SO.CL: AN INTEREST NETWORK FOR INFORMAL LEARNING

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THROUGH SEARCH TOOLS A WORLD OF KNOWLEDGE AT OUR FINGERTIPS

estimates at over than 3 billion searches per day
INFORMAL LEARNING AND DEMOCRATIZATION OF KNOWLEDGE

- Education outside of formal institutions
- Access to learning opportunities outside immediate social circles
- Peer to peer learning
- Informal communities of practice

SELF-LEARNERS
TECH-SAVVY
EARLY
ADOPTERS

DIY
Developers
Makers
WHAT IS MY MOTIVATION?

LEVERAGING SOCIAL MEDIA BECAUSE LEARNING IS SOCIAL

Giving people a sense of connection to others in their extended networks and exposing them to their interests will motivate them to learn new topics not available in their immediate social circles.
RELATED WORK

- **Search**
  - Primary information seeking behavior online
  - Social interactions important aspect of search (e.g., Morris, 2008; Evans and Chi, 2008)
    - Foraging for information
    - Sense-making process
  - Search tools primarily designed for solitary experience

- **Social Search Systems and Social Tagging**
  - Focus primarily on improving quality of search, not connecting people around information

http://www.flickr.com/photos/fitzgeraldsteele/3571638323/
RELATED WORK

- Online Learning Communities
  - Remix/participatory culture (Jenkins et al. 2005), with creation, sharing, and building upon user generated content
    - Scratch, Kodu, Sourceforge (opensource), Instructables
  - Walled communities often with high barriers to sharing, members already motivated around specific topic

- Interest Networks
  - Public, asymmetrical networks focused on broadcasting information
    - Blogs, Twitter, Pinterest, Tumblr
  - Better for lightweight sharing and serendipitous discovery (Ito, 2011)
  - Not directly integrated with search
SO.CL

search + sharing + networking = informal discovery and learning

reimagining search as social from the ground up

Try it now!  http://www.so.cl

**History:**
Oct 2011:
   Pre-release deployment study
Dec 2011:
   Private, invitation-only beta
May 2012:
   removed invitation restrictions
HOW IT WORKS

Feed Filters

Feed

Search & Post

People

Try it now! http://www.so.cl – use icwsm tag
POST BUILDING

Experience:
Step 1: Perform search
Step 2: Click on items in results to add to post
Step 3: Add a message
Step 4: Tag

Search (Bing)

Filter Results

Try it now! http://www.so.cl – use icwsm tag
INTEREST NETWORK GOALS

- Find others around common interests
- Be inspired by new interests
- Learn from each other through these shared interests
COLLABORATIVE ELABORATION OF INTERESTS

“RIFFS”
COLLABORATIVE ELABORATION OF INTERESTS

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“RIFFS”
SO.CL DEPLOYMENT STUDY

- 33 University of Washington students
- Seed community pre-release
- Study:
  - Existing learning practices
  - Use of so.cl as informal learning tool
MIXED METHODS PROCEDURES

- Week 1: On-boarding focus groups
  - Preliminary questionnaire – demographics and current practices
  - Discussion – learning pathways
  - So.cl demo and instructions
- Weeks 1-4: Use So.cl
  - Instructed to use so.cl as primary search engine
  - Completed brief weekly questionnaires
  - So.cl web site instrumented to log behaviors
- Weeks 3-4:
  - One-on-one semi-structured interviews
- Weeks 4-5: Wrap-up
  - Final questionnaire

Michal Lahav rocks!
PARTICIPANTS

- Demographics:
  - 33 participants (61% male, 39% female)
  - On average 21 years of age
  - 20% Caucasian, 61% Asian, 12% mixed, 3% African-American
  - 3% Freshman, 12% Sophomore, 27% Junior, 46% senior, 3% graduate school, 9% graduate
  - 3% full-time job, 58% part-time job, 3% self-employed, 36% not employed

- Incentive: software gratuity at on-boarding and stipend for ongoing participation
INTERNET USE

- Used Internet 7.8 hours a day: 4.6 for social activities, 3.2 informational → always on

“How important are the following types of social technologies in communicating and sharing with people in your life about topics you care about?”
LEARNING IS ALREADY ONLINE

If you need to learn about a topic that is new to you, either for work, class or for your own personal interests, to what extent do you rely on any of the following resources?

Image description:
- People that I know face to face, such as friends, family, colleagues, teachers.
- My extended social network online, through social applications.
- Web sites on the Internet.
- Libraries, bookstores, stores, or other 'brick-and-mortar' locations.

Bar chart showing the mean extent of use to learn new topics, with a scale from 1 (not at all) to 7 (extremely so).
“How important are the following technologies for communicating and collaborating with fellow students for school?”

Where 1 = not at all, 7 = extremely so

Error bars: +/- 1 SE
SOCIAL LEARNING PATHWAYS

- Asked participants to describe pathways to learning something new in past two weeks
- Coded each point along learning pathway
  - Content only source (books, TV, news site) vs. social interaction (email, face-to-face, networks)
  - If a social interaction, coded as social media or face-to-face

Example:

“My friend told me in person about stabbing in home town. I wonder if this is a big issues- I searched for it -- wasn't in the search, but in the news tab. Clicked on different links to see if they were the same.”

coded as:

1. My friend told me [personal interaction][face to face]
2. searched; news tab [content only source]
SOCIAL LEARNING PATHWAYS

