
Software Requirements Specification

for the

Interlibrary Loan Module

of an

Integrated Library System

Version 2.0 draft

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Revision History

Name	Date	Reason For Changes	Version
Lucien Kress	10/09/08	Initial Draft	1.0 draft
Lucien Kress	12/1/08	Revisions, Requirements workshop	2.0 draft

1. Introduction

1.1 Purpose and Perspective

This Software Requirements Specification (SRS) describes the functional and nonfunctional requirements for the Interlibrary Loan Module of an Integrated Library System (ILS). The requirements were developed specifically for King County Library System, but are believed to be suitable for many large, urban, multiple-branch, centralized library systems.

The requirements in this SRS presuppose the general data structures and functionality of a full-fledged ILS. The ILL Module will replace and enhance the current capabilities of commercially available ILSes, as well as add new functionality.

1.2 Product Scope and Features

The ILL Module facilitates the processing of incoming (“lending”) and outgoing (“requesting”) interlibrary loan requests. Specifically, the ILL Module supports the following activities, among others:

- Providing patrons and staff a facility for requesting materials from other library systems.
- Processing borrowing requests and verifying that the local library system does not have materials available prior to requesting from other library systems.
- Processing incoming interlibrary loan requests, verifying availability of materials, and accepting or rejecting requests.
- Posting requests to an interlibrary loan management system such as OCLC Resource Sharing.
- Creating temporary bibliographic and item records for materials received from other library systems.
- Tracking movement of requested items between branches, to patrons, and back to the lending library system.
- Querying and analyzing interlibrary loan transaction records to support decision-making about participation in interlibrary loan agreements and relationships.

The current specification presupposes the general functionality of an ILS and specifies only those requirements that directly or indirectly relate to ILL activities. King County Library has previously published specifications for Acquisitions and Serials Management, Circulation, and Cataloging modules. Requirements for OPAC, web services, and management reporting are currently under development.

Moreover, the current specification is focused on functional characteristics of an ILL Module. Data structures and user interfaces will require further specification and development using an iterative, prototype-oriented software development methodology.

1.3 Intended Audience

This SRS is intended both for library managers and staff who may contribute additional requirements or commentary, and for software project managers and developers who will implement the requirements. As such, it aims for a high level of readability for a non-technical audience, while providing enough specificity to be useful to a software developer.

It is assumed that when software development occurs, it will be in a highly collaborative and iterative environment in which end-users have multiple opportunities to review prototypes and refine the user interface and software functionality.

It is also assumed that the reader has a general understanding of Library services and processes and does not require definition of common Library terminology.

1.4 Document Conventions

The SRS includes requirements, process flowcharts, and use cases. Requirements include a reference to a process flowchart where appropriate. Flowcharts generally indicate the current approach to ILL processes at King County Library System, and should be considered to give contextual information rather than to prescribe or constrain new software development.

Use cases are included for some of the most frequently performed activities. They are intended to supplement the requirements and highlight activities that offer a great potential for increased efficiency and ease of use. Again, they should be considered to be contextual rather than prescriptive.

1.5 User Classes and Characteristics

Patron	A Patron is a customer of King County Library System, either possessing a library card or not, either on site of a community library or not, using either print materials, media materials, or electronic resources.
ILL Staff	ILL staff include managers, librarians, library technicians, library assistants, and library pages who are involved with processing ILL requests, searching for materials, directing movement of materials between branches, processing materials for shipment, tracking interlibrary loans, and developing statistics and analysis of ILL transactions.
ILL Managers	ILL Managers include management staff who oversee the ILL processes.
ILL Libraries	ILL Libraries include libraries who lend materials to, and receive materials from KCLS through the ILL process.
Library Managers	Library Managers include Cluster and Site Managers who provide input to the ILL processes.
Library Directors	Library Directors include members of the Library Executive Team who plan and direct Library services and priorities.

1.6 Operating Environment

- OE-1: The ILL Module supports the needs of a large, multiple-branch library system. Specifically, the system must support a library system with 50 locations, 20 million circulations, purchasing and processing over 500,000 items per year. The ILL Department processes over 5000 requests for new materials per month, approximately 2000 of which turn into ILL requests. The ILL Department also

processes approximately 3000 ILL requests from other libraries, 1000 of which result in loans. It is highly desirable that searches and reports can be processed during open hours without disrupting other system functions.

