Chapter 32
Information Retrieval Technologies and the "Realities" of Music Information Seeking

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ABSTRACT

Music information seeking incorporates the human activities that are carried out for the search and retrieval of music information. In recent years, the evolution of music technology holds a central role affecting the nature of music information seeking behavior. The research area that deals with the accessibility and the retrievability process of music information is known as Music Information Retrieval (MIR). This chapter focuses on the presentation of MIR technologies which has a direct impact in the way that individuals, as well as different music communities such as composers, performers, listeners, musicologists, etc., handle and utilize music information. The aim of this chapter is to investigate the way different music communities interact with MIR systems. Our approach is based on a selected literature review regarding the MIR systems and the information seeking behavior of the musicians.

INTRODUCTION

In the current digital era, information technology has become more and more influential in society as well as in humans' everyday life. It mediates in human's private and public communication, interaction, and transaction. Also, forms the

infrastructure for critical, social and institutional functions such as education, research, utilities, commerce, entertainment, etc. (Hadjileontiadou, Nikolaidou, & Hadjileontiadis, 2007). More specifically, the design and advances of multimedia technologies are based on user experiences and users' behavioral aspects (National Research

Council [NRC], 2003). The development of digital information systems is comprised by value added services (e.g., digital libraries, e-platforms, etc.) and enforce individuals' information seeking behavior addressing their information searching needs (Papachristopoulos, Tsakonas, & Papatheodorou, 2008). The study of the way these information technologies interact with individuals in order to support their creative activities define a multidisciplinary area with applications in many areas of the creative industry, arts, music, theater, etc. Information technology advances and Internet lead to the development of specific information retrieval and information management practices (Liem et al., 2012). In particular as regards to music information, information technology and the various digital representations of the musical material has deeply affected the way people interact with music. Nowadays, musicians can potentially handle music information through various digital music formats, and access a massive quantity of diverse music information through a plethora of music platforms, databases, directories and other information resources on the Internet (Dittmar, Cano, Abesser, & Grollmisch, 2012). Indeed, the utilization of digital multimedia, including audio, music video and images, has changed musicians' way of thinking and creating (Heo, Suzuki, Ito, & Makino, 2006).

Information technology systems and services aim to address their users' information needs in a way that be as much as possible precise and effective (Papatheodorou, Kapidakis, Sfakakis, & Vassiliou, 2003). The function of an information technology search engine is based on an issued keyword query that describes an information need and receives a list of results that relate to the information sought (Stamou & Christodoulakis, 2005). Many of these services use information retrieval and filtering techniques in order to personalize and customize their content to the users' interests and preferences (Papatheodorou et al., 2003). More specifically, music information services and systems influence the accessibility and retrievability

of music information (Yang, Chen, & Wang, 2010; Liem et al., 2012) including among others audio, video, music, animation, images and pictures etc. To the same extent as the online digital music information collections expand, the necessity for efficient seeking and retrieval of music material become apparent (Wang, Deng, Yan, & Wang, 2008). Therefore, a new set of digital information literacy skills is required by musicians; while at the same time the musicians' information behavior perspective is becoming an important matter (Raimond & Sandler, 2008). Moreover, in order for musicians to navigate within the abundance of multimedia information contents, novel and friendly information retrieval systems are required (Downie, 2003). According to the same author, the research area dealing with the accessibility and the retrievability process of digital music information referred to as Music Information Retrieval (MIR). This phrase originates as a sub discipline of computer science with applications in information sciences (Orio, 2006). In the music studies, the MIR is alternatively described as Music Information Research (MIR) retaining however the same acronym (Downie, 2003; Goto, 2012). In recent years, MIR has attracted more and more attention and gradually becomes an important research area with an explosive expansion of the relevant literature (Yang et al., 2010). MIR technologies certainly affect the way that the different music communities such as composers, performers, listeners, musicologists, etc., handle and utilize music information (Liem et al., 2012).

This book chapter aims at the investigation of the relationship between the existing MIR systems with the information seeking behavior of different music communities. Therefore, MIR systems and technologies are identified and their relation with individuals' music information seeking behavior is analyzed and discussed. The analysis is based on a selected literature review for MIR systems and their usage. Moreover, it is attempted to investigate the impact of MIR employment by the musicians in musical creativity. To this end, the

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