

Worcester Music Project
Interactive Qualifying Project Report completed in partial fulfillment
Of the Bachelor of Science degree at
Worcester Polytechnic Institute, Worcester, MA

Submitted to:
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By

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Date of Submission: April 29, 2011

Abstract

The Worcester Music project is an ongoing project at WPI to try to consolidate all of the sheet music in Worcester into one library. For this project, we explored the current system at WPI as well as other successful lending library databases. In the end, we improved the Worcester Music Project by collecting relevant information and developing the project's ability to continue to build momentum going into the future.

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Introduction

In the latter half of the 20th and 21st century choral music has experienced a resurgence of interest. A number of factors have contributed to its booming popularity including the increase in number of composers who focus primarily on writing choral music, such as Eric Whitacre and Osvaldo Golijov. Even composers such as John Williams have contributed their genius to choir pieces. The genre's return to prominence has also been aided by an increasing number of local armature choirs and lately the birth and sudden popularity of LGBT choirs. Despite all of the momentum behind choral music, there is a frustrating absence of an effective and easy to use organization method. Imagine how wonderful it would be if there was a universally used database that helps choirs organize and find new music. Although several attempts at this goal have been made in the past, none of them were easy to use and approachable enough to truly fill the position. For this IQP, we reviewed, helped develop and make suggestions to improve a new initiative to build such a database called The Worcester Music Project.

Background Research

WPI's choral music library used to be organized alphabetically by author. Although this method of organization worked well initially, problems arose as more music was continuously added to the database. With each new acquisition, the entire library needed to be shifted to maintain alphabetical order. Over time, this method of organization proved demanding and impractical; the music closets quickly dissolved into a jumbled mess of mismatched sheet music. The need for a new organizational system was becoming increasingly evident. When a broken water pipe broke and destroyed 500 scores and about \$2000 worth of music the opportunity arose to develop a new and better music storage system.

It was eventually decided that the most effective method is to assign the music scores different arbitrary numbers and store them numerically. Each new addition is now given the lowest integer not currently in use and added to the far end of the music library. This method allows WPI to quickly and painlessly add new music pieces to the choral library with minimal effort.

Previous IQPs made significant progress on the construction of this database. Upon examining their work, we discovered that they already began work on the computer based card catalog system and over 600 compositions had already been catalogued. The new catalogue system gave us the ability to easily search the entire database and filter the search results by a number of different parameters. Every entry online contained information on the title of the piece, composer, part (such as SATB, TTBB, etc.), year, number of copies and the box number corresponding to its location in the music closet. Oversized pieces have the text “OVERSIZED” in the title to alert users that the piece is too large to fit in the normal library and is not stored in the main collection. Additionally, the database was constructed so that users can add new pieces electronically as well as edit existing entries.

Once the music library was neat and organized, it was possible to begin establishing a digital record of the database. The goal is to establish an intuitive and highly functional electronic database for the WPI choral library that can eventually be expanded to include music from other colleges and choirs in the city of Worcester. But before we began to design our database, we needed to research previous attempts to develop similar music archives.

One program that we found used by many different libraries was Microsoft Excel. Excel has a number of attributes that make it an extremely appealing choice for database management. First of all, it's an extremely common program that many people are familiar with. Because Excel comes bundled with the Microsoft Office Suit, the majority of Windows users have experience with it and many libraries already own a license to use the program. For people who have never used the software before, it has a very intuitive and gentle learning curve that makes mastering the program a quick and painless process. Unfortunately, Excel was not developed with music databases in mind and as a result suffers from limited functionality.

Another prominent program used to organize music libraries is Triple-I, Triple-I is a program that suffers from the exact opposite problems that plague Excel. Where Excel is intuitive but limited in functionality, Triple-I is extremely versatile and well equipped to catalogue a music database, but is very

expensive and has a very steep learning curve. The difficulty of the program makes it totally inaccessible to most people who haven't been specifically trained to use the program.

In addition to researching programs used to create music databases, it was vital that we investigate prior attempts to create electronic music databases. By examining the strengths and weaknesses of other similar projects we gained a better understanding of how we can improve and guide the Worcester Music Project as it develops. The project that we analyzed was Musicnet.org. The first thing we noticed about Musicnet.org, after its poorly chosen name, was its hideous color scheme. The second thing we noticed was that when you click on the free registration link from the homepage, it takes you to a page where the sentence "How Benefit from a privileged full access?" stands in large, pumpkin orange font. Clearly the design of this website wasn't well thought out.

