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**EVALUATION OF SELECTED COMPONENTS OF THE
FLORIDA ELECTRONIC LIBRARY (FEL)**

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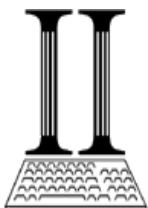jsnead@garnet.fsu.edu

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For: Florida Division of Library and Information Services

DRAFT METHODOLOGY

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EVALUATION OF SELECTED COMPONENTS OF THE
FLORIDA ELECTRONIC LIBRARY (FEL):

BACKGROUND

In 2003, the Florida Division of Library and Information Services (FDLIS) contracted with the Information Use Management and Policy Institute (Information Institute) of the School of Information Studies at Florida State University to evaluate three current pilot programs of the Florida Electronic Library (FEL). The pilot programs are: 1) the Ex Libris Metalib/SFX Portal Project, 2) the Digital Collections Catalog (DCC) component of the FEL, and 3) the FEL website interface. This research is part of an ongoing effort by FDLIS in the continuing development of the FEL.

The FEL, funded by the Library Services and Technology Act (LSTA) and administered by FDLIS, is being planned and implemented in cooperation with libraries throughout Florida. The Florida Library Network Council (FNLC), an advisory body representing pivotal agencies in Florida's library networking community, guides the program.

THE CURRENT INITIATIVE

The purpose of this document is to present methodologies for the evaluation of Ex Libris Metalib/SFX, the DCC interface, and the FEL Web page interface. These methodologies will allow the Information Institute to provide FDLIS, FNLC, and other interested parties with assessments of the:

1. Functionality, usability, and accessibility of selected and modifiable features of the Ex Libris Metalib/SFX product developed for the FEL portal component;
2. Usability and accessibility of limited collections of materials through the DCC interface as part of the statewide FEL union catalog; and
3. Usability and accessibility of the existing FEL Web page interface (existing FEL home page interface) as part of the FEL portal component.

Study results will provide data that can inform FDLIS, FNLC, and FEL work groups or other interested parties in the decision-making process for continued implementation of the statewide electronic library portal.

GOALS, OBJECTIVES, AND OUTCOMES

The initial FEL plan, *The Florida Virtual Library: Plan for Statewide Implementation*[1] developed by RMG Consultants (2002) identified some of the initial goals and objectives for the implementation of individual components of the FEL. All of the necessary long-term goals, objectives, or outcomes, however, were not initially determined for each of the six components

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[1] RMG Consultants, Inc. (May 2002). *The Florida Virtual Library: Plan for Statewide Implementation*. Available at: http://dlis.dos.state.fl.us/bld/FLVirtualLibPlanFinal.pdf; and Florida Department of State. (2003). *Gateway to Information through Florida Libraries: An Outcomes Plan, 2003-2007*. Available at: http://dlis.dos.state.fl.us/bld/LSTAplan.pdf

of the FEL or specifically for selected or proposed pilot products within each component. A subsequent report prepared by the Information Institute, *Creating a Five Year Strategic Plan for Library Development in the State of Florida*[2] (2003) contains updated tables of goals, objectives, and outcomes for the FEL and for each of the FEL components.

Additional goals, objectives, and outcomes have been developed within the January 2004 statement of work created by the Information Institute, *Measures and Statistics to Assess the Florida Electronic Library.*[3] These additional goals, objectives, and outcomes were created specifically for the pilot programs implemented for the Portal and Virtual Union Catalog components of the FEL. Goals, objectives, and outcomes developed for each pilot program are derived from the original FEL component goals, objectives, and outcomes. The purpose of deriving pilot program goals, objectives, and outcomes from the original FEL components is to ensure that pilot programs fall within the original mission and vision guidelines created for developing the FEL over time. The primary goal of the FEL is:

> **Florida residents have electronic access to information resources and services through the Florida Electronic Library.**

An updated presentation of the goals, objectives, and outcomes for FEL components and for the pilot programs for each component of this current research project are presented in **Appendix A**.

The Information Institute will use these goals, objectives, and outcomes, along with the proposed evaluation approaches (below) to evaluate the FEL portal and virtual union catalog pilot programs. The purpose of the evaluations is to determine the extent to which the pilot programs (Ex Libris Metalib/SFX project product, the DCC web interface, and the FEL website interface) meet the above stated primary goal of the FEL.

EVALUATION APPROACHES

Three specific evaluation approaches will be used in the methodology sections within this report. The three evaluation approaches are:

- Functionality testing;
- Usability testing; and
- Accessibility testing.

An overview of each of these evaluation approaches and their potential use for data collection purposes is included in this report as **Appendix B**. Each approach is specifically applied within the three methodology sections that follow.

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[2] Information Use Management and Policy Institute. (2003) *Creating a Five-Year Strategic Plan for Library Development in the State of Florida*. Available at: http://www.ii.fsu.edu/getProjectDetail.cfm?pageID=9&ProjectID=6

[3] McClure, C.R.; Snead, J.T.; Thompson, K.M.; & Bertot, J.C. (2004). *Measures and Statistics to Assess the Florida Electronic Library*. (Discussion draft). Tallahassee, FL: Division of Library and Information Services, The Florida State Library.

