Reading the Reader

Building a User-Centered Publishing Prototype in a Web Browser

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Outline

Project introduction

Technical construction of a web book

Reader studies

Campus collaboration

Takeaways

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 gin[g]
was the catalyst for e[x]
countless foodstuffs t[
outside of the farm m[
Lyle Bergh took his fi[
gingerbread cake he k[
something special. To[
family gingerbread m[
represented a season,[
Lyle it represented so[
more.

In 1960s northeas[t]
Montana's food optio[
limited. For inhabitan[
Plentywood, Montana[
and his family, it mea[
would eat farm food:[
meals like steak, pota[
and coffee. Lyle woul[d]
home and have farm f[
mother Bee cooked. W[
his family would go S[
Washington, it would[
more than just family[

When the Bergh fa[
headed to Seattle, Wa[
the winter, it meant t[
would be reunited, an[
there would be treats[
going to Seattle mean[

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.

nts > Recipe and Essay

and Travel

by Jonathan Bergh

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radition. It is the time of
when the Bergh family

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

1.1 - Beanplots

by Mark Greenwood and Katharine Banner

The other graphical display for comparing multiple groups we will use is a newer display called a *beanplot* (Kampstra, 2008). It provides a side-by-side display that contains the density curve, the original observations that generated the density curve in a rug-plot, and the mean of each group. For each group the density curves are mirrored to aid in visual assessment of the shape of the distribution. This mirroring will often create a shape that resembles a violin with skewed distributions. Long, bold horizontal lines are placed at the mean for each group. All together this plot shows us information on the center (mean), spread, and shape of the distributions of the responses. Our inferences typically focus on the means of the groups and this plot allows us to compare those across the groups while gaining information on whether the mean is reasonable summary of the center of the distribution.

Section:

Chapter 1

Category:

Textbook

Context:

Violin plot

Read Time:

7 minute(s)

Page:

-43-

Sonnet to Brynhild

by Hannah Mundf

Eternal dreams of your winged sisters
In the Great Hall are all that you have now.
Lantern lights of flame fight across your brow,
Reflecting armor rusting through winters.

The place that keeps you under lock and chain
Is home to no man, or child, or hound; none
Have braved the burning ring to call you won.
Alone for so long, the fire starts to wane.

Then darkness. Rain dripping into your eyes
From a crack in the ceiling. Water birth

Date:

2015-02-02T01:43:19Z

Category:

Poetry

Context:

Brynhildr

Read Time:

< 1 minute(s)

Page:

-8-

Sonnet to Brynhild

by Hannah Mundf

Eternal dreams of your winged sisters

In the Great Hall are all that you have now.

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Alone for so long, the fire starts to wane.

Then darkness. Rain dripping into your eyes

From a crack in the ceiling. Water birth

And you're out the door, past mortality.

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

Project Overview

Open

Of the web

Research discoveries

Teaching opportunities

Project Overview

Origins: the humble Word doc/PDF doc

Publish content using the standards of the open web: HTML, CSS, JS

Cross-genre: stats textbook, english literary journal

Responsive user interface, interoperable

Searchable, shareable, accessible

Cross-departmental research and practice collaboration

Technical Construction

Technical Themes

Transforming from print to web
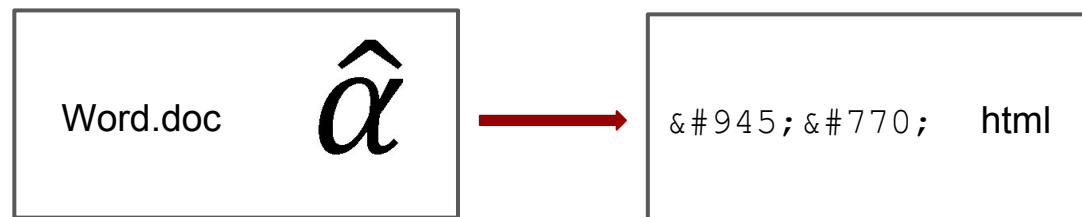
Browser interoperability

