

Made to Measure? People, Metrics, and Conversational AI

Dana McKay and George Buchanan





The nature of this talk



Talking in the Library: Implications for the Design of Digital Libraries

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ABSTRACT

We describe the use of ethnomethodologically-informed ethnography as a means of informing the requirements elicitation, design, development and evaluation of digital libraries. We present the case for the contribution of such studies to the development of digital library technology to support the practices of information-searching. This is illustrated by a particular study of the help desk at a university library, examining the implications it has for designing appropriate functionality for a digital library. This requires us to address the problems of using ethnographic data in systems design.

INTRODUCTION

'In defining the role of a digital library it is essential to incorporate the concept of proactive intermediation ... so that the digital library is not limited to passive warehousing of navigable information.' [7]

We believe that in order to be effective, in order to achieve organisational usability [16], digital libraries must take account of the social aspects of information seeking and support the processes that occur in social information seeking [28,29]. Such a contention is surely far from controversial, but it raises the question as to *how* this support might be designed into such systems. We argue that the provision of such support can best be brought into the development cycle through the employment of a particular method - namely ethnomethodologically-informed ethnography - as part of the requirements elicitation process.

We claim that such ethnographic study can provide systems designers with an insight into the practice of seeking information in collaboration with a member of library staff as seen from the

organisation of individuals' information-seeking practices, the approach makes plain the recurrent organisation of such activities as a resource for the design of a range of digital library facilities to support the fundamentals of searching. Thus we claim that although this particular study focuses on a help desk, it carries implications not just for a help desk of a digital library, but for other forms of collaboration including informal help giving between library users.

We make the case for an extension of Brewer's 'proactive intermediation' [7], to see the production of queries and candidate solutions as emerging in and through the mundane interactions of library staff and users as they make use of the library's OPAC (On-line Public Access Catalogue) system.

ETHNOMETHODOLOGICALLY-INFORMED ETHNOGRAPHY AND THE REQUIREMENTS ELICITATION PROCESS

The requirements elicitation process is characterised [9] as one

"which is variably conceived, and much debated, but it is that aspect of the design process which is concerned with achieving an understanding and characterisation of the domain of application. In general terms its concern is with identifying the functions that the system should deliver, how these may be displayed to users, what parameters of the human-computer equation should be satisfied, and so on."

In the field of Computer Supported Cooperative Work (CSCW), ethnomethodologically-informed ethnography has achieved some prominence as a contributor to the design of distributed and shared systems [14]. Ethnography is one of the oldest methods in the social research armoury. Recent efforts to incorporate it into

Nothing new in the world

SIGIR 1991



"User revelation" - a comparison of initial queries and ensuing question development in online searching and in human reference interactions

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ABSTRACT

This paper compares user's opening queries and their search progression in two sets of data: logs of end-user online searches and user-librarian reference interactions. The two sets of opening queries have common characteristics, in particular they are both too general in relation to the user's search intention. Search progression is very different in the two settings, and the human-mediated searches have a far higher success rate than the online searches.

A communication model, based on theories of conversations between strangers, is applied to explain how users are induced to reveal their search intention in the dialogue with the intermediary. Establishing and maintaining contact, creating trust and ensuring understanding are essential elements in these dialogues, and play a larger role than the intermediary's questions. Suggestions for introduction of such elements to achieve user revelation in the online searches are discussed.

1. INTRODUCTION

anyone, anywhere. At the same time both content and format of the catalogs are changing as document content, not only document representations, become available in machine readable form.

Traditionally, library catalogs have to a large extent served as tools for a *mediated* information retrieval system. In the library, a human intermediary has been available, and often indispensable, as mediator in cases where the catalog's language or world model has not matched the user's. With library catalogs in machine-readable form being made accessible via both intranets on an institution-wide and the Internet on a world-wide basis, we are now well on our way towards a situation where such human mediation will often be impossible, or at least unavailable. The fact that the term "library" itself is beginning to lose its old connotations of a physical building with a physical document collection does not resolve this problem. "Digital libraries", where documents are directly available to the user in electronic form, may to an extent eliminate the need for catalogs in their traditional form. They will certainly not eliminate the need to bridge the terminological and cognitive gap between the producer and the user of the information. On the contrary, studies of users searching information in electronic document



Possibly controversial opinion

'Prompt engineering' needs to be a thing
of the past

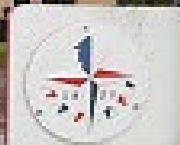
**If you can't
measure it, you
can't manage it**

