

CS Seminar

CS 4624

Virginia Tech - Blacksburg, VA

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Table of Contents

Executive Summary	3
User's Manual	3
Developer's Manual	5
Suggestions for Future Improvement.....	11
Lessons Learned	12
Timeline/Schedule.....	12
Problems/Solutions	12
Skills Acquired	13
Acknowledgements	13
References	14

Executive Summary

Computer Science seminars are a very educational and interesting aspect that the CS department offers to the students attending the university as well as staff, faculty, and visitors. There are numerous occasions in which many students are not able to attend the seminars. Taking this into consideration our group was responsible for the digital video recording and editing of the CS Seminar talks. This allows for students to re-watch a seminar if they can't remember all the information. Each seminar is held on Friday at 11:15am in Torg 2150. We recorded each CS Seminar, edited it, and posted it to the VTechWorks website that is located at this link: <http://vtechworks.lib.vt.edu/handle/10919/19036>. This project has been an ongoing project as seminars and talks are held every semester. The main purpose, along with what was described above, is to attract more people to Computer Science and support the Computer Science department based on research discussed in the seminars. Having these seminars uploaded onto a website that is easily accessible will generate interest in the computer science field as well as give people already in the field something potentially new and interesting to think about.

In order to accomplish this task our group had to have some kind of prior knowledge of videography and video editing.

User's Manual

In this section we will explain the steps to watch the videos online.

First navigate to the URL <http://vtechworks.lib.vt.edu/handle/10919/19036>. This will bring you to the main page in which the videos are hosted. This page however only has links to the five most recent submissions. In order to view all the videos click the "By Issue Date" button on the left side of the page under the "This Collection" title.

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CS4624: Multimedia, Hypertext, and Information Access

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This collection contains the final projects of the students in the course Computer Science 4624: Multimedia, Hypertext, and Information Access, taught in Spring, 2012 at Virginia Tech. This course, taught by Professor Ed Fox, is part of the Human-Computer Interaction track, the Knowledge, Information, and Data track, and the Media/Creative Computing track. The curriculum introduces the architectures, concepts, data, hardware, methods, models, software, standards, structures, technologies, and issues involved with: networked multimedia (e.g., image, audio, video) information, access and systems; hypertext and hypermedia; electronic publishing; virtual reality. Coverage includes text processing, search, retrieval, browsing, time-based performance, synchronization, quality of service, video conferencing and authoring.

Recent Submissions

Disaster Video Gallery Project
Fesseha, ZeleAlem (2012-05-10)
The goal of this project was to collect YouTube videos for carefully selected events. The videos were manually collected and verified to be relevant to the specific events. The collection together with short description ...

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Now showing items 1-18 of 18

Virginia Tech Student Presentations
Endert, Alex; Sathre, Paul (2013-05-06)

Science at Extreme Scale: Challenges in Data Management, Analysis, and Visualization
Nowell, Lucy (2013-05-06)
Management, analysis and visualization of extreme-scale scientific data will undergo radical change during the coming decade. Coupled with changes in the hardware architecture of next-generation supercomputers, explosive ...

Meta-models of Confidentiality
Kafura, Dennis (2013-05-06)

Design-Driven Software Development
Consel, Charles (2013-04-25)

Last, just click the link to the seminar you would like to watch and the video will be embedded at the top of the page.

