

**THE USE OF PODCAST TECHNOLOGY
AND OTHER ONLINE VISUAL MEDIA
IN GRAPHIC DESIGN EDUCATION:**

**THE DEVELOPMENT OF A WEB SITE TO CONNECT
GRAPHIC DESIGN STUDENTS AND RESEARCHERS
WITH GLOBAL DESIGN KNOWLEDGE AND EXPERIENCES.**

ANTHONY J ROSTVOLD | MFA THESIS
UNIVERSITY OF MINNESOTA DULUTH
DECEMBER 8, 2006

Dedication

To Mom and Dad

Table of Contents

Dedication	2
Table of Contents	3
Abstract	4
Introduction	5
Terms	6
Podcasting Technology	8
Podcasting in Education	10
Visual Blog Research	12
Podcasting Research	18
The Development Process of <i>Designer Network</i>	21
Site Definition and Planning	21
Information Architecture	23
Site Design	25
Site Construction	26
Site Marketing	29
Tracking, Evaluating, and Maintenance	31
Future Research	32
Conclusion	34
Bibliography	35

Abstract

Recent advancements of Really Simple Syndication (RSS) subscriptions, and the creations of online video content known as podcasting have created accessibility opportunities for students in traditional classroom and web-based education (WBE). The development of a web site to manage podcasts will result in accessible options for WBE in art and design education. Use of this technology includes: recording of instructional videos, documentaries, classroom lectures, and visiting lectures. This thesis begins with a brief technological overview of podcasting and continues with an exploration and research of visual blogs, and podcasting for graphic design education. The thesis outlines the creation and design of a web interface for managing podcasts for graphic design education, and includes a brief look into research opportunities of podcasting in WBE as well as a look at the future of the Internet in academe.

Introduction

The Internet provides a means of creating, sharing, and distributing information. With such a large amount of information on the web, which comprises a considerable portion of the information on the Internet, new management systems need to be created to handle such information.

Podcasting subscription management is a benefit for the education of graphic design students and is an important historical reference for graphic design researchers. The global accessibility of this new media provides students both in a traditional classroom and in WBE to have the same access to information. The creation of a web site that connects students and researchers with design-based presentations and lectures will enrich the collective knowledge base of graphic design. This thesis will examine a brief overview of the technology of podcasting, podcasting in academia, visual blog research, podcasting research, the development of a content management for podcasting, and future WBE research suggestions.

Terms

Accessible, Accessibility

When this paper discusses accessible or accessibility, it is referring to individuals with physical disabilities who need assistive technologies to access online content. It also refers to individuals who could not or cannot go to a specific location due to distance such as a student taking web-based education.

Blogs, Forums, Comments

The term *blog* is a fusion of the word *web* and the term for a journal entry known as *log*. Blogs are used as personal online journals as well as recent news announcements. When individuals Blog something they are expressing themselves in a journalistic opinionated manner.

Open Source

Much like shareware software, open source refers to software that is released under a license allowing individuals to use the software under protected certain rights, but usually the software remains as free for public use, allowing for open modification of the source code ("What is Open Source").

Web-Based Education (WBE)

Delivering education over the Internet, either using Instructor-facilitated courses or self-directed studies. Web-based education is also known as e-learning, online learning, and distance learning.

Podcast, Podcasting

The term *podcast* is a fusion of *iPod*, a portable media device created by *Apple Computer Inc.*, and the term used for the transmission of television and radio, *broadcast*. Currently individuals or groups use the term podcasts to refer to the process of providing on-demand video and audio content on the Internet. Podcasts are also known as blogcasts, audiocasts, vodcasts, audio blogs, video blogs, and netcasts. For this thesis when I discuss web-based recordings and production of video and/or audio broadcasting media on the Internet, I will use the term podcast because it is currently more widely understood and used to define this process.

A brief look into podcasting technology

Those who create Podcasts are individuals who are expressing their views or interest in digital video or audio format. Many are more focused on specific content, offering news, interviews, or presentations (Richardson 112).

Just like Blogs, podcasting focuses on providing a universal content distribution to its subscribers through an XML-based format called Really Simple Syndication (RSS) (Ractham and Xuesong). RSS allows viewers of the podcast to download video, audio, and textual information instantly. Once they have subscribed to RSS, viewers are able to continually download podcasts and watch the podcasts on demand.

A misconception of podcasting is that you need to use an Apple iPod or other portable device to listen to or see a podcast. You can use a computer or even burn the podcast onto a DVD and watch or listen to it from your DVD Player.

The success of podcasting has to do with how easy it is to produce and provide content to an audience. In the first 6 months of podcasting existence, more than 5,000 new podcasts were created (Richardson 112). As Robert Scoble and Shel Israel noted in their book *Naked Conversations: How Blogs are Changing the Way Businesses Talk with Customers*. Seeing the speaker is desired:

“Text and audio blogs [podcasts] have enormous implications, but there is nothing quite like actually seeing a speaker. And if you cannot be there when a particular event happens, the power of video is indisputable.”
(Scoble and Israel 220-221)

With the increasing number of web users having access to broadband Internet, there has been an explosion of podcasts. In June of 2005, *Apple* incorporated a podcasting listening, subscription, and search feature into its *iTunes* software. This feature brought podcasting to the masses; in just two days one million subscriptions were recorded (Neumayr).

In September of 2005, *This WEEK in TECH*, also known as *TWiT*, one of the most popular podcasts on the Internet, surpassed 1 million subscriptions (Laporte) . *This WEEK in TECH* now has advertisements before and during each podcast and collects donations on its web site. The monetary value in this new media is quickly becoming a new form of profitability for podcasting. Leo Laporte of *TWiT* has successfully rolled out an online Internet Technology Network called *TWiT.tv*. Between thirteen podcasts syndications, he and his *TWiT* colleagues have created a network that discusses what is new or upcoming in the Information Technology Sector.

On April 4th, 2006, our MFA Design Podcast at the University of Minnesota Duluth was featured in The *St. Paul Pioneer Press*, in an article on podcasting on University and College campuses in Minnesota. The article was entitled “Big Podcasts on Campus” (Ojeda-Zapata). The word “big” had to do not only with the number of presenters who were giving podcast lectures at Universities but also with file sizes (video podcasts can become large files to download). File sizes, however, have not deterred individuals from podcasting.

Podcasting in Education

Podcasting in education is an extension of the classroom instructional video or audio; accessibility rather than the quality of visual or audio is the technological achievement of podcasting. In WBE this increasing accessibility is essential for students who are connecting remotely to instructional material and courses.

