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# TECHNICHORAL

An Interactive Qualifying Project Report

submitted to the Faculty

of the

## WORCESTER POLYTECHNIC INSTITUTE

in partial fulfillment of the requirements for the

Degree of Bachelor of Science

Ву

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# **ABSTRACT**

Web sites are the easiest and most accessible way people have to obtain information about the various choral groups and upcoming events. It is imperative that this information be presented in an organized and meaningful manner. We have researched numerous sites at other universities, prepared a critical essay on the use of web pages within the Choral Music Division, and prepared suggested fixes to the web pages.

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### 1. RESEARCH

# 1.1 Viewing WPI Music Department Sites

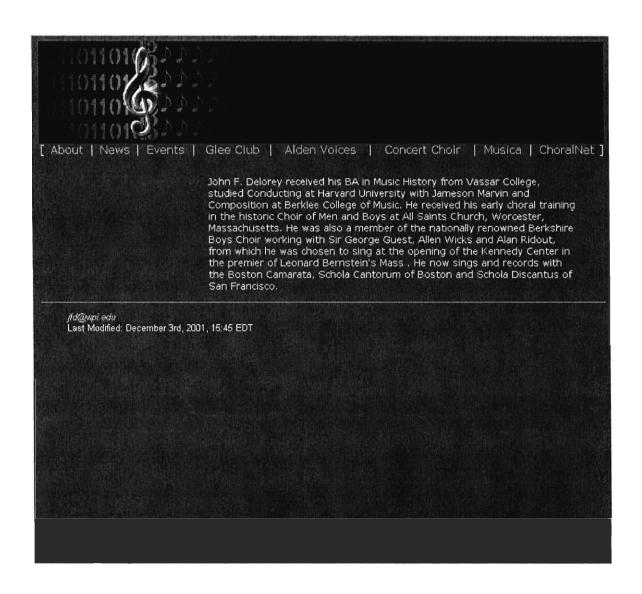
The first phase of our project was to assess each individual page of the WPI Music Department. Each problem had to be clearly identified before potential solutions could be proposed. The one problem that appeared on virtually every page we saw was a lack of recent information. Very few of the pages were updated on a regular basis, and all of them contained at least some out of date information. Another glaring error that manifested itself in several different places was broken links. Several of the pages contained pictures or buttons that were supposed to lead to other pages, but simply went nowhere or brought you to the page you were already on.

These two problems combined to create a somewhat uninviting environment for visitors. If you come seeking information and are unable to get to the page that houses that information, you lose patience very quickly. Finding out-of-date information when you get there is also very off-putting. Specific issues with each page are detailed in the following section.

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## 1.2. Critiquing the Available Information

- J. F. Delorey's Home Page: http://users.wpi.edu/~jfd/
- The About, News, and Events buttons all link to the same place, the main page.
- "Last Modified: December 3<sup>rd</sup>, 2001" This is over three years ago.



Simple Harmonic Motion: http://users.wpi.edu/~shm/

- Biographies page is empty
- Events page is empty
- Red Menu bar on left is varying lengths on each different page



Welcome to the home page of Simple Harmonic Motion, WPI's premiere all-male a capella group! This website contains everything you need to know about the group, and what we're all about.



We sing in a wide range of vocal styles including barbershop, traditional a capella, doo wop, contemporary a capella, and pop (rock, country, folk, blues). Most of our arrangements are done by members of the group, though we have been known to commission arrangements or borrow them from other groups

SHM is available for events on and off the WPI campus. In the past we have performed on behalf of Admissions, the Alumni Office, fraternities and more. To book a gig with SHM, simply contact us using the information below.

If you are interested in seeing SHM perform, check out the events page which lists all upcoming events. You will definitely get all you bargained for with the group's comedic antics and unbelievable sound.

Simple Harmonic Motion c/o Student Activities Office WPI, 100 Institute Road, Worcester, MA 02865

email: shm @ wpi.edu

# Audiophiles: http://users.wpi.edu/~audiop/

- Oversized logo, also inverted at bottom of page
- White text on black background
- Black text on red background
- Pictures page empty
- Events page out of date



WPI Concert Choir: http://users.wpi.edu/~chamber/

- "Last modified May 1<sup>st</sup>, 2000" This is over 5 years ago.
- Over the course of those 5 years, the current repertoire, upcoming concerts, and members have all changed, making the entire site out of date and pretty much useless.
- Members page is presumably meant to be accessible only to current members, it should take you to a page informing as such if you are not a member instead of a Forbidden error page.







The WPI Concert Choir is the first and only mixed choral group at WPI. Comprised of 40 WPI undergraduate and graduate students, the group performs both sacred and secular works on campus, in the Worcester area, and beyond. The group's current President is Rachel Zimet '02, the Secretary is Kerri Dagesse '02, the Social Chairperson is Johanna Tenczar '01, and the Publicity Chairperson is Jennifer Waite '01.

Rehearsals Sundays 7:00 - 9:00 PM Wednesdays 6:00 - 8:00 PM Tuesdays 8:00 - 9:00 PM (make-ups)



chamben@wpi.edu

- Vocal Performance Lab contains no content whatsoever
- Festival Chorus contains a picture and a welcome line, other then that no content
- Alden Voices (on Delorey's page) links to a brief description of the group in
   WPI's listing of Humanities groups. The Alden Voices link on every other page
   leads to a blank page with a menu.
- There is no link to Interstate 8's page anywhere among the other pages. The only one is in the Humanities listings.

After looking at all WPI's music pages and identifying their strengths and weaknesses, we looked at the music web sites of several other universities. After comparing and contrasting WPI's pages to those of other schools, we had a more firm grasp on what exactly needed to be changed and how to change. We discovered some more mistakes that we later sought to avoid, while also finding some very well made sites on which to model our suggestions for WPI's site.

### 1.3. Viewing Web pages from other Universities

Harvard University: Music Department

http://www.fas.harvard.edu/~musicdpt/

Harvard's music pages were very thematically connected. The most striking thing about them was the common color theme. All the pages were organized in various different ways, but they were clearly all made by the same person or group of people and flowed very nicely. They displayed different menus in different spots, but everything had a similar feel to it which made it easy to navigate. Another important feature was the pictures. The entire music department site is full of pictures, but they are very well placed. They are not excessively large, just used as aids for titles and to introduce different sections. The entirety of the image work is very well done and should be used as a guide for WPI's music pages.