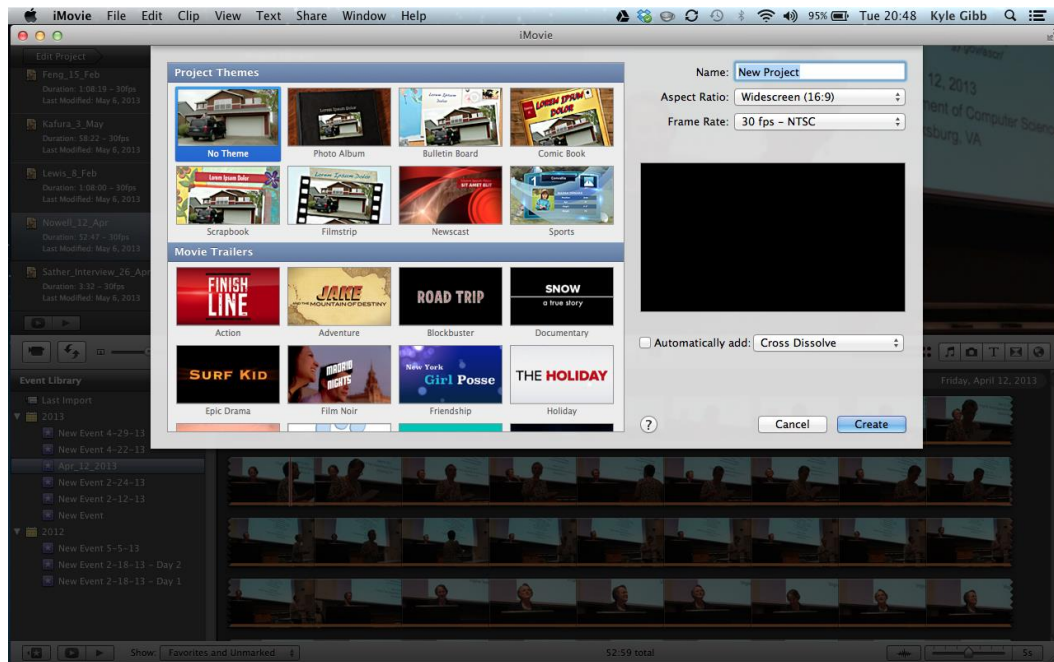
Developer's Manual

Once you shoot the raw video, you will need to edit it using a video editing program. We used iMovie on a Mac laptop. You may wish to use a different program. The instructions below are for iMovie, for other software look online for guides.

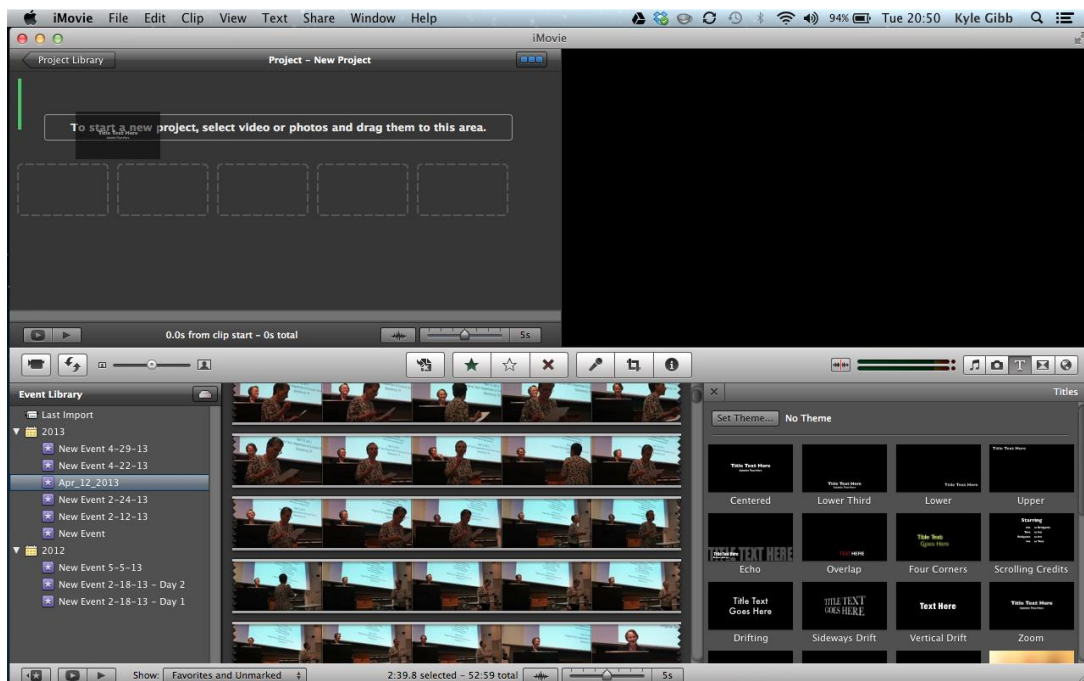
First, you will need to import the video from your camera into iMovie. This can be done from File > Import from Camera.



