Your Chocolate is in My Peanut Butter! Mixing up Content and Presentation Layers to Build Smarter Books in Browsers with RDFa, Schema.org, and Linked Data Topics

Jason Clark
@jaclark

Scott Young
@hei_scott
The Swabian

He was slow in learning how to talk. "My parents were so worried," he later recalled, "that they consulted a doctor." Even after he had begun using words, sometime after the age of 2, he developed a quirk that prompted the family maid to dub him "der Depperte," the dopey one, and others in his family to label him as "almost backwards." Whenever he had something to say, he would try it out on himself, whispering it softly until it sounded good enough to pronounce aloud.

"Every sentence he uttered," his worshipful younger sister recalled, "no matter how routine, he repeated to himself softly, moving his lips." It was all very worrying, she said. "He had such difficulty with language that those around him feared he would never learn."

His slow development was combined with a cheeky rebelliousness toward authority, which led
The “Book” in a Browser

Atomizable, Analyzable, Linkable, Reusable
Outline

Library as Publisher
Data Markup and Model
Opportunities
Future Direction
What if?

Books were machine indexed for semantic discovery

Journal articles were semantically tagged at the page level
Library as Publisher
Library as Publisher

1. Software Development
2. Data Storage and Archiving
3. Metadata
4. Discovery and Analytics
“But think of the S.E.O. if the title actually named the two cities.”
Links and Anchors

A link is the connection between one piece of hypertext and another.

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<title>Hypertext Links</title>
<h1>Links and Anchors</h1>
A link is the connection between one piece of
<a href=WhatIs.html>hypertext</a> and another.
```
The Research
Institute of Museum and Library Services
Sparks Ignition Grant
Web Book Prototyping
Prototype 1
demo: arc.lib.montana.edu/book/home-cooking-history-409
code: github.com/jasonclark/bib-template

Prototype 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
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 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.

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.
Tradition and Travel

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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
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
The Mysteries of Udolpho, Chapter 1

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Web Book Dev Stack

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

Data Model and API
Schema.org

controlled vocabulary
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      &lt;li&gt;Quickly fold in flour mixture.&lt;/li&gt;
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semantic divisions...
Gingerbread

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- 2 1/4 c. flour
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- 1 egg
- 1/2 tsp. salt
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- 1 tsp. ginger
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Instructions:
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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...
Linked

RDFa
JSON-LD
Linked Data Topics

Les personnages principaux sont Frodo Baggins, Samwise Gamgee, Aragorn, Legolas, et Gandalf. Le personnage le plus important est le Seigneur des anneaux lui-même, un objet de puissance que tous les elfes, humains, et autres créatures de la Terre du Milieu aspirent posséder. Le Seigneur des anneaux est une œuvre de fantasy complexe et profonde, qui explore des thèmes tels que la loyauté, l'amitié, et la nécessité de faire le bien malgré les obstacles.

La trilogie a été adaptée en un film d'animation par Peter Jackson, qui est devenu un phénomène populaire à travers le monde. Le film a remporté de nombreux prix, y compris un Oscar pour la meilleure musique originale.

Le Seigneur des anneaux est considéré comme l'un des plus grands chefs-d'œuvre de la littérature moderne et est still un best-seller mondial aujourd'hui.
External Enumerations

"We define here some specific integration points through which selected externally maintained vocabulary can be published as part of schema.org markup"

www.w3.org/wiki/WebSchemas/ExternalEnumerations
additionalTypes, specialty

https://schema.org/additionalType, http://schema.org/specialty
The sand softens shifts ...

"The Shore As She"

Leslie Staven

Montana State University (MSU)
Analyzed

Web Analytics, UX
Step 1
276 sessions, 58 drop-offs

- arc.lib.mon...story-409/216
- arc.lib.mon...em-13.html 51
- arc.lib.mon...em-25.html 10
- arc.lib.mon...em-22.html 19
- arc.lib.mon...em-27.html 10
- (+15 more pages) 67

Step 2
200 sessions, 32 drop-offs

- arc.lib.mon...story-409/21
- arc.lib.mon...em-8.html 27
- arc.lib.mon...story-409/23
- arc.lib.mon...em-19.html 19
- arc.lib.mon...em-27.html 10
- (+21 more pages) 137

Step 0
287 sessions, 11 drop-offs

- arc.lib.mon...story-409/216
- arc.lib.mon...tents.html 287
- arc.lib.mon...em-13.html 51
- arc.lib.mon...em-25.html 10
- arc.lib.mon...em-22.html 19
- arc.lib.mon...em-27.html 10
- (+15 more pages) 67

Step -1
269 sessions, 0 drop-offs

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  - 276 Through traffic (96.2%)
  - 11 Drop-offs (3.83%)

Total Sessions: 287
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Katufulwurst (German Potato Sausage)

Ingredients:
- 16 lbs. potatoes, peeled and diced
- 5 lbs. onions, peeled and chopped
- 4 lbs. ground beef
- 2 lbs. ground pork
- Pepper, Salt, Garlic Powder and Italian seasoning to taste
- 15 pig casings
- 3 cans beets

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 1-1/2 hours.
- If you have leftover mixture, 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.
The UX of Reading
The UX of Reading

scrolling
searching
paginating
page turning
bookmarking
hyperlinking
multimedia
metadata
images
community interactions
The UX of Reading

What makes you choose one book format over another?

“Availability”
Reusable

Web Discovery
Social Sharing
Deep Linking
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Check out Opsi (in a browser)
arc.lib.montana.edu/book/opsis/

Scott W. H. Young
@hei_scott
6:54 PM - 9 Feb 2015
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Deep-linking the book

HTTP + URL
The “Book” in a Network

Designed for the bot’s experience
Designed for the reader’s experience
Ongoing Research

Sparks Grant
Data Modeling and Transformation
Genres
UX
Addressing Limitations
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/
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Prototype 2
demo: arc.lib.montana.edu/book/opsis
code: github.com/msulibrary/bib-template-fiction
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, co-authored with Patrick O'Brien, is titled *Improving the Visibility and Use of Digital Repositories through SEO*, and was published in February 2013.
Thanks!

Jason Clark
@jaclark

Scott Young
@hei_scott