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# The Five Ps of Educational Podcasting

**Introduction.** Podcasting, like so many other complex behaviors, must be practiced in an iterative fashion. This paper outlines and then details the five essential steps in the process of podcasting: Prepare, Plan, Produce, Publish and Promote. Each podcast one does should involve all five steps. As with all iterative processes, there should be an evaluative component between each cycle so that the podcaster may more fully benefit from the experience.

There is a great deal of detailed information that both beginning and veteran podcasters will want to have ready access to, details that are changing at too rapid a pace to be accommodated by paper handouts. Accordingly, a companion web site for this presentation has been established at <http://sleepy.gcsu.edu/RockEagle2007/>. Here you will find example podcast channels, links to applications used by podcasters, tutorials on podcasting and references to authoritative information on fair use, copyright and applicable standards such as RSS. Thus, it should not be necessary to take copious notes during the presentation. Following the presentation, I will add a podcast channel containing an audio annotated slide show or video of the presentation.

So, let's get started. There are many demonstration videos in this presentation that will be represented in this paper with a brief descriptive label. Those demos will be included in the post-presentation podcast.

## **Prepare (mind and gear).**

Normally, you would expect the Planning step to precede the Preparation step but in this instance, we put preparing first for practical reasons. What we first need to do is to discover what means of podcast production are already in hand. Very often, that first podcast is an exploratory venture so we are looking for a minimal toolset that we can build upon. In later iterations of this step, we will likely be acquiring additional tools as our skill and sophistication increase.

### **Preparing Your Mind**

The **mental preparation** that we need to do centers on improving our grasp of what podcasting is, our understanding of key concepts in podcasting and understanding of how to make the simplifying assumptions that make it all manageable. This is essential mental flossing that should be done often, not just initially. These ideas are not cast in stone, they are changing and evolving at a rapid pace.

**What is podcasting?** According to Wikipedia:

A podcast is a digital media file, or a series of such files, that is distributed over the Internet using **syndication** feeds for playback on portable media players and personal computers. The term, like "radio", can refer either to the content itself or to the method by which it is syndicated; the latter is

also termed podcasting. The host or author of a podcast is often called a podcaster.

Podcasting is often confused with simple file sharing (e.g. offering audio and video files for download from a web page) because the notion of **syndication** is not fully understood so let's explore that concept more fully. We typically speak of Internet facilities being either "pull" or "push" in nature. A discussion board is typically a "pull" type of facility because participants must explicitly and proactively access the facility to receive messages. E-mail via the Post Office Protocol, on the other hand, is a "push" technology because anyone who knows or can obtain your address can send you an e-mail message. Syndication combines "push" and "pull" to the point where this distinction is not as meaningful with regard to podcasting as it is elsewhere. You subscribe to a podcast channel (PULL) and subsequently receive episodes in that channel as they are published (PUSH).

Finally, while the production of podcasts may resemble radio broadcasting, the consumption of podcasts does not. A podcast can be consumed at any time or place. This is called time-shifting.

Thus, podcasting is more about resource discovery via syndication than it is about distribution (downloading files), it is about Push and Pull working in concert instead of in opposition to one another, and it is about empowering audiences to exercise more control and more options with respect to when and where they learn.

### **What are the key concepts of podcasting?**

**Syndication**, as described above, is a concept borrowed from magazine and newspaper publishing. Although you can buy magazines and newspapers in an ad hoc fash-

ion from a newsstand, there are strong incentives to subscribe to those newspapers and magazines that you want to read regularly. In addition to lower cost per issue, the magazine or newspaper is delivered to your door as it becomes available. The RSS protocol enables the digital equivalent of subscribing to a magazine or newspaper.

**Channels** are what you explicitly and proactively subscribe to (PULL). A channel is analogous to a newspaper or magazine subscription but it also approximates the radio or television station one might tune into in order to consume a particular variety of information or entertainment.

**Episodes** are components of Channels. A podcast channel will initially have one or more episodes and the number of episodes will grow over time in a regular or irregular fashion. Often, episodes tell a story in serial fashion. This method of story telling has been used very effectively in radio, television and even in film theatres though the latter has fallen into disuse lately. Episodes can also be used to provide ongoing commentary on loosely related or unrelated subjects as in a newscast.