A list of potential evaluation methods is included as **Appendix C** for consideration within the evaluation process. This list is included to indicate the range of methods that may be considered during the evaluation process. Final methods will be selected based on:

1. Meetings with the FDLIS project manager, FNLC, and FEL committees;
2. Identification of specific evaluation needs as the FEL development continues; and
3. Other considerations such as available funding and resources, participants within the studies, and personnel availability for testing as the study progresses.

It is important to note that limited resources for this evaluation project will not allow the study team to engage in a full range of complex functionality, usability, and accessibility testing. Thus, the study team will engage in a limited series of assessment activities that are the subject of final agreement between the study team, FDLIS project manager, and other evaluation participants.

Additionally, the study team cannot account for local implementation issues related to the use of the FEL web page interface, the Ex Libris Metalib/SFX portal product, or the DCC web interface evaluated with this study. Library servers, workstation browsers, library filters, and other technical components, whether in place locally or on a consortium or area level can lead to problems with the full functionality of these three interfaces that are unforeseeable at this time.

ASSESSMENT ACTIVITY SCHEDULE

The following projected schedule will guide the contracted assessment activities of selected components of the FEL.

1. Planning and Methodology Development for Assessment Activities

Activity	Deadline
Develop project evaluation plan, form study liaisons and project teams	March 1 – March 31, 2004
Develop study methodologies for functionality, usability, and accessibility testing.	March 1 – March 31, 2004
Produce draft methodology document	March 31, 2004
Discuss developed methodologies with Liaison and other evaluation parties	April 1, 2004 – April 21, 2004
Finalize methodologies and produce methodology document	April 21 - April 30, 2004

2. Assessment Activities

Activity	Deadline
Conduct functionality, usability,* and accessibility activities	May 1- July 31, 2004
Develop draft reports** of functionality, usability, and accessibility activity findings	August 1 - September 1, 2004

*Note: Usability testing of the Metalib/SFX Portal Product will occur within four libraries selected for site visits.
**Note: Original draft report due date for accessibility testing of DCC is August 8, 2004.

3. Final Report and Project Findings

Activity	Deadline
Present and discuss findings from functionality, usability, and accessibility evaluation activities with FDLIS, the Network Council, and others	September 1, 2004 – September 17, 2004
Draft final evaluation report	September 21, 2004
Submit final report	September 30, 2004

TIMELINE

A general timeline for the assessment activity schedule above is presented as a Gantt chart in **Appendix D**.

METHODOLOGY I: EVALUATION OF THE EX LIBRIS METALIB/SFX PORTAL PRODUCT

This methodology is designed to evaluate the interaction between FEL participants (those who use the FEL to meet information needs) and elements of the Ex Libris Metalib/SFX interface designed to best meet participant's information needs. The results of this methodology will inform FDLIS, FEL working groups, and other interested stakeholders with input for the continued development and implementation of the FEL using Metalib/SFX as the interface.

Evaluation procedures include input from FDLIS, the Florida Portal Working Group, and other interested stakeholders in the development of the procedures. Evaluation procedures will include direct input on the use of the interface to be collected from a stakeholder listserv. The portal listserv will provide opportunities to obtain direct insights as to interactions between portal users and the portal interface. The listserv will be used to target and develop specific areas of focus for testing within the study. Additionally, site visits to three or four of the ten Florida public libraries participating in the Metalib/SFX pilot program will provide direct input on success rates of retrieving relevant information resources, etc. by library participants.

This evaluation focuses on librarians' and patrons' successful interaction with the Metalib/SFX interface. Factors to determine interaction success rates in meeting information needs include:

- Navigation within interface;
- Selection of search terms or phrases;
- Dissemination of retrieved results;
- Modification of initial search terms and phrases if needed; and
- Retrieval of relevant items.

Focus of success rate is upon the degree and extent of success patrons have in interacting with the trial edition of Metalib/SFX.

The data collected will provide an assessment of the degree to which FEL patrons find the interface:

1. Functional, according to select functionality requirements identified by the study team;
2. Usable under selected resource seeking and retrieval conditions; and
3. Accessible under selected resource seeking and retrieval conditions.

The data collected will inform FDLIS, FEL working groups, and other interested stakeholders of specific issues and potential modifications needed to the interface for presentation to patrons.

Additionally, evaluation of the Ex Libris product will provide the FDLIS with an assessment of the extent to which the Portal Pilot (through the Metalib/SFX pilot) meets functionality, usability, and accessibility requirements of a statewide and interoperable Portal. Such data will provide much needed data that informs the FDLIS decision-making process for continued implementation of the FEL Portal.

Assessing the functionality, usability, and accessibility of selected features of the interface will allow the study team to make detailed comparisons (three to four site visits) and recommendations based on the results of the overall test process. The study team begins this study with the basic assumptions that the:

- Demonstration interface of the Metalib/SFX product will be fully functional and operational;
- Study results will accurately reflect the complete holdings of each Florida public library included within the pilot program;
- Login information provided for the testing, if necessary, will give complete access to all of the features and information included in the Metalib/SFX interface; and
- Pilot projects did not undergo any significant change, updates, or other modifications during the functionality testing period.

The study team will work with FDLIS, FEL working groups, and other interested stakeholders to ensure that these assumptions are not violated during the course of the evaluation process to the extent possible.