The home page is a little overwhelming, but it does contain generally interesting information and useful links. The problem is that it's densely packed in the form of text filling the entire page when it could easily be much better organized. For Example, The words "Services", "Project" and "And You" are written on the on the left side of the screen with a series of relevant links under each of them. The result is twenty three lines of text consuming the left side of the screen, when they could easily be stored in dropdown tabs.

Signing up was a bit confusing; we were caught off guard when the website chose our password for us. With our new account we checked out the search page only to discover an uglier sight than the homepage. Visually, the search page is reminiscent of a late 90s GeoCities site and at first we thought the three search bars at the bottom of the screen were glitched banner ads. The first time we tried to search for a composer, the page just flashed white for a second and reloaded the search page. It continued to do this every time we tried to search until we refreshed the page.

After refreshing, the basic search for composer or arranger worked fine. When we looked up Moses Hogan, we were quickly presented with all of his sheet music in the database. Each result was accompanied with confusing gifs that stood for things like "Image of Score Available" or "Full Text

Display” which contributed to the high level of visual noise on the page. Clicking on one of the songs yielded a new page that featured information related to the song. This page was much less cluttered than the rest of the website, although it still didn’t look nice. Most of the information made sense, but there were a few interesting choices. We noticed that while they had changed the difficulty ratings so it now indicates which value is low and high, they made the baffling decision to rate the choir from 1 to 5 and the conductor from A to E.

When we returned to the main search page to try a detailed search, the page instead decided to reload the search page in French. Rarely have we seen a website with such a stubborn sense of free will. After manually refreshing the page we were able to escape to the Detailed Search page. There might be a better way to organize all of the fields than a scrolling window, but with everything else that needs fixing on this website the empty space on this page was greatly relieving. All of the search fields were useful and convenient, and with the large volume of them it was nice to be able to select only the ones that applied to you. Selecting numerical search terms gave you the option to select a number and then either “less than,” “less than or equal to,” “equal to,” “greater than or equal to” and “not equal to.” It’s ridiculously unnecessary to include both “less than” and “less than or equal to,” we can’t imagine what the logic was behind that. Additionally, how often is a choir director going to want to look up a song that has “not equal to” four solos?

Overall the site is fairly functional and the actual data base contains many useful search terms, but the pages are hideous, poorly organized and glitch prone. Once we had acquired sufficient understanding of the current state of the music database and previous efforts made to develop similar music organization systems we were ready to begin work on our IQP.

Methodology

The goal of our IQP, in a broad sense, was to improve and progress the state of the Worcester Music Project. The Worcester Music Project is a city based initiative to build an electronic database containing the choral music of Worcester.

We conducted two interviews to gain a more in-depth understanding of the hopes and concerns of those involved in the project. When considering who to interview, we looked for people of different backgrounds who had already shown interest in the idea of a city based music database. Eventually, we found Jane Pastore, a member of the Worcester Cultural Commission who works for the city of Worcester and Alan Karass, who has a Masters in Historical Musicology and is employed as head librarian at Holy Cross. We received a lot of positive feedback from Jane and Alan. Both expressed deep interest and high hopes for the Worcester Music Project and agreed that the most important thing to do at this stage is advertise and gather more interest among choir directors and organists across Worcester. They also realized the scope of the projects and discussed the necessity to make the product easy to use and make the library accessible to a wide demographic of people. Although the two shared many similar and insightful viewpoints, there were several important differences that we also needed to consider.

We first met with Alan Karass at his office in the Brooks Music Library at Holy Cross. In addition to earning his M.A. at the University of Connecticut, Alan's spent years working with colleges including WPI on various music initiatives and has written articles that appeared in assorted prominent music journals. Given his background, we knew he would be well equipped to provide both helpful advice for the construction of the database, and a perspective from a college outside of WPI.

When asked about the current state of the Holy Cross's music library system, Alan revealed that there wasn't even one unified catalogue. At the time of the interview the Choral library was stored on an excel spreadsheet and the rest of the music was stored separately in Triple I. Although the current system is functional, he felt that the best way to improve the state of the Holy Cross library was to make software specifically for music better than Musicanet. When it came to features, he listed a number of search able fields that he found necessary for the long term. Alan expressed great interest in one day seeing online pdfs of all the sheet music in the collection, having a central location for the library and a way of marking who is taking out which music.