Recording the classroom itself is one way in which podcasting is being used in education. Schools such as The University of California Berkeley have started pilot projects with *Apple's iTunes U*, a hosting service and content manager that allows users to download content on their computers or transfer the information to their *iPod* ("Apple – Education – iTunesU"). Berkeley, like other technology-enhanced institutions, uses the already established *Real Audio* video Webcast system to capture audio for podcasting ("About Podcast Pilot").

At other institutions, without faculty-assisted *Real Audio* video Webcast systems, faculty have begun to explore podcasting on their own. Instructors have started recording in the classroom or creating instructional video recordings of routine classroom directions.

I believe the most current successful use of podcasting is recording visiting lectures or on campus performances. Universities in the past have recorded lectures or performances to have them for access at University libraries, but now with podcasting the libraries could store the information digitally. The University of Connecticut Libraries has a digital audio reserve which streams audio to registered students of the University ("Reserves"). Such a school-

based system could allow for students or faculty to access the information remotely from the classroom. Students would be able to login from their dorm room to the library to watch or listen to a podcast days or years after the original event.

Creating a system of on-demand podcasts would allow students in WBE to have the same access as students in traditional classrooms. When a visiting artist/lecture is recorded, it not only records the historical process and concepts that the designer used to create his or her designs, but it also records a snapshot of the designer's personal style. Such historical data was unthinkable just a few decades ago. To hear a designer speak about his or her own work is different than reading about it in a history of graphic design textbook. In a podcast, the emotion in the designer's voice and the physical gestures, or facial reactions to questions may not translate into text. As more designers break away from sketching or writing in notebooks, referencing their thoughts at a lecture may be one of the only ways to record what they actually thought about a project, a client, or even the meaning of a design itself.

A great example of the potential historical merit of podcasting occurred during the question and answer session after Rick Valecenti's lecture on October 3, 2006, at the Tweed Museum of Art, Art and Design Lecture Series, University of Minnesota Duluth. The podcast not only gives the viewer an idea of the designer's wit and humor but also his humorous description of the creation of the earth. "God stands for greatest of designers..." ("Rick Valicenti: Creative Block").

Visual Blog Research

In February of 2005, I started to explore the concept of making blogs more visual. The notion behind my visual blog, which I called *Network Magazine*, was to post daily visual-based communication that included less text than a traditional blog. Each month I picked a different topic and then daily I would create and post my visual comments. By adding visual elements, photography, motion graphics, and video, I found a more engaging way to communicate my visual messages.

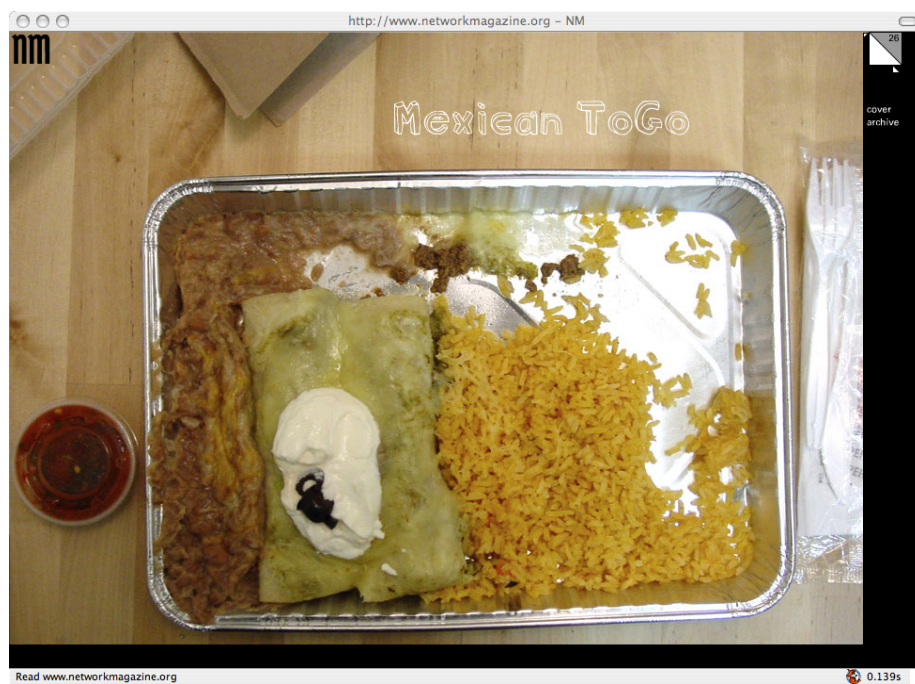
When *Network Magazine* first began, I was using it as a daily routine to break away from a creative block I was experiencing at the time. Within the first few days it evolved to being more about a reaction of the mixing of cultures and the globalization impact that is occurring in the United States. The following figures show the first few months of this process. (Figure 1-4 *Network Magazine*)



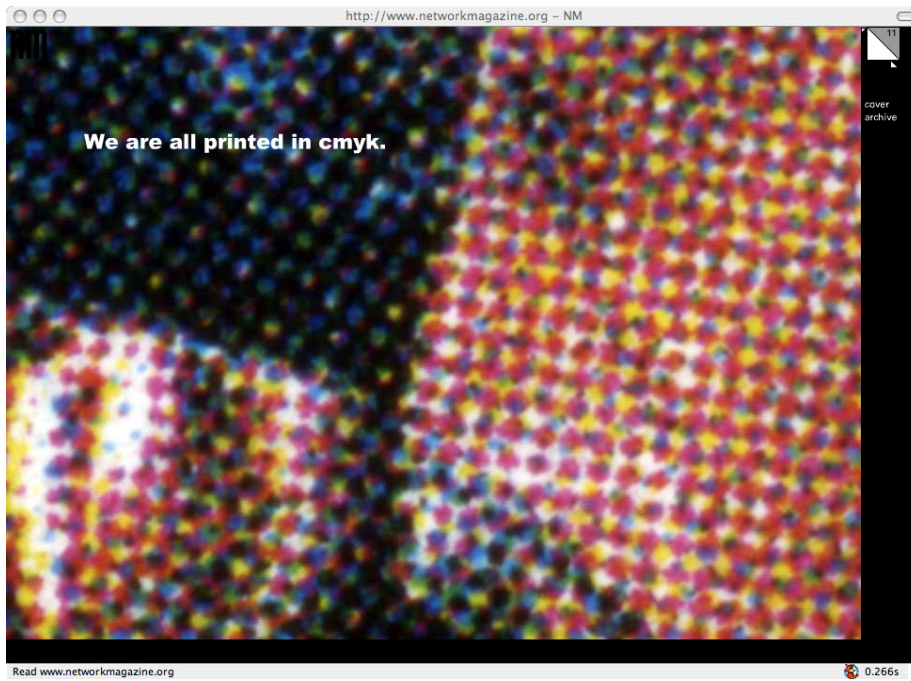
(Figure 1: *Network Magazine*)



(Figure 2: *Network Magazine*)



(Figure 3: *Network Magazine*)



(Figure 4: *Network Magazine*)

In May 2005, Professor Robert Appleton, invited me to be a part of *Grafist 9*, an International Design Festival that takes place annually at Mimar Sinan Fine Arts University, in Istanbul Turkey. As a *Next Generation* participant, I gave a short lecture on my work in *Network Magazine*.

