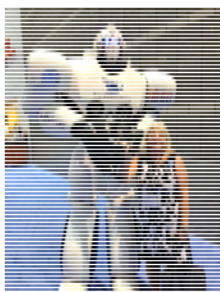




Applying an agile development methodology to XML schema construction



Dianne Kennedy
XML Evangelist,
Idealliance
PRISMstandard.org



About the Speaker

- Dianne Kennedy, Idealliance XML Evangelist, Chicago, IL USA
- Manager LinkedIn “XML in Practice”
- 30+ years XML design
 - Chair SAE J2008
 - Participant in US DoD CALS
 - Participant ATA 100 / SGML
- Currently:
 - Editor PRISM Metadata Specification
 - Editor Print Quality eXchange (ISO 20616)





About Idealliance

IDEAlliance is a global community of more than 3,000 Corporate and Network Members, comprised of **content and media creators, producers & publishers** and their **service providers, printers, material suppliers** and **technology partners**.





www.idealliance.org



Idealliance Mission


“Where the media and technology communities collaborate to craft best practices, advance standards, and certify people, processes, and systems to achieve the highest performance in creation, production and delivery of graphic communications”



XML Authoring Survey

- [Link from www.prismstandard.org](http://www.prismstandard.org)



XML Authoring Survey 2016

1. What type of content do you have in XML? (Select one or more)
2. What is the reason for using XML? (Select one or more)
3. What is your primary method for creating XML? (Select one)
4. What are the biggest obstacles to authoring content in XML? (Select one or more)
5. How long does it take for your organization to train people to tag content using XML? (Select one)
6. How satisfied are you with your current method of creating XML content?(Select one)
7. What do you think will increase the adoption of authoring content in XML in your organization? (Select one or more)




Agenda

- About Brands, Brand Identity and the Brand Print Quality Ecosystem
- About Agile Software Development
- Why use Agile Development for PQX?
- Step 1: Terms of Reference
- Step 2: Design Principles
- Step 3: The Iteration Process
- Step 4: Conclusion



What is a Brand?

- Definition: A brand is a name, term, design, symbol or other feature that distinguishes one seller's product from those of others.
- A specific *brand color* or *brand color pallet* are one of the features that distinguish one product from another.



Products are Brands



Companies can be Brands



Publishers can be Brands





Print Quality = Brand Quality



- The value of a brand is judged by the quality of its representation in the market
- Print Quality reflects Brand Quality
- So Brands take a very active interest in the Print Quality of:
 - Packaging
 - Advertising
 - Large Format Signage
 - Point-of-Sale Signage



Print Quality Criteria

- Is the print clear and readable?
 - Registration Quality
 - Lack of physical defects
- Is the color quality acceptable?
 - Process Color quality
 - Brand Spot Color fidelity?
- Is the quality reliable across print runs over time?










PICK A COLOR ANY COLOR

Our logo or background color may be any color within the Demand Media color palette. Contrast is important—use a white logo on color backgrounds and a color logo on white backgrounds.

Color logo on white backgrounds





Coated Paper
PANTONE 285 C

Uncoated Paper
PANTONE 285 U

R 80
G 150
B 242
HEX #5096F2




Measuring Print Quality

- Press Checks
- Product Sampling
- Measurement & Reporting
 - Manual Measurements
 - In-line, on-press system monitoring







Reporting to Brands

- Completion of Brand QA Forms
- Data dumps from software
 - Hand held
 - On Press, In Line
- Manual data entry into online Brand QA databases

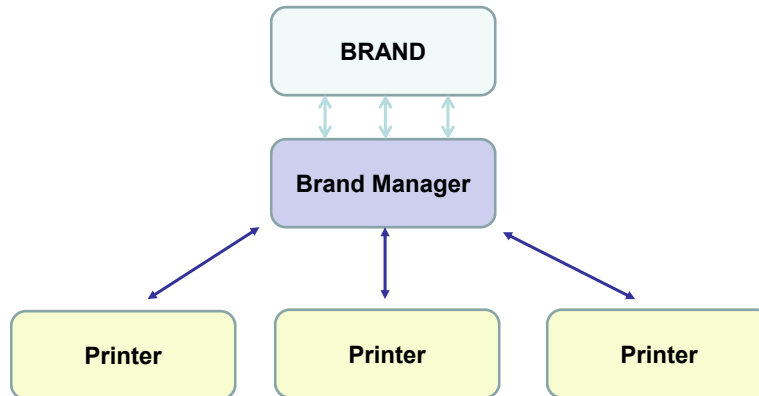


Why Standardize?

- Standardization saves **time and money** for both Brands and Printers
- Brands can have one way of specifying quality checks to *all* Printers
- Printers can have one way of reporting quality to *all* Brands
- Brands can receive quality reports in a single format & eliminate re-entry of data from disparate sources...