Technical Challenges

Fonts

Poetry Layout

Footnotes

Page Navigation

Mozilla	Explorer	Chrome	Mark-up Code	Safari/iPad
945: α	945: α	945: α	`29 <p>945: α</p>`	945: α
956: μ	956: μ	956: μ	`30 <p>956: μ</p>`	956: μ
x1d6fc: α̂	x1d6fc: α̂	x1d6fc: α̂	`31 <p class="greek">x1d6fc:` `32 <p>x1d6fc: 𝛼&#77`	x1d6fc: □□
x1d6fc: α̂	x1d6fc: α̂	x1d6fc: α̂		x1d6fc: □□
α̂	α̂	α̂	`36 <p>𝞪̂</p>`	□□
α̂	α̂	α̂	`38 <p>α̂</p>`	α̂
alpha hat: α̂	alpha hat: α̂	alpha hat: α̂	`40 <p>alpha hat: 𝛼&`	alpha hat: □□
	α̂	α̂	`42 <p>𝛼̂</p>`	□□
alpha hat greek: α̂	alpha hat greek: α̂	alpha hat greek: α̂	`44 <p>alpha hat greek: <spa`	alpha hat greek: □□
	α̂	α̂	`46 <p>𝛕̂</p>`	□□
	τ̂	τ̂	`48 <p>τ̂</p>`	τ̂
alpha hat greek: α̂	alpha hat greek: α̂	alpha hat greek: α̂	`50 <p>tau hat: 𝜏&#7`	tau hat: □□
				α̂

Word.doc $\hat{\alpha}$ → `α̂` html

Added Greek extension font pack

```
/* open-sans-regular - greek-ext_latin */
@font-face {
 font-family: 'Open Sans';
 font-style: normal;
 font-weight: 400;
 src: url('../fonts/open-sans-v13-greek-ext_latin-regular.eot'); /* IE9 Compat Modes */
 src: local('Open Sans'), local('OpenSans'),
    url('../fonts/open-sans-v13-greek-ext_latin-regular.eot?#iefix') format('embedded-opentype'), /* IE6-IE8 */
    url('../fonts/open-sans-v13-greek-ext_latin-regular.woff2') format('woff2'), /* Super Modern Browsers */
    url('../fonts/open-sans-v13-greek-ext_latin-regular.woff') format('woff'), /* Modern Browsers */
    url('../fonts/open-sans-v13-greek-ext_latin-regular.ttf') format('truetype'), /* Safari, Android, iOS */
    url('../fonts/open-sans-v13-greek-ext_latin-regular.svg#OpenSans') format('svg'); /* Legacy iOS */
}
/* open-sans-italic - greek-ext_latin */
@font-face {
 font-family: 'Open Sans';
 font-style: italic;
 font-weight: 400;
 src: url('../fonts/open-sans-v13-greek-ext_latin-italic.eot'); /* IE9 Compat Modes */
 src: local('Open Sans Italic'), local('OpenSans-Italic'),
    url('../fonts/open-sans-v13-greek-ext_latin-italic.eot?#iefix') format('embedded-opentype'), /* IE6-IE8 */
    url('../fonts/open-sans-v13-greek-ext_latin-italic.woff2') format('woff2'), /* Super Modern Browsers */
    url('../fonts/open-sans-v13-greek-ext_latin-italic.woff') format('woff'), /* Modern Browsers */
    url('../fonts/open-sans-v13-greek-ext_latin-italic.ttf') format('truetype'), /* Safari, Android, iOS */
    url('../fonts/open-sans-v13-greek-ext_latin-italic.svg#OpenSans') format('svg'); /* Legacy iOS */
}
```

