

# Indiana University Digital Music Library Project: An Update

Jon W. Dunn  
Digital Library Program  
Indiana University  
1320 E. 10th St.  
Bloomington IN 47405, USA  
jwd@indiana.edu

Mary Wallace Davidson  
Cook Music Library  
Indiana University  
1201 E. 3rd St.  
Bloomington IN 47405, USA  
mdavidso@indiana.edu

Eric J. Isaacson  
School of Music  
Indiana University  
1201 E. 3rd St.  
Bloomington IN 47405, USA  
isaacso@indiana.edu

## ABSTRACT

This talk will present a progress report on the Indiana University Digital Music Library project as it enters its second of four years.

## 1. INTRODUCTION

The Indiana University Digital Music Library project [1] aims to establish a digital music library testbed system containing music in a variety of formats, involving research and development in the areas of system architecture, metadata standards, component-based application architecture, network services, and intellectual property rights. This system will be used as a foundation for digital library research in the areas of instruction, usability, and human-computer interaction.

Key to the project is the interdisciplinary team of investigators, who represent the academic disciplines of information science, computer science, law, music theory and music education, as well as the professional disciplines of academic research libraries and information technology services.

The project builds in part upon experiences with a previous operational digital music library system at Indiana University known as VARIATIONS [2].

The Digital Music Library (DML) testbed system will provide users with access to a collection of music in several formats from a range of musical styles and types. Users will be able to listen to sound recordings of musical performances; display and browse images of published scores; view and manipulate encoded score notation files; have notation translated into MIDI format for audio playback; and make use of active links that connect a musical work in one format to a representation in a different format.

The DML system will provide navigation, search, and retrieval functions for this large and diverse information space. This will include search based on descriptive metadata; retrieval and synchronized playback of recorded music, MIDI files and encoded music notation files; access to structural metadata for manipulation of and navigation within individual recordings or other music representations; access control and authentication services; and administrative metadata for rights management.

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The DML system will provide a software framework to make digital music objects (music sound recordings, score notation files, text files, etc.) accessible to music instructors and application developers, using a component-based programming architecture. This framework will serve as the foundation for developing and delivering software applications that integrate the collections of the DML into teaching and research in the field of music.

In addition, as the DML collection of audio and notation content grows, we hope to work with other research groups to integrate content-based audio and notation music IR technologies as part of the testbed system.

## 2. PROJECT PROGRESS

Current plans are to have an initial version of the DML testbed system, developed as a client-server Java application and providing basic bibliographic search capabilities and access to sound recordings and score images, available in January 2002. The system will be tested at IU and at seven "satellite sites" in the US, the UK, and Japan. New versions of the system will follow roughly every six months thereafter, adding new functionality and new user interfaces.

Over the course of the first year of the project, which began in October 2000, much progress has been made, including:

- Usability testing of the existing VARIATIONS digital library system
- Documentation of requirements for the first version of the system
- Design and development of a data model and metadata specification for the system
- Design and prototyping of user interfaces for the first version of the system
- Gathering of user requirements and development of specifications for the Multimedia Music Theory Teaching (MMTT) tool [3], to be included in later versions of the DML testbed
- Research into copyright issues surrounding the creation of digital library systems for music

Our presentation at ISMIR 2001 will provide an overview of the project and an update on project progress from the perspectives of three of the project co-PI's representing diverse backgrounds: technologist, music librarian, and music theory faculty member.

## **2. ACKNOWLEDGMENTS**

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