

# The University of DVD

*Universities and training organizations increasingly use technology to record and distribute original material, bringing on a new class of technological and legal issues.*

By Avi Rushinek and Sara Rushinek

The topics of DVD copying, distributing, Web-casting, publishing, ecommerce and peer-to-peer file sharing bring to mind illegal copying of the entertainment industry's proprietary digital contents. Often overlooked is the other side of the coin, original material that authors and publishers want to distribute in a cost-effective and timely basis.

This article explores using the Internet to post and distribute original material, rather than simply consuming content or distributing copyrighted material. We specifically address issues concerning universities that record, copy and distribute instructors' lectures onto DVDs. Students who miss a class or who wish to review the class again at their own pace would find these DVDs helpful. From this simple concept, many questions arise: Since students have already paid for the class, should they be given the DVDs for free? Or should the university collect a fee to cover the costs to record and store the DVDs? Should the university let students burn copies of the original in the library for free, or should the university charge for this activity to cover the cost of the equipment used to burn CDs?

What are the ramifications for universities that Web-cast or publish duplicates and resell DVDs at the college bookstore? Taking it a step further, are there further repercussions if a university also publishes the DVDs with the textbook publisher as a supplement or a replacement of the textbook used in the recorded class? What about ePublishing and selling DVDs on a university's or publisher's ecommerce Website? The material would then be available not only to students enrolled in the courses but also to the worldwide community of the Web.

## **Digital Streamable Media**

Digital streamable media can be sold over the Web for minimal cost and time to the seller. In contrast, physical media such as DVD disks are a bit more expensive and time-consuming to produce. This provides an opportunity for universities to profit from the medium itself. The university can sell blank DVDs and then charge students for using the school's burners to copy an original checked out of the library. Likewise, the university can duplicate the DVD and charge even more for the DVD plus the content.

## **Free Peer-To-Peer File Sharing Servers**

Free peer-to-peer file sharing servers for student lecture exchange could enhance student learning. It may help students to make up a missed class or allow students to review a lecture. And, it may provide the instructor with timely and effective feedback about the quality of the distributed lectures.

## **Confusion and Opportunity**

Choosing the right technology for storing and distributing lectures can be tricky. Each medium has potential drawbacks and opportunities.

### ***DVDs***

It would be nice if there were only one kind of DVD disk that would play in any DVD player. Such is not the case. There are many DVD formats, some of which are incompatible with each other. What are some of these DVDs and their incompatibility issues?

Well, there is DVD-/+R, DVD-/+RW and DVD-RAM. There are 5.25-inch full size DVDs and 3.5-inch half-size mini DVDs. These DVDs have different capacities, for example a single side 5.25-inch DVD-RAM has the capacity of 4.7 GB, whereas a double-sided (DS) has the capacity of 9.4 GB. Yet, a 3.5-inch DS DVD-RAM has the capacity of 2.9 GB unformatted and 2.4 formatted. Most DVD readers and burners that can read and/or write DVD+RW cannot read and/or write DVD-RAM.

The confusion is obvious, but what is the opportunity? Well, now vendors can sell you two DVD drives. If you want to read and write all the formats, you must buy at least one DVD reader and writer that can read and/or read and write DVD-/+ and a second DVD that can read or read and write the incompatible DVD-RAM format.

Maybe you don't want to have all the formats. Why not go with one format and avoid the others? This is not the best solution because each format is optimized for different applications. For example, if the application requires a reliability level of up to 100,000 reads and writes, as is the case for some for medical, legal or military uses, then you should use the DVD-RAM format, which is certified for a high level of reliability and performance.

### ***CDs and Other Removable Media***

Similar issues arise with CDs and other removable media. CDs come in 3.5-inch and 5.25-inch CD-R, CD-RW, CDG (Graphic) and more. Likewise, there are Smart Media cards, Multi-Media Cards (MMC), Secure Media Cards (SMC), Flash Memory cards, and Sony's Memory Sticks, ranging in capacity from 8 MB to 1 GB, and a variety of PCMCIA cards.

