

SERAPHIM



E-Book Application System Integration (E.A.S.I.)

Detailed Design

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3/6/2015

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Table of Contents

Product Overview	3
Development Life Cycle	3
Environments	3
Development Environment	3
Operating Environment	5
Maintenance	5
Use Case Narratives	5
Student	5
Teacher	6
Administrator	6
UML Diagrams	7
Use Case Diagram	7
Use Case Diagram Legend	7
Use Case Diagram	7
Deployment Diagram	9
Deployment Diagram Legend	9
Deployment Diagram	10
Activity Diagram	11
Activity Diagram Legend	11
Login	11
Withdraw	12
Edit User Information	12
Add/Remove User	13
Add/Remove Book	14
Search Books	15
Website Maps	16
Website Map Legend	16
Website Map	16
Data Flow Diagrams	17
Data Flow Legend	17
Context Diagram	17
Level 0 Diagram	18

Level 1 Diagrams	20
Withdraw.....	20
Structure Diagram.....	20
Overview Structure	20
Student Structure.....	21
Teacher Structure	21
Administrator Structure	22
Requirements Inventory.....	22
Functional Requirements	22
Student	22
Teacher.....	23
Administrator	23
Non-Functional Requirements	23
Data Dictionary	24
Data Dictionary Legend.....	24
Data Dictionary	25
Entity-Relationship Diagram	29
Entity-Relationship Diagram Legend	29
Entity-Relationship Diagram	30
Database Schema	31
Prototype Screens.....	31
Access Screen	32
Main Page	36
Main Page Pseudo-Code	39
My Account	40
My Account Pseudo-Code	41
Searching/Advanced Search	42
Book View	42
Book Pseudo-Code.....	43
Packaging Specification.....	43
Testing Plan	43
Overview.....	43
Exception Handling	43
Acceptance Test	44

SERAPHIM

Integration Testing	44
System Testing	44
Performance Testing	44
Unit Tests and Test Cases	44
Directory	45
Login	46
Add Book	48
Search Book(s)	50
View/Get Book	52
Add Student(s)	53
Edit Account	54
Add Teacher	56
Remove User(s)	57
Add Administrator	58
View History	59
Edit e-Book(s)	60
Logout	62
Appendices	63
Glossary of Terms	63
Project Timeline	63
Bibliography	64

Product Overview

Seraphim's clients, Ms. Jen Cannell and Ms. Jaime Pfeiffer, are in need of a single sign-on system for students to access and download e-books from their district's libraries. E-Book Application System Integration (E.A.S.I.) will be a web application capable of searching for all e-books from multiple vendors' sites and will act as a central place for all available e-books for each district. E.A.S.I. will be autonomous – as administrators update the site with new e-books and vendors, the system will automatically access the new content, granting E.A.S.I. service to students for years to come.

Development Life Cycle

Seraphim's Software Development Life Cycle, located to the right, describes the process Seraphim will go through in order to plan, create, test and eventually deploy E.A.S.I..

Requirement Analysis: Obtaining the client's needs.

Identification: Identify the client's needs.

System Design: Configure the blueprints of the system.

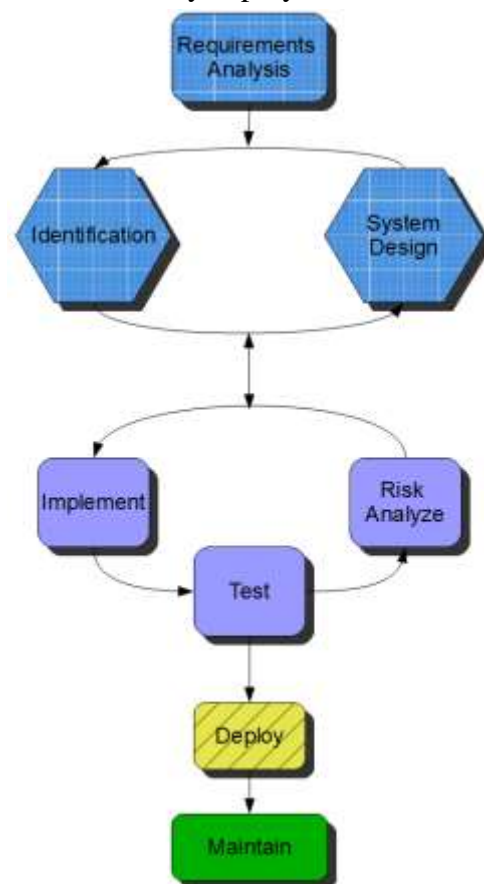
Implementation: Code and initiate the system requirements.

Testing: Confirm that the system meets established standards.

Risk Analysis: Determine criticality the system can perform.

Deploy: Bring the system to a live state.

Maintenance: Keep the system functioning once completed.



Environments

Seraphim will be using the following environments to create, test and complete the project.

Development Environment

The development environment listed below is the hardware and the software that Seraphim plans to use in producing the project:

Software Engineering Lab – Computer #1:

- Operating System: Windows 7 Enterprise (x64)

SERAPHIM

- Memory: 6100 MB
- Disk Space: 499.78 GB
- Processor: 3.20 GHz Intel Core i5-3470
- Relevant Software: Adobe, Google, Microsoft Office programs, Mozilla Firefox, Oracle, Audacity, SmartDraw, Eclipse

Software Engineering Lab – Computer #2:

- Operating System: Mac OS 10.7.5
- Processor: Intel Core i5
- Memory: 4 GB Ram
- Speed: 2.5 GHz
- Relevant Software: iMovie, iPhoto, Photo Booth, Safari

Server:

- Operating System: CentOS 5.2, Kernal 2.6.18-92e15
- Server Name: oraserv.cs.siena.edu
- CPU Type: Intel Xeon 2.66 GHz
- Memory: 8GB Memory

Ms. Mathews' Development Environment:

- Operating System: Microsoft Windows 7 Home Premium
- Processor: Intel® Core™ i7-3610QM CPU @ 2.30Hz 2.30 GHz
- Memory: 8.00 GM
- Relevant Software: Adobe Reader X, BlueJ, caliber, Eclipse, GIMP, Git Bash, Google Chrome, Google Drive, HTML-Kit, Mozilla Firefox, Notepad++, Putty, Skype, SQL Server Management Studio, WinSCP

Mr. Mango's Development Environment:

- Operating System: MS Windows 7 Home Premium 64-bit SP1
- Processor: Intel Core i7 720QM
- Speed: 1.60GHz
- Memory: 8.0GB Dual-Channel DDR3 @ 659MHz
- Audio: NVIDIA High Definition Audio
- Monitor: Vizio 42" Internet TV
- Relevant Software: Aptana, Eclipse, GIMP, Audacity, Notepad++, Google Chrome, Mozilla Firefox, Opera web browser, Android 4.4.2 on Samsung galaxy s3

Mr. Street's Development Environment:

- Operating System: Windows 7 Home Premium 64-bit
- Processor: Intel(R) Core(TM) i7-2600 CPU @ 3.40 GHz
- Memory: 8192 MB RAM
- Display: NVIDIA GeForce GTX 550 Ti
- Audio: Dual Speakers IDT High Definition Audio
- Monitor: 23" Cross Width High Definition Video
- Relevant Software: Eclipse

Mr. Roth's Development Environment:

- Operating System: MS Windows 7 Home Premium 64-bit SP1
- Processor: Intel Core i7 2675QM
- Speed: 2.20GHz
- Memory: 8.0GB RAM
- Audio: Intel ® Display Audio
- Relevant Software: Audacity, Notepad++, Google Chrome, Mozilla Firefox, Microsoft Office 2007, Adobe Reader, PageBreeze 5

Mr. Carpenter-River's Development Environment:

- Operating System: Windows 7 Home Premium Service Pack 1
- Processor: Intel i5-3317U - 20 GB SSD in cache
- Memory: 6 GB
- Speed: 1.70 GHz
- Audio: Dolby Home Theater v4
- Monitor: Generic PnP Monitor - Intel(R) HD Graphics 4000
- Relevant Software: Eclipse, Notepad++, Google Chrome, Firefox, Skype

Operating Environment

The operating environment for this software will be any computer or smartphone that has internet capability and access our server.

Maintenance

The maintenance environment will consist of all hardware and software used to create our software (to be determined by the client).

Use Case Narratives

Use Case Narratives are used to describe the processes that each user type can activate when navigating throughout the system. Seraphim will have the following user types to access E.A.S.I.: Student, Teacher and Administrator.

Student

The Student will log into E.A.S.I. using a district, username and password, and will only be allowed access into the system if providing the right credentials. The Student will have access to all the books available to the Student's district and level. The Student has the ability to view the books as genres, subjects, and levels or as a unique search. Each of these options will display the e-books found in the corresponding categories. The Student can search by title, author or ISBN-13, or use the advanced search to find e-books across categories. The Student can access their account, which will display the Student's first and last name, user type, district, and history of the e-books viewed or downloaded. The Student will have the option to log out, or will be automatically logged out after being inactive for five minutes.

Teacher

The Teacher has access to all processes that a Student does:

The Student will log into E.A.S.I. using a district, username and password, and will only be allowed access into the system if providing the right credentials. The Student will have access to all the books available to the Student's district and level. The Student has the ability to view the books as Genres, Subjects, and Levels or as a unique search. Each of these options will display the e-books found in the corresponding categories. The Student can search by title, author or ISBN-13, or use the advanced search to find e-books across categories. The Student can access their account, which will display the Student's first and last name, user type, district, and history of the e-books viewed or downloaded. The Student will have the option to log out, or will be automatically logged out after being inactive for five minutes.

The Teacher has access to all books available in the Teacher's district, regardless of level. The Teacher has access to a level known as "Education", which has any teaching e-books available. The Teacher has the ability to edit Student accounts, either by changing their level of access or adjusting individually which e-books a Student has access to.

Administrator

The Administrator has access to all processes that a Student does:

The Student will log into E.A.S.I. using a district, username and password, and will only be allowed access into the system if providing the right credentials. The Student will have access to all the books available to the Student's district and level. The Student has the ability to view the books as Genres, Subjects, and Levels or as a unique search. Each of these options will display the e-books found in the corresponding categories. The Student can search by title, author or ISBN-13, or use the advanced search to find e-books across categories. The Student can access their account, which will display the Student's first and last name, user type, district, and history of the e-books viewed or downloaded. The Student will have the option to log out, or will be automatically logged out after being inactive for five minutes.

The Administrator has access to all processes that a Teacher does:

The Teacher has access to all books available in the Teacher's district, regardless of level. The Teacher has access to a level known as "Education", which has any teaching e-books available. The Teacher has the ability to edit Student accounts, either by individually adding or removing accounts, changing their level of access, or adjusting individually which e-books a Student has access to.

The Administrator has access to a suite of tools accessible from the "My Account" page: "User Types" and "Books". The Administrator, clicking the "Edit Accounts", will allow them to find a Student, Teacher or Administrator and change their information. Changing their information could mean: adding or removing a Student, Teacher or Administrator, changing which districts a Student or Teacher is associated with, etc. The Administrator, viewing "Books", will have the ability to find e-books brought into the system from the vendor sites (through a MARC file) and

change the information attached to the e-books. This information includes: the district it's available to, the description, the subject, the genre, or the level. The Administrator may choose to remove individual books from the system.

UML Diagrams

Use Case Diagram

The idea of a UML Use Case diagram is to display the full functionality of the system in a visual manner. It shows the relationship between each of the user case narratives and the activities on which they will partake onto the system. It also displays the actions that the system will participate in without the user initiating the action.

Use Case Diagram Legend



Actor: Actors (human or non-human) interact with the system. Human actors will be found on the left side of the System Boundary, while non-human actors will go on the right side. Each actor name will be displayed below the actor icon, and will be attached to one or more actions found within the System Boundary.



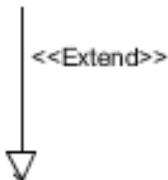
System Boundary: Contains all actions an Actor is capable of performing within the system.



Scenarios/Uses: The actions (or activities) that will occur within the system, and often are used to show how actors interact with the system. These actions may also show system-initiated actions, without the need for users to activate them.



Participation Line: The Participation Line will connect actors with their appropriate use cases, showing which uses the actor will be participating in.



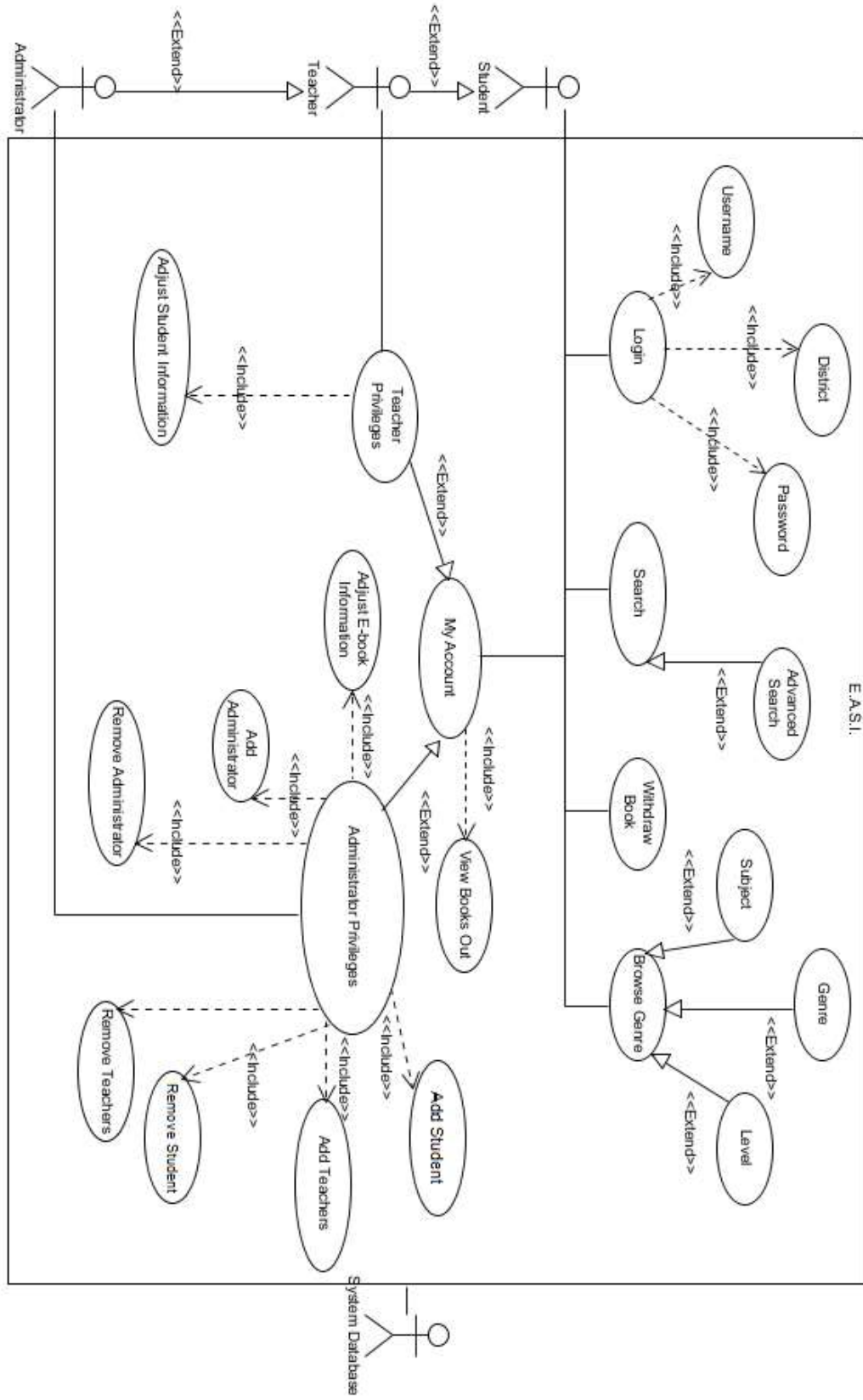
Extend Relationship: Is a “Is-A” relationship, where the object is expanding on its parent’s domain. For example, Advanced Search Is-A Search and Teacher Privileges Is-A My Account.



