Paper for Consideration by S-100TSM

Report on S-100 Registry Improvement

Executive Summary: This paper reports on the update of S-100 GI Registry and its plan

Related Documents: S-100, S-99

Related Projects: IHO S-100/S-101 Test Bed Project

Introduction / Background

This paper is a report of S-100 GI Registry and future plans following the request of the 2nd S-100WG meeting in Genoa, Italy.

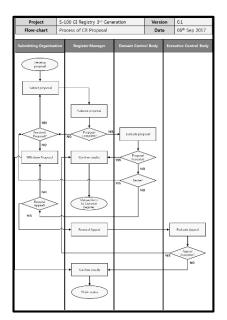
Analysis

Summary of S-100 GI Registry Improvements

KHOA developed user interface and database of two registers (Feature Concept Dictionary, Portrayal) for S-100 GI Registry according to the S-99 and S-100 standard. In addition, KHOA has been developing NEW registry and database following the request of the 2nd S-100WG meeting in Genoa, Italy.

The progress of the registry improvement is briefly described as below:

Improvement of approval process
 FCD (Feature Concept Dictionary) register was separated as CR (Concept Register) and DD (Data
 Dictionary) register following the concept introduction. Approval process for CR, DD and Portrayal
 register was re-wrote based on present S-99 flow-chart template (figure 1).



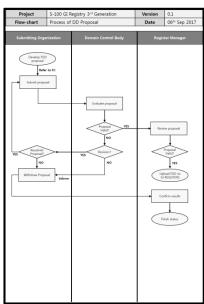


Figure 1. Rrevised approval process

2. Concept Register

Present FCD register system has non-harmonized data issue which various overlapped items have been consistently proposed in different domains even if their name, definition and camelcase is the same. CR has been introduced which common matters (name, definition, camelcase, etc.) are registered in concept step to fix this issue.

3. Data Dictionary Register

In DD register, concepts which were registered in CR register could be registered into registry database by designating its item type (ex., feature or attribute etc.) and submitting additional information.

- 4. Portrayal Register (only for Point, Line Style, Area Fill, Colour, Font)
 Presentation colour of symbols has been improved by CSS (Cascading Style Sheets) file replacement
 and this improvement had a validation check through test registry server. Preview image error of BLOB
 type was fixed using images from 7cs.
- Product Specification Register
 Product specification register has been introduced to manage various products based on S-10X and
 share product specification files for related S/W.
- Producer Code Register
 The producer code service will be developed in the GI registry as present IHO data producer codes website.
- Test bed
 Test bed webpage will be developed in order to share the test catalogue and test data sets for developing Product Specifications.
- 8. New interface of S-100 GI Registry has being developed for improved approval process and user friendliness (figure 2).



Figure 2. New interface of S-100 GI Registry

Summary of Database Model for Registry and Register

KHOA analysed IHO S-100, S-99 standard and FC UML to improve registry database model. Results of analysis are as follows.

- Codelist, codelist value
 Codelist item type was moved to simple attribute's data type and codelist value item type was moved to enumerated value's data type to follow the S-100 FC UML.
- Concept Register DB
 Concept register DB has been developed and present FCB approval process's several parts (name, definition, camelcase, reference, etc.) have been moved to concept register approval process.
- 3. Overview of new database model
 Present registry and DB for two registers will be improved to five registers through this improvement. In
 addition, metadata for registry operation and user management will be developed (figure 3).

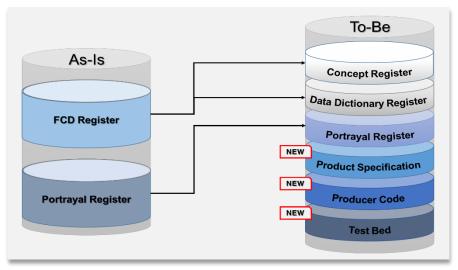


Figure 3. Overview of new database model

Discussion/Conclusions

While the improvement on the registry and database model has been made, there are some issues as described below:

- 1) Domain concept: Items (dictionary data, portrayal) do not belong to each submitted domain according to concept register introduction. Any items can be used in whole domain and this concept should be applied to portrayal register.
- <u>2)</u> S-32 hydrographic dictionary: S-32 DB or website needs to be connected to concept and item of registry.

NEW registry of this improvement will be made available after the test operation in January 2018.

Action Required of S-100TSM

The S-100TSM5 is invited to:

- a. Note the progress reported in this paper
- b. Discuss pending issues brought up in this paper