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Variations2: A Digital Music Library System

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ABSTRACT
This demonstration will show version 1.0 of the *Variations2* digital library system developed by Indiana University. *Variations2* is being built to provide access to music in a variety of formats–sound recordings, scanned musical scores, computer score notation files, and video–and is designed to support research and learning in the field of music.

Categories and Subject Descriptors
J.5 [**Arts and Humanities**] – *performing arts*; H.3.7 [**Information Storage and Retrieval**]: Digital libraries.

General Terms
Design.

Keywords
Music digital libraries, digital library systems, music instruction, music learning.

1. INTRODUCTION
The *Variations2* digital music library system [1] will enable the development of applications for music learning and research, and supports a program of digital library research in the areas of instruction, usability, and intellectual property rights. Key to the *Variations2* project is the interdisciplinary team of investigators, who represent the academic disciplines of information science, computer science, law, and music, as well as the professional disciplines of academic research libraries and information technology services. The system builds in part on experiences with a previous music DL at Indiana known as *Variations* [2].

In a demonstration last year at JCDL 2001, we showed several mockups and prototypes of user interfaces for search/retrieval and instructional authoring applications. The recently-completed version 1.0 of the *Variations2* system is being deployed in summer 2002 at Indiana University and additional satellite locations in the United States, United Kingdom, and Japan for use and evaluation by students, faculty, and librarians. This initial version of *Variations2* will support discovery of and access to scanned musical scores and sound recordings using a search interface that takes advantage of a new data and metadata model for music developed by project researchers [3]. Later versions will add support for logical music notation and video formats, media synchronization, and the integration of digital library content into instructional applications.

In addition to *Variations2* 1.0, we are also demonstrating a number of updated music lesson prototypes that integrate music in various content formats and illustrate the range of instructional applications we hope to support, as well as a prototype of an authoring tool that can be used to create such lessons, as part of the associated Multimedia Music Theory Teaching project [4].

The *Variations2* system has been developed initially as a Java application running on Mac OS X and Windows communicating via Java RMI with a back-end server supporting authentication, access control, search, and repository services. A relational database with full-text search engine (IBM DB2) is used for storage and search of metadata, and streaming media delivery is accomplished via Apple's open-source Darwin Streaming Server and QuickTime for Java API.

2. ACKNOWLEDGMENTS
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