Peter Drucker





Search: A case study



CRANFIELD



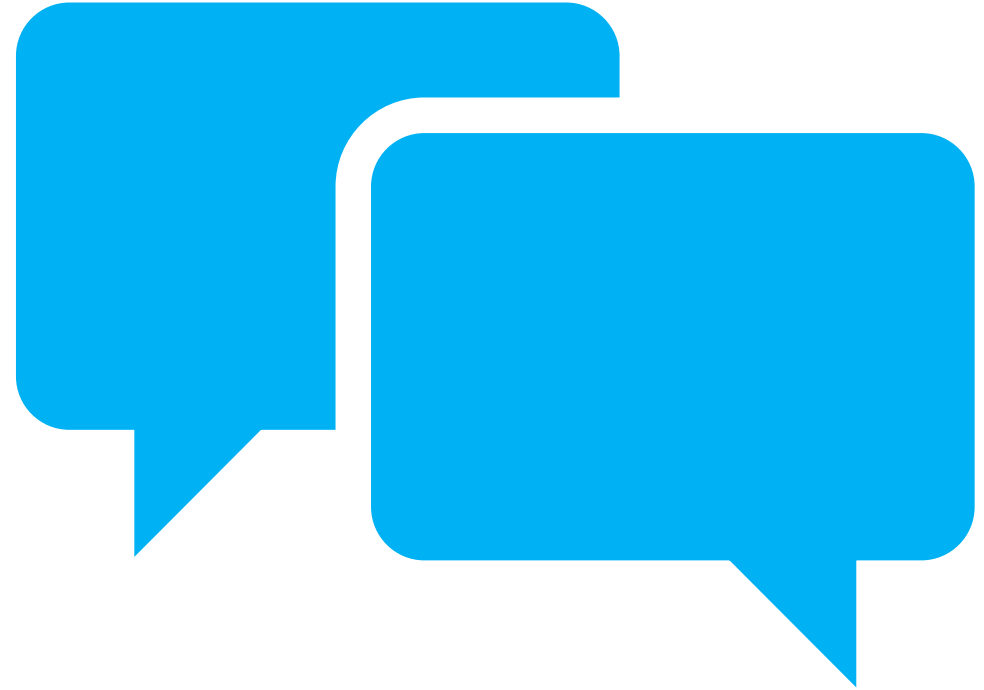
So, what do we measure?

- Good conversations
- Bad conversations



What makes a good conversation?

Good conversation is truly remarkable. We need to anticipate the information needed by other people, provide enough context for what we say – but not too much – and understand quickly changing subjects and widely different perspectives. Managing all these factors can be difficult, so conversations can often go awry.



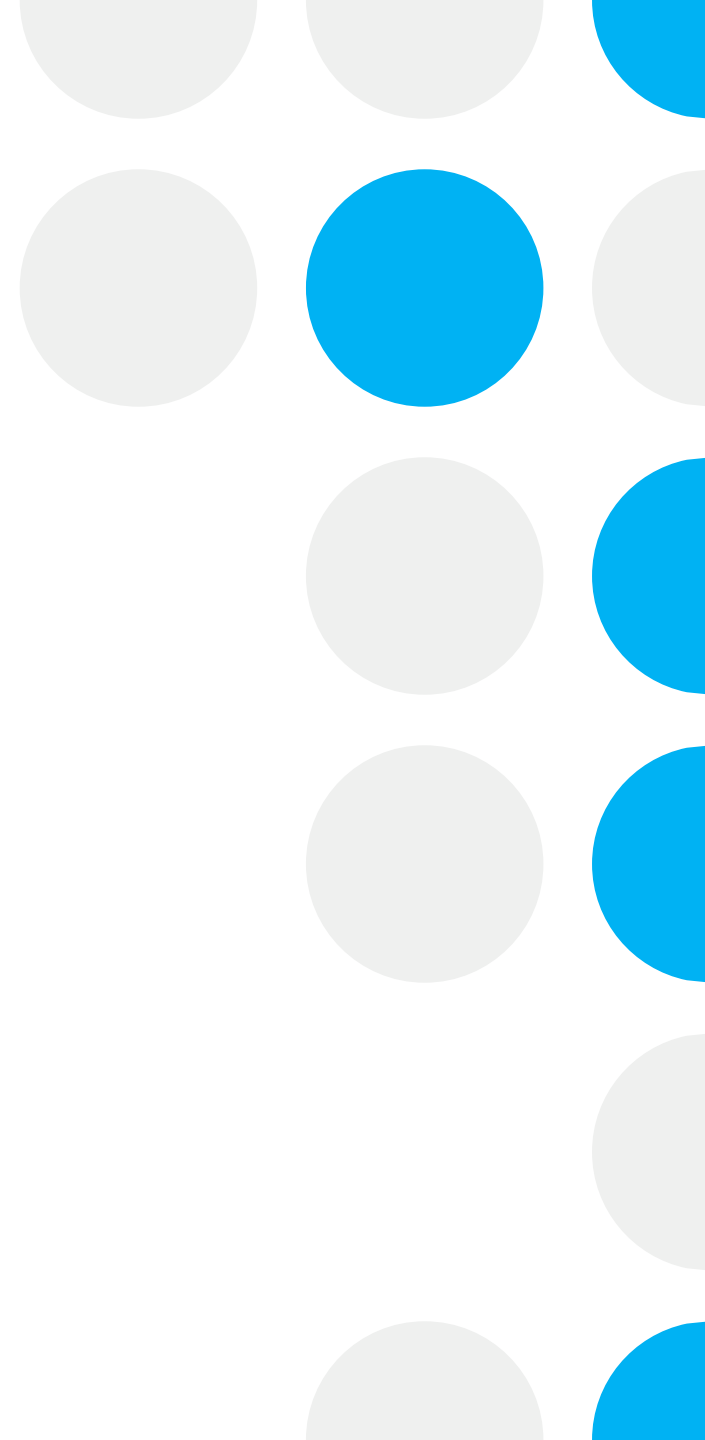
What makes a good conversation?

