield greater long-term savings by reducing the need for management of paper offprints.
- R009. It is recommended that the Library continue to pursue import of lists from the current Unicorn system. An internal strategy for inclusion of offprint readings will need to be developed.
- R010. It is recommended that the Library offer a 'basic service' to academic staff that includes the import of existing Unicorn list into the RLD system, and the creation of a single resource list for the course. More sophisticated lists with comments, sub-heading and annotations should be the responsibility of academic staff.

2.6 Evaluation: Stakeholder Wishlist and Development Requirements

The primary group of evaluators, including project staff, Library staff, and staff from the Centre for Learning Technology, were asked to consider the specific functionality of ReadingListDirect, and to identify any problem areas that could legitimately be developed. Staff were restricted to putting forward explicit requests or recommendations for enhancement within the system that could be passed directly to Sentient. In essence, this process can be seen as a direct development of the initial formative evaluation; as staff gained understanding of the power and functionality of resource list management tools, it was inevitable that desired functional requirements would increase.

The results of this 'wishlist' process are included below. Priorities were assigned to the issues at a stakeholder meeting.

Of the low priority issues: three issues have already been satisfied by product developments, one has yet to be confirmed as a true end-user requirement, one has been identified as an institutional issue, and one highlights user preference, rather than functionality problems.

Of the medium priority issues: two issues have already been satisfied by product developments, and one relates to an in-house decision to be made by LSE.

Of the high priority issues: five issues have already been satisfied by product developments, and three relate to high-level issues that are not necessarily requirements for a resource list management system. These are discussed in more detail in section 3 of this report.

Overall, the majority of issues identified by users in the evaluation process have already been addressed by Sentient.

2.6.1 Low Priority Issues

#	ISSUE	KNOWN DEVELOPMENT	NOTES	EXPLICIT REQUEST TO RLD
101	Allow notes to be added at module level.	None.	Need for facility to be confirmed with academic staff: is this a true end-user requirement?	To be confirmed.
102	Set default date to 2003 on resource lists.	Addressed in Sentient DISCOVER release (July).	None.	Satisfied.
103	Text size on screen is too small.	None.	RLD is Bobby compliant and as such, text can be altered through changes to	None: in-house training issue. This should be demonstrated to all staff

			screen resolution and through increasing the text-size drop down in browsers.	undertaking training.
104	The 'indicative text' button is confusing, and there is a general lack of help / descriptive buttons.	This will be a configurable string in the July release of DISCOVER.	General lack of understanding of how this should be used.	Provide either a general help section, or a click-through explanation of what the field means and how it should be filled in.
105	Advertising bar disliked.	None.	Only one complaint has been received to date. It is unlikely that this will change as this informs the base pricing structure model for RLD. Note that other advertising used in LSE Library pages as yet to receive any complaints.	None.
106	Two stage addition of items seen as confusing.	Addressed in Sentient DISCOVER release (July).	Although it can be confusing, this structure allows greater freedom in resource list development and presentation, and allows for greater statistical data to be gained.	Satisfied. RLD are providing an 'add all module items to list' function that will easily allow creation of baseline lists.

2.6.2 Medium Priority Issues

#	ISSUE	KNOWN DEVELOPMENT	NOTES	EXPLICIT REQUEST TO RLD
201	All links should open in a separate window.	Addressed in Sentient DISCOVER release (September).	JS points out this is required for copyright reasons (particularly for e-coursepacks), and there is a general problem with 'back-browsing'.	Satisfied.
202	General issues with basic journal adding functionality.	Various 'add-ons' available.	Development in this area will need to fit in with LSE e-journal developments in general, including TDNet and SFX investigations. See further discussions and recommendations in section XX.	None. LSE issue.



				<i>RESPONSE: Sentient have declared that they are happy to work with any 3rd parties in developing functionality (particularly to continue commitment to IMS compliance).</i>
203	Missing data in Whitakers information.	Addressed in Sentient DISCOVER release (September).	Some fields are missing in the Whitakers information. These fields should be editable to add in missing data.	Satisfied.

