Eyes on the News
Understanding user behavior using eyetracking

Laura Ruel
Barcelona • 13 November 2008

Bon dia

Ho sento, no parlo catala

Si parlo molt rapid, si us plau digueu-m’ho.
Background

EYETRACK III
poynterextra.org/eyetrack2004

diesel-project.org

The New York Times
Star Tribune
Detroit Free Press
Gannett

TIME
LAS VEGAS SUN

Dallas News
The Dallas Morning News

The Washington Post
USA Today

Yahoo! News
The Mercury News
Background

• What we do:
  • Get study ideas from the industry.

Develop questions

Sample questions:
• What is the relationship between hyperlink density and users' attitudes?
• What is the relationship between graphic density and users' attitudes?
• What style of story carousel is most effective?
• How do people move through a news Web site?
Background

- Design research studies
  - Eyetracking
  - Effects
  - Usability

What is eyetracking? Why use it?
Background

• Eyetracking equipment

Data types: gaze plot
Video of gaze replay

Background
- Eyetracking: Hotspot
Background

- Media Effects

Background

- Usability
Background

• Usability

Notices of a click: Anatomy of a click (From Yahoo! News)

SEE ................................................ 100

Notice

PARSE ........................................... 25

Mental Models

EVALUATE .......................... 12.5

Appropriateness

CLICK ........................................ 6.25
Background

• Usability & design working together

TASK: Find the calendar of things to do.

• Usability & design working together

Search Results: “calendar”

Las Vegas Sun

The Mirage Gets a Wild Makeover

The Mirage hotelcasino in Las Vegas is getting a wild makeover for the second annual Las Vegas Festival of Arts. The Mirage has hired a team of artists to create a mural for the hotelcasino’s entrance. The mural will be unveiled on Oct. 10.

The Mirage is also hosting a series of events to celebrate the festival, including a performance by the Las Vegas Philharmonic Orchestra and a fireworks show. The festival will run from Oct. 10 to Oct. 12.

The Mirage is located at 3400 Las Vegas Blvd. S. For more information, visit www.mirage.com or call 702-792-7111.
Sample Study Results

Editing content for online

- Recent eyetracking research from the Nielsen/Norman group

<table>
<thead>
<tr>
<th>Rewriting and Repformatting for the Web Helps</th>
<th>Tested two original articles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Simple article</strong></td>
<td><strong>Complex article</strong></td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td><strong>New York magazine site:</strong> <a href="http://www.nymag.com">www.nymag.com</a></td>
</tr>
<tr>
<td><strong>What was done</strong></td>
<td>reformatting</td>
</tr>
<tr>
<td><strong>Total hours of work</strong></td>
<td><strong>Less than 2 hours</strong> UI designer and Developer spent less than two hours combined</td>
</tr>
</tbody>
</table>

N/G
Editing content for online

- Recent eyetracking research from the Nielsen/Norman group

Task:
Read/learn

www.nymag.com
Simple
Content
Reformatted
Editing content for online

- Recent eyetracking research from the Nielsen/Norman group

<table>
<thead>
<tr>
<th>Simple Content: Original and Edited</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Original</strong></td>
</tr>
<tr>
<td>Reading level</td>
</tr>
<tr>
<td>Good Web layout</td>
</tr>
<tr>
<td>Content Comprehension</td>
</tr>
<tr>
<td>Time</td>
</tr>
<tr>
<td>User Satisfaction (1=neg, 7=pos)</td>
</tr>
</tbody>
</table>
Editing content for online

- Recent eyetracking research from the Nielsen/Norman group

Task: Read/learn
Complicated Content

Australians Receive Nobel for Bacteria Work

www.nyt.com

Collaborative Foods Discovery

Editorial Notes: Discovery

Opening the door for new interactions: Collaborative foods discoveries.

Task: Read/learn
Complicated Content

Edited

- Recent eyetracking research from the Nielsen/Norman group

Task: Read/learn
Complicated Content

Australians Receive Nobel for Bacterium Work

www.nyt.com
Editing content for online

- Recent eyetracking research from the Nielsen/Norman group

<table>
<thead>
<tr>
<th>Complicated Content: Original and Edited</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reading level</strong></td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>College (16th grade)</td>
</tr>
<tr>
<td><strong>Good Web layout</strong></td>
</tr>
<tr>
<td>68%</td>
</tr>
<tr>
<td><strong>Effect</strong></td>
</tr>
</tbody>
</table>
Editing content for online

- **Eyetrack III results**: Stories with shorter paragraphs got more than twice as many overall eye fixations than those with longer paragraphs.
Editing content for online

• Eyetrack III results
Editing content for online

- Eyetrack III results

Eyetrack III: Home page viewing sequence
Study Results - carousel
Study Results - carousel

- Eyetracking:
  Carousel navigation method – thumbnails on left side
Study Results - carousel

• Eyetracking:
  Carousel navigation method – forward/back arrows above photo

Study Results - carousel

• Eyetracking:
  Carousel navigation method – dots above image
Study results – images density

Images = 5
Images = 12
Images = 24

Study results – image density

Images = 5
Images = 12
Images = 24
Images on a home page
Which version left users more satisfied?
FEWEST IMAGES

Viewing photos online
• Poynter Eyetrack III results: Faces in photos on home pages and in multimedia generated the most eye fixations. Size matters!

<table>
<thead>
<tr>
<th>Photo viewing patterns on homepages</th>
<th>Small photo</th>
<th>Average photo</th>
<th>Large photo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of participants seeing photo</td>
<td>43</td>
<td>80</td>
<td>88</td>
</tr>
<tr>
<td>Percent increase over next-smaller size</td>
<td>N.A.</td>
<td>80%</td>
<td>10%</td>
</tr>
<tr>
<td>Amount of time spent viewing photo (in seconds)</td>
<td>0.6</td>
<td>1.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Percent increase over next-smaller size</td>
<td>N.A.</td>
<td>150%</td>
<td>53%</td>
</tr>
</tbody>
</table>
Viewing photos online

- **Poynter Eyetrack III results and DISEL results**: Text on photos received little attention.

- **Nielsen/Norman Study**

Viewing photos online

- Online images get fixations if they:
  - Relate to surrounding content
  - Are clear
  - Feature “approachable” people
    - Faces are clear
    - People are smiling / looking at the camera
  - Feature “real people”
    - Models denote ads, and are avoided
  - Feature areas of private anatomy
Viewing photos online

- Nielsen/Norman results

![Nielsen/Norman results](image)
Viewing photos online

- Nielsen/Norman results

http://www.ojr.org/ojr/stories/070312ruel/

Gracies per la seva atencio!

Laura Ruel
lruel@unc.edu

http://lauraruel.com/usid08