Getting Started in Search
Workshop
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What does search mean to you?
What is enterprise search?

- What is search?
  - Search is the act of finding information to get a job done.

- What is a search experience?
  - The search experience is the state of mind of the user before, during and after search.

- What is enterprise search?
  - Enterprise search refers to a powerful stack of technologies you subscribe to or buy to help design great search experiences.
Why enterprise search?

% of average workweek

Interaction workers’ tasks

Reading and answering e-mail: 28%
Searching and gathering information: 19%
Communicating and collaborating internally: 14%
Role-specific tasks: 39%
Total: 100%

Source: International Data Corporation (IDC); McKinsey &
Why enterprise search?

Figure 4: Thinking of the maturity of your approach to search, which of the following do you have? (N=266 multiple)

- An agreed search strategy across the organization
- A specific budget for search
- An acknowledged owner of search-related issues
- Dedicated and trained staff supporting search
- An agreed corporate taxonomy or vocabulary of terms
- A metadata standard across different repositories
- None of these

While 71% of organizations consider search to be vital or essential to productivity and effectiveness, 58% show little or no signs of maturity in search.
Why not use Google?
Business Challenges with Search
Business Challenges with Search
Findability
The Paradox of Content

- Less Content – Less Value
- More Content – More Garbage
Content Challenges

- Volume
- Velocity
- Variety
Information Overload

The average person receives 63,000 words of new information every day.

Average length of a novel: 64,531 words

If you wanted to read everything you’ve got in 2015, it would take you the first three months of 2016!

Source: Robby Walker; Amazon Text Stats
Visualization Challenges

“Ten blue lines” experience

“Old style”

Not visual enough

Not obvious

Ranking

Hard to “overview”
Data Mining & Semantics

Content has no meaning to the engine

No relationships and links between objects

No cross-system relationships defined

Lack of quality metadata
Security in Enterprise Search

- **Goal:** to avoid "security accidents"
- Enterprise Search Security = Content Security
- Enterprise Search != Security Leak
Search as a Metaphor is Broken!

“Search is no longer simply about “search” (…)

It is moving into

the real-time, the predictive
and the visual.”

Innovations in Knowledge Organization Conference
Singapore, 2015
Findability

- Navigation
- Search
- Accessibility
- Information architecture
- User experience
- User interactions
- User profile & persona
- Machine learning
Search Processes & Components
Search Processes
Crawling & Indexing

Crawling & Indexing

Crawler

Content Processor

Indexer

Search Index

Content
Crawling & Indexing
Search projects
A business process

- More than a One-Time Project (initial implementation)
- Analysis
- Collecting Feedbacks
- Evaluation
- Continuous improvement
Main Considerations

- Content
- Context
- Users
Content
Metadata

Content Metadata
- Stored in CMS
- Explicit & implicit metadata
- Changed by users & processes

Search Metadata
- Stored in the Search Index
- Changed by the Search Engine (indexing)
- Read-only by the users & processes
- Essential for findability
- The “heart” of UI
Unifying Metadata

- Various systems – various metadata
  - E.g. AUTHOR vs. CREATOR vs. CREATED BY vs. OWNER vs. …

- Various systems – various value sets
  - E.g. MAISH NICHANI vs. maish.nichani vs. PEBBLEROAD\maish vs. maish@pebbleroad.com vs. …
Unifying Metadata

- Unified Search experience needs Unified metadata
- Manual vs. Auto-Classification
- Search Index normalization
Users

Assistant  Explorer  Analyst  Executive
Users

Designing the search experience by Tony Russell-Rose and Tyler Tate
User tasks

I want to…
Watch a comedy movie after a hard day's work

So I can…
Unwind and relax

Criteria for success
- Find the right movie quickly
- Watch in good quality resolution
- No buffering stops
Context

1. Galbiati Gourmet Deli
   - 5 Reviews
   - 400 Upper Bukit Timah Road, Upper Bukit... Delis, Food
   - 0.4 km

2. Waffletown
   - 1 Review
   - 39 Hume Ave, Upper Bukit Timah
   - Restaurants
   - 0.3 km

3. Spruce @ Firestation
   - 8 Reviews
   - $3
   - 274 Upper Bukit Timah Road, Singapore...
   - Gastro Pubs
   - 0.6 km

4. Carpenter and Cook
   - 22 Reviews
   - $1
   - Tan Quee Swee Building, 19 Lorong Klat...
   - Cafes, Bakeries, Home Decor
   - 1.6 km

5. Ah Mei Cafe
   - 1 Review
   - 450 Upper Bukit Timah Rd, Upper Bukit...
   - Restaurants
   - 0.6 km

Art Friend

- 1 review
- Art Supply Store • 4.7 km
- Blk 451 Clementi Ave 3 #03-307, 120451
- 6777 0353
- Open today • 10:00 am – 8:00 pm
- More about Art Friend

Places nearby

My Little Spanish Place
- Open until 3:00 PM
- 3.9 stars • 10 reviews

Original Sin
# Context

<table>
<thead>
<tr>
<th>Device</th>
<th>Which devices?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>In office or out of office? What are the working conditions?</td>
</tr>
<tr>
<td>Time</td>
<td>When? How often?</td>
</tr>
<tr>
<td>Activity</td>
<td>What is the job-to-be-done?</td>
</tr>
<tr>
<td>Individual</td>
<td>What are their subject matter and technical savviness?</td>
</tr>
<tr>
<td>Location</td>
<td>Where? Stationary or mobile?</td>
</tr>
<tr>
<td>Social</td>
<td>Type of work, individual or group?</td>
</tr>
</tbody>
</table>
Requirements

- Business goals
- Scenarios & use cases
- Application Lifecycle
- Systems to integrate
- User Experience
- Metrics
- Milestones
- Resources
- Experts
  - Internal
  - External
  - “Liaison”
Interface

- **Input** – features that allow the searcher to express what they are looking for.
- **Control** – features that help searchers to modify, refine, restrict, or expand their Input.
- **Informational** – features that provide results or information about results.
- **Personalisable** – features that relate specifically to searchers and their previous interactions.

*Search User Interfaces* by Marti A. Hearst.
## Metrics

<table>
<thead>
<tr>
<th></th>
<th>Goals</th>
<th>Signals</th>
<th>Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happiness</td>
<td>Get new staff to quickly start using search to explore and find resources.</td>
<td>How many new staff use search in the first 2 months.</td>
<td># of search sessions/month for the new staff segment.</td>
</tr>
<tr>
<td>Engagement</td>
<td></td>
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<td>Adoption</td>
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<td>Retention</td>
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<td></td>
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<tr>
<td>Task Success</td>
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</tr>
</tbody>
</table>
Roles

- **Search manager**: oversight of enterprise search strategy, governance and rollout of search projects.
- **Search analyst**: user needs, content needs and governance of the project.
- **Search back-end engineer**: search technology configuration, integration and custom development.
- **Search front-end engineer**: search interfaces, personalisation and customisation.
- **Search relevancy engineer**: relevancy tuning, content processing and search analytics.
Proof of Concept (POC)

- Initial requirements & conditions
- Limited scope
  - Functionality
  - User Experience
  - Content
  - Users
  - Etc.
- Limited time frame
Proof of Concept (POC)

- To prove feasibility
  - Functionality
  - User Experience
  - Content
  - Users
  - Etc.
- To prepare & set expectations
- To refine requirements
Project phases