1. Functionality Testing

The members of the study team will utilize a multi-stage approach to evaluate the functionality of the Metalib/SFX product and its retrieval interface in terms of a set of essential functions identified by the study team. Examples of potential functions to be evaluated are:

1. Ability to group—user can group results by lending library;
2. Limiting—user can limit searches by library (e.g. selecting a specific library or group of libraries, limiting by types of libraries or locations of libraries, etc.);

3. Search process options—user can perform basic and advanced searches; searches can be done by subject, author, keyword, and title;
4. Stated location and availability of resources—results include the name of the lending institution and the availability, call number, and format of the item retrieved;
5. Languages—search can be performed in a language or languages other than English;
6. Ability to refine searches—user can search results at a greater level of specificity once results have been retrieved;
7. Equivalence of results—same items are retrieved across test public library portals and native online public access catalogs (OPACs);
8. Support/instructions/help tools—instructional rubrics guide users through the search process;
9. Save/print functions—users can save entire results listing or select portions of the results list and can print results in whole or by selection; and
10. Accessibility—interface and functionality comply with World Wide Web Consortium (W3C) accessibility guidelines and Section 508 of the Rehabilitation Act. (See Accessibility Testing below for more information).

These functions cover a diverse range of portal interface capabilities and are based on the general information behaviors of users, whether patrons or librarians.

Three members of the study team and selected members of the library community will each evaluate the Ex Libris interface for functionality. Testing will be of the functionality of the retrieval interface of three or four of the ten libraries of the pilot program. Participants will compare four native OPACs within each of the libraries' catalog system to the results of searches within the same OPACs using the pilot project interface. To the best of the researchers' ability, the native OPACs assessed will be from public libraries of various sizes and from libraries representing the most diverse communities within the state.

The functionality assessment form (**Appendix E**) allows the tester to specify differences in such things as operating system, browser, and connection, evaluating the potential variations in user interaction with the sites based on their individual technologies. Study team members tested the FEL Evaluation Form in a prior evaluation of three FEL pilot programs: SEFLIN; CCLA and TBLC; and TBLC.[4]

The research team will modify this form as needed for the assessment of the Metalib/SFX interface based on:

- Results of a prior ZLOT study (Texas, 2002; more information available below) and the 2003 FEL Pilot Project Functionality Study;
- Access to and print copies of (when necessary) various pilot project reports and related information such as project dates, project aspects, and any other information that may impact functionality testing as provided by the FDLIS project manager;
- Relevant information from other FEL working groups, consultants, Ex Libris, and others as necessary and as provided by the FDLIS project manager;

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[4] Information Use Management and Policy Institute. (July 2003). *Florida Electronic Library: Pilot Project Functionality Testing Methodology*. Available at:
http://www.ii.fsu.edu/projects/2003/state_library6/functionality.report.09_14_03.pdf

- Information obtained as to status of Metalib/SFX development obtained from the Florida Library Association Conference (March 2004);
- Ex Libris training sessions (March 2004); and
- Site visits to three or four of the ten selected Florida public libraries of this demonstration product.

A list of functions, identified in the ZLOT study, the FEL Pilot Project study, site visits, and other information resources will be used to create a final list (to be determined) of the features and functions to be tested during the assessment of the Metalib/SFX product.

The study team will perform a selective functionality assessment of the Metalib/SFX product as implemented for the Portal Pilot. Final functionality requirements for testing will be determined as the project progresses.

The study team will rely on initial criteria identified by Dr. John Bertot in his 2002 assessment of the electronic library interface prototype for the state of Texas (ZLOT)[5] to create the Florida Electronic Library Evaluation Form used for this study.

2. Usability Testing

The study team will develop a standard usability protocol for use in the evaluation of the Metalib/SFX product. Potential areas to be included within the protocol will be based on the general information seeking behaviors of users, whether patrons or librarians. Some aspects of the interface that may be tested are:

- Aesthetics of interface design;
- Navigation between web pages;
- Ability of the users to locate and/or recognize necessary sources of information;
- User satisfaction with available content;
- Support features such as *find*, *search*, and *help*; and
- User satisfaction with overall search experience.

The final protocol will be founded on prior research experience of the study team, input from the FDLIS project manager, and input from other interested parties. A sample usability study protocol will be developed as the study proceeds and based on needs identified by the developing FEL project. At this time, the planned usability study will be conducted within a library setting by a limited number of participants.

Participants may include selected members of the library community (e.g., trained librarians and staff) and selected library patrons. Participants of the usability study will each evaluate the usability of the Metalib/SFX interface for use and retrieval of selected items using the final developed usability protocol.

3. Accessibility Testing

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[5] ZLOT Project. (2002). Available at: http://www.unt.edu/zlot/phase1/del_g_poc_eval_wem_1Dec2002.doc

Accessibility is the level at which a technology can be used by individuals with disabilities. This can include having built-in accessibility features and working with adaptive technologies that individuals with disabilities may be using. Accessibility testing is particularly important in Florida as many seniors have disabilities including visual, hearing, and mobility impairments that impact the ability to use Web-based materials.

The accessibility of websites is commonly measured using two sets of standards—the World Wide Web Consortium guidelines for accessibility (http://www.w3c.org) and the federal legal standards of accessibility established by Section 508 §1194.22[6] of the Rehabilitation Act (htpp://www.section508.gov). Three members of the study team will evaluate selected criteria as developed from the accessibility standards as described in the first methodology section. The accessibility testing instrument is included as **Appendix G**.

