Searching the Long Tail

Steve Papa
Chairman and Founder
April 2006
1911 — New York Public Library
2003 — Bibliotheca Alexandrina, Egypt
2004 — Seattle Public Library
1953, NCSU D. H. Hill Library
Agenda

- The Long Tail opportunity
- Human searching behavior is the key
- The proof: Long Tail data
The mass market goes niche

Sales volume

% of total revenue from long tail inventory

Netflix 20%
Rhapsody 22%
Amazon.com 25%
The Long Tail of library book circulation
Too many choices cut the tail short
Too many choices cut the tail short
Agenda

- The Long Tail opportunity
- Human searching behavior is the key
- The proof: Long Tail data
The reality of searching behavior

Predict  Adapt  Iterate  Revise
User > Goal

- B.S.E.
- Haven’t studied architecture
- New York Public Library >> Seattle
- Curious why tastes are so different
- Book for vacation, so angle that’s entertaining to me
The reality of searching behavior

Predict  Adapt  Iterate  Revise
Search brings back the whole tail

“modern architecture book”
72,000,000 results
The reality of searching behavior

Predict  Adapt  Iterate  Revise
Search Type: Command = GETG modern AND GETG architecture

Search Results: Displaying 1 through 25 of 2805 entries.

<table>
<thead>
<tr>
<th>#</th>
<th>Title</th>
<th>Author</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8valo : hawkinsbrown.</td>
<td></td>
<td>2003-</td>
</tr>
<tr>
<td>2</td>
<td>1,001 skyscrapers / Jeannie Meen Yoon, Eric H6weler.</td>
<td>Yoon, Jeannie Meen, 1972-</td>
<td>2000-</td>
</tr>
</tbody>
</table>
Search `architecture`: Architecture, Modern 

We found 2225 matching items. Limit results to currently available items.

B - Philosophy, Psychology, Religion (1)
D - History (General) and History of Europe (2)
E - History: America (1)
G - Geography, Anthropology, Recreation (4)
H - Social sciences (5)
L - Education (6)

Narrow Results By:

Subject: Genre
- Designs and plans (159)
- Exhibitions (138)
- Catalogs (77)
- Biography (44)
- Historical works (38)
Show More ...

Format
- Book (2147)
- Serial (25)
- CD-ROM (13)
- Video cassette (13)
- eBook (10)
Show More ...

Brief View | Full View

1. (Well) connected architecture
   - Author: Ritchie, Ian, 1947-
   - Published: 1994.
   - Format: Book
   - Design Library
   - NA997 .R50 R50 1994
   - Stocks
   - Available

2. (A) making place in time: strategies for ageable architecture
   - Author: Haughton, Richard.
   - Published: 2001.
   - Format: Book
   - D.H. Hill Library
   - LD3921 . Arch .H389
   - Stocks (5th floor)
   - Available
   - Design Library
   - LD3921 . Arch .H389
   - Stocks
   - Available
<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Published</th>
<th>Format</th>
<th>Library</th>
<th>Location</th>
<th>Available</th>
</tr>
</thead>
</table>
Search 'architecture': Architecture, Modern : T - Technology.
We found 18 matching items. Limit results to currently available items.

Browse By:
- T1 - T995 Technology (General) (3)
- TA1 - TA2040 Engineering (General). Civil engineering (General) (4)
- TH1 - TH9745 Building construction (7)
- T1 - T1570 Mechanical engineering and machinery (2)
- TR1 - TR1050 Photography (1)
- TT1 - TT999 Handcrafts, Arts and crafts (1)

Narrow Results By:
Subject: Genre
- Pictorial works (2)
- Case studies (1)
- Exhibitions (1)
- Designs and plans (1)

Subject: Region
- Massachusetts (2)
- Cambridge (1)
- United States (1)
- Great Britain (1)
- Louisiana (1)

Brief View | Full View

1. Aluminium architecture : construction and details
   Author: Wilquin, Hugues.
   Published: c2001.
   Format: Book
   Design Library
   TH1551 .W55 2001
   Stacks
   Available

2. Anthony Hunt
   Author: Macdonald, Angus, 1945-
   Published: 2000.
   Format: Book
   D.H. Hill Library
   TA140 .H66 M33 2000
   Stacks (8th floor)
   Available

3. The Art of the structural engineer
   Author: Addis, William, 1949-
   Published: c1994.
   Format: Book
We found 2 matching items.

1. Artists and architects collaborate: designing the Wiesner Building
   - Published: [1995]
   - Format: Book
   - Design Library
     - T171 M49 A7 1985
     - Stacks
     - Available

2. The Wiesner Building, Massachusetts Institute of Technology
   - Published: c1995.
   - Format: Book
   - Design Library
     - T171 M49 A7 1985 suppl.
     - Stacks
     - Available
The reference interview
The reality of searching behavior

Predict  Adapt  Iterate  Revise
Information Foraging Theory

- Foraging is made of prediction/evaluation cycles
- When the scent is strong, foragers keep going
- Unique to information foraging: Enrichment
Enrichment tames the tail
Enrichment tames the tail
Enrichment tames the tail
The reality of searching behavior

Predict    Adapt    Iterate    Revise
Testing some search classics vs. P.A.I.R.

- Long query: “Show me architecture books that would appeal to a vacationing engineer that wants an overview of modernism”
- Relevance ranking: Weisner Building, MIT = 41% relevant
Agenda

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- The proof: Long Tail data
Document downloads from Web site search
Document downloads from Web site search

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Summary

- The Long Tail of online information depends on the aggregation of supply and demand

- But its fulfillment depends on millions of user scenarios – one at a time

- Traditional tools like simple search and categorization aren’t enough

- The key is to support human information-seeking behavior

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<th>Iterate</th>
<th>Revise</th>
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<tbody>
<tr>
<td>Discrete attributes</td>
<td>Search AND navigation</td>
<td>Consistent context</td>
<td>Targeted suggestions</td>
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</tbody>
</table>
NCSU

• "The bar has been raised"
• "The best library catalog interface I have come across to date"
• "It’s brilliant—faceted browsing and relevance ranking really improve access. It makes the search experience closer to what users expect when searching on the Web"
• "NCSU libraries butcher the pig. Andrew Pace of the NCSU Libraries, who has said that making minor changes to library catalog systems is like putting lipstick on a pig, has unveiled a revolutionary new interface to their catalog"