(Figure 5: *Network Magazine*)



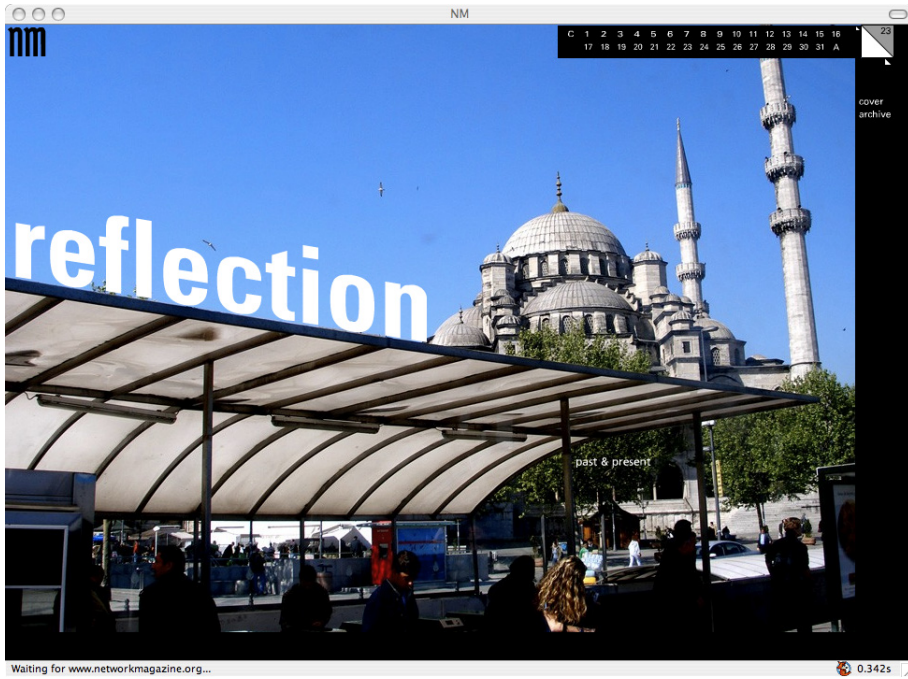
(Figure 5: Network Magazine)

Grafist 9 made me realize how graphic design crosses cultures. Graphic designers from Germany, Holland, Greece, Iran, Israel, United States, and Turkey attended the design festival. Although our cultural differences could have hindered the festival, graphic design connected us all. We all build off of the basic principles of design, however our cultural environment changes the way we do graphic design. A great example of this is the differences in how we use type. In western cultures we write from left-to-right; in Israel, Hebrew is written from right-to-left; and in Iran, Farsi is a pictorial language that allows the viewer to read in different directions. The festival allowed us to exchange our knowledge of graphic design through our own cultural perspective and at the same time educate ourselves about design in each other's countries.

Being a presenter, I found myself showing video on broadband speeds comparable to the speeds we had in the United States in 1996. This digital experience, or struggle, showed me that my visual blog experiments were new in Istanbul, but were no longer new in the United States. I came to realize that in the United States, video could be streamed over the Internet much more easily than in the past.

As I reflected on this cultural experience during the summer of 2005, I continued to examine my visual blog. I realized that although it was more visually expressive, all but a few of the posts were still just static images.

(Figure 6-7: *Network Magazine: Reflections*) With the announcement that a podcasting feature was added to iTunes in June 2005, I decided to include motion and video into my blog. Talking with Professor Appleton about his interest in globalization and the process of teaching western design in economically-emerging eastern nations, we began to see the potential benefits of podcasting for the good of global graphic design education.



(Figure 6: Network Magazine: Reflections)



(Figure 7: Network Magazine: Reflections)

Podcasting Research

Before the Fall 2005 semester began, I asked Professor Appleton about the possibility of podcasting our Masters of Fine Arts (MFA) seminar course. With his permission and with his interest in globalization of graphic design in mind, we began to podcast the MFA seminar courses he was instructing. Hilary Albuquerque, Neal Peterson and myself attended the course and participated in the experiment. We began by recording in audio and occasionally in video. By August 2005, *Apple* had incorporated video podcasts in *iTunes*. We immediately switched to podcasting our course exclusively in video.

By December 2005, I had found that I was more interested in podcasting and no longer posted in *Network Magazine*. The static images I created in the blog for almost an entire year no longer captured my attention.

Explored methods of podcasting MFA Seminar Instruction:

Most of the podcasts that we produced were simply created using Apple's *Quicktime Pro* software using an *Apple iSight* camera or a digital camcorder on a tripod. We found that using *Quicktime Pro* was the easiest and most efficient way of recording our class sessions without spending time editing the recordings. *Quicktime Pro* is designed to recognize if a camera has been attached to the computer. It immediately opens a recording window with a single button to record. This simple method of recording video of our MFA seminar resulted in production standards that are uncensored and raw. An obscenity in a conversation, political views, politically incorrect statements, on-the-spot graphic design theory, and basic discussions were forever

recorded and released to the public as a podcast within a few short hours after our instruction. Another positive result of this was the ease of using this method. A static camera setup in the corner of the room was not disruptive to the course itself. After a few days of podcasting using this method you would almost forget that the podcast was even taking place.

Another method was used called *Wirecast*, created by *Vara Software* (“Vara Software : Wirecast”). *Wirecast* is an application that allows multiple camera connections and operates as a recording application much like *Quicktime Pro*. The problem we found with using *Wirecast* is that with the introduction of multiple cameras it quickly became a production. The organizational skills of the professor as well as the students needed to be addressed before the beginning of class. With a video switch operator to orchestrate the podcast, this became more like a newscast and became a scripted classroom discussion. We only created one or two podcasts in this way. As a class we found that this method lacked the rawness that we had grown to enjoy in the *simple method* of podcasting.