Include Relationship: Is a “Has-A” relationship, where the object is always included in its parent. For example, Login Has-A Username, District and Password.

Use Case Diagram

The next page shows the E.A.S.I. system as represented in a UML Use Case Diagram, using the legend above.



Deployment Diagram

The deployment diagram displays the physical layout of the system and its components.

Deployment Diagram Legend



System Boundary: All objects within the system boundary are considered part of the system, while those outside of it are not. The system boundary will show interactions between the system and the outside components.



Connection: Displays the flow of information between objects.

<HTTP>

HTTP: Hypertext Transfer Protocol (HTTP) describes the format of the messages (packets) being transferred between objects and the actions servers will take when activating various commands.

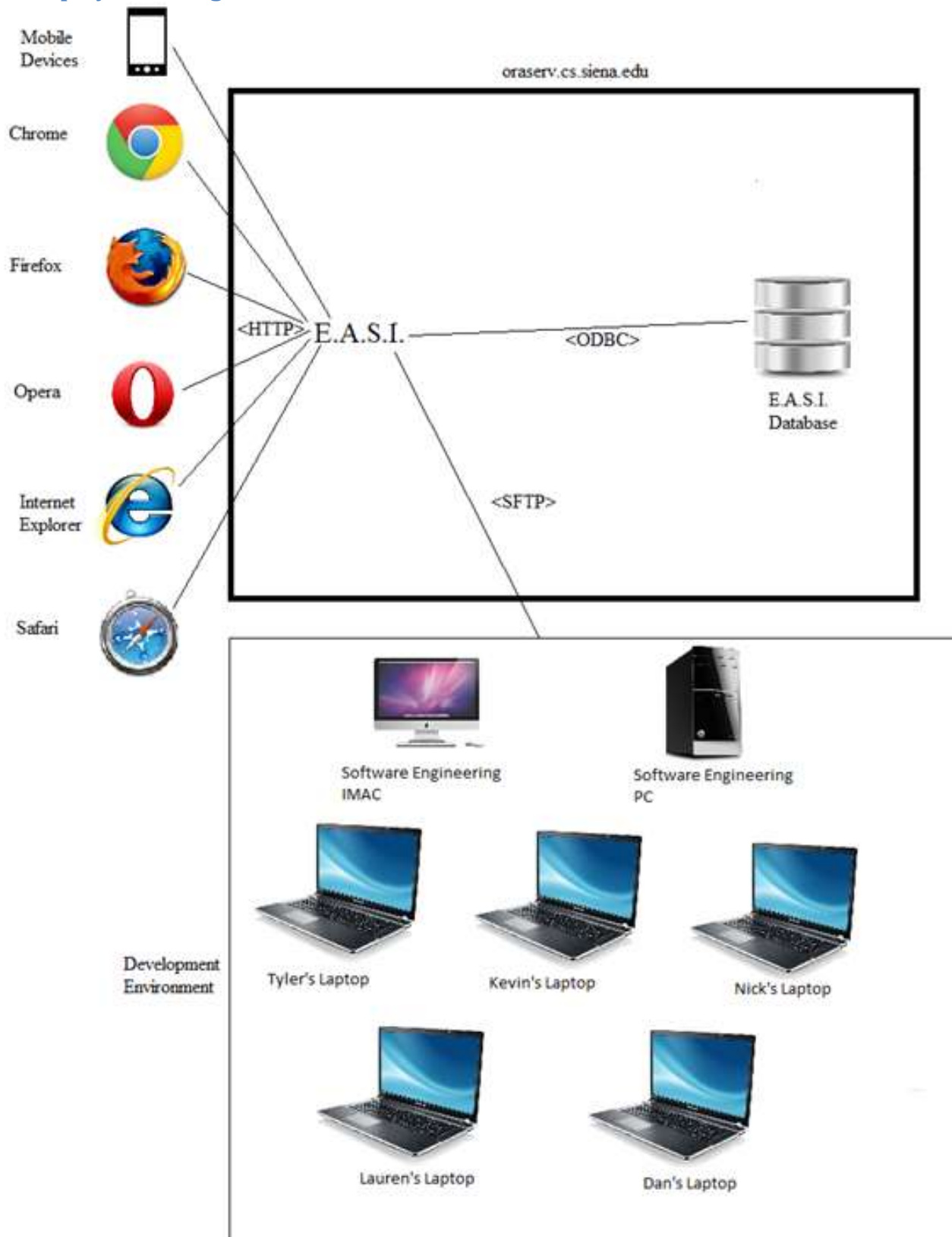
<SCP>

SCP: Secure Copy (SCP) describes the process of transferring information safely across local and remote servers.

<ODBC>

ODBC: Open Database Connectivity (ODBC) represents the flow of data between the user end and the system's database.

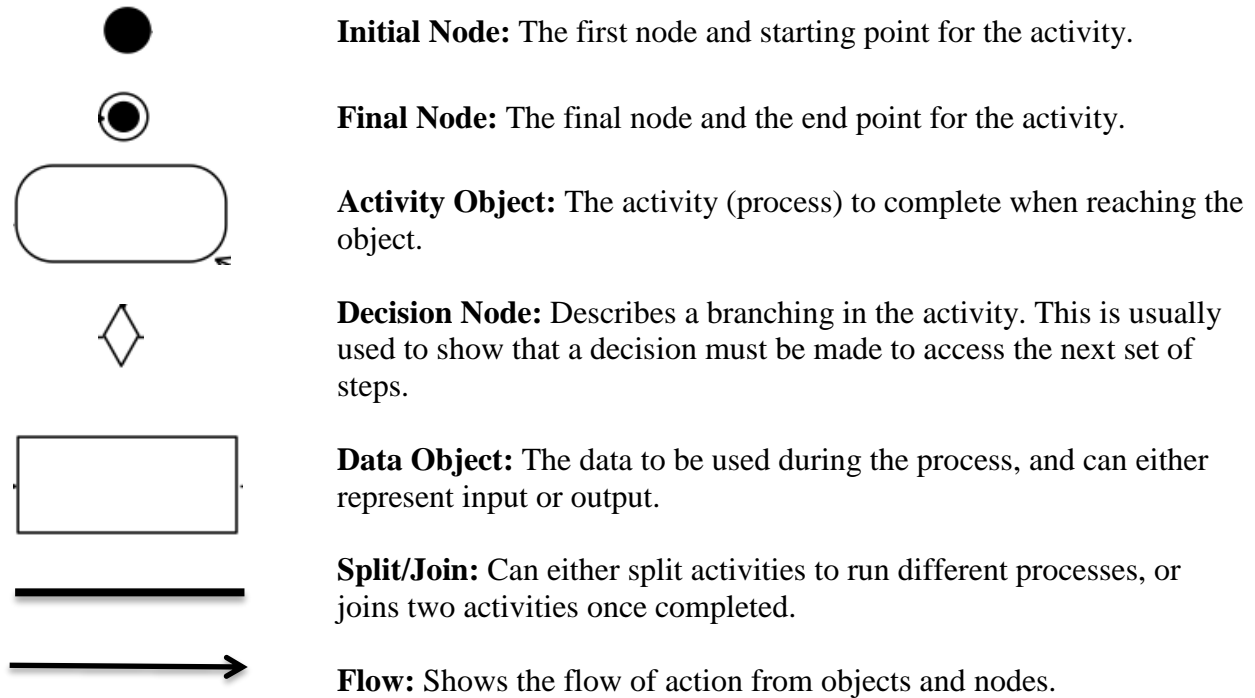
Deployment Diagram



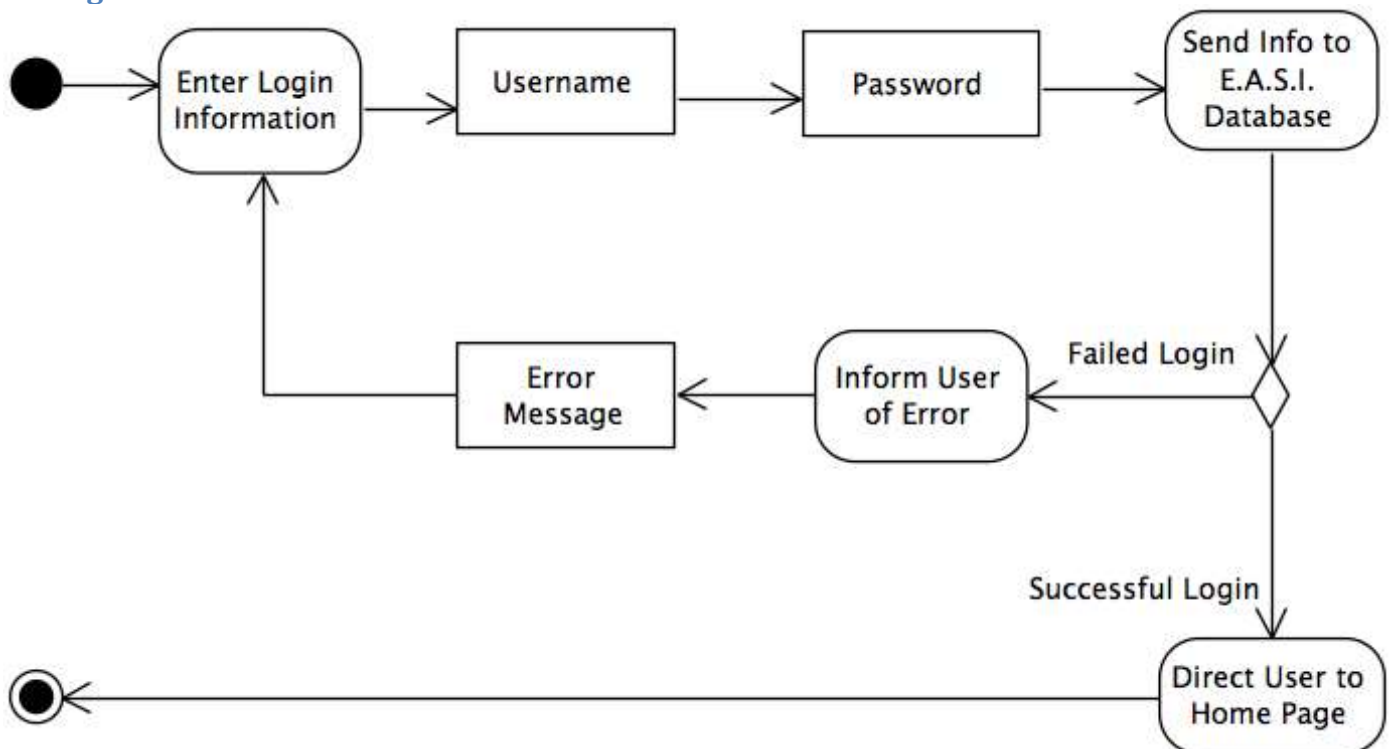
Activity Diagram

Activity diagrams describe the flow of activities, decisions and actions that the system can take. Each part of the diagram shows an activity or data and the actions that can be performed with it.