End result in browser: still not perfect 😢

Safari

growth is $\hat{\alpha} + \hat{\tau}_2 = \hat{\alpha} + \hat{\tau}_{VC.0.5}$

Chrome

growth is $\hat{\alpha} + \hat{\tau}_2 = \hat{\alpha} + \hat{\tau}_{VC.0.5}$

Explorer

growth is $\hat{\alpha} + \hat{\tau}_2 = \hat{\alpha} + \hat{\tau}_{VC.0.5}$

Mozilla Firefox

growth is $\hat{\alpha} + \hat{\tau}_2 = \hat{\alpha} + \hat{\tau}_{VC.0.5}$

$\hat{\alpha}$

Unique poem layout

Original Poem layout in Word.doc

BROOKE WIMER

*ONLY THOSE WITH VOICES
ARE HEARD*

Fear-
 Of time committed
  time lost
  time wasted.
 Where would I be if not here?
 What could I do if not this?
A downpour of lists,
  Falling around me like leaves
Only through conscious effort can I breathe -
   Can I ground the soul
    to the body.

 My will,
  my goals,
   my passions -
  a driving wind
 that carries those leaves away:
   all but those beneath my feet,
    within my clenched fists.
 MY will. MY goals. MY passions.
At the front of the room,
  eighty eyes away,
 She huffs and puffs
 and blows them all down.
 Down with questions!

Poem in html

ONLY THOSE WITH VOICES ARE HEARD

by BROOKE WIMER

Fear-
 Of time committed
  time lost
  time wasted.
Where would I be if not here?
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 She huffs and puffs
 and blows them all down.
 Down with questions!

em space

thin space

Footnotes: Superscript tag in combination with <a> tag

boxplots and beanplots[27] (Figure 2-14) and

roup using **favstats**.

```
<sup><a id="27top" href="#27ft">27</a></sup>
```

```
<sup><a id="27ft" href="#27top">27</a></sup>
```

[27]Note that to see all the group

window. You can resize the plot

Page navigation


```
<p class="nav-previous-next" epub:type="page-list"
   typeof="SiteNavigationElement">

   <a class="previous" property="url"
   href="/book/statistics-with-r-textbook/item/57">previous</a>

   <a class="next" property="url"
   href="/book/statistics-with-r-textbook/item/59">next</a>
</p>
```

Reader Studies

What is the UX of Reading?

Mindset

Co-creative

Focus on reader needs

Empathetic

Evidence-based

Evolutionary

Method

Interviews

Usability testing

Survey and statistical analysis

Interview Excerpts - Web

"I would never want to read a novel online."

"Felt like homework."

"Just as matter of familiarizing with a new format."

"Internet is more accessible and convenient."

Interview Excerpts - Print

"Smell."

"Easier to navigate."

"Real book is like a fishing rod—it's there for fun."

"Print is more serious. Anyone can publish anything online."

"If it's not broke, don't fix it."

Key Interview Question

Q: "What makes you choose
one book format over
another?"

"Available."

"Fun."

"Convenient."

We have to maintain a relentless focus on the one metric that matters most – learning.

— David Wiley, On Quality and OER

How can we create metrics for learning?

Which factors affect learning?

Usability?
Motivation?
Other UX measures?

Surveys and Statistical Analysis for the UX of Reading

Method

Evaluate student response to the textbook for Stats 217, an intermediate statistical methods course (regression, ANOVA, Chi-square tests)

n=273 across two semesters, Fall 2015 and Spring 2016

Ask students to use three textbook formats: PDF, Print, Web

Measure usability: "How easy to use is each format?"

Measure motivation: "Why would you choose one or the other format?"

