

# Plowing the Field of Dreams

What is fueling the exploding growth of innovation and production in television's online future. | **By John V. Pavlik**

**T**elevision is in the midst of a new stage of inspiration and innovation. The advent of both digital technology and the Internet have led to a radical explosion in the development and distribution of television, or video, in an online environment.

The transformation of television involves at least ten dimensions, four of which were revealed in the first part of this article in the Fall 2006 issue of *Television Quarterly*: the medium of online delivery, the devices for accessing, displaying or watching video, the audience or users of video and the producers of video. On the following pages we examine video content, the distributors, financiers and regulators of video, the digital technologies that are fueling the explosive growth in video production and the inventors and innovators of the next generation of television.

One of ten Americans watches broadcast television programs online, according to the Conference Board Consumer Internet barometer study released last October. The national survey of 10,000 households across the U.S. shows that news is the most popular form of online programming viewed.

The reasons people watch TV online are personal convenience and avoiding commercials. Yet few indicate they would be willing to pay for online television programs.

## Video Content Itself

In many cases, video content online is no different than that available through conventional delivery systems. In fact, in many cases television stations and network news operations produce the same type of television news reports that they produce for over-the-air or cable distribution, but deliver it instead via the Internet.

Online video is often the same shows, programs, movies and the like, simply made available online and viewed on computers, hand-helds or what-ever else the viewer likes. This can be valuable access to archival video material that might otherwise be difficult to find. Among the exemplars of this type is the collection of video interviews conducted since 1956 by Richard D. Heffner, long-time host of the public television program, *The Open Mind*, the longest-running interview program on television. Historian and University Professor of Communication and Public Policy at Rutgers University,

Heffner continues to conduct these important interviews and the program is still on the air. An increasingly complete archive of the program is available online at [www.theopenmind.tv](http://www.theopenmind.tv), with video, transcripts and more. A visit to the site on May 12, 2006 offered access to Heffner's classic interview with Malcolm X, conducted June 12, 1963.

Supplementing such archival video programming is extensive live streaming video of programs at various arts, educational and cultural institutions such as the Museum of Television & Radio. Illustrative is the May 15 web cast of a live seminar hosted by the Museum on the popular television series, *Boston Legal*. The seminar featured live commentary from the program's cast and creators, including stars William Shatner and Candice Bergen as well as creator and executive producer David E. Kelley.

In many cases, original video production is designed specifically for online distribution. One very good illustration of such original video production customized for the online environment is Viacom's mtvU, the original broadband web site produced by MTV for college and university students. Among the best video reports yet produced by mtvU is "Translating Genocide: Three Students Journey to Sudan," a 20-minute original online video produced in documentary style by three U.S. college students who traveled to Africa. Premiered online on April 7, 2005, the video featured an on-location examination of the genocide in Darfur, supplemented by original photographs online ([www.mtvu.com](http://www.mtvu.com)).

Increasingly, major media companies are experimenting with original content produced for new media devices. In the case of News Corporation's Fox Television,

the network has commissioned a cell-phone serial drama *24 Conspiracy* dubbed a mobisode (i.e., a mobile episode). Director Eric Young was hired to produce 24 one-minute mobile episodes for a spin-off of the hit series *24*. He was reportedly most vexed by the display of bullet holes, which are not uncommon on the violent drama series. Mr. Young learned that making video for a pocket-sized screen is quite different than producing for a 27-inch television set. His solution was to make the bullet holes extra large and use twice as much blood to make the bullet holes and wounds easily visible on a cellphone screen.

**W**ell known for its music videos, MTV is also developing original video programming for cell phones. Its first domestic cell-phone production is a series of three-minute documentary style video reports on the world of hip hop. Starring Sway Calloway, "Sway's Hip-Hop Owner's Manual" debuted in 2006 (<http://www.nytimes.com/2006/05/28/magazine/28mtv.html?pagewanted=all>).

Another example of a provider of video produced exclusively for mobile devices is NBC Mobile, which is producing original news and feature material specifically and exclusively for hand-helds such as cell phones (<http://www.mobitv.com/>). An example is NBC Mobile's Wine Tasting with Ed Deitch, whose mobile video reports have examined topics such as new electric wine bottle openers and new vintners. NBC Mobile also produces a video blog (vlog) for cell phones, such as a 3-minute December 16, 2005 report on the Iraqi elections, or Entertainment Buzz, a vlog on what's hot in Hollywood, a series 2- to 3-minute segments on movies, celebrities and such.