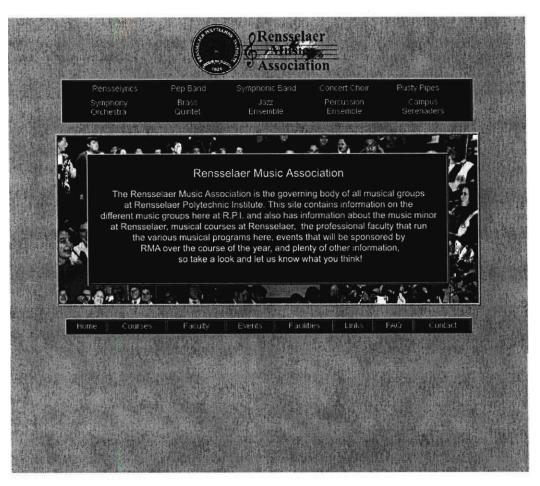
RPI: Music Department

http://rma.union.rpi.edu/

RPI's main site was poorly organized. Several of the links from the main page point to the same page (a general information page for several music department pages.)

They also don't have any sort of events calendar in place. A good feature is the individuality each group's page displays. They are all fairly well organized and each have a distinct look. For example, the Symphony Orchestra page is completely up to date and all the most important categories are sufficiently linked. This page also has a pictures section with many images. However, I feel Harvard's image work was better.

RPI also has a music course listing.



Princeton University: Music Department

http://www.music.princeton.edu/

Princeton's music pages were well organized and cleanly presented, with no broken links. Perhaps the most important feature displayed was the main page. A menu on the left provides links to all the most important places visitors may want to go, and the content of the main page is an events calender with events from all the various music groups. This could be used as a model for WPI's Music Department pages. The content for the main page is somewhat of a questionable idea. As it is now, there isn't really a main page, which is definitely a problem. There isn't any kind of a main page for all the various choral pages, and the Technichoral main page contains background information about J. F. Delorey. This is certainly information that should be somewhere on the site, but it is not content for the home page. Princeton's use of their calendar there is a good idea. The upcoming events for the next 2 months are displayed on this page, providing visitors with the most desired information right on the front page. There is also a full calendar available elsewhere. Another feature that may be a good target for emulation is their menu system. Each menu item brings changes the content of the large frame to the right, thus keeping the menu system intact while still browsing the main page and general information. However, any further links open in the full window, giving each page its own look and feel while still keeping them meaningfully connected. Princeton's music page also offers a course list and a map of where the music department is on their campus.



## Music Department\_ Princeton **University**

### **Upcoming Events**

Composers Ensemble Concert: eighth blackbird

Music by: Randy Bauer, Judd Greenstein, Jennifer Higdon,
David Little, John Supko, Gregory Spears
Taplin Auditorium in Fine Hall
May 9, 2005
8:00 PM

George Perle: 90th Birthday Concert

Performances by: Michael Brown, eighth blackbird, Seymour Lipkin, Curtis Macomber, Molly Morkoski, Lucy Shelton, Michael Boriskin Taplin Auditorium in Fine Hall May 10, 2005 8:00 PM



photo by Duccio Malagamba

Composers Ensemble Concert: Ensemble SurPlus

Music by: Daniel Biro, Lisa Coons, Tae-Hong Park,
John Supko, Scott Smallwood, Alan Tormey
Taplin Auditorium in Fine Hall
May 13, 2005
8:00 PM

Department of Music Princeton University Princeton, NJ 08544-1007 USA telephone: +1.609.258.4241 facsimile: +1.609.258.6793

Duke University: Music Department

http://www.duke.edu/music/

The home page of the department is designed well. It has a plain white background, a nice collage image in the front, and a Duke site navigation bar down the left, with a music site navigation bar across the top under the banner. One of the few mistakes found on the site is that the "Join our email list for updates about Music Department concerts and events" link is a mailto: link, meaning that it will bring up your email client to a blank email. A better idea would be to bring the user to a form where

they would know exactly what information is required of them, rather than just being presented with a blank email and not knowing what to write.

As we go deeper into the site, it does get slightly technically worse. The headers of the links across the top are themselves links, but only bring you to another page that is not particularly savvy that contains the links that were presented to you in the dropdown list on the previous page. However, once you arrive at the true content of the pages, they are full of meaningful links. Many of the words in the "Welcome" page contain links to whatever they are talking about. This can be very useful for a school page, so that any visitor who is not familiar with some particular aspect of the school or the department can easily learn whatever relevant information is necessary.

Another thing the Duke Music Department site did well was the full range of information they offered. In addition to providing the information to all of their ensembles, and audio files of different performances, they also have a useful listing of the academic side of the department, to aid anyone into joining the department for study as well as for performing. The different ensembles all seem to follow a similar layout, keeping consistency in the Duke site. Some of them are done better than others – for example, the Jazz Ensemble site is better than the Opera Workshop site.

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Carnegie-Mellon University: Music Department

http://www.cmu.edu/cfa/music/

This site, though it does not follow many of the standard web design conventions, is very appealing. The setup was not just a standard layout, but something designed to catch the eye. The color scheme could have been different, but the layout of the main page was enjoyable. Upon delving deeper into the site, its consistency seems to fall apart somewhat. The content of much of the site is overwhelmingly useful, but the page loses

the edge that it established in the beginning. It switches from a black background with red trim on the main page, and then on subsequent pages keeps the black/red setup for the navigation bar down the left, while switching to a white background on the content part of the page. This just shouldn't be done.

The content of the site, though, seems to be quite full of useful information. There are pictures of all of the studios, and there is information on every faculty member in the entire department. All of the sub pages seem to have their own schedules posted, and they all seem to be fairly up to date. Everything was maintained up to at least 2005. The last thing that can really be said in support of the Carnegie-Mellon music site is that it contains a nice pdf of the entire current month's upcoming events. It seems to be that the department puts out some sort of newsletter with the events on it already, but it is still a nice touch to include that with the site.

