MacDonald Designs:
The Robert Addison
Library Project

Information Architecture & User Interface
Design

A report on the organization of the site and its final
design.

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Introduction

The purpose of this report is to document the following:
- high-fidelity prototype,
- information architecture,
- user interface design,
- usability testing, and
- to provide a blueprint to follow during the building of the site.

To prevent making design decisions during the building phase of the website, I have put all IA and design decisions into this document. Each page of the high-fidelity prototype can effectively function as a checklist while building the site.

Process

The process to this point has involved:
- Research
    - going through the books of the Robert Addison Library and documenting provenance, shelf number, and any other notes
    - taking digital photos of the titles pages, illustrations, etc.
- UX design and IA
- Database design
- Database construction & testing
- IA redesign, UI design and documentation
    - High fidelity prototypes based upon early UX design
    - IA redesign taking into account the database design
    - UI design of the search functions

After testing the second version of the database (large data sample), I began reconsidering the user interface regarding search. I then revisited my low fidelity prototypes and redesigned them with the database in mind and developed the search interface. Based on the original UX research, most users wished to search or browse via directory. I have included directory searching in this design, but have also developed advanced search options, which will aid users who seek a specific title.

The following section shows one web page design per page with a detailed description. Some elements are found on every page throughout the site while others are specific to individual pages of groups of pages. The following elements are global:

- Header and banner with image
- Global navigation bar with four main menu items, additional dropdown menu items, and a search bar for the site (not the catalogue)
    - Use Zend Framework Lucene to index and search the site
- Breadcrumbs
- Footer with global navigation links and an external link to my portfolio site (http://www.neil-macdonald.com/ portfolio/index.html).

In addition to the prototypes, I also updated the site map. The original design had included a menu item titled "events" which would link to two pages, "past events" and "upcoming events." During the planning stage of this project, I explored the possibility of using an open-source content management system (CMS) to build the web catalogue. After examining the different options, I concluded that these were insufficient for the needs of this project. A second idea was to create a database and website for the catalogue and use a separate CMS for the other pages of the site. Both the database and site could be designed to work together and appear seamless.

The second alternative would allow the Archives Committee to use the site without any programming experience. The third alternative, which occurred to me when I began the redesign of this project in 2016, is to create a separate Facebook page for the library's events page. Now, the menu will simply link to an external Facebook page.

I did not include a wireframe of the events page in this documentation as I have limited control over the visual design of a Facebook page.

Information Architecture

Books, History, & Help

My UX research came up with the category names: Books, History, and Help for the various pages of the Robert Addison Library. However, when doing the information architecture for the site, I concluded that I did not need to have actual pages with those names, but they do function as menu titles for drop down selections and are used in both the URLs and breadcrumbs as hierarchical indicators.

The following table lists all of the permanent pages and a representation for each class of instance only page (full record displays, search results, etc.).

URLs

Page Name	URL
Home	www.addisonlibrary.org
404 error	www.addisonlibrary.org/error/404.phtml
Galleries	www.addisonlibrary.org/books/galleries
Galleries image	…/books/galleries/?*imagename*
Directories (list of all directories)	www.addisonlibrary.org/books/directories
Directories (individual)	…/books/directories/?*directoryname*
Directories (results)	…/books/directories/?*directoryname*/?*results*
Full record	…/books/directories/?*directoryname*/?*results*/?*recordname*
Advanced search	www.addisonlibrary.org/books/search
Addison	www.addisonlibrary.org/history/addison
Web catalogue project	www.addisonlibrary.org/history/webcat
Original catalogue	www.addisonlibrary.org/history/cat
Alternate catalogues	www.addisonlibrary.org/history/altcats
Provenance	www.addisonlibrary.org/history/provenance
Richard Atkins	…/history/provenance/atkins
William Beale	…/history/provenance/beale
Thomas Topping	…/history/provenance/topping
Frequently Asked Questions	www.addisonlibrary.org/help/faq
Contact us	www.addisonlibrary.org/help/contact
Visitor request form	www.addisonlibrary.org/help/visitor
Site map	www.addisonlibrary.org/help/sitemap
Events	www.facebook.com/addisonlibrary/

Images

There are over 2,000 images in the Robert Addison Library. Naturally, a naming convention is necessary to keep them organized. The format went through a couple of iterations before I reached the final system, which works for both identification and site development.

Coding element	Example	Description
Conventions for images used in the database and on the website		
Class	AL	This designates that the image is a master copy and belongs to the Addison Library.
Image No.	0001	A four-digit number that corresponds to a book number in the Robert Addison Library.
Duplicate copy	0001-1 0001-2	The dash after the AL number indicates that duplicate copies of this title exist. The number immediately following the dash indicates to which copy the image refers.
Volume	v01	A combination of a small "v" and two digits. This designates a title as a volume in a series. The number is derived from the volume itself and zeros are used as place holders to enable computes to sequence the images correctly (e.g. 01..04..10).
Series (optional element)	a-z	A letter of the alphabet that designates an image to be one of a series from the same title. If only a title page image exists for a book, then no series element is used. Series are arranged in the following order: • title pages • author images • maps and/or illustrations • signatures establishing provenance • marginalia (notes, doodles, etc.)
File type	.jpg	Designates the image file type.
Examples	AL0094 AL0133b AL0710v03.jpg AL0120-1a.jpg	
Convention used for image archiving, not display on the web		
Image editing	_ed	The suffix "_ed" appears if any image has been cropped or otherwise edited. This is removed before the image uploaded to the server.

More than one camera was used in the photographing of the books in the Robert Addison Library and the image sizes (number of pixels) in the master files varies depending upon the camera used.

All images have been resized for display on the Robert Addison Library Website and Catalogue. These images have been given a standard width of 250px for thumbnails and 800px for larger display images. The length of the image can vary depending upon the orientation of the image and whether any cropping was done to the image.