**Aggregators**, such as the iTunes application, do not have a precursor except perhaps among the leisure classes. What an aggregator does is manage subscriptions and then play them on demand. It periodically checks to see if there are any new episodes and, if there are, fetches them. In other words, the aggregator facilitates the **discovery** of resources within an area of interest defined by the subscription. The iTunes application will also play the full range of podcast types on a computer and synchronize those resources to an iPod for even greater mobility and convenience.

**Time-shifting** is a recent but not entirely new concept. It began with the analog VCR and evolved to the Digital Video Recorder or DVR (e.g. TiVo). Without these de-

vices, members of the audience have to consume the broadcast at a specific time and day. Recording the broadcast allows one to shift the time and date of consumption to better fit one's schedule. In podcasting, this is a standard feature rather than something that requires 'extra' equipment and has to be explicitly initiated. Not only does podcasting provide time-shifting free and as a matter of course, it also enables place-shifting, especially where the iPod is used.

### **Simplifying Assumptions**

This paper confines its view of podcasting for both practical and relevancy reasons. As a practical matter, trying to be comprehensive would require more material than could be treated in a 45 minute presentation. More importantly, the relevance of this paper to educational audiences would be severely diminished in such an attempt. Thus, we limit our focus as follows.

Identifying the **iTunes application as the aggregator of choice** is a relatively simple one. It is a free, cross-platform application that supports the full range of podcast types and it is widely adopted (Apple: 600,000,000 copies downloaded).

Podcasting educators must recognize the **relationship between iTunes and the iPod**. They are not co-requisite. While some educational objectives will require targeting both the iTunes application and the iPod, others will require targeting the iTunes application only. The iPod adds considerable value in the form of mobility and convenience but it also represents a cost that may not be supportable in all environments.

**Educational Podcasting is different from other kinds of podcasting.** Although educational podcasts can be published via the iTunes Store, doing so may conflict with legal and pedagogical principles. Educators may use copyrighted materials under con-

ditions spelled out in the TEACH Act of 2002. Basically, this involves restricting access to the copyrighted materials to the students in the class. If podcasts include student-generated materials, thought must be given to student privacy (FERPA). Finally, some educational objectives may be inconsistent with a world-wide audience.

Finally, we assume the use of **Educational Podcasting Services** such as the USG Podcasting Server and/or iTunes U. Because educational podcasting goals and objectives are different, we need specialized tools that have been honed to meet those needs.

### **Preparing Your Gear**

In addition to having a firm grasp on the concepts and principles of podcasting, you'll want to survey the resources available to you for your first attempts at podcasting. You may have to acquire one thing or another but you probably have most of what you need to make a first pass at podcasting already in hand. Successive iterations of the process will help you identify where you want to upgrade your podcasting resources.

**Podcast Server access.** Since publishing and promoting podcasts requires an appropriate server, it follows that you'll need a server account. The simplifying assumptions made earlier reduce this choice to either or both the USG Podcasting Server and iTunes U. Your institution either already has a presence on one or both of these services or can easily arrange for it through your ACIT representative.

You might ask, "**Why use both?** Why not choose one or the other?" While choosing one or another is certainly an option, the fact that both services are free and each has strengths not shared by the other might argue otherwise. This is an institutional decision. Here are some of those differences:

- iTunes U has a public side that is useful for public relations purposes, the USG server does not.
- iTunes U has a simpler subscription process (uses local authentication system [e.g. LDAP using Banner data])
- USG Server has more publishing options (PW-protected channels and episodes, code generator for subscription buttons used in Vista, other sites).
- USG Server has greater subscription flexibility (involving people outside of your authentication system [e.g. Banner])

**Audio Gear** can be as simple as the built-in mic that many computers have, as elaborate as a full-tilt recording studio or something in between. The minimum is a microphone connected to a computer that is recognized by software for digitizing audio (e.g. Audacity, GarageBand, QuickTime Player Pro, etc.). A digital audio recorder could also be used.

**Video Gear** can be considered in a similar fashion. Some computers have video cameras built-in (iMac and Mac laptops) while others will require the acquisition of a camera. DV cameras that record to tape may also be used as long as that recording can be transcoded to an appropriate video file. MPEG-4, an open standard, should be a fail-safe choice.