2.6.3 High Priority Issues

#	ISSUE	KNOWN DEVELOPMENT	NOTES	EXPLICIT REQUEST TO RLD
301	RLD terminology does not match LSE terminology.	Addressed in Sentient DISCOVER release (July).	This will allow headings to be changed, and will also allow the colour to be changed and institutional logos added.	Satisfied.
302	RLD does not default to LSE resource lists.	Addressed in Sentient DISCOVER release (July).	None.	Satisfied.
303	It is difficult to add non-book / journal / web resources to lists.*	None.	There is specific information held in the Library catalogue and in other repositories within the institution that users may wish to search and add to resource list.	Allow for additional resource targets to be added to resource selection list. This may include searching the existing catalogue for non-book items. (Additional institutional cost expected).

				<i>RESPONSE: Sentient have declared an interest in exploring these issues, particularly with regard to common resource targets for institutions, and developing Z search functionality for these resources.</i>
304	Students should be able to print lists that show Library classmarks.*	None.	Classmarks not currently held (or expected to be held) in RLD.	<p>1) Develop a 'print with Library locations' button in RLD. This could be problematic as location data not held in a specific marc field within catalogue.</p> <p>2) In 'export' section develop an additional export function that links through to an LSE developed cgi script, creating an LSE Library 'shopping list'.</p> <p><i>RESPONSE: Sentient have declared that they are happy to explore these issues in more detail, and look to community for input.</i></p>
305	Allow books to be added manually.	Satisfied.	None.	Satisfied.
306	Develop integration techniques for WebCT.*	In Progress.	Issues with the exportation of resource lists for re-use with other interfaces are being explored through IMS, and locally at LSE.	See more detailed summary.
307	Allow lists to be re-assigned to different authors.	Addressed in Sentient DISCOVER release (September).	The creator of the list currently appears at the top of the list: this is an issue if the list is created by staff other than course owner.	Satisfied.
308	Issues with books not found within Whitakers.	Addressed in Sentient DISCOVER release (September).	Whitakers (as with all potential books-in-print targets) has data flaws	The academic will have the option to choose a catalogue to search from. The choices will include, DISCOVER catalogue, institutional catalogue and possibly others such as the British



				Library or the Library of Congress.
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* Discussed in more detail in section 3.

3. DEVELOPMENT STRATEGY

3.1 RLD Development Issues at LSE

3.1.1 Developing Functionality Within RLD

RLD allows institutions to configure searches of other local libraries, and 'clumps'. This functionality has not been developed within the project, and will need to be configured in consultation with Sentient.

RLD can provide detailed management reports to the Library to support stock development. This has not been developed within the scope of the project, as Sentient will configure this to the exact requirements of LSE. The Library will need to carefully consider the information, format and function of these reports to best support ordering processes at LSE.

RLD offers a variety of access management tools to allow institutions to restrict access to lists. This can be achieved on a list-by-list basis (controlled by academic staff), via an Athens log-in, or via an institutional log-in. The Library will need to consider best use of access management within the system, and how this could be applied at LSE. The driver of this issue will be the views of academic staff on resource list IPR, and willingness for this information to be public. Restricted entry to the system will be essential if the school wishes to include e-coursepack readings within the system, as access to these readings must be restricted to specific groups of users.

- R011. It is recommended that the Library establish a working group, led by Taught Course Support, to manage these development issues within LSE. Special attention should be paid to development of the Library management reports, in liaison with Sentient.

3.1.2 Costs

As a system, ReadingListDirect is competitively priced, and compares favourably with the other solutions evaluated in terms of value and functionality for money. Sentient is able to offer the product at this price by capitalising on advertising within the system, and click-through revenue on online bookshop purchases. It is likely that there will be some opposition to the use of advertising within the system. The advertising comprises a bar on the right-hand side of the screen, which appears in all student views. The bar does not appear in the administrative view. Sentient does not use pop-up advertising, and all advertising is kept within the advertising bar.

LSE will need to weigh-up the economic benefits of the RLD system, against opposition to the use of advertising within systems promoted by the School. It is worth considering the benefits that can be gained from the 'savings' achieved with RLD: funds could potentially be directed towards parallel developments (e-journal management system) or training and promotion of RLD. It is also worth considering the drawbacks of opposition: the worst case scenario will be poor take-up and use of the system. Likely reaction to the use of advertising could be usefully compared with reactions to the Amazon linking scheme currently in place within the Library catalogue.

A parallel issue to the use of advertising is the current lack of LSE presence, or 'branding' within RLD. This will be addressed with the July release of Sentient DISCOVER, which will allow institutions to apply institutional branding to the RLD layout.