Jane viewed the music project from a different angle. While she harbored many of the same hopes for

the database, her experience working for the city provided us with a very different than Alan provided. Whereas Alan's was able to understand how useful the Worcester Music Project could be for collage libraries and choral groups like the one at Holy Cross, Jane's main concern was how accessible the music would be for city choirs.

She went to great lengths to stress that "the project cannot be college based." After having spent a lot of time speaking with the general public in Worcester, Jane was convinced that affiliating the project with colleges or the AGO would discourage many musicians from using the database. For similar reasons she also felt that the ability to name the project "The Worcester Music Project," a right that we had not secured at the time, was extremely important to make the database approachable to people outside of college. Technology was also flagged as potentially scaring away city-based musicians and choirs and she emphasized the value of an alternative way to access the database.

She also expressed concern that maintaining the program would become an issue if the problem wasn't addressed early. Although Jane aims to assist the project in securing a grant from the city, that money would only last three years so alternative means of income are needed as soon as possible. Charging a membership fee was one solution suggested. However if it's accomplished, it's certain that the project need some sort of cash flow to pay for things like upkeep and liability insurance.

One thing that was alarmingly uncertain prior to our IQP was the legality of the whole project. The ability for members to share and exchange music is fundamental to the very core of the Worcester Music Project so it was urgent to discover exactly what you are and are not allowed to do with sheet music. After a little research, we discovered some very good news. It turns out that other choruses are allowed to borrow, share and sell scores freely without the permission of the copyright holder assuming that the music was originally purchased legally. Another concern was liability issues that could arise from people taking out music and then illegally copying and distributing it but fortunately we discovered that the lender is not at all legally responsible for what the receiver does.

We also looked into the legality of lending copies and if it is within our rights to make copies of damaged sheet music. To gain a greater understanding of when it is appropriate to copy material we contacted the Bagaduce lending library of Maine and asked them how they handled damaged sheet music. The library responded that they were told by their lawyer that it was legal to loan copies of music and that we could loan a photocopy of a piece that was too fragile to ship as long as the original wasn't used and there was only one copy made. The copy had to be returned. If it wasn't, the piece was considered lost.

Beyond the ability to distribute music, it was also worthwhile to look up the choirs' performance rights. Apparently, all music under copyright requires a license for public performance, but these performance rights are not automatically granted with the purchase of sheet music. There are two exceptions to this rule: sheet music can be performed for free if they are either performed in places of worship or for non-profit organizations.

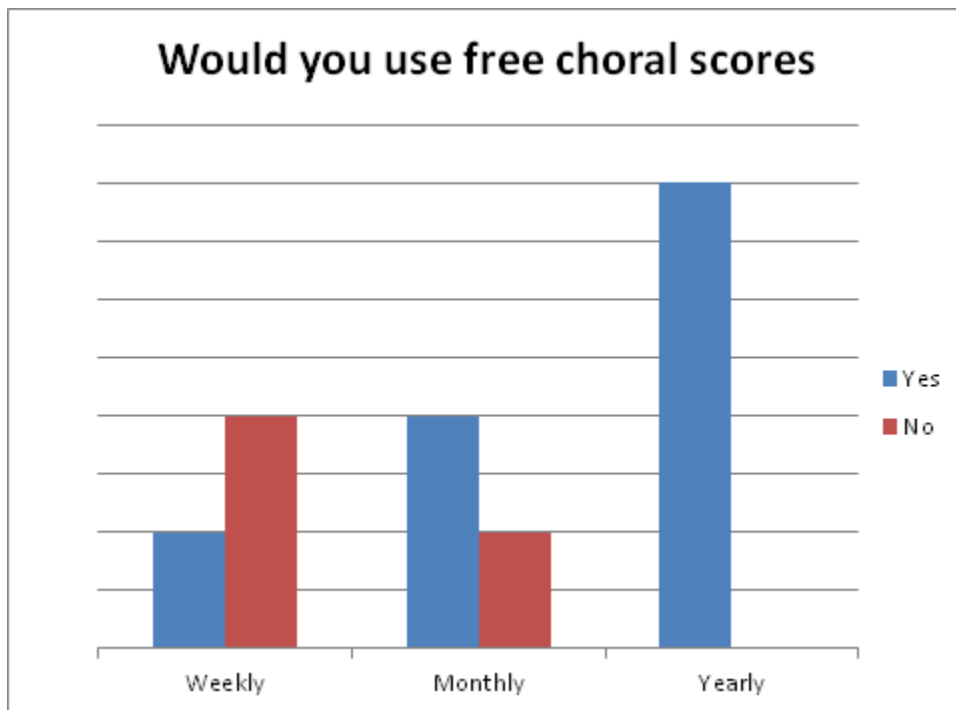
Using the information collected so far, we designed a survey to gauge people's interest and hopes for the music project. We decided that the survey should be ten questions long and should be administered to various colleges and choirs throughout the city of Worcester. Because both Alan and Jane stressed the importance of gathering interest, a survey was the ideal method of both spreading word of the project and gathering information about potential future users. Additionally, we designed some of the questions to gauge the respondents' interest and possible frequency of use. The other major point discussed by both Jane and Alan was the importance of making the database available to a broad demographic of people so we asked people about their comfort levels accessing the library in different ways. Finally, in order to gain a better idea of how difficult archiving the various music collections across Worcester, we asked respondents about the organization of their library.

