

Paper for Consideration by the S-100 Working Group

Portrayal Catalogue implementation of “TopLevelTemplate”

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Executive Summary:	Use of “TopLevelTemplate” does not provide necessary context to associate selectors
Related Documents:	S-100
Related Projects:	IHO S-100/S-101 Test Bed Project

Introduction / Background

The current portrayal catalogue schema shown in S-100 Figure 9-20 defines an enumeration “RuleType” which specifies the type of templates contained within a given XSLT file. The rule type for any given XSLT file must be either “subTemplate” or “topLevelTemplate”.

A “subTemplate” specifies that the associated rule file is referenced from other XSLT files, and should not be called directly by the ECDIS. A “topLevelTemplate” is intended as an entry point for XSLT processing from the ECDIS. The portrayal catalogue currently defines three topLevelTemplate files: main_PaperChart, main_SimpleSymbols, and main_Simplified.

Analysis / Discussion

The three topLevelTemplates provided are clearly intended to allow the ECDIS to switch between alternate portrayals, however there are several drawbacks to this implementation:

1. There are four possible combinations of the selectors but only three portrayals are provided:
 - main_PaperChart.xml: point object style=paper chart, line style=symbolized
 - main_SimpleSymbols.xml: point object style=simplified, line style=symbolized
 - main_Simplified.xml: point object style=simplified, line style=plain

Not Provided: point object style=paper chart, line style=plain (S-52/3.2.1(2))
2. The goal to have upgradeable self-describing catalogues which do not require software changes is not supported by this implementation. There is no way for an ECDIS to associate the appropriate selector with the selection of portrayal without hard coding of product specific knowledge. For instance, the catalogue defines “main_SimpleSymbols” and it is apparent to a human that this should be associated with the selectors for point object style and line style, but the ECDIS has no way of knowing this. The manufacturers implementation must hard-code the relationship between the “main_SimpleSymbols” catalogue entry and the selectors for “point object style” and “line style”. It is not possible for new selectors and portrayals to be added (e.g. main_PaperChartPlain.xml), without code modifications to the ECDIS.
3. The current implementation of topLevelTemplate is inconsistent with the implementation of selectors elsewhere in the catalogue. Other selectors are defined via “context” elements and passed in to the XSLT as parameters.

Recommendations

1. Modify S-100 to specify that there can be only one topLevelTemplate. The single entry is necessary to define the file name and entry point for XSLT processing. Restricting the use of topLevelTemplate allows the ECDIS developer to unambiguously determine the entry point for portrayal catalogue XSLT processing.
2. Modify the implementation such that only one topLevelTemplate is provided: “mainS101.xml”.

3. Modify the implementation so that input parameters defined via “context” elements are used to affect all aspects of the portrayal. In this case, context elements for “Simplified Symbols” and “Symbolized Boundaries” should be added, along with the associated XSLT processing to modify the portrayal based on these context elements.
4. ECDIS developers should read the selectors provided via the context elements and expose them to the mariner via mariner settings without resorting to hard-coded relationships.

Action Required of S-100WG

The S-100 working group is invited to:

- a. note the paper
- b. agree with the recommendations
- c. modify S-100 as described
- d. endorse modification of the portrayal catalogue as described