Site Map
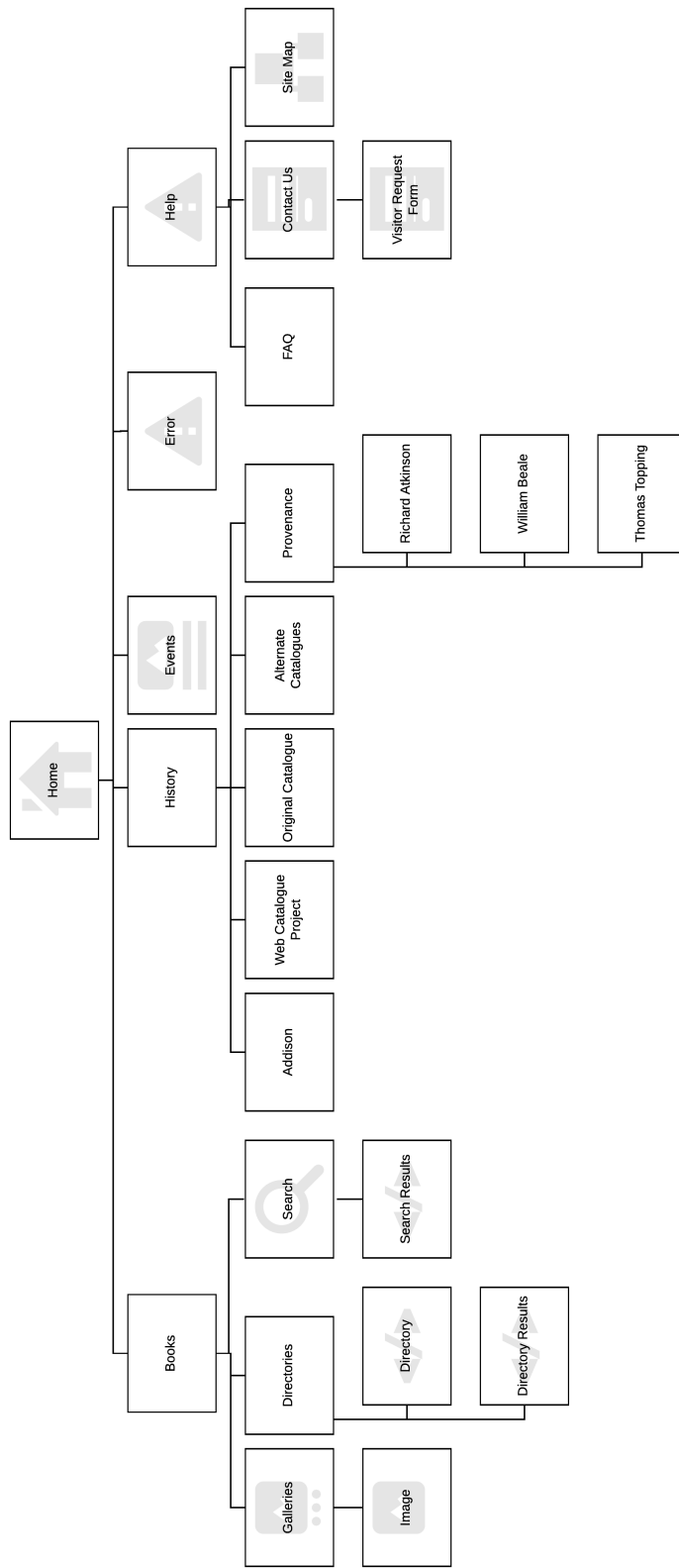
High Fidelity Prototype

Home
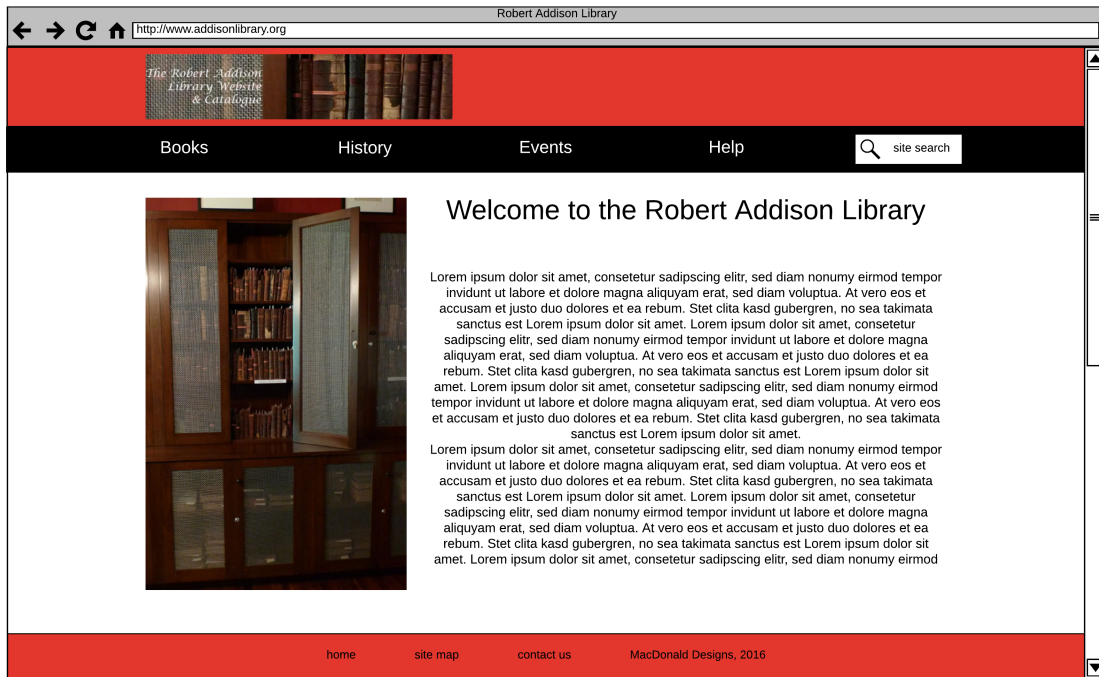
Page title: Home

URL: www.addisonlibrary.org & www.addisonlibrary.org/home

Hierarchy: above: nothing
below: books, history, events, help

Content: An introduction to the site describing the library and what visitors can do.

