Design and Deployment of a Free On-line Sociology Textbook

Paul Cheney
Utah Valley University
paul.cheney@uvu.edu

Ron Hammond
Utah Valley University
ronh@uvu.edu

Abstract: Over the last fifteen years the cost of textbooks has outpaced inflation at a phenomenal rate. USA Today reports that over the past 25 years the average cost of tuition and fees has risen (35%) faster than personal income, consumer prices and even health insurance. This increases the financial burden on college students who are struggling to afford a bachelors degree. This presentation showcases our efforts to reduce this cost by providing a free online "Introduction to Sociology" textbook that we have released under a Creative Commons License (BY). This book was specially designed to meet three delivery platforms: computer display, printed page, and iPod Touch and Phone. This presentation showcase the finished textbook, discusses creative commons licensing, the technology used to deliver a digital book to multiple devices, and the process we went through to engage our students in publishing the book. The textbook can be viewed at http://freebooks.uvu.edu/.

In this paper we will describe the process we went through to create the first free on-line textbook for Utah Valley University. We will discuss the rising costs of education, how others are meeting the need, the development of our textbook, intellectual property rights, licensing, financial support, features we included, and useful technical strategies for those interested in deploying a website to multiple devices (see textbook at http://freebooks.uvu.edu).

Rising Costs

The cost of education and textbooks have skyrocketed recently. Sandra Block reported in USA Today that over the past 25 years the average cost of tuition and fees has risen 35% faster than personal income, consumer prices and even health insurance (2007). Mui and Kinzie reported that the average student spends $700.00 to $1,100.00 per year on textbooks. Between 1986 and 2004 the price of books jumped 6% per year while inflation rose at 3% per year. This increases the financial burden on college students who are struggling to afford a bachelors degree. Recent Pell Grant changes and awards have left students short on money after paying tuition and fees. Many students are forced to go without buying the textbook. A list of E-articles links published since 2008 are included at the end of this paper.

Something has to be done to lower costs of textbooks and open source courseware is one of the ways institutions are trying to reduce costs. In 2008 the US Congress made a small gesture toward slowing down the rising cost of textbooks by placing a small provision in the Higher Education Opportunity Act of 2008 (see Trosclair, C. , 2008). Since then little has changed in the textbook industry. Jingying Yang reported that the Massachusetts Institute of Technology established the first Open Course Ware site in 2000 (2010) (see http://ocw.mit.edu/OcwWeb/web/home/home/index.htm). Websites have emerged, boasting free or low costs to lure in users (see http://www.textbooktorrents.com/ ; http://www.textbooksfree.org/ ; or http://textbookrevolution.org/index.php/Main_Page).

Schools like Stanford, Harvard, Cambridge, and Oxford have been releasing educational materials to the public using iTunes U, youtube.com, and their own sites (2010). Although ours is not a full college course, we do provide a free textbook that typically costs $90.00. Today, the textbook has been used by over 1,000 UVU students ($90,000 in costs saved on one campus). It has also been adopted by the Florida Community college System and the Alabama, and advanced Placement program for High School Sociology courses. As of the writing of this article, the textbook is being used by 3 dozen faculty One enthusiastic professor commented,

"I have been talking your intro book up to everyone here and some have said that it's lacking a chapter they want. I have invited them to write an additional chapter that suits their interests. It's much more manageable to write an additional chapter than to wrote a whole book and you have given us such a wonderful base to add to if we like. The professor who started using it this semester took some of your deviance info and added to it to create a separate crime and social control chapter which I'll also use in the summer. She is a crime/deviance person and wanted two separate chapters.
As you know the students love the book because it's short, sweet, and to the point; no droning on; and it's free which is so important right now. They actually read this book because of the conciseness and easy style in which it's written. We all thank you for your work (from an email, Dated 12 April, 2010)."

Development

Development of our on-line Sociology textbook was a team project by two different departments on campus; Sociology and Digital Media.

Dr. Ron Hammond has taught Introduction to Sociology for 20 years and as an expert in the field wrote the chapters. He was assisted by a team of students who helped out in the research and located or created graphics, found research data, and provided editorial feedback. Dr. Paul Cheney has taught web design and development for 12 years and designed the interfaced and worked with the IT department to get a site and domain name. He was assisted by a class of students who input the chapters and prepared the graphics for deployment on the web.

Intellectual Property Rights

The textbook was written using university equipment, on university time and was funded with a grant so intellectual property rights had to be considered. Intellectual property rights are creations of the mind and include textbooks, images and other materials typically produced by professors. We were the first at Utah Valley University to release a free on-line textbook and there was no policy in place to handle the intellectual property rights. After researching what other schools had done we created a contract which defined ownership of the materials. In our case the authors signed a contract sharing any revenues 50-50 with the University. Even though the textbook is free publishers have already offered royalties for any students desiring to buy the paper version of the book.

Creative Commons Licensing

As part of the intellectual property rights contract we signed with the University we had to select a licensing option. Any creation of the mind such as a textbook can be release using a Creative Commons License. Creative Commons Licensing covers attribution, sharing, commercial use, and making derivatives. The six main licenses to choose from are described in detail at http://creativecommons.org/about/licenses.