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[6] Section 508 §1194.22 of the Rehabilitation Act Amendments of 1998 requires that Federal agencies ensure the accessibility of their web-based intranet and Internet information and applications.

METHODOLOGY II: EVALUATION OF THE DCC WEB INTERFACE

In 2004, the FCLA under the direction of the FEL and on behalf of the FDLIS will implement a pilot statewide union catalog of materials, referred to as the DCC. The pilot program is limited to six digital collections, material from the Florida Memory Project, and material from the state university system's (SUS) PALMM collections which include publications of archival, library, and museum materials. The collections are limited to materials related to Florida.[7] Specific procedures will be conducted once the final content of the DCC is selected and implemented.

The goals of this study include assessing the degree to which the DCC is usable under various resource seeking and retrieval conditions, and accessible under W3C and Section 508 §1194.22 accessibility standards. Objectives of the DCC pilot implementation are to:

- Develop best practices for interoperability among digital library collections;
- Develop recommendations regarding collection-level description;
- Develop best practices for metadata conversion and/or enhancement; and
- Provide training and tools, as appropriate, to assist collection sites to enable aggregation.

Objectives may be modified as the study progresses.

The study team will work with the FDLIS FEL project manager, FLNC, and OCLC to develop the usability assessment methodology. The key aspects of the evaluation project are to:

1. Determine the ease with which expert and non-expert users can locate known materials in the collection;
2. Determine the ease with which expert and non-expert users can determine whether or not an item exists in the collection;
3. Determine the overall ease of use of the system by expert and non-expert users; and
4. Determine the extent to which the DCC interface meets selected accessibility standards.

These key aspects of the evaluation project will determine the evaluation criteria for usability and accessibility testing of the DCC.

Members of the evaluation team will coordinate research activities with the DCC project team in Gainesville, FL. Usability analysis may include think aloud methods, activity logs, surveys, and/or other usability methods. The Information Institute staff will conduct accessibility testing as described in Methodology I.

Meetings with FCLA representatives, FDLIS project manager, and any other interested parties will help the study team develop usability criteria that will meet the needs of actual DCC users. These evaluation procedures will provide the FDLIS with an assessment of the degree to

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[7] Information Use Management and Policy Institute. (January 2004). *Development of the Florida Electronic Library: Three Initiatives.*

which the usability and accessibility of the DCC interface meets the requirements of the FEL. These data will be valuable in guiding the continuing development of the DCC interface.

1. Usability Testing

Usability testing will occur within a usability lab setting. Three members of the study team and three selected members of the library community will each evaluate the DCC and its retrieval interface using an updated evaluation form. The evaluators will compare collections within individual libraries' catalog systems to the results of searches within the same collections using the DCC interface. Collections evaluated will include different sized public libraries. The protocol will be modeled after the usability and accessibility protocol explained in Methodology I. A sample instrument for usability lab usability assessment is included as **Appendix F.**

2. Accessibility Testing

Accessibility testing will be conducted by members of the study team. Three members of the study team will evaluate selected criteria as developed from the accessibility standards as described in the first methodology section. A sample accessibility testing instrument is included as **Appendix G**.

METHODOLOGY III: EVALUATION OF THE FEL WEB PAGE INTERFACE

The proposed FEL evaluation project will assess the degree to which the existing FEL website is:

1. Usable under various resource seeking and retrieval conditions; and
2. Accessible under various resource seeking and retrieval conditions.

Additional criteria such as goals, objectives, and outcomes will be developed as the study progresses. This evaluation focuses on the needs of librarians and patrons in searching for items or information, and the ways in which these groups would retrieve information utilizing the existing FEL home page interface.

1. Usability Testing

At this time, the planned usability study will be conducted within a library setting. Participants may include members of the study team, selected members of the library community (e.g., trained librarians, staff members, etc.), and selected library patrons. Participants of the usability study will each evaluate the FEL home page website interface for use and retrieval of selected items using the final developed usability protocol. If funding permits, usability testing may be conducted in the Information Institute's Usability Lab at Florida State University using the usability protocol presented in **Appendix F**.

2. Accessibility Testing

Accessibility testing will be conducted by members of the study team. Three members of the study team will evaluate selected criteria as developed from the accessibility standards as described in the first methodology section. A sample accessibility testing instrument is included as **Appendix G**.

APPENDIX A. GOALS, OBJECTIVES, AND OUTCOMES

1. FEL Portal Component and Ex Libris Metalib/SFX Portal Product Goals, Objectives, and Outcomes

The goals and objectives of the Portal component of the FEL[8] will be used to guide the evaluation efforts of the research team in determining feasibility and interoperability of the Ex Libris Metalib/SFX product as demonstrated by Metalib/SFX within ten Florida public libraries.

FEL	Goals	Objectives
Portal	1. Create uniform Web site and user interface with content that is searchable and accessible.	1. Retrieve information from multiple sources with a single search engine using a single query.
		2. Provide a coherent and unifying point of access to a variety of online resources available through the FEL.
		3. Meet federal accessibility standards.