Elements:
- Image carousel (Javascript + CSS), images use rollover display to describe and link to different sections of the site

Requirements:
- Html
- CSS3
- Javascript (image carousel)
- Images
  - banner470x99.jpg
  - AL0035c_600x400.jpg
  - AL0104b_600x400.jpg
  - AL0143a_600x400.jpg
  - AL0234c_600x400.jpg
  - AL0289_600x400.jpg
  - P1020492_600x400.jpg

Galleries: main

http://www.addisonlibrary.org/galleries/?1-100

The Robert Addison
Library Website
& Catalogue

| Books | History | Events | Help |

Home › Books › Galleries

Galleries

Arrows at the top and bottom of the page.

There are many images in the Robert Addison Library. Please select your browsing range.

1-100

AL0001

AL0002

AL0003a

AL0003b

250 px width

home   site map   contact us   MacDonald Designs, 2016
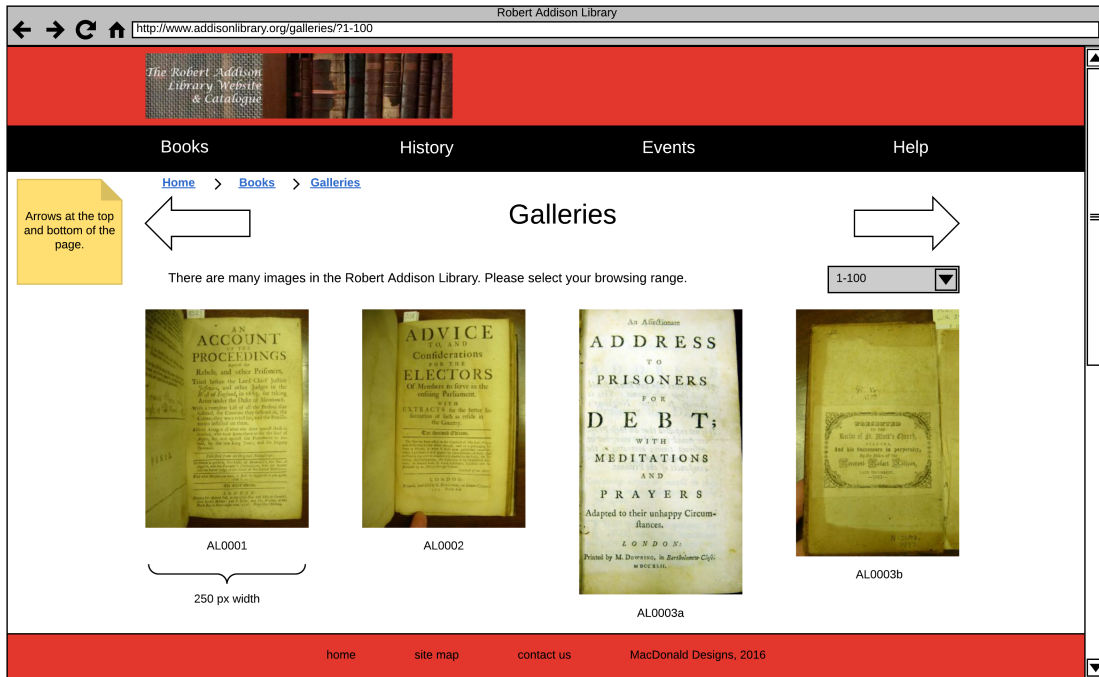
Page title: Galleries

URL: www.addisonlibrary.org/books/galleries

Hierarchy: above: books
                  below: image

Content: 100 images per page from the Robert Addison Library

Elements: • 100 images each with a width of 250px

Requirements: • HTML
                  • CSS3
                  • PHP
                      o Dropdown box for selecting image range Flexible
                        design – number of images per row depends on
                        display size
                      o PHP loop to select 100 images per page
                      o Links from thumbnails to larger images

