Toward a deeper understanding of user intent and query expressiveness

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Motivations

• Ongoing work initially aimed to
  – reveal the basic nature of intent;
  – determine under which conditions, human annotators can infer query intents (and eventually define guidelines for editorial labeling).

• Preliminary analysis stressed the need of a better understanding of
  – what constitutes an intent
  – what are the factors that affect the user to articulate what is in her mind in the form of queries
Motivations: Query Intents so far…

Broder’s taxonomy (2004):  
- user’s needs behind the query

- Navigational
- Informational
- Transactional
Experimental Study

• Participants: 10 habitual search engine users

• Before the search session:
  – each participant listed 10 search tasks of interest and was encouraged to perform the search in the most natural way.

• During the search session (55 minutes).
  – each user was video-recorded,
  – Think Aloud protocol was used
  – no interference by the moderator

• After the search session
  – Short interview in order to gather qualitative insights.
Our preliminary analysis reveals…

• At least three factors that affect the **expressiveness** of the queries:
  – the complexity of the task the user wants to accomplish;
    { **complexity**: number of dimensions and choices that the user needs to explore at the time she engages with the search engine }
  – the number of dimensions already explored; how much more **effort** needs to be spent by the user to complete the task;
  – the **specificity** of what she is looking for; each task can involve general or specific aspects of the task, which are influenced by the user's past experiences

• Need of a more formal definition of each of these aspects.
Qualitative Analysis Results: Effort to Completion vs Query Expressiveness

Expressiveness of the set of queries used in each task with respect to the dimensionality of the problem (X axis) and the effort to completion (Y axis)
THANK YOU!