**Environmental** variables such as lighting and sound isolation are important considerations that can be used to good advantage without having to rent a studio if a little forethought and ingenuity are applied. A few extra lamps, pillows, drapes and other fabrics can transform a room into an acceptable recording studio.

**Computer and software** preparations are critical. All modern computers are capable of digitizing audio and video (see companion web site for specific titles) but you'll want to make sure that the computer is in good health and not preoccupied with other chores.

## **Planning**

The planning process is a critical one and should be revisited every time you start a podcast project. This is both a pedagogical process and a technical process. All factors need to be considered in a holistic way.

**Who is your audience?** This is an essential question the answers to which will change with the audience and with time. Understanding what their computing and network environment is essential. Do they have iPods and, if so, what kinds? What do they already know about the subject that you plan to treat? Are they independent learners?

**What is your message?** This is a pedagogy and content question that is essential to the formation of learning objectives. What is it that you expect this audience to know and be able to do following this learning experience?

**What, then, are your learning objectives?** What is it that you expect this audience to know and be able to do following this learning experience?

**What technologies fit this objective?** Is podcasting the best way to pursue this particular objective? Learning objectives must lead technology choices. It may well be that podcasting isn't a good fit. If so, look for other solutions.

## Producing

Although podcasting began as an audio file attached to a blog entry as soon as RSS 2.0 enabled that feature (called audio blogging at the time), podcasting has evolved to include still images and video as well. The following series of examples catalog the variety of podcastable media today. Lists of applications to create these podcast types, tutorials and further examples may be found on the companion web site for this presentation (<http://sleepy.gcsu.edu/RockEagle2007>). Each type will be illustrated by up to two movies showing the view from the iTunes application and the view from an iPod where applicable.

**Audio-only** podcasts can be created by digitally recording audio using a computer or digital audio recorder, converted from an analog recording using an A/D converter or through the use of text-to-speech software. There is a vast array of software to manage various aspects of this process.

Demo: Audio-only podcast played in iTunes

Demo: Audio-only podcast played by an iPod

**Audio with Album Art** is an attempt to digitally re-create some of the functions performed by the artwork typically found on 76 RPM vinyl recorded music albums. Those functions include consumer recognition and artist branding. Album art is a single image that is visible throughout an audio presentation (song, speech, etc.) either as a thumbnail image or full size. The predominant method for adding album art to audio involves the use of iTunes either by the recipient after subscription or the podcast author prior to publication. Album art has taken on additional importance with the introduction of the

cover flow feature in iTunes 7 and the iPhone and iPod touch in 2007. Cover Flow uses album art to browse music and podcast collections.

Demo: Audio w/Album Art played in iTunes

Demo: Audio w/Album Art played by an iPod

**Audio-annotated Slide-shows** (aka Enhanced Audio Podcast) are of special interest to educators since they can be used to create an asynchronous presentation, lecture or other event presenting images (slides) arranged arbitrarily along an audio time line, just as with a Powerpoint (Win/Mac) or Keynote (Mac) presentation. Normally, lectures, presentations and such are presented synchronously. That is, you must be at a certain place (classroom) at a certain time in order to perceive it. Additionally, the Enhanced Audio Podcast provides a chapter track with titles and thumbnail images which provides students with random access to the presentation which is very valuable for study.

Demo: Enhanced Audio Podcast played in iTunes

Demo: Enhanced Audio Podcast played by an iPod

**Original Video** Podcasts are created by faculty instructors or by their students using inexpensive DV cameras and applications such as iMovie (Mac) or Movie Maker (Win). Professional videographers are sometimes involved in this process using the higher end hardware and software typical of commercial ventures.

Demo: Original Video Podcast played in iTunes

Demo: Original Video Podcast played by an iPod

**Repurposed Video** Podcasts are created by excerpting footage from extant media, commercial or otherwise, such as DVDs, VCR Tape, etc. These clips may be used as-

is in a standalone fashion or mixed with other repurposed and original footage to server a purpose quite different from the original.

