#arcs2015

Book as Platform: Linking Data to Build a Better Book

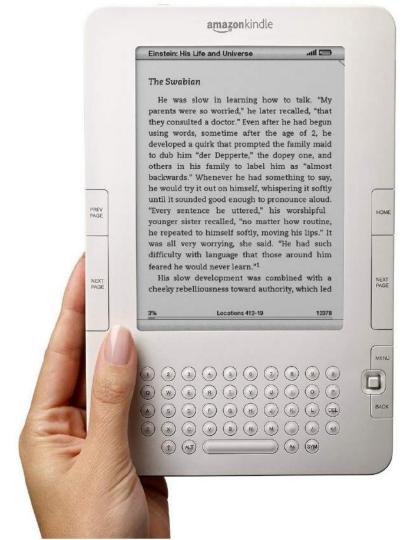
Jason A. Clark @jaclark

Scott Young @hei_scott

LIBRARY







Web Bool

Did you mean:

Ebook

Always correct to "Ebook"

Add to personal dictionary

Ignore all

Every Book its [machine] Reader

Apologies to Ranganathan

What if?

Books were machine indexed for semantic discovery

Journal articles were semantically tagged at the page level

A "Book" in a Browser

Atomizable, Analyzable, Linkable, Reusable

Book as Software

- 1. Software Development
- 2. Data Storage and Archiving
- 3. Metadata
- 4. Discovery and Analytics
- 5. API Access



Links and Anchors

A link is the connection between one piece of <u>hypertext</u> and another.

```
1 <title>Hypertext Links</title>
2 <h1>Links and Anchors</h1>
3 A link is the connection between one piece of
4 <a href=WhatIs.html>hypertext</a> and another.
```

www.w3.org/History/19921103-hypertext/hypertext/WWW/Link.html

The Research

Institute of Museum and Library Services
Sparks Ignition Grant



Web Book Prototyping

Book 1

demo: arc.lib.montana.edu/book/home-cooking-history-409

code: github.com/jasonclark/bib-template

Book 2

demo: arc.lib.montana.edu/book/opsis

code: github.com/msulibrary/bib-template-fiction

Our Initial Project

Digital Book for History Class

MS Word -> Static HTML -> Dynamic HTML

API driven and Linked Data









Table of Contents > Recipe and Essay

Gingerbread

Ingredients:

- · 1/2 c. soft shortening
- . 21/4 c. flour
- · 2 T. sugar
- · 1 tsp. soda
- 1 egg
- 1/2 tsp. salt
- · 1 c. dark New Orleans Molasses
- · 1 tsp. ginger
- · 1 c. boiling water
- · 1 tsp. cinnamon

Directions:

- · Mix shortening, sugar and egg.
- · Blend in molasses and cup of boiling water, cooled first.
- · And flour, soda, salt, ginger and cinnamon.
- Beat until smooth.
- · Pour into well-greased 9 inch square pan.
- · Bake 45 minutes to 50 minutes at 350 degrees.



· Serve with whipped cream and applesauce.

Table of Contents > Recipe and Essay

Tradition and Travel

by Jonathan Bergh

Every winter the Bergh family celebrates the season with a special tradition. It is the time of the year when the Bergh family











young Lyle Bergh gingerbread was the catalyst for exposure to countless foodstuffs that were outside of the farm menu. Once Lyle Bergh took his first bite into gingerbread cake he knew he ate something special. To the Bergh family gingerbread may have represented a season, but for Lyle it represented so much more.

In 1960s northeastern Montana's food options were limited. For inhabitants of Plentywood, Montana, like Lyle and his family, it meant that you would eat farm food: simple meals like steak, potatoes, milk and coffee. Lyle would come home and have farm food that his mother Bee cooked. When he and his family would go Seattle, Washington, it would represent more than just family gatherings.

When the Bergh family headed to Seattle, Washington in the winter, it meant that a family would be reunited, and it meant there would be treats. For Lyle, going to Seattle meant that he

going to Seattle meant that he would have a break from farm food and farm work. It meant that he would get to see his grandma Boileau. Seattle, Washington is the place that the tradition of gingerbread cake started in the Bergh family. Grandma Boileau was in the restaurant business so Lyle knew that he and his family would be eating well-prepared food. It was on these trips that Lyle got his first taste of gingerbread cake. This cake was soft and moist and topped with whipped cream that tingled his taste buds. This sugarless cake also represented that here in Seattle he and the family would have foodstuffs that were not accessible in Montana.