Galleries: single image
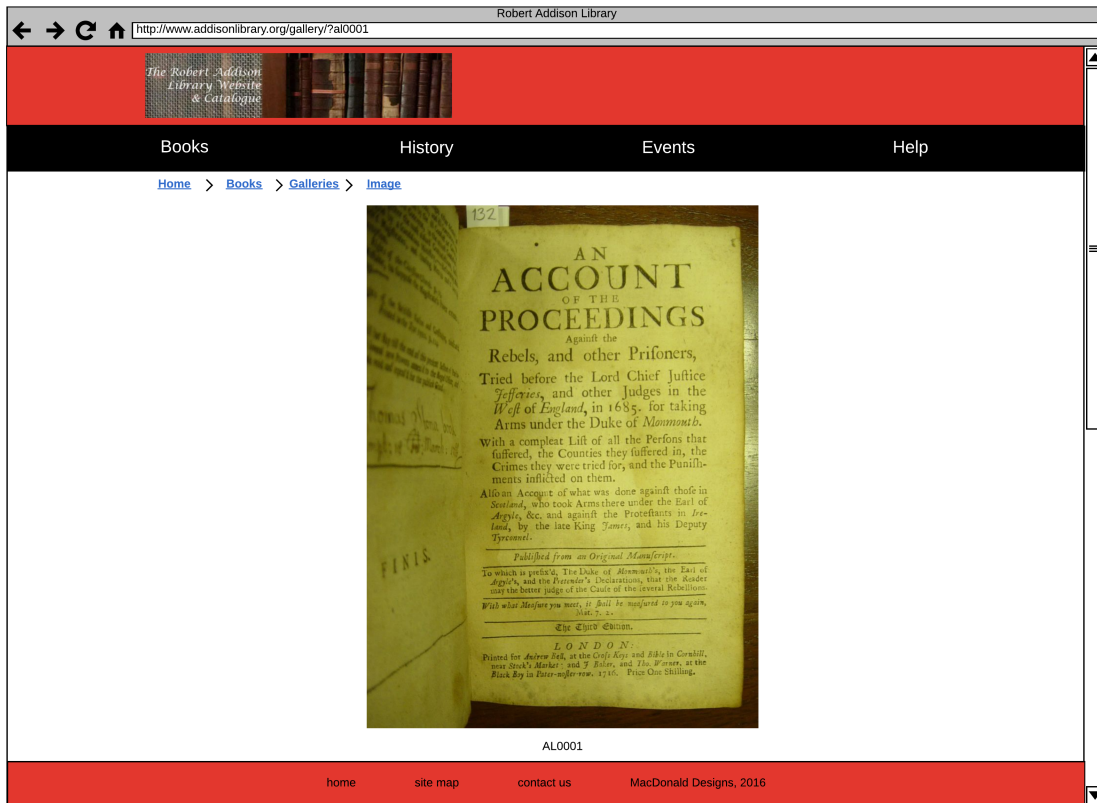
Page title: Galleries

URL: www.addisonlibrary.org/books/galleries/?AL0001

Hierarchy: above: galleries
                    below: nothing

Content: A single image selected from the previous page

Elements:
- 1 image with a width of 800px
- back button to return to the galleries page

Requirements:
- HTML
- CSS3
- PHP

Directories 1: all directories
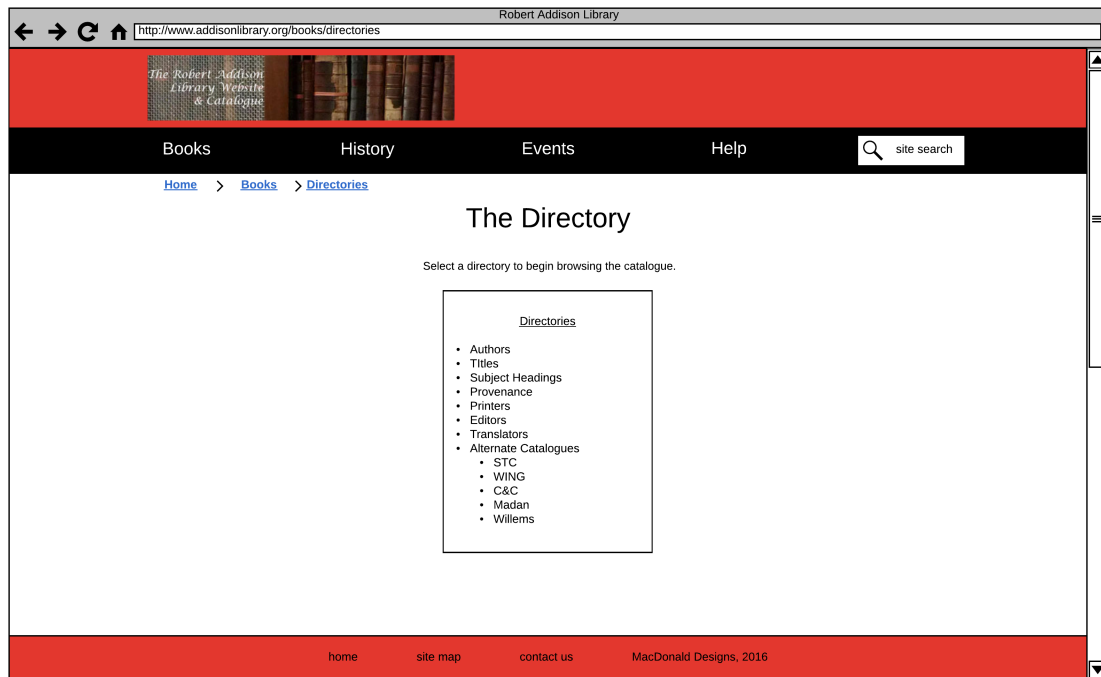
Page title: Directories

URL: www.addisonlibrary.org/books/directories

Hierarchy: above: books
below: authors, titles, subject headings, provenance, printers, editors, translators, alternate catalogues

Content: A list of all of the directory categories. Each category link, when clicked, will return a complete list of everything under that category.

Elements: A list with links.

Requirements:
- HTML
- CSS3
- PHP
  - o each category must trigger a search of the related category when clicked

Directories 2: single directory

Robert Addison Library
http://www.addisonlibrary.org/catalogue/directories

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Directories: Subject Headings

Displaying all 56 subject headings.

```
Biblical Reference 1
Biography        19
Biology          1
Cartography      1
Church Affairs   23
Classics         2
Critique         9
Dedication       1
Dictionary       2
Discourse        1
Discourse/Poetry 1
Economics        1
Education        1
Essay            24
Gardening        1
Geography        4
Grammar          1
Greek Grammar    1
History          30
Inquiry          3
Law              11
```

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Page title: Directories

URL: www.addisonlibrary.org/books/directories/?subjectheadings

Hierarchy: above: directories
below: all subject headings

Content: A list of all of the subject headings with the number of titles per heading. Each heading links to a list of titles under that heading.

Elements: A list with links.

Requirements:
- HTML
- CSS3
- PHP
  - each heading must trigger a search of the related heading when clicked

Directories 3: directory results

Robert Addison Library

http://www.addisonlibrary.org/books//directories/?subjectheadings/?religion

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Home > Books > Directories > Subject Headings > Religion

Religion

Displaying all 79 titles for 'religion'.