However, there is a lesson to be learned here. Though the content of the Carnegie-Mellon site is pretty broad and encompasses almost anything that someone visiting the site would find useful about the department, it does seem to be lacking in 2 areas. The first area is the amount of content on the actual performance groups of the school. The link to the ensembles has a list of the ensemble names, but does not provide links to any of their individual sites. The other area of the site that we can learn from is the color scheme and layout. The main page has a layout that catches the eye, but is using a "no-no" in web design of colors. This color scheme is further painful to the eyes when it is switched up to contrasting colors. The actual layout of the main page is well-designed and interesting, but is later abandoned for a fairly bland set of pages that just have a sole set of links down the middle.



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studios and ensembles
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past events

contacts links

college of fine arts

Click here to find out what's happening this month in the School of Music

best viewed using <u>Flash 5 player</u> <u>Click here for a non-Flash</u> version

Questions/Comments: music-webmaster@andrew.cmu.edu

### MIT: Music Department

http://web.mit.edu/arts/music/index.html

The MIT page also has a lot of nice layout decisions, and a much better color scheme than the Carnegie-Mellon site. The different performance groups all have their own pages, complete with at least a picture and a little blurb. The directors of each group also have a similar little page. Some of the groups have full-blown sites of their own, which I must say I am very impressed by. For example, the Logarhythms site is quite good. The general layout, the pictures, the color scheme, and the content are all good.

Another detail of the MIT site that caught my attention was its treatment of outof-date pages. For groups such as the Handbell Ensemble, there is a page informing you that the group no longer exists, but provides a link to the site that was up when the group existed. I found this to be a nice touch, although I think that it would have been more useful to tell the visitor up front that the link is to an out of date site.

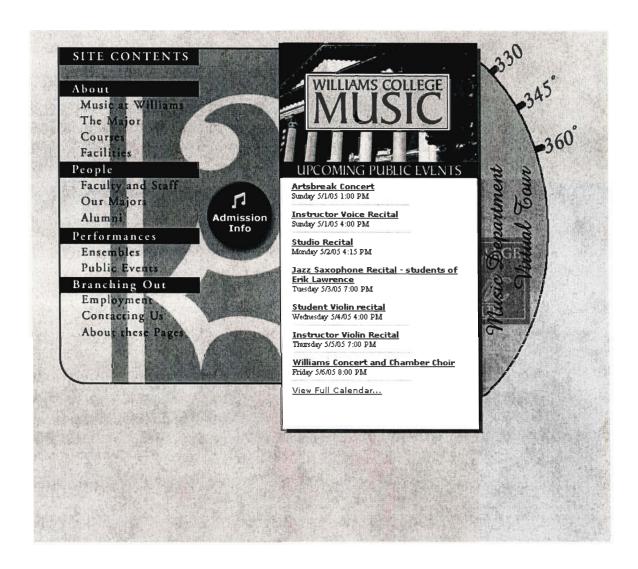


Williams College: Music Department

http://www.williams.edu/Music/

This is a very well done site. It has a very well done opening page. The College Logo is in plain site, but not crowding anything. It is very compact, yet is still able to fit a site map and upcoming events. Then all of the pages within the site have the same table of contents on the left. However, it is done in frames which could be changed. Although it is easier to update and keep track of, frames can lead to errors, or can make it hard to navigate correctly.

The pages are also grouped together, and these groups all have the same background. This makes it easier to recognize where in the series of pages you are in. The only potential improvement would be to decrease the loading time. The tables are done with pictures as the borders and titles. Not only is this a waste of time in loading, but it also wastes space on the page. It would also make it easier to change a title, instead of needing to make a new picture.



Berklee College of Music

http://www.berklee.edu/

This page has a different approach. However, this is also due to the fact that it's not a department page, but a page for the whole school. Berklee decided to have the main navigation bar at the top. The links are the same from page to page, but they make a slight change to the background of the top bar depending on the page. From there, the pages have their own navigation bar with specific pages within that department.

However, some of the pages within the departments don't have the same navigation bar as the others. This makes it hard to backtrack within a section without using the browser's back button.

The pages also seem like they are trying to put too much information at once on the screen. There is also a lot of wasted white space on the longer pages. This is due to the News/Events items on the right hand side of all the pages. It is as if they designed their page for a specific resolution, and any larger resolution just has white space.



### New/Popular Areas

- Admissions / Application
- · Berklee Performance Center
- Berklee Press
- Employment at Berklee
- · Financial Aid, Loans and
- Scholarships Giving to Berklee
- Housing Information
- International Musicians' English Language Institute (IMELI)
- Orientation

### **Academic Information**

- Academic Departments
- · Careers in Music
- Courses Degrees and DiplomasFaculty

- · Online School
- Summer Programs

### **General Information**

- · Berklee in the News
- Berklee Today
- · Calendars/Dates
- Commencement • FAQs About Berklee
- · News@Berklee.edu





### Chrissi Poland

Hometown: Marshfield, MA Major: Performance Instrument: Voice

gospel concert at the Berklee Performance Center provided inspiration to Chrissi Poland, of Marshfield, Massachusetts, just when she needed it the most. "I was going to Boston Conservatory for musical theater but my heart wasn't in it anymore. I was lost," says Poland. "Some friends talked me into going to a gospel concert in the BPC. So I went in and, oh my God, life-changing moment. Read more about Chrissi...

Other profiles..

### Ongoing News and Events

- · Berklee Announces this year's Commencement Lineup Anita Baker, Ron Carter and Kevin Eubanks to receive high honors at Berklee's graduation ceremony.
- Memorial Scholarship for Wes Wehmiller Established The parents, family, and friends of alumnus and bassist Wes Wehmiller '92 have established a scholarship in his memory. Wehmiller, who passed away in January, was a former member of Duran Duran and has a long list of performing credits with a range of recording artists.
- Berklee Students to Play NYC's Legendary Blue Note Jazz Club, Monday, May 9 Group to be led by bassist/singer/composer Esperanza Spalding and Cuban drummer/faculty member Francisco Mela.
- Playing Ray Alumnus Curt Sobel provides the key to the musical magic in the movie Ray.
- Berklee students, faculty, and alumni make themselves heard at a conference of jazz educators.
- A Full Ride from Berklee Berklee debuts Presidential Scholarship Program, a first-of-its-kind, "full ride" offering that will cover all costs of attending the college.



