Measuring Information Architecture Quality: Prove It (or Not)!

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Jesse James Garrett, Metrius
Marti Hearst, School of Information Management & Systems (SIMS), University of California, Berkeley
Gary Marchionini, School of Information and Library Science, University of North Carolina at Chapel Hill
Nick Ragouzis, Interfacility

ABSTRACT
This panel debates a topic that has been popping up recently as a consequence of different disciplines rubbing up against each other in a new field: can the quality of an information architecture be measured quantitatively? And if so, how can this analysis be verified?

Information architects and HCI professionals already are discussing this issue regularly and at times heatedly. The need for guidance is especially pressing because information architecture is an emerging field. As in other areas of HCI, information architects are regularly confronted by clients and employers alike with the need to justify the cost of their efforts in quantitative ways.

Information architects come from a variety of disciplines including HCI, library and information science, visual design, technical communications, and computer science. These fields have widely varying opinions on the validity of and techniques for quantifying information system performance. While some dispute the validity of quantification, others tend to believe that it is not only possible but the only valid means for assessing information architecture. Members of both camps may resort to traditional means of assessing information systems performance, while others feel that the new medium of the Web requires new tools, techniques, and approaches for such assessment.

KEYWORDS
Information architecture, metrics, evaluation, information systems performance, automated evaluation, qualitative methods.

ISSUES TO BE COVERED
Panelists will be asked to state their position on these questions for five minutes apiece, followed by open debate and audience participation:

- Can an information architecture be measured as a whole, or can it only its components be measured?
- Prove your case (that it can or cannot be measured).

Follow-up questions could include:

- How does evaluating the information architecture differ from evaluating the user interface? The user experience?
- What levels of evaluation (such as qualitative, “soft” quantitative and “hard” quantitative) are appropriate at which times?
- What are the strengths and weaknesses of these qualitative and quantitative approaches?
- Are different architectural components (e.g., table of contents, site hierarchy, search system, contextual and global navigation) more measurable than others?
- What are specific examples (case studies) from large sites where measurement attempts have been made?

INTENDED AUDIENCE
Information architects and HCI professionals interested in how to determine the value of a web site or information systems in general. CHI attendees who are applying their knowledge to large Internet and intranet sites will be interested.

PANELISTS

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POSITION STATEMENTS

Marti Hearst
Assistant Professor, School of Information Management &
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Quantification is necessary for automation, although the
converse is not necessary the case. I believe (most aspects)
of information architecture quality can be quantified, and
that new tools are needed to augment existing ones in order
to make this happen.

These tools do not yet exist, but my research group is
actively investigating how to develop them (see the paper
by Ivory, et al. in this proceedings). It is imperative that
such tools be verified with user studies and that their results
be seen as complementing those of other methods.

Shiraz Cupala
Lead Program Manager, Microsoft Corporation.
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If work on Information Architecture can improve usability
and experience, this improvement necessarily must be
measurable. If not how would we know it happened?

When you ask someone to improve an IA or to evaluate two
IAs to see which is better, they are doing those things with
an eye to some set of criteria that they define as important
to that work.

I purport that the measures can be quantified down to the
level of the factors/features driving them. Further they all
must be measured to get the complete picture of the
performance of an IA.

Nick Ragouzis
Principal, Interfacility, nick@interfacility.com

Quantification seems an important goal. After all, the
progress of science depends on quantification. Or does it?

One familiar with HCI research could readily conclude that
those in applied practices rarely know of even established
research results (let alone more recent results). They rarely
have a method for evaluating that research (especially in
disambiguating popularized applied-domain “findings”
from well-executed research) and integrating it into
practice. They are equally slack in pursuing research in
other domains and reconciling it with HCI research. They
almost never credibly analyze their implementations.

However, with the rise of interaction design and
information architecture, and the overt intention of
delightening end users even while making their lives easier,
the design community has continued their push into the
experience domain. Over decades, without a credible basis
for defining or measuring the whole of human experience,
they have garnered an astounding quantity of successes.

One could conclude that success in this domain requires
only the ability to innovate or to follow strategically, and
the ability to deliver user-perceptible value.

Which is another view of science: that quantification merely
follows, but that science (especially the social sciences)
proceeds through innovation and serendipity in theory and
application, and by the delivery of ultimate value. Abandon
quantification; and may the fittest win.

Jesse James Garrett
Information Architect, Metrius, jjg@jjg.net

A software tool might be able to count the clicks to a
destination, but how can it evaluate the contextual
information that steers users along the right path? It might
be able to count the words in navigational labels, but how
can it know if they are the right words?

In the four years I have been dealing with information
architecture issues in Web development, I have encountered
this fallacious thinking time and again: that problems
arising in a technological context must therefore have a
technological solution. In my experience, only the
application of our own human intelligence can enable us to
avoid casting users into a well-intentioned but ill-conceived
array of “shortcuts” to their goals.

Gary Marchionini
Professor, School of Information and Library Science,
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I do believe we can measure the usability and effectiveness
of a design for very fine-grained characteristics such as
number of clicks to task, mouse-travel distance from object
to object, and average response time for an N-term query. I
am skeptical that we can have a standardized overall
measure of IA effectiveness.

My approach to the measurement of digital libraries and
interfaces has thus been multifaceted and longitudinal (or at
least iterative when time is short). I believe these same
approaches apply to IA evaluation.

Multifaceted approaches use several techniques and metrics
to gain a fuller view of the design. Triangulation within or
across quantitative (e.g., results of transaction log analysis)
and qualitative indicators (e.g., user self-reports via
interview or questionnaire) can lead to plausible
conclusions about design effectiveness, for different site
topologies and mission characteristics.

ORGANIZERS

Lou Rosenfeld is the President of Argus Associates and co-
author of Information Architecture for the World Wide
Web. Keith Instone is an Information Architect / Usability
Specialist at Argus and curator of Usable Web.