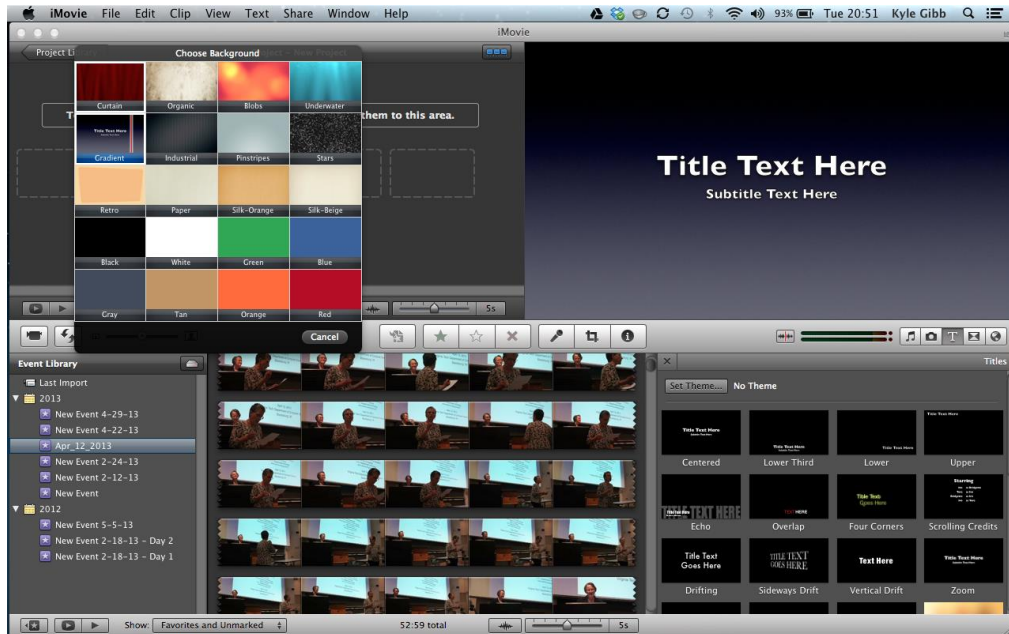
Next, you will want to create a new project. This can be done by clicking on the “+” symbol at the bottom right of the project library window, which is in the top left corner.



You will now see the project manager in the top left. You may want to add a title segment to the beginning of the video, which can be done by clicking the “T” along the right side of the window and dragging a title into the project.



Once you drop a title into the manager, a popup will let you choose the color style. In this example we will use the “Gradient” style.