### NEWS

- . Wes Webmiller
- Scholarship Camilo Scholarship
- Playing Ray Charles
- Making Noise at
- Student Slam Dunk

Dartmouth College: Department of Music

http://www.dartmouth.edu/~music/home.html

This page also has a nice main page. It just links to all of the other pages, and sets up a general template of what they are going to look like. When you click on any of the links, they switch to a navigation bar on the left. It also has a nice non-intrusive mouse over effect for this bar. This easily shows what the user is going to click on, without the tackiness of changing text or background color. The pages all have a lot of information on them, but the use of pictures and dividing sections prevents them from looking cluttered.

Although the music sheet background works on this page, it still hurts the eyes when scrolled. If they had made it a stationary background, it would have been a nice effect, in addition to the pages being easier on the eyes. Also, although the pages seem to have been made from a template, they all have minor spacing differences that make page navigation awkward. This should be avoided.

## 2. IDENTIFYING AND IMPLEMENTING SOLUTIONS

### 2.1. Introduction to solutions

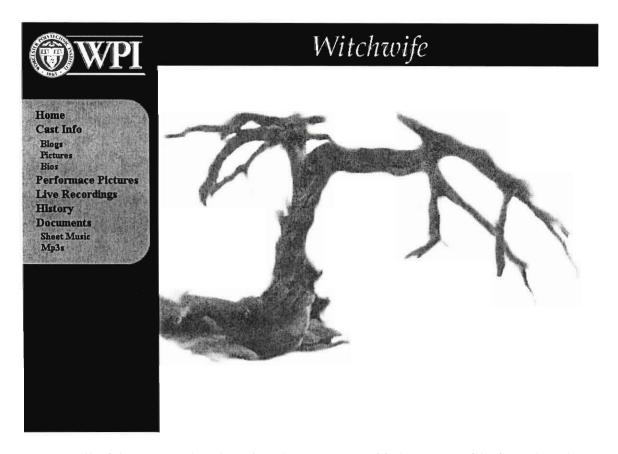
At this point in our research we needed to identify the most important problems that needed to be addressed in order to improve WPI's Music Department pages as much as possible. Some of these were mere updates, but others involved the creation of completely new parts of the site. The most important thing that was lacking was a calendar. The average visitor to any of the various choral pages is looking for information about upcoming events, so it makes sense to make the presentation of that information a priority. An ideal calendar would be accessible by all the choral groups and be available on every page. A calendar of upcoming events would also keep the entire site relatively updated, as the only information that changes on a daily basis are the upcoming events. Information such as group members and alumni biographies need only be updated once a year.

Another important addition was the Witchwife blogging page. Witchwife is a performance being held this spring at WPI, and 6 performers are simultaneously keeping a blog detailing their experiences as they prepare for the show. This is a perfect application of how technology can be used to enhance the arts.

# 2.2. Witchwife Web Pages

Part of understanding the role of technology within the Humanities and Arts department is to design a web site from scratch. This includes designing a user friendly menu to access all parts of the page without making it overly complicated, nor too simple. In addition to this, J. F. Delorey wanted a blogging site related to the Witchwife page in which six (6) members of the cast and crew could document their experiences with the play. This also needed to be user friendly, and easily accessible from the main Witchwife page. Not only was there a need for a place for these members to write their blogs, but there also needed to be a place that anyone could read them.

The first step in designing the Witchwife page was to choose a layout. Should it be something completely new, or should it look like the other WPI music web pages? The initial design attempted to use a crooked tree on the left hand side of the page that would be the menu, and the tree would go across the top of the page with the title "Witchwife" across it. This idea was based off of a promotional poster for the Witchwife play. While this was a descent idea for a poster, it made the web page look too busy. The menu text was hard to read, and the title didn't stand out enough. Also, other than the web address, there was no way to know that it was a WPI based program. Thus, it was decided that the layout of the page would be based off of the other WPI pages, with the WPI logo on the top left, and the menu on the left in a rounded box. It made it very easy to recognize it as a WPI page. The crooked tree was also moved to the background so that it could still retain the same look as the poster. Below is the final design for the layout of the Witchwife page:



All of the pages other than the Blogs page use this layout. At this time, there is no content on any of the pages, but the formatting and layout is there. Once pictures of the performance and cast are available, they can easily be added to the appropriate pages.

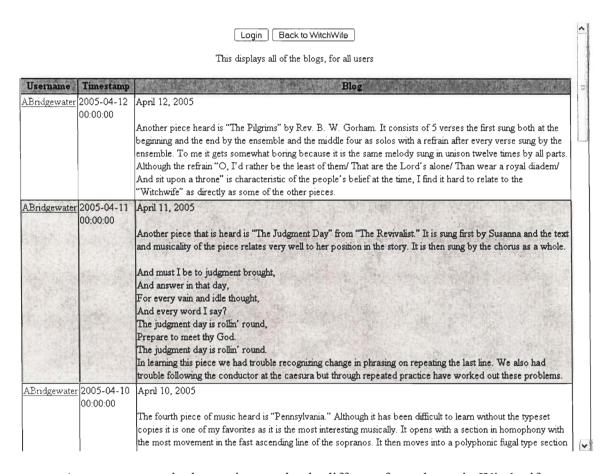
### 2.2.1. Witchwife Blogging Pages

The Witchwife Blogging pages were a project in themselves. They needed to be user friendly, easily accessible, and simple to use. To accomplish this, much of the code was written in Perl.

From the main Witchwife page, when you click on "Blogs" from the menu, it brings you to a page that displays all blogs written by all six (6) cast and crew members, sorted by date at which they were written. This allows all viewers to see their thoughts on the production of the play, from rehearsal to performance. Also, each username links to

another page that shows just that user's blogs. This allows the viewers to read through an entire user's blogs without the hassle of scrolling through the other users' blogs.

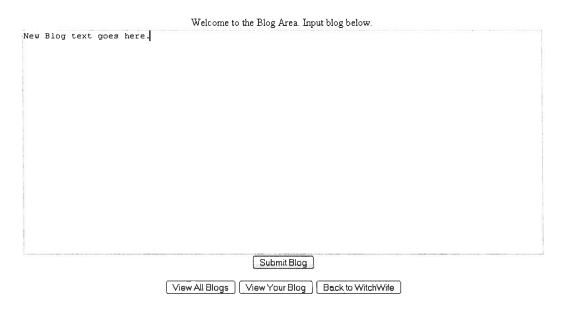
Since the purpose of the blogging pages is different than the main Witchwife page, a different layout was used. It is much simpler, and doesn't have a menu taking up space since the blogs take up a lot of space, and a menu would make it look very crowded. A screenshot of the layout can be seen below:



As one can see, the layout is completely different from the main Witchwife page, and is much simpler. The alternating colors on the rows allow for easier reading if multiple short blogs are next to each other. This also allows for the user to easily line up

the blog to the user that wrote it. Also note that the title row is a darker shade. This is to distinguish it from the rows that contain blogs.