3.1.3 Barriers

The wishlist exercise outlined in section 2.6 highlights all of the potential functionality problems that may affect the successful take-up of RLD at LSE. Many of the issues highlighted have been addressed by Sentient, or can be considered as institutional responsibilities. There are two issues outstanding that may have a more direct impact on the success of the system. These are discussed in detail below.

Issue 303 It is difficult to add non-book / journal / web resources to lists.

RLD deals effectively with book, journal and web resources. It is, however, likely that academic staff will want to add alternative resources to their lists. The issue with this development is the location of the resource (or resource metadata) rather than the resource type.

All resources stored within the Unicorn catalogue (or any library catalogue) can be added to RLD as 'book' resources, including videotapes, pamphlets and other non-typical resources. The system will then provide the same lookup facilities as book resources. An example of this in practise is available in pilot course AN102. This practise will need to be included in training materials given to list creators.

It is likely that there will be some confusion over linking to non-typical web resources, such as online video-clips or sound-clips. These should be entered as web resources, and list creators should be encouraged to provide full explanations in the comments section on accessing these resources.

RLD currently does not link to institutional repositories other than the Library catalogue, although Sentient has expressed a desire to investigate the potential for linking to such repositories. For LSE, the main repositories that could link to RLD usefully are Electronic Library (EL) and the e-coursepack database. A user can, however, copy and paste stable URLs to resources from EL, which could then be added to RLD as a 'web resource'. It may be worth developing the core EL service to make the process more apparent to list creators. Links to e-coursepack readings are more problematic for academic staff to identify and support.

It is difficult to suggest 'best practise' for including e-coursepack readings in RLD until an e-coursepack repository is in place. This is currently under development, and will be available for use by the Centre for Learning Technology shortly. This database has been developed for CLT by Heron <<http://www.heron.ingenta.com/>>, who are interested in rolling this service out to Heron users throughout the UK. The DELIVER project has actively encouraged a dialogue between Heron and Sentient to analyse the potential for linking these e-coursepack repositories with RLD / Sentient DISCOVER. The response has, to date, been positive.

E-coursepack readings have been included in the pilot courses within RLD. They have been considered in two groups: 'chapter' readings and 'article' readings. Article readings currently included in e-coursepacks have been added to pilot lists in the same manner that all journal articles are added. This process will be simplified by e-journal management decisions still to be made at LSE (see Section 3.2.1). The process for including chapter readings involves firstly identifying the full text of the resource, and then adding the location of the e-coursepack reading in the 'web link' section available for each book resource. This places a requirement on the academic to know the e-coursepack URL. It is also recommended that all web links included in this manner are fully described and explained. Examples of these links can be seen in the pilot



course development for HY202. The School must address access management issues if it wishes to continue to add e-coursepack readings in this manner.

- R012. It is recommended that training materials developed for RLD include advice on dealing with 'unusual' resources, including methods for linking to non-book catalogue items.
- R013. It is recommended that the training materials developed for RLD include advice on dealing with all web resources, including multimedia resources, and items in the 'Electronic Library'.
- R014. It is recommended that the Library and CLT actively encourage and pursue interaction between RLD and Heron, and maintain an internal dialogue to establish best practise for including e-coursepack readings.

Issue 304 Students should be able to print lists that show Library classmarks, and locations.

RLD does not import Library classmarks, or information about the location of a resource. The only way to include this information in the resource list display is to add information as a comment. Library location information about a resource is discovered by 'clicking through' to the Library catalogue record. This is a sensible approach, which allows authoritative information to be maintained in one location. It does not, however, allow a user to print out a complete 'shopping list' of items on a resource list to be physically used in the Library.

There are a variety of approaches that could be taken to solve this problem:

- Develop 'shopping list' functionality within Unicorn. This process places the responsibility for creating lists of items with the Library catalogue. Unicorn already has a tool that allows students to save, print or e-mail catalogue information per search. This functionality could be improved to allow users to build a list from multiple searches. The process would be as follows:
 - User sees required item on list within RLD and clicks on Library link.
 - Item is available, so student ticks a box to add to list of required resources OR
 - Item is not available so student ignores.
 - User repeats this process several times.
 - When happy with resources selected, user returns to the Library catalogue and prints the list he has built, e-mails the list to himself, or sends the list to his PDA.