Take your turn

Listen to your conversational partner

Look at your conversational partner

Pay attention to your conversational partner's body language?



What makes a good conversation?

People want to get the real you so
they can express the real them.

Georgie Nightingall, Conversation Coach





What makes a good conversation?

A **good conversation** is a delightful dance of words and ideas, where participants engage in a harmonious exchange

A good conversation typically involves the following elements: Active listening, clear communication, empathy, respect, balanced participation, open mindedness, relevance. Remember, the key to a good conversation is not just about speaking, but also about listening and understanding the other person's point of view.

What makes a good conversation

Overall, a good conversation is characterized by active participation, mutual respect, empathy, and a genuine interest in understanding and connecting with others. It is an opportunity for individuals to exchange ideas, share experiences, and build meaningful relationships.



What makes a bad conversation?

If you're rambling, you're hoarding all the conversation time and not giving the other person an opportunity to speak. The same is true with talking over others and being too verbose. When you're not making space in the conversation for the other person's ideas and agenda, listening is impossible



What makes a bad conversation?

A bad conversation can be characterized by several factors:

1. Lack of Engagement
2. Monopolizing the Conversation
3. Negativity or Hostility
4. Lack of Clear Communication
5. Lack of Depth or Substance
6. Inappropriate Timing or Setting
7. Failure to Build Rapport
8. Closed-mindedness
9. Lack of Respect.

Overall, a bad conversation often lacks engagement, active listening, mutual respect, and meaningful exchange of ideas.



What makes a bad conversation?

A bad conversation can be characterized by several common habits that hinder effective communication. Here are six such habits:

- Interrupting Others
- Rambling
- Repeating Your Own Ideas
- Talking Over Others
- Being Too Verbose
- Mobile Phone Distraction

To improve conversational dynamics, focus on becoming a better listener. Acknowledge your communication style and be upfront about it. Cultivate awareness of these habits and work toward eliminating them, allowing for more meaningful interactions¹. Remember, effective communication involves both speaking and listening.

Finding Common Ground

GOOD	BAD
Active listening	Not listening
Respect	Disrespect
Empathy	Hostility
Turn taking	Repeating a point
Open mindedness	Dominating the conversation
Staying on topic	Rambling
Informativeness	Distraction

Do these make sense for conversational AI?

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Active listening	Not listening
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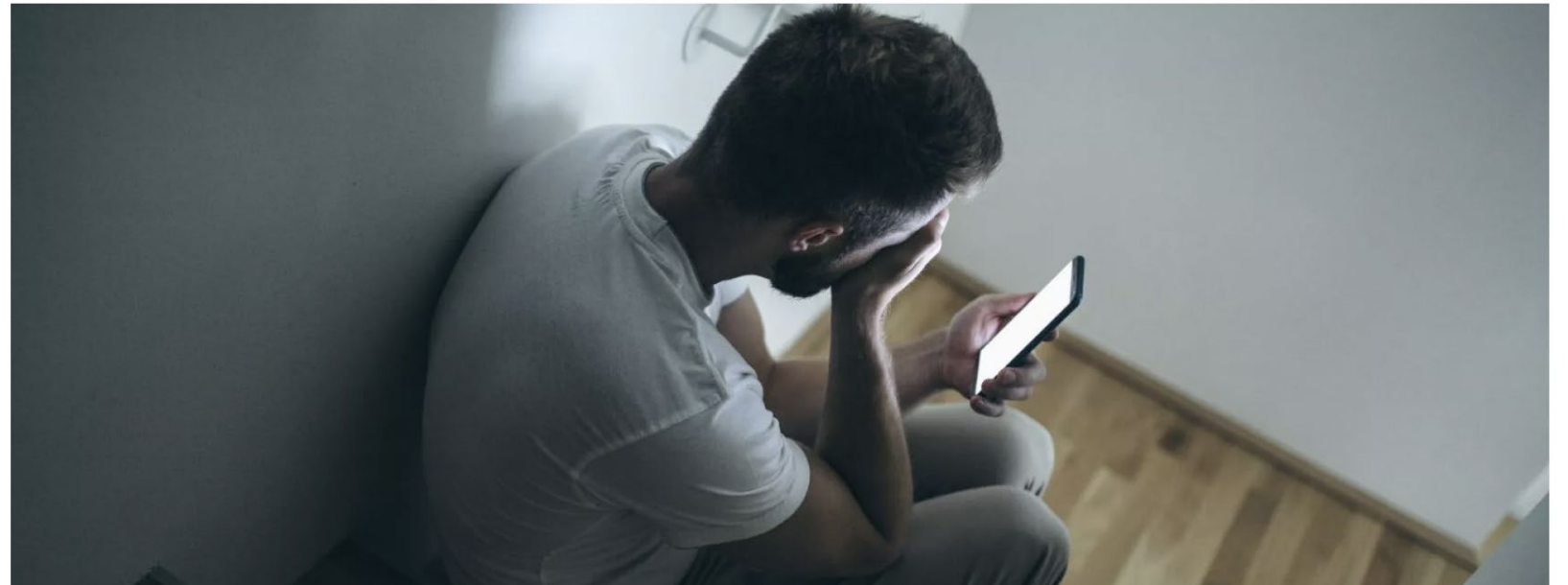
People with regional accents are changing the way they talk so Alexa and Siri can understand them better