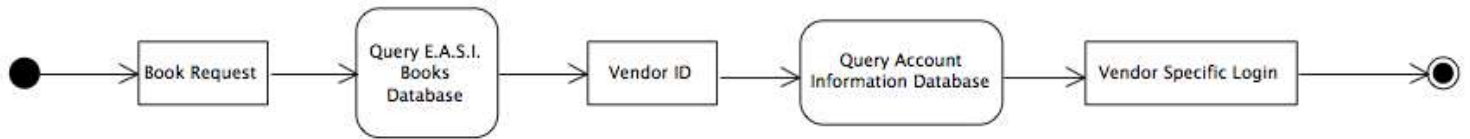
Activity Diagram Legend



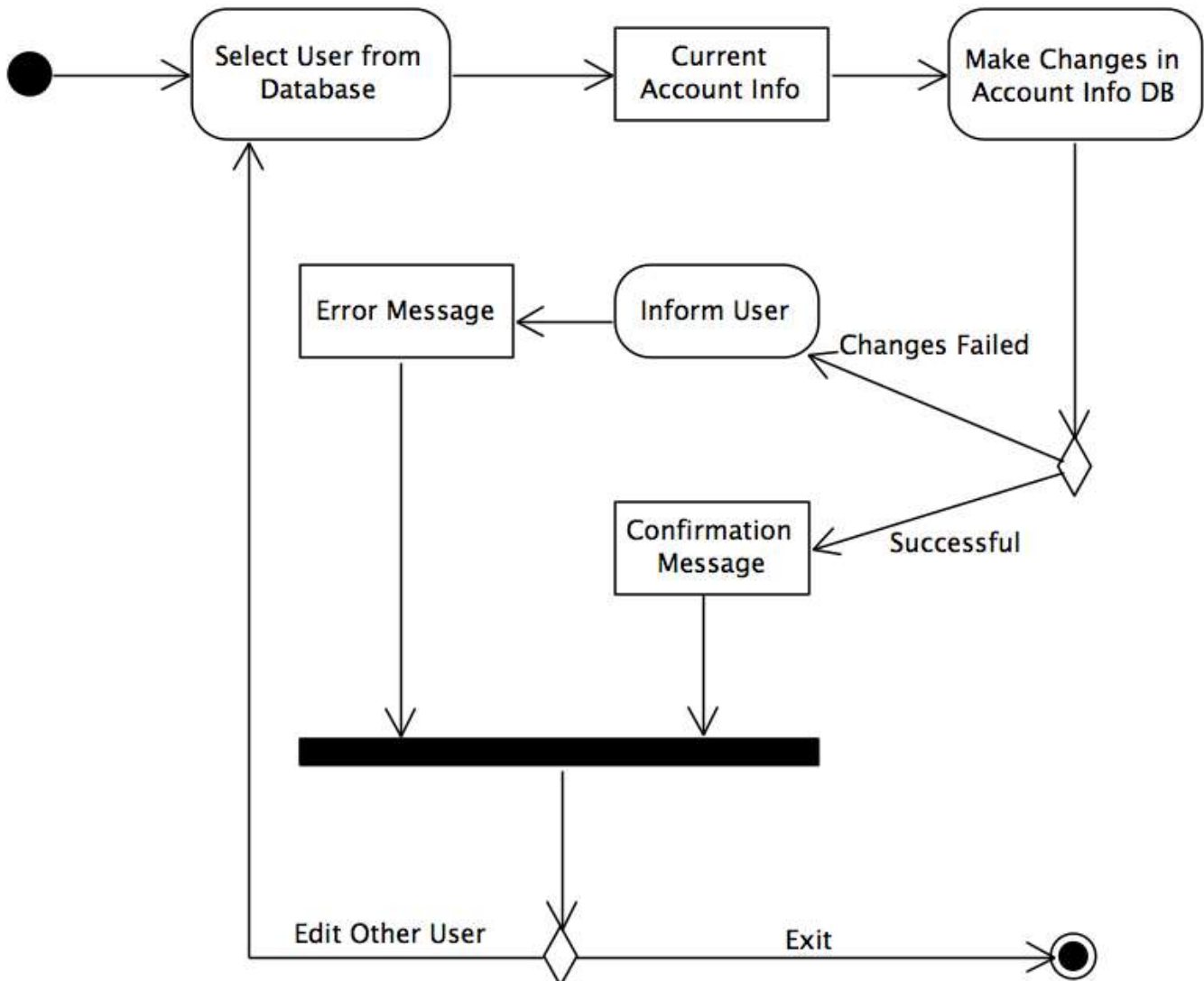
Login



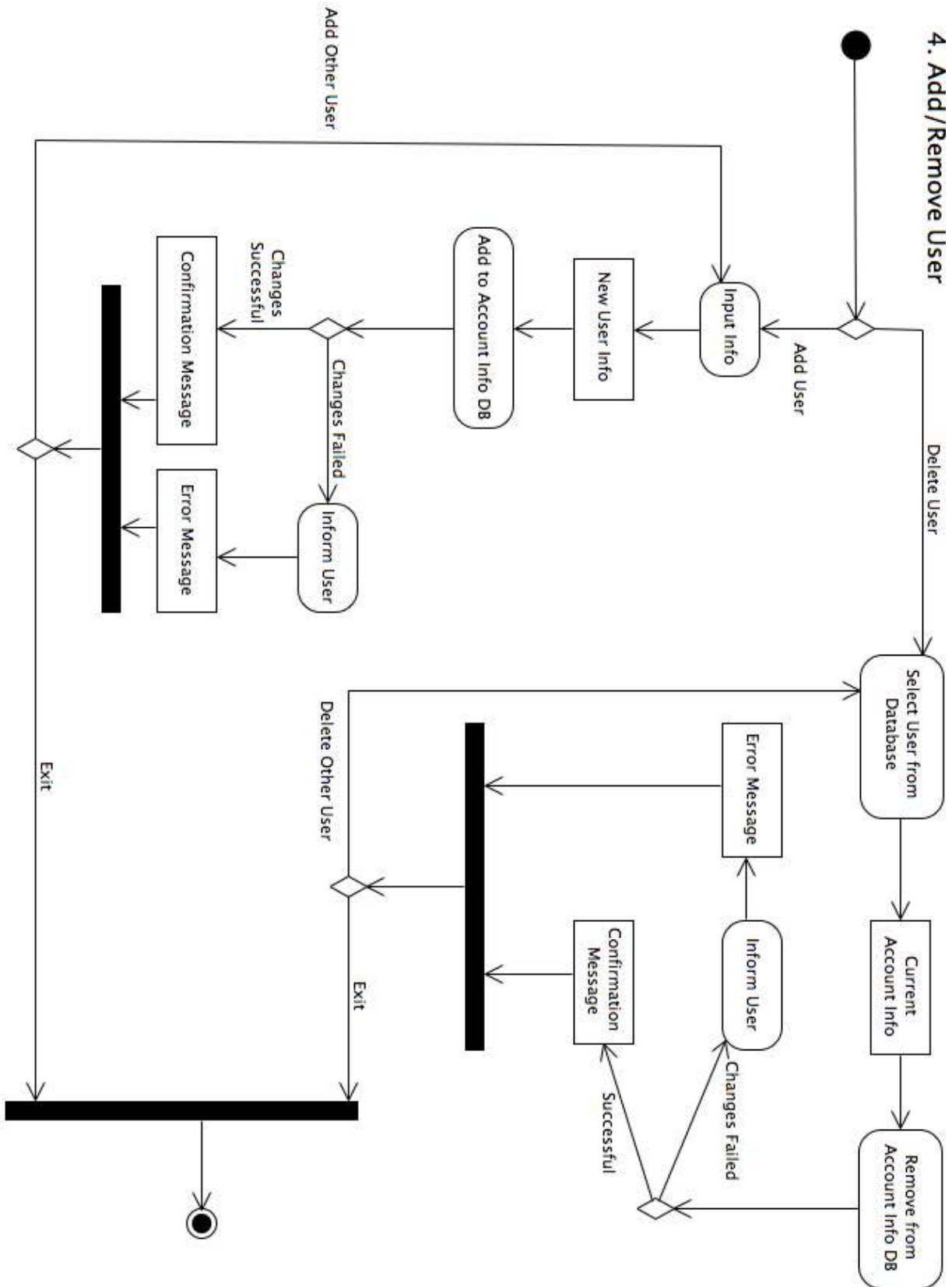
Withdraw



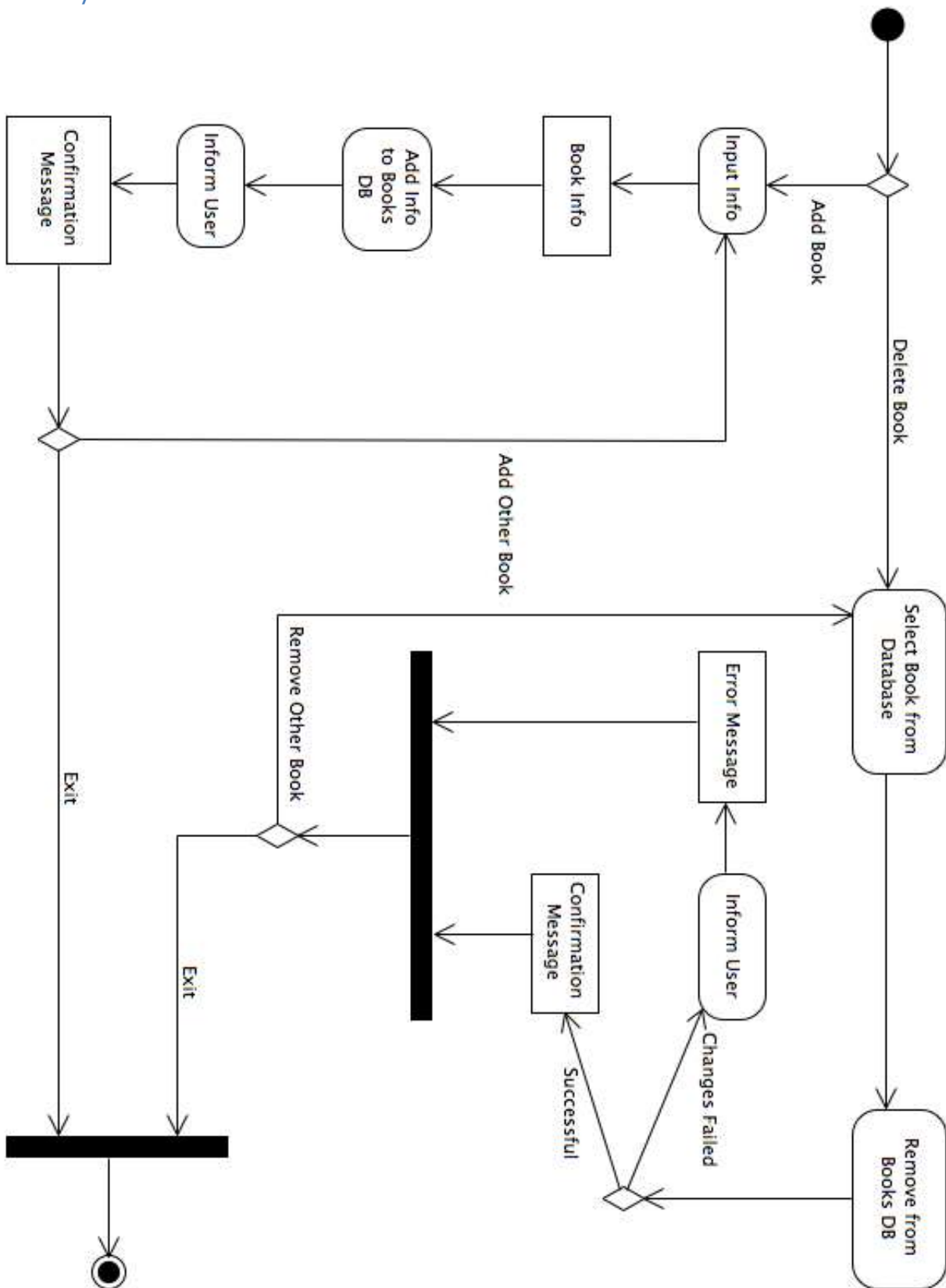
Edit User Information



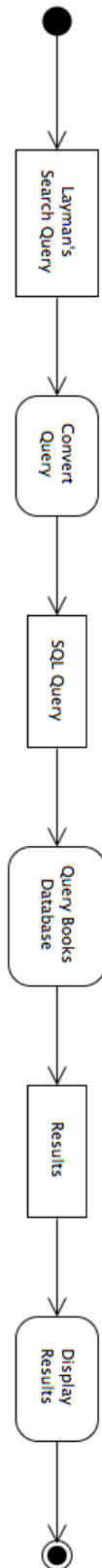
Add/Remove User



Add/Remove Book



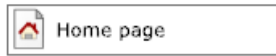
Search Books



Website Maps

Website Maps displays the structure of the website in a tree hierarchy, showing each page that will be displayed for every user, and how users navigate across the website.

Website Map Legend



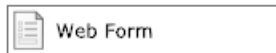
Home page

Home Page: The access screen of E.A.S.I., before the user access the main page of the system.



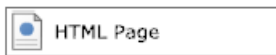
Document

Document: Represents a document that will be seen by the user.



Web Form

Web Form: A form where user input is required for an action to occur.



HTML Page

HTML Page: Represents any single web page within E.A.S.I.

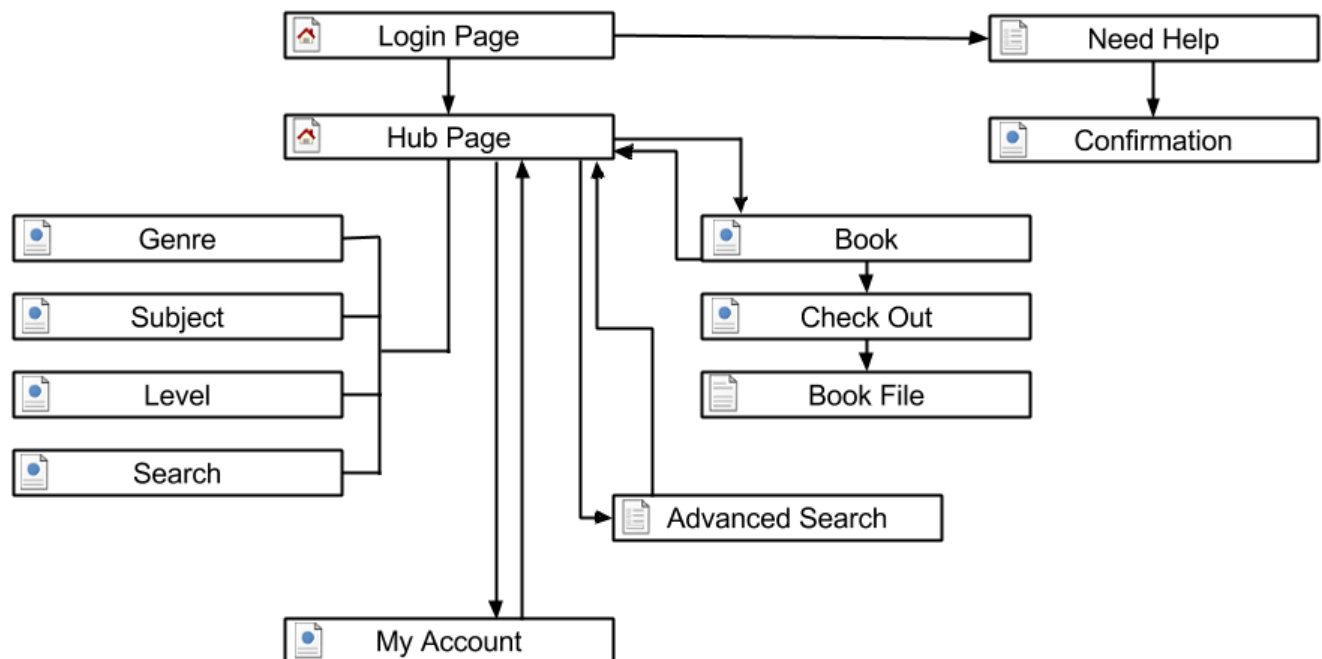


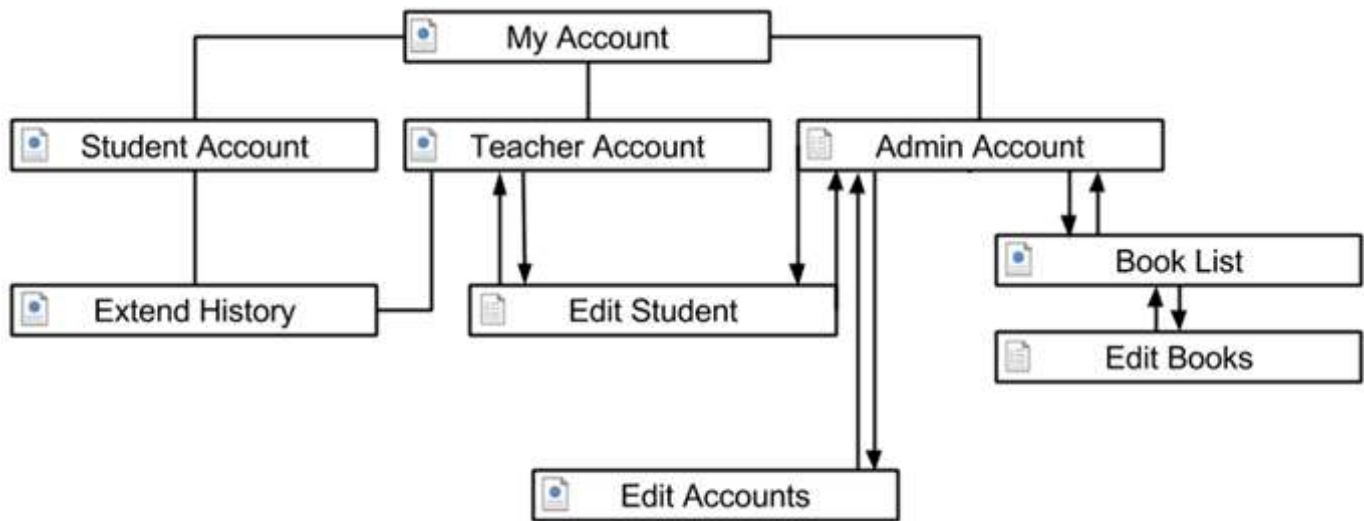
Link: A page the will be accesses from another page (inside or outside of the system).