- OE-2: The ILL Module shall operate on a Linux or Solaris server.
- OE-3: The ILL Module shall be accessible through a web-browser or a Windows-compatible client.
- OE-4: If web-browser based, the ILL Module shall be accessible through Microsoft Internet Explorer (v.6.0 and later) and Mozilla Firefox (v.2.0 and later).
- OE-5: The ILL Module shall be accessible with screen-reading software, screen-magnification software, and other software programs designed to increase accessibility.

1.7 Design and Implementation Constraints

- CO-1: The ILL Module shall use a fully relational database back-end.
- CO-2: The ILL Module shall produce standards-compliant HTML.
- CO-3: The ILL Module shall provide a development and training environment with the ability to migrate configurations to a production environment.
- CO-4: User rights and privileges will be controlled through security groups and/or “roles” that allow access control for individuals, workgroups, and arbitrary staff groups.
- CO-5: These requirements shall not constrain functionality or features of the Online Public Access Catalog (OPAC) module.

1.8 User Documentation

- UD-1: The software developer shall provide complete data specifications for authority records, bibliographic records, order records, item records, hold/request records, and other records maintained or accessed by the ILL Module.
- UD-2: The software developer shall provide a thorough high-level description of major processes, including bibliographic record import and export, validation of bibliographic records against internal and external authority sources, and standard reports.
- UD-3: The system shall provide an online, hierarchical, and cross-linked help system in HTML that describes and illustrates all system functions.

1.9 Assumptions and Dependencies

- AS-1: The ILL Module is part of an enterprise-level Library Automation System.
- AS-2: ILL processes are consolidated at a central location, and accept input and provide services to multiple locations.
- DE-1: The ILL Module relies on the data structures and functionality of an enterprise-level Library Automation System, including Acquisitions and Cataloging modules.
- DE-2: The ILL Module interfaces with a variety of vendor websites, via published APIs and/or automated transfer of standard-format data files (e.g. USMARC21, EDIFACT).
- DE-3: The ILL module interacts with a patron interface, also known as an Online Public Access Catalog (OPAC), accepting input in the form of materials requests and providing output in the form of temporary bibliographic and item records and hold requests.

System Requirements

Category: ILL: General

Req ID: 5705 **Source:** ILL **Priority:** 3

Name: patron ILL requests via OPAC

Description: Patron requests are collected through OPAC (or, less preferably, through a separate webform); patron information is authenticated against ILS; if blocks or limits exist, patron is notified; requested items are checked for existence in the collection; patron is notified of existence of items; unowned items directly populate a selection list (see REQ-3004) in the ILS so that retyping is unnecessary. ILL staff use the selection list to process ILL requests.

Related Reqs: 3101 5706 **Related Process**

Req ID: 5711 **Source:** ILL **Priority:** 2

Name: serials ILL requests

Description: ILL requests for serials articles are handled through the OPAC request process, as in REQ-5705. The process includes a search of locally available physical and electronic resources. If the request cannot be filled locally, it is processed through the ILL system. When the Library receives an ILL serials photocopy from the lending library, the ILL item record contains periodical name, date, article title, and page numbers.

Related Reqs: **Related Process**

Req ID: 5713 **Source:** ILL **Priority:** 3

Name: manual ILL requests

Description: System allows manual entry of ILL requests (for example, when patrons submit requests on paper) in a way that takes advantage of the automation described in REQ-5705, while allowing simple and efficient data entry.

Related Reqs: **Related Process**

Req ID: 5717	Source: ILL	Priority: 2
Name: ILL lending request preprocessing		
Description: System provides a utility to import outstanding ILL requests, search by author and title, and output availability and status of each item. To the extent that the external ILL system allows, staff can accept or refuse a request within the ILS interface with a single click.		
Related Reqs:		Related Process

Req ID: 2344	Source: ILL	Priority: 2
Name: ILL request status		
Description: Request status is updated at each stage of lending and receiving process, to the extent that status information is available from the external ILL system. Ideally, status updates include: request created, request received by lending library, request accepted or rejected by lending library, requested item shipped by lending library (including shipment method), requested item received at borrowing library, requested item sent to pickup location, requested item available on hold shelf, requested item returned by borrower, requested item in transit to shipping location, requested item shipped to lending library (including shipment method), and requested item received by lending library.		
Related Reqs: 5706		Related Process