On both the view all page, and the individual user page, viewers are given two (2) buttons. One button leads them back to the main Witchwife page. The other brings them to a login page. Each of the six (6) users has an individual login/password that allows them secure access to the Blog Update page. Once logged in, the user is redirected to the Blog Update page. It contains a text box where the user can input what they would like to say in their blog. There are also buttons on the bottom of the page that allows them to submit a new blog, view all blogs, view only their blogs, or go back to the main Witchwife page. To prevent duplicate posts, when a user submits a new blog post, a perl script checks to see if it has been submitted before hand. If one is not found, the blog is inputted into the database. A screenshot of the Blog Update page can be seen below:



It is a very simple layout, as no one other than the six (6) registered users can view the page. It also allows for ease of use. Without any extraneous information on the

page, there is less of a chance for confusion on how to use it. The user just needs to input the text into the box, and click the "Submit Blog" button.

Moreover, when a user is logged into the page, it saves their session through cookies. This allows them to input as many blogs as they want without needing to log back in. Also, when a user is logged in, the two (2) buttons at the top of the view pages are replaced with four (4) buttons. One that brings them to the Blog Update page, one that allows them to view only their blogs, one to view all blogs from all users, and one to redirect them back to the main Witchwife page. The new buttons can be seen below:

Currently there is no way to log out other than closing the browser. However, if a user goes back to the login page, they can log into a different account. It will overwrite the cookie with the new login data, and allow the user to post on the new account. To prevent posting on an incorrect account, or unauthorized posting, whenever a blog is submitted, a script verifies that a user is actually logged in properly.

# 2.3. Updating J. F. Delorey's Webpage

J. F. Delorey also felt his page was in need of an update. It had not been updated for over three years, and lacked any recent information about anything he had conducted recently. He also requested that the page be given a more professional look.

Diagraphy.	
Biography	_
Resumé	
Discography	
Choral Experience	
Conducting & Teaching	
Honors & Awards	
Music	
Puerto Rico	
Ensembles	
Men's Glee Club	
Alden Voices	
WPI Festival Chorus	
Vocal Performance Lab	

Simple Harmonic Motion

Interstate 8

Audiophiles

# **John Francis Delorey**



John F. Delorey received his BA in Music History from Vassar College, studied Conducting at Harvard University with Jameson Marvin, Composition at Berklee College of Music and received his Masters of Music in Choral Conducting from The Boston Conservatory, where he studied with William Cutter and Yoichi Udagawa. He received his early choral training in the historic Choir of Men and Boys at All Saints Church, Worcester, Massachusetts. He was also a member of the nationally renowned Berkshire Boys Choir working with Sir George Guest, Allen Wicks and Alan Ridout, from which he was chosen to sing at the opening of the Kennedy Center in the premier of Leonard Bernstein's Mass. It was Bernstein who first put a baton in Delorey's hand which sparked a lasting friendship. Delorey has sung and recorded with the Boston Camarata, Schola Cantorum of Boston and Schola Discantus of San Francisco, both as a tenor and countertenor. Delorey specializes in early music, and is currently researching materials for a new edition of Thomas Tallis's monumental motet "Spem in Alium." When not cavorting through the Renaissance, he is developing new methods toward the creation of a paperless choral environment. He is currently the Director of Choral Music and Assistant Instructor of Music at Worcester Polytechnic Institute, and Choral Conductor at The Boston

ifd@wpi.edu

# Conservatory.

### 2.4 Offering Services to Other Groups

At this time we also offered our assistance to several of the various choral groups at WPI. All the groups we contacted were satisfied with their current pages and did not request any assistance.

### 2.5. Creating a Calendar

In addition to the other requirements necessary to further integrate current and useful technology with the Humanities & Arts department, specifically the music department, a new system of tracking events was needed. As mentioned in our research for the project, there was no *easy* way to update and maintain a useful calendar of events. The process currently in place was to use the Social Web, which required extraneous information to be supplied and had a difficult and complicated interface.

In view of these conditions, we were able to identify a new structure that would be better suited to the needs and capabilities of those using the system. The new calendar would need a user-friendly, simple interface. This was accomplished in web-page format, where the user can enter events into the calendar through an access-controlled site. The information required would be little – a date and time for the event would be necessary, along with a description. The only other information that would be required would be to specify which group was hosting the event.

The calendar should also be easily accessible for any group that would like to use it. A simple script would suffice to accomplish this task. It allows anyone who would like to use the calendar to incorporate it into their pages with ease. The code required to insert the calendar into any existing page is small, and easily customizable so that the group can highlight their own group's events, and specify the color with which the events are highlighted. Another specification to follow was to break the calendar into date groups. The calendar should display first any events for the current date, followed by a group for the upcoming week, and finally any future events in a third group. This allows users to easily discern the timeframe in which any events are coming.

Upon further discussion of the topic, it was decided that the calendar would not need to retain any history of past events. This would also help to make the calendar near fully-automated as far as maintenance is concerned – no user would need to "clean up" any old data. In implementation this involved setting up the database used for the calendar to automatically delete any entries that have already passed. This is done purely on a daily basis – events are not deleted the minute they pass, only when the day has completed.

Below is a screenshot of the page used to update the calendar. The form is simple to use, and contains any vital information.

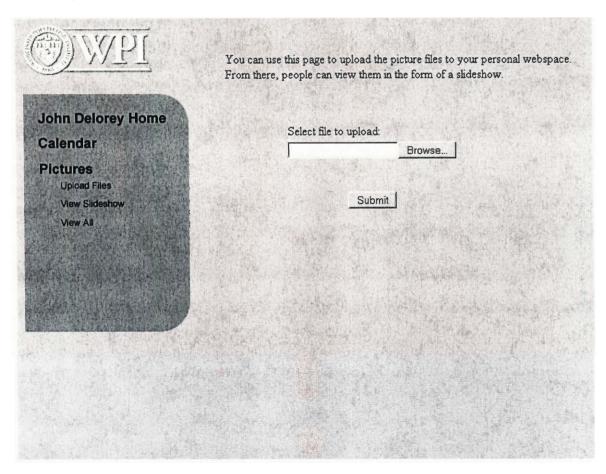
This is the page for updating the calendar for the music department.	
Group of Event: SHM	
Month: January	
Day: 1 ▼ Year:	
Start Time: 12:00 v am v	
End Time: 12:00 v am v	
Event Description:	
Submit Reset	

With the exception of the "Year" and "Event Description" fields, the input is all contained within finite values. This is important so that a user cannot unwittingly enter invalid information, and cuts down on the possible number of errors.