Page Redirect: Indicates a change in the user's screen, based on the user's action.

Website Map





Data Flow Diagrams

Data Flow Diagrams (DFDs) are a visual representation of the information between different system processes. The DFDs are used to describe the way data will be stored and retrieved by the system and those that influence the system. Each DFD examines a system component at a different level of detail.

Data Flow Legend



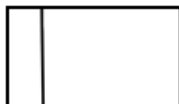
Process: A process is a system function that will represent data that is being stored, transferred or otherwise manipulated.



Entity: An entity represents sources of data into the system and the destinations of which data is sent from the system.



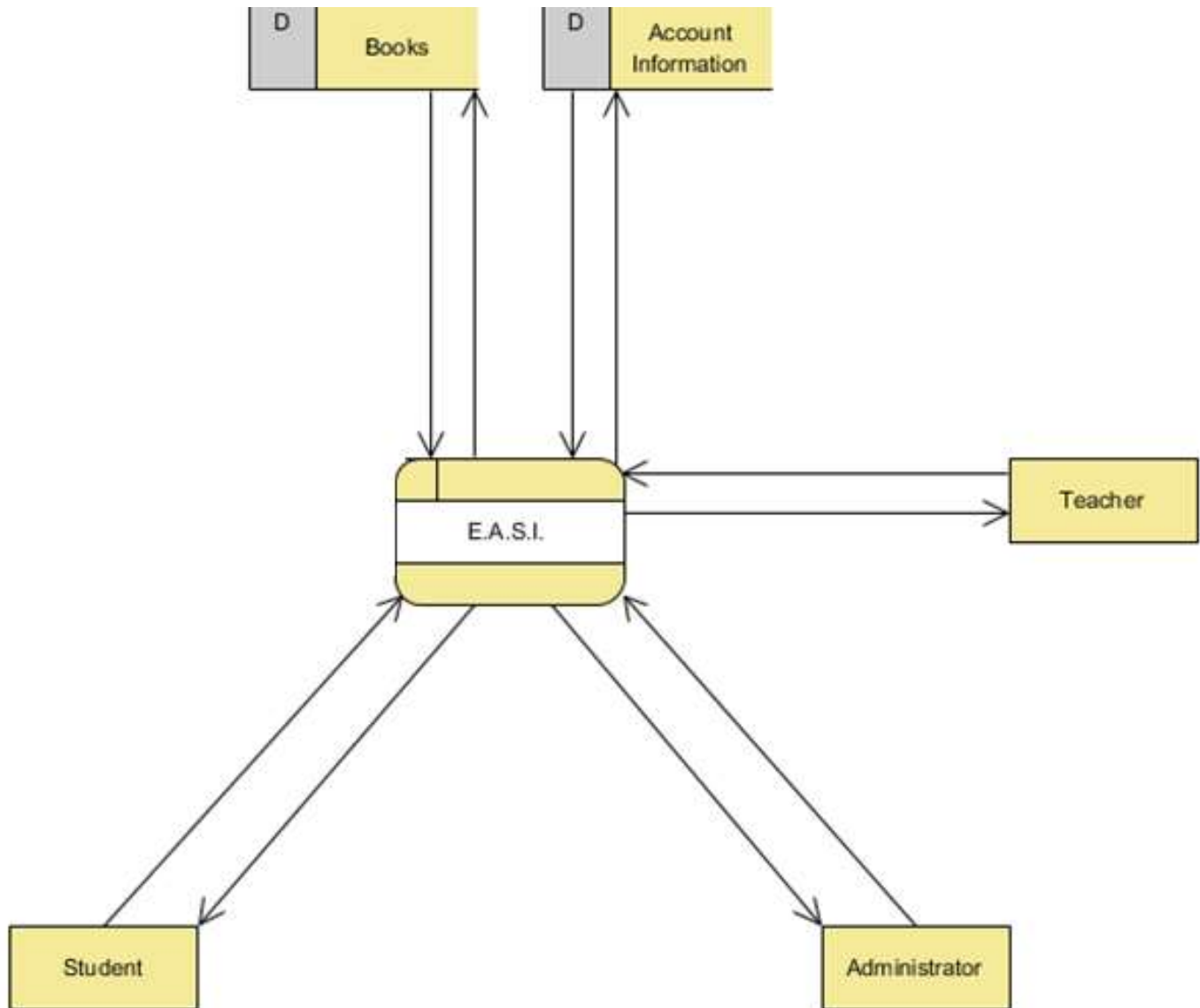
Data Flow: A data flow arrow shows the movement of information between entities.



Data Store: Data storage shows the location where data is held, either temporarily until it moves onto another location, or permanently, for the system's own use.

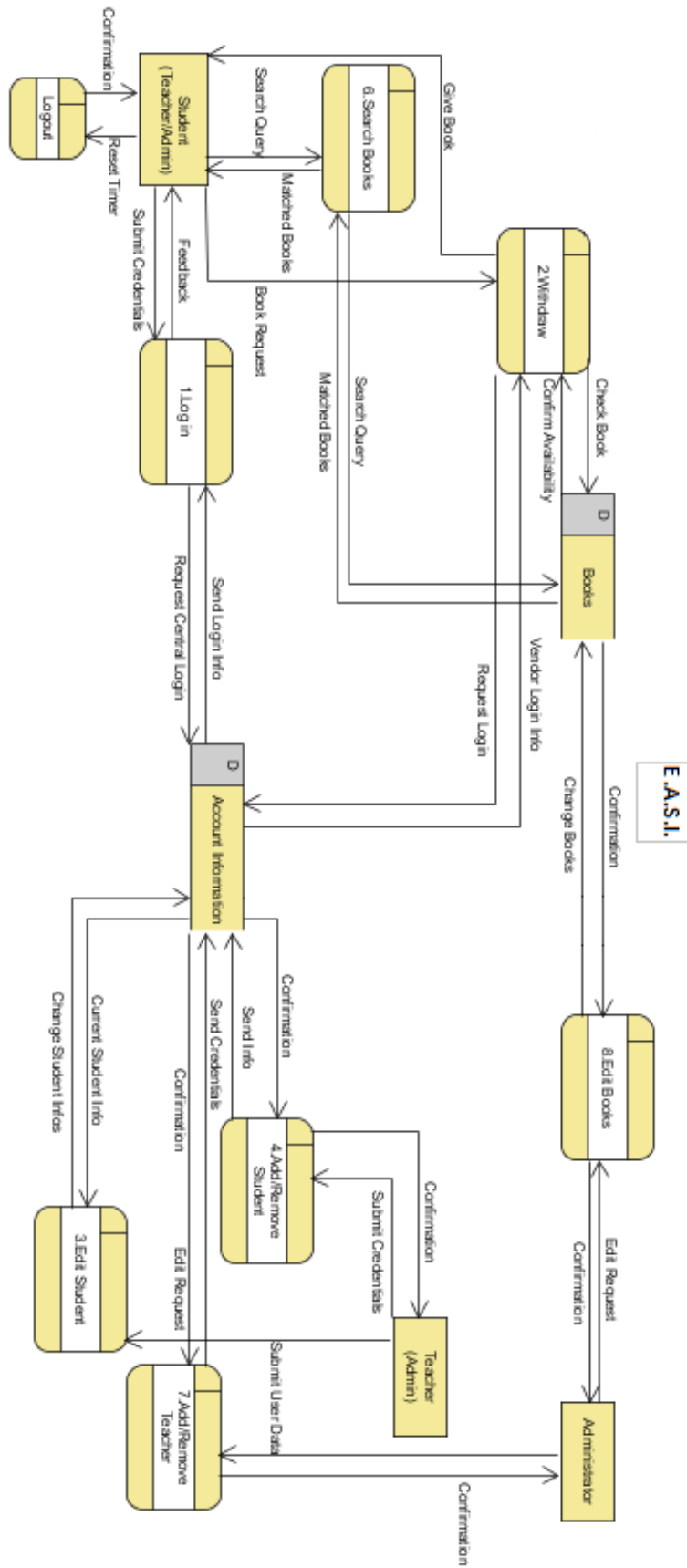
Context Diagram

The Context Diagram describes the users and processes that interact with E.A.S.I. This includes, but is not limited to, databases such as Books and Account Information, users such as Student, Teacher and Administrator, and access to information given and taken from the Vendor sites. This diagram is the highest level of the Data Flow diagrams, and hopefully clarifies how the system receives and outputs information.



Level 0 Diagram

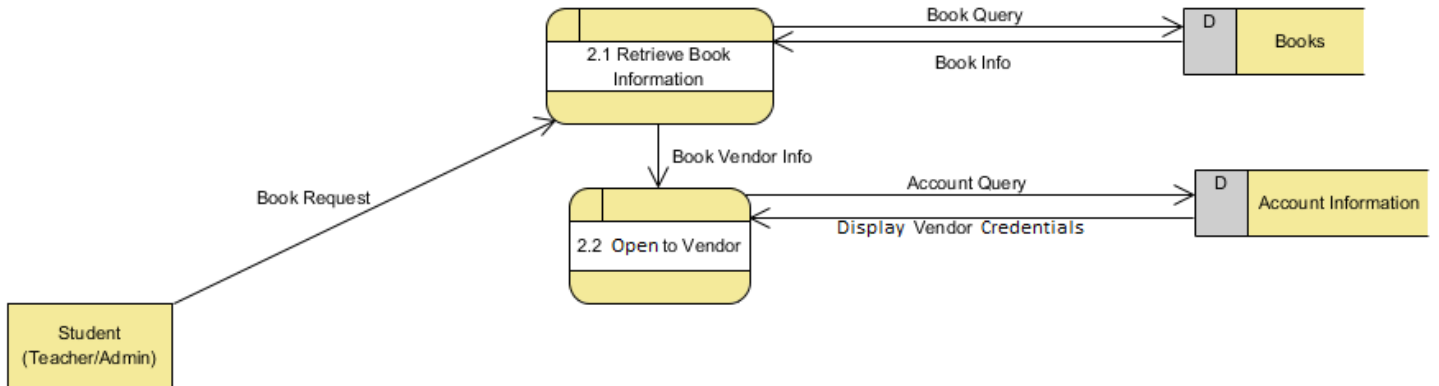
The Level 0 Diagram, as shown on the next page, is the next highest level of Data Flow diagram, and expands on the initial information provided in the Context Diagram. It shows the major processes that will be present in E.A.S.I., as well as how information is controlled among and in-between the processes. The Level 0 Diagram shows what the major activities the system and users will be engaged in.



Level 1 Diagrams

All subsequent diagrams after a Level 0 expand on the specific processes originally displayed in the Context and Level 0 diagrams.

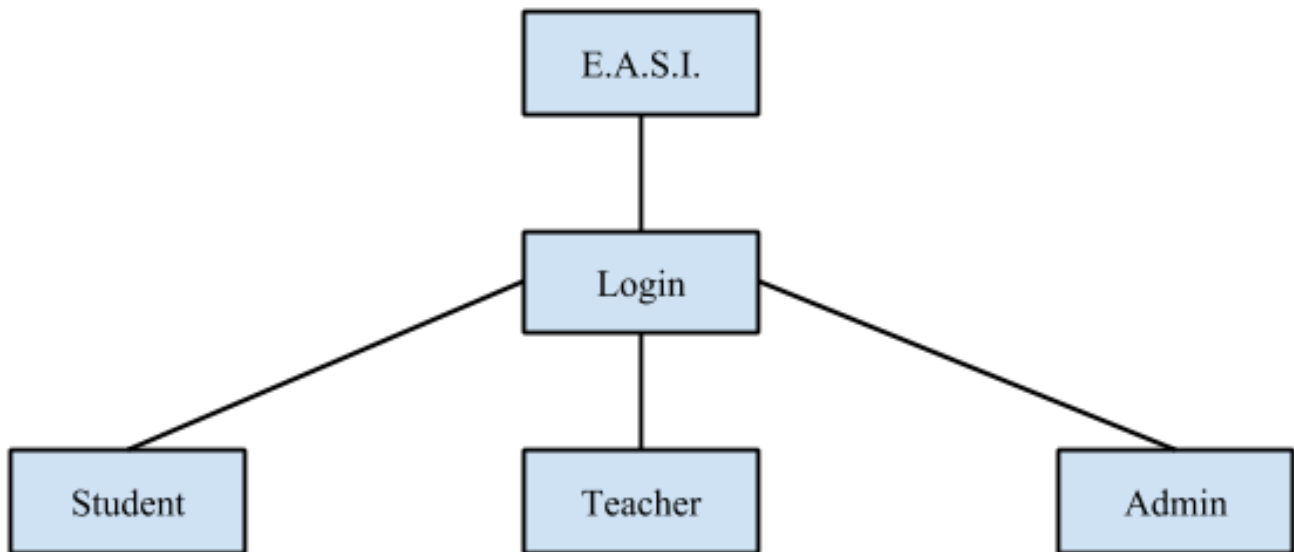
Withdraw



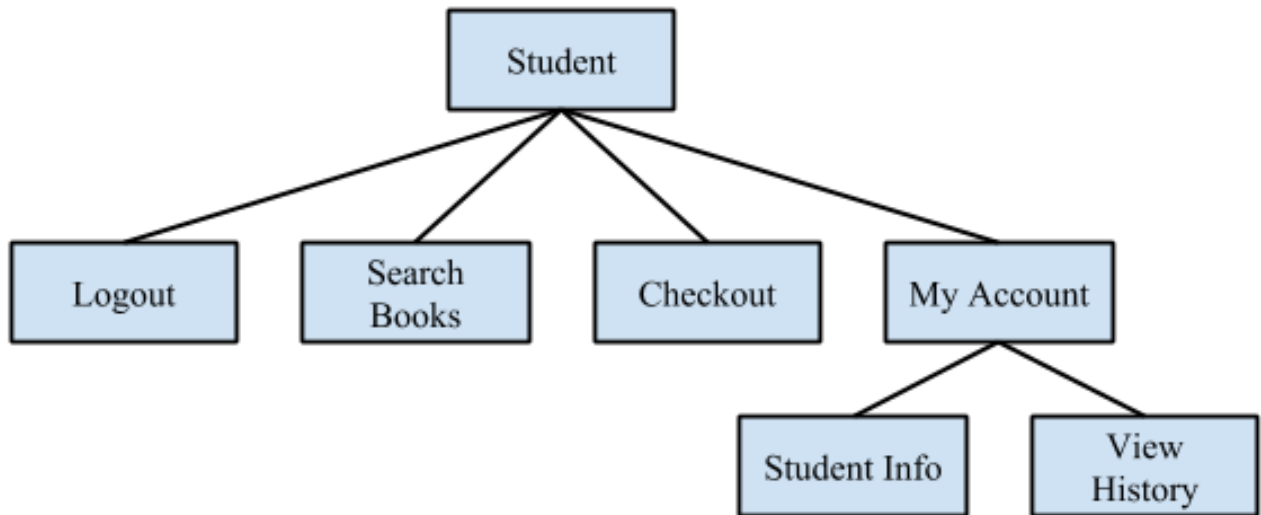
Structure Diagram

Each Structure diagram displays a tree hierarchy with each of the user types and the appropriate components of the E.A.S.I. system.

