Towards Social Information Seeking and Information Interaction on the Web 2.0

Position Paper

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Outline

1. Context: Studies of Tagging as Information Behavior
2. Modeling Social Interactions on the Social Web
   1. Two dimensions of Social Interaction
   2. Social Web IR Interactions – examples
3. Social Interaction mapped to Social Search
4. The Future of Social Search
Context: Studies on Tagging

- Category Model of User Tags (Connotea, [Heckner, Mühlbacher & Wolff 2008])
- Comparison of Tagging Practices (Flickr, YouTube, Delicious, Connotea, [Heckner, Neubauer & Wolff 2008])
- Analysis of Motivations for Tagging ((Flickr, YouTube, Delicious, Connotea, [Heckner, Heilemann & Wolff 2009])
- Tagging in Music Platforms ([Lösch 2009])
- ...

Heckner & Wolff, Social Search, 3
Tagging: A fourth layer of indexing?

1. Author keywords
2. Intellectual indexing by information professionals
3. Automatic indexing

- Tagging as a possible solution to the vocabulary problem?
- Can tags “identify qualities or characteristics” of resources (Kipp 2007)?
- Do tags carry aspects beyond topicality (e.g. time, task, emotion)?

4. Tagging – “fourth layer of indexing”?

“Cognitively and functionally different representations of information objects may be used in information retrieval to enhance quality of results” (polyrepresentation continuum, Larsen et al. 2006)
Modelling Social Interactions on the Social Web: Direct and indirect communication

- Means for communication on the Web 2.0 add a social dimension to information retrieval

Is web search a social task?

<table>
<thead>
<tr>
<th>Indirect social interactions</th>
<th>Direct social interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Searching and Retrieving</td>
<td>Communicating through</td>
</tr>
<tr>
<td>Content that has been</td>
<td>Social Web Features, e.g.</td>
</tr>
<tr>
<td>created or annotated</td>
<td>• (micro-)blog posts</td>
</tr>
<tr>
<td>by other users</td>
<td>• Comments</td>
</tr>
<tr>
<td>(e.g. Blog Search</td>
<td>• ratings</td>
</tr>
<tr>
<td>- Hearst 2008)</td>
<td></td>
</tr>
</tbody>
</table>
Towards a Model of Information Behavior in Social Search

- Ben Shneiderman‘s approach towards social software
  - „Leonardo‘s Laptop“ idea (!?)
  - classification of activities
  - relationship spheres
  - Domain-related description model: Activities and relationship table (ART)
    - domain
    - activity type
    - relationship sphere
  - i.e. a theory of social software’s potentials avant la lettre?

- Cool & Belkin‘s classification of information interaction
Activity types

Information Behaviors Facet (Cool & Belkin)
- Create
- Disseminate
- Organize
- Preserve
- Access (Method, Mode)
- Evaluate
- Comprehend
- Modify
- Use

Activity Dimensions (Shneiderman)
- Collect
- Relate
- Create
- Donate

Social Spheres:
- Self
- Family and Friends
- Colleagues
- Citizens and Markets
Two dimensions of social interaction (Shneiderman, 2002)

Activity dimension

- Collect
- Relate
- Create
- Donate

Social Spheres

- Self
- Family & Friends
- Colleagues & Neighbours
- Citizens & Markets
An activities and relationships table (ART) for Social Web IR Interactions (1)

<table>
<thead>
<tr>
<th></th>
<th>Collect Information</th>
<th>Relate Communications</th>
<th>Create Innovation</th>
<th>Donate Dissemination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self</strong></td>
<td>Retrieve an item from the personal</td>
<td>Manage personal Delicious bookmarks;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>collection in <em>Flickr, Connotea, Delicious</em>, etc.</td>
<td>Manage scientific bibliographies on <em>Connotea</em>;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Family and Friends</strong></td>
<td>Browse a friend’s collection of <em>Flickr</em> photos;</td>
<td>Communicate with friends on <em>StudiVZ</em>; create a social networking profile that reflects your personal beliefs and tastes;</td>
<td>Tag photos for retrieval on <em>Flickr</em>; use a blog to write about experiences during a year abroad;</td>
<td>Publish birthday photos on <em>Flickr</em>;</td>
</tr>
</tbody>
</table>
## An activities and relationships table (ART) for Social Web IR Interactions (2)

<table>
<thead>
<tr>
<th></th>
<th>Collect Information</th>
<th>Relate Communications</th>
<th>Create Innovation</th>
<th>Donate Dissemination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Colleagues</strong></td>
<td>Sift through the bibliography of fellow researchers on <em>Connotea</em> or <em>Citeulike</em>;</td>
<td>Write a message to a fellow colleague on <em>LinkedIn</em> or <em>Xing</em>;</td>
<td></td>
<td>Use a corporate bookmarking management software to publish job-related articles; Write about business processes in the <em>CorporateWiki</em>;</td>
</tr>
<tr>
<td><strong>Citizens and Markets</strong></td>
<td>Watch <em>Youtube</em> videos;</td>
<td>Rate videos on <em>Youtube</em>; Express an Opinion about products on <em>Amazon</em>;</td>
<td>Compose a Wikipedia article; Comment on articles from Newspaper portals; Write a blog about public issues;</td>
<td>Publish a <em>Wikipedia</em> article; Share a <em>Youtube</em> video;</td>
</tr>
</tbody>
</table>
Various communication activities occur during IR

Web 2.0 as enabling technology for future design of end user-centered IR systems (Glöckner-Rist 1993, Wolff 2006)

New social configurations in IR beyond
- end user (domain expert) + information professional or
- end user with double role
Social Interaction mapped to Social Search (cf. Evans & Chi, 2008)

three aspects:
- search phase
- activity type
- relationship sphere

generalisation: embedding in iterative process models of information seeking and information behavior
Current systems (e.g. tagging platforms or publication server) focus on the „after search“ phase (e.g. *donating* and *disseminating* with *Connotea* or *EndNote Web*)

search is an “everyday activity for everybody” (Wolff 2006, Mattern 2007)

Emerging information-related communication services

- *Before and during search*: Yahoo Answers
- *Before*: Expert recommendation systems
“(social) outsourcing” of IR problems as a possible trend?

- Web 2.0 platforms for collaborative IR
- Crowdsourcing - of information retrieval work
  - Mechanical Turk
  - Humangrid
  - Innocentive
- Institutional integration of these services in
  - library information systems
  - virtual research environments (VREs)
References (1)


References (2)