This process allows the student to build a list of required resources (for a specific essay, or ignoring items not available) rather than printing a full list. The information included in the list would include bibliographic details, Library classmark, and location details. This facility in Unicorn (or any successor core Library management system implemented by LSE) would offer similar benefits to researchers and other Library users, who may similarly wish to compile a 'shopping list' prior to visiting the Library, but other than by following a resource list accessed via RLD.

- Develop location list printing with RLD. For RLD to be able to provide accurate location information to users, it would be necessary to import data regarding locations and classmarks into RLD. There are several problems with this approach, the most significant being that most libraries do not consistently hold this information in one field within the catalogue, and most resources have more than one location. It would be difficult for

Sentient to define a standard way of importing this data. More importantly, this information may change frequently (for example, when a book is moved from course collection to main collection) and it would be complex to make sure these changes are recognised and updated.

- Develop a separate tool for extracting class marks and locations. A tool could be developed separately to support this requirement, and could be integrated either via RLD (with agreed development) or Unicorn (with agreed development).

R015. It is recommended that the Library pursue the development of a 'shopping list' tool, either in conjunction with Unicorn, or as a separate tool in consultation with Library project staff.

3.1.4 Contractual Issues

In establishing the working relationship with Sentient to use RLD for the evaluation at LSE, the DELIVER Project gave careful consideration to general and specific contractual issues that could be necessary for this type of service. The main text of the contract signed by LSE and Sentient for the purposes of the Project (with certain financial details removed) is included as Appendix C to this report.

Learning resources lists could be regarded as 'mission critical' intellectual property assets of any university. Because the RLD service is outsourced with all data physically maintained on servers outside the physical or direct administrative control of the university, the key risks that must be controlled to a satisfactory level, by a combination of technical and legal means, are:

- The accessibility of such intellectual property (whether regarded as IPR belonging to the School, or of the individual academics who create it) on the Web. A correct balance must be struck between ease of access by authorised users (LSE staff and students, working on or off campus), and restriction of access (to read or to change the information) by unauthorised users.
- Continuity of service and availability of the information to the School, in the event of risks to which the service provider (Sentient) may be exposed, which are beyond the direct control of the School. These may include in particular financial instability (RLD is exploiting a novel, and therefore high-risk, financial business model for e-commerce).
- Technical or contractual 'lock-in' to the service, if (at any time in the future) it ceases to be the best available or most cost-effective solution for LSE to meet this set of requirements. It will be important for a contract to clearly define the importance of this information to the School, and to assert the intellectual property embodied by it, relinquishing no rights in such property to the service provider.

Apart from identifying by name the LSE staff responsible for each course, and authors connected with material used (all of which is already information in the public domain), the system does not involve personal data about living individuals, and therefore raises no specific issues under Data protection legislation.

Authorised access has been dealt with in section 3.1.1 of this report. It is considered that this is not an immediate problem (with the exception of e-coursepack data), because the use of RLD does not expose any new information to public view on the Web (current reading lists held in Unicorn are publicly accessible online, and outline reading lists are published in print together



with other course information in the annual School Calendar), although if more 'pedagogic guidance' information is added to lists by academics in future, the available methods for access control should be reconsidered.

Contracted deposit-in-escrow of the RLD software developed by Sentient was considered as a way to control risks arising from the company ceasing to trade, or otherwise ceasing to operate the service; but this was dismissed because it would not actually assure that the service could be continued (or that LSE data would be available) without a significant delay for LSE users. The alternative solution to this, and other possible 'lock-in' problems, has involved agreement with Sentient on the joint development of data interchange formats, enforced by the replacement of clause 2.5 of the original standard contract with the following:

"If required by the Customer Sentient agrees to make available to the Customer at any reasonable time and on request a machine-readable copy of the reading lists data compiled by the Customer, in an appropriate format to be agreed with the Customer or in comma-delimited-field format. Sentient acknowledges that the Customer retains all intellectual property in the reading lists data supplied to Sentient by the Customer or compiled by the Customer."

A service level agreement, similar to those developed by the Library, IT Service and Business Systems Support Division at LSE, may also be an appropriate device for ensuring continuity of service availability to users.

For the purposes and timescale of the Project, a number of minor issues around acceptability to LSE of other, 'standard' contract terms offered by Sentient were ignored, and these should be checked for compliance with contractual standards with which LSE is prepared to agree, before any longer-term contract is signed.

