

Maximising the mileage from the Chandra podcasts

Kimberly Kowal Arcand, Megan Watzke

Chandra X-ray Center/Smithsonian Astrophysical Observatory (kkowal@cfa.harvard.edu, mwatzke@cfa.harvard.edu)

Abstract

NASA's Chandra X-ray Observatory captures X-ray images and measures spectra of many high-energy cosmic phenomena. There is a constant challenge to devise new and appropriate means to bring these potentially esoteric science results and concepts in a digestible way to the public. One of the ideas to address this challenge became the Chandra podcast.

Chandra X-ray Observatory Podcast

The Chandra X-ray Center Education & Public Outreach (CXC EPO) group launched the Chandra podcast¹ series in May 2006. As of October 2007, there were 18 episodes in the Chandra podcast library, exactly one episode per month. These productions are short – less than five minutes – visual segments. They are thematic, stand-alone features covering such topics as black holes, supernovas, galaxy clusters, or the Chandra mission. They typically include two voices – the narrator (CXC staff member Megan Watzke) and the “talent” (a Chandra scientist) – plus an audio track.

The thought process behind the podcasts was to create a monthly episode with minimal production costs while recycling existing material from the Chandra website. Using an existing library of visual materials (standard definition animations, motion graphics, astronomical images and illustrations) with newly recorded voice-overs, the CXC EPO group was able to keep costs very low, purchasing basic audio equipment and some additional audio/video software. The CXC EPO group also hoped the podcasts would be somewhat timeless so they could be refurbished and recycled into different products (see **Dissemination: unexpected**).

Approximately six months after the first podcast episode was released, the subscription feed² became the most popular page³ on <http://chandra.harvard.edu>, attracting approximately 100,000 hits per month. The first Chandra podcast episode went on to win the Pirelli International multimedia award in the category of physics in May 2007. The Pirelli award, established in 1996, is the world's first internet multimedia award aimed at the diffusion of scientific and technological culture worldwide.

¹ Chandra Public Web site: <http://chandra.harvard.edu/>

² Chandra Podcast RSS feed: <http://chandra.harvard.edu/resources/podcasts/podcasts.xml>

³ Chandra Podcast index: <http://chandra.harvard.edu/resources/podcasts/>

Dissemination: expected

In addition to being featured prominently on Chandra's website, Chandra podcasts were quickly disseminated to some of the standard (expected) venues for podcasting. These included the:

- iTunes Music Store (iTMS), in the category of Science: Natural Science;
- YouTube;
- Podfeeds (news aggregators);
- Teacher tube;
- LearnOutLoud;
- NASA.gov;
- Smithsonian web portal⁴.

Dissemination: unexpected

Chandra podcasts have been provided in broadcast quality for use on NASA-TV. In addition, the CXC EPO group was contacted by space.com to include a selection of podcasts in the space.com video library. Shortly after inclusion into their library, three out of four video spots on the top space.com page were Chandra podcasts. Despite being hosted on the space.com site, appropriate credits and links were provided to CXC and download statistics from space.com were also forwarded to the CXC EPO group. It was a "win-win" situation for both space.com, which got some free content, and the Chandra mission, which got increased visibility.

Another unforeseen use of the Chandra podcasts came from New Zealand. In spring 2007, PC World (New Zealand) contacted CXC EPO and was given permission to use the podcasts produced to that date as a free give-away CD-ROM with a short blurb featured in the magazine.

In late 2006, the CXC EPO group also recycled the then-current nine-episode podcast library into a DVD-ROM for disseminating to museums and science centres, as well as educators and the general public. The work effort and cost for such a production was extremely low (a couple thousand US\$) and CXC EPO was able to get out its first Chandra DVD with minimal effort. Two production runs of 5,000 were quickly depleted. Currently, the CXC EPO is upgrading the quality and material on the Chandra DVD for a version 2.0 with updated materials, higher quality menus and audio/video.

A fourth unexpected use of the Chandra podcasts has been in the classroom. On multiple occasions, teachers and educators approached – unprompted and unsolicited – the CXC EPO group with descriptions of how they were using the podcasts. For example, in a high school setting, one educator played the short segments on a screen as she prepped for her next activity. Other described them as good introductory materials for subject matter they were about to discuss. CXC EPO is currently working on developing podcast classroom activities and discussions, such as ideas for use in the classroom, and having students make their own podcast for submission to NASA's 21st century podcast competition.

⁴ www.si.edu, Chandra is a NASA mission operated by the Smithsonian Astrophysical Observatory, hence the natural connection to the Smithsonian portal.

Finally, Microsoft Research's World Wide Telescope project also has plans to incorporate elements of the Chandra podcasts into some of its feature tours. Once again, this provides the WWT with some ready-made content, while allowing the Chandra material to reach a potentially large untapped audience.

Where next?

Where do podcasts go from here? Can we reach Planetariums/Domes using these same materials or re-package it slightly to suit their needs? Can programmes such as ViewSpace eventually use such audio/visual segments for further dissemination at museums and science centres? Will there be more demand for broadcast use (such as with flix55.com or Smithsonian-on-Demand)?

Where will high definition (HD) lead us? Are HD podcasts going to be the "norm" soon? Can small EPO groups handle the workload of creating HD materials and higher production quality podcasts as easily? What is beyond HD?

Of course, we in the CXC EPO group do not have the answers to these questions. Instead, we look to our colleagues both in the United States and around the world for examples and suggestions of where to go from here. Perhaps the only the thing we can be certain of is that technology will continue to evolve. We will attempt to keep apace of those changes; so that we can best inform and engage the public about the wonders of astronomy.