Author	Title	AL No.	Subject Heading
Anonymous	Dangerous Imposture of Quakerism, The	18	Religion
Anonymous	Defence of Natural and Revealed Religion, A, 4 vols.	19	Religion
Anonymous	Discourse of the Descent of the Man-Christ Jesus, A	21	Religion
Anonymous	Modern Pleas for Schism and Infidelity, Review'd	37	Religion
Anonymous	Popery Always the Same	42	Religion

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Page title: Directories

URL: www.addisonlibrary.org/books/directories/?subjectheadings/?religion

Hierarchy: above: subject headings
                  below: all results for the subject heading religion

Content: A list of all of the results for the subject heading religion. Each result
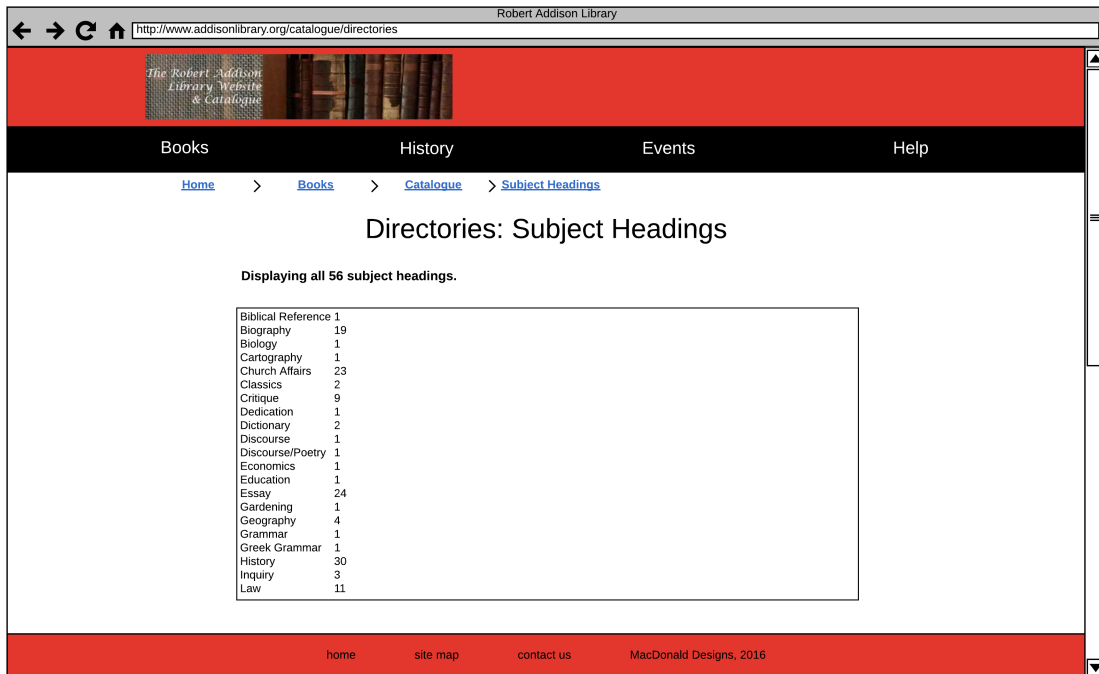   links to the record for that title.

Elements: A list with links.

Requirements:
- HTML
- CSS3
- PHP
  - each title must trigger a search of the related record when clicked

Title: full record for AL0133
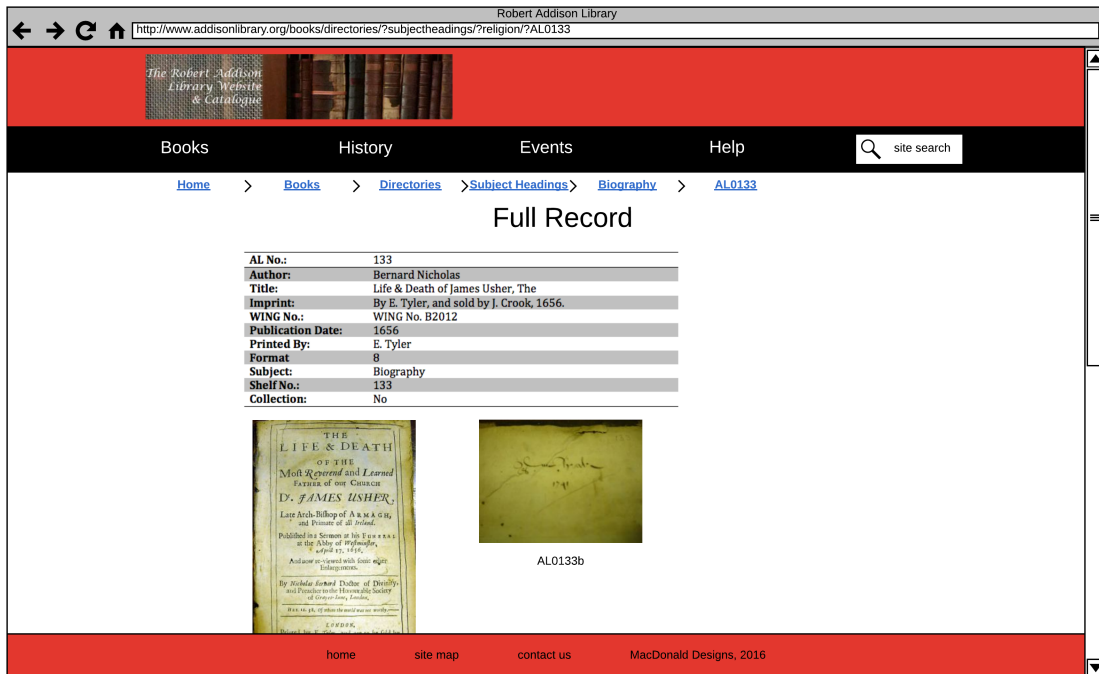
| Page title: | AL0133 |

URL: www.addisonlibrary.org/books/directories/?subjectheadings/?religion/?AL0133

Hierarchy: above: religion
below: nothing

Content: The full record for a single title in the database along with corresponding images.