Measure learning: students completed a quiz prior to lecture
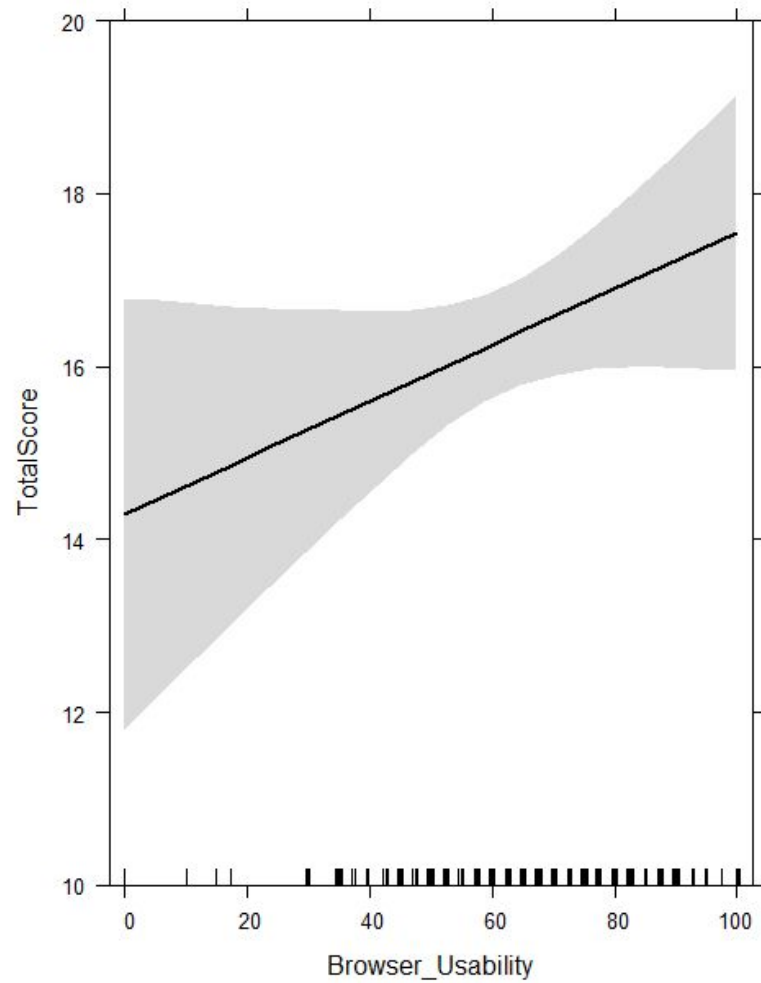
Survey Results

Result 1

More students had **higher motivation** to use the **web format**, but

more students found that the **print and PDF formats** were **more usable.**

Result 2

Usability strongly influenced **learning** across formats.

Browser_Usability effect plot

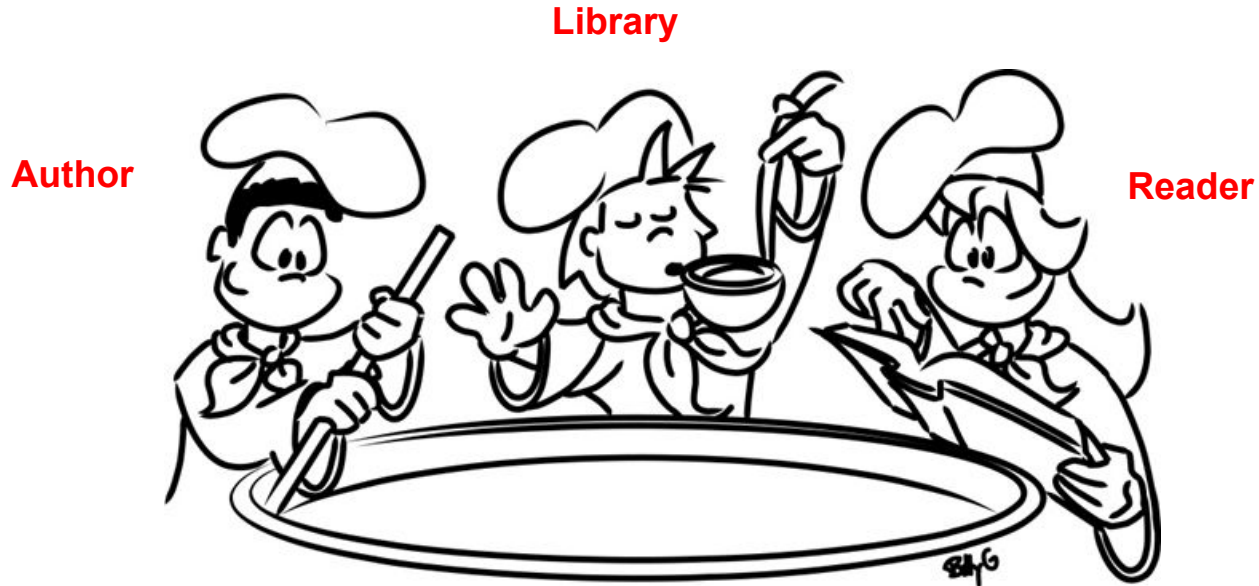# What is the UX of Reading?