A number of news organizations are producing original live news coverage of breaking events delivered via the web, including either to the desktop or to handhelds. Among them are WDEL television, which has debuted a live online video news program providing Delaware's top stories of the day. Similarly, WCBS2.com/KCAL provided live web-exclusive video coverage of Hurricane Katrina on August 31, 2005. Included was on-location and in-studio video. It marked a first for this station to go live online.

Not all the experimentation is by familiar news organizations. The Sherman Oaks, CA-based Gotv networks ([www.gotvnetworks.com](http://www.gotvnetworks.com)) is making video reports for mobile devices, with a stated objective of tailoring video news for viewing on two-by-two inch screens. A four-minute December 12, 2005 Gotv report provided breaking news coverage of Golden Globe nominations in LA, combining still imagery with video close-ups of host and producer Athenia Veliz-Dunn.

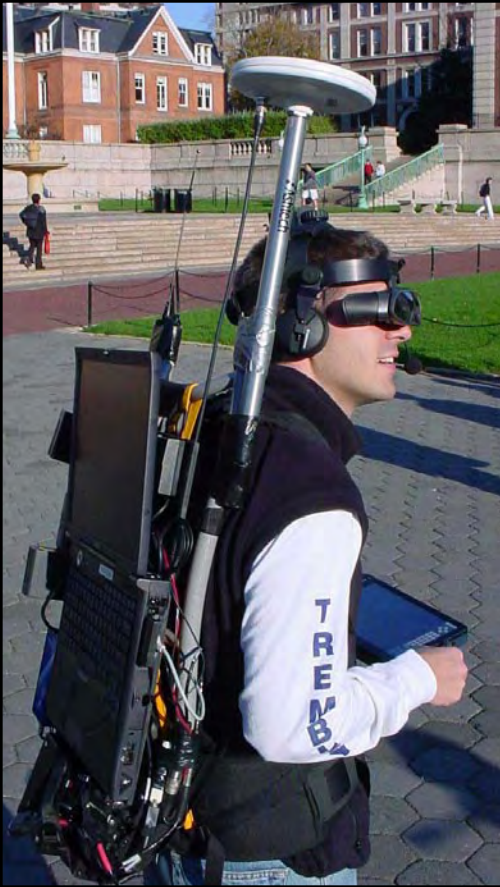
Media organizations are also testing the online video waters of various television formats. Among them is the Late Night Fox Show, an online network talk show which on February 25, 2005 featured American Idol contestant Jon Peter Lewis ([www.Fox.com](http://www.Fox.com)).

Consider the online video under development at the Integrated Media Systems Center (IMSC) at the University of Southern California Under. Directed by media pioneer and veteran news executive Adam Clayton Powell III, the IMSC is engaged in creating the next generation of journalism technologies, including innovative online video applications. Through a partnership with the MacNeil-Lehrer Productions (MLP), the IMSC is exploring immersive,

interactive, three-dimensional audio and video formats and tools for recording, production and transmission of news and information, including via the Internet ([http://viterbi.usc.edu/news/news/2006/news\\_20060201.htm](http://viterbi.usc.edu/news/news/2006/news_20060201.htm)).

**M**y partnership with Steve Feiner, a computer professor at Columbia University, has produced another avenue of online video applications. Using technology called mobile augmented reality, video and other multimedia is embedded into the real world but in virtual fashion. A user dons a mobile augmented reality system dubbed the Mobile Journalist Workstation (MJW). It involves a see-through head-worn display, the Global Positioning System (GPS) and high-speed wireless Internet access. Via the MJW, the user essentially enters an immersive story called "the situated documentary" exploring past events narrated interactively. My students have produced a series of these situated documentaries based on past events at Columbia's Morningside Heights campus on the Upper West Side of Manhattan, including the 1968 student strike, the story of Col. Edwin Armstrong, the Columbia engineering professor who invented FM radio, and the prehistory of the campus when in the mid-19th century it was home to the Bloomingdale Asylum for the Insane. Visitors to the campus who wear the MJW can walk the campus and in a sense relive the events of the past through a virtual video exploration, seeing the sights and sounds of the past overlaid in translucent fashion on the campus as it exists today. Examples are available online at (<http://www1.cs.columbia.edu/graphics/projects/mars/mjwSd.html>).