FEL Portal Component: Goals and Objectives

Goals and objectives of Metalib/SFX trial product demonstration are derived from original FEL portal goal and objectives (above). Metalib/SFX pilot goals and objectives will be used to assess extent to which they meets goals and objectives of the FEL portal component.[9]

Ex Libris	Goals	Objectives
Metalib/ SFX	1. Assess the degree to which the Portal Pilot meets selected functionality requirements, and 2. Assess degree to which Portal Pilot is usable under various resource seeking and retrieval conditions (to include accessibility features).	1. Determine the extent to which Metalib/SFX can meet the information needs of Florida residents and library staff.
		2. Review the flexibility of Metalib/SFX as a customizable portal to Florida library digital content.
		3. Test Metalib/SFX's ability to search across and retrieve content from varied resources such as library OPACs, online databases, and locally digitized content.
		4. Test interoperability between the FEL Portal and the Florida Center for Library Automation (FCLA) and the College Center for Library Automation (CCLA).

Ex Libris Metalib/SFX Portal Product: Goals and Objectives

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[8] ibid

[9] Information Use Management and Policy Institute. (October 2003). *Evaluation of the Florida State Library PortalPilot (Phase III): Draft Statement of Work.*

Three outcomes have been developed from the FEL Portal component goals to be used in evaluating the Ex Libris Metalib/SFX pilot product interface as to meeting selected functionality requirements, limited usability criteria, and specific accessibility standards.[10]

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[10] Information Use Management and Policy Institute. (October 2003). *Measures and Statistics to Assess the Florida Electronic Library (FEL)*

Ex Libris	Outcomes	Indicator	Source/Method
Metalib/ SFX	1. Florida residents will be able to use the virtual library portal to retrieve information from multiple sources with a single search engine.	90% function capability of selected, existing, and modifiable interface features.	Functionality testing
	2. The portal will provide a coherent and unifying point of access to a variety of online resources that are available through FEL.	90% of searches result in successful navigation of the online interface.	Usability testing
	3. The DCC will meet selected W3C and Section 508 accessibility standards.	100% of minimum accessibility requirements met.	Accessibility testing

Ex Libris Metalib/SFX Portal Product: Outcomes, Indicators, Sources and Methods

2. FEL Virtual Union Catalog and Digital Collections Catalog (DCC) Web Interface Goals, Objectives, and Outcomes

The goals and objectives of the Virtual Union Catalog component of the FEL[11] will be used to guide the evaluation efforts of the research team in determining the usability and accessibility of the DCC interface.

FEL Component	Goals	Objectives
Virtual Union Catalog	1. Create virtual union catalog that will retrieve all available materials in the State.	1. Link all Florida public and academic virtual union catalogs.
		2. Assess the effectiveness of identifying, locating, and reporting availability of library materials.
		3. Incorporate enhanced catalog content into retrieved bibliographic record displays.

FEL Virtual Union Catalog: Goals and Objectives

Specific goals and objectives of the DCC interface are derived from the FEL Virtual Union Catalog Component goals and objectives (above). The DCC interface goals and objectives will be used to determine the extent to which the DCC interface is usable and accessible (based on specific accessibility standards) under various resource seeking and retrieval conditions.[12]

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[11] ibid

[12] Information Use Management and Policy Institute. (January 2004). *Development of the Florida Electronic Library: Three Initiatives.*

DCC	Goals	Objectives
DCC Interface	1. Assess the degree to which the DCC interface is usable under various resource seeking and retrieval conditions.	1. Perform general usability testing of the interface created for the DCC.
	2. Assess the degree to which the DCC interface employs accessibility features.	2. Conduct a selected accessibility assessment of the DCC interface.

DCC Web Interface: Goals and Objectives

Two outcomes have been developed from the FEL Virtual Union Catalog component goals to be used in evaluating the DCC interface as to meeting usability and accessibility standards.[13]

DCC	Outcome	Indicator	Source/Method
OAIster	1. Residents will be able to search the contents of most Florida public and academic virtual union catalogs for informational needs.	90% of searches result in successful navigation of the online interface.	Usability testing
	2. The DCC will meet selected W3C and Section 508 accessibility standards.	100% of minimum accessibility requirements met.	Accessibility testing

DCC Web Interface: Outcomes, Indicators, Sources and Methods

3. FEL Portal Component and FEL Web Page Interface Goals, Objectives, and Outcomes

The goals and objectives of the Portal component of the FEL[14] will be used to guide the evaluation efforts of the research team in determining the usability and accessibility of the existing FEL web page interface.

FEL Portal Component: Goals and Objectives

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[13] Information Use Management and Policy Institute. (October 2003). *Measures and Statistics to Assess the Florida Electronic Library (FEL).*
[14] ibid

FEL Component	Goals	Objectives
Portal	1. Create uniform Web site and user interface with content that is searchable and accessible.	1. Retrieve information from multiple sources with a single search engine using a single query.
		2. Provide a coherent and unifying point of access to a variety of online resources available through the FEL.
		3. Meet Federal accessibility standards.

Specific goals and objectives of the FEL Web page interface are derived from the FEL Portal component goals and objectives (above). The FEL Web page interface goals and objectives will be used to determine the extent to which the FEL Web page interface is usable and accessible (based on specific accessibility standards) under various resource seeking and retrieval conditions.[15]

FEL Component	Goals	Objectives
FEL Web Page Interface (Existing)	1. Create uniform Web site and user interface containing usable content.	1. Provide a coherent and unifying point of access to a variety of online resources available through the FEL.
	2. Create uniform Web site and user interface containing accessible content.	2. Meet selected Federal accessibility standards.