### 2.6 Picture Upload Webpage

Another aspect of a successful integration of technology and the arts is most definitely a successful method for the addition of visual content. Although implementing such a mechanism over all of the Humanities & Arts Department is beyond the scope of this project, it was certainly within our realm to lay a solid foundation for this topic.

In discussion with Professor Delorey, we identified a need for a page where one could upload pictures quickly and easily to the webspace, and have it viewable in the form of a slideshow. These needs were again best served with a web-based application. Below is an image of the upload page that we have designed to accommodate the needs of the department to easily provide images to viewers:



As with the calendar page, we were working within the guidelines of security and ease of use. Access to the actual upload page would be restricted to users with access, though the content within would be viewable to anyone. The form is simple – one browses to the file that is to be posted, and submits the request. Once uploaded, the image is automatically inserted into the viewable slideshow.

This implementation is only the framework, intended to lay the groundwork for any other group to be able to quickly modify what we have done in order to meet the needs and specifications of any department. This is an important step, however, in integrating technology with the arts. With this ground work laid out, adding visual content to the internet is easily and readily available to anyone who has content to use. This is key to presenting information to any target audience – images of the school to potential students, images of an off-site facility to a group that is considering an off-campus project, or any possible audience that one would want to present information to.

### Appendix A

### A.1 CALENDAR UPDATE CODE

```
#!/usr/bin/perl
# cal_update.pl
use CGI ":standard":
use CGI::Carp qw( fatalsToBrowser );
use DBI:
get_database_handle("McGonigle", "mysql.wpi.edu", "mattmcg", "emoFtR");
my($group, $month, $day, $year, $start_hour, $start_ap, $end_hour, $end_ap, $desc) =
       (param("group"), param("month"), param("day"), param("year"), param("start hour"),
param("start ap"), param("end_hour"), param("end_ap"), param("desc"));
print header();
print start html("::Calendar Update Page::");
$sth = $dbh->prepare("insert into calendar(date, start, end, event_disc, group_id) values (\"$year-
$month-$day\", \"$start hour:00\", \"$end_hour:00\", \"$desc\", $group);");
$sth->execute() or die "Error adding event to calendar.";
$sth = $dbh->prepare("select * from calendar order by date;");
$sth->execute() or die "Error loading the calendar.";
print "";
                                                                width=\"12%\">Start<td
             "<td
                             width=\"17%\">Date<td
print
width = \''12\%''> End < \'td >  Description < \'td > < \'tr > '':
while (@stuff = $sth->fetchrow array) {
                "<td
                           width=\''17\%\''>$stuff[0]<td
                                                             width=\"12%\">$stuff[1]<td
        print
width=\"12%\">$stuff[2]$stuff[3]";
print "";
#print "$group<br />$year-$month-$day<br />$start hour:00 $start_ap<br />$end_hour:00
$end ap<br />\n";
print end_html;
# get database handle is a function that takes in some info about the host, and creates a
database handle
sub get_database_handle
        my $dbname = $_[0];
        my $dbhost = $_[1];
        my $username = $ [2];
        my $password = _[3];
        $dbh = DBI -> connect ("DBI:mysql:$dbname:$dbhost", "$username", "$password");
 }
```