Req ID: 2335	Source: ILL	Priority: 3
Name: ILL fees and restrictions		
Description: System allows ILL fines and charges to be tracked separately from other charges. Some restrictions may be applied according to ILL account balance, independently of other outstanding fees. In addition, presence of a fee for a specific item can prevent that item from being checked out until the fee is paid.		
Related Reqs: 2333		Related Process

Req ID: 2333	Source: ILL	Priority: 3
Name: ILL request limits		
Description: Ability to set interlibrary loan limits for patrons, both globally and individually. For example, limit the total number of outstanding ILL requests; limit ability to place new ILL requests before current ILL items are returned; limit ability to place new ILL requests based on standard patron blocks, account balance, etc.		
Related Reqs:	Related Process	

Req ID: 5716	Source: ILL	Priority: 3
Name: ILL request search		
Description: System allows searching ILL requests by patron, title, author, lending library, and OCLC request number.		
Related Reqs:	Related Process	

Category: ILL: Integration

Req ID: 2338	Source: ILL	Priority: 3
Name: integrated ILL module		
Description: ILL module is completely integrated with the rest of the system and with external interlibrary loan systems (OCLC, Sirsi Dynix URSA, Innovative InnReach, Relais ILL, Auto-Graphics AGent Resource Sharing, etc.). To the extent that the external system supports it, the ILL module is able to use borrower records and item records from the external system, to avoid the necessity of manually creating temporary records. Imported records can easily be distinguished from non-ILL records, and can be included or excluded in queries and reports.		
Related Reqs:	Related Process	

Req ID: 5700	Source: ILL	Priority: 3
Name: compatibility with external interlibrary loan systems		
Description: Ability to import, export, and track interlibrary loan patrons and requests with external interlibrary loan systems.		
Related Reqs:	Related Process	

Category: ILL: Requesting

Req ID: 2345 **Source:** ILL **Priority:** 1

Name: ILL due date and renewal rules

Description: System retrieves owning library's due date and renewal rules from external interlibrary loan system.

Related Reqs: **Related Process**

Req ID: 5712 **Source:** ILL **Priority:** 3

Name: "use in library" items

Description: When the Library requests and receives an ILL item that is reserved for use inside the Library, the item record is marked with a "use in library" flag. The item can only be checked out to the patron's home library. The item record has an easily-identifiable visual indicator (such as a colored background).

Related Reqs: **Related Process**

Category: ILL: Patron Notifications

Req ID: 5706 **Source:** ILL **Priority:** 3

Name: patron ILL request notifications

Description: Patrons can receive automatic or manual notifications according to preference at each stage of ILL request processing. Notification preferences can include status changes to be notified about (see REQ-3102) and notification method (email, text message, etc.). In addition, status changes are recorded in the patron account. (Library chooses which status changes are visible to patrons.) Patrons can track ILL request status and progress through their account.

Related Reqs: 2344 3102 **Related Process**

Req ID: 2336 **Source:** ILL **Priority:** 3

Name: ILL notices

Description: ILL overdue and charge notifications are handled as part of the larger notification system.

Related Reqs: **Related Process**

Req ID: 2506 **Source:** ILL **Priority:** 2

Name: ILL patron special notifications

Description: Ability to click to notify patron of special circumstances in ILL requests, e.g. if there is a charge for an ILL request, or if item unexpectedly becomes unavailable, etc. Notification method and template is customizable per system. Notification method uses patron preferences (email, phone, text message, etc.)

Related Reqs: 5706 **Related Process**

Req ID: 2511 **Source:** ILL **Priority:** 3

Name: ILL patron account messages

Description: Ability to place a non-blocking ILL message in the patron account, e.g. requested ILL item has a fee, or requested ILL item is unavailable.

Related Reqs: 5706 **Related Process**

Category: ILL: Records

Req ID: 5702 **Source:** ILL **Priority:** 3**Name:** ILL patron records**Description:** Ability to identify patron records created for remote libraries that borrow through ILL, for example through a unique patron type. ILL patrons have different rules of requesting and loan rules than other patrons. (See REQ-5057 and REQ-5190 for specification of rules.)**Related Reqs:** 5057 5190 **Related Process**

Req ID: 5701 **Source:** ILL **Priority:** 3**Name:** ILL item records**Description:** Ability to flag a bibliographic record as an ILL record. When staff view an ILL-flagged bibliographic record, or an item record attached to an ILL-flagged bibliographic record, or an ILL item record in a patron's checked-out items list, there should be an easily visible indicator (e.g. customizable background color, etc.) that the record is for a borrowed ILL item. The item record includes a link to the interlibrary loan system request record. ILL items will always be suppressed in patron interfaces.**Related Reqs:** **Related Process**

