Why the University of Illinois needs to grow a long tail (or: Joining the new media conversation)

In this white paper I argue that the University of Illinois needs to market itself as a "thought leader" by developing a content-rich web video presence - often called a Web 2.0 new media service. To my eye the key to continuing the University's reputation for academic excellence lies in offering a global audience the core of the university: The minds and thoughts of its faculty. While parts of this service should be prepared by public affairs, much of it should be unmediated by an office of public affairs, and instead firmly under the aegis of the Provost, the University's chief *academic* officer. In this paper I spell out the philosophy and rationale underlying new media and its "long tail." The punchline: Simply using the web to deliver video instead of via television doesn't make for new media. The latter requires three essential elements: a) an architecture of participation, namely the ability for the public to sort and rate it; b) the ability of any person at the University of Illinois to create and upload content, and c) a "long tail" - essentially an infinite digital archive. I also argue that such a site should complement our current public affairs approach to marketing: A content-rich site will attract new students and faculty, and build support among the public.

Intro: The Times, Rap music and thinking Big

The *New York Times* recently reported about "the camera-friendly, perfectly pixelated, easily downloadable celebrity academic." They discussed the the rise to international glory of Walter Lewin, an MIT physics whose lectures, available free on the Web, have become among the globe's most downloaded. A 17-year old from India wrote "Through your inspiring video lectures I have managed to see just how beautiful physics is, both astounding and simple." The *Times* could also have mentioned the *YouTube* sensation: "The Large Hadron Rap." By far the greatest physics rap of all time, it accurately conveys a lot of knowledge related to particle physics and the supercollider – and it gathered millions of views. In a more serious vein Harvard has started *bigthink.com*, which contains well-produced videos of their greatest minds talking about the problems of the day for a few minutes. Or, they could have cited Berkeley's creation of its own channel on *YouTube*. This white paper talks about how to create such public engagement, and it describes why it works.

The Grand Vision: A long tail of content

When a visitor reaches the University's content-rich video site they first see a regular weekly "Marquee" video. The theme is "18 minutes with a University of Illinois professor" - eighteen minutes being the typical human attention span, an approach used by the web site "Ted."[1] These are professionally produced videos that look like a public lecture, but are carefully presented and recorded. The bulk of the video on the site should be a "long tail" of user-generated, rather than professional, videos which can be rated and shared by the public. Ideally it would contain video of every seminar given on campus, every conference held at the University, every lecture given, a three minute video of every faculty member and thought creator, every art performance. The power in this video lies, though, in the users, etc.. The key to a successful long tail lies in uploading a huge amount of content fitted with social bookmarks[2] that allow users to rate, comment and forward video. A user of the site should be able to easily search for content, browse by subject or department, sort by rating, length, and so on, and to rate and comment on videos. Additionally the videos should be easily downloadable to an iPod or other handheld device. The site should contain several RSS feeds: one for the Marquee videos, one for all content, and feeds for specific subjects.[3]

Web 2.0 refers to media that has significant social networking content; i.e., the ability for the public to rate, comment and produce media.

Isn't this, though, just a random free-for-all that will result in chaos? No, but to understand that answer requires an understanding of new media. What follows forms a tutorial on the subject.

1 www.ted.com TED stands for Technology, Entertainment, Design. It started out in 1984 as a conference bringing together people from those three worlds. Since then its scope has become ever broader. The annual conference now brings together the world's most fascinating thinkers and doers, who are challenged to give the talk of their lives in 18 minutes. This site makes the best talks and performances from TED available to the public, for free. More than 200 talks from their archive are now available, with more added each week. These videos are released under a Creative Commons license, so they can be freely shared and reposted.

2 Social bookmarking is a method for Internet users to store, organize, search, and manage bookmarks of web pages on the Internet with the help of metadata. The essential component, though, is that these are shared with all users. Examples of these include del.icio.us - who pioneered tagging and coined the term social bookmarking - Digg, eddit, and Newvine.

3 "RSS is a family of Web feed formats used to publish frequently updated works - such as blog entries, news headlines, audio, and video - in a standardized format. An RSS document (which is called a 'feed', 'web feed', or 'channel') includes full or summarized text, plus metadata such as publishing dates and authorship. Web feeds benefit publishers by letting them syndicate content quickly and automatically. They benefit readers who want to subscribe to timely updates from favored websites or to aggregate feeds from many sites into one place. RSS feeds can be read using software called an "RSS reader", 'feed reader', or 'aggregator', which can be web-based or desktop-based." *Wikipedia.*

New Media isn't just Old Media delivered in a different way

When I talk of "new media" or "Web 2.0" I don't mean simply delivering "old" media via the web. By old media I don't even mean a particular technology (movies, television, radio, newspapers, magazines, etc.) but instead a particular process. I've worked extensively in "old" media, so to illustrate that process let's look at the creation of one of my commentaries for public radio's popular *Marketplace*.

