Exploring Engagement in the Qualitative Research Process

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INTRODUCTION
The scholarly research process is multifaceted, incorporating the generating, seeking, analysis, and dissemination of information. Within information science, a great deal of effort has gone into understanding the information seeking stage of the research process, yet information creation, integration, and use at other points in the process have received less attention. One area that is particularly compelling is qualitative data analysis, which is rich in critical thinking, information processing, and the construction of new ideas. Software applications that may assist researchers in organizing, labelling, and describing data are increasingly being used. An emerging area of research is the interactivity between the task of data analysis and the use of such applications. Of interest to us is the relationship between this interactivity and user engagement, a quality of users' experiences with technology that aims to satisfy users' functional, aesthetic, and novelty needs in order to create more focused, involved, and endurable interactions with applications. In this paper, we propose to extend previous work on engagement to a new context: the data analysis component of the scholarly research process and the use of qualitative software.

ENGAGEMENT
We define engagement as a quality of users' experience with technology that is contingent upon the perceived aesthetics and novelty of the system; this, in turn, influences the perceived usability, involvement and focused attention of the user; these factors predict the overall endurability of the experience. Endurability refers to users' overall perceptions of whether the interaction was successful, rewarding, worthwhile, etc. [7]. Thus far, engagement has been investigated in online searching, e-commerce, e-learning, and video games [7; 8]. We wish to extend the investigation of engagement to the research process, specifically those activities outside of information

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searching, and to applications used to accomplish research-related tasks, i.e. qualitative data analysis.

THE RESEARCH PROCESS
Within information science, much effort has been placed on understanding the information seeking component of the research process, particularly searching for, selecting, and using information [4]. Previous research has demonstrated the non linearity of searching and browsing [2], mapped the feelings, thoughts, and actions during the information seeking process [6], and illustrated the demographic, situational, and social influences that impact information processing, decision making and use (Wilson, 1999). Some researchers have situated information search and retrieval within the broader scholarly research process [3; 5], incorporating the generating of ideas and framing of research questions, as well as the activities of analysis, writing, revising, disseminating, etc within their information behaviour frameworks.

An aspect of the research process that is seldom explored through an information science lens is that of data analysis, a process rich in information processing and creation. We are interested specifically in qualitative data analysis. Qualitative researchers approach their data from a variety of theoretical frameworks, including grounded theory, storytelling, ethnography, action research, etc. and collect it in a myriad of ways, e.g., participant observation, interviews, document analysis. The result is often a large amount of data presented in multiple formats, including text, audio, video, and images. Thus, qualitative researchers are faced with the tasks of storing, retrieving, and organizing data, in addition to the task of data analysis.

ENGAGEMENT WITH QUALITATIVE SOFTWARE
Software applications (e.g. NVivo, Atlas.ti) may be used in qualitative data analysis. In the same way that information systems may impede or facilitate information retrieval and use (i.e. adequate versus poor engagement), the type of tool used by qualitative researchers may impact the process and outcomes of data analysis. The advantages of qualitative software use may quickly turn to disadvantages; e.g., the ability to collect, sift, sort and think through greater volumes of data may lead to breadth rather than the more desired depth of analysis [1]. In addition, the tool may not always be the best fit for the task. Decisions about which software to use may be predicated by variables such as cost and availability, or technological and organizational support, rather than more optimal factors, such as the tool's ability to support the format of the data (i.e. text, images, video, audio) or its compatibility with the researcher's theoretical paradigm.

Our goal is to explore the nature of engagement both in the qualitative data analysis process and with qualitative software. Previous work demonstrated that the perceived usability of a system mediates the relationship between the perceived aesthetics and novelty of the application, peoples' level of focused attention and felt involvement, and users' overall assessment of the experience [7]. As a result, there is a potential for technology to 'get in the way' of engagement when applications do not function as
expected, do not permit desired activities to be performed, or result in frustrating or
discouraging emotional experiences [8]. During the data analysis process, the
researcher uses the software to locate and categorize pieces of information, while
simultaneously generating codes schemes, describing cogent themes in the data, and
making connections between the data and disciplinary knowledge and research
expectations. Speculatively, software that seamlessly facilitates the activities of data
organization may increase users' propensity to experience engagement through
interaction with their data. Alternatively, the user may be dually engaged in both the
features of the software and the content of the data.

To explore engagement in this context of data analysis with qualitative software, we are
using mixed methodologies. i.e. interviews, user studies, and surveys. Our participants
are interdisciplinary qualitative researchers (e.g. graduate students, instructor,
professors, and clinicians) at our respective institutions. Our aim is to understand
researchers' current use of and experience with qualitative software applications, their
articulation of the activities they perform during data analysis, as well as their
perceptions of whether or not they experience engagement and the depth of that
engagement. In future, we will complement this data collection with user studies that
permit us to observe researchers engaged in the process of data analysis and to
record behaviours and metrics that may permit us to evaluate engagement in this
environment.

We will also administer the User Engagement Questionnaire [7] to evaluate the
engagement of qualitative software.

CONCLUSION
This research will generate a deeper understanding of researchers' interactions with
qualitative software applications. Examining user engagement with the task of data
analysis and with qualitative software will enable us to examine the design and
functionality of these systems in relation to users' needs and expectations. As a result,
we may be able to identify areas where, with further training or information, users could
use new tools or existing tools in more effective ways to enhance engagement, such as
incorporating non-text formats into the analysis.

Additionally, we will gain an appreciation for an aspect of the research process that
involves the use, rather than seeking, of information, and for applications not typically
explored in information science. It has been noted that the choice of qualitative software
may drive the researcher's analysis, which influences the lens through which the data is
interpreted and the nature of what is communicated in scholarly publishing. Thus,
examining engagement in this context has implications for individual scholars and the
larger qualitative research community.
REFERENCES