Successful results:

The success of our podcast was apparent when we asked our viewers to login to a site known as *Frappr*. *Frappr* is a social networking site that allows the viewers of a podcast to login and place a pin where they are located in the World. We addressed our audience in a podcast of this new tool and within a few days viewers from all over the world began posting pins (“University of Minnesota Duluth Podcast Viewers - Frappr Maps”). In January 16, 2006, I ran across a blog talking about my projective reality research. One of

our podcast viewers had posted an article asking the question “Projective reality... or not?” calling projective reality a web 3.0 classroom technology (Martinez “Crossing Borders”).

Another successful result of podcasting is the exposure of our graduate program. Joshua Hammari, a new graduate student in the fall of 2006, discovered our seminar podcasts when he was in the process of deciding which graduate programs to apply to. In a personal interview with Hammari he told me:

“...I especially liked seeing the grad review sessions and the variety of topics being explored within graphic design by the MFA students. I paid attention to the faculty as well. While the podcast was only one factor leading me to UMD, it helped me get some sort of perception of what was inside.” (Hammari)

Promotion and advertising of a graduate program through podcasting was an unanticipated result. It shows that podcasting can be more than just information about a topic such as graphic design; it can also be a way to promote degree programs in the University.

The Development Process of *Designer Network*

The exploration into podcasting our Masters of Fine Arts seminar resulted in the need to create a web site for our podcasts. The result is a site called *Designer Network*. To understand and explore how I arrived at the design of this web site, I will use an adjusted site development process outlined in Patrick J Lynch and Sarah Horton's book entitled *Web Style Guide: Basic Design Principles for Creating Web Sites (2006)* (Lynch and Horton 5-15).

1. *Site definition and planning*
2. *Information architecture*
3. *Site design*
4. *Site construction*
5. *Site marketing*
6. *Tracking, evaluation, and maintenance*

1. Site definition and planning

Production

A designer will do the production of the web site with the assistance from a programmer and potentially other designers in the future. A designer will manage the creation process and selected individuals who upload design-based podcasts and will configure their pages according to the suggested template or how they choose to manage their own content. The lead designer is the liaison to outside contractors. As the lead designer, I would manage the site and function as the long-term Webmaster.

Technology

The web site must function on as many browsers as possible, including *Internet Explorer*, *Firefox*, and *Safari*. The web site must also work on *MacOS*, *Windows*, and *Linux* operation systems. Bandwidth will be a major issue due to the size of the podcasts that are created. Individuals will need a broadband connection to see most of the podcasts, an unfortunate but progressive side effect of this media format. HTML, CSS, XML, and PHP, four programming languages, will be used to manage the content, design, subscriptions, and layout of the site. The user will need *Apple's Quicktime*, available as a free download, installed in order for the podcast to be seen on the web site. The user can create a login account and will also have access to a comment system as well a forum to post questions and comments about the presented podcasts. Because it is a podcasting web site, audio and video podcasts will be available throughout the site.

Web server support

The domain name, *designernetwork.org*, its interface, as well as the design of the site will be stored on an outsourced service provider know as *Pair Networks* ("Pair Networks Hosting Services"). *Pair* hosts, maintains, and controls the database system as well as maintains basic security and mail function for the web site. The podcasts will be stored on the selected individuals' purchased or loaned server space. During the startup process, to avoid the financial burden of the cost of bandwidth, it is important that the individuals themselves either maintain their own podcast content or pay for storage and bandwidth of the podcasts. In the future, bandwidth and server space could be provided by *Designer Network*.

Budgeting

Functioning as an educational site for graphic designers, budgeting currently is provided by grants, by potential advertising with *Google AdWords* (“Google AdWords”), or the solicitation of donations using *PayPal* (“How can I use PayPal to collect donations?”). Budgeting is currently not an issue and I have not implemented either advertising or donation collecting on the site. The Webmaster will be the site editor and will have the responsibility to make sure that copyrighted material is not compromised by the podcasters. Podcasts that are in violation would need to be removed immediately.

2. Information architecture

In order to define the information structure of the web site, I looked at a successful podcasting network, *This WEEK in TECH* (Laporte). The interface design that *TWiT* uses for its web site addresses *usability*, *accessibility*, and *content management*. All three of these elements are important to *Designer Network* as well.

Usability is an important aspect of interface design. The viewer of the web site needs to be able to access the information easily, with as little, if any, frustration as possible. Steve Krug recommends the following:

“Making sure that users can understand what they are looking at and how to use it without undue effort.” (Krug 162)

Beyond the brief textual outline of podcasts, a requirement that I found essential to this design is the ability to watch the podcast from the web site itself. This added feature allows for the user to not only subscribe to the

podcast, but allows him/her to access the site from another location and watch or listen to the podcast at will.

Accessibility is an important element of teaching web design in education.

The United States Rehabilitation Act Amendments of 1998, signed into Law by President Clinton, states:

“The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508 (29 U.S.C ‘794d), agencies must give disabled employees and members of the public access to information that is comparable to the access available to others.” (“508 Law, GAS”)

Any University that is under federal or state control falls under the guidance of Section 508. Beyond the legality of section 508, I believe that having accessibility in web design, even though it might add to and complicate the development process of web design is essential. I agree with Steve Krug: “It’s the right thing to do.” (Krug 171).

Content management is a big concern when a web site deals with large amounts of information and daily updates. The *Designer Network* web site needs to be adjustable to allow for the continuous uploads of new podcasts. Without content management, the information architecture could be compromised in a short period of time. Another goal of the web site is to allow podcasting designers who want to post their podcasts on *Designer Network* to do so easily without compromising the site design. Therefore the web site must allow the user to add, edit, and delete the podcasts they have uploaded. This advanced user setting means the site must remain fluid but yet controlled.

3. Site design

Content Components and Design

To create a site as described above, I have chosen to use an open source online content manager application, known as *Drupal* ("Drupal"). *Drupal's* accessibility and usability features allow the designer to focus on the design and the interface. The designer can then focus less on the programming of the web site because the software has already provided it. The design for the site is created using Cascade Style Sheets (CSS), a single text file that controls the look of the page.

Drupal also provides the Webmaster with a way to organize the menu and layout content within the application. It also allows the use of HTML functions in individual page design. By doing so, the podcasting individual can design his/her page without destroying the information architecture of the overall layout design.

The individual who is podcasting will provide and enter most of the textual information for the podcast. This could be the Webmaster or an individual with podcasting privileges. Some instructional information is written for those with uploading privileges. These instructions will help podcasting individuals upload the information necessary for them to create viable information about the podcast. Forums and comments on individual podcasts will provide interaction between the users and the podcasting individuals.

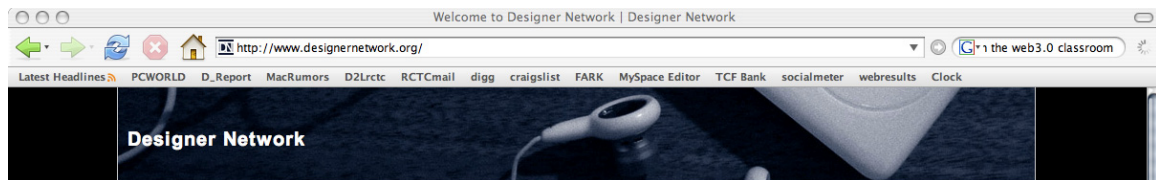
4. Site construction

Using selected imagery that would signify what the site is to the viewer would be ideal for the header and footer, top bar and bottom bar of the page

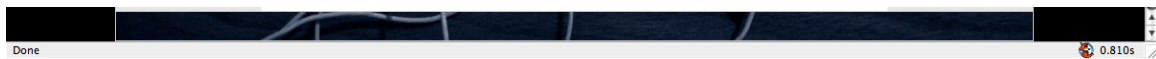
(Figure 8-9: *Designer Network: Header and Footer*). Each podcast RSS

subscription will display its image, known as “album art,” on the left-side menu as well as an image that will be in place before the podcast loads

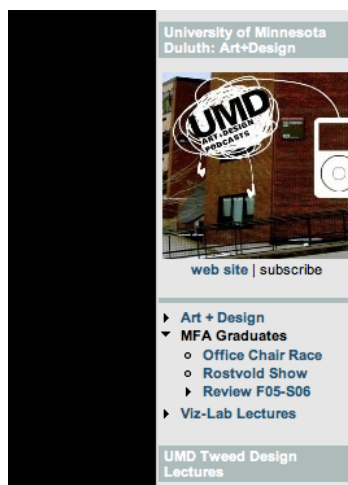
(Figure 10: *Designer Network: Album Art*). The layout design for the web site is the traditional three-column grid for web interactivity, menus on the left side and right side with the content in the middle (Figure 11-12: *Designer Network: Layout*).



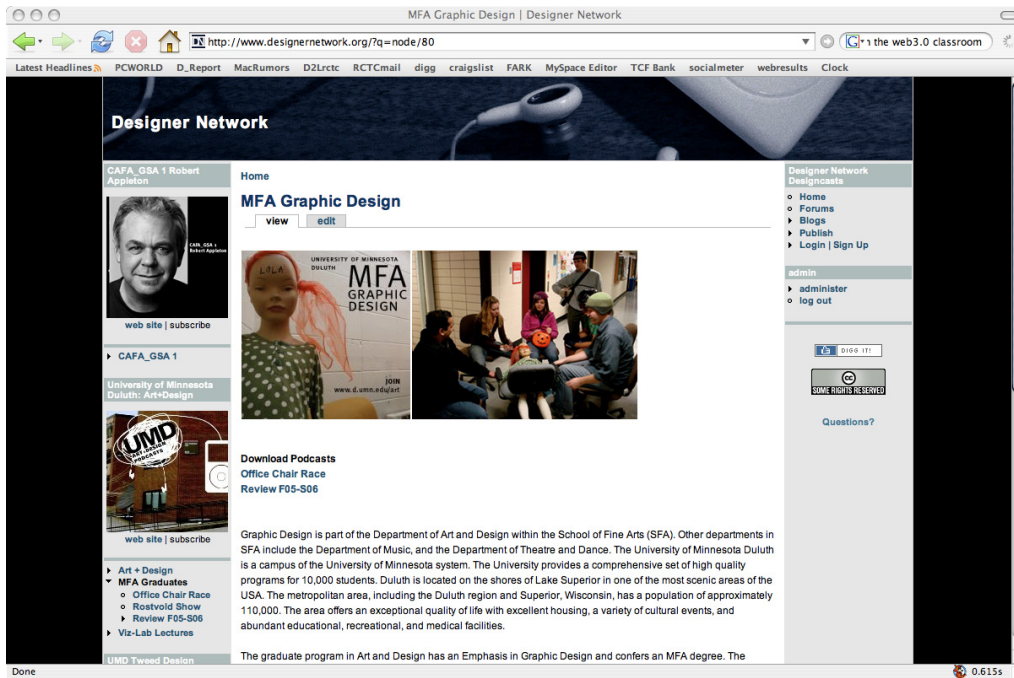
(Figure 8: *Designer Network: Header*)



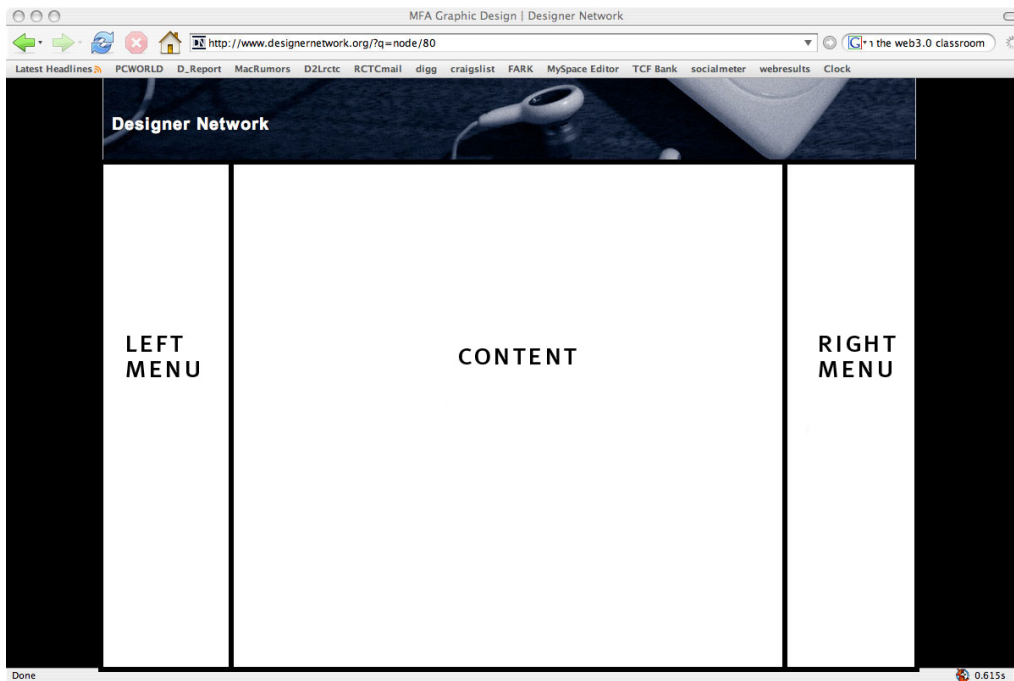
(Figure 9: *Designer Network: Footer*)



(Figure 10: *Designer Network: Album Art*)



(Figure 11: *Designer Network: Layout*)

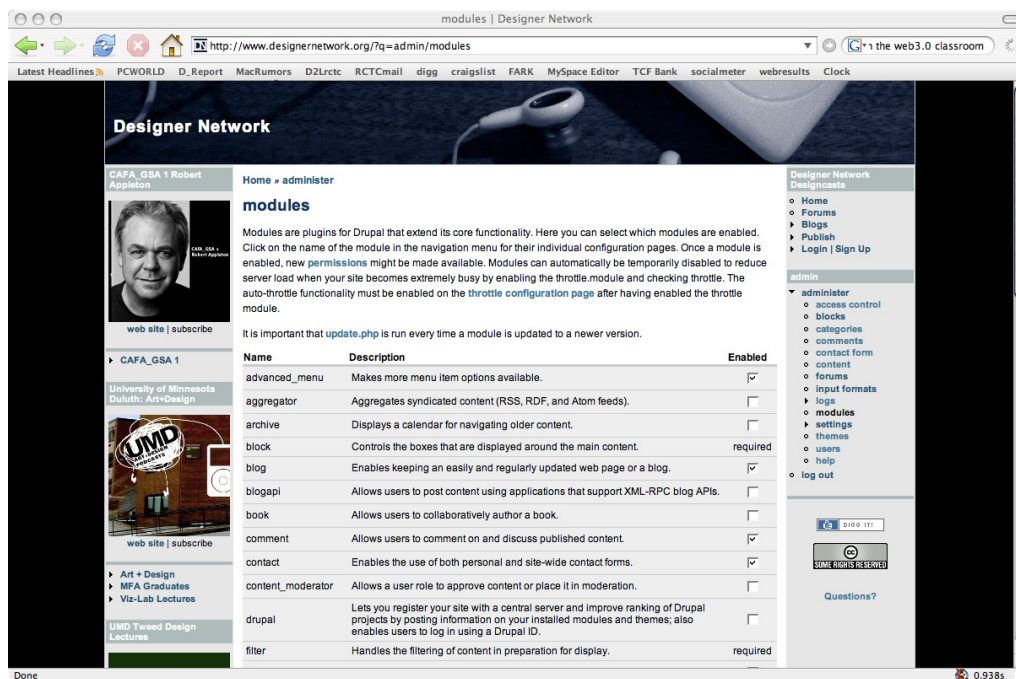


(Figure 12: *Designer Network: Layout*)

The colors used on the site are different tones of blue. I have chosen the color blue because of the emotional qualities the color has on the viewer. I wanted the site to communicate dignity and serenity to the viewers (Ocvirk et al. 161). Some podcasts can be quite large and I want to relax the viewer so they don't become too anxious and leave before the video even begins.

Functional and Logical Components

The database is maintained by *Pair Networks* and controlled by the *Drupal* application; therefore, basic programming and installation of the application took only a few short minutes. *Drupal* uses components, known as modules, to provide a way of managing specific content such as podcasts and forums (Figure 13: *Designer Network: Modules*). The installations of podcasting and forum modules were not complicated, but involved some installation and minor changes to the code of the *Drupal* client.



(Figure 12: *Designer Network: Modules*)

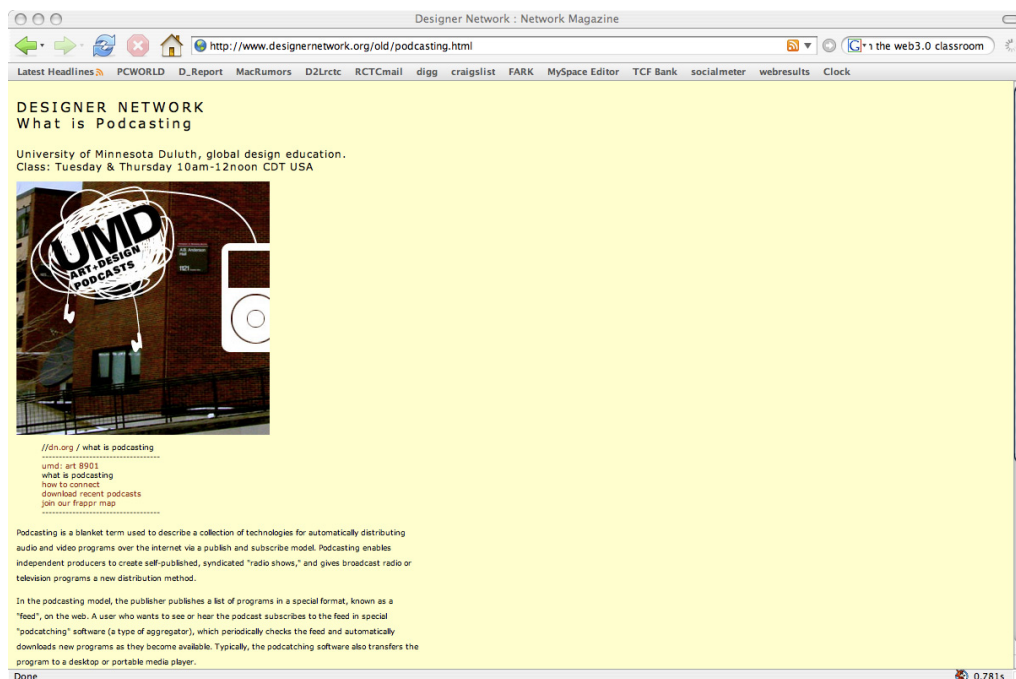
4. Site marketing

With the early live functioning renditions of *Designer Network* (Figure 14-16:

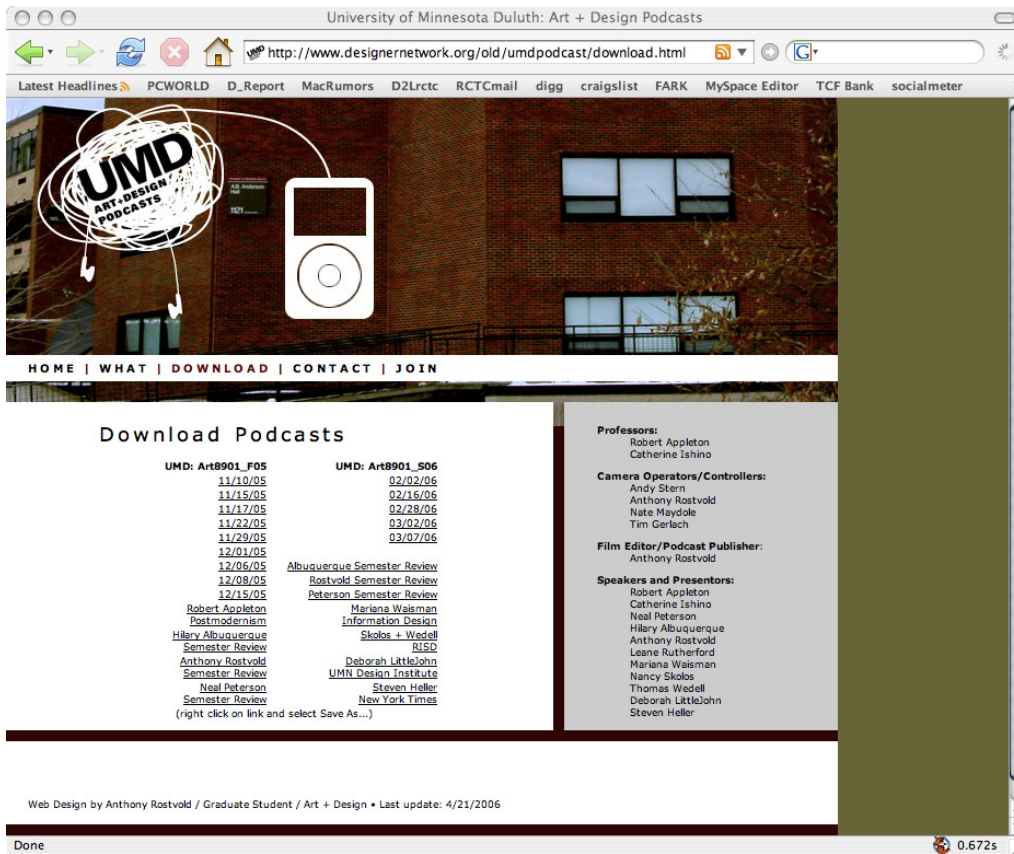
Designer Network: 3 Renditions). I discovered that not much marketing was needed to attract an audience. A submission of a podcast RSS feed to *Apple iTunes* seems to attract designers in large numbers. Each podcast that mentions graphic design, interactive design, or typography, is enough for someone searching in *iTunes* with an interest or love of graphic design to locate an individual's podcasts and web site.

Another useful way of advertising *Designer Network* is using a video client known as *YouTube*. *YouTube* is quite simple: "Broadcast yourself™"

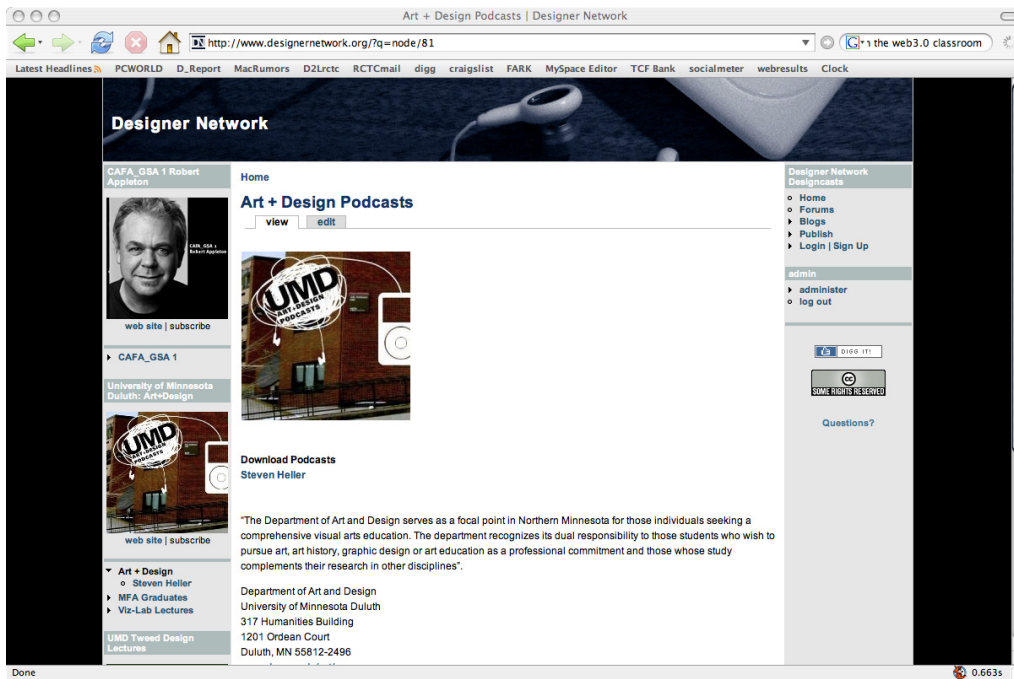
YouTube allows anyone to upload personal video clips, comical videos, crazy antics, and even advertisement.



(Figure 14: *Designer Network: Rendition 1*)



(Figure 15: Designer Network: Rendition 2)



(Figure 16: Designer Network: Rendition 3)

5. Tracking, Evaluating, and Maintenance.

Tracking the usage of the site is really quite simple, as Drupal has included this process into the application. *Drupal* notifies the administrator when a user or a visitor has accessed the site by keeping track of the access.

Evaluations and recommendations usually come directly from the users themselves. Designers who may find problems in the web site design undoubtedly will make comments or post in the forums about what needs to be done or should be done to improve the design. Adding a forum about the site design will be beneficial feedback on how the site could be improved.

Maintenance is a major issue in all content management situations. I have given administrative control to a programmer for flexible management and unforeseeable problems that may occur.

Future Research

In the construction of this thesis I discovered a development that has been occurring in Internet technology over the past few months. It would be an oversight not to include the development of an online community known as *Second Life* ("Second Life"). *Second Life* started in 2003 and just now has been coming to the forefront of the Internet. It has captured the attention of many businesses in recent months. *Sun Computers*, *IBM*, *General Motors*, and *Toyota* for example have been scrambling to have a virtual presence in the 3D virtual world ("Second Life Lessons"). *Second Life* has its own economy, exchange rates, the ability to chat to others, and the ability to fly and teleport.

I have chosen to mention the existence of *Second Life* to encourage further research into this 3D Internet for WBE, as well as to encourage the curriculum of a graphic design program to include graphic design in 3D animation. The CEO of this virtual world, Philip Rosedale, sees *Second Life* as a 3D web browser of the future ("Second Life Lessons").