Accessible and available

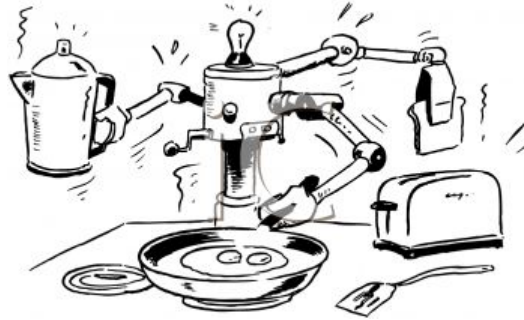Easy to use

Fun

Campus Collaboration

The Library as Service Provider

The Library as Collaborator

Evolving the Reading Experience . . .

Together

Benefits of Collaborative Projects

Statistics with R: STAT 217

Gives faculty local control over rapidly changing texts

Makes text more available and correct with multiple simultaneous access options

Results in high-profile Undergraduate research projects noting Library research team as collaborators

Opens door to exploring the influence of text format on reading comprehension

Opsis Literary Arts Journal: CRWR 340

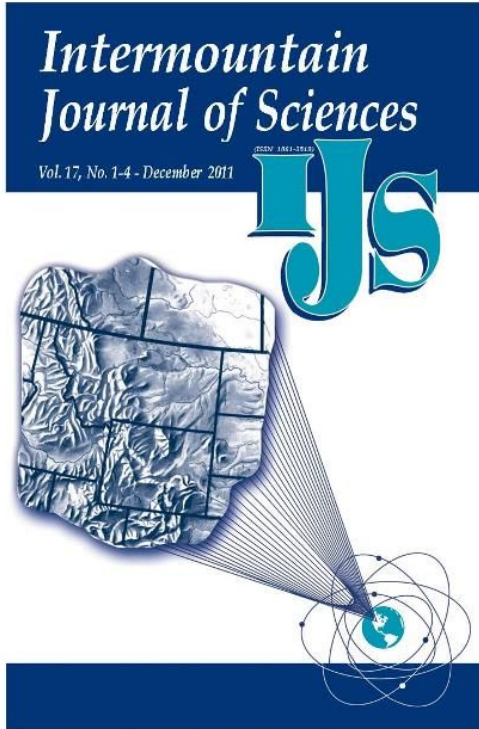Provides sharable text for student-run, underfunded journal in traditional print format

Enriches class discussion: how creative writing gets published and circulated

Engages students in *how* they read and navigate texts

Opens door to exploring the influence of format on reading enjoyment

Varieties of Collaboration

Different learning opportunities

New challenges

    Management structures

    Communication styles

    Content

Bearing different fruit & potential

Collaborative Relationships

Flexible
Experimental
Unique
Logical
Grown
Time Consuming
Valuable

Why do this?

Explore the technical possibilities of web publishing

Bring the reader into the process

Widen our role and relationships

Expand knowledge of faculty & students

To create a publishing model that is open, user-centered, and collaborative, for the benefit of libraries, students, and faculty.

Research Team

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Follow-up

Clark, J. A., & Young, S. W. H. (2015).
Building a Better Book in the Browser (Using Semantic Web technologies and HTML5).
The Code4Lib Journal, (29).
http://journal.code4lib.org/articles/10668