

Primo Boolean Search Suggestions

Scott Hanrath

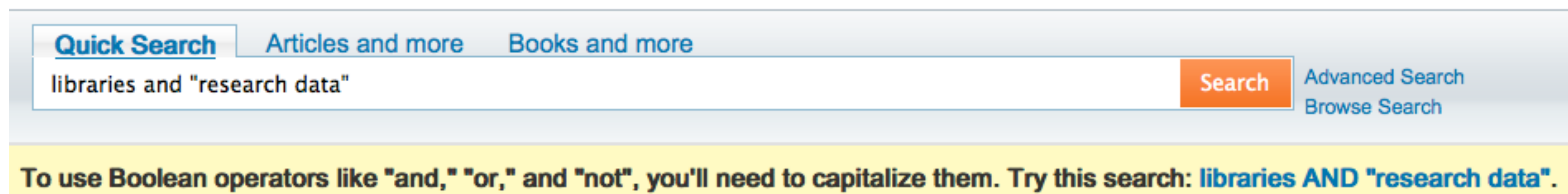
University of Kansas Libraries | shanrath@ku.edu | @rshanrath

Question(s)

Can we provide an unobtrusive and in-context way of helping users learn to capitalize Boolean operators (e.g., AND, OR, NOT) in Primo?

If we did, would they use it?

Experiment



Problem

Librarians in Primo workshops conducted prior to launch consistently asked about Primo's Boolean search capabilities.

Librarians expressed concern that users would not know to CAPITALIZE Boolean operators.

Wanted to address these concerns and provide help for users. But did NOT want to:

- Rely solely on external help document or guide
- Provide help that would be obtrusive to users who were not interested in using Boolean operators. Search log analysis from other tools suggested that overall use of Boolean operators was relatively rare.
- Always provide help for users who already knew to capitalize operators

Approach

JavaScript add-on to Primo which runs on document load and attempts to:

1. Determine if the search query is a candidate for a Boolean Suggestion
2. Create a link to a new search with Boolean operators capitalized
3. Inserts the link and explanatory text into the document, styled similar to Primo's "Did you mean" suggestions

Assessment

To track usage, added JavaScript to track two Custom Events in Google Analytics: "Boolean Suggestion Generated" and "Boolean Suggestion Clicked".

Events include the counts of total and unique events over time as well as the suggested search queries themselves.

Challenges

Technical

Had to work with "regular" searches and Deep Link searches from the Libraries website homepage. Search query is pulled from the value of the search query input field (instead of an earlier approach that used URL parameters).

Did not want to present suggestions if other system feedback (e.g., a "did you mean" link) was offered, if a facet had been employed, or on other than the first page of results. Check for presence of URL params or certain ids or classes in the document before making suggestions.

False Positives

Many potential false positives, where the search query contained [and|or|not]'s that are intended as terms and not as Boolean operators.

Know-item searches for titles or citations are especially likely to be false positives and quite common. Used several techniques to avoid suggesting these as Boolean searches:

- Check for special characters common in title or citations (e.g., ":", ":", ":", ":", "?")
- Check for stop words common in titles but unlikely to be search terms by themselves, especially prepositions and articles (e.g., "of", "by", "on", "the", "in", "an").
- Compute ratio of terms to potential Boolean operators and don't offer suggestions if ratio is greater than maximum threshold of 6.