We were able to present our ideas to several prominent people involved in music in the Worcester area. During each meeting we showed the progress that was made at the time as well as an agenda for going forward. Our first presentation was heavily based on how the database would be structured and who

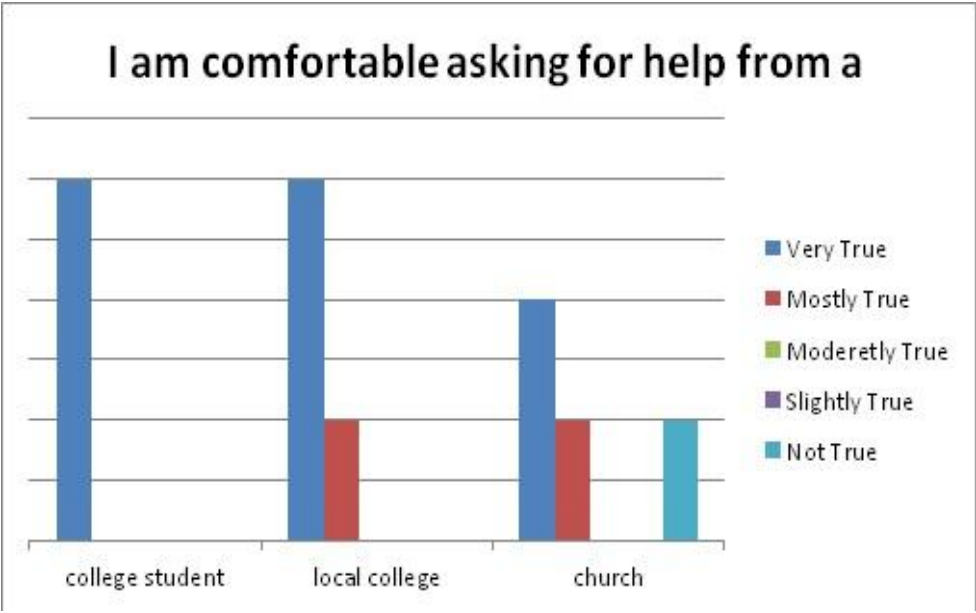
we were targeting for potential members of the project. Our second presentation was an analysis of the survey we sent out to gauge interest in the project, as well as addressing legal issues that we were unsure about in having a lending library.

