Interaction and Interactivity:
User interfaces for Digital Libraries.

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INTRODUCTION

We interact constantly with our environment through different communication mechanisms and processes. *Information seeking and retrieval* in Digital Libraries is but a special case of such a process. Information retrieval research tends to abstract away from both the general aspects of interaction and view actions at the interface as isolated events, and from the special requirements information access tasks pose on interface design.

Many questions from early information retrieval research are still valid and no less important today. In a paper from 1971, Bennett outlines some parameters concerning interactive information retrieval and interface design:

- The characteristics of the searcher
- The conceptual framework presented to the searcher
- The role of feedback
- Operational characteristics such as command language, display, response etc.
- The constraints of the computer and IR techniques
- The effect of the IR system on the user interface for search
- Introduction of search facilities to the user
- The role of evaluation and feedback in the redesign cycle.

In a later paper (1972), he adds:

- The task to be performed,
- The user, and
- The information content

to the properties of information system design needs to take into account. This list has not aged.

CHALLENGE QUESTIONS

Challenge question 1:
What have we learnt about interactive information retrieval in the past 25 years?

There are new and emerging research areas that have bearing on our field, that in part did not exist twenty-five years ago:
- Multimedia content
- Multimodal interaction
- Multilingual material and users
- Distributed systems
- Theoretical frameworks, tools, and methods to analyse users' tasks and work context and to understand the dynamic and changing nature of tasks over time

- The move from static to dynamic evaluation and to having a balanced approach to evaluation (both system and user)
- The move from laboratory evaluation to beta testing by real users and customers
- The relationship between evaluation and design, that is, what implications the analysis and evaluation of user preferences, strategies, and tasks will have on user interface design

Challenge question 2:
What new aspects of interactive information retrieval have appeared in the past 25 years?

Challenge question 3:
What will we learn about interactive information retrieval in the next 25 years?

REFERENCES

Bennett, J. L. (1971). Interactive bibliographic search as a challenge to interface design. In: D. E. Walker (ed.) *Interactive bibliographic search: The User/Computer Interface*. Pp. 1-16

Bennett, J. L. (1972). The user interface in interactive systems. *ARIST*, 7, pp. 159-196.