The emergence of original video



**Backpack of the future: Experimental equipment for mobile augmented reality systems. A much more compact system has since been created.**

programming for mobile devices has not gone unnoticed by the national organizations that recognize and award excellence in the media. The National Academy of Television Arts and Sciences (NATAS), for instance, in November, 2005, announced a new category for the Emmy Awards, a category that would recognize outstanding original programming for computers, cell phones and other hand-held devices, including the video iPod (Carey and Greenberg, 2006, *Television Quarterly*). Academy president Peter O. Price said 74 entries were received from newspapers, magazines and movie studios, the greatest number ever in any category. “In this digital world,

everyone is capable of launching video programming,” he said.

Notably, TV or video online is not usually called programming, the term usually used in television parlance. Rather, online video is typically called content. Online programming would refer to the software code that runs the Internet or other computer-based applications.

### **The distributors of online video**

Many producers of video are simply making their video available online through their own web sites. For example, CBS News makes its video available online at [http://www.cbsnews.com/sections/i\\_video/main500251.shtml](http://www.cbsnews.com/sections/i_video/main500251.shtml)

as do the other networks (e.g., see ABC News video on demand at <http://abcnews.go.com/> or CNN video at [www.cnn.com](http://www.cnn.com)). Particularly popular at the networks and their affiliates is supplementing stories reported on evening newscasts with additional web video related to those stories. One example from May 12, 2006 on NBC Nightly News with Brian Williams was a report on Broadway celebrity Maria Friedman, star of "The Woman in White," who was interviewed about her battle with breast cancer. Augmenting a brief interview on the evening news Williams invited viewers to visit the NBC web site for additional video from his interview with Friedman (<http://www.msnbc.msn.com/id/12761265/>).

News media are also inclined to make their video available through online video aggregators. MSN video, for instance, provides an extensive combination of video from a variety of sources (<http://video.msn.com>).

Another increasingly popular video aggregator is Google video (<http://video.google.com/>). Based in Mountain View, California, Google groups its video into a variety of pre-sorted categories, including the Top 100 (most viewed videos). High on this list last May was the complete video from the annual White House Correspondents Association dinner, featuring a roast of President Bush in 2006 <http://video.google.com/videoplay?docid=-4973617448770513925>. This year's dinner drew extensive news media coverage, particularly of a Bush impersonator who wore a facial prosthetic to complete his impersonation. Little attention was paid to the politically incorrect satire of Stephen Colbert, who was the officially featured comedian of the night, but his lampooning of the President is available

in its entirety on-demand online. Next is Google Picks, which Google describes as "a small section on Google Video that highlights videos that have been selected by Googlers as suggestions for cool videos that users might want to watch. Think about it like the 'Staff Picks' section at a video store. Selection criteria may include, among others, the following: uniqueness of content, user value, newness to index, seasonality, and quality of video." Then, there's random, animation, comedy, commercials, educational, movies, music videos, news, sports and TV shows.

Google video as well as other search engines such as Yahoo permit users to search for video. Searching for video is generally limited to keyword searching of the title or text descriptions of the video, but experimental tools are emerging that permit searching based on video content itself.

Nielsen/NetRatings Inc. reports that Google drew 7.3 million unique visitors in April, 2006, making it the fourth largest online video provider ([www.nielsen-netratings.com/pr/pr\\_060511.pdf](http://www.nielsen-netratings.com/pr/pr_060511.pdf)). Number one is San Mateo, CA-based YouTube ([www.youtube.com](http://www.youtube.com)), which attracted 12.5 million unique U.S. visitors that month. YouTube invites individual users to upload their own personal videos for sharing with other interested persons. It is as much a social networking site as a video provider, and it may be in large part its function as a social networking site that is drawing the large number of unique visitors. Last September YouTube Inc. solidified its position as the leading video-sharing site when it signed a deal with Warner Music Group to air its music videos and share advertising revenue. With its \$1.65 billion acquisition of YouTube the following month, Google has strengthened its

commitment to the delivery of online video. Numbers two and three on the online video list with more than ten and seven million unique visitors respectively in April are Microsoft's MSN and News Corp.'s MySpace.com. MySpace is also largely a social networking site.