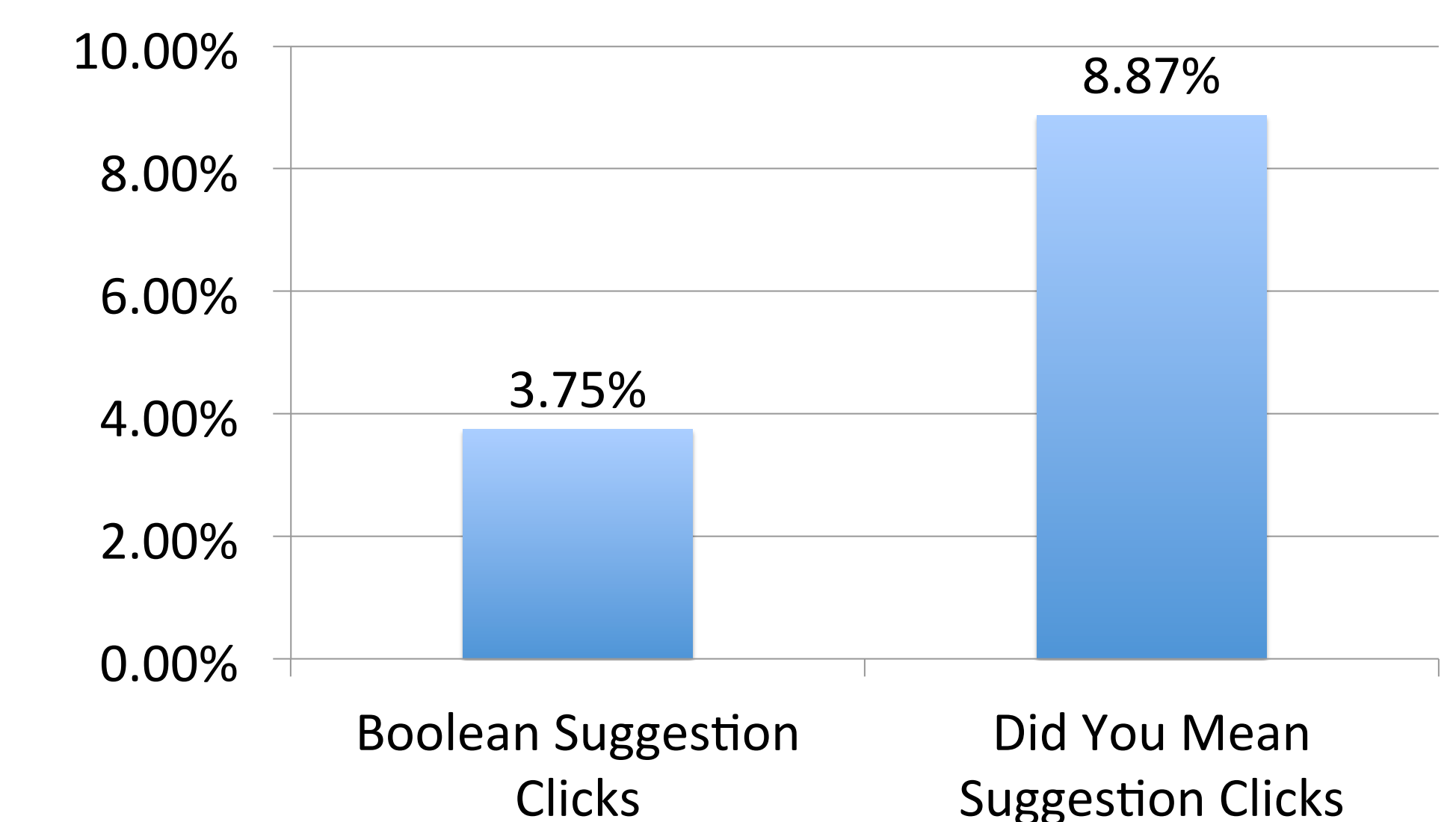
Generated suggestions were periodically pulled from Google Analytics and analyzed using Open Refine (formerly Google Refine), which has useful string processing functions available in the Google Refine Expression Language (GREL)