1. A creative commons license of "by" is the least restrictive and allows your work to be used by anyone at anytime as long as they give the author credit.
2. A creative commons license of "by-sa" is a little more restrictive. It allows anyone to use your work and change it but they must give the author credit (by) and share their changes (sa) back to the community using a "by-sa" license.
3. A creative commons license of "by-nd" allows someone to duplicate, copy or otherwise distribute your work but it must be unchanged (nd) and the author must be given credits (by).
4. A creative commons license of "by-nc" lets others use your work for any non-commercial purpose (nc) as long as they give the author credit (by). They can release their changes under any license they choose.
5. A creative commons license of "by-nc sa" is just like option #2 above but restricts usage to non-commercial purposes.
6. A creative commons license of "by-nc-nd" is the most restrictive and allows sharing of your work as long as the author is mentioned. The material cannot be changed or used for commercial purposes.

Of the six options mentioned above we selected the second "by-sa" because it allows the freest use of the materials for non-commercial purposes. While there is no cost to view the textbook, there were some costs associated with creating it.

Financial Support

Financial support to create the textbook was provided by a grant from Utah Valley University which became certified as a Carnegie-Mellon Engaged University. In the fall of 2008, we applied for a Community of Engaged Learners grant and received $8000.00 to research and produce the first textbook. Half the money was used to pay the three individuals involved the other half was used to purchase photo and video equipment to support the project. As a result of this research, we were able to include several features we felt were missing in other on-line textbooks.

Features

This on-line textbook was designed with several features in mind. First it was built in a user-friendly content management system, which allows a non-technical person to login and make changes using a simple word processor type interface. This means that the content expert does not need to know anything about web programming to make changes. This keeps the content of the book fresh and any mistakes can be instantly corrected without having to wait for a new edition to be printed. Second it is hosted on a public web server without any password restrictions. Third it uses standard html and a simple interface to present each chapter. The next feature we added was the ability for chapter pages to adapt themselves to the viewing device. When viewing the textbook on a computer screen there is a navigation menu at the left edge to allow quick access to any chapter. When viewing on a iPod where the screen space is small, the font face is enlarged and the navigation on the left side is removed and the chapter pages are narrowed to display without horizontal scrolling. When printing the pages, all the navigation elements are removed and the body font is changed to a serif typeface for optimal reading on paper. The textbook is currently being deployed using a server at Utah Valley University at the URL http://freebooks.uvu.edu .

Technical Stuff

One of the ways to get a single website to deploy to multiple devices is to create a different style sheet for each deice. In our case I created a style sheet specifically for viewing on a computer screen, another for printing, a third for small devices like iPhones. For example, in the head of the document I added a link to a style sheet used for printing as shown below.

<link href=”print.css" rel="stylesheet" type="text/css"/>

I then added another parameter to the link that set the media equal to print as shown below.

<link href="print.css" rel="stylesheet" type="text/css" **media="print"** />

When the user prints the web page this style sheet is loaded and it reformats the content to the appropriate format for printing.

The code to load a style sheet for an iPod is shown below. Notice that the media parameter is set to the width of 480px. This is width of an iPod screen when the device is turned on its side.

<link href="iPod.css" rel="stylesheet" type="text/css" media="only screen and (max-device-width: 480px)"/>
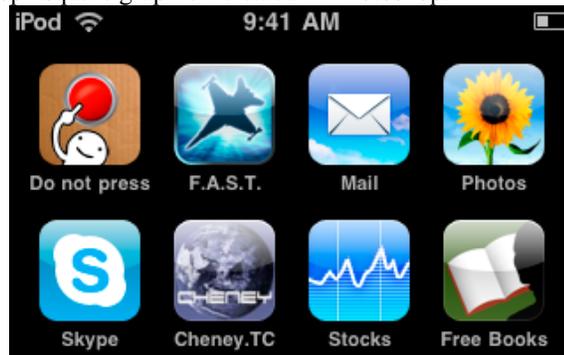
Another feature we added was an icon for iPod users to make a shortcut to the free textbook. This code also goes in the head of the document and is shown below.

<link rel="apple-touch-icon" href="iphone.png"/>

This code makes the iPhone.png (shown below on the left) appear on the home screen as seen in the graphic below on the right. The iPhone.png is a 316px square graphic I created in Photoshop.
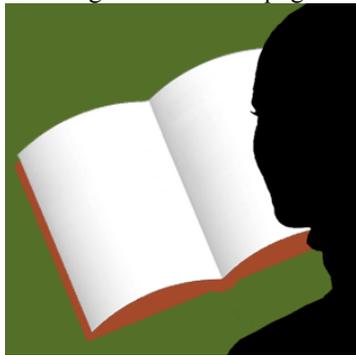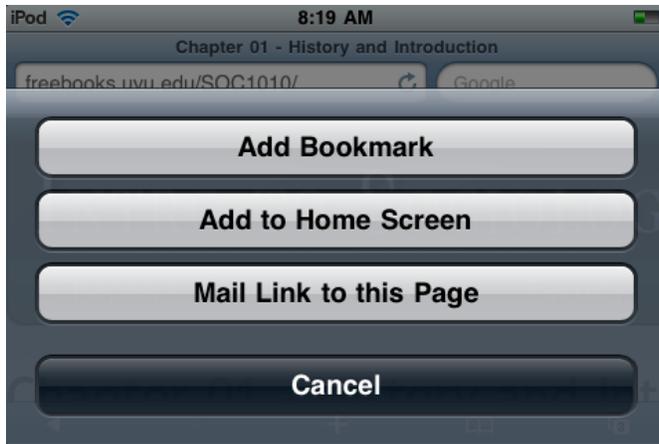

iPhone.png   iPod Screen

To add an icon to the Home Screen from the Safari web browser the user will click "Add to Home Screen" and the icon shown above will appear on the Home Screen.

Conclusion

Although there has been some significant work involved, creating the UVU's first free on-line textbook has been a rewarding experience for both of us. Our Sociology students benefit by saving money and the students who helped create the book benefit from their experience. We are now in the process of releasing another textbook and hope to get other professors to join with us.

Bibliography

Block, S. (2007, January 12). *Rising costs make climb to higher education steeper*. Retrieved April 1, 2010 from USA Today website: http://www.usatoday.com/money/perfi/college/2007-01-12-college-tuition-usat_x.htm

Mui, Y and Kinzie, S. (2008 August 28). *Break on Cost Of Textbooks Unlikely Before Last Bell, 2010.* Retrieved April 1, 2010, from Washington Post website: http://www.washingtonpost.com/wp-dyn/content/article/2008/08/19/AR2008081903230.html
Trosclair, C. (2008, 6 August). *How To Lower Textbook Costs*. Retrieved 2 April, 2010 from http://americancolleges.suite101.com/article.cfm/how_to_lower_textbook_costs

Yang, J. (2010, March 30). *As Colleges Make Courses Available Free Online, Others Cash In*. Retrieved April 2, 2010 from the NY Times website: http://www.nytimes.com/2010/03/31/education/31iht-riedopen.html

Additional Resources

1. http://www.uspirg.org/newsroom/consumer-protection/consumer-protection-news/new-report-shows-college-textbook-costs-increasing-sharply-ahead-of-inflation-publishers-engage-in-practices-that-needlessly-drive-up-textbook-costs-for-students

2. http://www.uspirg.org/higher-education/affordable-textbooks

3. http://www.uspirg.org/home/reports/report-archives/affordable-higher-education/affordable-higher-education-reports/rip-off-101-how-the-current-practices-of-the-textbook-industry-drive-up-the-cost-of-college-textbooks#3XXAOYwyZvkTcRDy1QJBQA

4. http://www.studentpirgs.org/textbooks/?id2=37614

5. http://www2.ed.gov/about/bdscomm/list/acsfa/edlite-txtbkstudy.html

6. http://www2.ed.gov/about/bdscomm/list/acsfa/txtbkpres/kochpresent.pdf

7. http://www.calpirg.org/issues/affordable-higher-education/affordable-textbooks

8. http://www.calpirg.org/media-internet/reports/media--the-internet-reports/affordable-textbooks-for-the-21st-century-a-guide-to-establishing-textbook-rental-services-and-other-alternative-business-models

9. http://www.inpirg.org/textbooks

10. http://www.iowapirg.org/higher-education/affordable-textbooks

11. http://www.iowapirg.org/home/reports/report-archives/higher-education2/higher-education-reports/rip-off-101-how-the-current-practices-of-the-textbook-industry-drive-up-the-cost-of-college-textbooks#OKpKTsx3hPVHTw_uR4hyrA

12. http://www.marylandpirg.org/issues/higher-education/affordable-textbooks

13. http://www.marylandpirg.org/advocacy/testimony/archive/testimony-archive/lowering-textbook-costs#JYWOJTgcJ3TgFgPXdivPmA

14. http://cdn.publicinterestnetwork.org/assets/33f1067d435139a6f961c309e8406369/mass_dstudentloans.pdf

15. http://cdn.publicinterestnetwork.org/assets/grBUXUgeUU7c70o4CEIKvw/course_correction.pdf

16. http://cdn.publicinterestnetwork.org/assets/zMJXZWhikgcKF3w9X9kUrQ/Exposing_the_Textbook_Industry_MA.pdf

17. http://www.masspirg.org/in-the-news/higher-education/higher-education/online-open-textbooks-save-students-cash

18. http://www.masspirg.org/in-the-news/higher-education/higher-education/students-speak-volumes-about-the-high-cost-of-college-books

19. http://www.masspirg.org/in-the-news/higher-education/higher-education/students-laud-cost-reduction2

20. http://www.masspirg.org/in-the-news/higher-education/higher-education/textbook-prices-must-be-reduced

21. http://www2.ed.gov/about/bdscomm/list/acsfa/turnthepage.pdf

22. http://www2.ed.gov/about/bdscomm/list/acsfa/gaoreport.pdf
23. http://www2.ed.gov/about/bdscomm/list/acsfa/mcelroypapermay2007.pdf