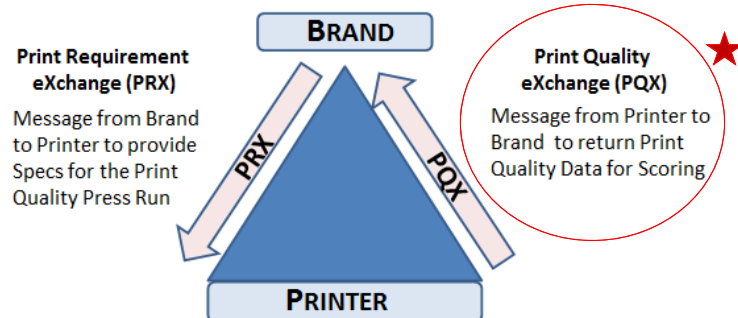


Print Quality Ecosystem



What can be standardized?

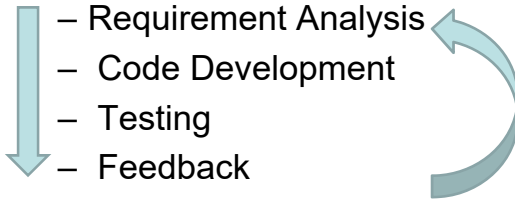
Print Quality Messages





About Agile Software Development

- Requirements and solutions evolve through collaboration
- Iterations:
 - Requirement Analysis
 - Code Development
 - Testing
 - Feedback



Why Use Agile Development for PQX?

- Industry urgency for a solution
 - Print revenues shrinking
 - Efficiencies and quality are critical
 - Immediate software solutions in high demand
- Participation by software developers
 - Broad industry participation
 - Direct participation and review by software developers
- Their influence moved us to this methodology





Step 1: Develop Purpose & Scope

- A statement of purpose and scope is often called “Terms of Reference”
- We go back to this statement as iterations progress to guide development
- Sometimes we add/edit the “Terms” to be more precise or expand/limit scope
- Most often, we recall code developed that is out of scope...



PQX Terms of Reference

PQX Terms of Reference

PQX is intended to facilitate the one-way transmission of performance data for one or more printed samples from a single press run between print service providers to relevant stakeholders and brand owners; thus allowing brand owners to assess and track relevant business, production, color and quality data of printed materials of all forms. Color data will be reported using ISO-compliant CxF. Spectral and non-spectral data will be accepted.



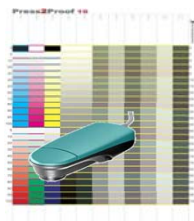
Scope

- One-way message
- Single press run
- One or more *Samples*
- All types of printing
- Reports on *Business, Production, Color & Quality*
- Color data = ISO CxF
- Spectral or Non-spectral (density)



About CxF

- ISO Standard for Color Data
- Designed for Computer-to-Computer Communications
- Output by measurement device software



CxF XML

Brand Quality DBs





Step 2: Design Principles

- Since agile development means that we will be producing new versions of the XSD as a series of rapid iterations we need “rules of the road!”
- PQX was complicated because we would be incorporating another ISO standard, CxF (Color Exchange Format) to report color quality
- Principles guided us and were consulted as part of testing each code iteration...



General Design Principles

- Structure of the PQX Message will conform to the Terms of Reference
- Elements defining Tolerances and Scoring are out of scope
- The PQX message will be limited to the reporting of press run results, not for returning the requirements or specs for that press run.
- Standard ANSI/ISO nomenclature will be used whenever possible
- Element/attribute names will self-documenting; i.e. names will not be abbreviated
- Each element and attribute will be documented, in place, as development occurs to enable automatic generation of a documentation set for each schema iteration
- The namespace for all PQX elements will be pqx:
- CxF elements will be imported from the CxF3_core schema and will retain their CxF cc: namespace





Message Structure Design Principles

- The root element for PQX will be the PQX Message
- The Schema will be prescriptive and strictly enforceable, rather than flexible, to allow for little, if any programmer interpretation of intent
- Ordering of fields within PQX will be absolute
- Cardinality will be determined by consensus of the stakeholders
- Required fields must be agreed upon by all
- Optional fields, within the scope of the project, will be included at the request of any stakeholder
- Business data will fall first in the CxF Message
- Color data for samples and references/aims will be reported in separate blocks of the message



Design Principles for use of CxF

- CxF will be employed as the data store for reference and sample color data
- The PQX message will have an attribute of CxFVersion= to enable use of any version of CxF within the PQX Message
- Only Core CxF will be employed as the data store for color data
- The CxF schema will be imported into the PQX schema so that CxF elements can be included in the PQX message in their native cc: namespace
- CxF will be employed as a complete CxF hierarchy (blob) with the cc:CxF element as the root to ensure direct importability from color measurement devices
- No fragment of CxF will be allowed within the PQX model
- CxF elements will be employed for only those mechanisms where the intent of CxF is a match for the intent of PQX





About the Working Group

- The PQX Working Group is made up of
 - Idealliance members and
 - Invited experts from ISO Technical Committee 130 (Graphic Communication Technologies).
- 47 members from United States, Canada, Great Britain, Germany, France, Italy and Japan
- Collaborate using:
 - WebeX, sessions recorded
 - Idealliance Connect collaboration software



Iterations / Steps

- The latest version of the PQX XSD structure is reviewed by the facilitator using Webex.
- A test data sample was reviewed so individual software vendors participating in the effort could test and report faults.
- New vocabulary terms / definitions were reviewed and commented on
- The schema was advanced by modification of structures in the current version or the addition of new fields/functions.
- Documentation about new elements and attributes were developed by the group to assure a stable, working nomenclature was in place.





Iterations / Steps Cont.



- Following each working session, the facilitator produced a new version of the PQX XSD, complete with inline documentation.
- The facilitator also produced 1 or more samples to demonstrate the latest schema version.
- Complete documentation was generated from the schema by the facilitator.
- The new version of the XSD, its documentation and related samples were posted in the library of the PQX online collaboration website. Minutes and recording links were posted to the library each week.
- The facilitator prepared a slide deck to lead the discussion and advance the XSD for the next working session.



Additional Design Notes

- We tackled one block of the message at a time
 - Business Information
 - Printed For, Printed by, Measured By
 - Color Reporting
 - Registration Reporting
 - Defect Reporting
- Added reporting for automated on-press measurement systems



Idealliance Connect

[Community Home](#)
[Discussion 112](#)
[Library 92](#)
[Blogs 0](#)
[Events 0](#)
[Members 50](#)

PQX Work Group

Announcements [Add](#)


PQX Overview Webex Posted

By: [Ms. Dianne Kennedy](#) , 6 months ago

PQX Reporting brings together some very complex concepts. You can get an overview of the work to date in a recorded session that explains what PQX is, some of the underlying concepts, an overview of the model and a review of some tagged examples.

[Link to PQX Overview Webinar](#)

Latest Discussion Posts [Add](#)




[Reminder to Comment on PQX Draft](#)

By: [Ms. Dianne Kennedy](#) , 7 days ago


I have had very few comments. Please take some time to read and comment before we move to finalize! The spec can be downloaded at <http://www.idealliance.org/specifications/pqx> Comments on the Spec can be made at

Latest Shared Files [Add](#)




[Minutes from May 13, 2016](#)

By: [Ms. Dianne Kennedy](#) 2 months ago



[Minutes from May 10 2016](#)



By: [Ms. Dianne Kennedy](#) 2 months ago



[Minutes from May 4, 2016](#)

By: [Ms. Dianne Kennedy](#) 2 months ago

[More](#)

Connect Library

[Community Home](#)
[Discussion 112](#)
[Library 92](#)
[Blogs 0](#)
[Events 0](#)
[Members 50](#)









Folders PQX Work Group

[New](#)
[New Child](#)
[Delete](#)
[Copy](#)
[Paste](#)
[Link](#)

- PQX Work Group
 - Referenced ISO Docs
 - Terms of Reference
 - Schemas** ×
 - Older Versions
 - Minutes

Folder Contents

[New](#)
[View](#)
[Delete](#)

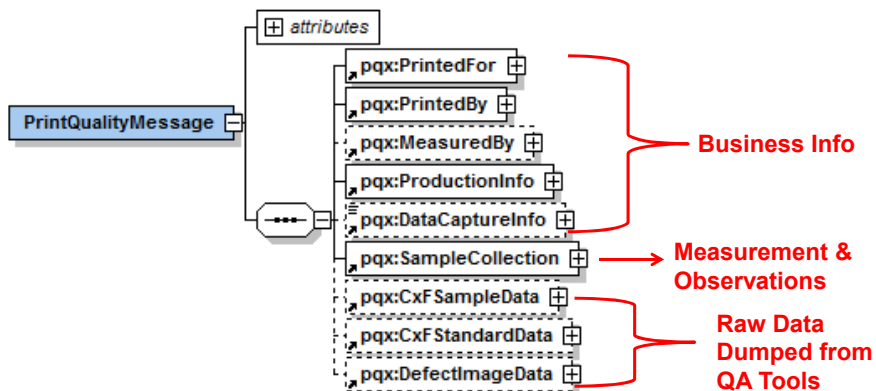
-  PQX Schema Draft 33
-  PQX Schema Draft 34
-  PQX Schema Draft 35
-  PQX Schema Draft 36
-  PQX Schema Draft 37
-  PQX Schema Draft 38
-  PQX Schema Draft 39
-  PQX Schema Draft 40

Current Status

- Version 47 has been published for Public Comment
- 141 Terms/Definitions have been developed
- Intent is to move this version into ISO to be fast tracked as an ISO Specification in early 2017



PQX Version 47





Measurements & Observations

- We cannot control what measurement tools a printer uses
 - Manual (taken by pressman for example)
 - Automated, on-press data gathering
- We must accommodate all measurement tools
- The goal is to enable a transform from every internal format
 - XML
 - Proprietary



Next Steps

- We plan to develop the inverse message using the same agile development techniques!
- Print Quality Requirement eXchange (PRX) the message for brands to communicate QA requirements to printers
- Design Principles should remain constant
- Many terms/definitions will be reused





Questions?

