
The Variations3 Digital Music Library and Learning System

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Background:

The Variations System at IU

- Digital library of sound recordings and scores in IU Cook Music Library
- Online since April 1996
- 10,000 complete recordings; 200+ scores
- Access to course reserves, general, and special collections
- Available from workstations in Music Library and selected on-campus locations



Variations2 Project Overview

- Research project funded by a grant from NSF and NEH (2000-2006)
- Establish a digital music library testbed system supporting multiple formats: audio, video, score images, score notation
- Conduct research in music pedagogy, metadata, usability, copyright, and networking



Variations2 System

- Variations2 expands on Variations by:
 - expanding representations of music in other media: score images, encoded scores
 - creating additional metadata and new software tools for enhanced searching, synchronization, and navigation
 - creating tools for pedagogical use
 - expanding access locations



Variations2 Overview

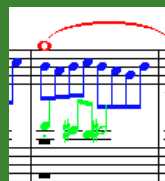
content



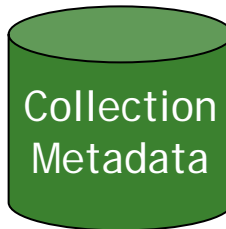
digitized audio



scanned scores



encoded scores



Collection Metadata

user interface

The screenshot displays the Variations2 user interface with several windows:

- Personal Search Window:** Shows search criteria and results for "Bethoven, Ludwig van".
- Player:** Shows playback controls and a track list for "Stephan Kovacevich [sound recording]".
- Playlist:** Shows a list of tracks for "1311 Day 1".
- Score Analysis:** A window showing a diagram of Chopin's G minor Ballade with sections like Exposition, Development, and Recapitulation.
- Score Viewer:** A window showing a musical score with annotations.
- Score Analysis (Detailed):** A window showing a detailed score analysis with annotations.



Access Control, Bookmarks

users

faculty

students

librarians



Variations3

- Funded by Institute of Museum and Library Services (IMLS)
- October 2005 - September 2008



Variations3 Goals

- Transform Variations2 into a system that can be deployed by variety of institutions
 - Adaptable to local technology, library, and pedagogical environments
- Add access to licensed music content, e.g. Naxos, in addition to locally digitized content
- Continue to explore improved searching and browsing capabilities through a new metadata/cataloging model
- Develop an organizational model for sustaining the software into the future



Variations3 Partners

- Indiana University
 - Digital Library Program
 - Cook Music Library
- Test sites:
 - New England Conservatory
 - The Ohio State University
 - Tri-College Consortium: Haverford, Swarthmore, Bryn Mawr
 - Possibly one more
- Content partners:
 - New York University / New World Records Database of Recorded American Music



Role of Test Sites

- Provide input on requirements
 - Functionality
 - Technical
- Install and test the software we develop
 - Pilot projects involving real faculty and students, and real classes
 - First version - late summer 2006
- IU will provide a server and technical assistance



Preliminary Schedule

- Delays in hiring have slowed us down
- Original plan was to have test sites up and running late summer for fall pilots
- Have backed off to a phased implementation
 - Phase 1 :: Begin Digitization with All Servers Still at IU (June 2006?)
 - Phase 2 :: Local Audio Streaming (September 2006?)
 - Phase 3 :: Manual Roster Management and Local Authentication (November 2006?)
- Year 2 :: Move to completely local implementation



Key Development Activities

- Work with more than one database vendor
- Provide a clean interface for integrating with components of campus environments: student information system, CMS, authentication, library system, backup, client distribution
- Improve supportability and performance
- Support cooperative cataloging model(s)
- Add new features needed by test sites (e.g., web-based user interfaces)
- Integrate third-party vendor content



Staffing

- Mark Notess (70%) - Development Manager
- Jim Mullen – Software Architect (started April 17)
- Chris Colvard – UI programmer (starts May 8)
- Debbie Anema (50%) – graduate assistant programmer (graduating)
- Yi Sun (50%) – graduate assistant programmer (starts May 8)
- Caitlin Hunter (50%) – metadata graduate assistant
- Others < 50% (Jon, Jenn, Phil, and others)