Demo: Repurposed Video Podcast played in iTunes

Demo: Repurposed Video Podcast played by an iPod

**Video With Chapter Track** Podcasts can be created with GarageBand (Mac). Just as with the chapter track in the Enhanced Audio Podcast, the author can create chapter markers (titles and thumbnail images) at arbitrary points along the video time line. This can make linking assignment components to specific scenes quite easy to do.

Demo: Video Podcast w/Chapter Markers played in iTunes

Demo: Video Podcast w/Chapter Markers played by an iPod

**Video With Closed Captions** provide a partial answer to accessibility questions that are of particular importance to educators. There have been numerous attempts to add captioning to video so that the hearing impaired might be able to make as much use of video as non-impaired students. Very recently, Apple adopted the Scenearist Closed Caption file format (\*.scc). It has been available in QuickTime since version 7.1 (7.2 is current) and in iTunes since version 7.4 (7.4.1 is current). There appears to be an intent on Apple's part to extend closed captioning to the iPod. The option appears on very recent iPods but testing so far indicates that this feature is not yet operative.

Demo: Video Podcast Closed Captioning played in iTunes

Demo: Video Podcast Closed Captioning played by an iPod (maybe)

**Streaming Video** Podcasts are possible in iTunes using a "reference" movie. Unfortunately, that ability does not extend to the iPod, not even the iPod touch which is the

first iPod to have wireless connectivity. It appears that the iPod does not yet support the Real Time Streaming Protocol (rtsp://) used by QuickTime and Real Media.

Demo: Streaming Video Podcast played in iTunes

**Portable Document Format (PDF)** Podcasts are possible but playback requires the free Adobe Reader, So, although iTunes downloads the PDF, it does not display it. Instead, iTunes hands off the file to the Adobe Reader for display, etc. PDFs are an excellent component of a podcast channel where providing instructions with text and graphics is important.

Demo: iTunes downloading a PDF and handing it off to Adobe Reader.

**Metadata** “tags” should be added to all podcast files to help the audience with information about the content. As well, metadata can be critical in helping learners discover and organize podcast files. For example, iTunes has a feature called “Smart Playlists” that students might use to create a playlist that helps them see relationships between and among podcast episodes from several otherwise unrelated classes.

Since iTunes metadata was created to primarily support entertainment, metadata category titles tend to reflect that fact. Consequently, educators need to use these categories creatively and possibly establish conventions to encourage uniformity in the way these categories are re-purposed.

The iTunes application itself contains a substantial metadata tagging capability that can be used in a post-processing fashion. The Lyrics and Artwork tabs are particularly useful. Some applications used to create podcast files such as Garageband are able to add metadata during podcast file production.

Demo: Podcaster adds extensive text to Lyrics category and several sort fields.

Student uses iTunes Search to locate podcast episodes associated with class, topic, problem/case, etc.

## **Publishing**

In accord with our simplifying assumptions, this discussion is confined to the two major educational podcasting servers available to faculty in Georgia today, the USG Podcasting Server and iTunes U. Both are centralized facilities with distributed management schemes that enable institutional level administration. The USG Podcasting Server is hosted on the GCSU campus in Milledgeville Georgia whereas iTunes U is hosted on the Apple campus in Cupertino California.

### **The USG Podcasting Server**

The USG Podcasting Server is currently accessed at this **address**:

<http://podcasting.gcsu.edu>. At this address one sees an institutional listing with links to each institution's logon page. Plans are underway to obtain a USG domain address. Many campuses use local web sites to link to their institution's logon page which can be branded with that institution's name, logo, colors, etc.

Demo: Institutional listing and institutional logon page

For example, GCSU links to the USG Podcasting Server use:

[http://podcasting.gcsu.edu/4DCGI/Podcasting/univ\\_page.html?UnivID\\_Str=20&Ran=28599](http://podcasting.gcsu.edu/4DCGI/Podcasting/univ_page.html?UnivID_Str=20&Ran=28599)

Demo: Direct link to institutional logon page.

Institutions request a presence on the USG Podcasting Server through their campus representative to the ACIT by nominating an institutional administrator who uses local policy and procedures to manage this resource for their institution.

Individuals **request an account and initial channel** through a forms interface on the USG Podcasting Server that does not require a logon. This request is handled by the institutional administrator

Demo: Requesting an initial account and channel.