Elements: Text and clickable image thumbnails.

Requirements:
- HTML
- CSS3
- PHP
  - page displays results from two searches
    - the full record
    - the images
  - the thumbnails must link to the full-sized version of the image when clicked

Advanced Search

Page title: Advanced Search

URL: www.addisonlibrary.org/books/search

Hierarchy: above: books
                   below: search results

Content: A user interface for searching the database.

Elements: Labeled dropdown menus and/or menus with autocomplete and a
                   "GO" button to run the search.

Requirements:
- HTML
- CSS3
- PHP
    - The search fields must form an MySQL query to be run on the database.
    - Use Select2 for the autocomplete fields. https://select2.github.io/

History: Web Catalogue

http://www.addisonlibrary.org/history/webcat
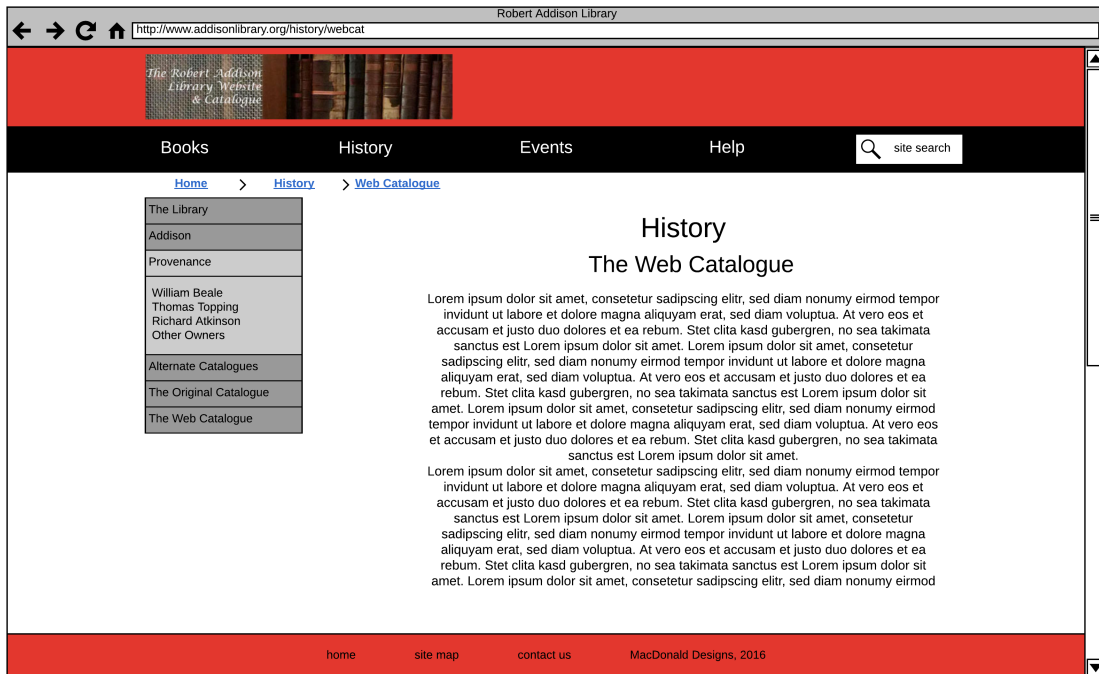
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Home ❯ History ❯ Web Catalogue

The Library

Addison

Provenance

William Beale
Thomas Topping
Richard Atkinson
Other Owners

Alternate Catalogues

The Original Catalogue

The Web Catalogue

History
The Web Catalogue

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet.
Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod

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Page title: Web Catalogue

URL: www.addisonlibrary.org/history/webcat

Hierarchy: above: history
                     below: none
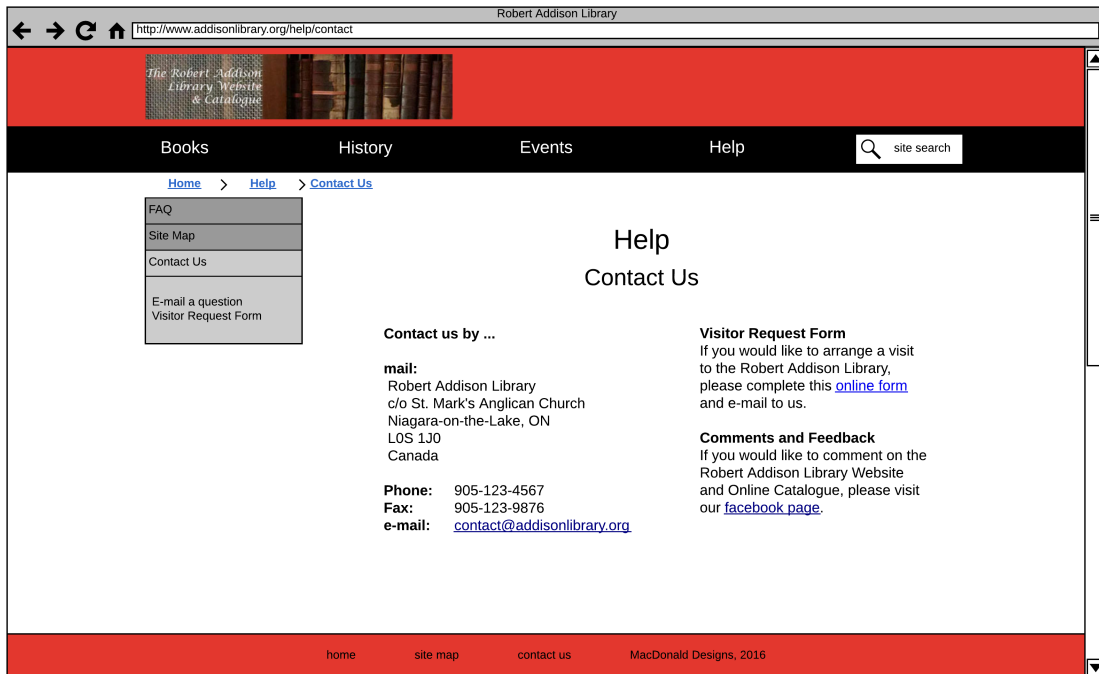
Content: A description of the web catalogue and the project to put it online.

