

Paper for Consideration by NIPWG

Outcome of the XML workshop on Notices to Mariners

Submitted by:	XML workshop
Executive Summary:	Outcome of the XML workshop on Notices to Mariners
Related Documents:	NIPWG 5-43.1
Related Projects:	S-4

Introduction / Background

At NIPWG5 a paper by the NIPWG Chair initiated the discussion of a common format for NtM chart corrections. It had been considered by some HOs, which are producing NtM of foreign waters, that a common data structure could simplify the procedure of adopting foreign chart corrections.

It was decided by NIPWG and approved by HSSC, that a Workshop should be arranged. The main aim would be to develop a harmonised data exchange mechanism such as XML for data exchange of chart corrections between Hydrographic Offices.

The exchange scheme is supposed to simplify the process of chart maintenance of international charts within bilateral agreements between printer- and producer nations as specified in S-4.

According to rules in S-4 (A-403), printer nations shall use the notices issued by the producer nation, to each draft a corresponding notice. A common format for delivering corrections to charts simplifies this process and shortens the time needed for adoption of these corrections.

The technical workshop, aimed primarily for XML experts, was arranged in Genoa 1-2 October 2018.

Analysis/Discussion

Current data format samples and exchange methods between neighbouring offices were used to initiate the creation of a common structure. It was decided that a common XML format would be created, that should support translation (by XSLT) into currently used file formats, and support current production systems in use.

Special attention was given to the anticipated way of presenting the data as human readable instructions for corrections to paper-charts. Other use-cases were given lower priority. Some similar S-100 PS were investigated, and parts of attributes and structures reused.

The initial data model was discussed and drafted in UML during the meeting. After the meeting an XSD-schema was generated from the UML. Test datasets were created, and the data model amended according to findings. The current draft release (January 2019) is 0.0.4.

Even though S-4 gives clear general guidelines for the use of Notices to Mariners, these guidelines are interpreted differently within different offices. Different systems of grouping corrections either by topic or by chart are used, and the use of Temporary and Preliminary notices differ among countries. S-4 is mostly giving guidance for traditional printed booklets, and special attention had to be given the fact that the XML was mainly aimed at capturing the data content, but should still support translation to and from existing formats.

The major part of discussion during the workshop aimed at getting a common understanding of the various uses and needs of a common format for Notices to Mariners. Some of the questions were not fully solved during the first workshop, and were given interim solutions that might need to be further developed during testing. Some of the items causing most discussion were the use and format of symbols and encoding of positions.

Symbols and images

Many offices use assisting symbols and images to assist the user with applying chart-corrections. Current chart-handling systems use TrueType Fonts (TTF) for chart symbols. While these are commonly used internally, there are issues related to distribution and using custom TTF fonts among several systems. Several approaches to symbols were discussed, and it was decided that both file-based (SVG, PNG) or TTF symbols are allowed, as

Note: FOR REASONS OF ECONOMY, DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

long as a reference to the font used is added to the dataset. It was discussed that a general (IHO mandated) repository for symbols eventually could be established, and symbols simply referenced using unique IDs.

Positions

Encoding of positions was discussed extensively. Due to the fact that positions are encoded differently within data-products (decimal) and printed charts (sexagesimal), there were different views on how positions are to be encoded to support both human and machine readability, easy translation to and from existing data formats used (using XSLT) and easy lossless display in the originally used sexagesimal format.

Other items discussed were the various uses of Preliminary and Temporary notices, different grouping of corrections and their relation to products.

Conclusions

The workshop developed the initial data model for testing purposes. An XSD schema was generated after the meeting, and conversion of existing data into the XML format has been made within Hydrographic Offices. The initial Data Capture and Encoding Guide (DCEG) for this product has been produced (Q4/2018).

The data model and related XSD file was uploaded to GitHub for easy access (https://github.com/FihoFi/ntm_common_xml/). Feedback regarding the data-model has been received and documented within the GitHub repository. The site also has a link to further discussions at the NIPWG WIKI site.

Action Required of NIPWG

The NIPWG is invited to:

- a. Note this paper
- b. Discuss and provide guidance for further development