- R016. It is recommended that LSE take note of the above issues, and the text of the short-term contract negotiated between LSE and Sentient Consulting Ltd for the purposes of the Project, before entering into any longer-term contract for the use of RLD/DISCOVER.

3.2 General Development Issues at LSE

3.2.1 E-journal Management Solutions and ReadingListDirect

ReadingListDirect offers a basic level of e-journal support that requires the user to enter all bibliographic details for a journal citation, and to provide a stable web link to the online item. It is unlikely that staff within LSE will be able to consistently find and create stable URLs, as each major online journal provider uses a different method of stable URL creation (although some are stabilising on the OpenURL standard). This functionality will not be user friendly, although it will provide some basic level of support for Library staff by providing statistics on journal recommendations.

ReadingListDirect also offers several additional 'modules' to support e-journal integration. These provide links straight through to search facilities for several of the major e-journal suppliers, allowing the list creator to search and add a stable URL with ease. It is strongly recommended that the Library utilise the more sophisticated e-journal integration within RLD. Current e-journal suppliers that can be integrated directly with RLD are:

- SwetsWise.

- Emerald.
- Cambridge.
- Ingenta.
- EBSCO.
- OCLC.

Sentient have indicated willingness to make reasonable efforts to provide article-level links to the holdings of any e-journal provider which can make available details of the required URL format for deep linking. RLD can also link through to an institutional SFX development, and would be willing to investigate alternative e-journal management solutions for integration. This enhancement links in directly with current analysis and development within the Library at LSE, where staff are testing such management solutions. It is essential that RLD and e-journal management solutions inform each other, and that development plans are made in tandem as the two solutions can provide significant added value to each other. It is also essential that LSE provide precise guidelines to stakeholders and users on how each solution can best be used to enhance learning and teaching. More development work within the DELIVER-developed WebCT Library template will also be required to make best use of these facilities. Synergies, development, release targets and financial implications of these two core developments should be carefully reviewed.

- R017. It is recommended that the Library use the findings of the DELIVER project and the functionality of RLD to inform decisions governing the selection of the E-Journal Management System. The Library should also liaise with Sentient over interoperability between the two systems.

3.2.2 Suggested release and development of core system

The evaluation of RLD revealed that although basic knowledge of RLD can be gained quickly by end-users, the most sophisticated developments require users to have a high-level knowledge of not only the RLD system, but of various other Library systems and processes. A staged rollout of RLD would therefore be recommended, and this is outlined in section 3.3.

For the first operational year the Library will be fully responsible for maintaining lists, matching the current process for list development within Unicorn. All lists held in Unicorn should be imported into RLD as part of the initial set-up process. The Library will ask for resource list updates in the normal manner, and this information will be processed through RLD by Library staff. A single list will then be created for each course, and advertised to academic staff.

Throughout the first operational year, the Library should work with interested academic staff that are willing to develop lists within RLD on a per-request basis. Developments made should be used as exemplars for promotion within the School. Review of take-up after the first year of operation should inform decisions concerning list update and development during the second year of operation.

3.2.3 Suggested development within WebCT

One of the main aims of the DELIVER project is to allow resource lists to be presented as part of a Library Area within the School's Virtual Learning Environment (WebCT). The Centre for Learning Technology has already developed and promoted a template for referencing resource lists within WebCT and are keen to be able to maintain the look and feel of these lists.



RLD offers integration with WebCT as an add-on module. This presents the resource lists within a frame within a WebCT course. Although this method offers all the functionality of RLD within the WebCT environment, the evaluation revealed concerns about the size of the display, confusion over branding and a desire to maintain the in-house template for display.

The DELIVER project has developed a 'proof-of-concept' tool, which will allow exports to be taken from RLD in a comma delimited format and redisplayed as html using a perl script and a template defined by the Centre for Learning Technology. This html page can then be added simply to suitable WebCT courses. While meeting all the needs of the existing WebCT template, this process does not allow for export of links to the Library catalogue as available in RLD and via the RLD add-on module for WebCT display.

Sentient are committed to enabling interoperability between standards, and are key contributors to the developing IMS charter for Resource List Interoperability. This charter will inform the development of a standard specification for describing resource lists. The future development of this standard, and integration within Sentient products, will open up possibilities for sharing resource lists between systems.