Elements: Text and local (side) navigation.

Requirements:
- HTML
- CSS3
- PHP

Contact Us

Robert Addison Library

http://www.addisonlibrary.org/help/contact

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Home > **Help** > **Contact Us**

FAQ
Site Map
Contact Us

E-mail a question
Visitor Request Form

Help
Contact Us

Contact us by ...

mail:
Robert Addison Library
c/o St. Mark's Anglican Church
Niagara-on-the-Lake, ON
L0S 1J0
Canada

Phone: 905-123-4567
Fax: 905-123-9876
e-mail: contact@addisonlibrary.org

Visitor Request Form
If you would like to arrange a visit
to the Robert Addison Library,
please complete this online form
and e-mail to us.

Comments and Feedback
If you would like to comment on the
Robert Addison Library Website
and Online Catalogue, please visit
our facebook page.

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Page title: Contact Us

URL: www.addisonlibrary.org/help/contact

Hierarchy: above: help
                  below: visitor

Content: Information on how to contact the Robert Addison Library for
                  information or to send in a visitor request form.

Elements: Contact information and hyperlinks.

Requirements:
- HTML
- CSS3
- PHP

Visitor Request Form

Page title:	Visitor Request Form

URL: www.addisonlibrary.org/help/visitor

Hierarchy: above: contact
                below: nothing

Content: A web form which users can fill out to request a visit.

Elements: Text input fields, a date picker, and a submit button.

Requirements:
- HTML
- CSS3
- PHP
  - GET from input fields and send form values to Robert Addison Library members.

Site Map
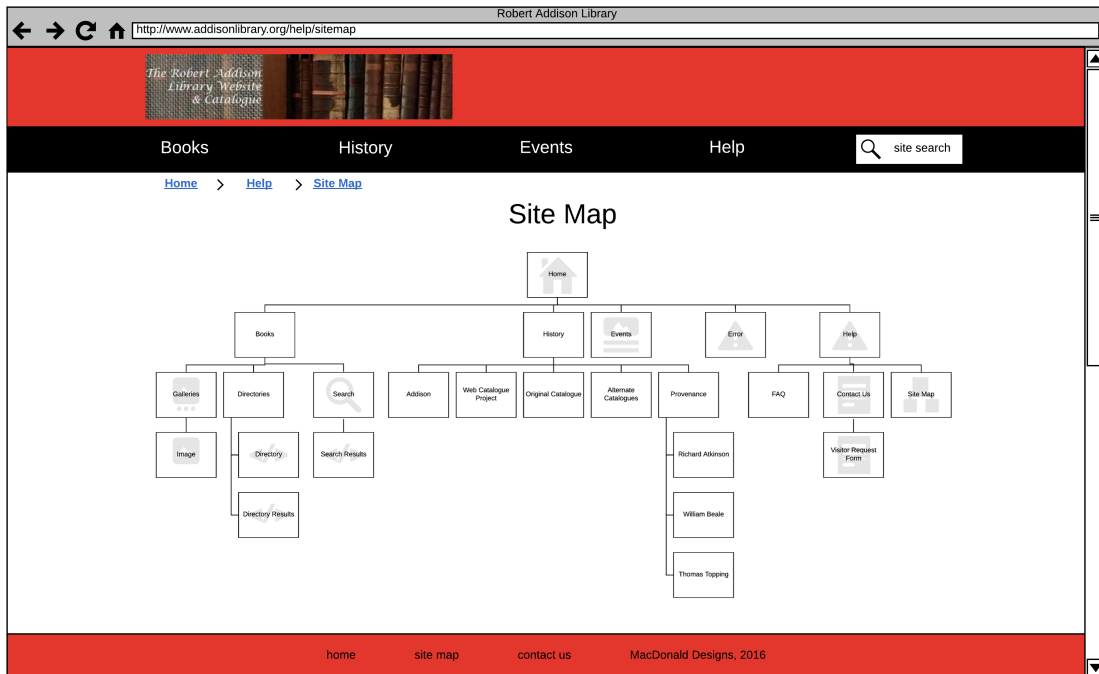
Page title: Site Map

URL: www.addisonlibrary.org/help/sitemap

Hierarchy: above: help
                 below: nothing

Content: This is a map of the site with links to linkable pages.

Elements: A png with links.

Requirements: • HTML
                 • CSS3
                 • PHP

FAQ

http://www.addisonlibrary.org/help/faq

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Home ❯ Help ❯ FAQ

Frequently Asked Questions

Q: How come I can't find any books when I enter titles or authors in the search box?