Many bloggers and podcasters are also including video on their web sites (e.g., <http://www.mtv.com/podcasts/#/podcasts/>). A number of websites serve as aggregators or directories of the thousands of video on blogs and podcasts, including mefeedia (<http://mefedia.com/>), podcastvideos (<http://www.podcastvideos.org/>) and vlogdir (<http://vlogdir.com>). Although much of this video can be of dubious quality, narrow or personal interest, there are occasional times when video blogs and podcasts have been valuable. When the tsunami hit Banda Ache, Indonesia, in 2004, much of the most viewed video of the destructive impact of the video was provided via personal video blogs (<http://www.waveofdestruction.org/?s=Phuket>).

Aggregators of motion pictures are also drawing a growing amount of online viewers. CinemaNow and Movielink are among the premier movie aggregators. CinemaNow ([www.cinemanow.com](http://www.cinemanow.com)) provides movies from Sony, MGM and Lionsgate, with current features such as *Fun with Dick and Jane*, as well scores of older movies in a wide range of categories. Movielink ([www.movielink.com](http://www.movielink.com)) provides movies from five studios, including Metro-Goldwyn-Mayer Studios, Paramount Pictures, Sony Pictures Entertainment, Universal Studios and Warner Bros. Studios. Current features include movies such as *Brokeback Mountain* and *Memories of a Geisha*, as well as a large collection of old movies. Prices for both services range from a few

dollars to rent an older movie to \$20 or more to rent or buy a current release, with viewing restrictions in effect. Viewers have various payment options, including per minute viewing for certain types of video content (e.g., mature). Warner Brothers says it will make hundreds of its films and shows available this summer for paid download through the file-sharing site BitTorrent. Peer-to-peer (P2P) file-sharing networks are especially popular for downloading television programs. Sites such as *Limewire* ([www.limewire.com](http://www.limewire.com)), well-known for sharing of music files, are also heavily trafficked by users downloading popular television programs, from *Buffy the Vampire Slayer* to the *Gilmore Girls*, much of which is available at no cost and it is not always clear as the legality of the downloads. A wide variety of sites also offer legal downloads of television programs for a fee (e.g., <http://showsplanet.com/>, <http://fasttvdownloads.com/>, <http://www.tvcentral.org>). Viewers join these sites, pay a fee, and then download any of thousands of television programs and view them on the computer or a television set connected to an Internet access device.

**A**nother increasingly popular video aggregator online is Apple's iTunes Music Store, which made its name selling copyright-protected music files for download to iPods or other MP3 devices ([www.itunes.com](http://www.itunes.com)). With the video iPod (and other video capable devices) on the market, selling videos for downloading was a logical next step. Among the options available for the online consumer are buying an entire season of a TV show such as *Desperate Housewives* at a discount, downloading any of more than 3,000 Music Videos, or hundreds of

television shows to download and watch, ad-free at \$1.99 an episode. Programs are provided from a diverse array of TV providers, including ABC, NBC, MTV, ESPN, Sci Fi Channel, Comedy Central, Disney, Nickelodeon and Showtime. Fox Entertainment provides via iTunes downloadable episodes of *24* and *Prison Break*. Viewers can also Create iPod-compatible versions of their home movies using iTunes and can buy and send music videos and TV shows as gifts to anyone with an email address. They can organize their videos into playlists, and limit children's access to videos. Viewers can also access reviews and ratings of shows from other viewers.

One question that arises for network affiliates in this age of TV-show downloading is: will the role of the affiliate be undercut? If viewers can easily download a show after it has aired, will they be less inclined to tune into a re-run on a network affiliate? The answer seems obvious.

