BAREFOOT VODCASTING

Summary Paper for 2009 Conference Proceedings and Web Resource Library

Barefoot Vodcasting: Comprehensive lecture capture without support

James Moore

Director of Online Learning, College of Commerce

DePaul University

15th May, 2009

Update: This summary was written in May of 2009 to accompany the "Barefoot Vodcasting" workshop at the 25th Annual Conference on Distance Teaching & Learning. Some of this content is now out of date. For example: I now use the BT-1 Bluetooth Webcam in conjunction with ScreenFlow.

The content will be repurposed in future documents.

Introduction

Learn how to vodcast "barefoot"—record face-to-face lectures, workshops and presentations without IS/IT support. Using simple tools and techniques, classes can be recorded and then broadcast from any location in the world. The equipment is low-cost and easily carried in a laptop bag. Vodcasting can transform the effectiveness of your blended classes and enhance the learning experience.

Overview

Research has indicated that typical face-to-face teaching is not the most effective way that students learn. The typical classroom experience is not always conducive to learning. Information is rarely retained after a conventional lecture (Weiman, 2005). One strategy to assist students is to provide lecture capture, in which classroom technology is used to create an audiovisual recording that students can access to reinforce learning and reduce the cognitive load. There are excellent tools out there for academic institutions and trainers to choose from, such as

- Sonic Foundry Mediasite (http://www.sonicfoundry.com),

- Tegrity Campus (http://www.tegrity.com),

- Echo360 (http://www.echo360.com) and

- Panopto Socrates CourseCast (http://www.panopto.com).

However, these solutions involve capital outlay and the involvement of IS/IT to fully support the endeavor.

At times, faculty may need a lightweight, portable solution that they can use independent of institutional support that will work anywhere they teach. I refer to this process as barefoot vodcasting, recalling the concept of the barefoot doctors—self-sufficient, auxiliary medical workers providing healthcare in rural areas. Everything can be carried in a laptop bag. The hardware and software is affordable. The processes are straightforward and can be followed by anyone with minimal computer experience.

Vodcasting is a refinement of podcasting. While a podcast is a series of audio files that someone might subscribe to, a vodcast is a video podcast, or a series of video files. Video provides a richer means of communication and reduces ambiguity. By providing vodcasted supplements to face-to-face classes, I find significant improvements to the learning process. Since the material I cover in class is now available for student review, the students who miss class—or have a learning disability, or are non-native English speakers—are at less of a disadvantage. The knowledge that I am being recorded also pushes me into preparing my classes with a greater degree of attention to detail and challenges me to teach to the best of my ability. There are issues with lecture capture, but I feel the advantages more than outweigh the disadvantages.

For the past three years, I have been recording every lecture and presentation I give. Not every tool I have used has worked exactly as I wished, but I now find myself in a situation where I have three approaches that allow me to simply record everything I cover in the classroom: a simple way of podcasting audio recordings, a comprehensive method of vodcasting what I share on the projector, and lastly, a quick and simple method of pencasting adhoc Overhead Projector (OHP) presentations.

Basic Podcasting

I carry a Sansa Clip with me at all times. The Sansa Clip is a small MP3 player with an integrated audio recorder and FM radio. I believe this to be about the best all-purpose device for recording audio in the classroom (and beyond). The Sansa Clip works as my backup device; if any of the other recording methods fail, I at least have a high-quality audio recording.

The Sansa Clip can be affixed to a shirt or jacket, thus allowing the presenter to walk around without fear of moving out of recording range. The Sansa Clip has the capacity to record many hours of content. Recordings are saved as high-quality WAV files and can be imported onto a computer via a USB cable. The USB connection charges the Sansa Clip's battery. Typically you can expect somewhere between 12 to 15 hours of recording time on a full charge.

The Sansa Clip is manufactured by SanDisk (http://www.sandisk.com) and is available in models with internal capacity ranging from 1GB (5–6 hours of audio storage) to 8GB (40–48 hours of audio storage). Prices start at about $30.

I follow a three-stage process for creating and distributing my audio recordings:

1. **Recording**

   - As soon as I start speaking, I start recording. At the beginning of each break I stop recording. At the end of the class I have several WAV files.

2. **Importing and Editing**

   - After class I connect the Sansa Clip to my computer. Each WAV file is imported into Audacity, which I use to trim the recording and then export it as an MP3 file. I append basic metadata (title, date, etc.). The entire process takes no longer than a few minutes.

3. **Distribution**

   - If I need to distribute the recordings, I upload them to iTunes U. Other options for distribution include personal webservers, Learning Management Systems, etc.

Vodcasting

My favored setup is to present on an Apple MacBook Pro laptop. I use Telestream ScreenFlow (http://www.telestream.net) to record whatever materials I present in the classroom. Audio is captured by connecting a Zoom H2 microphone (http://www.samsontech.com) via a shielded USB cable to my laptop. The Zoom H2 has four microphones positioned in such as way as to allow 360-degree recording. Generally this is sufficient coverage for a typical classroom. If the recording is not adequate, I can import my Sansa Clip audio.

If I have to present on a Microsoft Windows machine, I can use Camtasia Studio (http://www.techsmith.com) as an alternative to ScreenFlow. However, Camtasia does not have the instant encoding capability or rich post-production options that ScreenFlow has. I can also Screenflow a Remote Desktop session to a Microsoft Windows machine if I need to demonstrate Windows software.