Req ID: 5715 **Source:** ILL **Priority:** 3**Name:** ILL request history**Description:** ILL requests are written to the patron's check-out history, if the patron has opted in.**Related Reqs:** 5046 **Related Process**

Category: ILL: Miscellaneous

Req ID: 5703 **Source:** ILL **Priority:** 3

Name: ILL patron address export

Description: Ability to export ILL patron address from the patron record in any of several data formats: XML, comma-separated text, tab-delimited text, format specified by an external postage system, or format specified by label printing software. Ability to specify additional formats as required. Ability to specify a default format and to pick other formats from a drop-down menu.

Related Reqs:

Related Process

Req ID: 5714 **Source:** ILL **Priority:** 2

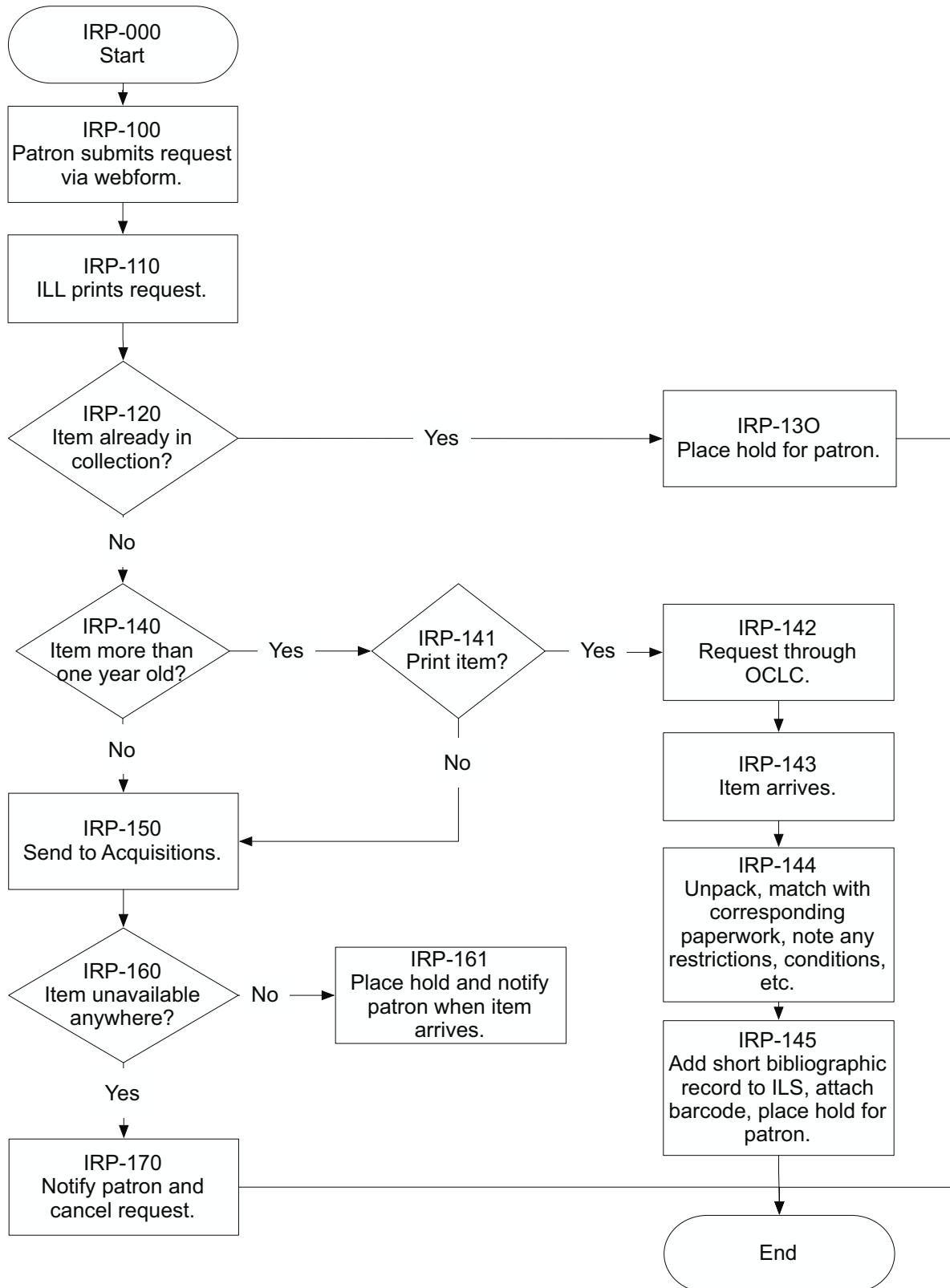
Name: ILL transaction labels

Description: System provides a utility to generate an information label from an ILL request or item record.

