07D323I

Choral Conducting Distance Learning

An Interactive Qualifying Project Report

submitted to the Faculty

of the

WORCESTER POLYTECHNIC INSTITUTE
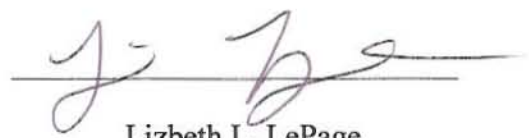
in partial fulfillment of the requirements for the

Degree of Bachelor of Science

by:

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ABSTRACT

This project focuses on the use of computers as a tool in the distance learning of directing choral groups. The main activity of this project was the critiquing of a previously designed website which could be used to upload and view choral rehearsals by students and directors. The main goal was to develop the criteria for the ideal program which could be used to these ends. These suggestions will be used in the future development of a final product.

ACKNOWLEDGEMENTS

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INTRODUCTION

The art of choral conducting requires technical knowledge, skill and practice. The ability to receive constructive criticism plays a vital role in mastering such a difficult craft. In today's technologically driven world conducting is one of the few crafts left that must still be seen in order to be critiqued. Simply hearing is not enough, one must be able to see the conductor's motions and hear how the choir responds in real time. Without the visual aspect of seeing when the conductor is giving specific motions and how clearly he is portraying them, one can not begin to critique how well he is leading the group. This issue poses an interesting question. How do advisors grade student conductors if they are not on campus at the time or are, even worse, advising abroad for a semester? This is the precise problem that is to be solved.

Allowing someone to view video clips of the trial and error process of learning to conduct can better aid the students' ability to improve, most importantly in a timely manner. This problem can be solved by creating a web based program to allow students and professors to upload videos, and then to view these pieces of video and leave feedback for the student. Such a program is in fact in the initial stages of development. Trial implementations must be performed in order to identify any flaws or inconveniences, and a final list of suggestions and ideas must be given to aid the development of the final product. This choral conducting distance learning software could revolutionize the way students and advisors interact in the learning process.

METHODOLOGY

Trial implementations of the web based video viewing program were the main substance of the project. It was our responsibility to make sure that the program performed the way that it was intended to, and that any faults could be identified and worked out. There were many steps to the trial process. The first step was to obtain video clips to test run on the website.

Nate Piper is a student at WPI who is completing his MQP in music. He is a student conductor, and was thus the perfect subject for our project. We videotaped him on many occasions and in a few different locations. On October 31, 2006 we videotaped him student conducting the men's glee club rehearsal in the Janet Earl room in Alden Hall. On November 6, 2006 we recorded another rehearsal during which Piper student conducted. On the next occasion, November 14, 2006, we were able to videotape Piper conducting the glee club three separate times with the same song so that he would be able to review his progress.

It was decided that we should try different recording techniques and on November 16, 2006 we videotaped Nate from in the audience so that we could get a different perspective. On November 27 and 30, 2007 we were able to video tape Piper in a different location. On these occasions we videotaped him student conducting a rehearsal and a concert in Alden Hall. We videotaped him and the choir from the balcony. From this angle we were able to capture much more than we had previously. On March 24, 2007 we video taped a rehearsal for the alumnae concert to be held on the following day. The rehearsal was in the Janet Earl room and the concert, which we also taped, was in Alden Hall. We videotaped this concert just as we did the last, from the balcony.

After each video taping session we reformatted the videos into more usable sized files and then attempted to upload the videos to the web program. There were no apparent inconveniences or difficulties with uploading the videos onto the website. This portion of the testing went quite smoothly. After each video was uploaded we tested it by attempting to view it on the website. We tested all parts of the website including the ability to leave comments with a time stamp corresponding to the place in the video that you are critiquing. During our tests we were mindful to note any problems or bugs that we found with the web based program.

It was our job to inspect and critique the web based video viewing program. We test every page, button, and function of the website in order to search for anything that would need to be commented on in order to produce a perfect working final product from our critiques. In addition to finding flaws in the program where features did not work, or did not work as intended we also searched for mistakes and errors such as grammar and spelling. These types of errors are minor and do not immediately effect the project, however we relayed all of our findings back to the makers of the program so that they could be fixed.

The website itself, although for the most part in working order, also needed to be commented on. We were not only to judge the capabilities of the program and the accuracy to which they performed, but also the aesthetic appearance of the website and the user friendliness of the program. We commented on the manner in which the program was set up, and how intuitive it actually was. If a person can not easily navigate the website and figure out how to operate it, it would be of little to no practical value.

This process went well and we believe that we have found most all of the issues that reside with the program.