To enhance the completed video, I split-screen classroom footage with whatever material is displayed on the projector. At present the only way to achieve this is by importing video from a standalone camera and combining the videos at the editing stage. The camera I currently prefer is the Creative Labs Vado HD (http://us.creative.com). The particular model has an 8GB capacity, which allows me to store up to eight hours of video (at 640x480 pixels). The Vado HD has a replaceable, removable battery with an approximate recording time of two hours. The combination of generous video storage and removable batteries in a small, pocketable package ensures that I am easily able to record any class at a moment's notice. Finding a suitable location to place the camera in the classroom can be problematic. I carry a small portable tripod, Manfrotto 785 Modo Maxi (http://www.manfrotto.com), which fits in my briefcase as well as two desktop/mobile tripods—the Gorillapod (http://www.joby.com) and the UltraPod II (http://www.pedcopods.com). The desktop/mobile tripods can be used to affix the camera to walls and ceiling projections.

Again, the three-stage process is as follows:

1. **Recording**

    - As soon as I start speaking, I start recording the desktop with ScreenFlow. The Sansa Clip is used for audio backup.

2. **Importing and Editing**

    - After class I open the ScreenFlow recordings and import video footage from the Vado HD. I trim and synchronize the recordings. This part of the process takes less than five minutes.

    - The edited recordings are exported as QuickTime MOV files. Exporting each recording can take 30 to 45 minutes. However, this can take place in the background.

    - I use an Apple Automator (http://www.apple.com/macosx/features/300.html#automator) workflow to append appropriate metadata to the QuickTime files and then send these to QuickTime Professional (http://www.apple.com/quicktime/) to export as M4V files, which are suitable for iTunes, iPods and Apple TVs.

3. **Distribution**

    - I distribute the videos is at least two formats: streamed and downloadable. The downloadable files (M4V) are uploaded to iTunes U, and streaming takes place by uploading the Quicktime files (MOV) to Ooyala (http://www.ooyala.com).

    - Streaming via Ooyala allows me to prevent redistribution of materials and to access comprehensive viewing metrics. Once a file has been uploaded and converted to Ooyala, I simply paste some HTML code into my web pages. The videos are then viewable in a web browser using the Adobe Flash plug-in.

    - Downloadable files via iTunes U are preferred by most students. However, this raises the potential issue of redistributing copyrighted material. Guidance on how to follow either the Fair Use Guidelines for Educational Multimedia or the TEACH Act can be confusing (Taleb, 2007).

Pencasting

I bring a Livescribe Pulse smartpen (http://www.livescribe.com) to classes. The Livescribe Pulse allows me to record both what I say and what I draw/write on special paper. This recording can then be shared as an embedded Flash video, exported as a PDF, or exported as an audio file. The term that Livescribe has coined for this process is "pencasting."

The Livescribe Pulse comes in two versions; 1GB or 2GB capacity. The 2GB version has the capacity to store up to 200 hours of audio. The pen requires special dot paper to record and digitize what is written. The dot paper can be purchased in a variety of formats (notebooks, journals, notepads), or printed via certain color laser printers. Livescribe provides free hosting services to share pencast recordings.

The advantage of using the Livescribe Pulse is that all I need to carry with me is the pen and paper. If a classroom has an overhead projector, I can provide an ad-hoc presentation or lesson and then share this as a video after the class.

The three-stage process is as follows:

1. **Recording**

   • As soon as I start speaking or writing, I start recording. The pen has a built-in microphone that picks up my voice. The Livescribe Pulse synchronizes the recording of my voice with whatever I draw or write. I can pause audio recording if required.

2. **Importing and Editing**

   • After class I dock the Livescribe Pulse with my computer. The recording is copied over to a desktop application, which enables me to make changes to the metadata and title the session.

3. **Distribution**

   • The desktop software allows me to export the session as an audio file with accompanying PDF. My preferred format is an Adobe Flash video, which can be embedded in any web page or shared via Facebook. The limitation to this approach is that Livescribe only provides 250MB of shared storage. My hope is to find an alternative way to export video files directly from the desktop

Future Plans

Ecamm Network (http://www.ecamm.com) will be releasing the BT-1 Wireless Webcam (http://www.bt-1.com) later in 2009. I plan to replace the Vado HD camera with the wireless webcam. This should allow me greater freedom in camera placement as well as opening up the option of live-streaming my classes.

I intend to research efficient methods of exporting Livescribe Pulse recordings into ScreenFlow.

Conclusion

The obvious questions are: Is the effort involved in vodcasting worthwhile? How much extra time is involved? Recording and distributing material involves approximately one hour of my time after class. Each week I survey my graduate students anonymously as to the usefulness of the vodcasts. I generally see 50 percent of the students responding that the vodcasts are either "somewhat useful" or "very useful." These values rise before midterms and finals. Approximately 10 percent of my students respond that they have no need to view the vodcasts. The remaining responses indicate that approximately 40 percent of the class has not watched the weekly vodcast but may do so in the future. My overseas students are extremely supportive of my vodcasting endeavors and frequently cite this in unsolicited remarks.

Overall I find this to be a success and definitely worth the effort.

References

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Biographical Sketch

James Moore is the Director of Online Learning for DePaul University's College of Commerce. He teaches Internet Marketing classes in fully online, blended and face-to-face formats. He attempts to balance his love of technology and gadgets with the knowledge that quick and simple solutions are best. Unfortunately, creating quick and simple solutions often involves a long and complex process.

Address: DePaul University, DPC 6317
              1 East Jackson Blvd.
              Chicago, IL 60604

E-mail: jmoore@depaul.edu
URL: http://www.depaul.edu/~jmoore/
Phone: 312.362.5701
Fax: 312.362.5066