Results and Discussion

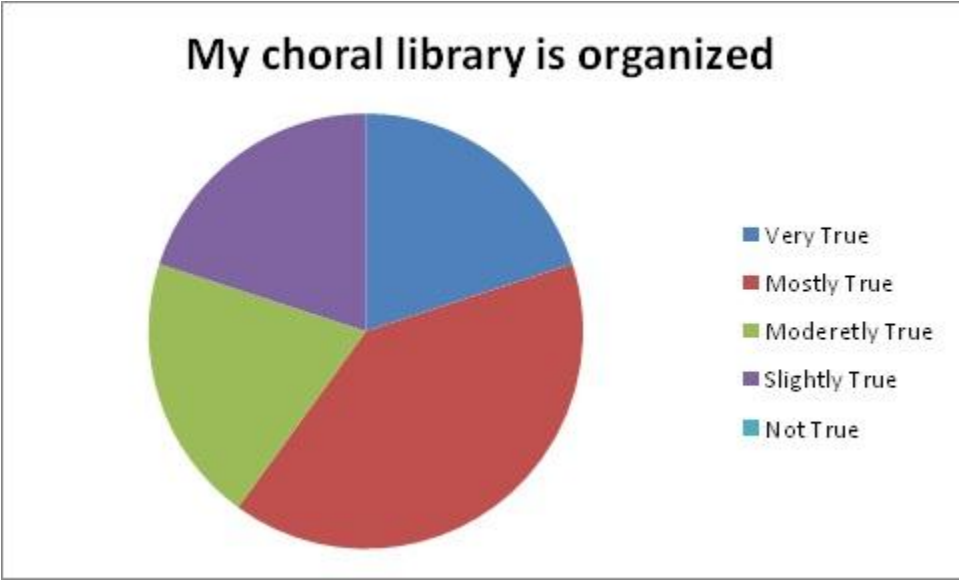
After we sent out the survey, and our respondents answered, we were able to conduct an analysis in the three major areas we were looking for: frequency of use, comfort level of asking for help, and how helpful they thought the music database could be. The first four questions of the survey asked about frequency of use if the library were made available. As seen in the graph below, every respondent said they would use the library yearly if not more frequently.

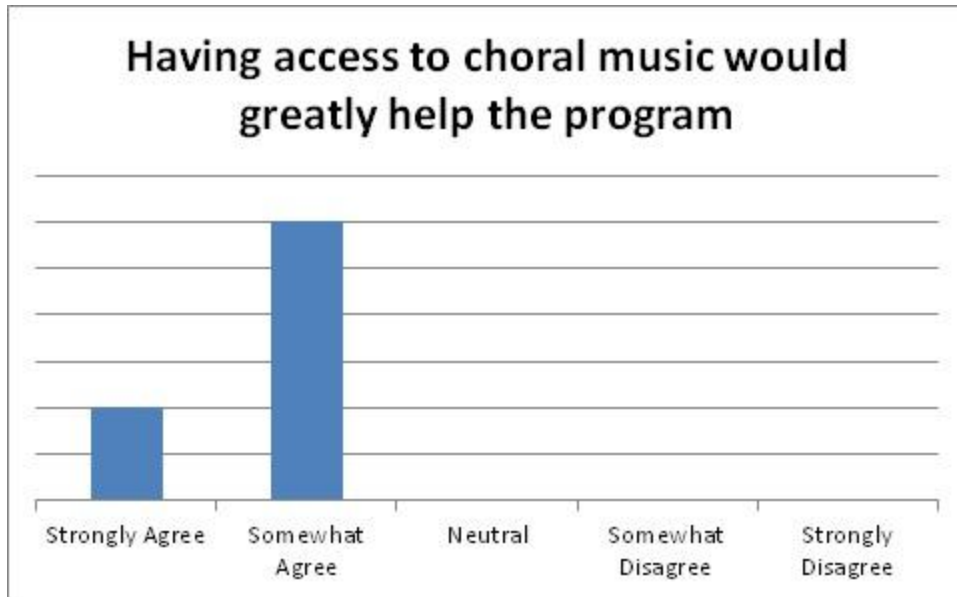


Since we cannot guarantee everyone using the library will be tech savvy, we needed to account for how comfortable people are asking for help from various places like a college, a local library, or a church. As expected, each respondent had different comfort levels with each of the different options for help, meaning it is very important to offer help solutions for everybody.



The final two questions asked how organized each respondent's library was, and if they thought access to the Worcester music project would help them or not. Library organization varied from person to person, but in general there was some organization to all libraries we received information about. When asked if having access to the choral music would help the program, everyone agreed that it would at least help his/her music program in some way.





The main issue with our survey is that all of the respondents that answered said they were comfortable with computers, and we know this does not truly represent the population. Also, some answers may be skewed because we didn't get enough answers for our survey to be considered statistically significant.

Conclusions

This IQP reviewed, helped develop, and made suggestions to improve The Worcester Music Project. Overall, our IQP saw the project take important steps forward, gain momentum and increase its understanding of the challenges ahead. Prior to our efforts, the project existed mainly inside WPI with only a little outside involvement. Most of the work accomplished so far had been on the electronic database itself and only featured music from the WPI choral library. By interviewing and presenting to prominent members of the Worcester choral scene we raised interest levels and understanding of the project. Also, we prepared a survey which will greatly help the future progress and momentum of the project as more and more people become aware of our initiative and express their hopes and concerns for the Worcester Music Project. We now know that the legal ground on which we stand and are poised to

watch the project really take off and grow. Looking into the future, this database is prepared to fill a void that has long burdened and restrained the growth of an increasingly popular genera and community activity.

