

Future of the Web and Search

ACM SIGIR 2011

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Agenda

- A perspective on
 - Evolution of the web
 - Future of the IT industry
- Vision for the future of search
- The role of information retrieval
- Challenges
- Opportunities

Our view on the evolution of the web

- The heritage: a web of documents
 - Topical
- The path forward: a web of the world
 - Social
 - Geospatial
 - Temporal
 - Appification

Our vision of the future of search

- Our mission:
 - Empower people with knowledge
 - User intent
 - Knowledge
- Our vision:
 - Re-organize the web for search to unlock the full potential of web
 - Better discovery
 - More informed decision
 - Easier task completion
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The role of information retrieval

- Potentials for a vibrant research arena
 - High value impact
 - Cross-disciplinary discovery/breakthrough
- Key long term quests
 - Understanding user intent
 - Modeling web of the world
 - People, places, things
 - Their relations: e.g., community, markets
 - Task completion and decision making
 - Incentive engineering

Example: understanding user intent

- Queries difficult to interpret in isolation
 - Easier if we can model: who is asking, where they are, what they have done in the past, etc.

- The query *SIGIR* (in isolation) is ambiguous



SIGIR



Searcher: (SIGIR | Susan Dumais) vs. (SIGIR | Stuart Bowen Jr.)

Location: (SIGIR | Beijing today) vs. (SIGIR | Washington DC)

SIGIR



Previous actions: (SIGIR | information retrieval)
vs. (SIGIR | U.S. coalitional provisional authority)

Example: search and social

- Social interactions can improve search
 - Social annotations of search results
 - Social interactions can improve ranking (e.g., clicks, “likes”, etc.)
 - Social interactions aids information discovery
- Search connects people to people
 - Many search tasks lead to people (e.g., friends, experts)
 - Many search tasks lead to entities
 - Collaborative search

Example: support task completion

- People are increasingly using search not just to find documents but to make decisions
 - Product purchases, local activities, healthcare decisions
- Tasks are increasingly sophisticated
 - 36% of sessions contain more than one query
 - 67% of queries are in multi-query sessions
 - 50% of search time is spent in long sessions
 - Many tasks extend across sessions
- Innovations in new experiences to
 - Support task completion across sessions, apps and devices
 - Enable richer interaction for exploration

Challenges

- Measurement, evaluation, self-correction
- Privacy
- Lack of
 - Tools and understanding in existing disciplines
 - Training and development of cross-disciplinary talent
- Barriers for academia research
 - Access to data
 - Computing infrastructure
 - Funding

Opportunities

- Key breakthrough
- Broaden our collaborations
 - Research
 - Active participation and contribution
 - Partnership with aligned agenda
 - Development
 - API, tools,
 - Investment
 - Training and development
- A vibrant community