Typically I pitch a piece to a sub-editor; we'll discuss the piece thoroughly, look for any holes, logical leaps, discuss the news hook for it, and also a "snapper" for the ending. Together, then, we develop a script. That script goes to an editor or two above my sub-editor for approval. We then make changes, head to the studio and carefully lay down the audio tracks - taping again any parts that didn't sound just right. Usually we do the taping the day piece airs, so a few hours after my studio visit the commentary appears on *Marketplace* and is then heard by eight million people. Later, of course, it appears in a downloadable audio file - an MP3 - so it would seem this has a new media presence, yet it really doesn't.

What makes something "old" media is that process I described of polishing completely a piece, filtering it through many gatekeepers (editors, sub-editors and the like), editing carefully the final piece and *then* offering it to the public. The essential characteristic to old media lies in this model: Filter, then publish. The new media invert this completely: One publishes, and *then* filters. In the case of the University of Illinois growing a long tail this means allowing everyone at the University to fill a searchable, browseable web space with their video reflecting *their* interests. Wouldn't this, though, just be a free for all -- a mishmash of video?

Isn't "publish, then filter" just a recipe for a useless free-for-all? (Or, the importance of folksonomy)

One key to a successful "publish, the filter" site lies in adding a social dimension. If you look carefully at a site like YouTube the public is able to rate and rank the videos. They do this astonishing well: Highly rated video are indeed interesting and sometime informative. Or, consider a site like Flickr, designed to share photos.

Flickr features two billion photos! One of the earliest Web 2.0 applications, it, works as a photo repository fueled by social organization tools, which allow photos to be tagged and browsed by "folksonomic"[4] means.

For example sixteen users pooled together 1,712 images of Steuben County in Upstate NY, wineries and lakes, hunting and fishing, dining and shopping. No one organized such a thing, no media outlet would assign a team to it, yet it does have value. Other members of Flickr sort and rate these photos allowing a user to look only at the most interesting ones. On Flickr one can find thousands of these groups - the 219 members who took 2,271 photos of the latest Minnesota State Fair, or the 191 people who shared 5,719 images of the "Cans" Festival in London. So, while it seems that a Flickr, Wiki, or YouTube has *no* quality control, in another sense they are *completely* quality control - many videos, wiki entries, or Flickr photos are *never* viewed, they are deemed completely unworthy.

For example, someone started a Flickr group for the "British General Electric Company", which has only 2 members, one of whom contributed 21 of the 33 photos.[5] Even worse was the "LLI Liberty & Summit Conferences", which had 1 member who posted 15 photos.[6] No one participated in these groups and they failed -- two of surely tens of thousands of such failures. So, failure in the "publish, then filter" world is high, but the cost of failure is low. What has changed in the last ten years - due to digital tools for video, site for sharing with the world - is this dropping cost of failure.

Yet, even this doesn't explain fully the power of "publish, then filter." The descriptions above imply that the procedure works only to find the "hits" that appeal to a mass audience, and while that works, it's only half the power of new media.

Beyond Mega-Hits: "Publish, then filter" makes use of the Long Tail

The web has blurred the borderline between a private communication and a public broadcast. In the past one would never listen in on a phone call, or open a letter, and similarly one knows that a commentary broadcast on public radio's *Marketplace* is designed for all; yet, the web is filled with things like this:

> *"A flower vendor was just packing up and he had a very nice, good sized rosemary plant. I was planning to cook a chicken tomorrow and missed the herb plants that I had at home, so I was glad to get a new one. On the way back to the tramstop, I stopped into Wlikinson's where at last I found a wastebasket." From a blog by* Felicita *written on September 27, 2008*

Even though social sites like Facebook or MySpace have millions of accounts, they are essentially a pairwise or slightly larger phenomenon. This reminds us to think in terms of *community* instead of *audience*.

What is this? Surely something like this about a visit to the mall cannot replace the "old" media. Therein lies the key error in "old" media people not understanding new media: Simply, put: "They aren't talking to you." And we aren't really talking about audiences.

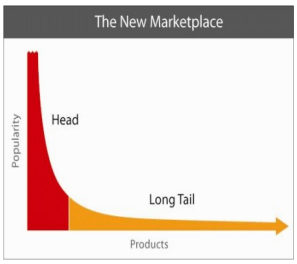
Social networking sites like MySpace and Facebook have millions of accounts, yet the median number of friends in MySpace is two, the average is 55 - a skewed high at that.