In addition, different digital formats can apply to the same media. For example, a DVD-RAM disk can store several different video formats optimized for different applications. For example, on a given DVD-RAM disk you can store .VRO (Video Recording Objects) optimized for editing on a standalone DVD. On the same disk, alternatively, you can store the same video information in a different format, such as MPEG1, 2 and 4 with different compression (resolution) rates optimized for progressive download and playback from a Web site on a computer.

### ***Audio***

The confusion and opportunity applies also to audio. The audio version of a video lecture is another potential product. An organization could sell an audio CD or DVD, in addition to the video. Why would somebody want to buy both? Perhaps a student wishes to listen

to the lecture while driving or jogging. An advantage to audio-only is that it fits in less space than audio and video, and requires lower bandwidth for streaming. Audio files can be AVI, MP3 (optimized for playback on standalone) or downloaded from the Web. A variety of proprietary formats such as Sony and Dictaphone are optimized for dictation and voice-to-text automated transcription.

The potential for confusion is obvious. To convert from one format to another digitally, you must play it back and re-record it, which is time-consuming and degrading to the quality. You never know how to decode and re-encode it.

The opportunity is that an organization can sell not only the video and standalone audio but also the printed automated transcript. An automated transcript may not be as good as a manually corrected and edited version of a lecture, but it is much faster and cheaper to generate. That near-instant response will surely please users who like to minimize wait time.

### **Is All of this Recording and Distributing Legal?**

Let us suppose that the instructors are willing to let the university distribute their trade secrets on the Web and expose them to unlimited scrutiny, all for a dubious earning potential. Furthermore, let us also suppose that the university is interested in participating in this effort for the good of the students and the profit opportunities. What are the potential problems?

There is a sub-web of patents and pending patents related to these activities, notwithstanding the piracy and copyright issues that a Google search of "DVD copying, distributing, Web-casting, publishing" is quick to bring up. What are examples of such patents and what are the risks for users and providers?

### **The Risk of Litigation**

Universities may face a risk of infringing on patents. For example, consider the case of a lawsuit that Friskit, Inc. (<http://www.friskit.com/>) brought against RealNetworks and Listen.com. Friskit is a technology licensing company that enables consumers to find,

personalize and play streaming media. The company claims that its patented technologies are essential for on-demand media subscription services. In a suit filed in Chicago on June 27, Friskit charges that RealNetworks and Listen.com use Friskit's core technology and key features to provide their services. The suit asks for revenues from sales of both the players and subscription products. A university, or a publisher working with a university, that streams content in the manner of RealNetworks and Listen.com may be at risk of a lawsuit.

There are other patent issues that could become a concern. Say that a university wants to distribute its contents, using a "DVD generator". Would the university be infringing on the technology of a company such as DVDemand.com (<http://www.DVDEmand.com/supersite/products.asp?menuid=M1>) whose "DVD Generator" allows students to pick and choose media clips and burn DVDs to order?

For these reasons it would be worthwhile for the university or publisher to hire an expert to produce a cost benefit analysis of each alternative. What is the cost of a license agreement? Would it be better to negotiate such a license agreement or to offer the service and take the risk of being sued?

## **Conclusion**

In summary, we have looked at a variety of ways that universities could distribute original digital contents and media. While this service could be helpful for students, universities should consider potential pitfalls, from the mundane -- which medium should you use -- to the potentially litigious issue of patent infringement. There are many questions that remain to be answered. Our conclusion is that the confusion level correlates with the opportunities, and the law can hardly keep up with the technology. Organizations will try to balance the advantages and disadvantages to deploying technology. At this stage, there are more questions than comprehensive and conclusive answers. As time goes by, the law will catch up with the technology. In the meantime, we will have to deal with the uncertainty, keep documenting our questions, and trigger

the thoughts that will eventually help produce the answers.

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Source: Ubiquity, Volume 4, Issue 41, Dec. 10 -16, 2003