It is likely that exports of the resource lists will also be required at LSE to inform the School Calendar. The purpose of these resource lists is currently under review. Some courses use these lists to provide details of 'pre-course' readings. To satisfy this need, the Library could take an active role in encouraging academic staff to include such a list in RLD. These lists could then be exported to the School Calendar interface. Many courses use the School Calendar to provide a reference to the full course resource list. In this instance, a simple link to the appropriate level of RLD could be provided.

- R018. It is recommended that a wider review of resource list export and integration methods is undertaken by the School. The Library and Centre for Learning Technology should actively engage in the development of the IMS standard with Sentient.



3.3 Projected Implementation of RLD

This table sets out a proposed implementation plan for ReadingListDirect at LSE.

	DELIVER Project in operation			Interim		Operational Year One			Operational Year Two			Operational Year Three		
	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Jan-04	Jul-04	Oct-04	Jan-05	Jul-05	Oct-05	Jan-06	Jul-06
TRAINING														
Core Library staff	Proj													
Wider Library Group		Proj												
IT Cluster Groups					Lib (RLD)									
Academic Staff						ITCluster	ITCluster	ITCluster	ITCluster	ITCluster	ITCluster	ITCluster	ITCluster	ITCluster
PROMOTION														
Core Project Workshop		Proj												
Intial Promotion				Lib	Lib									
Targeted Promotion						Lib-IS	Lib-IS	Lib-IS						
Wider Promotion									Lib-IS	Lib-IS	Lib-IS	Lib-IS	Lib-IS	Lib-IS
DATA INPUT														
Course Data	Proj - Pilot													
Reading List Data	DT - Pilot			Lib-TCS*	Lib-TCS*	Lib-IT			Lib-IT			Lib-TCS*		Lib-IT
COSTS														
Core Costs			£3,000					£2,000			£2,000			£2,000
Additional modules								***			***			***
Training					(£800)**									
Other														

* TCS staff to be consulted through workshop on data entry issues, timings and potential (hidden) costs.

** Costs if training outsourced to RLD for this session (6 people).

*** Full current price list included in main report.

3.4 Alternative Solutions

There are a (limited) variety of alternative solutions to resource list management that could be considered by the Library at this stage:

- **Continuing with customised reading list functionality in existing Unicorn system.** The DELIVER project team would advise strongly against pursuing the reading list functionality within the LSE Unicorn catalogue in its current format, as it does not meet the requirements of any of the identified stakeholder groups within LSE.
- **Development of an in-house system,** using lessons learnt from the DELIVER project. A full cost analysis of such an exercise would need to be considered before progressing with this option.
- **Undertaking a more detailed analysis of LORLS or TalisList.** The team would recommend that the findings of the DELIVER Resource List Management System Evaluation act as a starting point for such an exercise.
- **Evaluate alternative solutions.** The only known system that is available for adoption and not included in this study is the service offered by Blackwells <<http://www.readinglists.co.uk/>>. Blackwells approached the project team during the lifetime of the project, and expressed willingness to support such an evaluation. A call on various JISCmail lists did not highlight any alternative solutions that would meet the requirements as laid out in the DELIVER user analysis.

The School must consider that the time and resources of the DELIVER project will not be available to support further evaluation choices after 31st July 2003.

4. CONCLUSION AND FURTHER RECOMMENDATIONS

4.1 Statement of Recommendation

ReadingListDirect answers the majority of the user needs identified in the formative evaluation process undertaken by the DELIVER project, and has stood up to the demands of the full evaluation undertaken by the project team. Where the product does not meet identified requirements, solutions have been found or are being pursued and are identified within this report. This report lays out all of the areas where ongoing work is required by the School and by the vendor, Sentient. The product is financially viable, although the School must consider potential resistance to use of advertising within the system. The project team feels that adoption of RLD is feasible and realistic within the LSE environment subject to the development and recommendations outlined in this report, although the product will require commitment from the Library, the Centre for Learning Technology, and the wider School community for the process to be a success.

Specific areas of development that would be required by the School are detailed below. A full summary of the recommendations made in this report is included in section 5 of this report. This information, combined with the detailed analysis contained in this report should enable the appropriate decision to be made by the School concerning resource list management development within LSE.