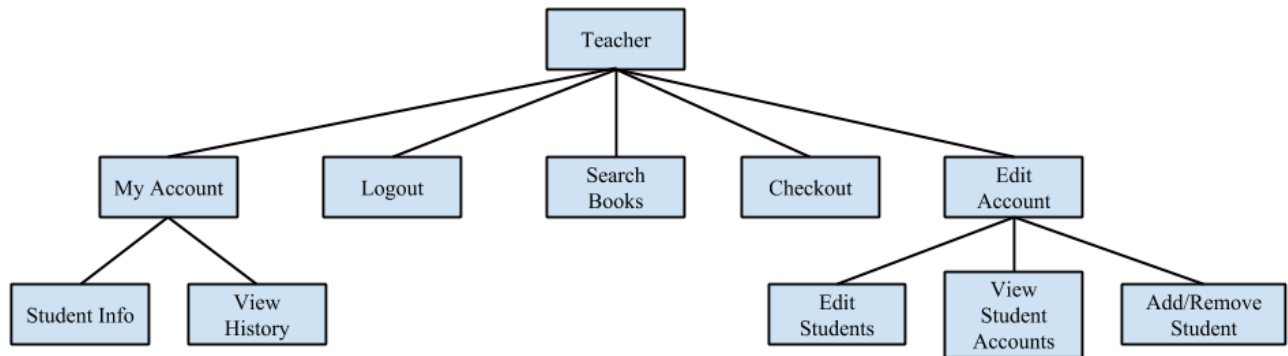
Overview Structure



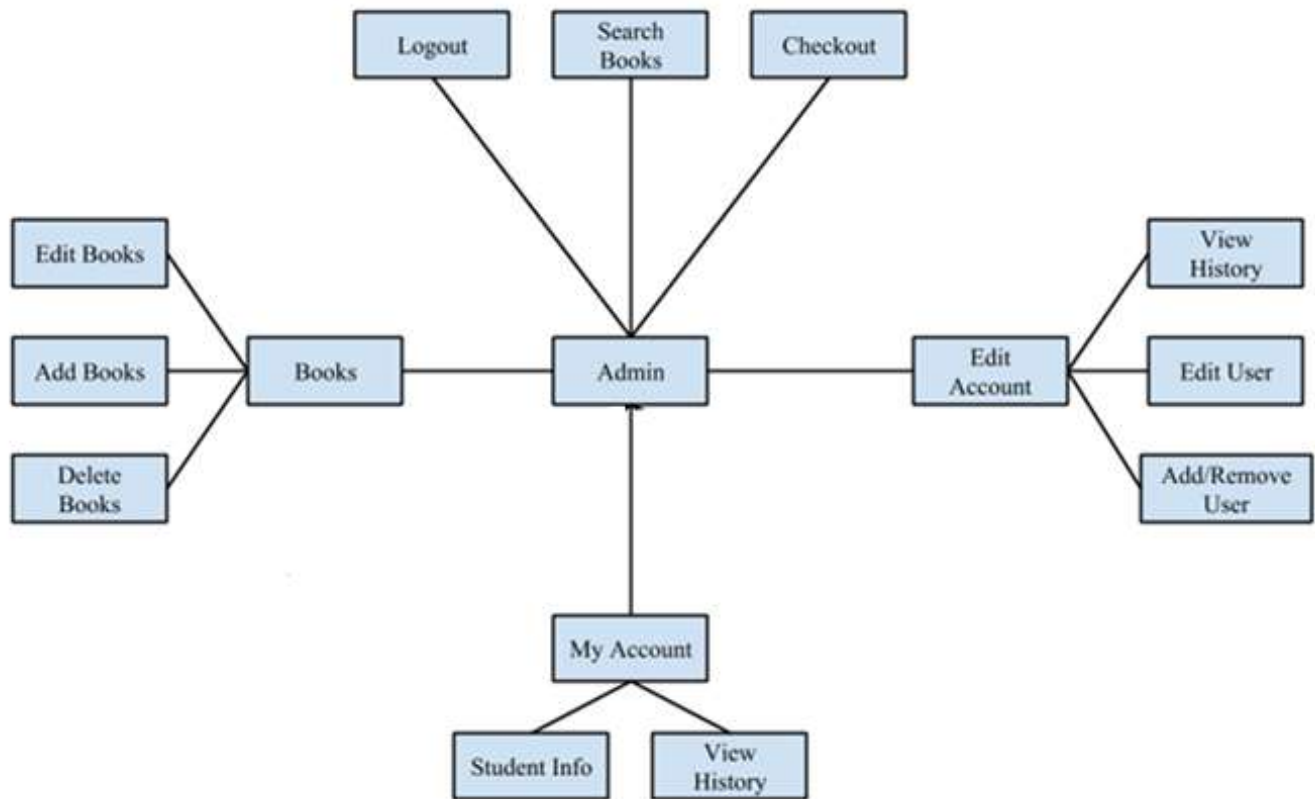
Student Structure



Teacher Structure



Administrator Structure



Requirements Inventory

The Functional Requirements Inventory are the list of features that E.A.S.I. is expected to perform, and defines the behavior of the system. The Non-Functional Requirements will specify E.A.S.I. properties, those that are not necessarily specific functions of the system but rather what the system is intended to present to the user. Each of the inventories is subject to change as Seraphim progresses further into the design of E.A.S.I.

Functional Requirements

E.A.S.I. has three types of users: Students, Teachers and Administrators, each with their own functions when interacting with the system. The following list details the requirements of each human user that will interact with E.A.S.I.: Student, Teacher and Administrator.

Student

- Will use the main login screen to access the system
 - The credentials will include the district, username, and password of the user
 - Any failed login attempt (ex. wrong username & password combination) will display the appropriate error message
- Access to e-books' information, such as the e-book cover, description, title, author, ISBN-13, publisher
- Ability to login to the vendor and access the e-books
 - Will be given their username and password for accessing the e-book's vendor site

- Ability to organize and search e-books
 - Able to organize by genre, subject or level
 - Able to search across categories or for specific e-books
- Will be able to log out of E.A.S.I.

Teacher

- Will inherit all functional requirements specified for the Student
- Ability to change student account information
 - Ability to view and change username or password
 - Ability to view and change user's level access
 - Ability to get a Student access to specific e-books
 - Change how many books they can "check out"
- Access to special level of books for teachers only, if available

Administrator

- Will inherit all functional requirements specified for the Teacher
- Ability to change the district for Student accounts
- Ability to add or remove Student accounts
 - Add student accounts for each vendor site
 - An "import" system will be in place so that the administrators can import a document containing all the username and password information for all the students
- Ability to add or remove Teacher accounts
- Ability to add or remove Administrator accounts
- Ability to add or remove e-books
- Ability to adjust any and all details for e-books, especially:
 - Genre, Subject or Level
 - Descriptions
 - Level

Non-Functional Requirements

The following list contains those items that are not specific features in the software, but rather what E.A.S.I. is expected to accomplish overall. These features cannot be objectively measured. E.A.S.I. will have the following features:

- The system will be responsive, which is the ability of the system to respond to queries within a reasonable amount of time
- The system will be scalable, with the ability to control access about 85,000+ students
- The system will be secure, allowing users to transverse the system without accessing protected data
- The system will be viewable and functional on multiple platforms and browsers (including: Android Mobile Browser, iPhone Mobile Browser, Safari, Firefox, Chrome, Opera, Internet Explorer)
- The system will be intuitive for all users
- The system will be able to be maintained by the administrators of the system

Data Dictionary

The Data Dictionary describes what information will be stored within the system. The data dictionary will describe the data types, names, and the purpose of each data piece within E.A.S.I.

Data Dictionary Legend

User Type: Which user type(s) the data will apply to.

Data Name: The name of the data entity.

Applicable To: What Use Case in E.A.S.I. the data entity relates to.

Data Type: The type of data this entity is.

Data Size: The size of the data entity.

Description: A brief description of what the data entity is.

Acceptable Input: The types of input allowed for the data entity.

Good Example(s): List(s) of proper constructed input.

Bad Example(s): List(s) of improper constructed input.

Notes: Any additional information.

Data Dictionary

Data Name	Applicable To	Data Type	Data Size	Description	Acceptable Input	Good Example(s)	Bad Example(s)	Notes
firstName	Account	Varchar	1-30 characters	First name of a user	ASCII char 32 (space), *, A-Z, a-z, ' , , , ASCII char 128 to ASCII char 165	John, Mary Beth Jo Anne Elizabeth, José	John, \44ry 3e+4, Alexander (Alex)	
middleInitial	Account	Varchar	1 character	Middle Initial of a user	A-Z	A, I	0, Lauren	
lastName	Account	Varchar	1-50 characters	Last name of a user	ASCII char 32 (space), *, A-Z, a-z, ' , , , ASCII char 128 to ASCII char 165	Smith, Wojczak, Aldren Phippen, Hammond-Wood	Smith, Aldren Phippen	
userID	Account	Varchar	6-30 characters	Username of a user	A-Z, 0-9	dw01str, cd040lde	12monkeys!	Ussenames are unique Must include at least three of the following four characters: lowercase letter, uppercase letter, number, special character, will be encrypted
password	Account	Varchar	8-40 characters	Password of a user	a-z, A-Z, 0-9, ASCII Special Characters (, / < > ? , : " ' [] { } @ # \$ % ^ & * (_ - +)	AwsomeTrex19! Shenendehowa School District, Christian Brothers Academy	gonnagethacked	
schoolIDistrict	Account	Varchar	1-50 characters	School District a user is currently enrolled in	a-z, A-Z, ' , & , _ , - , *	District 9	District 9	
permissionsLevel	Account	Number	1 character	student, teacher, or administrator	0-9	1, 2, 3	12, 4, 8	
readingLevel	Account	Number	1-2 characters	Reading Level of a book	0-9	2, 3, 12	0, 15, 3, 7	

Data Name	Applicable To	Data Type	Data Size	Description	Acceptable Input	Good Example(s)	Bad Example(s)	Notes
author	Book	Varchar	1-60 characters	Author of a book	ASCII char 32 (space), -, A-Z, a-z, ;, ,, ASCII char 128 to ASCII char 165	Stephen King, Veronica Roth, Dr. Seuss	steffe	
title	Book	Varchar	1-100 characters	Title of a book	ASCII char 32 (space), -, A-Z, a-z, ;, ,, ASCII char 128 to ASCII char 165	Cell, Divergent, The Life and Times of Dr. Lim	%#&\$%#%	
description	Book	Varchar	1-1000 characters	Description of a book	ASCII char 32 (space), -, A-Z, a-z, ;, ,, ASCII char 128 to ASCII char 165	(Short narrative describing book)	Thrilling, twist, 3/5 stars	
genre	Book	Varchar	1-20 characters	Genre of a Book	a-z, A-Z, space	Fantasy	Blue	
ISBN	Book	Number	13 digits	International Standard Book Number of a book	0-9, -	978-0-123456-47-2	1234567898765, onethree-fourteen	
bookLevel	Book	Number	1-2 characters	Reading level of a book	0-9	2,3,12	0,15,3,7	
bookCover	Book	Varchar	1-150 characters	URL to the cover of a book	ASCII char 32 (space), -, A-Z, a-z, ;, ,, ASCII char 128 to ASCII char 165, (,) =	http://images.contentreserv e.com/ImageType-200/0017-1/{FF45EC0E-FAF2-49FA-AECC-AEBE0FECBFE4}Img200.jpg	img.jpg	

Data Name	Applicable To	Data Type	Data Size	Description	Acceptable Input	Good Example(s)	Bad Example(s)	Notes
link	Book	Varchar	1-300 characters	Link that leads to the vendor's website where the book is stored	ASCII char 32 (space), -, A-Z, a-z, ' , , , ASCII char 128 to ASCII char 165, { , } , =	http://qiisls.lib.overdrive.com/ContentDetails.htm?ID={FF45EC0E-FAF2-49FA-AEFC0-AEBE0FECBFE4}	overdrive.com	
ID	Vendor	Number	2 characters	Primary key for vendors	a-z, A-Z, space, 0-9	1, 2, 3	1,200,300	
vendorName	Vendor	Varchar	1-50 characters	Name of the vendor site	ASCII char 32 (space), -, A-Z, a-z, ' , , , ASCII char 128 to ASCII char 165	Overdrive, Rosen	Google, Amazon	
ID	Errors	Number	2 characters	Primary key for error messages	a-z, A-Z, space, 0-9	1, 2, 3	1,200,300	
messageFormula	Errors	Varchar	1-255	Regular Expressions for showing a detailed error message to user	ASCII char 32 (space), -, A-Z, a-z, ' , , , ASCII char 128 to ASCII char 165	Book TITLE could not be found from VENDOR.	Book Error.	
sectionID	Class	Varchar	1-127	Primary Key for Class Individual Vendor log-	a-z, A-Z, space, 0-9	Calc1A	Steve's Calc Class	
password	Login	Varchar	1-255	Number of the given book hosted by the	a-z, A-Z, space, 0-9	password1	ST3V3 COMMANDS TH33 TO OP3N	
quantity	Hosts	Number	1-99	vendor	0-9	22	All of them	

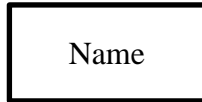
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Data Name	Applicable To	Data Type	Data Size	Description	Acceptable Input	Good Example(s)	Bad Example(s)	Notes
dateWithdrawn	Withdrawn	Date		A marker for when the book was removed from the system	0-9, /	2-7-2015	Last Tuesday	
dueDate	Withdrawn	Date		A marker for when the book will become more available	0-9, -	02-14-2015	Next Tuesday	
timeStamp	Logged	Time-stamp		A marker for when an error is thrown. Part of a primary key.	0-9, *, :, ASCII Char 32	2038-01-09 03:14:07	IN The FuTuRe	

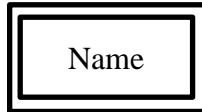
Entity-Relationship Diagram

An Entity-Relationship (ER) Diagram is a model for displaying the design of the database. It is used to represent the logical format of a database.