The last step of our process was to interview Professor Abercrombie of University of Massachusetts at Amherst. Professor Abercrombie is a professor of music and is the driving force behind this projects conception. His insight into the program and its intended users would be invaluable to our final suggestions for the final product. We prepared a list of questions to ask him concerning the website and its eventual purpose. We also asked him questions related to what he would change about the website and what would make him more or less likely to use it. His opinions and suggestions were extremely insightful.

EVALUATION

It is understood that this is not a professionally constructed website and that there are bound to be spelling and grammatical errors found throughout the website. Our focus is the larger functionality errors that have become apparent through the use of this website. Our initial main concern is the accessibility of the website to those who need to use it. During evaluation of the website it was noticed that on some computers it was not possible to view the uploaded videos or post comments while on other computers there functions were possible. It is imperative that this website it accessible from any computer with various operating systems so that all who require the use of the website can access it.

When choosing a file to upload onto the website there is no way to enter the class or recording date even though these options are listed below the browse button. Currently on the "view videos" page there are columns for the class name and recording date, but for each of the current video files this information is not available. The ability to input this information makes it much easier to sort the files using the filter function. In addition, although there is a date submitted column on the "view videos" page the date is not automatically entered when the video is uploaded and there is currently no way to input the date submitted after the video has been uploaded.

Another concern is that it is not possible to watch multiple video clips in a row. After finishing a video clip the viewer must return to the home page before returning to the "view videos" page to select another video. This is due to the fact that while the menu bar contains a link to the "view videos" page the user is unable to click on that link. The ability to view multiple videos in a row is an important function because not only is

it more straight forward than the current method but it saves time for a user who must view multiple video clips at a time.

Although there is the ability to post comments for a video there is no time stamp to indicate which section of the video the comment is for. Currently the user must pause the video, type the time that the counter reads in addition to their comments, and click on the "post comment" button. This directs the user away from the current page to a screen that lists the comment just entered. When the user returns to the page to view the video using the web browsers back button the new comment is posted but the video starts playing from the beginning.

Even though there are filters in place on the website they currently do not work. When the user clicks on the filters to sort the videos by class, date, or conductor he/she is redirected to the "upload video" page. The purpose of the filter option is to allow the user to easily view the video clips as they see fit. However, the user currently must scroll through all of the posted videos to find the ones that they are looking for.

RECOMMENDATION AND FUTURE WORK

The goal of this project is to develop a list of the evaluations and recommendations for the final development of the website. Without a final direction the project can not continue to progress forward. The work of this and the previous project are to aid in the development of this program, and allow it to go smoothly. The final product will be built according to these evaluations and recommendations at a separate time as a continuation of the website design process.

There are two different possibilities for the final development of this website. The first route would be to continue this project at Worcester Polytechnic Institute as a Major Qualifying Project for a computer science major. This would allow John Delorey to see his project carried out to the final stages and would ensure the evaluations and recommendations set forth here are considered during the final design. The other option is to turn the final development over to the University of Massachusetts Amherst where Professor Wayne Abercrombie, the person this website is designed to benefit, will be able to take a more active role in the final stages of development.

This website was designed for Professor Wayne Abercrombie of the University of Massachusetts Amherst in conjunction with his Choral Conducting Long Distance program. Professor Abercrombie will be retiring but plans to continue teaching master's program classes. This website will allow him to advise his students from his home while allowing his students to work away from University of Massachusetts Amherst. He will be able to upload videos for his students to view on their own and his students will be able to upload their videos for Professor Abercrombie to view and provide his feedback on through the posting of comments.

Professor Wayne Abercrombie was interviewed on Thursday April 26, 2007. When asked what his ultimate goal for this website was he replied that he wants his students to be able to upload their videos for him to view and post comments on. He would like to be able to post comments at specific points during the video with a time stamp denoting the location in the video. He would like the students to be able to then view the videos with the comments posted under them so that they can fully understand his feedback. The types of filters he would like to see are for recorded date, ensemble, and student name. Ensemble would take the place of the assignment filter, as he oversees multiple music groups. This would therefore make it easier for him to determine which musical group he was viewing. He said the upload function of the website is mainly for the students to post their videos. When posting the videos he would like the students to be able to enter the record date, ensemble name, student name, and the date the video was submitted, as this data would then be used to allow him to later sort the videos using the prescribed filters.

Professor Abercrombie has two major concerns at this point in time. When he went to the website during the interview he was unable to view the uploaded videos when he clicked on the links. This problem had already been noticed when accessing the website from different computers, but it is important to note that Professor Abercrombie cannot currently view the website from his personal computer at home. In addition he wants to ensure that this website will work with his Mac PowerBook and that he will be able to navigate through the website easily.