Stimulating the growth of video distributed online is digital video start-up Brightcove, whose technology enables anyone who produces video to easily and inexpensively distribute it for viewing or downloading from various web sites. *The Wall Street Journal* reports that groups as diverse as a Yoruba language and culture center in Nigeria, a news site in the Slovak Republic and a political blog in the U.S. called Wizbang ([www.wizbangblog.com](http://www.wizbangblog.com)) are all distributing their video via the web using Brightcove technology. Brightcove is not the only provider of Internet video technology spurring the wave of diverse online producers. Others such as XOS Technologies are making it possible

for universities large and small to let their alumni or others tune in online to collegiate sports from anywhere in the world.

### **The financiers of online video**

Much online video is available at no cost to the viewer. Some of this video is produced by individuals or organizations not particularly concerned with the cost of production or distribution since it may be private citizens producing the video for their own interests. Or some of the producers of the online video may be groups with a public relations, public affairs or publicity agenda.

Yet, much of the most-viewed online video, or the video with the highest production value or news focus, is produced by established or emerging news or media companies seeking to make a profit or to at least off-set their video production and distribution costs. In these cases, there are three main business models taking shape in the online video space. These models are advertiser-supported video, sponsored video and premium on-demand video content either produced originally for online distribution or recycled from television or motion pictures. In the case of advertiser-supported video, this business model is maturing rapidly.

An example of a popular online video service free to the user but supported by advertising is Yahoo Music (<http://music.yahoo.com/>). At this site, users can access thousands of free music videos on demand, but before the music video starts the user has to watch a 30-second commercial, typically the same

## **In this age of TV-show downloading will the role of the affiliate be undercut?**

commercials produced for television. Users have a variety of options at Yahoo Music, including registering (users can view one video without registering and logging in, but after viewing one video they must log in, which requires registration) and customizing the site, searching for a particular music video, or watching top 100 videos, including Shakira's number-one-ranked "Hips Don't Lie."

One commercial online video broadcast network in May, 2006 announced the introduction of an online video upfront buying system for advertisers trying to reach online audiences via web video. ROO delivers more than 40 million video impressions each month via more than 130 web sites, permitting targeting audiences by lifestyle or demographics and delivering spot advertising (<http://biz.yahoo.com/iw/060501/0125983.html>).

Sponsored video production has also emerged as a significant force in the online arena. Among the leading sponsors has been German car manufacturer BMW, which established BMW Films to produce a series of award-winning films that were made available for online distribution at no cost to viewers (<http://www.bmwusa.com/bmwexperience/films.htm>). At a cost of an estimated \$9 million, The Hire series featured short movies (five or six minutes) about a risk-taking professional driver, driving a BMW (<http://www.wired.com/news/culture/0,1284,44323,00.html>).

The movies star major Hollywood actors such as Madonna and Mickey Rourke, and are directed by a series of well-known directors, such as Guy Ritchie (*Snatch*), Ang Lee (*Crouching Tiger, Hidden Dragon*), John Frankenheimer (*Ronin*) and Wong Kar-Wai (*Happy*

*Together*). BMW worked with its advertising agency, Fallon Worldwide, to oversee the production. The Hire action films are no longer available for viewing online but a new series of six comic Hire films is in production (<http://www.bmwusa.com/bmwexperience/films.htm>).

Premium on-demand online video is also widely available. Prices range from about a dollar for previously aired television shows to high priced anime features and new Hollywood motion picture releases. Among the most financially successful online video franchises to date is Major League Baseball's MLB.tv, which provides live near-broadcast-quality streaming video of all its games for a single-season or monthly fee. Only non-local games are available to avoid competition with local TV game broadcasts and attendance at the games themselves. Millions of viewers have already signed up for [www.mlb.com](http://www.mlb.com), making it a financially lucrative arrangement for professional baseball. An estimated 800,000 subscribers are paying \$79.95 for the video on the site, bringing in annual revenues of at least \$68 million (<http://www.baltimoresun.com/business/bal-video0403,0,369978.story?coll=bal-business-indepth>). Other sports have brought in millions of online viewers for network video streams, including more than 5 million to CBS Corp.'s web site to watch the NCAA tournament college basketball games for free.