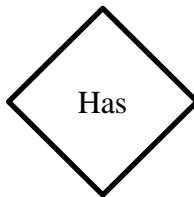
Entity-Relationship Diagram Legend



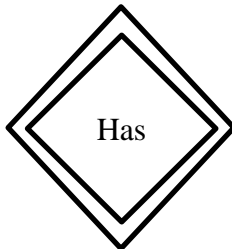
Data Entity: Represents an object that will be transcribed into the database as a table. Ex. Account



Weak Entity: A data entity, but one that has total dependence on a regular data entity.



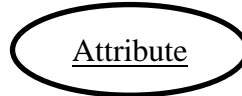
Relationship: Describes how entities work with one another. The relationships include M-N, M-1, 1-1 and N > 2.



Weak Relationship: Used whenever a relationship with a weak entity exists.



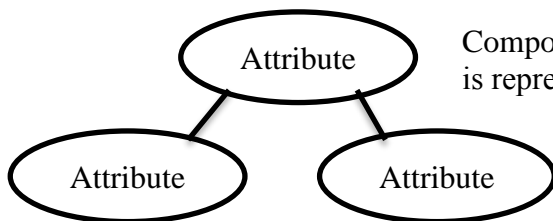
Attribute: Represents an object that will be transcribed as a variable, or column, in a database's table. Ex. last_name, ISBN, etc.



Primary Key (Attribute): An attribute that is the main characteristic of an entity (table). All must be unique within the entity. Ex. If primary key was first_name, everyone's first_name would be unique.

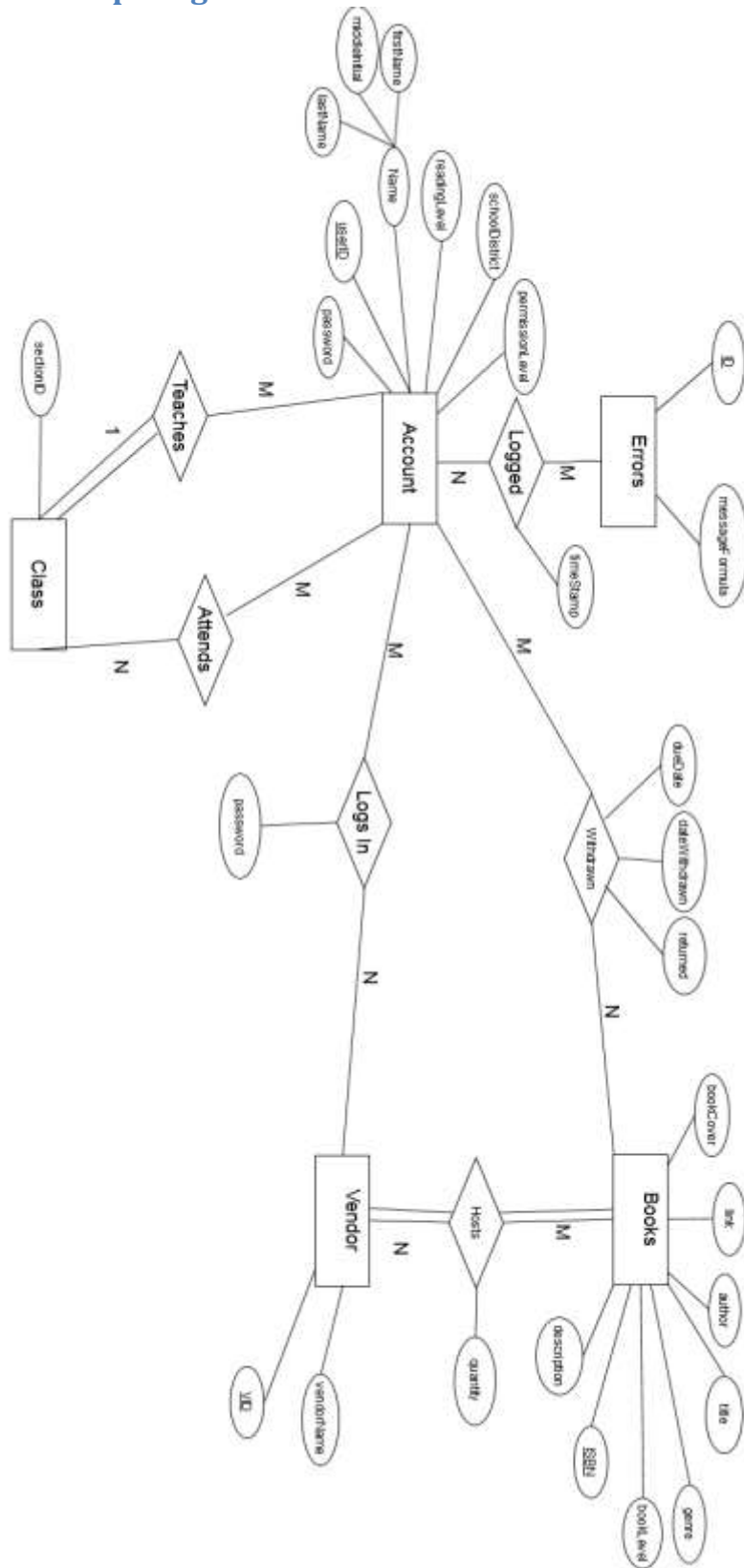


Multi-Valued Attribute: An attribute that has multiple instances of the attribute within the entity.

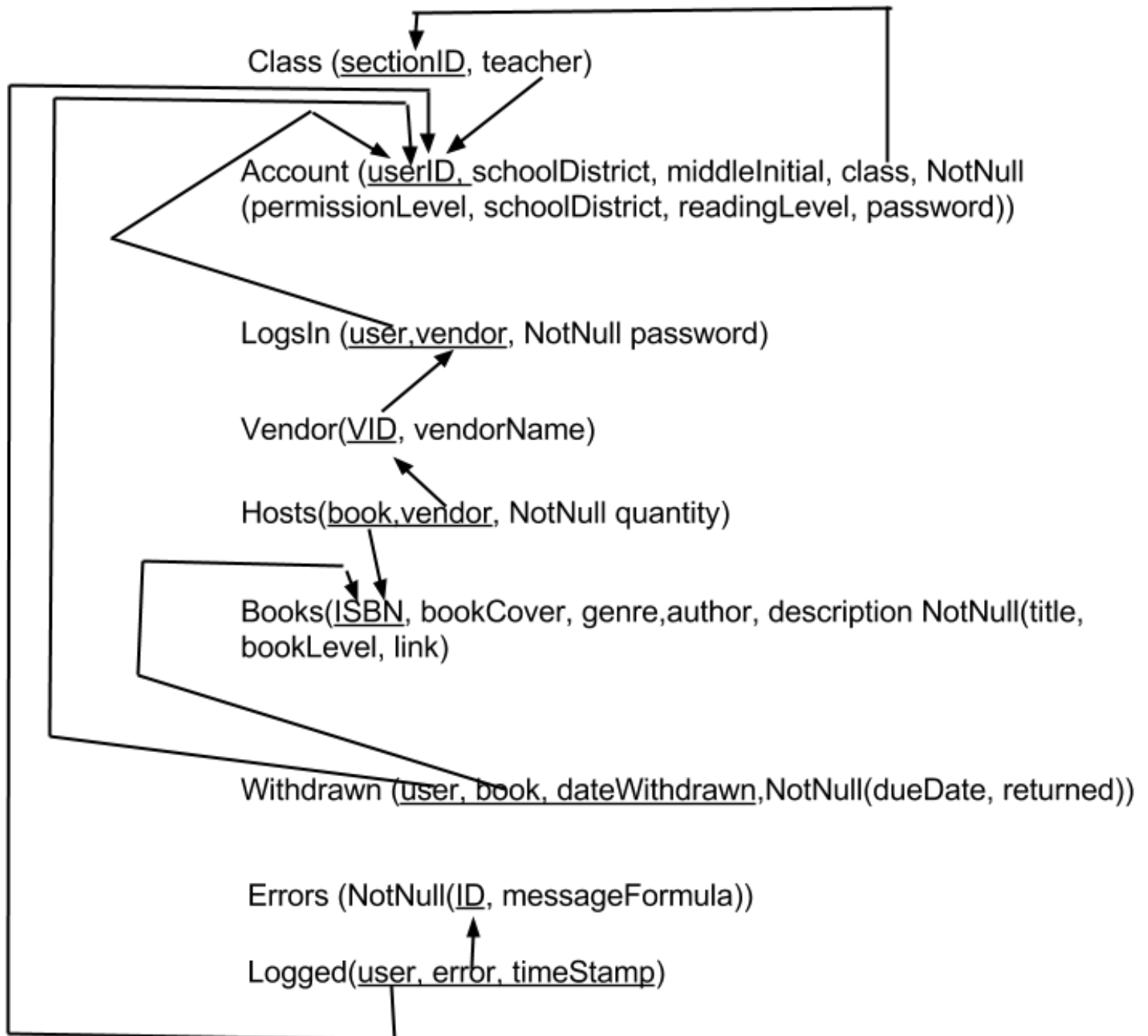


Composite Attribute: An attribute where only each branched attribute is represented in the entity, not the main "starting" attribute.

Entity-Relationship Diagram



Database Schema



Prototype Screens

The following images and explanations are visual representations of the first prototypes that will be created as E.A.S.I. The prototypes presented here do not represent the final design of E.A.S.I. and are subject to change, but they do represent some of the core functions and processes that E.A.S.I. is guaranteed to have.

What E.A.S.I. will be doing:

1. As administrators add the information for each book (MARC file), the system will automatically update/add the book information, and incorporate it into our database. The system will only add books as MARC files are imported.
2. The system will only open the vendor site (directing the book link), and show the student's account information for that vendor, when the user goes to view/download an e-book.
3. The system will handle all internal requests, such as search, clicking, logging in, etc.

All code can be accessed here: https://github.com/SienaCollegeSoftwareEngineering/2014-15-Team-Documentation---Seraphim/tree/master/public_html. Pseudo-code has been added within the document under appropriate sections. Some sections show pseudo-code for only part of the section's function – this is a result of some parts of the code already having been completed. Major sections of the code completed include the Access and Main Page, although neither is 100% finished.

Access Screen

This access screen, as shown on the next few pages, represents the login screen for E.A.S.I. All users will be presented with this screen, and must enter correct credentials in order to access the system.

The login screen (http://oraserv.cs.siena.edu/~perm_seraphim/prototypes/) will have the following features:

- A drop down listing every district that is available for the system
- A username and password to access the system
- A "Sign In" button
- A "Need Help?" link, which provides a small pop-up explaining how to contact someone in charge (most likely the administrator in charge of maintaining the system)
- Any login attempts that fail will be represented with an error message that displays what goes wrong next to the correct field of choice
- Each of the representations of the images will have links to their main websites (in order): <http://www.questar.org/>, http://oraserv.cs.siena.edu/~perm_seraphim/, and <http://www.capitalregionboces.org/>

Questar III and Capital Region BOCES - Digital School Library System

E.A.S.I.

Please Sign In:

Please Choose Your School District:




Burnt Hills-Ballston Lake

Username: Enter Username

Password: Enter Password

Sign In

[Need Help?](#)



Questar III
Capital Region BOCES
E.A.S.I.

Questar III and Capital Region BOCES - Digital School Library System

E.A.S.I.

Please Sign In:

Please Choose Your School District:

Burnt Hills-Ballston Lake

Username:




Enter Username

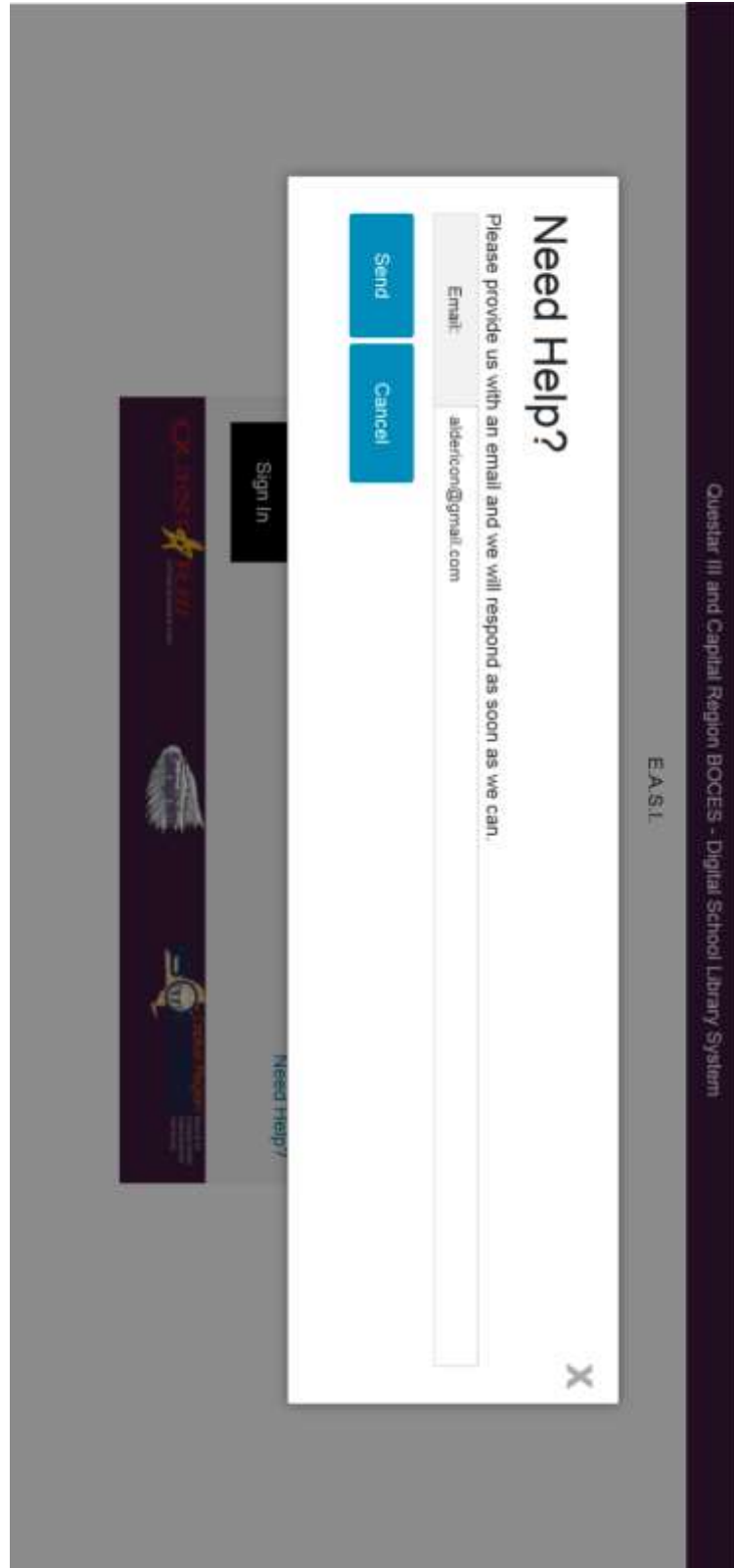
Password:

This is where you type in your username for logging in.

Sign In

Need Help?





Main Page

The main page of the website, as shown on the next page, is what all users will first encounter when correctly entering into the system (as long as the user provides the right district, username and password credentials).