User's Guide
Web-Based Choral Conducting Distance Learning Program

To Compress a Video Clip in iMovie
Once you have uploaded a video to your computer:
1. Open the video in iMovie.
2. Drag the clip that you wish to compress to the bottom of the iMovie screen into the working area.
3. Click "File" then click "Share."
4. A box will appear, choose Compress movie for: "Expert Settings."
5. Another box will appear. In the "Save As" text box choose a name for your file and choose a location for your file in the "Where" dialog box. Make sure that in the Export category the file type MPEG-4 is chosen. If it isn't click on the "Options" button and change the Video Format to MPEG-4 and click okay.
6. When finished click the "Save" button and wait for your file to be completed.

To Upload a Video Clip
Once a video clip has been compressed and is ready to be uploaded to the website:
1. Log onto the website.
2. Click on the "Upload Video" button (figure 1) on the left side of the screen.
3. Type what you wish to name your video clip in the "Name" text box.
4. Click on the "Browse" button and find the video clip in the location to which you saved it on your computer.
5. Once you have found the file click on it and click the "open" button.
6. When the name of the file appears in the "Video File" text box on the website screen, click the "Upload Video" button.
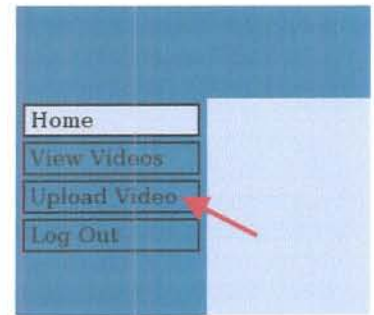7. Wait for the program to complete the uploading of your video file.

Figure 1: Upload Video Button

To View a Video Clip
If a video clip has been uploaded to the website and you are logged in:
1. Click the "View Videos" button on the left side of the screen (figure 2).
2. Click on the Name of the video that you wish to view.
3. If the video does not begin playing automatically click on the play button below the viewing area.
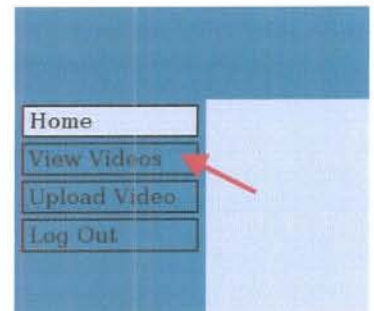

Figure 2: View Videos Button

To Filter Videos
To search for a video by filtering for a certain criteria:
1. Click on the "View Videos" button on the left side of the screen.
2. Click on the button that you wish to filter by located at the top the screen. *You may choose to filter by class, student or assignment.*

To Post a Comment about a Video
This can be done while viewing a video clip.
1. While viewing a video clip type your comment in the text box to the right of the viewing area.
2. Once you have finished typing your comment, click the "Post Comment" button located below the text box (figure 3).
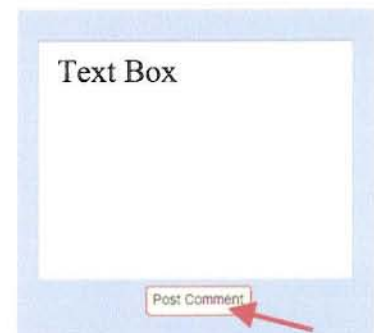3. Your comment should appear at the bottom of the screen.

Figure 3: Post Comment Button

TRANSCRIPT OF INTERVIEW WITH WAYNE ABERCROMBIE

Question: What types of filters would be most useful for you?

Answer: I would like to be able to sort by recording date, ensemble, and student name.

Question: What do you eventually plan to use the website for?

Answer: I would like to be able to see the videos and post comments. I want to be able to see the point in the video that the comment was posted. The students should then be able to log on to the website and view their videos with the posted comments.

Question: Is there anything that would need to be changed on the website before you would agree to use it?

Answer: When I clicked on the NateTest video I was unable to see the video. I tried the rest of the already posted videos and was unable to see any of them. I also want the recorded date, assignment (ensemble), and student name to be entered in when the video is uploaded so that I can sort the videos.

Question: What are the three major things you would change on the website at this time?

Answer: I need to be able to see the videos once they are posted. I also need the filters to work so that I can sort the videos. When viewing the videos I want to be able to post a comment without having to start the video from the beginning.

Question: Would a user's manual be helpful?

Answer: A user's manual would be very helpful and I want to make sure that I will be able to use this website with my Mac PowerBook.