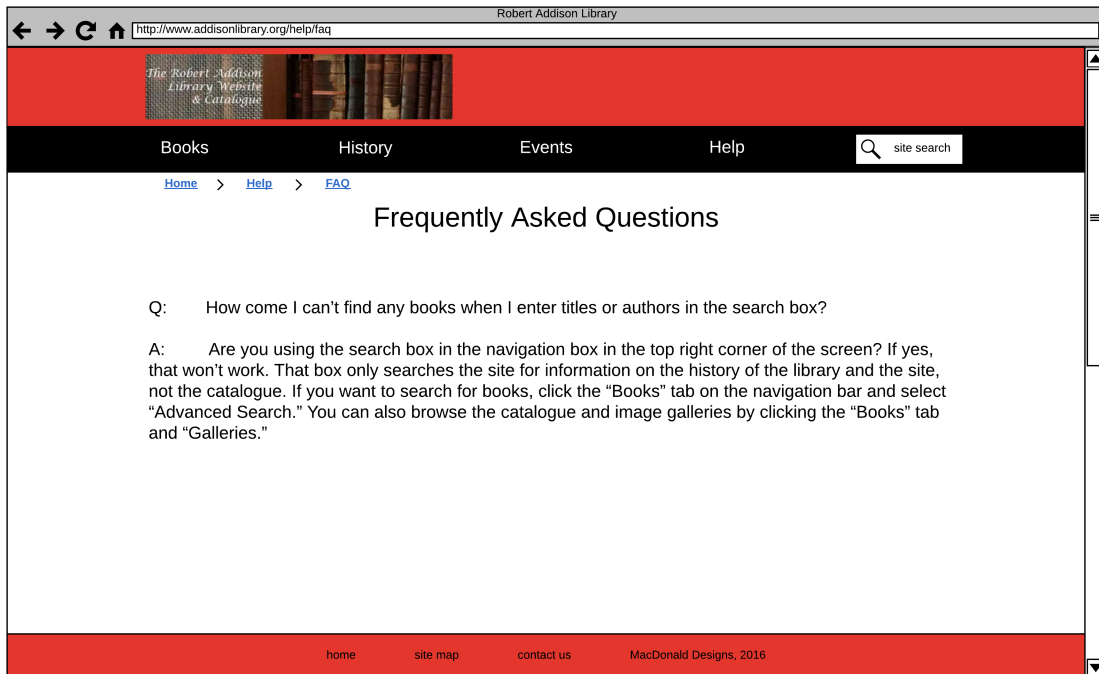A: Are you using the search box in the navigation box in the top right corner of the screen? If yes, that won't work. That box only searches the site for information on the history of the library and the site, not the catalogue. If you want to search for books, click the "Books" tab on the navigation bar and select "Advanced Search." You can also browse the catalogue and image galleries by clicking the "Books" tab and "Galleries."

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Page title: Frequently Asked Questions

URL: www.addisonlibrary.org/help/faq

Hierarchy: above: help
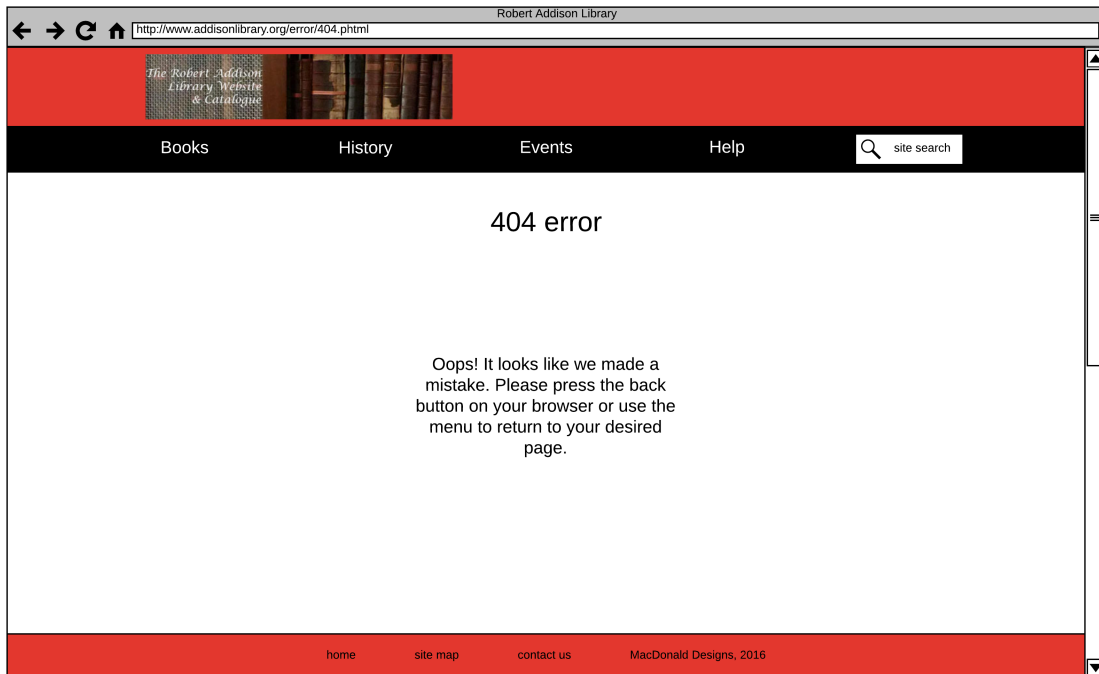   below: nothing

Content: A list of frequently asked (or anticipated) questions and their
                   answers.

Elements: A list of questions at the top of the page hyperlinked to their
                   corresponding questions with anchors.

Requirements: • HTML
                       • CSS3
                       • PHP

404 Error

Robert Addison Library

http://www.addisonlibrary.org/error/404.phtml

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404 error

Oops! It looks like we made a
mistake. Please press the back
button on your browser or use the
menu to return to your desired
page.

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Page title: 404 error

URL: www.addisonlibrary.org/error/404.phtml

Hierarchy: above: home
                   below: nothing

Content: A brief message apologizing for the inconvenience and
                   recommending a course of action.

Elements: • HTML
                   • CSS3
                   • PHP
Requirements: