



Corporation  
for Public  
Broadcasting

To: PBCore Consultation Participants  
Fr: Robert Bole, Patricia Lanas-Espinosa  
Date: July 14, 2009  
Re: PBCore 2.0 Consultation Notes

I would like to thank you all of your time and effort at the PBCore 2.0 consultation at the Corporation for Public Broadcasting (CPB) on July 6<sup>th</sup> in Washington DC. We thought it an excellent day that provided us with solid advice and direction. As we asked at the end of the meeting for you to provide us your additional thoughts, our hope that the summary of the notes we took from the day will provoke you to continue to provide us your input and counsel.

The notes from the meeting follow and are organized by agenda topic. I want to acknowledge the excellent presentation that Marcia Brooks of WGBH on the history of PBCore. It was important to ground ourselves in the past to look to the future and the notes below reflect the conversation around the future. I also want to reiterate the objective of this consultation was to establish a constructive dialog to identify alternative to establish a sustainable operational model for PBCore, to elicit advice on how to structure such on-going concern including rights to the application, and to redefine the scope and target audiences considering there are different infrastructures, distribution platforms, institutional partners and new content not originally considered when PBCore was developed. We consider increasingly important to formally establish standards to exchange, preserve and share content and to do so efficiently within and across organizations.

## **I. The History of PBCore**

- Many system leaders consider PBCore one of the most important CPB-funded initiatives.
- The project was funded in multiple, non-contiguous phases between 2001 and 2007.
- Five public media institutions came together and contributed metadata schemas: PBS, NPR, MPR (Minnesota Public Radio), University of Utah, and WGBH to serve all public media and institutional partners.
- The fundamental reasons for this collaboration are still valid today and there is widespread support from major organizations outside of Public Broadcasting.
- Recognizing that a manageable size is important, it was decided to keep PBCore small but extensible to work with other standards.
- Two main components include PBCore schema (to facilitate machine-to-machine translation of PBCore records) and PBCore cataloguing tool (to facilitate basic content markup)
- Use of PBCore is known anecdotally because of its Creative Commons license, where permission to use is not specifically sought or granted. However we know there is global interest in the application and Web statistics show visits to PBCore.org from 107 countries.
- Volunteer resource group was established in May 2007 through formal solicitation of as well as by invitation. The resource group mission is to help inform/vet dictionary changes for version upgrades

and to serve as ambassadors and advocates in the absence of formal funding. Unrealistic to rely on “goodwill” in the long run.

- Paul Burrows at the University of Utah manages PBCore.org and has donated post-funding hosting for the application.

**Although PBCore does not fit the traditional CPB funding model, it is crucial that we establish formal leadership and a sustainable operating model for PBCore to continue as a cornerstone of collaboration in public Media and with other international standards.**

## II. Determining the PBCore Roadmap

- PBCore cannot be all things to all people. We need to reach out into the user groups, including producers, to find out what they think is missing (e.g. images, text, and multimedia).
- Sharing assets is the strength of PBCore and interoperability must continue to be a high priority in developing PBCore 2.0. The American Archive is a perfect example of how we have to make public broadcasting content accessible to the general public.
- Must have customization framework (e.g. Singapore framework for Dublin Core). Strong ontology and rights are missing. There are several open source ontologies available.
- Producers in general are not familiar with the application. Outreach initiative is essential to reach this audience and encourage content production that can be used for a variety of applications. Producers must have significant incentive to include metadata application in their workflow (e.g. CPB funding).
- Taxonomies are an issue for different communities but flexible enough to evolve over time. A really strong ontology can use data mining tools to hand people off to taxonomies of more specific contexts. National Science Digital Library has a tool that assigns standards to digital objects.

**We must establish a clear roadmap for PBCore 2.0, where the fundamental aspects of the application are clearly defined including audiences, scope, interoperability structure, customization, etc. Special emphasis must be placed on the producer community as the ideal stage to add metadata is during the production process. A robust outreach program must also be implemented to establish metadata as an integral part of the workflow.**

## III. PBCore 2.0 Development

- PBCore is too far along in the production chain (see application profile notes below); need to augment PBCore to take metadata to the clip level.
- A key task to strongly define the “core” of PBCore and create a structured change management process/oversight for this as a standard, but allow for multiple *application profiles* to allow change and adoption for multiple users.
- Application profiles should be managed for both horizontal (e.g. PBCore – Digital Learning Library), but the potential exploration of vertical profiles for various aspects of the production chain.
- Key development efforts should be: vocabulary clean-up, expansion of terms where appropriate (see instantiation & web-centric below), clear change management procedures, and tools that allow for change mapping, application profiles and production management. *Issue for examination is how PBCore could reasonably grow to include more information on content description and digital rights.*

- Expansion of PBCore should focus on: adoption of broader formats (i.e. flash) than just the current very video-centric focus; additional detail that allows for more robust instantiation of metadata, rather than just at the asset level. In its current form PBCore does not meet the needs of either the American Archive or the Digital Learning Library.
- PBCore must monitor itself not to add too much to the standard so as not to follow the pathway to irrelevance and overburdening complications.
- PBCore must consider how it will connect, if at all with various content management systems.
- PBCore must concern itself with understanding and responding to workflow at the producer level, through both the development and use of tools, as well as a strong outreach (“marketing”) approach. (See more on marketing/outreach below)
- PBCore should continue to acknowledge that its strengths as enabling interoperable B2B content sharing, but also recognize that it will need to “interconnect” with other schema at the station or content owner level to truly describe content.

**PBCore should remain focused on enabling interoperable B2B content with a very strong change management process implemented and supported. This requires that we clearly define the target audience, with consensus being on content contributors and creators. PBCore 2.0 should focus on cleaning up and updating the existing metadata terms that reside in the “core”, along with focused expansions to handle instantiations and broader, web-centric formats. The concept of application profiles should be adopted and formalized to allow for flexibility and customization. Finally, PBCore development should also include the development digital tools/applications that allow broader adoption in the content production chain.**

#### IV. PBCore Legal Status

- Currently, the ownership of rights of PBCore resides with CPB, but the intention of it being released through a Creative Commons license has not been discoverable in the files. Commercial broadcasters are currently using PBCore.
- CPB has and has had the intention of releasing PBCore rights to allow for the widest possible usage, as well as encourage innovation.
- CPB is considering more formally licensing this standard under a Creative Commons license (attribution, share alike at minimum) and applications/tools under the GNU General Public License.
- CPB should be most concerned with protecting the “core” of PBCore and leaving the balance to application profiles; the license must not limit innovation or make the evolution/application of PBCore static. ISO standard status may be a way to add legitimacy.
- Further development must consider customization and interoperability without restricting the creative process.
- The license needs to be fixed on the website to make it crystal clear.

**PBCore’s legal license is currently unclear in the minds of CPB based on the lack of evidence in decision-making. CPB should clarify the legal status, in writing utilizing Creative Commons and GNU GPL. This should be clarified on the website as soon as CPB has finalized this process.**

#### PBCore Adoption

- PBCore will be adopted more widely within public broadcasting when it is stabilized, has a clear change management process, and has a manager that engages in aggressive outreach and training on how PBCore can be applied in content workflow.

- There needs to be a set of tools that assist others in the production chain to adopt and utilize PBCore to make easier, but also demonstrate clear efficiencies and benefits for using PBCore. Intelligent TV is working with IMLS on the creation of a “producer’s toolkit” that may be a vehicle or at least a model for PBCore.
- PBCore’s outreach needs to be focused on public broadcasting first, domestic users second and international third.
- Target for adoption are content producers, as well as managers and general managers.
- Utilize marketing and best practices approach within the outreach; specifically pick 3-4 “poster” projects that demonstrate the utility of PBCore in a production process, such as the search and retrieval of files.
- Potential to create a joint working committee of academics, non-public broadcasting media representatives and public media to maximize the use and adoption of PBCore (and feedback into development, see above).
- Expand the website and online tools that provide clear guidelines, workbook on utilizing PBCore for both older content and “born digital” content.
- Ultimate success of PBCore will be tied with outside support by Library of Congress, and others, even if the focal point for usage should first be internal to public broadcasting.
- Explore adding a requirement to CPB funding is the use of PBCore, but also include new funding for producers to implement PBCore, as acknowledgement of increased costs.
- Focus outreach (and development plan) for the next six months, worry about longer term later....note that there is urgency for moving this forward.

**PBCore needs to have a very aggressive, centralized outreach effort that focuses on a) improving the visibility of PBCore among producers and managers, the development of PBCore 2.0 and the utility of PBCore, b) training managers and producers on using PBCore, along with the creation of tools and c) improving the online information through the website. This outreach effort could be enhanced by working with several prominent projects, as well as working with outside entities.**

#### V. PBCore Maturation/Business Plan/Sustainability

- PBCore 2.0 should not “kill” the informal network that has supported and evangelized this project. However, PBCore needs a central owner and manager, dedicated staff for change management, outreach, etc.
- CPB could establish confidence in PBCore by creating an ISO or SMPTE standard, along with a volunteer board, ala Wikipedia.
- Utilize the “power users” to help shape the standard.
- There is interest in using PRSS as a potential model that leverages user fees, but some concern about the governance model. Another model would be a pure standards body, such as ATSC, or even working with an existing standards body to own the management of PBCore as it moves forward.
- A number of folks at the meeting urged that the American Archive is the natural home of PBCore.
- The institutions that are stakeholders in PBCore need to be better defined (audience as well, related).
- The group urged CPB to view PBCore as a critical resource for public broadcasting and urged for long-term investment.

**PBCore needs a permanent home and funding for development and management. The costs of PBCore sustainability and maturation are contained in a dedicated staffing in managing the process**

**and supporting adoption and improvement. CPB has the intention of investing in a PBCore Initiative Manager (consultant) to build a sustainability plan moving the project to a standard. CPB also has the intention of funding the development of PBCore to 2.0.**