FEL Web Page Interface: Goals and Objectives

Two outcomes have been developed from the FEL Virtual Union Catalog component goals and objectives to be used in evaluating the existing FEL Web Pages as to meeting usability and accessibility standards determined by the FDLIS and the study team.[16]

FEL Web Page Interface: Outcomes, Indicators, Sources and Methods

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[15] Information Use Management and Policy Institute. (January 2004). *Development of the Florida Electronic Library: Three Initiatives.*

[16] Information Use Management and Policy Institute. (October 2003). *Measures and Statistics to Assess the Florida Electronic Library (FEL).*

FEL Portal Component	Outcomes	Indicator	Source/Method
FEL Web Page Interface (Existing)	1. The Web page will provide a coherent and unifying point of access to a variety of online resources that are available through FEL.	90% of searches result in successful navigation of the Web interface.	Usability testing
	2. The DCC will meet selected W3C and Section 508 accessibility standards.	100% of minimum accessibility requirements met.	Accessibility testing

APPENDIX B. TYPES OF EVALUATIVE APPROACHES

The following is an overview of selected evaluative approaches that will be used to frame the data collection methodologies developed to describe the measures and indicators outlined within the study:

- *Usability evaluation*: Usability is the effectiveness, efficiency, and satisfaction with which specified users can achieve specified goals in particular environments. For purposes of this study, the study team may employ a broader meaning for usability, using a selection of usability methods including log analysis, policy analysis, website management and organization, technical assessment, and/or user satisfaction. The scope of the usability analysis herein proposed will specifically address the usability of the tested online interfaces for librarians and other library users.

- *Accessibility evaluation*: The Institute staff has developed a protocol using criteria identified by the World Wide Web Consortium (W3C) Web Accessibility Initiatives (http://www.w3.org/TR/WAI-WEBCONTENT/) and Section 508 of the Rehabilitation Act to test for accessibility compliance and to identify adaptive technology issues.

- *Functionality evaluation*: This evaluation will inform FDLIS and interested parties of the effectiveness of the functionality of the Ex Libris Metalib/SFX interface that has been designed specifically for use with State of Florida online catalogs.

The selection, development, and use of appropriate combinations of evaluative approaches is imperative in informing FDLIS and other interested parties of the functionality, usability, and accessibility of pilot programs in providing electronic access to information resources and services through the FEL.
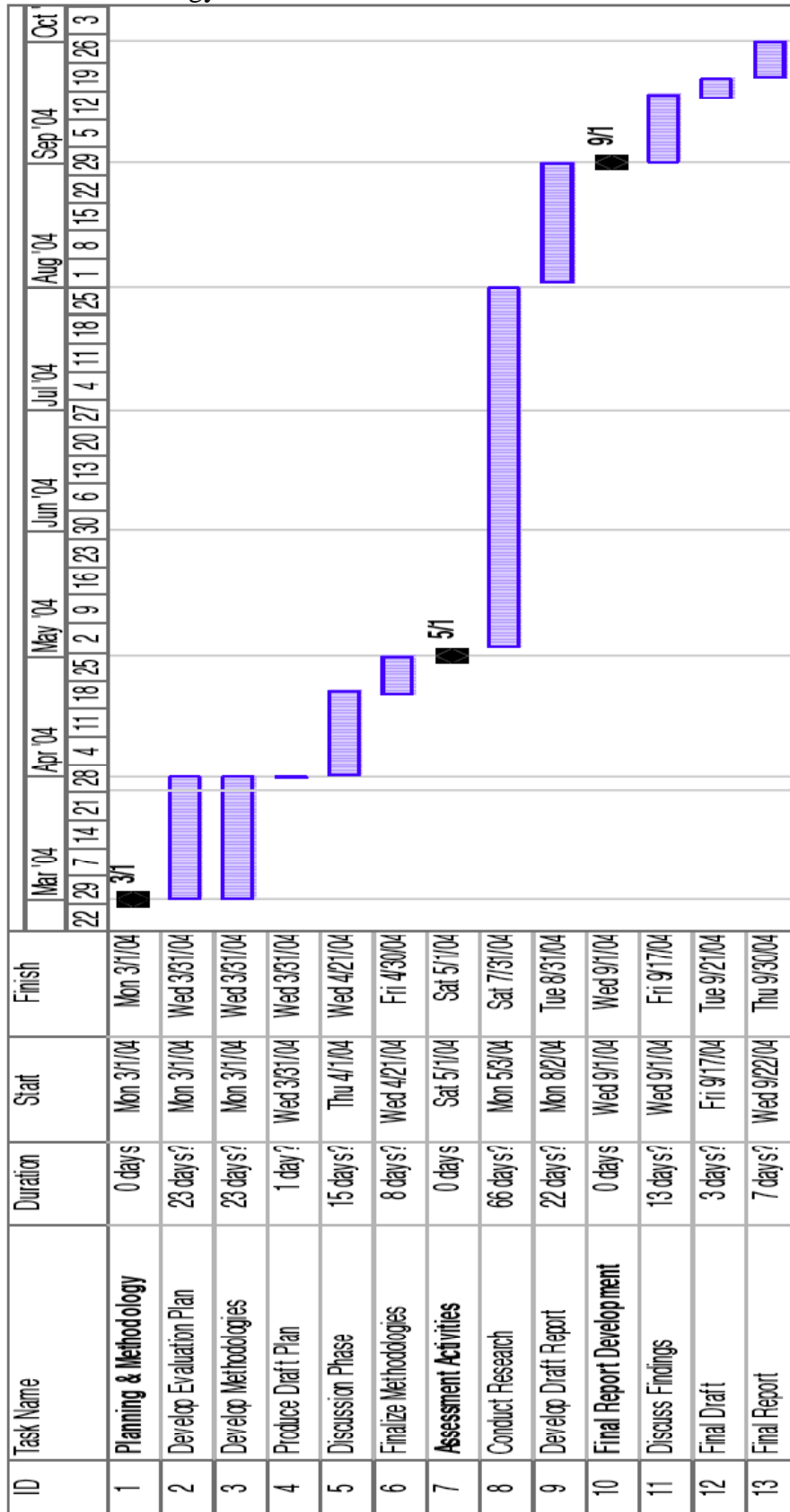
APPENDIX C. EVALUATION METHODS