4 What a wonderful word! Here, from Wikipedia, is its definition: "Folksonomy (also known as collaborative tagging, social classification, social indexing, and social tagging) is the practice and method of collaboratively creating and managing tags to annotate and categorize content. Folksonomy describes the bottom-up classification systems that emerge from social tagging. In contrast to traditional subject indexing, metadata is generated not only by experts but also by creators and consumers of the content. Usually, freely chosen keywords are used instead of a controlled vocabulary. Folksonomy (from folk + taxonomy) is a user generated taxonomy."

5 For the curious: "This group is about the people, places and products associated with the GEC from its beginnings in 1886 until 1999 when it became Marconi plc."

6 Also for those with an inquiring mind: LLI is "a group of entrepreneurs and students of personal development who are changing the financial and personal courses of our lives. As part of that journey we attend conferences all over the world in places like Melbourne, Rome, the Atlantis Resort (Bahamas) and Hawaii."

This means the social networking is largely done pairwise. A blogger like Felicita is one of millions of pairwise or a bit higher interactions. So, from an "old" mass media viewpoint this is a failure of sorts - an audience of tens or 100s - yet audience is the wrong word to use. What Felicita has is a "community", a community which she, for whatever reason, resonates. Its a secret of Web 2.0 (social networking) sites that one doesn't need professional quality in video, or narrative technique, or performance to be successful. The success of the University's content-rich site would be much like a dinner party: It isn't important what's on the plates, but instead what's on the seats. The social networking of Web 2.0 allows people to choose what appeals, rather than sit and receive coarse marketing message - with the cost of global communication so low the lowest common denominator in communication can be overcome. This means the tyranny of the most popular has been defeated by the long tail.



The low cost of digital storage has created a "long tail" -- an essentially infinite bookshelf for Amazon.com, an infinite dial for radio, etc. In the past a retailer had to stock only the head of the tail because of the cost of shelf space. Now, able to keep everything, they see that every part of the tail is sampled.

In a popular 2006 book Chris Anderson outlined the essence of the long tail:

> "*The theory of the Long Tail is that our culture and economy is increasingly shifting away from a focus on a relatively small number of 'hits' (mainstream products and markets) at the head of the demand curve and toward a huge number of niches in the tail. As the costs of production and distribution fall, especially on-line, there is now less need to lump products and consumers into one-size-fits-all containers. In an era without the constraints of physical shelf space and other bottlenecks of distribution, narrowly targeted goods and services can be as economically attractive as mainstream fare.*"

The long tail means that we can now serve previously underserved audience: Prior to the Web it would have been extremely expensive to reach small audiences, but businesses like Amazon find that everything in their offerings is sampled once, perhaps not more than that, but at least once. The same applies to the University of Illinois and its content. One may well ask who would want to hear a professor talk about "plate efficiency" in a chemical engineering unit operation? Or, listen to the anthropological details of the African diaspora? Yet like Amazon.com and their infinite book shelf each of these videos would likely get at least one pairwise interactions because the topic resonates with someone. And *that* is precisely what the University of Illinois's long tail should do.

Benefits to the University of Illinois

Having a long tail video presence will accrue many benefits to the University.

- **Increase the coverage of the university by old media.** Reporters and editors use the web to seek out interesting stories, people and leads rather than old fashioned press releases. Like the Web 2.0 audience they hunger for authentic, content-rich information.
- **Bring the University in the 21st century world of marketing.** A content-rich video site is how the University needs to be marketing itself. To remain healthy the University needs to attract students, faculty and the support of the public. In the past we have marketed in traditional ways -- fancy commercials that list the number of Nobel Laureates associated with us. Of course, we should be proud of this fact, but regardless of how true it is mant people today ignore traditional advertising. They turn to blogs and on-line sites that are rich with content. While the University marketing still needs to work on getting mentioned in the *New York Times*, they must pay more attention the 1000s of bloggers writing about the University. For example, the high performance bicycle company Cervelo Cycle has no traditional marketing and advertising. Instead the company fills its web site with information and compelling stories about using and enjoying their high performance bikes. They reach very effectively their target audience using the long tail made possible now by the low cost of digital storage; i.e., by adding enough content to their site they eventually find a story or reveal information that connects and resonates with the potential customer. That has always been the ideal way to market - to visit every person, to search out their needs and interests and talk directly to those needs. We've had to use traditional lowest-common denominator mass-media advertising because such individualized marketing wasn't possible; but the web lowers the boundary for global communications because the cost of communicating has collapsed.
- **Reach underserved and next generation audiences.** Marshall McLuhan said famously "The medium is the message." Never had this been more true today with the younger generation so important to the university's feature. Their expectation is getting information from content-rich social media. While someone of my age may look at a YouTube video as a novelty; to a younger person it is *the* way to communicate. New communication tools get socially interesting when they get technologically boring - for young people today the new social tools are passing normal and heading to ubiquitous with invisible coming soon. The university needs to have a meaningful presence in Web 2.0 before invisible fully arrives, otherwise our use of the medium will appear ham-handed and graceless.
- **Increase the stock of good ideas within the University.** Ronald Burt wrote a fascinating paper on the "The Social Origin of Good Ideas". In that paper he studied how good ideas grew in corporations; he observed that managers who "bridged", that is, knew what happened in other sections of their company excelled in useful idea creation. Thus a social aspect applies: Those that observed the other sections through social contact could see the "holes" and thus bring forward powerful new ideas. Campus-wide Web 2.0 video sharing and other social networks provide the ability to bridge and see these holes.

How the University should implement Web 2.0 Video sharing

I BEGIN WITH an obvious question: Why not just use YouTube? On the positive side the University can be up and running tomorrow. Yet the downsides are significant: a) Loss of control of video - of intellectual property, inability to filter content and comments , and diminished capacity to track of use; b) low video quality; c) no flexibility to revision site based on how public and university uses it; and d) time limit on videos. The University should upload some videos to YouTube, with with the intent of driving them toward the University site.

Here are the steps and resources the University needs to make this happen:

- **Form a planning committee.** This committee needs to take a careful look at how social networking is best done. It should have some of the university's best computer experts on it. They need to examine issues like the bandwidth and capacity needed, the proper license for the videos (e.g., Creative Commons), and tackle policy issues like whether seminars can be recorded -- to some these are pre-publication talks for private consumption only. It might be appropriate for this project to be under the I-cubed initiative.

The FLIP camera fits in the palm of the hand, and downloads via USB thus making nearly instant video for posting. While its quality isn't professional, it is more than good enough for YouTube. In the new media world one shouldn't over emphasize video quality: Content , instead, is king!

- **Search for a donor to seed the project**. A high concept/high profile paradigm changing project like this should interest a high-rolling donor.
- **Use Ensemble**. A pioneering group at the University has build an ensemble video delivery system - *http://ensemblevideo.com*. It is specifically designed for organizations that want to manage video content on their own media servers and within their own computing environment. Simple, easy, and flexible, it allows a faculty member to quickly develop their own video based web sites. Ensemble gives the University a mechanism to gather all manner of video from departments.
- **Hire two web designers**. At approximately $60K each per year, these high-end designers would need to be literate in Ensemble and in developing video-based social networking web sites.
- **Hire four "evangelists."** These evangelists would visit departments training how to shoot video, how to up load, and so on. One of their main goals will be to get two to three minute videos of each faculty member.
- **Hire WILL's Videoworks as needed.** This would be primary for the Marquee videos.
- **Buy cameras.** I would suggest a variety of cameras, but for the evangelists I very much want "Flip Video", this hand-sized camera downloads from a USB port and gives good enough quality for a YouTube-level video.
- **Form a policy committee.** While the upside to a content-rich web presence is enormous, that same power can be abused. The University will need to articulate a policy for what videos can be uploaded and a process for taking down offensive videos and comments.

About the author

BILL HAMMACK'S work has been recognized by an extraordinarily broad range of scientific, engineering, and most importantly journalistic professional societies. From his engineering peers he's been recognized with the the ASME's *Church Medal*, IEEE's *Distinguished Literary Contributions Award*, ASEE's *President's Medal*, and the AIChE's *Service to Society Award*. From the journalists he has won the trifecta of the top science/engineering journalism awards: The National Association of Science Writer's coveted *Society in Society Award*; the American Chemical Society's *Grady-Stack Medal* - an award previously won by Isaac Asimov and Don Herbert (Mr. Science) - and the American Institute of Physics -- all typically given to journalists.

Professor Hammack an undisputed leader in using mass media to communicate engineering to the public. Pioneering a new role for an engineering professor, he created a remarkable public radio series called "Engineering & Life", in which he shared with the public the wonder of engineering, while also emphasizing the responsibilities associated with technological change. His hundreds of radio pieces have been heard on public radio's premier business program *Marketplace*,which has an audience of 8 million, and around the globe on Radio National Australia's *Science Show*. In 2005-06 he broadened his "audience" to include senior government policy makers. He served a year as a Senior Science Adviser at the U.S. Department of State.

Bill Hammack is the nation's premier communicator about engineering. He has created over 300 pieces for public radio, which have been broadcast on public radio's popular *Marketplace* show and internationally on Radio National Australia.

At the U.S. Department of State Hammack served as an energy adviser for the Six-Party Talks to denuclearize the Korean Peninsula, helping to develop a framework for U.S. negotiations. Additionally, he served in State's Bureau of International Security and Nonproliferation, representing the U.S. in successful talks with Vietnam to remove highly enriched uranium, which can be used to make a small nuclear bomb. Through his pioneering work he is creating technologically literate citizens and government officials who will have a huge impact on the health of our democracy, our national economic productivity, and foreign policy.