Recommendations

Based on our research and experiences, we recommend that at this stage the project focus the majority of its efforts on two main initiatives. First, efforts should be focused on raising the interest and awareness level of the project across Worcester. As both Jane and Allan stressed, we are currently at a pivotal point in the development of the Worcester Music Project. While all signs currently point to a promising future, if the momentum of the project is left to settle and interest dies then the database may never see a future outside of WPI. More involvement helps the project in a number of ways, many of which are fundamental to the nature of the project. The more people who participate, the more sheet music will be available. The more sheet music that is available, the more people will want to join the project. In this manner, growth in participation levels is likely to cause a snowball effect and the momentum behind the project will grow ever larger. Additionally, the more involvement that the city of Worcester sees, the more likely they will be to assist the project in the future. This could potentially help us both financially and by allowing us to use the city name and image to attract a diverse group of participants.

The second major area where the project should focus its efforts is on raising the number of respondents for the survey. This is closely related but distinct from the first goal. It's beneficial to the future success of the project to get as many people to take the survey as possible to reveal more information about the greater Worcester choral community. It's equally valuable to collect the opinions of those who don't want to use choral database as those who do. The survey results will help us in a number of different ways. By collecting information on individuals' interest levels, comfort level approaching various sources for assistance and organization level, a deeper understanding of the challenges that the project faces will become evident. Depending on the correlation between interest and

comfort levels, we may discover new ways of reaching those who are excited about the idea of the program but are too uncomfortable asking for help to get involved. Alternatively, we may discover better ways to engage those who are not interested and find out how to better incite them. The survey will also help estimate future expenditures. This in particular is crucial to the continuing the momentum of the project; constantly stopping to majorly reevaluate the project would be a major burden on the project and time spent standing still risks people losing interest. By understanding the organization levels of choirs across Worcester early on we will be able to better allocate manpower and resources to collect new pieces for the choir with maximum efficiency. Also, by understanding how much help people need accessing the database, we can estimate where we will need physical access locations, how they will need to be set up, and where they will need to be located. Finally, by understanding respondent's initial interest level we can understand how we can better present the project to increase appeal.

Although the majority of the project's efforts at this stage should be focused in these two initiatives, there are a few other areas that require attention. Obviously completing the grant is vital to the progression of the project as is finding the best means of alternative cash flow. Additionally more research should be done to discover what people most want to see for features from the electronic database. Although we already have a good idea from both Alan and prior research of what fields should be included, it would be a good idea to hear what city based choral groups and those who are less familiar with technology would like to see. It may be a good idea to address these issues in a second survey in the future.

Appendix

Survey questions

- 1) If free choral scores were available, would you use them?
- 2) Would you use the music on a weekly basis?
- 3) Would you use the music on a monthly basis?
- 4) Would you use the music on a yearly basis?
- 5) I am comfortable with computers and online searches
- 6) I am comfortable with having a college student teach me how to use the database
- 7) I am comfortable going to a local college to get assistance using the music database
- 8) I am comfortable going to another church to get assistance using the music database
- 9) My choral library is organized
- 10) Having access to choral music would greatly help the program.

Musicanet fields

- Composer/Arranger/Author of melody
- Author of text
- Title or text incipit
- Language
- Century
- Type of Choir
- Voicing
- Number of voices
- Duration
- Difficulty for conductor
- Difficulty for singer
- Name of publisher
- Country of publisher
- Name of collection
- Series + Sub-series
- Instrumentation/Type of Orchestra
- Number of instrumental Parts
- Number of soloists
- Country of composer
- Gender of composer
- Year of birth or death of composer
- Year of composition
- Gender of author of text
- Year of writing of text
- Liturgical Use
- Name of biblical book
- Genre, Musical Style, Musical Form
- Tonality, modality, atonality, aleatoric, etc.
- Country, Region of origin of piece
- Keywords

WPI Database Fields

- ID
- Number
- Title
- Composer
- Arranger
- Year of composition
- # of copies
- Part
- Instruments

Alan's recommended search fields:

Search composer arranger text publisher voices genre date of pub publisher number holiday alt title parts length

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