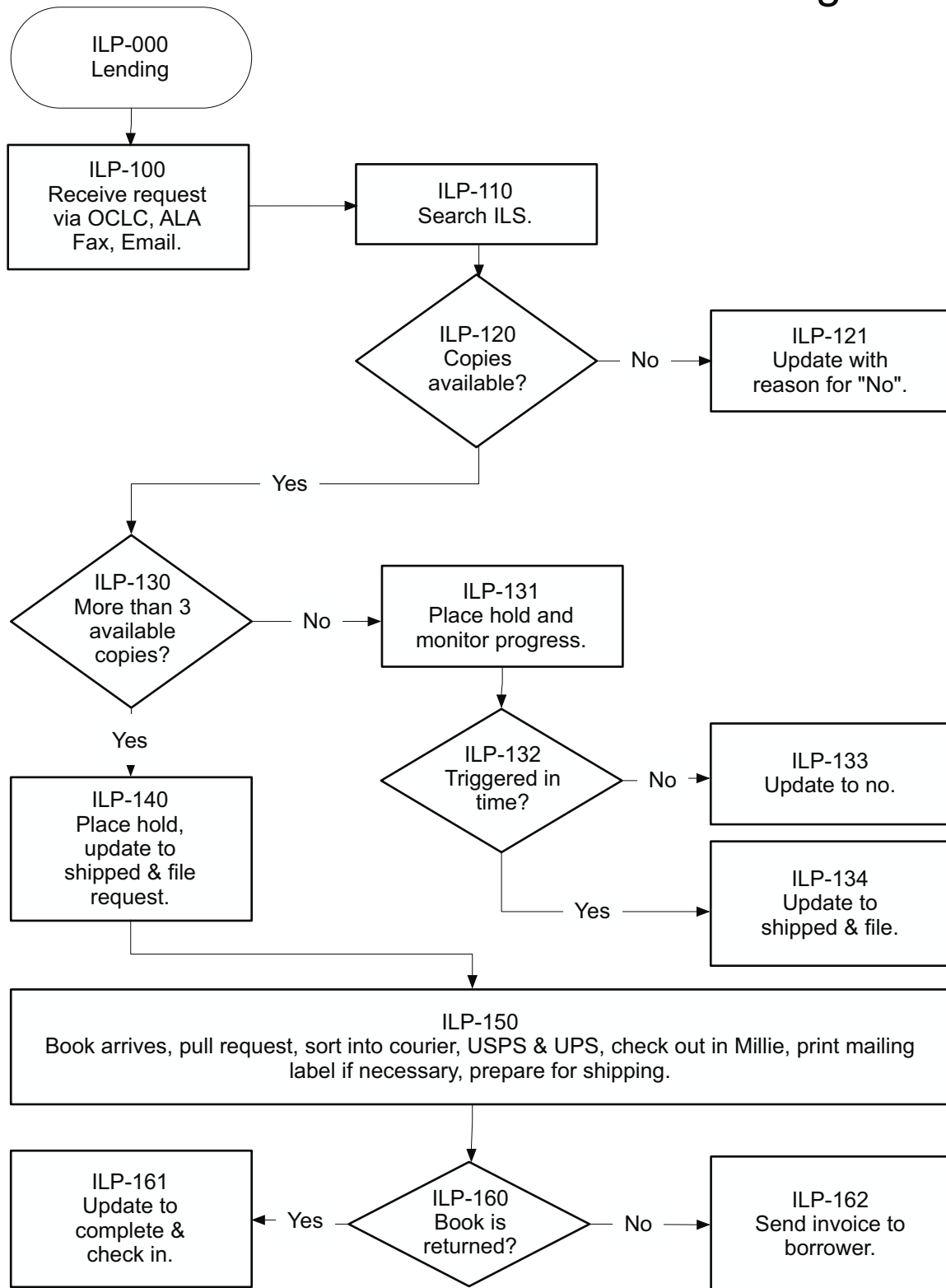
Related Reqs:

Related Process

ILL Receiving Process



ILL Lending Process



4. Use Cases

4.1 Use Case List

We have written use cases for selected, frequently-performed activities. These are included to supplement the requirements, and to highlight places where good software could bring great improvements in efficiency and ease of use. The steps of the use cases should be considered suggestive rather than prescriptive.