The website will have the following pages:

- The main page
- "My Account", a page to organize their account settings (or, for administrators, to organize other user type account settings or book settings)
- "Genres" and "Subjects" will be a drop-down that leads to pages that have all the Fantasy books, Science Fiction, etc
- "Subjects" will be a drop-down that leads to pages that have all Science, Math, History, etc, books
- "Levels" will be a drop-down that leads to pages that have only books for certain levels.
- Searching in the search box will lead to the "search" page, which shows all the books found for the inputted text
- Clicking "Advanced Search" will lead to a separate page to search using advanced settings
- Clicking on any book cover will lead to a single page with that book's information

All pages of the website will have:

- The "header" (the top of the page; everything along the menu, such as the "Genres" and Search bar, and above)
 - Clients request that message header should be: "Capital Region BOCES and Questar III – School Library System"
- A logout button/link (not shown in pictures above); the user will be automatically logged out after five minutes of inactivity
- Whenever books are displayed (such as on the main page, searching, or in Genres/Subjects/Levels), they will show:
 - The book cover
 - When scrolling over the book image, a small, transparent, "block" will pop up over the book cover, displaying the title and author
 - Clicking on the book cover leads to a page that displays more information about that book
 - A download button, with an arrow, below the book; clicking the download button will mean a popup with the user's username and password for that vendor site (originally hidden, but can be made viewable; with a "Copy" button next to each). The vendor site will open, allowing the user to simply copy & paste the correct fields and, once accessing the vendor site, will bring them directly to that book, where they will have the option of downloading it.
 - Books will only appear depending on the user's level
 - Books will display in rows/columns, and will only have so many rows; there will be a "Next Page" and "Previous Page" options at the bottom

The main page will have the following features:

- A set number of books, in rows/columns
- All books will be randomly selected, from the database, of available books from the district for that user's level
- The books display method (as discussed in the above section)

The "Genres" will include:

- The following genres: Biography & Autobiography, Comic & Graphic Novels, Drama & Literature, Historical Fiction, History, Humor, Mystery & Thriller, Romance, Science & Nature, Sci-Fi & Fantasy, Fiction, Non-Fiction, Arts, Business & Finance, Education, Law, Medicine, Multicultural Studies, Religion, Social Science, Technology, Adventure, Audiobooks, Classics, Film, Horror, Music, Philosophy, Picture Books, Sport, Thrillers
- Genres will appear in alphabetical order
- These Genres will only show in the drop down menu if the topic is available (if there are 1+ books in the category)

The "Subjects" will include:

- The following subjects: Language Arts, Mathematics, Science, Health, Physical Education, Art, Music, Foreign Languages, English, Social Science, Technology
- Subjects will appear in alphabetical order
- These Subjects will only show in the drop down menu if the topic is available (if there are 1+ books in the category)

The "Levels" options:

- Levels will be: K-5, 6-8, and 9-12
 - Teachers and Administrators will have access to an Education level
- When choosing a level, one will see all books found for that level
- Students in higher levels have access to books in lower levels
- Students can have access to specific books, as directed by Teachers or Administrators

FILTER:

Account

Genre

Level

search

GO

[insert clickable username]

ψ



The host



A bend in the road



1

1

2

3

...

8

9

10

»

Main Page Pseudo-Code

```

SYSTEM START
DISPLAY district field
DISPLAY username field
DISPLAY password field
DISPLAY login button
DO:
    READ login credentials
    IF (credentials != database values) THEN
        DISPLAY error message
    ENDIF
WHILE ( credentials != database values )
STORE: current info
DISPLAY navigation bar
BIND nav bar events{
    CASE (click account button or username):
        IF (user type == admin) THEN
            DISPLAY ADMIN ACCOUNT
        ELSE IF (user type == teacher) THEN
            DISPLAY TEACHER ACCOUNT
        ELSE
            DISPLAY STUDENT ACCOUNT
        ENDIF
    CASE (click genre button)://not sure about this or if it's even necessary
        SORT books by genre
    CASE (hover genre button):
        DISPLAY genre dropdown
        IF (genre button clicked AND genre NOT IN filters) THEN
            ADD genre TO filters
            FOR EACH (book WITH genre IN database):
                DISPLAY book
            ENDIF
        CASE (click level button)://not sure about this or if it's even necessary
            SORT books by level
        CASE (hover level button):
            DISPLAY level dropdown
            IF (level button clicked AND level NOT IN filters) THEN
                ADD level TO filters
                FOR EACH (book WITH level IN database):
                    DISPLAY book
                ENDIF
        CASE (search request):
            READ search bar input
            IF (advanced search filled) THEN
                READ advanced inputs
            ENDIF

```

```
        FIND books that match input
        REMOVE current books from page
        FOR EACH (book fetched):
            DISPLAY book
        CASE (click advanced search):
            DISPLAY advanced search dropdown
        CASE (click sign out button):
            RETURN to SYSTEM START
    }
    DISPLAY MAIN PAGE //below pseudo-code

    IF (first time loading page) THEN
        LOAD some random books FROM database
    ELSE
        LOAD books FROM stored list
    ENDIF
    FOR EACH (book):
        DISPLAY book as thumbnail
    DISPLAY pagination
    BIND events{
        CASE (click book image OR book text):
            ADD book TO user view history
            DISPLAY BOOK PAGE
        CASE (click filter tab close):
            REMOVE tab FROM filters
            FOR EACH (book):
                IF (book matches filter AND book's type NOT IN active filters)
                THEN
                    REMOVE book
                ENDIF
        CASE (pagination change):
            LOAD next page of books
            UPDATE pagination
        CASE (page change):
            STORE current pages loaded AND current page number
    }
```

My Account

The "My Account" page will have the following features:

- The ability to see their first and last name (that's connected to the account)
- The ability to view their username, user account type (either student, teacher or administrator), and their district (students + teachers will not be able to change any of these)
- Individual abilities as dictated by their user account type (for example, administrators adding/removing vendors)

- History: See what e-books the user has checked out

My Account Pseudo-Code

STUDENT ACCOUNT:

```

DISPLAY non-sensitive user info
DISPLAY user download history
DISPLAY user view history
IF (book past due) THEN
    ASK book return state
    IF(book returned) THEN
        INCREMENT book availability
    ENDIF
ENDIF
ENDIF

```

TEACHER ACCOUNT:

```

DISPLAY non-sensitive user info
DISPLAY user download history
DISPLAY user view history
DISPLAY account settings
DISPLAY student edit section
BIND student edit events{
    CASE (student search request):
        FIND students MATCHING query
        DISPLAY student details AS list
    CASE (student data edited):
        IF (credentials valid) THEN
            UPDATE student info
        ELSE
            DISPLAY error message
        ENDIF
}
BIND self edit{
    CASE (account credentials edit):
        IF (credentials valid) THEN
            UPDATE user info
        ELSE
            DISPLAY error message
        ENDIF
}

```

ADMIN ACCOUNT:

```

DISPLAY non-sensitive user info
DISPLAY user download history
DISPLAY user view history
DISPLAY account settings
DISPLAY student edit section
DISPLAY teacher edit section

```

```

DISPLAY vendor edit section
BIND student edit AND teacher edit events{
    CASE (user search request):
        FIND user MATCHING query
        DISPLAY user details AS list
    CASE (user data edited):
        IF (credentials valid) THEN
            UPDATE user info
        ELSE
            DISPLAY error message
        ENDIF
    }
BIND self edit{
    CASE (account credentials edit):
        IF (credentials valid) THEN
            UPDATE user info
        ELSE
            DISPLAY error message
        ENDIF
    }
BIND vender edit{
    CASE (add vender):
        SETUP vendor database tables
        REQUEST login info AS input OR file
        REQUEST MARC files
        POPULATE books table
    CASE (remove vendor):
        DELETE vendor credentials info
        DELETE vendor books
    CASE (edit vendor):
        READ new inputs
        UPDATE vendor details
    }
}

```

Searching/Advanced Search

Searching/Advanced Search options:

- Any search part will lead to a page that shows all book options. If none are found, it will show the message "No books found!"
- Searching involves entering in book title, author or ISBN-13
- Advanced Search will at least be able to:
 - search parts available in normal searching
 - search in any number of categories from Subjects, Genres, or Levels
 - search for viewing, e-books or audiobooks

Book View

Book Descriptions pages will have:

- (Possibly) A bigger version of the book cover
- (Possibly) Full description of the book
- Title, Author, ISBN-13, Vendor information
- The ability to view/download it (by going to the vendor site in a separate tab)

Book Pseudo-Code

```
IF (book HAS cover image) THEN
    DISPLAY cover image
ELSE
    DISPLAY default image
ENDIF
DISPLAY book details
DISPLAY download button
BIND download button{
    IF (clicked) THEN
        LINK to vendor book page in new tab
        AID user in vendor login
        DECREMENT availability
    ENDIF
}
```

Packaging Specification

Seraphim's supervisors, Dr. Fryling and Dr. Lim, will receive a copy of E.A.S.I. electronically, via GitHub, with all of the correlation documentation after the Acceptance Test is completed. If the clients wish to incorporate E.A.S.I. into their system, Seraphim will work with the company to bring E.A.S.I. into their system with running capability.

Testing Plan

Overview

The strategy for testing the system is to ensure that the system meets its design specifications, as well as both the functional and non-functional requirements. E.A.S.I. will be vigorously tested on both mobile and desktop machines, using Windows, Linux and Mac Operating Systems as well as the popular browsers: Mozilla Firefox, Internet Explorer, Google Chrome, Opera, and Safari. The testing will use a multi-step process that goes through each of the activities that are in the system: unit testing, integration testing, system testing, performance testing, and acceptance testing.

Exception Handling

The goal of Seraphim is to create a system that accomplishes the functions provided in the Software Plan as well as listed above. As part of these goals, E.A.S.I. will be able to handle all software exceptions as they arise; in the event of an exception error, the system will be able to handle it without the entire system failing. All the input into the system will be validated before the input is stored or made available to the users. At this stage of the project, the potential errors

to the system are still unknown, but do include validation of user credentials and vendor information. Exceptions might be made possible either through user interaction or by the system itself, but in either case, E.A.S.I. will be designed to recover from any such events.

Acceptance Test

The accepted criteria for E.A.S.I. will include all previously stated requirements and functions listed in this document as well as the Software Plan. If the final product is unable to meet the specified requirements or functions, a reasonable explanation must be provided, which will be measured by the supervisors, Dr. Meg Fryling and Dr. Darren Lim. Each portion of E.A.S.I. will be tested in each stage to ensure that the individual components function before having the system integrated as a whole. At the end of the project, an acceptance test will take place to ensure Seraphim has met the system and client needs. Once the acceptance test has taken place, Seraphim and the clients will measure the requirements that have been successful.

Integration Testing

Integrating Testing will be done within each unit test of E.A.S.I. to ensure that each test can work with its components, both within and those that share data with other unit tests. When any change occurs in the code for any unit, testing will occur for the connected units. The goal is for each unit still functions properly even if parts of other units change. Each specific input test is outlined in the unit tests.

System Testing

System Testing within E.A.S.I. will ensure that the system complies with both the functional and non-functional requirement specifications. The type of system testing that will be completed will be black box testing. This type of system testing is completed by entering various inputs to test the outputs of the system. Each specific input test is outlined in the unit tests.

Performance Testing

Performance Testing is used to make sure the system is responding to user requests in a reasonable timeframe, especially when used by many users at the same time. On March 16, 2015, a Stress Test has been scheduled for all Software Engineering group systems. Seraphim plans to have the performance test done in combination with the Stress test at that time. Should this plan commence, a series of tests will be run by multiple users (to be determined) to run stability and performances tests, such as: multiple login and submission attempts, accessing e-Books, searching within the system and accessing e-Book history.

Unit Tests and Test Cases

Each unit test is a test run to ensure that the system is running properly and that it has all the fore-mentioned functions. Each unit test is a step-by-step process for input and what to expect when certain functions are set in motion. Some tests will be performed separately, while others will be performed together. Once all unit tests have been approved, a full system test will be run to ensure that all the functions work together.

Each unit test has a series of test cases, which are directions for input and the order in which the system will receive them. It will contain details on what to expect for each input, and what the system should do if incorrect input is received.

Directory

System Test - Test Results for All Unit Tests					
Team Name	Seraphim				
Project Name	E.A.S.I.				
Client Name	Jen Cannell and Jaime Pfeiffer				
Directory of Unit Tests					
Pass/Fail Status	Unit Number	Unit Test Name	Date Last Tested	Comments or brief description	Integrated with these units
0%	1	Login	01/00/00	Login abilities of all users	N/A
0%	2	Add E-Book	01/00/00	Admin's ability to add a e-book (MARC file)	N/A
0%	3	Search Books	01/00/00	User to find e-books via title, ISBN, etc	2
0%	4	View/Get Book	01/00/00	User see book information and get e-book	3
0%	5	Add Students	01/00/00	Admin add student (import file)	N/A
0%	6	Edit Account	01/00/00	Admin edit Student, Teacher or Admin info	N/A
0%	7	Add Teacher	01/00/00	Admin add teacher	N/A
0%	8	Remove User	01/00/00	Admin remove user	7
0%	9	Add Administrator	01/00/00	Admin add administrator	N/A
0%	12	View History	01/00/00	User view e-Book history	4
0%	13	Edit e-Books	01/00/00	Admin edit e-Book information	2
0%	14	Logout	01/00/00	User automatically/self logout	1
##### of Test Cases Passed (99.44% passes the Ivory Snow Test)					

Login

Login										
To log the user into the system, and determine what type of login account type it is										
Test Cases										
Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	1.001	Log in as Student	Submit student account credentials	Press submit	Empty form	Logged in as student				
	1.002	Log in as Teacher	Submit teacher account credentials	Press submit	Empty form	Logged in as Teacher				
	1.003	Log in as Administrator	Submit administrator account credentials	Press submit	Empty form	Logged in as Admin				
	1.004	Empty username	Leave username blank	Press submit	Empty username	Error message				
	1.005	Empty password	Leave password blank	Press submit	Empty password	Error message				
	1.006	Unselected district	Leave district unselected	Press submit	Empty district	Error message				
	1.007	Empty username/password	Leave username/password blank	Press submit	Empty username/password	Error message				
	1.008	Empty username/district	Leave username/district blank	Press submit	Empty username/district	Error message				
	1.009	Empty password/district	Leave password/district blank	Press submit	Empty password/district	Error message				

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Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	1.010	All fields empty	Leave all fields empty	Press submit	Empty fields	Error message				
	1.011	Non-existent username	Type in a non-existing username	Press submit	Filled form, wrong username	Error message				
	1.012	Wrong password	Type in right username but wrong password	Press submit	Filled form, wrong password	Error message				
	1.013	Wrong district	Type in right username and password but have the wrong district	Press submit	Filled form, wrong district	Error message				
F	= Unit Summary		0% passing		0 passed		0 failed		Date of last test =	
	13	tests								1/0/00