4.2 Development Issues

The following areas are identified as core issues for the development of a Resource List Management System, and particularly ReadingListDirect, at LSE. These points have been discussed throughout the report, but are highlighted to stress the importance of these development areas. The full recommendations made by this report are included as a summary in section 5.

4.2.1 E-Journal Issues

The introduction of online resource lists highlights the importance of increased use, understanding and discovery of electronic journal articles. The ongoing work of the Centre for Learning Technology and the DELIVER project evaluation process has highlighted the following issues:

- Many of the existing offprints held by the Library are available through electronic journal subscriptions held by the School. A systematic review of the offprint collection would highlight the extent of this, and support the ‘culling’ of offprints. This would, however, be a time-consuming exercise, with a high cost in terms of staff time.
- Use of online resource lists will support e-journal selection within the School. The evaluation process has highlighted examples where resources recommended as background reading are extensively available as e-journals, but essential readings are only available as offprints or hardcopy journals.
- Providing stable links to e-journals is a highly problematic area. Use of an e-journal management system will significantly improve article discovery and citation for academic



staff. There is a clear opportunity for linking such developments with the chosen resource list system.

4.2.2 Funding and Resource Issues

- Section 3.3 outlines the core costs for LSE. The DELIVER project has not identified the true cost of implementation of such a system, including extra staff development time and future take-up of additional modules within RLD. This evaluation should be carried out before a purchase decision is made.
- Many of the recommendations made by this report will require additional staff time to develop. The impact of these should be financially evaluated.
- Specific attention should be paid to the initial adoption period of a resource list system. Although RLD does allow for existing data to be imported, staff time will still be required to check this data, enter resources that cannot be imported (such as offprints), and remove the duplication of resources that is prevalent within the Unicorn system.

5. SUMMARY OF RECOMMENDATIONS

This is a full list of the recommendations made within this report for ease of reference. Recommendations have been included within the report for contextual reasons. If any of the recommendations included below are not immediately clear, please refer to the correct section of the report for more information.

- R001. It is recommended that LSE identify a central RLD contact from amongst the Library staff to liaise with Sentient post-DELIVER.
- R002. It is recommended that all issues with RLD functionality be channelled through central Library contact in the first instance.
- R003. It is recommended that the Library take forward the 'quickstart' guides, developing and branding according to institutional guidelines.
- R004. It is recommended that the Library allow interested staff access to the two training modules via the guest login, as a system 'taster'.
- R005. It is recommended that the Library consider making use of direct training supplied by RLD to train appropriate IT cluster support staff in the use of the system. The additional cost of this training is considered in the implementation plan in section 3.3.
- R006. It is recommended that all training from this point be carried out in-house, in response to demand from academic staff, and that the sessions are planned as one-hour introductory sessions. This training should be fully supported by the development of suitable training and guidance materials.
- R007. It is recommended that the Library continue the evaluation process of RLD throughout the roll-out of the system to ensure user needs are met. This information should be shared appropriately with Sentient, and the RLD user group.
- R008. It is recommended that the Library review offprints for duplication of holdings as e-journals. It is recognised that this will be costly in terms of staff time, but could yield greater long-term savings by reducing the need for management of paper offprints.
- R009. It is recommended that the Library continue to pursue import of lists from the current Unicorn system. An internal strategy for inclusion of offprint readings will need to be developed.
- R010. It is recommended that the Library offer a 'basic service' to academic staff that includes the import of existing Unicorn list into the RLD system, and the creation of a single resource list for the course. More sophisticated lists with comments, sub-heading and annotations should be the responsibility of academic staff.
- R011. It is recommended that the Library establish a working group, lead by Taught Course Support, to manage these development issues within LSE. Special attention should be paid to development of the Library management reports, in liaison with Sentient.



