

Paper for Consideration by S-101PT4

Update of KHOA S-100 Viewer

Submitted by:	Republic Of Korea (KHOA)
Executive Summary:	This paper describes update of KHOA S-100 Viewer
Related Documents:	None
Related Projects:	S-100 Test Bed Project

Introduction / Background

KHOA has developed the S-100 Viewer to support Phase 3 (Simple Viewer) and Phase 6 (Shore based ECDIS) in the IHO S-100 test framework and worked with the ECDIS OEM to make the Shore based ECDIS. The major progress of KHOA S-100 Viewer was reported to S-100WG4 and this document describes some activities since the meeting.

Analysis/Discussion

Review and use of Lua Scripting Reference

KHOA tried to implement the Lua process according the S-100 Part 9a and Part 13, but the team has experienced a lot of difficulties. KHOA suggested the need of reference source code in C language in the S-100WG4. SPWAWR reported that they already started to develop the reference code and would release it in the near future.

NIWC(former SPAWAR) released the first version of LSR(Lua Scripting Reference) on June 6, 2019 and uploaded it in the Basecamp. KHOA team reviewed the LSR like the followings;

- All source code for Lua implementation (Visual Studio 2017, C Language)
- Parsing module of the S-101 Feature Catalogue, Input XML as S-101 dataset structure, Lib for using Lua
- Most host functions provided
- Implementation parameter [implementation filename InputXML FC.xml PCMainRule.lua

KHOA team confirmed that drawing instruction could be created using the sample data (input XML, FC, PC) and source code in C language in the LSR package. The KHOA team believes that if the LSR is used, the Lua process would be implemented in the KHOA S-100 Viewer.

From the review of LSR, the team developed a phased plan to implement the LSR in the S-100 Viewer.

- (1) Phase 1: Use of LSR code in operation of KHOA S-100 Viewer
 - Parsing module of the S-101 Feature Catalogue and InputXML code will be used without any changes
 - Creation of the Drawing instruction using the LSR codes.
 - Implementation date (till the end of Aug), the S-100 Viewer with the LSR code will be used for the sea trial of August
- (2) Phase 2: Convert LSR codes and apply it to KHOA S-100 Viewer
 - Use of existing code of KHOA S-100 Viewer Instead of the FC parsing code in the LSR
 - Use of KHOA SENC data instead of InputXML
 - Implementation date (after the sea trial)

KHOA expresses thanks to NIWC who provided the LSR. The review and implementation results of LSR will be reported to the upcoming Test Strategy Meeting on September.

Sea trial plan using the KHOA S-100 Viewer

KHOA has developed the Shore based ECDIS using the core parts of S-100 Viewer, which was done cooperating with the ECDIS OEM. KHOA has planned the following sea trial to verify the S-100 test data and technical issues raised during the development of S-100.

- Time: End of August
- Test area: Route between Port Busan and Port Gwangyang
- Test data: S-101 ENC, S-102 Bathymetric data, S-104 Tidal height, S-111 Surface current, S-122 MPA, S-123 Radio Service, S-127 Traffic management, S-124 Navigational warning
- Technical topics: Portrayal process of quality information proposed by DQWG, Update of interoperability catalogue, Lua based portrayal process of S-101 ENC, Harmonized display issues of S-10X data, Review of the concept of front and back bridge using the S-100 data

Major test results of S-100 data and technical topics will be reported to the upcoming S-100 Test Strategy Meeting and detailed results will be reported to the S-100WG5, 2020.

Conclusions

KHOA has been reviewing and implementing the LSR provided by NIWC and planned to apply the LSR code in the KHOA S-100 Viewer in 2 phases. KHOA developed the shore based ECDIS using the core module of S-100 Viewer and planned to conduct the Sea trial to verify the S-100 data and technical topics at the end of August, 2020.

Recommendations

KHOA expresses thanks to NIWC who provided the LSR and seek advices on the planned sea trial from the S-101PT members.

Action Required of S-101PT

The S-101PT4 is invited to:

- a. **Note** this paper