Lyle knew that whenever the family traveled Seattle that he would be exposed to new and foreign foods. Foods like avocados and seafood became some of Lyle's favorites because they reminded him of family. This is not to say that he disliked farm food, but Seattle food was a

farm food, but Seattle food was a delicacy that Lyle could only get once a year. Because he loved gingerbread so much his mother Bee brought the recipe back to Montana. Gingerbread became a family tradition that has continued for generations.

Bringing the recipe for gingerbread back to Montana meant bringing back memories for Lyle. It brought back memories of food being shared with him for the first time along with sharing moments with loved ones. Most importantly, it gave Lyle Bergh a tradition that he continues to this day. Whenever the first snow of winter falls you can always expect that Lyle Bergh will be baking gingerbread. For Lyle baking gingerbread meant taking the little piece of Seattle and bringing it back to northeastern Montana.

[3]

Table of Contents > Recipe and Essay

Tradition and Travel

by Jonathan Bergh

Every

winter the Bergh family celebrates the season with a special tradition. It is the time of the year when the Bergh family makes gingerbread cake. For a young Lyle Bergh gingerbread was the catalyst for exposure to countless foodstuffs that were outside of the farm menu. Once Lyle Bergh took his first bite into gingerbread cake he knew he ate something special. To the Bergh family gingerbread may have represented a season, but

Book Reader

Table of Contents

Title Page

Chapter



The Mysteries of Udolpho by Ann Radcliffe Home > Section > Current

The Mysteries of Udolpho, Chapter 1

On the pleasant banks of the Garonne, in the province of Gascony, stood, in the year 1584, the chateau of Monsieur St. Aubert. From its windows were seen the pastoral landscapes of Guienne and Gascony stretching along the river, gay with luxuriant woods and vine, and plantations of olives. To the south, the view was bounded by the majestic Pyrenees, whose summits, veiled in clouds, or exhibiting awful forms, seen, and lost again, as the partial vapours rolled along, were sometimes barren, and gleamed through the blue tinge of air, and sometimes frowned with forests of gloomy pine, that swept downward to their base. These tremendous precipices were contrasted by the soft green of the pastures and woods that hung upon their skirts; among whose flocks, and herds, and simple cottages, the eye, after having scaled the cliffs above, delighted to repose. To the north, and to the east, the plains of Guienne and Languedoc were lost in the mist of distance; on the west, Gascony was bounded by the waters of Biscay.

M. St. Aubert loved to wander, with his wife and daughter, on the margin of the Garonne, and to listen to the music that floated on its waves. He had known life in other forms than those of pastoral simplicity, having mingled in the gay and in the busy scenes of

Author(s):

Radcliffe, Ann

Date:

1794-05-08

Category:

Gothic fiction

Context:

The Mysteries of Udolpho [wikipedia]

Page:

-1-

menu +

The Mysteries of Udolpho, Chapter 1 On the pleasant banks of the Garonne, in the province of Gascony, stood, in the year 1584, the chateau of Monsieur St. Aubert. From its windows were seen the pastoral

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having scaled the cliffs above, delighted to repose. To the

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Web Book Dev Stack

```
HTML
   CSS
(Javascript)
 MySQL
   PHP
schema.org
  RDFa
```

Disruption?

New Roles for Publisher



"But think of the S.E.O. if the title actually named the two cities."

Old Roles

Validating
Editing
Typesetting
Promotion
Sales

New Roles

Archiving
Metadata [structured]
Discovery
Analytics + Metrics
Sharing + Reuse

Structured Data

Data Model + Machine Readability

Schema.org

controlled vocabulary

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epub:type

semantic divisions...

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3.
4.
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5.
6. </section>
7.
8. </html>
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<a href="bookmark home"><span property="title"
epub:type="fulltitle">The Man Formerly of 34C</span> by Brady Jensen</a>
<a href="bookmark home"><span yencement</a>
<a href="bookmark"><a href="bookmark home"><a href="bookmark home"><a href="home</a>
<a href="bookmark home"><a href="bookmark home"><a href="home</a>
<a href="bookmark home"><a href="bookmark home"><a href="bookmark home"><a href="bookmark home"><a href="home</a>
<a href="bookmark home"><a href="home</a>
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<a href="bookmark home"><a href="bookmark ho
```

72 <header role="banner">

79
80 </nav>
81 </header>

Extracted structured data

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operty:	
name:	Gingerbread
ingredients:	1/2 c. soft shortening
ingredients:	2 1/4 c. flour
ingredients:	2 T. sugar
ingredients:	1 tsp. soda
ingredients:	1 egg
ingredients:	1/2 tsp. salt
ingredients:	1 c. dark New Orleans Molasses
ingredients:	1 tsp. ginger
ingredients:	1 c. boiling water
ingredients:	1 tsp. cinnamon
recipeinstructions:	Mix shortening, sugar and egg. Blend in molasses and cup of boiling water, cooled first. And flour, soda, salt, ginger and cinnamon. Beat until smooth. Pour into well-greased 9 inch square
cookingmethod:	Bake
cooktime:	PT45M

Discovery

RDFa
JSON-LD
Linked Data Topics

Gingerbread - Jonathan Bergh



arc.lib.montana.edu/book/.../article-**jonathan-bergh**.html ▼ 45 mins

Table of Contents > Recipe and Essay **Gingerbread**. Ingredients: 1/2 c. soft shortening; 2 1/4 c. flour; 2 T. sugar; 1 tsp. soda; 1 egg; 1/2 tsp. salt; 1 c. dark New ...

About: Le Seigneur des anneaux

An Entity of Type: 1950sFantasyNovels, from Named Graph: http://dbpedia.org, within Data Space: dbpedia.org



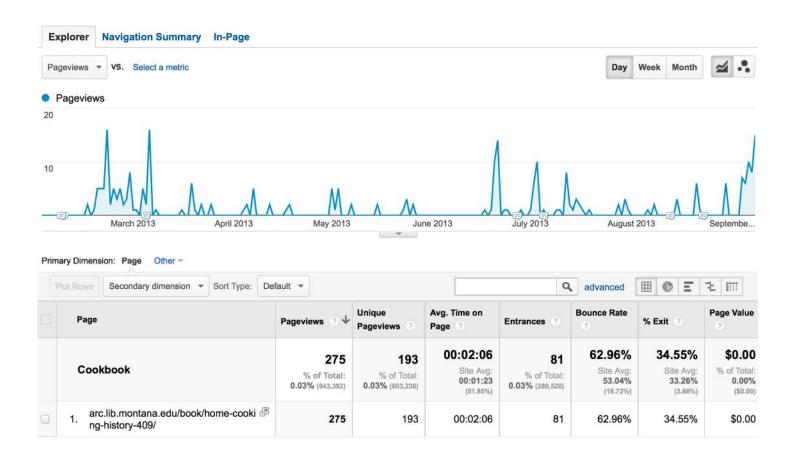
Le Seigneur des anneaux (The Lord of the Rings) est un roman en trois volumes de J. R. R. Tolkien paru en 1954 et 1955. L'histoire reprend certains des personnages présentés dans Le Hobbit, premier roman de l'auteur paru en 1937, mais l'œuvre est

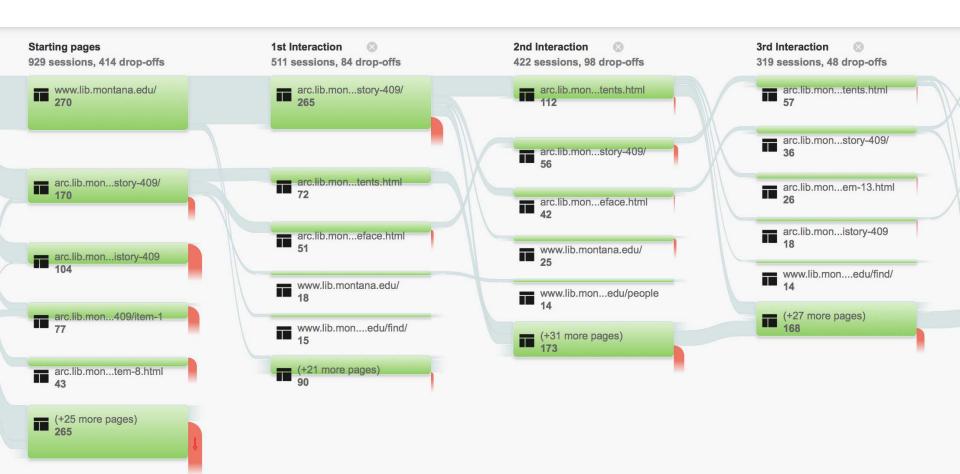
plus complexe et plus sombre. Tolkien entreprend sa rédaction à la demande de son éditeur, Allen & Unwin, à la suite du succès critique et commercial du Hobbit.		
Property	Value	
dbpedia-owl:abstract	 The Lord of the Rings is an epic high fantasy novel written by English author J. R. R. Tolkien. The story began as a sequel to Tolkien's 1937 children's fantasy novel The Hobbit, but eventually developed into a much larger work. It was written in stages between 1937 and 1949, much of it during World War III. It is the second best-selling novel ever written, with over 150 million copies sold. The title of the novel refers to the story's main antagonist, the Dark Lord Sauron, who had in an earlier age created the One Ring to rule the other Rings of Power as the ultimate weapon in his campaign to conquer and rule all of Middle-earth. From quiet beginnings in the Shire, a hobbit land not unlike the English countryside, the story ranges across northwest Middle-earth, following the course of the War of the Ring through the eyes of its characters, the hobbits Frodo Baggins, Samwise "Sam" Gamgee, Meriadoc "Merry" Brandybuck and Peregrin "Pippin" Took, but also the hobbits' chief allies and travelling companions: the Men Aragorn, a Ranger of the North and Boromir, a Captain of Gondor, Gimil, a Dwarf warrior, Legolas, an Elven prince, and Gandalf, a Wizard. The work was initially intended by Tolkien to be one volume of a two-volume set, the other to be The Silmarillion, but this idea was dismissed by his publisher. For economic reasons The Lord of the Rings was published in three volumes over the course of a year from 29 July 1954 to 20 October 1955. The three volumes were titled The Fellowship of the Ring, The Two Towers, and The Return of the King, Structurally, the novel is divided internally into six books, two per volume, with several appendices of background material included at the end of the third volume. Some editions combine the entire work into a single volume. The Lord of the Rings has since been reprinted numerous times and translated into many languages. Tolkien's work has been the subject of extensive analysis of its themes and origins. Although a major work in itself, the story was only the l	
dbpedia-owl:wikiPageExternalLink	http://www.houghtonmifflinbooks.com/features/lordoftheringstrilogy/ http://www.glyphweb.com/arda/ http://www.tolkien.co.uk http://www.tolkienlibrary.com	
dbpedia-owl:wikiPageID	• 29798 (xsd:integer)	
dbpedia-owl:wikiPageRevisionID	606679234 (xsd:integer)	
dbpprop:author	dbpedia:J_R_R_Tolkien	
dbpprop:books	*Volumes: *The Fellowship of the Ring *The Two Towers *The Return of the King	
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dbpprop:mediaType	- Print	
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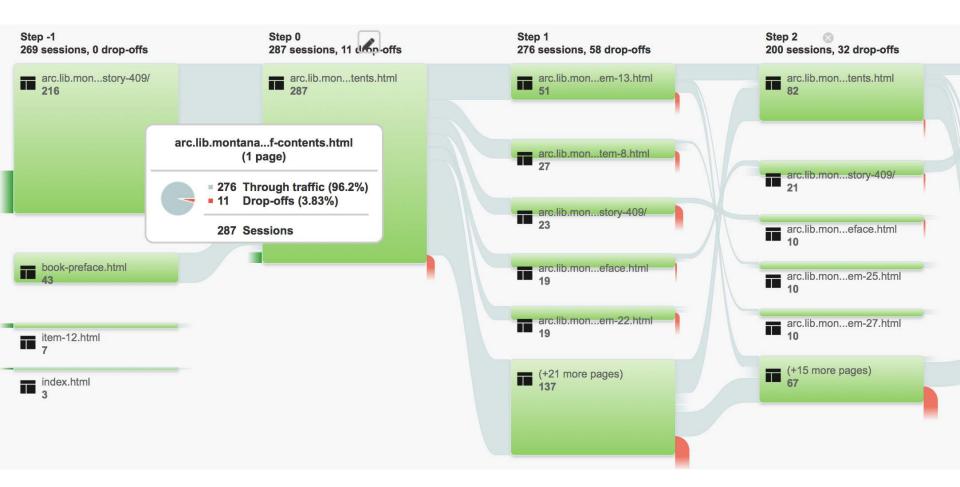
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Analytics + Metrics

Web Analytics, UX







	Acquisition			Benavior		
Source / Medium	Sessions ② ↓	% New Sessions	New Users ?	Bounce Rate	Pages / Session	Avg. Session Duration
Cookbook	874 % of Total: 0.22% (392,074)	61.44% Avg for View: 40.89% (50.28%)	537 % of Total: 0.33% (160,302)	40.16% Avg for View: 40.77% (-1.50%)	5.50 Avg for View: 3.42 (60.81%)	00:04:13 Avg for View: 00:03:02 (38.89%)
1. google / organic	334 (38.22%)	73.35%	245 (45.62%)	60.18%	4.31	00:02:52
2. montana.edu / referral	198 (22.65%)	41.92%	83 (15.46%)	11.11%	7.26	00:06:04
3. (direct) / (none)	190 (21.74%)	72.63%	138 (25.70%)	30.53%	6.85	00:05:08
4. t.co / referral	52 (5.95%)	69.23%	36 (6.70%)	73.08%	1.42	00:00:19
5. lib.montana.edu / referral	16 (1.83%)	0.00%	0 (0.00%)	0.00%	6.88	00:05:04
6. diffbot.com / referral	11 (1.26%)	0.00%	0 (0.00%)	18.18%	6.55	00:12:31
7. shelf.lib.montana.edu / referral	11 (1.26%)	0.00%	0 (0.00%)	45.45%	4.55	00:06:54
8. facebook.com / referral	6 (0.69%)	50.00%	3 (0.56%)	33.33%	11.50	00:13:50
9. isbn.lib.montana.edu / referral	6 (0.69%)	33.33%	2 (0.37%)	0.00%	4.00	00:06:40
10. aol / organic	5 (0.57%)	60.00%	3 (0.56%)	100.00%	1.00	00:00:00

Behavior

Acquisition

Recipe and Essay

Katufulwurst (German Potato Sausage)

Ingredients:

- · 16 lbs. potatoes, peeled and diced
- 5 lbs. mions, pecled and chopped
- · 4 lbs. ground beef
- · 2 lbs. ground pork
- Pepper, Salt, Garlic Powder and Italian seasoning to taste
- 15 pig casings
- 3 cans beers

Directions:

- Using an electric grinder or hand crank, grind potatoes and onions.
- Combine with beef, pork, seasonings, and beer.
- Stuff mixture into casings and use a sewing needle to poke holes into the sides to prevent air bubbles
- When stuffed tightly, tie off and place onto an oiled sheet pan.
- Poke sausages again, and bake 350 degrees for one 1-1 1/2 hours.
- If you have leftover mixture, press into oiled casserole dishes and bake 350 degrees for one hour or until solden brown.

- press into oiled casserole dishes, and bake 350 degrees for one hour or until golden brown.
- . This dish is known as Gahactis.

After consulting a native German friend, I discovered the correct spelling of this dish is probably Kartoffeln und Wurst.







Sharing + Reuse

Web Services + API Social Sharing Deep Linking

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        <li&gt;Sift cake flour and confectioners sugar together 5 times. Set aside.&lt;/li&gt;
        <li&gt;In a large bowl whip egg whites with salt until foamy. Add cream of tartar and continue to beat until soft
        < li&gt; Quickly fold in flour mixutre. &lt; /li&gt;
        <li&gt;Pour into a 10 inch tube pan.&lt;/li&gt;
        <li&gt;Bake for 45 minutes.&lt;/li&gt;</recipeInstructions>
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2. google / organic	baklava tradition
3. google / organic	german chili recipe
4. google / organic	montana state university
5. google / organic	angel food cake essay +
6. google / organic	bison pot roast slow cooker with beer
7. google / organic	chocolate sheets cakes for mother
8. google / organic	composition cooking cake with my mother
9. google / organic	debone redfish fillet
10. google / organic	essay my mother not at home decided to bake a cake



> Follow

Check out Opsis (in a browser) arc.lib.montana.edu/book/opsis/

6:54 PM - 9 Feb 2015



OPSIS

Literary Arts Journal

Opsis

Literary Arts Journal @ Montana State University (MSU)