Subsequent **requests for additional channels** are handled by a forms interface that is available immediately upon logon. This, too, is handled by the institutional administrator.

Demo: Requesting subsequent channels.

**Episodes** contain the content being published and are created by the 'owner' of the channel. No approval is required and there is no limit to the number of episodes one can create. However, local policies may apply.

Demo: Creating an episode

Note the drag & drop facility and the fact that one does not have to create/edit the RSS file that accompanies the channel and its episodes. No additional software such as an FTP client is required.

**Documentation** with text and screen shot illustrations is available to the podcast author throughout their interaction with the server.

Demo: Consulting the documentation.

**Statistics** describing channel subscriptions and episode downloads are also available throughout.

Demo: Consulting channel and episode statistics.

**Navigating** lists of channels and lists of episodes has recently been improved using AJAX techniques to present dynamic, scrolling menus instead of the previous multi-page approach.

Demo: Navigating lists of channels and episodes.

**Search** is another way to navigate within one's channels or episodes. Search criteria formation is assisted through the use of progressively displayed drop down menus.

Demo: Searching Channels and Episodes.

**Editing and Updating** Channels and Episodes, including media, is a simple matter of interacting with a forms interface much like that which is used initially. Episodes can even be moved from one channel to another.

Demo: Edit, Update, Move and Delete Episodes

Demo: Update and Delete Channels

**Password Protecting** an entire channel or selected episodes is also possible. This feature is often used with copyrighted materials in order to more fully comply with TEACH Act provisions.

Changing episode **publication date** can be done in either wholesale or episode by episode fashion. This is very useful to faculty who wish to re-use a channel semester after semester but want to arrange a sequence with which episodes become available. The podcaster can also change the address of the channel effectively cutting off access to students from a previous semester.

Demo: Various ways to change episode publication dates

Demo: Changing the Channel address to enable re-use with a new class

## **iTunes U**

The architecture of iTunes U is different in that there is a “public” side and a “private” side. The public side requires no authentication and, as such, is quite useful as an institutional public communications vehicle. As with the USG Podcasting Server, management is distributed to the institutional level. The USG has developed an enabling contract with Apple to facilitate individual institutions in the system in obtaining access for their school. This management can be further delegated by subdividing areas of authority. Content on the public side is managed by these administrators.

The private side of iTunes U is, at most, a mirror of an institution’s local authentication system (LDAP, Kerberos, Shiboleth, etc. which is usually synonymous with SIS [e.g. Banner] records) in that courses, course sections and related person records (instructors and students) are found in the iTunes U hierarchy as well. The degree to which an institutional instance of iTunes U reflects the SIS is a function of administrator action. If an administrator enables a course, the instructor may add content to it and students enrolled in a section of that course may access that material following authentication. It is possible for administrators to create an instance of all courses using a batch upload process.

**Public Access** requires no credentials for consuming content. However, content creation (uploading podcasts, annotating and arranging them) requires authentication as an administrator. Distributed management is manually assigned.

Demo: Logon for administrators

**Authoring tools** are actually tools for uploading podcast files, arranging and annotating them.

Demo: Use of basic authoring tools.

**Course (private) Access** is role-based. Instructors are presented with authoring tools only for course sections for which they are the instructor of record. Students have access only to active course sections in which they are enrolled and have been instantiated by an administrator.

Demo: Instructor uploading and annotation episodes for a course section.

Demo: Student accessing course materials.

## **Promoting**

Promoting a podcast channel to a selected audience, a class for example, can be done using a variety of well-known vehicles such as paper handouts (e.g. a syllabus), e-mail and web pages served up by standard web servers or specialized Learning Management Systems such as GeorgiaVIEW Vista. The specifics of that promotion will vary depending upon the podcasting server used, the audience targeted and whether you are promoting subscription to a podcast channel or simply sharing an episode or two. Since we are confining our attention to educational podcasting servers, the USG Podcasting Server and iTunes U, our somewhat simpler task will be offset by the very significant differences between these two services. Generally speaking, the USG Podcasting Server is easier for an institution to initiate and administer, more flexible and offers more options but requires more background knowledge of the faculty and students using it. Conversely, iTunes U is more difficult for an institution to initiate and administer, less flexible and offers fewer options but is simpler for faculty and students using it. Both use the iTunes application but the USG Podcasting Server confines its attention to the Podcasting Library exclusively. iTunes U, being modeled after the iTunes Store,

uses the Podcasting Library for podcast channel subscriptions plus other Libraries for episodes downloaded outside of the subscription process.