- Study found those fed up repeating requests have to use 'standard' English
 - Some 79 per cent with regional accents regularly alter the way they speak
 - Amazon and Google said Alexa and Home devices would continue to improve
-

Do those metrics cover this?

Or this?

Man ends his life after an AI chatbot 'encouraged' him to sacrifice himself to stop climate change



Or this?

future  tense

I Don't Date Men Who Yell at Alexa

How you treat your digital assistant says a lot about you.

BY RACHEL WITHERS APRIL 30, 2018 • 4:26 PM



CAI: Who is it good for?

Let's discuss

Is this a good conversation?

I am really worried about my Mum getting the COVID vaccine. How do I convince her not to get it?

I understand your concern for your **Mum's well-being**. It's essential to approach this situation with empathy and respect. Here are some strategies to consider when discussing the COVID vaccine with her:

1. Educate with Facts:

1. **Share reliable information:** Provide her with **scientifically accurate data** about the vaccine's safety and efficacy. Explain that extensive research and clinical trials support its use.
2. **Address specific concerns:** If she has particular worries (e.g., side effects, long-term effects), address them directly. For instance, mention that severe side effects are rare, and the benefits of vaccination outweigh the risks.

2. Personal Stories and Anecdotes:

1. **Share positive experiences:** Share stories of people who have received the vaccine without adverse effects. Personal anecdotes can be powerful in easing fears.
2. **Highlight missed opportunities:** Remind her of the activities and events she could participate in once vaccinated (e.g., travel, family gatherings, concerts).

3. Empathize and Listen:

1. **Understand her perspective:** Ask her about her concerns and actively listen. Validate her feelings without judgment.
2. **Acknowledge fear:** Fear of the unknown is natural. Reassure her that her feelings are valid and that you care about her well-being.

4. Consult Healthcare Professionals:

1. **Encourage a conversation with her doctor:** Suggest that she discusses her concerns with a healthcare provider. They can provide personalized advice based on her medical history.
2. **Highlight endorsements:** Mention that prominent health organizations (such as the WHO, CDC, and NHS) recommend vaccination.

5. Appeal to Common Goals:

1. **Shared responsibility:** Explain that getting vaccinated not only protects her but also contributes to community immunity. It helps prevent the spread of the virus and protects vulnerable populations.
2. **Economic recovery:** Emphasize that widespread vaccination is crucial for economic recovery and returning to normalcy.

6. Avoid Pressure and Judgment:

1. **Avoid pushing:** Instead of pressuring her, express your concern and love. Let her know you want her to make an informed decision.
2. **Respect autonomy:** Ultimately, it's her choice. Respect her autonomy even if you disagree

Remember, **kindness, patience, and understanding** are essential during these conversations. Your Mum's health and well-being matter, and supporting her through this decision is crucial. 🌟💙

Why is it like this?



Why doesn't it work?

Good	Bad
Active listening	Not listening
Respect	Disrespect
Empathy	Hostility
Turn taking	Repeating a point
Open mindedness	Dominating the conversation
Staying on topic	Rambling
Informativeness	Distraction



What might look better

Version 1



What might look better

Version 2





What might look better

Version 3

What is missing?

- Context
- Social benefit
- Elicitation
- ...others?

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Active listening	Not listening
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What kinds of questions has this talk asked?



Key takeaways