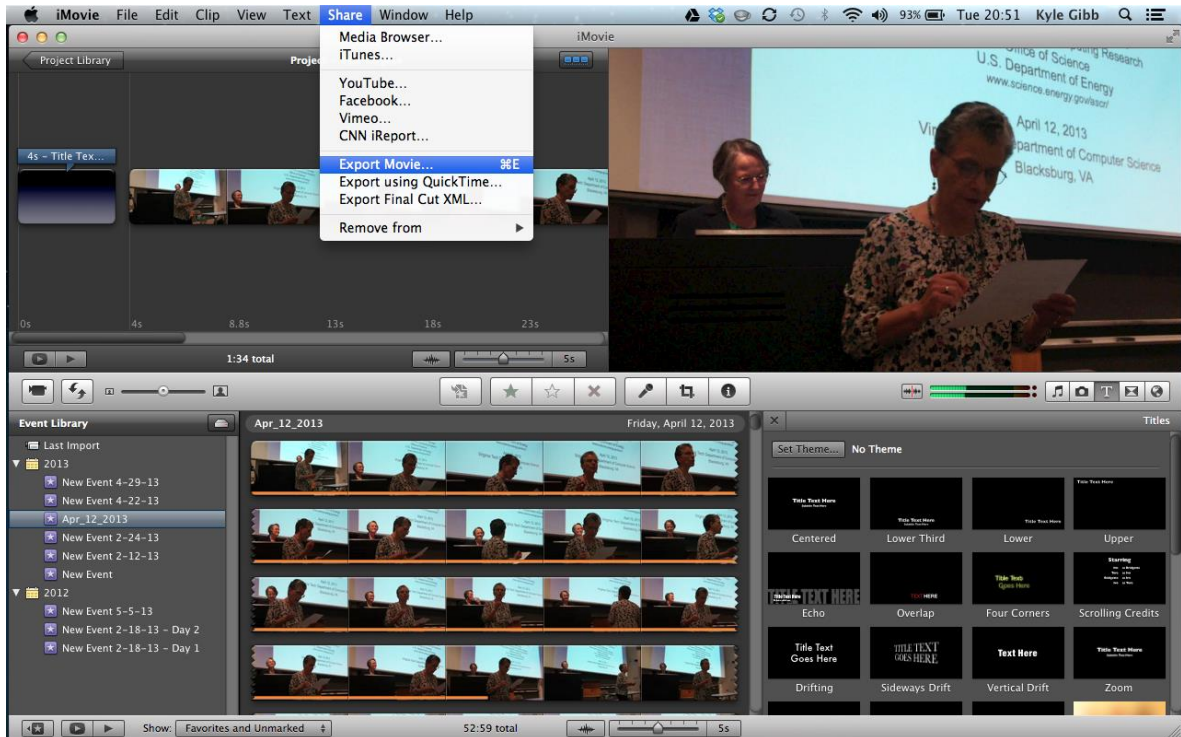
Next you'll want to select the clip or clips from your video and drag it into the project. The yellow box shows the beginning and end of the clip being selected.



Once you've added in all the clips you want, you may want to add ending credits or something similar. Again, this can be found in the title selector. The "Scrolling Credits" title is a typical one to use for end credits. Drag it onto the back of your project to add it; you can also change the length by double clicking on it.