### A.2 CALENDAR VIEWING CODE

```
#!/usr/bin/perl
# calendar.pl
use CGI ":standard":
use CGI::Carp qw( fatalsToBrowser );
use DBI:
ser = sines[0]:
$pass = $lines[1];
my $group = param("group");
my $color = param("color");
get_database_handle("McGonigle", "mysql.wpi.edu", "mattmcg", "emoFtR");
                                                                             create
                                                                                      а
database handle
print header();
print start_html("::Calendar::");
my @lt = localtime;
my $day = int($lt[3]);
my my = int(\frac{1}{4}) + 1;
my = int(\frac{1}{5}) + 1900
$today = date_calc($day, $month, $year, 0);
$week = date_calc($day, $month, $year, 7);
$sth = $dbh->prepare("delete from calendar where date < \"$today\":");</pre>
$sth->execute() or die "Error deleting old events.";
$sth = $dbh->prepare("select * from calendar where date = \"$today\":");
$sth->execute() or die "Error loading the calendar.";
print "Today's Events -- $today<br>";
print "";
            "<td
print
                            width=\"17%\">Date<td
                                                              width=\"12%\">Start<td
width=\"12%\">EndDescriptionGroup
while (@stuff = $sth->fetchrow array) {
        $gname = $dbh->prepare("select Group_Desc from groups where Group_ID = $stuff[4]");
        $gname->execute() or die "Error loading group names.";
        @name = $gname->fetchrow array;
        print "":
        if($group eq $name[0]) {
               print "<font color=\"$color\"><b>";
        print "$stuff[0]";
        if($group eq $name[0]) {
               print "</b></font>";
        print "";
```

```
if($group eq $name[0]) {
             print "<font color=\"$color\"><b>";
      print "$stuff[1]":
      if($group eq $name[0]) {
             print "</b></font>";
      print "";
      if($group eq $name[0]) {
             print "<font color=\"$color\"><b>";
      print "$stuff[2]";
      if($group eq $name[0]) {
             print "</b></font>";
      print "";
      if($group eq $name[0]) {
             print "<font color=\"$color\"><b>";
      print "$stuff[3]";
      if($group eq $name[0]) {
             print "</b></font>";
      print "":
       if($group eq $name[0]) {
             print "<font color=\"$color\"><b>";
       print "$name[0]";
       if($group eq $name[0]) {
             print "</b></font>";
       print "";
}
$sth = $dbh->prepare("select * from calendar where date > \"$today\" and date <= \"$week\"
order by date;");
$sth->execute() or die "Error loading the calendar.";
print "";
print "Events for the upcoming 7 days<br>";
print "";
           "<td
                          width=\"17%\">Date<td
                                                           width=\"12%\">Start<td
width=\"12%\">EndDescriptionGroup
while (@stuff = $sth->fetchrow array) {
       $gname = $dbh->prepare("select Group_Desc from groups where Group_ID = $stuff[4]");
       $gname->execute() or die "Error loading group names.";
       @name = $gname->fetchrow array;
       print "";
       if($group eq $name[0]) {
              print "<font color=\"$color\"><b>";
       print "$stuff[0]";
```

```
if($group eq $name[0]) {
            print "</b></font>";
      print "";
      if($group eq $name[0]) {
             print "<font color=\"$color\"><b>";
      print "$stuff[1]";
      if($group eq $name[0]) {
             print "</b></font>";
      print "";
      if($group eq $name[0]) {
             print "<font color=\"$color\"><b>";
      print "$stuff[2]";
      if($group eq $name[0]) {
             print "</b></font>";
      print "";
      if($group eq $name[0]) {
             print "<font color=\"$color\"><b>";
      print "$stuff[3]";
      if($group eq $name[0]) {
             print "</b></font>";
      print "";
      if($group eq $name[0]) {
             print "<font color=\"$color\"><b>";
      print "$name[0]";
      if($group eq $name[0]) {
             print "</b></font>";
      print "";
}
$sth = $dbh->prepare("select * from calendar where date > \"$week\" order by date;");
$sth->execute() or die "Error loading the calendar.";
print "";
print "All future events. < br>";
print "";
                          width=\"17%\">Date<td
                                                          width=\"12%\">Start<td
           "<td
width=\"12%\">EndDescriptionGroup
while (@stuff = $sth->fetchrow array) {
       $gname = $dbh->prepare("select Group_Desc from groups where Group_ID = $stuff[4]");
       $gname->execute() or die "Error loading group names.";
       @name = $gname->fetchrow_array;
       print "";
       if($group eq $name[0]) {
```

```
print "<font color=\"$color\"><b>";
       print "$stuff[0]";
       if($group eq $name[0]) {
              print "</b></font>";
       }
       print "";
       if($group eq $name[0]) {
              print "<font color=\"$color\"><b>";
       print "$stuff[1]";
       if($group eq $name[0]) {
              print "</b></font>";
       print "";
       if($group eq $name[0]) {
              print "<font color=\"$color\"><b>";
       print "$stuff[2]";
       if($group eq $name[0]) {
              print "</b></font>";
       print "";
       if($group eq $name[0]) {
              print "<font color=\"$color\"><b>";
       }
       print "$stuff[3]";
       if($group eq $name[0]) {
              print "</b></font>";
       print "";
       if($group eq $name[0]) {
               print "<font color=\"$color\"><b>";
       print "$name[0]";
       if($group eq $name[0]) {
               print "</b></font>";
       print "";
}
#print "$lines[0]\n$lines[1]";
print end_html;
# get_database_handle is a function that takes in some info about the host, and creates a
database handle
sub get database handle
       my $dbname = $_[0];
       my $dbhost = $_[1];
       my $username = $_[2];
       my $password = $_[3];
       $dbh = DBI -> connect ("DBI:mysql:$dbname:$dbhost", "$username", "$password");
```

```
}
sub date_calc
        my $d = $_[0];
        my $m = $_[1];
        my \$y = \$ [2];
        my $c = $_[3];
        if( ($m == 1) || ($m == 3) || ($m == 5) || ($m == 7) || ($m == 8) || ($m == 10) || ($m == 12)
) {
                if( ($d + $c) > 31) {
                        m = m+1;
                        d = (d-31)+c;
                elsif( ($d + $c) <= 31) {
                        d = d+c;
        \frac{1}{2} elsif( (m == 4) || (m == 6) || (m == 9) || (m == 11) |
                if( ($d + $c) > 30) {
                        m = m+1;
                        d = (d-30)+c;
                elsif( ($d + $c) <= 30) {
                        d = d+c;
        elsif( m == 2 ) {
                if( ($y\%400)==0 ) {
                        if( ($d + $c) > 29) {
                                m = m+1;
                                d = (d-29)+c;
                        elsif( ($d + $c) <= 29) {
                                 d = d+c;
                } elsif( ($y%100)==0 ) {
                         if( ($d + $c) > 28) {
                                 m = m+1;
                                 d = (d-28)+c;
                        elsif( ($d + $c) <= 28) {
                                 d = d+c
                 elsif(($y\%4) == 0){
                         if( ($d + $c) > 29) {
                                 m = m+1;
                                 d = (d-29)+c;
                         elsif( ($d + $c) <= 29) {
                                 d = d+c:
                 } elsif( ($y%4) != 0 ) {
                         if( ($d + $c) > 28) {
                                 m = m+1;
                                 d = (d-28)+c;
                         ellipsymbol{} elsif( ($d + $c) <= 28) {
                                 d = d+c;
                         }
                 }
         }
```

```
if( m == 13 ) {
              m = 1
              y = y+1;
      }
       if( $m < 10 ) {
              m = 0m''
       }
       if( $d < 10 ) {
              d = 0d;
       }
       return("$y-$m-$d");
}
A.3
       BLOG VIEWING CODE: blog_view_all.pl
(note: blog view user.pl and blog view.pl reuses a lot of the same code. Therefore it
is not necessary to show it again)
#!/usr/local/bin/perl
BEGIN {
       use CGI::Carp qw(carpout);
       open(LOG, ">>cgi-log.log") or
       die("Unable to open mycgi-log: $!\n");
       carpout(LOG);
}
use DBI;
use CGI ":standard";
$db host = "*****";
                             #information edited out to preserve page security
$db user = "*****";
$db pass = "*****";
@cookiedata = cookie('webqplogindata');
if (!@cookiedata) {
       $logedin = false;
} else {
       $logedin = true;
}
my $dbh = DBI->connect($db host, $db user, $db pass);
if (!$dbh) { print "Error connecting to database"; }
print header();
print start html("WebQP - View");
```