### **The regulators of online video**

From a production point of view, online video faces essentially the same legal and regulatory environment as conventional broadcast television. Issues such as rights, royalties and residuals,

potentially libelous speech and the First Amendment all pertain to online video. From a distribution perspective, online video faces relatively fewer regulatory restrictions than conventional television, because much of the prevailing FCC restrictions on content indecency do not apply. The principal regulatory restrictions are in the form of limiting under-age access to mature video content and other sex-related matters (e.g., eliminating online child pornography) and preventing pirated video distribution. Two relatively comprehensive legal guides to blogging and podcasting, including video, are available for free from the Electronic Frontier Foundation (<http://www.eff.org/bloggers/lg/>) and Creative Commons ([http://wiki.creativecommons.org/Podcasting\\_Legal\\_Guide](http://wiki.creativecommons.org/Podcasting_Legal_Guide)).

Some FCC rule changes may have an indirect impact on online video distribution. CyberJournalist.net reports that the FCC's changes in cross-media ownership rules have the potential to increase the number of converged newsrooms that share resources to create stronger Web presences. CyberJournalist.net Publisher Jonathan Dube observes, "We may see more local sites like tbo.com, the excellent Media General site in Tampa that serves as the online home for both the Tampa Tribune and WFLA," he said. "If that happens, we'd see more robust local news sites—with better ability to package newspaper and video content—but we might also see fewer local news sites and thus less competition." (<http://www.cyberjournalist.net/news/000420.php>)

One possible regulatory threat to online video is the global nature of the Internet. This global quality makes any online video producer and distributor

potentially subject to restrictions from any country, regardless of whether that country is part of the video providers intended audience. Unless access is blocked by the provider, a local government might interpret some downloadable video files as offensive to local tastes or in violation of local laws, and might impose punishments, ranging from fines to imprisonment. In addition, some governments such as China have blocked access to web sites, including some that provide news video from the U.S.

## **Unlike most earlier generations of television, the age of online video innovation is a playing field open to virtually anyone.**

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### **The digital technologies of production and protection**

Fueling the explosive growth in online video is the emergence of increasingly affordable and powerful, low-cost and easy-to-use digital video-production technologies. The price of high-end digital video cameras has fallen dramatically in recent years, making it far more cost effective to shoot quality video rather than film. At the same time, consumer-friendly devices such as cell phones and digital cameras capable of shooting decent quality video have flooded the market. Editing digital video has also become easier and cheaper, whether using systems running Macintosh, Windows or Open Source software, video post-production has never been simpler, at least from a technical point of view.

Many companies are providing low-cost video editing software or bundling video editing software at no cost with the purchase of new computers. Examples

include iMovie from Apple, Premiere from Adobe and Studio from Pinnacle Systems. A variety of web sites offer free video editing online, as well as virtual communities for sharing video. Examples include Videoegg.com, Eyespot.com, Jumpcut.com and Grouper.com. All that is required is registering with the site. In addition, most video software now makes it relatively easy to embed digital watermarks and other devices to protect copyright and intellectual property for online distribution.

Unlike most earlier generations of television, the age of online video innovation is a playing field open to virtually anyone. Little technical expertise is needed to experiment. Nor are huge amounts of cash or other resources required, although access to millions of dollars certainly doesn't hurt. Yet, when Philo Farnsworth invented electronic television, the germ of the idea came when he was just a 13-year-old farmer's son, with little in the way of resources beyond his own creative mind and initiative. The question today is where can the next generation of pioneers find their inspiration, their field of online video dreams? There is no simple, single answer.

I found his inspiration for this article one day many months ago when I had a few moments to explore the then newly launched Google Video search engine. Browsing under the television show heading, and after slogging through dozens of episodes of Charlie Rose, I discovered a series I have long enjoyed: *The Twilight Zone*. Scanning through the descriptions of the various episodes available on-demand (full program in high resolution for \$.99 or \$1.99 each), he located a favorite: "Perchance to Dream." With a title derived playfully from Shakespeare's "Hamlet" and a screenplay written by Charles Beaumont, the episode tells the story of a sleep-deprived man terrified of the dreams he might encounter if he falls asleep. It begins with a familiar voice inviting the viewer to enter "the middle ground between light and shadow, between science and superstition ... between the pit of man's fears and the summit of his knowledge." As television enters the online age, Rod Serling's invitation might still serve as a guide to those seeking inspiration in the television dimension of imagination.

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