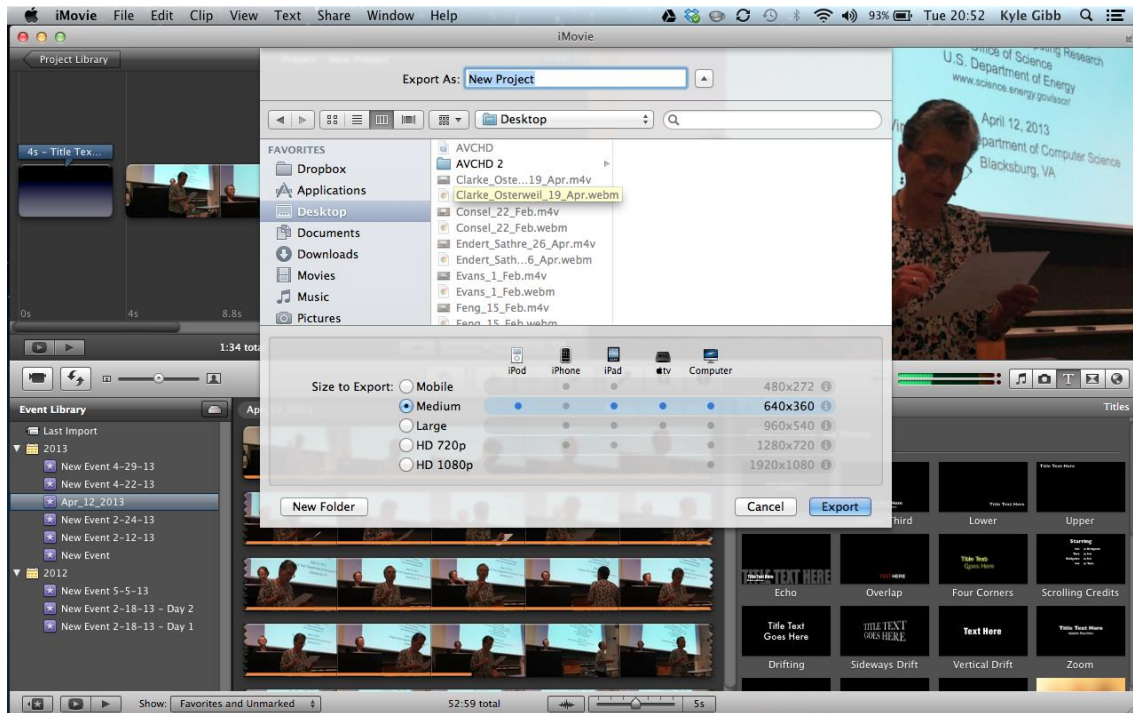


The video should now be finished and needs to be exported. Go to Share>Export Movie from the menu.

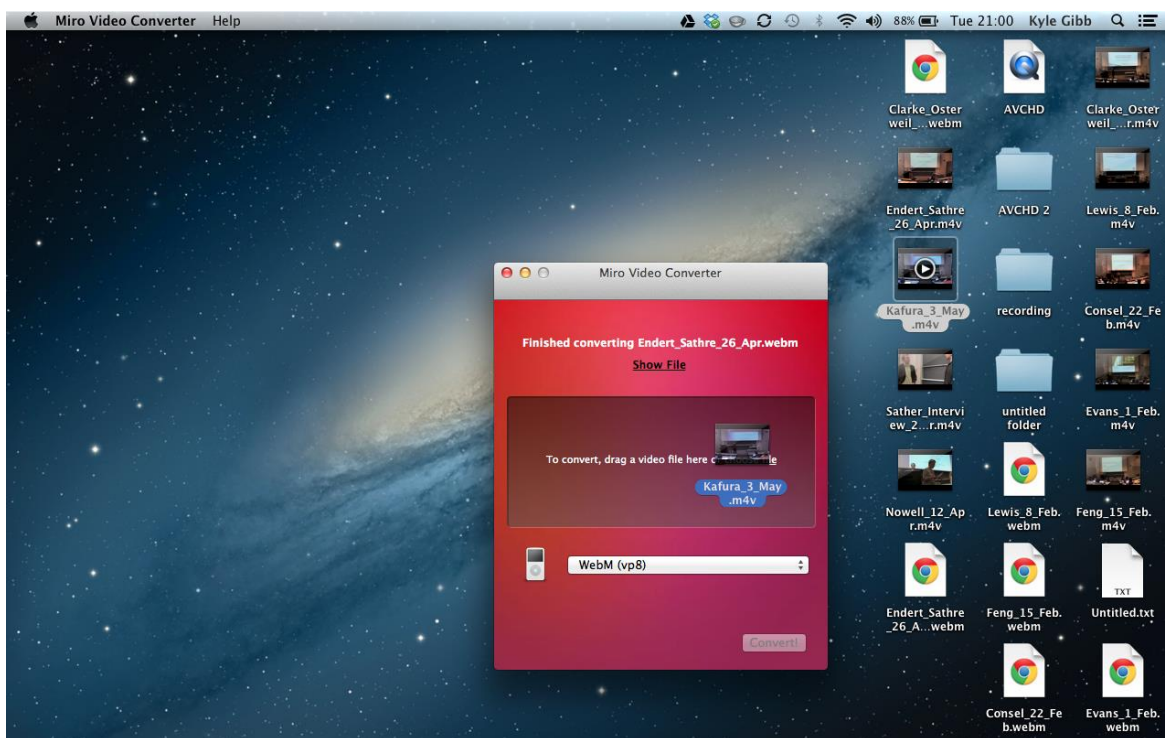


This option exports the video as an MPEG-4. For different export formats you can use the "Export using QuickTime" option from the Share menu. You can also select various sizes to