- R012. It is recommended that training materials developed for RLD include advice on dealing with 'unusual' resources, including methods for linking to non-book catalogue items.
- R013. It is recommended that the training materials developed for RLD include advice on dealing with all web resources, including multimedia resources, and items in the 'Electronic Library'.
- R014. It is recommended that the Library and CLT actively encourage and pursue interaction between RLD and Heron, and maintain an internal dialogue to establish best practise for including e-coursepack readings.
- R015. It is recommended that the Library pursue the development of a 'shopping list' tool, either in conjunction with Unicorn, or as a separate tool in consultation with Library project staff.
- R016. It is recommended that LSE take note of the above issues, and the text of the short-term contract negotiated between LSE and Sentient Consulting Ltd for the purposes of the Project, before entering into any longer-term contract for the use of RLD/DISCOVER.
- R017. It is recommended that the Library use the findings of the DELIVER project and the functionality of RLD to inform decisions governing the selection of the E-Journal Management System. The Library should also liaise with Sentient over interoperability between the two systems.
- R018. It is recommended that a wider review of resource list export and integration methods is undertaken by the School. The Library and Centre for Learning Technology should actively engage in the development of the IMS standard with Sentient.



Appendix A. Evaluation Form 1

DELIVER Evaluation Phase *ReadingListDirect Trainee Evaluation*

Thank you for attending the ReadingListDirect training session. RLD is currently being piloted within the DELIVER project, and we would like to ask you for some comments and impressions of the system. Any ideas and thoughts that you might have will be useful to inform this process and help the School make a purchase decision.

RLD is a developing product, and we are ideally placed to help inform their development. Any 'wishlist' ideas will be passed directly on to RLD.

Please do feel free to 'play' with system during the pilot phase, and contact the project team with any ideas or concerns that you might have.

With thanks

Nicole Harris <n.v.harris@lse.ac.uk>.

1. Getting to grips with the tools: first impressions.

Please include notes on your first impression of the system, how quickly you were able to pick up functionality, and general comments on your first session with RLD.



2. Training.

Did the training convey all the information that you needed to start using the system? Do you have any recommendations for future training?

3. Overall impression of structure and layout.

What were your impressions on the structure and layout of the system? Please comment on the flexibility of the hierarchy, and how easy / difficult it is to interpret paper lists into the online environment whilst maintaining feel of list.

4. Building Lists.

How easy did you find it to create a reading list? Please comment on the book search tools, creating category headings, adding additional notes etc.



5. Wish List.

Please make notes on any features that you feel are missing from RLD. Please also express the urgency level (is this needed for operational purposes, a nice enhancement etc.).

6. Use at LSE.

Are there any specific issues that will affect the use of such a system at LSE? Please reflect on your experiences with reading list development, use of technology, liaison with stakeholders etc.

7. Statistical Data for the Library.

RLD is able to provide detailed, cross-course statistical data from the information provided in reading lists, but they are specifically seeking guidance on the type of report that should be available. What type of reports would you find useful? Please be as detailed as possible. Examples may be:

- a. Total number of students that Book X is suggested as essential / recommended / background across all courses.
- b. All books recommended by the department X.

Thank you for your time.



Appendix B. Evaluation Form 2

DELIVER Evaluation Phase

ReadingListDirect Presentation Evaluation (18th June 2003)

Thank you very much for attending this presentation of ReadingListDirect. The DELIVER project is evaluating ReadingListDirect on behalf of the Library at LSE, and we are very interested in your initial reactions to the system. We would be very grateful if you could take the time to fill in this form as you watch the presentation, and leave with the project team. Alternatively, please return to Nicole Harris, Projects Officer, Library.

This evaluation is anonymous. If, however, you would like to learn more about the system, and have a chance to use ReadingListDirect within the pilot, please supply your name and e-mail address below. A username and password will be created for you. Alternatively, e-mail Nicole Harris: n.v.harris@lse.ac.uk.

Name:

Course(s) responsible:

E-mail address:

1. Do you think that there is a need for a resource list management system at LSE?

2. Do you think that ReadingListDirect meets the needs for a resource list management system at LSE?

3. What were your initial impressions of the ReadingListDirect system?



4. (Academics only) Would you use ReadingListDirect:

- a) Personally, entering and administrating own lists. Yes No
- b) Annotating lists with comments, if resources were already in the system. Yes No
- c) By proxy: asking a secretary or other support staff to administrate: Yes No
- d) Not at all, but would be happy for library to develop independently: Yes No
- e) Not at all: Yes No

5. Where should resources list be presented?

- a) Through the RLD interface: Yes No
- b) Within WebCT: Yes No
- c) On library web pages: Yes No
- d) On course web pages: Yes No
- e) Not online at all: Yes No

6. Do you have any recommendations for the Library and Centre for Learning Technology concerning resource lists?

Many thanks for your time.



Appendix C: LSE Contract with Sentient

[not in external release].