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[Jakob Nielsen's Alertbox](#), May 6, 2008:

# How Little Do Users Read?

## Summary:

On the average Web page, users have time to read *at most* 28% of the words during an average visit; 20% is more likely.

We've known since our first studies of [how users read on the Web](#) that they typically don't read very much. **Scanning** text is an extremely common behavior for higher-literacy users; our [recent eyetracking studies](#) further validate this finding.

The only thing we've been missing is a mathematical formula to quantify exactly how much (or how little) people read online. Now, thanks to new data, we have this as well.

## The Research Study

For full details, see the following academic paper:

Harald Weinreich, Hartmut Obendorf, Eelco Herder, and Matthias Mayer: "[Not Quite the Average: An Empirical Study of Web Use](#)," in the *ACM Transactions on the Web*, vol. 2, no. 1 (February 2008), article #5.

In the study, the authors instrumented 25 users' browsers and recorded extended information about everything they did as they went about their normal Web activities. What's important about this study is that it was **completely naturalistic**: the users didn't have to do anything special.

One downside of the study is that the users had above-average intelligence, with several being university employees. This might not be a problem in the long run, however. If, for example, we compare [data we collected in 2008](#) for our [Fundamental Guidelines for Web Usability](#) seminar with a similar study we ran in 2004, we find that 2008's average behavior is close to that of 2004's higher-end users. Thus, even though Weinreich et al.'s data represents high-end users, it's

likely to be fairly representative of broader user behavior in the future. In fact, the authors collected their data in 2005, so the recorded behaviors might already be fairly common.

In any case, the research yielded several interesting findings, and the full paper is well worth reading.

Among other things, the authors found that the **Back button is now only the 3rd most-used feature** on the Web. Clicking hypertext links remains the most-used feature, but clicking buttons (on the page) has now overtaken *Back* to become the second-most used feature. The reason for this change is the increased prevalence of applications and feature-rich Web pages that require users to click page buttons to access their functionality.

Of course, **Back is still the user's lifeline** and is so frequently used that supporting it remains a strong usability guideline. (Breaking *Back* was the [#1 design mistake of 1999](#) and it's one of the top mistakes to this date.)

## Real-Life Reading Behavior

[Harald Weinreich](#) graciously provided me with the dataset detailing 59,573 page views.

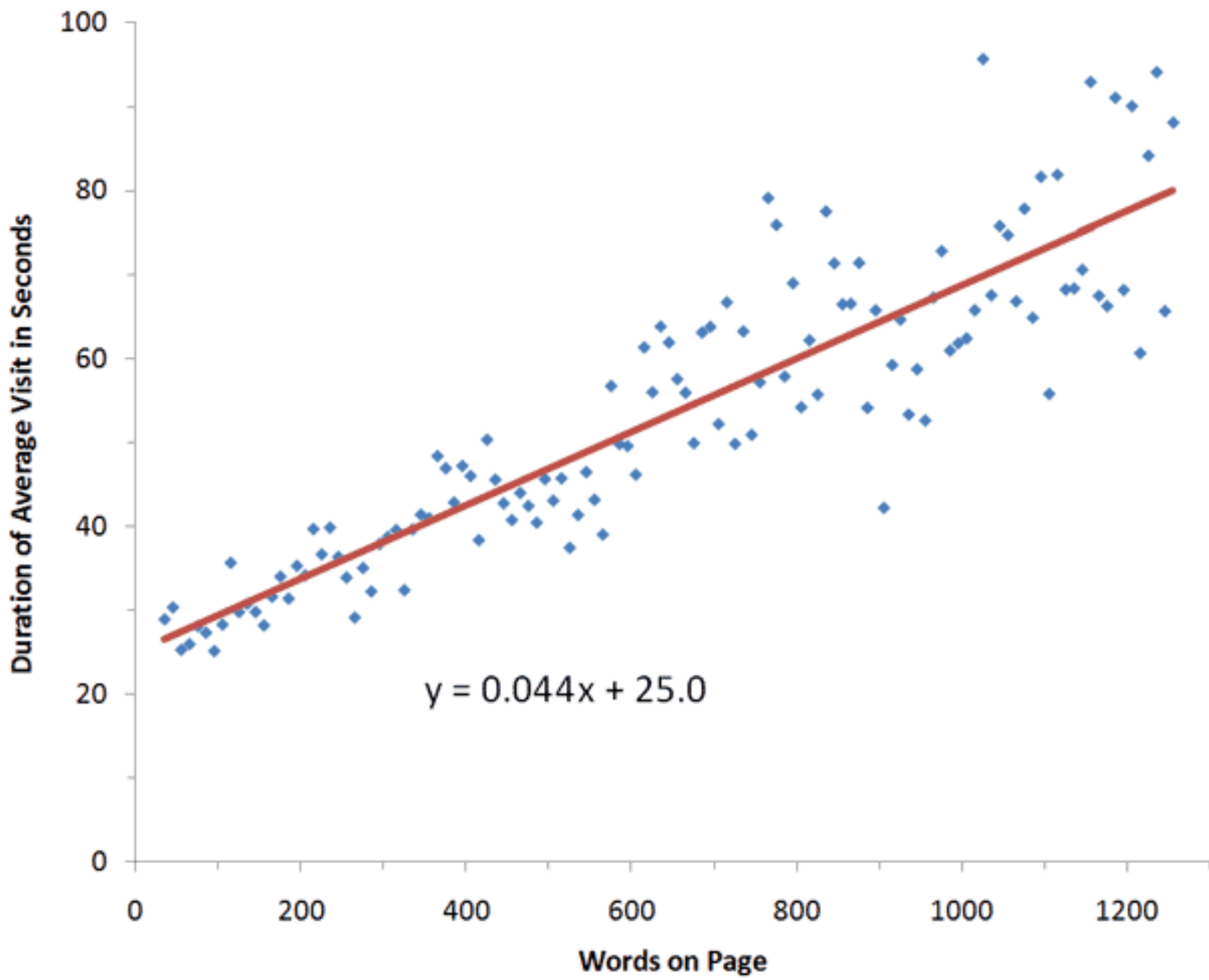
From this data, I removed the following records:

