

Paper for Consideration by TSMAD

S-101 Data Quality

Submitted by:	DQWG
Executive Summary:	This paper includes DQWG proposed data quality model, draft of chapter 6 of S-101 and proposal for changes to the IHO Hydro register. This represents the output of the DQWG as requested by TSMAD.
Related Documents:	S-101 Product Specification
Related Projects:	N/A

Attachments

Annex A – Draft of S-101 Chapter 6, Data Quality

Annex B – Proposal for changes to the IHO Hydro register

Introduction / Background

Following the request from TSMAD to DQWG (see document DQWG4-02A_S-101_Data_Quality_for_DQWG) to draft the data quality section of S-101 using guidance from S-100, and in particular part 4C, DQWG has worked on such documentation. Major guidance in this work has been drawn on the results from the DQWG data quality survey. This paper includes the drafts as prepared by the DQWG membership during DQWG4 and 5, as well as by correspondence.

Analysis/Discussion

The initial discussion by DQWG took place at DQWG4 (Helsinki, June 2011), where after analysing the current situation with CATZOC the conclusion was to deconstruct CATZOC and make the replacement carry all the constituent parts of CATZOC. The rationale behind this approach was that this will allow for a more flexible approach to capture data quality, as well as enable a flexible portrayal of data quality which can also include external inputs, in addition to the data. Such inputs can be sensory, ship parameters, risk tolerances etc. These approaches lead to the data quality model as shown in figure 1.

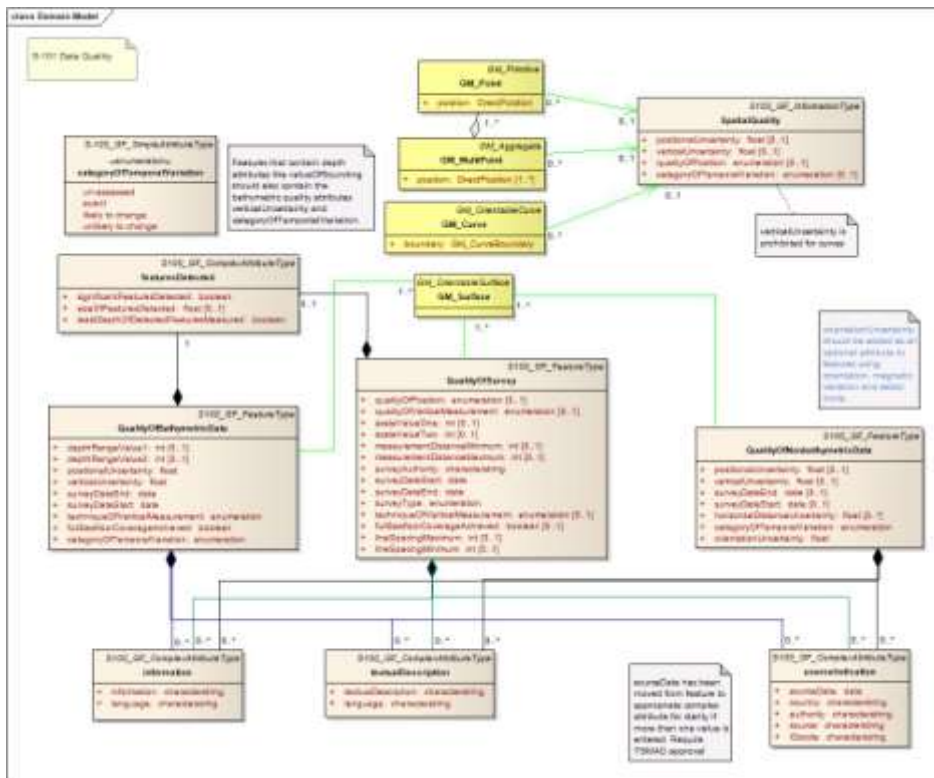


Figure 1

Using the data quality elements of this model, it is expected that the S-101 ECDIS will utilize algorithms to determining where safe water is for a particular vessel. The algorithms are not yet defined, and DQWG has approached University of Southern Mississippi for assistance on this work. Figure 2 shows the envisioned architecture for display of data quality.

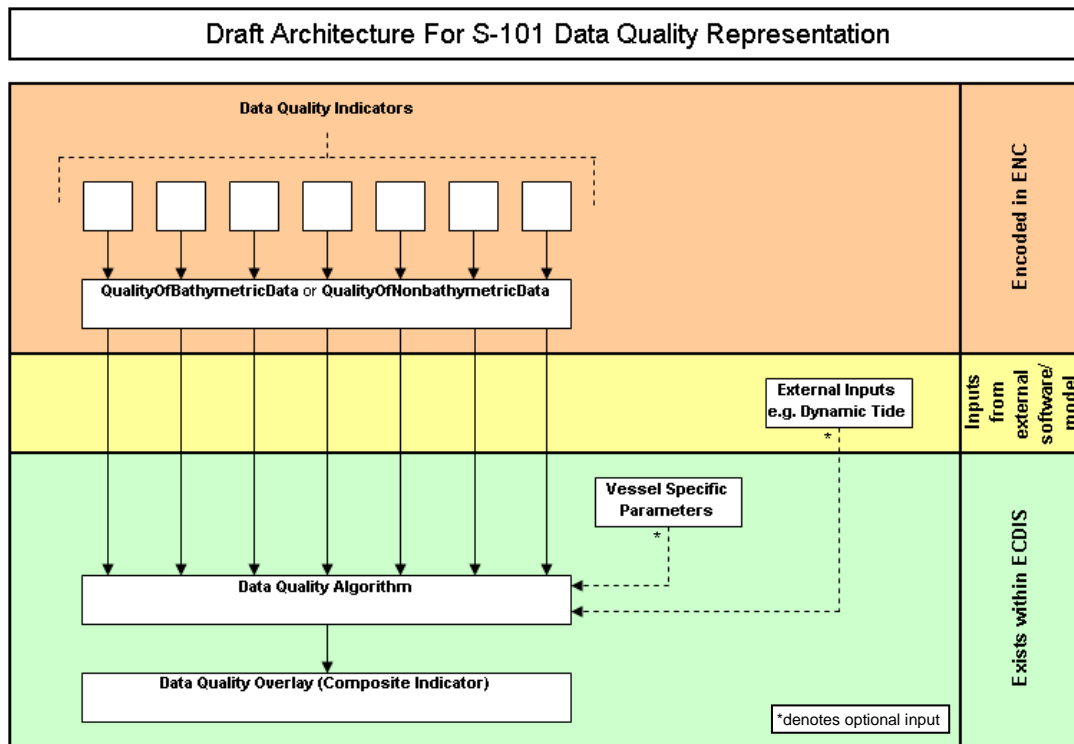


Figure 2

Other Considerations

As a consequence of deconstructing CATZOC, a number of changes and additions to the S-101 feature catalogue are needed. These proposed changes have been collected in Annex B.

Conclusions

DQWG feel that the proposal is the right approach to correct the issues with CATZOC. Furthermore it is the opinion of DQWG that the new data quality model is flexible enough to enable new innovative means of representing data quality in future S-101 ECDIS.

Justification and Impacts

The new data model has been constructed with backwards compatibility in mind. This is to say, it's make up is such that a data producer should be able to, with relative ease, convert S-57 data quality into the S-101 data quality without loss of meaning. As such, the impact will be primarily in the portrayal.

Action Required of TSMAD

1. Review the proposal for Data Quality
2. Consider the proposal for inclusion in S-101
3. Consider the proposed changes to the IHO Hydro register