Add Book

Add E-Book

To add a book to the E.A.S.I. system and verify that its vendor is in the database

Test Cases										
Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	2.001	Add Book Appropriately	Submit Book Information	Press submit	Empty Form	Addition and Confirmation				
	2.002	Empty Title	Leave title field blank	Press submit	Empty Form	Error message and user prompted for title				
	2.003	Empty Author	Leave author field blank	Press submit	Empty Form	Error message and user prompted for author				
	2.004	Empty ISBN	Leave ISBN field blank	Press submit	Empty Form	Error message and user prompted for ISBN				
	2.005	Empty Reading Level	Leave reading level field blank	Press submit	Empty Form	Allow submission, inform user that field is blank				
	2.006	Empty Description	Leave description field blank	Press submit	Empty Form	Allow submission, inform user that field is blank				
	2.007	Empty Genre with empty Subject	Leave genre field blank	Press submit	Empty Form	Allow submission, inform user that field is blank				
	2.008	Empty Genre with filled Subject	Leave genre field blank	Press submit	Empty Form	Allow submission, inform user that field is blank				

Pass/Fail Status	Test Number	Description	Action to perform test (Input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	2.009	Empty Subject with filled Genre	Leave subject field blank	Press submit	Empty Form	Allow submission, inform user that field is blank				
	2.010	Empty Vendor	Leave vendor field blank	Press submit	Empty Form	Error message and user prompted for vendor				
	2.011	Empty Teacher Edition Status	Leave teacher edition status field blank	Press submit	Empty Form	Error message and user prompted for teacher edition status				
	2.012	All Fields Empty	Leave all fields blank	Press submit	Empty Form	Error message				
	2.013	Invalid characters in field	Input a string with an invalid character	Press submit	Empty Form	Error message and prompt user for corrected input				
	2.014	Invalid ISBN format	Input a string with an invalid character	Press submit	Empty Form	Error message and prompt user for corrected ISBN format				
F	= Unit Summary			0% passing		0 passed 0 failed			Date of last test =	1/0/00
	14	tests								

Search Book(s)

Search Books										
To search for books using the basic or advanced search features										
Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	3.001	Basic Search	Enter Query into search field	Press Go	Empty field	Return page of search related books				
	3.002	Basic Empty Search	Leave search field blank	Press Go	Empty field	No Change in page				
	3.003	Search with no results	Enter answerless query into search field	Press Go	Empty field	Return page stating no results were found				
	3.004	Advanced Search	Leave username blank	Press submit	Empty form	Return page of search related books				
	3.005	Empty Advanced Search	Leave password blank	Press submit	Empty form	No Change in page				
	3.006	Advanced Search: Filled Author	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
	3.007	Advanced Search: Filled Title	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
	3.008	Advanced Search: Filled Genre	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
	3.009	Advanced Search: Filled Multiple Genre	Leave district unselected	Press submit	Empty form	Return page stating no results were found				

Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	3.010	Advanced Search: Filled Title & Author	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
	3.011	Advanced Search: Filled Title & Genre	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
	3.012	Advanced Search: Filled Title & Multiple Genre	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
	3.013	Advanced Search: Filled Author & Genre	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
	3.014	Advanced Search: Filled Author & Multiple Genre	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
	3.015	Advanced Search: Filled Title, Autor & Genre	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
	3.016	Advanced Search: Filled Title, Autor & Multiple Genre	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
	3.017	Advanced Search with no results	Leave district unselected	Press submit	Empty form	Return page stating no results were found				
F	= Unit Summary 17 tests		0% passing		0 passed 0 failed			Date of last test =	1/0/00	

[View/Get Book](#)

View/Get Books									
To view the books in our system and download them from vendors									
Pass/Fail Status	Test Cases		Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By
	Test Number	Description							
	4.001	Select Book			Page of books (home or searched)	Return page of selected book			
	4.002	Download book	Select Book	Click download	Selected book page	Takes them to vendor site and displays log-in info			
F	= Unit Summary		0% passing		0 passed		Date of last test =		1/0/00
	2 tests				0 failed				

Add Student(s)

Add Student									
Administrator adding students from MyAccount page									
Test Cases		Action to perform test (Input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
Pass/Fail Status	Test Number								
	5.001	My Account		Click on my account	Any displayed non-error page within MyAccount page site	Displays appropriate MyAccount page			
	5.002	Browse for Student File	Selecting Browsed form	Click Add students	My Account Page	My Account Page with browse for student file			
	5.003	Process Students File		Upload Students Information	Un-Edited Database	Updated Database			
	5.004	Add individual student		Click Add Individual Student	My Account Page	Display form for adding student			
	5.005	Submit Individuals Form	Student Information	Click Submit	My Account Page with student form displayed	Database Updated with additional Student			
F	= Unit Summary		0% passing		0 passed			Date of last test =	1/0/00
	5	tests			0 failed				

Edit Account

Any User Editing information in My Account

Test Cases		Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
Pass/Fail Status	Test Number								
				Any displayed non-error page within site	Displays appropriate MyAccount page				
	6.001	My Account	Click on my account	My Account Page	Displays User Search Fields				
	6.002	Edit User	Click Edit User tab	User Search Fields	Populate User List below form				
	6.003	Search User by First	Click Submit	User Search Fields	Populate User List below form				
	6.004	Search User by last	Click Submit	User Search Fields	Populate User List below form				
	6.005	Search User by first and last	Click Submit	User Search Fields	Populate User List below form				
	6.006	Search User empty field	Click Submit	User Search Fields	Popup about needing filled forms				
	6.007	Select User	Click on user in populated list	Populated List	Deploy Modal containing current information in form				
	6.008	Edit Reading Level	Click Submit	Form Filled Modal	Update Database				
	6.009	Edit School	Click Submit	Form Filled Modal	Update Database				
	6.010	Edit First Name	Click Submit	Form Filled Modal	Update Database				

Edit Account

Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	6.011	Edit Middle Initial	Input new Middle Initial	Click Submit	Form Filled Modal	Update Database				
	6.012	Edit Last Name	Input new Last Name	Click Submit	Form Filled Modal	Update Database				
	6.013	Edit First Name & Middle Initial	Input new First name & Middle initial	Click Submit	Form Filled Modal	Update Database				
	6.014	Edit First & Last Name	Input new First & Last Name	Click Submit	Form Filled Modal	Update Database				
	6.015	Edit Last Name and Middle Initial	Input new Middle Initial & Last Name	Click Submit	Form Filled Modal	Update Database				
	6.016	Edit All Name Fields	Input new Name information	Click Submit	Form Filled Modal	Update Database				
	6.017	Edit Password	Input new Password	Click Submit	Form Filled Modal	Update Database				
	6.018	Edit User Id	Input new User ID	Click Submit	Form Filled Modal	Update Database				
	6.019	Admin only Edit Permission Level	Input new Permission Level	Click Submit	Form Filled Modal	Update Database				
F	= Unit Summary 19 tests		0% passing	0 passed 0 failed	Date of last test =		1/0/00			

Add Teacher

Add Teacher									
Administrator adding Teachers from MyAccount page									
		Test Cases		Action to perform test (input)		Steps to be Executed		State Before Test	
Pass/Fail Status	Test Number	Description							
	7.001	My Account		Click on my account	Any displayed non-error page within site	Displays appropriate MyAccount page			
	7.002	Add individual teacher		Click Add Individual Teacher	My Account Page	Display form for adding teacher			
	7.003	Submit Individuals Form	Teacher Information	Click Submit	My Account Page with teacher form displayed	Database Updated with additional Teacher			
F	= Unit Summary		0%	passing	0	passed	Date of last test =		1/0/00
	3	tests			0	failed			

Remove User(s)

Remove User Admin removing any user									
Test Cases		Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
Pass/Fail Status	Test Number	Description							
	8.001	My Account	Click on my account	Any displayed non-error page within site	Displays appropriate MyAccount page				
	8.001	Edit User	Click Edit User tab	My Account Page	Displays User Search Fields				
	8.001	Search User by First	Click Submit	User Search Fields	Populate User List below form				
	8.001	Search User by last	Click Submit	User Search Fields	Populate User List below form				
	8.001	Search User by first and last	Click Submit	User Search Fields	Populate User List below form				
	8.001	Search User empty field	Click Submit	User Search Fields	Popup about needing filled forms				
	8.001	Select User	Click on user in populated list	Populated List	Display Model containing current information in form				
	8.001	Remove User	Click on remove after selecting user	Form Filled Model	Remove user from database				
F	= Unit Summary		0% passing	0 passed	0 failed	Date of last test = 1/10/00			
	8	tests							

Add Administrator

Add Administrator										
Administrator adding Administrators from MyAccount page										
	Test Cases									
Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	9.001	My Account		Click on my account	Any displayed non-error page within site	Displays appropriate MyAccount page				
	9.002	Add individual Admin		Click Add Individual Administrator	My Account Page	Display form for adding Administrator				
	9.003	Submit Individuals Form	Administrator Information	Click Submit	My Account Page with Administrator form displayed	Database Updated with additional Administrator				
F	= Unit Summary			0% passing		0 passed			Date of last test =	1/0/00
	3	tests				0 failed				

View History

View History

Viewing History information related to 'downloaded' books

Test Cases		Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
Pass/Fail Status	Test Number	Description							
	10.001	My Account		Click on my account	Any displayed non-error page within site	Displays appropriate MyAccount page			
	10.002	View History		Click on View History	My Account Page	Displays user's book history			
F	= Unit Summary		0%	passing	0 passed	0 failed	Date of last test =		1/0/00
	2	tests							

Edit E-book

Any Admin editing of e-books

Test Cases		Action to perform test (Input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
Pass/Fail Status	Test Number								
	6.001	My Account		Any displayed non-error page within site	Displays appropriate MyAccount page				
	6.002	Edit Books	Click Edit e-book tab	My Account Page	Displays e-book Search Fields				
	6.003	Search e-book title	Click Submit	e-book Search Fields	Populate e-book List below form				
	6.004	Search e-book ISBN	Click Submit	e-book Search Fields	Populate e-book List below form				
	6.005	Search e-book author	Click Submit	e-book Search Fields	Populate e-book List below form				
	6.006	Search e-book empty field	Click Submit	e-book Search Fields	Popup about needing filled forms				
	6.007	Select e-book	Click on e-book in populated list	Populated List	Deploy Modal containing current information in form				
	6.008	Edit Author	Click Submit	Form Filled Modal	Update Database				
	6.009	Edit title	Click Submit	Form Filled Modal	Update Database				
	6.010	Edit description	Click Submit	Form Filled Modal	Update Database				
	6.011	Edit book level	Click Submit	Form Filled Modal	Update Database				

Edit e-Book(s)

Pass/Fail Status	Test Number	Description	Action to perform test (Input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	6.012	Edit genre	Input new genre	Click Submit	Form Filled Modal	Update Database				
	6.013	Edit ISBN	Input new ISBN	Click Submit	Form Filled Modal	Update Database				
F	= Unit Summary		0%	passing	0	passed	0	failed	Date of last test =	1/0/00
	13	tests								

Logout

Logging out of the system

	Test Cases									
Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	6.001	log out		Click on log out	Any page	return to login				
	6.002	time out	wait for idle time out	wait	any page	return to login				
F	= Unit Summary		0%	passing	0	passed		Date of last test =		1/0/00
	2	tests			0	failed				

Logout

Appendices

Glossary of Terms

Database Schema: Shows how the database will be represented in tables, views, stored procedures, etc. For example, many database schemas show each table, what attributes it will have, and whether they are unique, null, etc.

E.A.S.I.: E-Book Application System Integration, the name of the e-book digital library being created for Capital Region BOCES and Questar III.

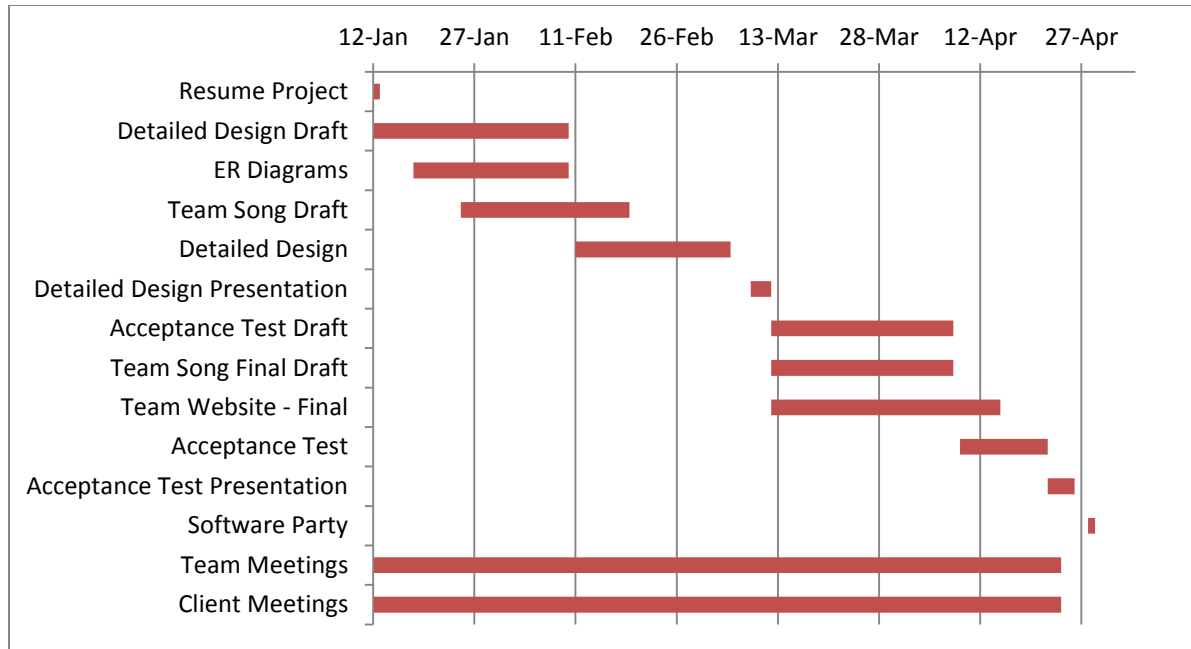
Entity-Relationship Diagram: an abstract and conceptual representation of data; used to represent the logical format of a database.

Project Timeline

The following is the list of tasks to be completed throughout this year for the E.A.S.I. system:

Task	Duration (Days)	Start	Finish
Resume Project	1	1/12/15	1/12/15
Detailed Design Draft	29	1/12	2/10
ER Diagrams	23	1/18	2/11
Team Song Draft	25	1/25	2/19
Detailed Design	23	2/11	3/6
Detailed Design Presentation	3	3/9	3/11
Acceptance Test Draft	27	3/12	4/8
Team Song Final Draft	27	3/12	4/9
Team Website - Final	34	3/12	4/15
Acceptance Test	13	4/9	4/21
Acceptance Test Presentation	4	4/22	4/27
Software Party	1	4/28	5/5
Client Meetings	~ 5	1/12	4/24
Team Meetings	~ 12	1/12	4/26

SERAPHIM



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