- 10,163 page views (17%) that lasted less than 4 seconds. In such brief "visits," users clearly bounced right out without truly "using" the page.
- 2,615 page views (4%) that lasted more than 10 minutes. In these cases, users almost certainly left the browser open while doing something else.
- 1,558 page views (3%) with fewer than 20 words on them. Such pages are probably server errors or disrupted downloads.

After cleaning the dataset, I was left with **45,237 page views** for my analysis.

I was able to fit very nice formulas to describe users' reading behavior for pages containing between **30 and 1,250 words**. For longer pages, reading became quite erratic. Pages with a huge word count are probably not "real" pages anyway — they're more likely to be either academic papers or "terms & conditions" pages, which people don't give the time of day. (In research for the book [Prioritizing Web Usability](#), we found that people read only about 10% of the text that they supposedly "agreed" to.)

The following chart shows the average time users spend on pages with different word counts:



Obviously, users tend to spend more time on pages with more information. However, the best-fit formula tells us that they spend only **4.4 seconds more for each additional 100 words**.

Usually, I assume a reading speed of 200 words per minute (WPM), but because the users in this study are highly literate, I'll go with 250 WPM. At that reading speed, users can read 18 words in 4.4 seconds. Thus, when you add verbiage to a page, you can assume that **customers will read 18%** of it.