export the video in; we used Medium as our client told us that he didn't want the video to be high resolution. Smaller file size also means it is easier for users to stream it. You should make sure to keep a backup of the iMovie project so you can export at a higher resolution later if needed.



Finally, we want a WebM format video for streaming on VTechWorks. We downloaded a simple program called Miro Video Converter to do this; you simply select the WebM format and drag the video you want to convert into the specified area.



All that remains is to upload the videos and any other material you might have such as the lecturer's slides to the VTechWorks website for users to access.

For one of the videos, we had a Camtasia capture which normally allows you to combine a camera recording with a screen recording from a computer. However, the screen recording was not centered correctly and was unusable. We ended up having to manually create images for each slide and add them to the video one by one. This took a huge amount of time so we would not recommend using this strategy for future seminar videos. Instead, recording one video that captures both the presenter and their slides at once seems to be a more efficient approach.

The cameras we used were all of the same type from VT's Knowledge Works. At the time of writing we no longer have access to these cameras, but they can be easily obtained by groups in future semesters by reserving them far in advance of each seminar talk. We only used one camera for each recording as that was the number Knowledge works allowed us to rent. It may be worth looking into using multi-cam setups in future semesters, but this would greatly add to the editing time required to produce the final videos to put on VTechWorks.

Here is a table listing details of each seminar we recorded:

Date	Presenter	Talk Length	Size of .m4v	Size of .webm
1 Feb 2013	David Evans	49:49	611 MB	138 MB
8 Feb 2013	Clayton Lewis	1:08:04	836 MB	183 MB
15 Feb 2013	Wu Feng	1:08:24	840 MB	185 MB

22 Feb 2013	Charles Consel	59:31	730 MB	161 MB
12 April 2013	Lucy Nowell	54:46	502 MB	293 MB
19 April 2013	Lee Osterweil, Lori Clarke	1:06:28	816 MB	182 MB
26 April 2013	Alex Endert, Paul Sathre	42:26	520 MB	115 MB
3 May 2013	Dennis Kafura	58:25	717 MB	148 MB

In general, each video took about an hour to one and a half hours of editing to make sure that the audio and video throughout were of sufficient quality, to look up the information required for the titles, to edit any clips together, and to export the videos to the required formats. There were occasional audio issues, especially in the interview sessions, but because it was generally issues caused by the recording equipment, very little or nothing could be done to salvage these parts. Because we only used one camera, there was no need to merge video from any other sources than that camera.

Suggestions for Future Improvement

One issue that we had when recording the seminars was that it was difficult to reliably get the presenters' lecture slides so we could upload them to VTechWorks along with the recording. More effort should be placed on making sure these slides are obtained in future semesters. Some suggestions include: reaching out to the presenter ahead of the lecture, using a flash drive to gain a copy directly before or after the lecture, or more strongly following up after the lecture to get the presenter to email a copy. It is best to contact the speaker as early as possible and only get the slides post-lecture as a last resort.

Along with getting copies of the slides, another issue we had was not capturing the entire slide projected onto the wall behind the presenter in the video, making it harder for viewers to understand what the presenter was discussing. It is not really necessary to get close-up views of the presenters' faces for these videos, so another recommendation would be to make sure the shots are wide enough to capture the entire projection. This could also help with the 1st recommendation in cases when the presenter does not give the recorders his/her slides.