A selection of the following methods for evaluation will enable the study team to collect data that will demonstrate the usability, accessibility, and functionality of the interfaces under evaluation.

- *Log file analysis*: Servers in the usability lab environment maintain transaction log files that track a range of information about the users of the files on that server, the time such use was made, the pages on a website most frequently accessed, etc. Software installed on the server in the usability lab will provide summary reports and graphics for the evaluation of the participants' activities (success/failures) in the usability lab study from a system perspective.
- *Activity logs*: Observations by research team members and recorded logs of participants encounters (*think-aloud evaluation approach*) regarding specific tasks within the FEL study. Team members are provided with the log and asked to maintain a record of the activities, views, or problems encountered by participants of the study. The logs, both observed and recorded will be used in the evaluation process to determine success/failure of attempted tasks.
- *"Think-aloud" procedure*: The evaluator is encouraged to talk during the search experience to express his or her thoughts as he or she searches for icons, receives data, and so forth. With this method, one researcher leads the evaluator through certain tasks, providing minimal guidance and reminding the evaluator to continue to talk through the thought process if needed. The search sessions will be recorded using audio and visual equipment, and the results from the separate evaluations will be compared and compiled for triangulation of the data resulting in increased validity and reliability.

The methods presented above are examples of methods appropriate to evaluation of the selected components of the FEL. Final methods will be determined by discussions with FEL Liaison and other evaluation parties**.**

ID	Task Name	Duration	Start	Finish
1	**Planning & Methodology**	0 days	Mon 3/1/04	Mon 3/1/04
2	Develop Evaluation Plan	23 days?	Mon 3/1/04	Wed 3/31/04
3	Develop Methodologies	23 days?	Mon 3/1/04	Wed 3/31/04
4	Produce Draft Plan	1 day?	Wed 3/31/04	Wed 3/31/04
5	Discussion Phase	15 days?	Thu 4/1/04	Wed 4/21/04
6	Finalize Methodologies	8 days?	Wed 4/21/04	Fri 4/30/04
7	**Assessment Activities**	0 days	Sat 5/1/04	Sat 5/1/04
8	Conduct Research	66 days?	Mon 5/3/04	Sat 7/31/04
9	Develop Draft Report	22 days?	Mon 8/2/04	Tue 8/31/04
10	**Final Report Development**	0 days	Wed 9/1/04	Wed 9/1/04
11	Discuss Findings	13 days?	Wed 9/1/04	Fri 9/17/04
12	Final Draft	3 days?	Fri 9/17/04	Tue 9/21/04
13	Final Report	7 days?	Wed 9/22/04	Thu 9/30/04

APPENDIX E. SAMPLE FUNCTIONALITY TESTING INSTRUMENT

Evaluator Name: _____

Virtual Library: _____

Date/Time Accessed: _____/_____

Time Completed: _____

Computer Type: _____

Operating System: _____

Browser and Version: _____

Screen Resolution: _____

Connection Type: _____

Comments on access to site or other general access issues:

Search Type	Search String I	Search String II
Subject	*Arthritis*	*West Nile Virus*
Author	*Austen Jane*	*Gould Stephen Jay*
Keyword	*Mosquito*	*Kayak*
Title	*To Kill a Mockingbird*	*Living History*

Functional Requirement	Results			Comments
Can users group items in searches?	Yes	No	Somewhat	
Can a search be limited to particular location(s)?	Yes	No	Somewhat	
Do the search results indicate an item's:				
-call number?	Yes	No	Somewhat	
-location?	Yes	No	Somewhat	
-availability?	Yes	No	Somewhat	
-format	Yes	No	Somewhat	
Does the search process have functions for:				
-advanced searching (ability to search 2 or more fields at once)?	Yes	No	Somewhat	
-keyword?	Yes	No	Somewhat	
-subject?	Yes	No	Somewhat	
-author?	Yes	No	Somewhat	
-title?	Yes	No	Somewhat	
Can searches be performed in any languages other than English?	Yes	No	Somewhat	
Can searches be refined?	Yes	No	Somewhat	
Does the site provide:				
-support?	Yes	No	Somewhat	
-instructions?	Yes	No	Somewhat	
-help tools?	Yes	No	Somewhat	
Can user:				
-save entire results?	Yes	No	Somewhat	
-save selected results?	Yes	No	Somewhat	
-print entire results?	Yes	No	Somewhat	
-print selected results?	Yes	No	Somewhat	

APPENDIX F. SAMPLE USABILITY LAB TESTING PROTOCOL

Research Goal
This usability test will provide the FDLIS with information that can help them understand the user experience provided by the Florida Electronic Library website.