The development of podcasting is an important element of this 3D virtual world because you can use video in *Second Life*. *Reuters* has opened a virtual news bureau in *Second Life* that produces news of this *Second Life*. It also offers video, photography, and text of the real world in the virtual world ("Reuters/Second Life"). The creators of *Second Life* have also created a virtual education island:

“...a unique and flexible environment for educators interested

in distance learning, computer supported cooperative work, simulation, new media studies, and corporate training.” (“Community: Education”).

An Australian web design instructor I chatted with in the virtual world, seemed to have concerns of unforeseeable risks of exposing high school students to virtual classrooms. Before I got his real name, however, he had “flown” away. With over a million subscribed users of *Second Life*, I think it is safe to say 3D Internet will be arriving in the not-too-distant future. Capitalizing on this Internet technology advancement could be in the best interest of interactive graphic design programs.

Conclusion

The creation of a global Podcasting subscription management web site benefits the education of graphic design students and provides an important historical reference for graphic design researchers. The simplicity of educational podcasting management elevates the experience of the students in graphic design education. This new media facilitates the access of information to both students in a traditional classroom and students in WBE environment. The creation of a web site that connects students and researchers with design-based presentations and lectures will enrich the collective knowledge base of graphic design.

Bibliography

- "Apple - Education - iTunes U." *iTunes U* Click. Sync. Learn. 2006.
Apple Computer Inc. 29 Oct 2006 <http://www.apple.com/education/solutions/itunes_u/>.
- "Community: Education." *Second Life / Community: Education*. 7 Nov 2006. Second Life. 7 Nov 2006
<http://secondlife.com/community/education.php>.
- "Drupal." *Drupal*. 2006. Drupal . 2 Nov 2006 <http://drupal.org/>.
- Hammari, Joshua. Personal interview. 18 Nov 2006.
- "Help Center - PayPal." *How can I use PayPal to collect donations?*. 2006. PayPal. 2 Nov 2006 <https://www.paypal.com/cgi-bin/webscr?cmd=_help-ext&nodeid=25159&leafid=2524&prior_transaction_id=90997&answer_id=16777216>.
- Krug, Steve. *Don't Make Me Think: A Common Sense Approach to Web Usability*. 2nd ed. Berkeley CA: New Riders Publishing, 2006.
- Laporte, Leo. "1 million downloads." [Weblog Leo Laporte's blog] 8 Sept 2006. TWiT.tv. 24 Oct 2006
<http://www.twit.tv/blog?page=5>.
- Lynch, Patrick J., and Sarah Horton. *Web Style Guide: Basic Design Principles for Creating Web Sites*. 2nd ed. New Haven: Yale University Press, 2001.
- Martinez, Saul , "Crossing Borders." [Weblog projective reality...or not?] 16 Jan 2006. Crossing Boarders. 18 Nov 2006 <http://sa-ul.net/blog/?p=20>.
- Neumayr, Tom. "iTunes Podcast Subscriptions Top One Million in First Two Days." *iTunes Podcast Subscriptions Top One Million in First Two Days*. 30 June 2005. Apple Computer Inc. 24 Oct 2006 <http://www.apple.com/pr/library/2005/jun/30podcast.html>.
- Ocvirk, Otto G., Robert E. Stinson, Philip R. Wigg, Robert O. Bone, and David L. Cayton. *Art Fundamentals Theory and Practice*. 10 ed. New York, NY: Mc Graw Hill, 2006.
- Ojeda-Zapata, Julio. "Big Podcasts on Campus." *St Paul PioneerPress* 4 April 2006: T.
- "Pair Networks Hosting Services." *Pair Networks Hosting Services*. 2006. Pair Networks. 2 Nov 2006
<http://www.pair.com/>.

Ractham, Peter. Zhang, Xuesong. "Podcasting in Academia: A Knowledge Management Paradigm within Academic Settings." *Podcasting in Academia: A Knowledge Management Paradigm within Academic Settings* 15 Apr 2006. ACM press. <http://portal.acm.org>.

Richardson, Will. *Blogs, Wikis, Podcasts, and Other Powerful Web Tools for Classrooms*. Corwin Press, 2006.

"Reserves." *Music & Dramatic Arts Library Reserves*. 29 Mar 2005. University of Connecticut Libraries. 9 Nov 2006 <http://www.lib.uconn.edu/online/research/specilib/music/reserves.html>.

"Reuters/Second Life." *Reuters/Second Life*. <http://secondlife.reuters.com/>. Reuters. 7 Nov 2006 <http://secondlife.reuters.com/>.

Rostvold, Anthony. "Rick Valicenti: Creative Block ." [Podcast Comment] *Rick Valicenti: Creative Block*. 17 Oct 2006. University of Minnesota Duluth, MFA Podcast, Designer Network. 6 Nov 2006 <http://www.designernetwork.org>.

Scoble, Robert, and Shel Israel. *Naked Conversations: How Blogs are Changing the Way Businesses Talk with Customers*. 1st ed. Hoboken, NJ: John Wiley & Sons Inc., 2006.

"Second Life." *Second Life*. 7 Nov 2006. Second Life. 7 Nov 2006 <http://www.secondlife.com>.

"Second Life Lessons." *Second Life Lessons*. 30 Oct 2006. Business Week. 7 Nov 2006 http://www.businessweek.com/innovate/content/oct2006/id20061030_869611.htm?chan=search.

"Section 508: 508 Law." *508 Law*. 23 Jan 2006. "Section 508". 2 Nov 2006 <http://www.section508.gov/index.cfm?FuseAction=Content&ID=3>.

"University of Minnesota Duluth Podcast Viewers - Frappr Maps." *University of Minnesota Duluth Podcast Viewers - Frappr Maps*. 05 Oct 2006. Frappr. 18 Nov 2006 <http://www.frappr.com/universityofminnesotaduluthpodcastviewers>.

"Vara Software : Wirecast." *Vara Software : Wirecast*. 2006. Vara Software Limited. 7 Nov 2006 <http://www.varasoftware.com/products/wirecast/>.

“Webcast | About Podcast Pilot.” *About Podcast Pilot*. 01 Apr 2006.
Berkeley University of California. 24 Oct 2006
⌞http://webcast.berkeley.edu/podcastabout.html⌟.

“Welcome to AdWords.” *Google AdWords*. 2006. Google Inc.. 2 Nov
2006 ⌞http://adwords.google.com/⌟.

“What Is Open Source.” *What Is Open Source*. 2006. O'Reilly,
Onlamp.com Lamp: The Open Source Web Platform. 2 Nov
2006 ⌞http://www.onlamp.com/pub/a/onlamp/
2005/09/15/what-is-opensource.html⌟.