We have also standardized our treatment of podcasting on the iTunes application as aggregator. Although there are many aggregators available, some with specialized attributes, the iTunes application is best of breed due to its being free, cross-platform and able to support the widest array of podcast types.

### **USG Podcasting Server**

**Podcast Channel Subscription Methods** are an important variable to consider in promoting a podcast channel hosted by the USG Podcasting Server. The iTunes application supports two basic subscription methods as follows:

- Manual Subscription ([HTTP://podcasting.gcsu.edu/.../Channel/22805.xml](http://podcasting.gcsu.edu/.../Channel/22805.xml))

Demo: Manual Subscription via iTunes

- One-click Subscription ([ITPC://podcasting.gcsu.edu/.../Channel/22805.xml](http://podcasting.gcsu.edu/.../Channel/22805.xml))

Demo: One-click Subscription via “Subscribe” button

- En Masse (OPML [Outline Processor Markup Language]). This method enables the promotion of a whole set of podcast channels regardless of author and originating server. In essence, it is a way to share all or a part of one’s podcast library.

Demo: Professor exports OPML, student imports it and subscribes to all recommended podcast channels at once.

The **Podcast Consumer** does not **access** the USG Podcast Server directly as is the case with iTunes U. This enables defining audiences in more flexible ways. For example, iTunes U forces the choice between a global audience on the one hand to the current class schedule on the other. You can target everyone in the world or the stu-

dents enrolled in each of the classes that you teach, that's all. The audience for a USG Podcasting Server channel is defined by the dissemination of subscription links and that definition may be reinforced with the use of password protected channels or episodes. This greater flexibility in audience definition will require slightly more effort from the podcaster but may be justified by the additional flexibility in audience definition.

**Disseminating Subscription Information** is largely a function of how the defined audience is expected to discover and use the podcast channel address. The podcaster must first discover the address of their podcast channel and then decide what vehicle(s) to use so as to enable the audience to subscribe to the intended podcast channel(s). Channels hosted on the USG Podcasting Server may also use the iTunes Store Podcast Directory to target a global audience

(<https://phobos.apple.com/WebObjects/MZFinance.woa/wa/publishPodcast>). Interestingly, iTunes U cannot use this feature from class-based channels and episodes due to the authentication requirement..

**Address discovery and dissemination for Channels** is a simple matter on the USG Podcasting Server which generates links and entire blocks of code for the podcaster to copy and paste. One can copy/paste an http:// address to support manual subscription, an itpc:// address for one-click subscription or a complete block of HTML/ Javascript code to support the use of "Subscribe" buttons on web pages. Podcasts hosted on the USG Podcasting Server can also be submitted for listing in the iTunes Store Podcast Directory and, with acceptance there, one can use the "Tell a Friend" feature

Demo: Podcaster copy/pastes http:// address, use in paper syllabus, e-mail or web page (text of step-wise instructions).

Demo: Student Using manual subscription from e-mail instructions.

Demo: Podcaster copy/pastes itpc://address, use as hyperlink in e-mail or web page.

Demo: Student using one-click subscription from e-mail hyper-link.

Demo: Podcaster copy/pastes "Subscribe" button code, use in web page on standard web server or GeorgiaVIEW Vista.

Demo: Student using "Subscribe" button in GeorgiaVIEW Vista.

Demo: Podcaster Control-clicks (Mac) or Right-clicks (Win) to copy podcast links in iTunes Store Podcast Section, pastes to an HTML hyperlink. Podcaster uses iTunes Store Podcast Directory "Tell a Friend" feature to send an e-mail with a clickable link to individuals.

Demo: Student using iTunes Store initiated E-Mail Invitation.

