

Structuring RDF-Based Metadata to Enhance Access to Digitized Gagaku Scores

Shintaro Seki
RIKEN

Introduction & Motivation

What is Gagaku?

- Gagaku is one of the oldest genres of Japanese traditional music. Its most authentic form is still preserved and performed today by the musicians of the Imperial Household Agency.
- A crucial part of its modern repertoire is based on the Meiji Sentei-fu (Selected Scores of Meiji), a collection compiled by the Meiji government that forms the foundation of contemporary scores.
- Although gagaku is primarily ensemble music, its scores are only available as individual instrument parts (**part scores**), with each instrument's music published in a separate volume.

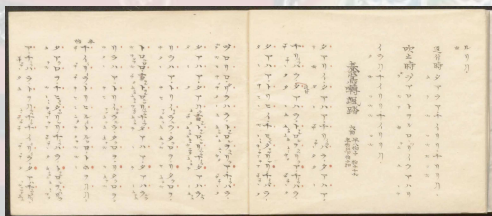
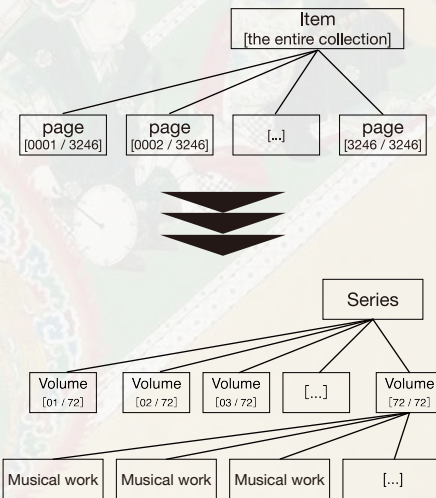
Challenges

Several gagaku scores are available in IIIF-compatible digital archives. However, these materials lack indices for volumes or pieces. Consequently, **researchers must browse through each image manually**, a time-consuming process for locating specific compositions.

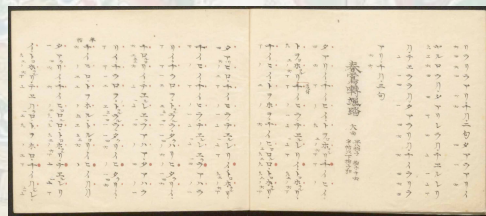
Goal

The primary goals are to:

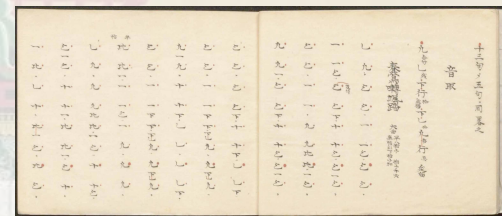
- **Provide** direct access to individual volumes.
- **Facilitate** the discovery of specific compositions.
- **Connect** related sources, such as different manuscripts and instrumental parts.



Score for Ryuteki



Score for Hichiriki



Score for Sho

Methodology

The methodology involved a three-step process: restructuring the digital scores, creating descriptive metadata, and linking the two.

1. Restructuring IIIF Manifests

- The original IIIF manifests for the Meiji Sentei-fu collection (from the Imperial Household Agency and Tokyo University of the Arts archives) were split by volume.
- These new volume-level manifests were integrated into a single IIIF Collection to preserve the set's integrity.
- Additionally, for 321 frequently performed pieces, separate piece-level manifests were generated for each part score.

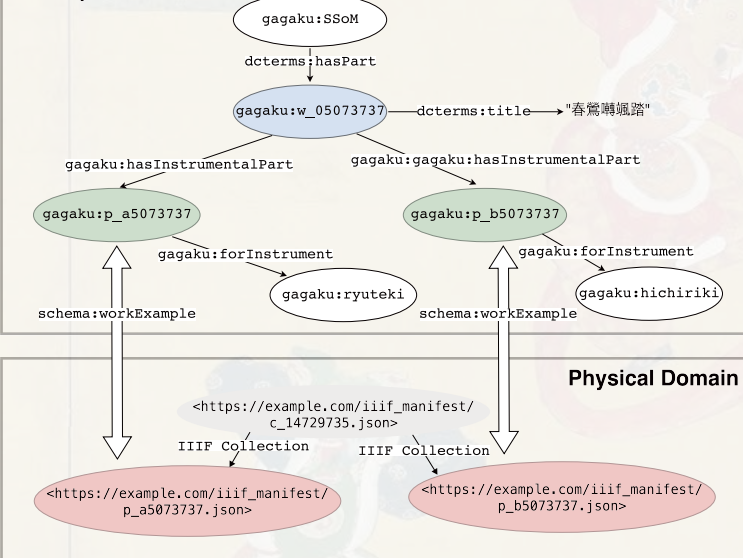
2. Building RDF Metadata

- Descriptive metadata was constructed in RDF for each resulting volume and for all 321 part scores, based on a modern edition published by the Imperial Household Agency.
- To enable future linking, unique identifiers (IDs) were assigned to every instrumental part within each volume and piece.

3. Linking Data to Materials

- The unique IDs for instrumental parts and volumes were linked to their corresponding IIIF manifests.
- This connection makes the collection searchable via SPARQL queries, allowing for complex searches based on the rich metadata of the musical works.

Conceptual Domain



○ Musical Work ○ Part Score ○ IIIF manifest for collection ○ IIIF Manifest for each part score

Implementation: A Searchable Viewer

- A searchable gagaku score viewer has been developed and is publicly available on GitHub Pages.
- The master data is maintained in RDF to ensure flexibility and extensibility. For the public viewer, however, a lightweight JSON version was implemented to deliver a fast user experience with quick, client-side filtering.

Key Features

- **Dual Viewers:** Switch between Mirador (scroll view) and the Universal Viewer (page view).
- **Direct Access:** Navigate easily to all split volumes and pieces.
- **Advanced Search:** Search by title and filter by instrument, chōshi (mode), and holding institution.
- **Smart Search:** Normalization of variant characters is enabled for title searches.



Future Outlook

1. System & Data Enhancements

- **Expanding** the digital collection with a larger variety of Gagaku scores.
- **Automating** the indexing of volumes and pieces using computer vision for cover and title recognition.

2. Ontology Development

- **Developing** a formal ontology to refine and extend the current metadata structure.
- **Building** a comprehensive knowledge base that captures the unique concepts and terminology of Japanese traditional music.