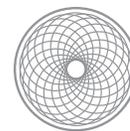# Project Proposal

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# Personal Sheet Music Library

## Project Description

*Digital* is synonymous with *immediate* these days. People expect their gadgets to work instantly, the information they need to be available at their fingertips, and want access to their music and videos at all times. Stuck somewhere between digital music libraries and e-books, sheet music needs a bit of catching up to do in terms of availing itself in the digital world. With both the increasing digitization efforts from paper to electronic (mainly PDF) and the growing use of music composition and notation software, there is a niche to be served through a platform that allows people to reap the full benefit of digitized or born-digital sheet music. We are proposing a web-based platform fill that need.

### Use Cases

The platform, first and foremost, will be a functional repository of digital sheet music. It will be the central point of aggregation, to which cataloging and organization in a fairly traditional sense will apply. The body of data in the form of actual sheet music, as well as the associated metadata, becomes the users' collection, created and maintained through the platform.

However, the repository will not be static in the sense that the aggregation of data is not the end goal but the basis of additional functionalities that support the access to and the usage of the stored sheet music. The users will be able to upload, download, and view the sheet music in their collection. They will be able to search for specific pieces of music or browse the collection for (re-)discovery. It is an interactive library, not a well-organized archive storage.

In addition, the project will investigate ways to incorporate the social aspect where sharing comments, feedback, and possibly parts or all of individual collections among users.

### Target Audience

While the platform will have a user-friendly interface with no significant barrier to the general public, it will most likely appeal to those who deal with sheet music on a regular basis, such as musicians and music educators, whose ideal use scenarios are as follows:

#### Musician

*"Just like I built up a substantial portion of my iTunes library from all the CDs I had, I'm scanning and uploading all my sheet music into this library. Now I have access to my music anytime anywhere without having to carry folders and shuffling papers around, as long as I'm connected to the Internet. I can log on and pull up the music I need on my laptop or iPad and start playing."*
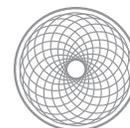
*Educator*

*"It used to be a pain to choose a piece for my students to play together. At any given time, I have a fairly unconventional makeup of instruments and it's difficult to think off the top of my hat of a good ensemble piece. Since I started putting my sheet music into this library, I've been able to search quickly for different instrumentation, level of difficulty, and etc. Most of my students are using this and sometimes I don't even have to print out anything for the lesson."*

## Goals

The goal of the project is to develop a web-based platform that supports three main purposes: storage, access, and sharing of sheet music, and to do so in a way that it can be open to new types of usage and collaboration efforts. For instance, we will be exploring the *IMSLP Petrucci Music Library* both as a potential resource for metadata and copyright-free sheet music, and as the benchmark for sheet music deposit and sharing.

## Deliverables

While the user interface of the web application will be the user-facing end of the project, we plan to pay an equal amount of attention to the underlying structure that the platform will be based on.

### Database Schema

We anticipate a need for a comprehensive schema for the database to index the sheet music information, including but not limited to composer, opus or catalog number, key, movements and sections, year or date of composition, first publication, edition, publisher, and instrumentation. Additional fields may require more investigation in order to support feedback, comment, and other sharing activities.

### Database Implementation

The physical database created per the schema will enable users to retrieve sheet music and the associated metadata quickly and easily.

### User Interface

The web application will be built upon the database with the focus on usability including optimal browsing and viewing experience across wide range of devices.

## Technologies

While the concept behind the proposed platform and the need it tries to address may be novel, the project does not require any significant investment in terms of employing new technologies. We expect the majority of the database transactions to occur simultaneously when users enter the query in text format through the user of AJAX. Therefore PHP
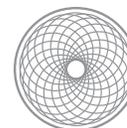
files used for fetching data will require JSON containers. Along with these backend technologies, jQuery and CSS3 will be used for the front-end development, such as component designs and event handling. Other JavaScript libraries may also be used to enhance the user experience, an example of which would be automatic keyword completion.

For documentation purposes, we will be using a web-based software called LucidChart when sharing documents, diagrams, flow charts, as well as Google Docs. Codes will be shared through Github, as outlined by the course syllabus.

## Challenges

Although the feature of sharing sheet musics would be very useful for users, there is a possible copyright issues. It might be okay for a user to upload purchased scores on his repository and only to use them in personal. However, sharing them to others will be an infringement of copyright problem. Thus, we will provide the sharing feature only for the sheet musics that have no copyright such as public domain or Creative Common Licenses.

## Team Member Roles

**Jamin Koo**

- Structuring and Editing project write-ups
- Developing use cases and user scenarios
- Implementing web-application

**Jiyoung Kim**

- Designing web-application user interface as well as graphical elements
- Implementing web-application

**Joosung Kim**

- Setting up the environment for web-application development, including github setting for version control
- Implementing web-application

**Jaeho Jeong**

- Crafting the ER diagram
- Implementing web-application
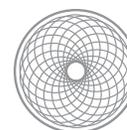
## Timeline

| Date | Task | Assignment |
|------|------|-----------|
| 2/18 | • Decide topic and project goal<br>• Decide team member role | Proposal Report |
| 3/11 | • System architecture/ERD<br>• Developing use cases/user scenarios | None |
| 3/25 | • UI Design work refinement<br>• Implementation phase I | Interim Report |
| 4/1 | • Usability testing<br>• Implementation phase II | None |
| 4/15 | • final round of refinement<br>• Final presentation | Final Presentation |
| 4/15 | • Write up final paper | Final Report |