Use

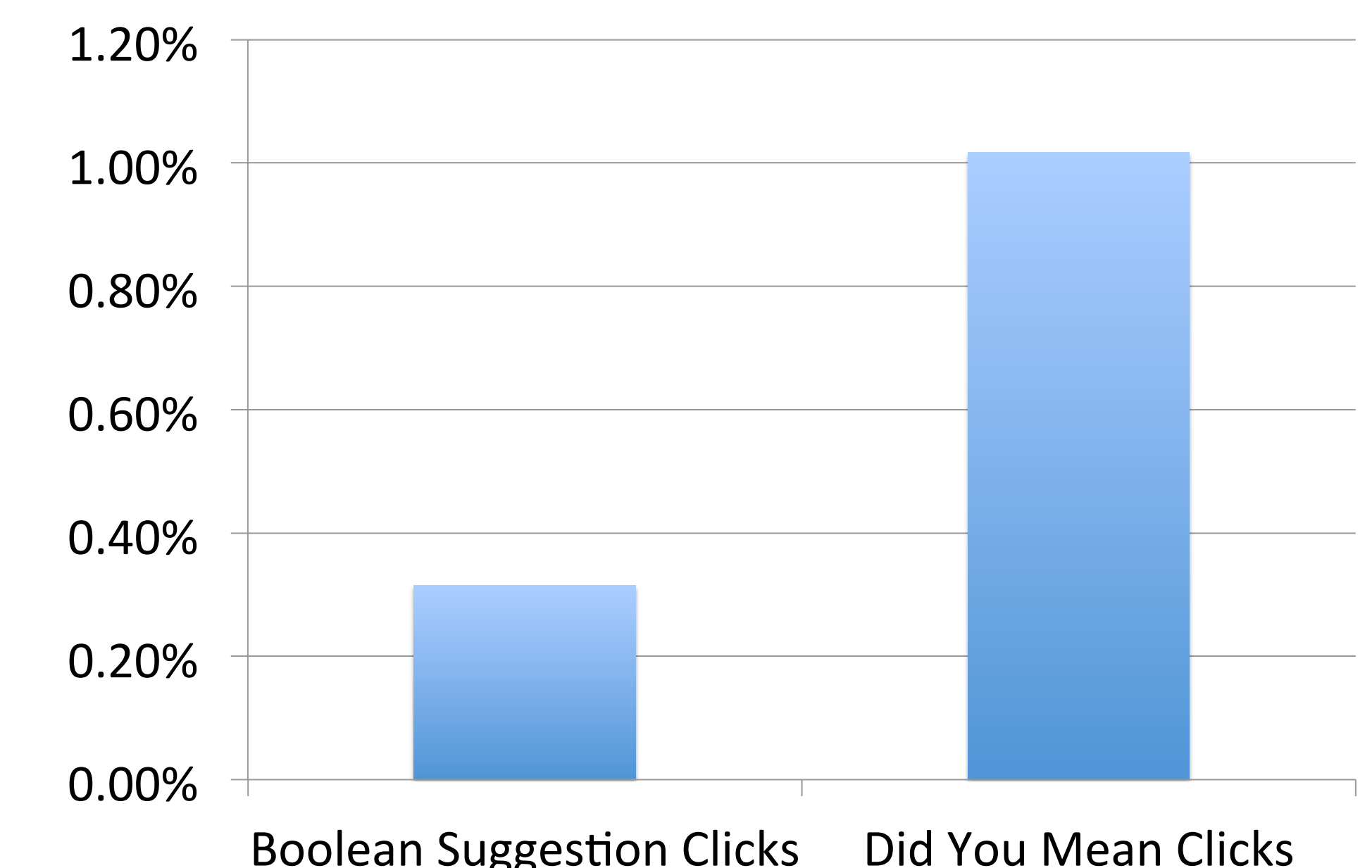
For the 2013 calendar year 19,534 unique Boolean Suggestions events were generated and 732 were clicked on, out of 232,423 Primo visits.

Additional Google Analytics Custom Events were used to track when Primo "did you mean" links were generated and clicked on, providing a comparison for the Boolean search suggestions.

Percent of Unique Generated Suggestions Clicked On, Jan 1 – Dec 31 2013



Percent of Visits with Suggestion Clicks, Jan 1 – Dec 31 2013



Code

EL Commons Code Share

<http://www.exlibrisgroup.org/display/PrimoCC/Boolean+Suggest>

GitHub

<https://github.com/rshanrath/primo-boolean-suggest>