Goals
- To understand users' expectations for information retrieved with website.
- To investigate the usability of primary navigation functions.
- To investigate users' ability to use "find," "search," and "help" features.

Needs Investigation
- What information and features do users want with this interface?
How do users and potential users expect to have these information and features presented?
What do users value in competitive sites?
What information is needed to indicate what features might be of use for different users?

Navigation Investigation
- How-to navigation
- In-depth navigation
- Overall navigation
- Site search functionality

Script

Introduction (10 minutes)

Hi, I'm [state first name] from the Information Use Management and Policy Institute of the School of Information Studies at Florida State University. We are conducting this study to evaluate the Florida Electronic Library website. I'll call it the FEL website. Your responses to this usability assessment will help to determine the quality of the statewide interface and may help to improve the usability and the usefulness of the Florida Electronic Library.

Let me tell you what to expect during this usability assessment. It will take about an hour to 90 minutes, and it will basically be an interview. I would like to you talk a lot during this process.

I am going to show you the FEL website and then give you some short tasks using the website. While you are working, please tell me what you are thinking, where you are looking, what you might be looking for. Also, please tell me if something is not working or if what you expect to happen does not happen.

After you've gone through all the tasks, I'll ask you a few more questions and then we'll be done.

Behind the glass to your left is a video camera and another research assistant, [name]. He/she is not yet recording, but will start recording you and the computer screen in a minute so we can

look back at what happened during the website assessment if we need to when we go over the results. I will be here, but will be scribbling notes and so might not catch everything. This recording will be for analysis only. It will not be broadcast or seen by anyone except the research team.

Now I'd like to read you what is called "informed consent." [Read informed consent script and have participant sign any necessary paperwork. Provide demographic questionnaire and give user time to fill out.]

Now, we will begin taping [cameraperson begins videorecording].

Evaluation Instruction (5 minutes)

In a minute I'll ask you to turn on the monitor and look at the FEL website.

The most important thing for you to remember is that you are testing the website, the website is not testing you. There is absolutely nothing you can do wrong.

If you see anything that is confusing or seems broken or weird, it is not your fault. Please describe the problems, though, so we can know about them.

Even if it is just a shape or color or the speed of a transition, anything, we'd like to hear about it. If you think something is awful, please tell us. If something is great, same thing. Since this is designed specifically for people like you, we want to know your thoughts. You won't hurt anyone's feelings. I didn't make the website, neither did [*person behind window*].

Again, please talk the whole time, if possible. We want you to narrate as you process what you are seeing, like "I'm expecting this to do x, oh, it didn't, instead it did y. That surprised me."

Does that make any sense? Any questions?

First Impressions (5-7 minutes)

Please turn on the monitor. While it is warming up, you can put the keyboard wherever is comfortable for you.

Now that it is warmed up, I want you to select [feature].

Take a minute to read the page.

What are your first thoughts as you see this page?

Is it interesting to you?

Does it remind you of any other websites? What part reminds you of that? Is that good or bad?

Content Assessment (5-7 minutes)

[*Protocol continues with specific tasks followed by such questions as:*

Is this what you had expected? If not, what's missing? Is there anything extra?

Is this the right amount of information? Would you want more? Less?

How much would be too much?

How much would be not enough?].

Navigation Assessment (5-7 minutes)

Say you were looking for [content or feature], what would you do?

Feature Assessment (7-10 minutes)

[Tasks that include find, help, and search features]

Wrap-Up (5 minutes)

Please turn off the monitor.

If you were to describe the FEL website to someone with a similar level of computer experience as you in a couple of sentences, how would you describe it?

Okay, now that we've gone through the practical use of the website, lets talk about the FEL "wildest dreams" website. If you could add any amazing feature for a website that was geared toward providing you as a librarian/library user with everything possible within your wildest dream, what would you have on that website?

Do you have any further comments? Questions?

Thank you. If you have any thoughts on the FEL website at a later date, please don't hesitate to email us about it. Our contact information is on this card.

[*Video off*].

Functional Requirement	Results			Comments
Do the appearance and function of the site comply with the accessibility principles mandated by Section 508 of the Rehabilitation Act by complying with W3C principles that:				
-Provides equivalent alternatives to auditory and visual content?	Yes	No	Somewhat	
-Does not rely on color alone?	Yes	No	Somewhat	
-Uses markup and style sheets and does so properly?	Yes	No	Somewhat	
-Creates tables that transform gracefully?	Yes	No	Somewhat	
-Ensures user control of time-sensitive content changes?	Yes	No	Somewhat	
-Ensures direct accessibility of embedded user interfaces?	Yes	No	Somewhat	
-Designs for device-independence?	Yes	No	Somewhat	
-Provides context and orientation information?	Yes	No	Somewhat	
-Provides clear navigation mechanisms?	Yes	No	Somewhat	
-Ensures that documents are clear and simple?	Yes	No	Somewhat	

APPENDIX G. SAMPLE ACCESSIBILITY TESTING INSTRUMENT