**Address discovery and dissemination for Episodes** present a different set of promotional opportunities. Since one doesn't subscribe to an episode, it is actually a simple matter of offering the audience the opportunity to download and play specific episodes. The USG Podcasting server provides the podcaster with an address to each episode that can be used to share that episode in a standalone fashion or as part of a program to encourage subscription to the podcast channel of which it is a part. The challenge here is deciding how best to present that episode. Simply sharing the address may be sufficient but using standard object/embed code will enable a much wider range of options such as enabling the episode to play in the QuickTime player where the audience can choose from among many playback options. The complexities of

object/embed code are beyond the scope of this paper but it should be mentioned that there are excellent tools to simplify the process such as the cross-platform application Pageot (<http://www.qtbridge.com/pageot/pageot.html>) and a system under development at GCSU called the Vista Video Presenter.

Demo: Podcaster copy/pastes address to an episode, adds object/embed code and tests the resulting link.

Demo: Student clicking on a link on a GeorgiaVIEW Vista content page that opens a video podcast episode in the QuickTime player, students adjusts window size, audio volume, brightness, etc.

## **iTunes U Podcasting Server**

**Podcast Channel Subscription Methods** in iTunes U can best be understood in terms of the **Public Side** where access is open to all versus the **Course Side** where access is authenticated by course section affiliation. These function quite differently from one another.

On the **Public Side of iTunes U** (e.g <http://iTunes.gcsu.edu> click on the “Public Access” button), one can browse through the available hierarchy and either download individual tracks (episodes) or subscribe to channels by clicking on various aptly named buttons. Downloading individual tracks will place media in the Music or Movies Library and a Playlist organizing them in parallel to how they are organized on iTunes U will be auto-generated. Subscribing to a channel will place all media in the Podcast Library regardless of type. These are organized by podcast channel title in the Podcast Library.

In addition to this browsing technique on the Public Side, one can right/control-click a podcast channel to obtain an address that can be used to direct people to the podcast

channel description page for your institution's instance of iTunes U Public Side. That address will look like:

<http://deimos.apple.com/WebObjects/Core.woa/Browse/gcsu.edu.1243335555>

... and can be disseminated using the same vehicles: paper, e-mail, and web pages as described earlier. However, these addresses only bring one to the podcast channel subscription page where they may elect to subscribe to that channel or they may elect to download individual episodes. This is also true of addresses associated with individual episodes so there is no auto-subscribe nor is there a way to make an episode available outside of iTunes U, not even if it is on the public side..

Demo: General Public browsing of public side illustrating the difference between getting tracks (all or selected) and subscribing to a channel.

On the **Course Side of iTunes U** (e.g <http://iTunes.gcsu.edu> click on the "Course Access" button), access is controlled via the institution's local authentication system. The local authentication system (LDAP, Kerberos, Shiboleth), etc.) is used to send an encrypted authentication string to iTunes U that includes information about that person's role and the course sections that person is associated with in that role. Thus, a student logs on using the same username and password as they would with local systems and the local authentication system keeps up with any and all changes in those credentials.

However, the student will only see course sections that have been populated with materials by the instructor of record for that class. That process is initiated with a request to the institutional iTunes U administrator to activate that course area. There is a batch course creation also available.

Once the student has authenticated to iTunes U, she will see all those classes that she is enrolled in that have been activated along with everything that the general public sees. Using the iTunes U interface, which looks and behaves exactly as the iTunes Store, the student can get selected tracks, get all tracks and subscribe to a class podcast.

Thus, faculty promote course materials on iTunes U by providing students with the address of the institutional instance of iTunes U (e.g. <http://iTunes.gcsu.edu>), instructing them to click on the “Course Access” button and then responding to the password challenge using the same credentials as they do with other services gated by the local authentication service.

Demo: Student logs-on, finds class and subscribes to podcast channel.

Following the Five Ps of Educational Podcasting will assure the maximum educational benefits of podcasting will accrue to your students. Preparing your mind and your gear, planning with your audience and educational objectives in mind, producing the kinds of podcasts that will best help that audience achieve those educational objectives, publishing them using all of the strengths of the server and promoting them in a way to facilitate and encourage the consumption of your materials are all tried and true methods adapted to the digital age and the new tool set that is podcasting.

Good luck in your podcasting adventures.