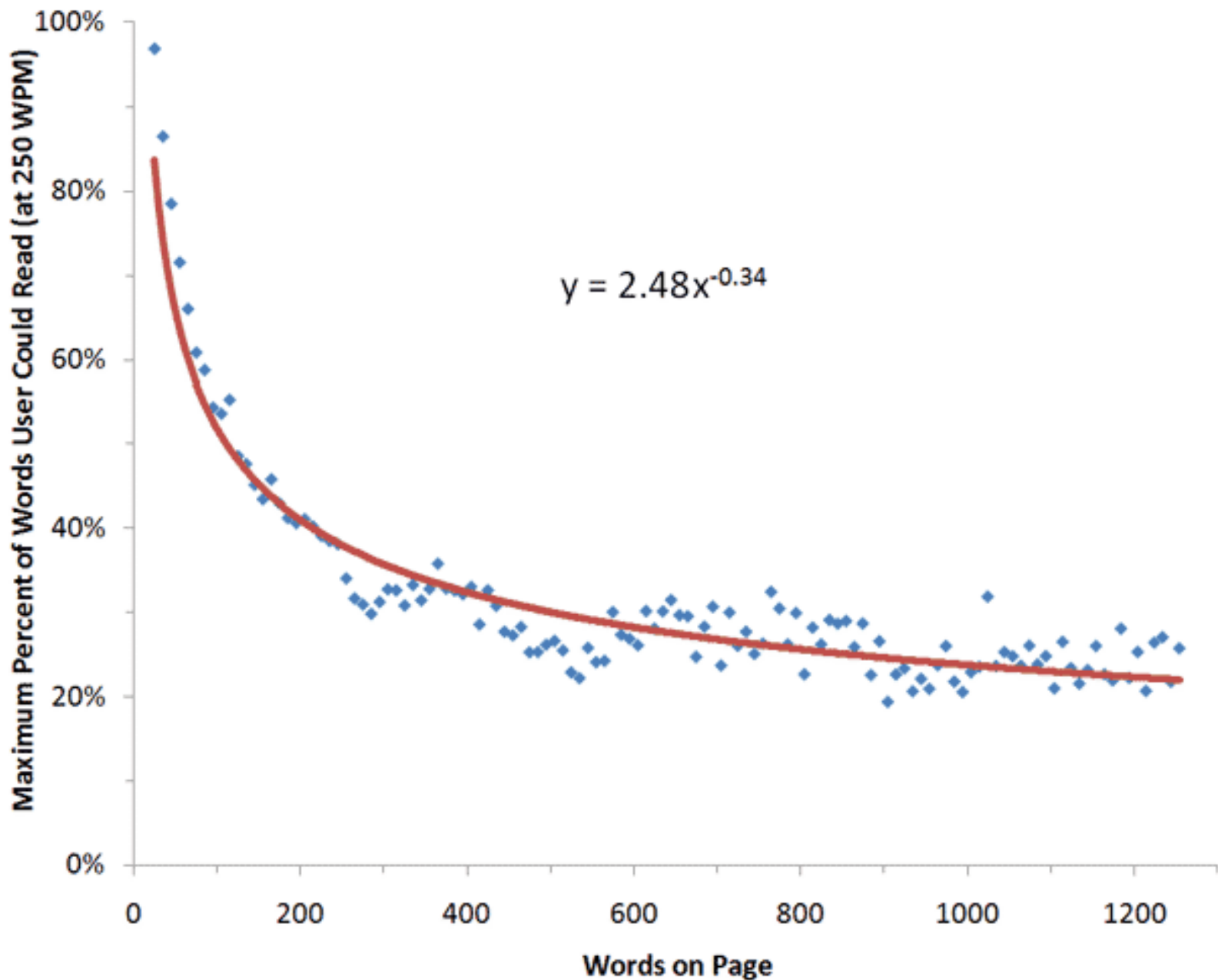
## Percentage of Text Read

This wasn't an eyetracking study, so we don't know precisely how users allocated their time on the Web pages. The formula in the chart above indicates that there is a fixed time of about 25 seconds, plus an additional 4.4 seconds per 100 words. (Of course, the numbers are not "fixed" in the sense that they're always the same — these are averages.)

The formula seems to indicate that people spend some of their time understanding the page layout and navigation features, as well as looking at the images. Clearly, people don't read during every single second of a page visit.

However, the total time spent on a page is definitely the upper limit of possible reading time. Thus, we can calculate the hypothetical **maximum number of words users would be able to read**, if they allocated their entire page-visit to reading.

The following chart shows the maximum amount of text users could read during an average visit to pages with different word counts:



This is a very rapidly declining curve. On an average visit, **users read half the information** only on those pages with **111 words or less**.

In the full dataset, the average page view contained **593 words**. So, on average, users will have **time to read 28%** of the words *if* they devote all of their time to reading. More realistically, users will **read about 20% of the text** on the average page.

As an example of word count on various pages, here's the total for some popular Alertbox columns:

<a href="#">Blah-Blah Text: Keep, Cut, or Kill?</a>	902
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<b>This column</b>	<b>1,068</b>
<a href="#">Passive Voice Is Redeemed For Web Headings</a>	1,079
<a href="#">Change the Color of Visited Links</a>	1,209
<a href="#">Intranet Information Architecture (IA)</a>	1,961
<a href="#">Top-10 Application-Design Mistakes</a>	3,572

Clearly, the average visitor won't make it too far through most of my articles. But I've consciously [targeted a small, elite readership](#) with a firm commitment to usability. If you target a broader audience or have sales cycles that are shorter than 5 years, you'd be wise to put your word count on a strict diet.

## Learn More

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