- 69% of pathways described involved social interaction
  - 43% from personal interaction to content only source
    “I learned about Steve Job’s death from a friend on twitter and then checked bloomberg for potential impact.”
    “My friend told me in person about stabbing in home town. I wonder if this is a big issues- I searched for it -- wasn't in the search, but in the news tab. Clicked on different links to see if they were the same.”
  - 26% from content only source to more personal interactions
    “I used tumbler to keep track of news related blogs. On blogs I saw an Occupy Wallstreat posts. Saw one about Rome. Then I was talking to a girlfriend who is in Rome. Told her that I saw photo of car fire on tumbler. She said ‘I saw a care on fire last night, we got trapped indoors because of protest”’

- Observed foraging, sense-making but also initial discovery
STUDY PARTICIPANTS USAGE

- 32 study participants in prerelease deployment
  (~250 pre-release test users)
- Oct 17 – Nov 17, 2011
- 3256 search queries
  - 1563 shared as posts
- 49 posts, 49 comments, 53 likes
- Each post received 1.5 comments, 1.4 likes
SELF-EXPRESSION

Environment Arctic Russia
arrays in Java

Types of Posts

School or work
20%

News or media
5%

Personal interests
75%

Lady Gaga
debit card fees

amazing shadow art
new heights band
consumer reports best hybrid

out of 1191 posts
“Last week, the common interest I shared with quite a few people was Halloween costumes. Like me, many people searched images of past Halloween costumes and posted them to socl and we would laugh about them or talk about what we were going to be for Halloween”
### INTEREST NETWORK GOALS

<table>
<thead>
<tr>
<th>Goal Achieved</th>
<th>Search Engine</th>
<th>So.cl</th>
<th>Social Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learn some new information?</td>
<td>6.5</td>
<td>5.6s</td>
<td>5.8</td>
</tr>
<tr>
<td>Connect with someone new?</td>
<td>2.1</td>
<td>5.5s</td>
<td>5.7</td>
</tr>
<tr>
<td>Form stronger connections with friends or contacts?</td>
<td>2.4</td>
<td>3.9s, n</td>
<td>5.5</td>
</tr>
<tr>
<td>Discover something new about a friend or a contact?</td>
<td>2.3</td>
<td>4.9s, n</td>
<td>5.9</td>
</tr>
<tr>
<td>Discover new people with common interests?</td>
<td>2.6</td>
<td>5.6s</td>
<td>5.2</td>
</tr>
<tr>
<td>Find an expert on a topic you wanted to learn about?</td>
<td>5.6</td>
<td>3.8s</td>
<td>3.8</td>
</tr>
<tr>
<td>Cooperate with others to search for information?</td>
<td>4.2</td>
<td>3.8</td>
<td>4.5</td>
</tr>
<tr>
<td>Find information to share with friends or contacts?</td>
<td>5.6</td>
<td>5.1</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Extent to which using So.cl helped to accomplish their search and social networking goals, where 1 = not at all, 7 = extremely so
LEARNING PATHWAYS

- During one-on-one interviews, had participants describe three learning pathways, one each for a) hobby/interests, b) school/work, and c) news/media
- 50% involved social interaction
  - 59% for hobby, 53% for school, 37% for news
  - 45% wove in and out of social media

The scandal at pen state- heard it on TV espn. It started to escalate, so I wanted to get more info. The head coach got fired. Go to Facebook and post- ‘why are you firing the coach?’ - had 21 comments after that. I go to a link to court transcript, then I started to read- got sick reading it, but able to find info. Went and did a google search of topic- pen state , clicked various links. Videos of interviews- espn.com.
SO.CL AND LEARNING PATHWAYS

- So.cl in 26% of learning pathways
  - 53.5% social learning pathway
  - 46.5% as content only

Didn't know much about occupy wall street. I learned everything on socl search. People posted articles, pictures and videos, went on youtube. Learned through that.
SO.CL AND LEARNING PATHWAYS

32%, wove in and out of personal and impersonal media

This week I'm planning a trip to Vancouver. Saw flier on tumblr, hearing about it on twitter that there is a concert for a Youtube artist. Use So.cl to look up hotels. Gave me links to cheap hotels, hotwire, hotel, how far it was, how much gas. Talked to friends. texted two of them, called up one other person, arranging, posted on Facebook -- all on group. Facebook Group called ‘room 407’, always hanging out in that room but on line. Talked about prices.
WRAP UP OPEN ENDED FEEDBACK

- Effective serendipitous discovery of people and information

  I found a ton of people with similar interests...every day.
  Yogurtland, coffee, fantasy football

  I think it really helped me in seeing other people’s search results...like oh-you’re interested in skydiving, then we can into a little conversation about it

- Deeper connection and collaboration?  Privacy and groups highly requested features.

  I had no way to connect with them besides commenting, trying to go deeper with them is basically impossible.

  I want groups: research, professors, family-- not everyone that you are following on one page.
CONCLUSIONS AND DISCUSSION

- Students are already heavily employing search and social media tools for informal learning
  - Learning online is very social and incorporates social media
  - Learning pathways weave in and out of personal interactions, pure content sources, online and offline
- So.cl:
  - Integration of sharing around search fostered serendipitous, lightweight, informal learning around interests
  - Based on study, shifted our conceptualization of So.cl; less emphasis on social search and more on interest-based networking
  - So.cl actively used in participants’ learning pathways (discovery, foraging and sensemaking)
CONCLUSIONS AND DISCUSSION

- Public network creates tension between discovery and collaboration:
  - Enables serendipitous discovery through broadcast sharing around interests
  - Inhibits more heavy-weight controlled collaboration requiring private messaging and groups
NEXT STEPS

- Growing the community
- Features to support interest discovery and collaboration
- Mobile

Try it now! [http://www.so.cl](http://www.so.cl) -- use icwsm tag
WHERE TO FIND US ON THE WEB
http://www.so.cl
http://fuse.microsoft.com

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QUESTIONS