Finally, it may be worth taking a close up of the presenter and then later combining that footage with the slides to create a hybrid video showing both. This would require more work on the part of the people recording the presentation (they would have to follow the presenter with the camera) and the video editor (need to link up the slides with the talk), but the resulting benefit may outweigh the additional work. Groups recording these seminars in the future may want to consider these trade-offs and plan accordingly.

Lessons Learned

Timeline/Schedule

In this project we learned how to work in groups outside of a classroom scene as all the information was requested by a client. Our original timeline was parallel to the scheduled seminars we were recording. Our schedule involved first recording the seminars every Friday from 11:15am to 12:15pm. Next, conduct a 15 minute one-on-one interview with the speaker either right after the seminar or later that afternoon during the 'Meet the Speaker' session in McBryde. Following the interview, we extracted and edited the video, after which we then uploaded online. We also made website updates throughout the semester. Our plan was to get each video uploaded within three days of the recording.

Problems/Solutions

Often times, we ran into problems due to lack of communication with the client, with each other, or malfunction of the equipment. In general, we learned to adapt to these issues, and made a team effort in order to ensure good performance. For instance, if the client did not mention camera recording angles then we asked them what angles they would like us to use thus, ensuring that after the video was recorded the client liked the position. The quick changes in schedule also made the team more flexible. Each member had a specific task and we made each other available to help with certain circumstances and last minute changes. This allowed for an efficient and dynamic group.

In order to prevent future problems we would try and identify what hadn't been working thus far and change our methods accordingly. One of the most important lessons we learned is that when you are dealing with clients, we needed to be in constant connection for every seminar, recording, and interview as plans usually changed. Another major lesson we learned is that we need to plan as far in advance as possible since clients can be very busy people. The project started very quickly and we needed to be in complete understanding of the room's video and audio equipment and obtain our own recording equipment as well as connect our equipment to the room's equipment. In order to adapt to how soon the first seminar was, we got the camera as quickly as possible to figure out how the equipment worked.

Skills Acquired

This project was focused on parts of multimedia that most of our members had not worked with before. From the web development perspective, we learned a lot about building internal Virginia Tech pages with correct branding as well as uploading systems and embedding videos into web pages. For the actual video editing, we learned many professional video creations with effects that are a standard in today's multimedia world. We learned to use tools such as iMovie, Final Cut Pro and camtasia in order to deliver professional grade results. Some other techniques included sound clippings, pacing, color leveling, and transitions. During the recording of the interviews, we learned to utilize high-end cameras with wireless microphone systems. We learned about camera angles, live image sharpening, and zooming effects that made the video more dynamic as recording. Finally, for the one-on-one interviews we also learned posture, distance, and voice emphasis in order to make for a smooth, entertaining, and accurate interview.

Acknowledgements

We received a lot of help throughout this project and we wanted to mention some of the people that aided us through the semester. Thank you for the chance to work on this project and all the help you have provided. We truly appreciate the guidance we've had this semester.

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Very helpful in guiding us on how to upload videos and how to edit the page.

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Aided in video development, client contact and assisted in recording during one seminar.

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Jeffrey E Dalton & his staff from TV Broadcasting Services

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James C Dustin

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References

Dalton, Jeffrey E. "Skip Menu." *Video Network Operations*. Virginia Tech, n.d. Web.
<<http://www.vbs.vt.edu/>>. 13 Mrch 2013.

More Info: Services include interactive video conferencing, multimedia production as well as streaming media.

Dustin, James C. "Spotlight On..." *Spotlight On...* Virginia Tech Learning Services, <<http://www.is.vt.edu/>>. 2 Feb. 2013.

More Info: Provide equipment, tours, consultations and assistance with audio and video troubleshooting.

Staff. "Search VTechWorks." *Browsing by Issue Date*. Virginia Tech Library Services, 20 Feb. 2013. Web. <<http://vtechworks.lib.vt.edu/>> 08 May 2013.

More Info: Contains collections, communities and publications related to Virginia tech that users can browse.