print "<META NAME=\"ROBOTS\" CONTENT=\"INDEX,NO FOLLOW\">",

```
"<META HTTP-EQUIV=\"Pragma\" CONTENT=\"no-cache\">",
       "<META HTTP-EQUIV=\"Expires\" CONTENT=\"-1\">";
$admin = $dbh->prepare("SELECT username, date, blog FROM webqp blog ORDER
BY date desc");
$admin->execute() or die "Error getting blog stuff\n";
if ($logedin eq true)
      print "<center><form name='blogview' id='blogview'
action='../blog update.html'>\n",
            "<input type='submit' value='Input New Blog' />\n",
            "<input type='submit' value='View Your Blogs'
onClick='blogview.action=\"blog view.pl\"' />\n",
            "<input type='submit' value='View All Blogs'
onClick='blogview.action=\"blog view all.pl\"'/>\n",
            "<input type='submit' value='Back to WitchWife'
onClick='blogview.action=\"../\"' />\n",
            "</form></center>\n";
}
else
      print "<center><form name='blogview' id='blogview' action='../login.html'>\n",
             "<input type='submit' value='Login' />\n",
             "<input type='submit' value='Back to WitchWife'
onClick='blogview.action=\"..\" />\n",
             "</form></center>\n";
}
print "<center>".
      "This displays all of the blogs, for all users < br /> < br /> \n",
      "\n",
      "\n",
      "Username\n",
      "Timestamp\n",
       "Blog\n",
       "\n";
num = 0;
while (@admindata = $admin->fetchrow_array){
       if (\text{$num == 0)}
             print "<tr>\n";
             num = 1:
       } else {
             print "\n";
             num = 0;
```

```
}
      print "<a
href='blog view user.pl?user=$admindata[0]'>$admindata[0]</a>\n",
             "$admindata[1]\n";
      \alpha[2] = s/n/\langle br \rangle/g;
      print "$admindata[2]\n";
      print "\n";
print "</center>\n";
$admin->finish;
$dbh->disconnect;
print end html;
A.4
       BLOG LOGIN SCRIPT: login.pl
#!/usr/local/bin/perl
BEGIN {
       use CGI::Carp qw(carpout);
       open(LOG, ">>cgi-log.log") or
       die("Unable to open mycgi-log: $!\n");
       carpout(LOG);
}
use DBI;
use CGI ":standard";
$db host = "*****";
                           #information edited out to preserve page security
$db user = "*****";
$db pass = "*****";
my ($user, $pass) = (param("user"), param("pass"));
my $dbh = DBI->connect($db host, $db user, $db pass);
if (!$dbh) { die "Error connecting to database"; }
$checkuser = $dbh->prepare("SELECT password FROM webqp WHERE
username='$user'");
$checkuser->execute() or die "Error - unable to get username and password\n";
@userdata = $checkuser->fetchrow array;
$checkuser->finish;
if ($userdata[0] eq $pass) {
       $login cookie = cookie(-name => 'webqplogindata',
                           -value => param("user"));
       print header(-cookie => $login cookie);
```

```
print start_html("WebQP - Logged In");
       print "<body onload=\"window.location='../blog_update.html';\">\n";
}
else {
       print header();
       print start html("MB - Login Failed");
       print "Error--<br/>-/>Invalid username/password combination<br/>-",
              "<br/>Use the back button to correct<br/>\n";
}
$dbh->disconnect;
print end html;
A.5
       BLOG UPDATE CODE: blog insert.pl
#!/usr/local/bin/perl
BEGIN {
       use CGI::Carp qw(carpout);
       open(LOG, ">>cgi-log.log") or
       die("Unable to open mycgi-log: $!\n");
       carpout(LOG);
}
use DBI;
use CGI ":standard";
$db host = "*****";
                             #information edited out to preserve page security
$db user = "*****";
$db pass = "*****";
@cookiedata = cookie('webqplogindata');
if (!@cookiedata) {
       print header();
        print start html("Error");
        print "Error--<br>>",
                "Unknown user logged in";
        print end html;
        die "Unknown user logged in\n";
 }
my $blog = param("blog");
blog = s/'//'/g;
```

```
my $dbh = DBI->connect($db host, $db user, $db pass);
if (!$dbh) { print "Error connecting to database"; }
print header();
print start html("LoPR - Submitting Comment");
print "<META NAME=\"ROBOTS\" CONTENT=\"INDEX,NO FOLLOW\">",
        "<META HTTP-EQUIV=\"Pragma\" CONTENT=\"no-cache\">",
        "<META HTTP-EQUIV=\"Expires\" CONTENT=\"-1\">";
if ($blog eq ") {
       eval{require "rq menu main.pl"};
       print "<center><b>Error, no blog submitted</b></center>";
       print end html;
       $dbh->disconnect;
       die "$cookiedata[0] no blog submitted\n";
}
$testblog = $dbh->prepare("SELECT * FROM webqp blog WHERE
username='$cookiedata[0]' AND blog='$blog'");
$testblog->execute() or die "Error getting old blogs\n";
@tcdata=$testblog->fetchrow array;
$testblog->finish;
if (!$tcdata[0]) {
       $sendcomment = $dbh->prepare("INSERT INTO webqp_blog (username, blog,
date) VALUES ('$cookiedata[0]', '$blog', NOW())");
       $sendcomment->execute() or die "Error sending comment\n";
       $sendcomment->finish;
eval{require "rq_menu_main.pl"};
print "<center><b>Thank you for submitting a blog.</b>";
print "<form name='blogview' id='blogview' action='blog view.pl' method='post'>",
       "<input type='submit' value='View Blogs' />",
       "</form></center>":
$dbh->disconnect;
print end html;
```

# **Bibliography**

Audiophiles:

http://users.wpi.edu/~audiop/

Berklee College of Music:

http://www.berklee.edu

Carnegie-Mellon University Music Department:

http://www.cmu.edu/cfa/music/

Dartmouth College Department of Music:

http://www.dartmouth.edu/~music/home.html

Duke University Music Department:

http://www.duke.edu/music/

Harvard University Music Department:

http://www.fas.harvard.edu/~musicdpt/

J. F. Delorey's Home Page:

http://users.wpi.edu/~jfd/

MIT Music Department:

http://web.mit.edu/arts/music/index.html

Princeton University Music Department:

http://www.music.princeton.edu/

RPI Music Department:

http://rma.union.rpi.edu/

Simple Harmonic Motion:

http://users.wpi.edu/~shm/

Williams College Music Department:

http://www.williams.edu/Music/

WPI Concert Choir:

http://users.wpi.edu/~chamber/