MSU Library @msulibrary







	Acquisition				
Social Network	Sessions 7	% New Sessions	New Users		
Cookbook	60 % of Total: 0.02% (392,074)	68.33% Avg for View: 40.89% (67.13%)	41 % of Total: 0.03% (160,302)		
1. Twitter	52 (86.67%)	69.23%	36 (87.80%)		
2. Facebook	8 (13.33%)	62.50%	5 (12.20%)		

Deep-linking the book

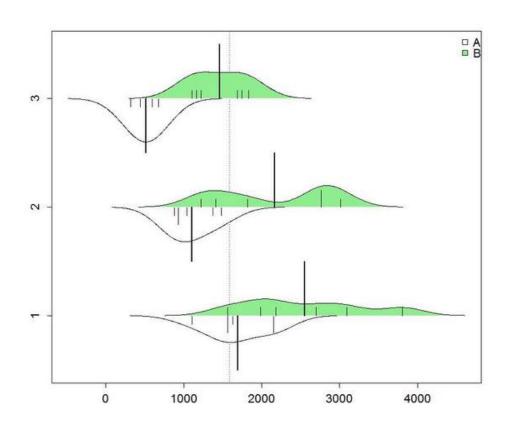
HTTP + URL

http://arc.lib.montana.edu/book/opsis/item/21
http://arc.lib.montana.edu/book/opsis/table-of-contents.html

Ongoing Research

Data Modeling and Transformation Genres - textbook, journal UX of Reading Real-time Analytics Annotations





data=... options in almost every function we use from here forward. Figure 1-4 contains the side-by-side boxplots showing right skew for all the groups, slightly higher median and more variability for the Unattractive group along with some potential outliers indicated in two of the three groups.

> boxplot(Years~Attr,data=MockJury)

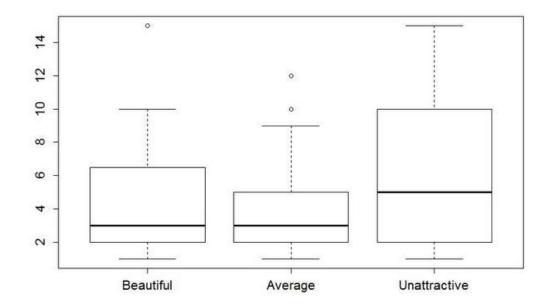


Figure 1-4: side-by-side boxplot of Years based on picture groups.

The "~" (the tilde symbol, which you can find in the upper left corner of your keyboard) notation will be



Ready to pilot "estimated read time" facet in @msulibrary "book in browser" software. repo: github.com/msulibrary/bib...



cabin in the woods, seeking immortality. The boy was d and preternaturally ugly. He received his looks from woodsman of sorts who engraved likenesses in tree ir cabin was isolated, so the only likenesses he could ere their own. You could find their ugly mugs inscribed very tree within a 20-mile radius of their humble

Context:

Fairy tale

Read Time:

5 min to read

Page:

-30-

The "Book" in a Network

http://arc.lib.montana.edu/book/

Designed for the bot's experience

Designed for the reader's experience

Survey of the Field

HTMLBook https://github.com/oreillymedia/HTMLBook

Leanpub https://leanpub.com/

GitBook https://www.gitbook.com/

Penflip https://www.penflip.com/

gitenberg https://gitenberg.github.io/

Book in Browser Conference http://booksinbrowsers.org/

Library Publishing Coalition http://www.librarypublishing.org/

A Research Team Effort









Patrick O'Brien: Semantic Web Research Director at Montana State University Library.

Scott Young: Digital Initiatives Librarian at Montana State University.

Jason Clark: Head of Library Informatics and Computing at Montana State University Library

Kenning Arlitsch: Dean of the Library at Montana State University. His book, coauthored with Patrick OBrien, is titled *Improving the Visibility and Use of Digital Repositories through SEO*, and was published in February 2013.

Thanks!

Jason A. Clark

Head, Library Informatics & Computing Montana State University Library @jaclark

Scott Young

Digital Initiatives Librarian Montana State University Library @hei_scott