Designing a Music Digital Library: Discovering What People Really Want

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Abstract

This chapter describes a set of techniques that have been successfully employed in eliciting user needs for a music digital library. Our focus has been on discovering the types of music information that users would hope to find in a music digital library, the browsing and searching strategies that users “natively” employ, the attributes that are used to describe music information needs, and the purpose for which the music information is...
sought. We concentrate on studying authentic music information needs—that is, we analyze the information seeking behavior of real people engaged in attempting to satisfy real music-related questions, outside of a lab. Once a rich understanding is reached of what people really want, then the lessons learned can be applied to designing the contents, interface, and search interactions for a music digital library.

Introduction

The development of Music Digital Library (MDL) and Music Information Retrieval (MIR) systems represents an intriguingly multi-national, multi-disciplinary and interconnected area of scientific research. MDL/MIR research teams, situated in locations as diverse as New Zealand, Taiwan, Japan, and Australia (not to mention Europe and North America also) strive to develop innovative music-centric content-based searching schemes, novel interfaces, and evolving networked delivery mechanisms. Good overviews of MDL/MIR’s interdisciplinary research areas can be found in Downie (2003a), Byrd & Crawford (2002), and Futrelle & Downie (2002). Despite the technological, geographical and cultural diversity manifest across the MDL/MIR research teams, each shares the common goal of making the world’s vast store of music accessible to all.

Currently there is an acute shortage of research on how people really prefer to search for music (Futrelle & Downie, 2002)—the types of music-related information needs that a MDL should be prepared to support, the attributes that users of a music retrieval system could supply to describe what they want, and the strategies that are employed in searching or browsing music collections. In the absence of a rich understanding of user needs and music-seeking behavior, the MDL/MIR community runs the risk of developing systems ill-suited to their intended users (Futrelle & Downie, 2002; Cunningham, 2002). It is the purpose of this chapter to inspire future research in the fundamental questions concerning what people really do, or want to do (if only the ability were there) with a MDL system.

All of the work represented in this chapter is motivated by one thing: to add real-world empirical grounding for design decisions when constructing the music retrieval systems that will play such important roles in future MDLs. To this end, we begin with a presentation of the various user-centered research methods we have employed. We next describe MELDEX, one of the longer-lived MDL systems, because examining how people use existing music retrieval systems can provide essential clues for designing improved systems. The section