<i>Primary Actor</i>	<i>Use Cases</i>
ILL Technician	Process Local Materials Requests
ILL Technician	Process External Materials Requests
ILL Technician	Create Temporary Bibliographic/Item Record

4.2 Process Local Materials Requests

Use Case ID:	USE-001		
Use Case Name:	Process Local Materials Requests		
Created By:	Lucien Kress	Last Updated By:	Lucien Kress
Date Created:	11/15/08	Date Last Updated:	11/15/08

Actors:	ILL Technician (Tech)	
Description:	Tech processes local materials requests for delegation to Acquisitions or Interlibrary Loan vendor.	
Trigger:	Routine process.	
Preconditions:	Tech is logged into library system and ILL system with appropriate privileges.	
Postconditions:	Requests have been delegated as appropriate.	
	Stimulus	Response
Normal Flow:		R1: Tech selects incoming requests list and clicks "Process" button.
	S2: System processes incoming requests and marks status for each request.	R2: Tech reviews items with "invalid patron" or "blocked patron" status and chooses to notify patrons with email addresses of request failure, and chooses to delete other "invalid patron" requests.
	S3: System redisplay list without "invalid patron" and "blocked patron" items.	R3: Tech reviews items with "unidentifiable item" status. Tech performs searches to identify items and add necessary fields, and clicks "Process" button.
	S4: System redisplay list without "unidentifiable item" items.	R4: Tech reviews items with "available locally" status and chooses to notify patrons with email addresses of availability, including a "click to place hold" link. Tech chooses to place holds automatically for patrons without email addresses.
	S5: System redisplay list without "available locally" items.	R5: Tech reviews items with "prefer to order" status (i.e. recently published items, media items, etc.) and chooses to route to an Acquisitions selection list.
	S6: System redisplay list without "prefer to order" items.	R6: Tech reviews remaining items and clicks to transfer to ILL.
	R7: System places requests or prepares output file to upload to ILL system.	R7: Tech deletes remaining unidentifiable items.
Alternative		

Flows and Exceptions:	
Includes:	
Priority:	3 (High)
Frequency of Use:	Thousands of times per month
Business Rules:	
Assumptions:	
Notes and Issues:	

4.3 Process External Materials Requests

Use Case ID:	USE-002		
Use Case Name:	Process External Materials Requests		
Created By:	Lucien Kress	Last Updated By:	Lucien Kress
Date Created:	11/15/08	Date Last Updated:	11/15/08

Actors:	ILL Technician (Tech)	
Description:	Tech processes external materials request from ILL system.	
Trigger:	Routine process.	
Preconditions:	Tech is logged into library system and ILL system with appropriate privileges.	
Postconditions:	Requests have been accepted or rejected as appropriate.	
	Stimulus	Response
Normal Flow:		R1: Tech imports outstanding requests from ILL system and clicks "Process".
	S2: System displays requests, status, item availability, and approximate time to arrive.	R2: Tech selects items that are not owned by Library and clicks "Reject".
	S3: System sends rejection statuses, deletes rejected requests, and redisplay remaining requests.	R3: Tech selects new and pending items that won't be available within 20 days and clicks "Reject".
	S4: System sends rejection statuses, deletes rejected requests, and redisplay remaining requests.	R4: Tech selects items that may be available within 20 days and clicks "Tentative".
	S5: System places holds, marks items as "pending", and redisplay remaining requests.	R5: Tech selects items that are in "pending" status and currently in transit, and clicks "Accept".
	S6: System sends acceptance statuses, marks items as "accepted", and redisplay remaining requests.	R6: Tech reviews remaining items, sends acceptance or rejection status manually where appropriate, and leaves most items unchanged.
Alternative Flows and Exceptions:		
Includes:		
Priority:	3 (High)	
Frequency of Use:	Thousands of times per month	
Business Rules:		
Assumptions:		
Notes and		

Issues:	
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