Paper for Consideration by S-101PT5

Status of FCB/PCB development

Submitted by:	Republic Of Korea (KHOA)
Executive Summary:	This document describes improvements to the S-100 standard development tool, FCB and PCB.
Related Documents:	S-100, S-101
Related Projects:	KHOA S-100 Test Bed Project

Introduction / Background

S-100 FCB and PCB are components of standard development infrastructure. It is also a key tool for product standard development based on S-100. KHOA has been supporting the development and operation of S-100 FCB and PCB in cooperation with the IHO, and is updating them based on user requirements.

Analysis/Discussion

S-100 FCB is a support tool for producing FC and is linked with S-100 Registry (Geospatial Information Registry). It is also used for FC production by utilizing the DDR (Data Dictionary Register) of the Registry. For creating and updating FC, we focus on the relationship between each object and the relationship between objects and attributes.

However, there is a possibility occurring an issue because version control for object and attribute is not properly performed. For example, if the information in the Registry is changed while the official S-101 FC 1.0.0 has been distributed, it is impossible to know which object and attribute information of the FC has been changed. Also, when S-101 FC is updated to 1.0.1, only camelCase of object and attribute in existing FC information can be linked with Registry. Therefore, there is a problem of working without knowing the change history of the data.

Therefore, we would like to report improved S-101 FC and FC version management within the S-100 standard by improving S-100 FCB to enable systematic version management of S-101 FC.

Also, we would like to report improvement of PCB for a functional problem.

S-100 FCB improvements

The local DB file used by S-100 FCB stores the registry's DDR information as a file so that it can support work even in an environment without internet connection. Information of DDR is created with the latest version Registry.

No problem occurs when you create FC using the latest information. However, when you update an existing FC, the only way to match it with the local DB is to find the same feature and attribute's camelCase.

Those features and attributes that have same name with their camelCase are supposed to be set up for automatic change of detailed information depending on the local DB.

With this process, we might be facing into problems with FC version control depending on the local DB. To solve the problem, we match a unique key value created from DDR storage process instead of matching camel camelCase of features and attributes.

At the last S-100WG meeting, KHOA reported the agenda for version management of feature data within feature catalogue(S-100WG5-04.6A). It was recommended to use FC_DefinitionReference for version management of feature data in the Feature Catalogue data model as specified in "Fig. 1".
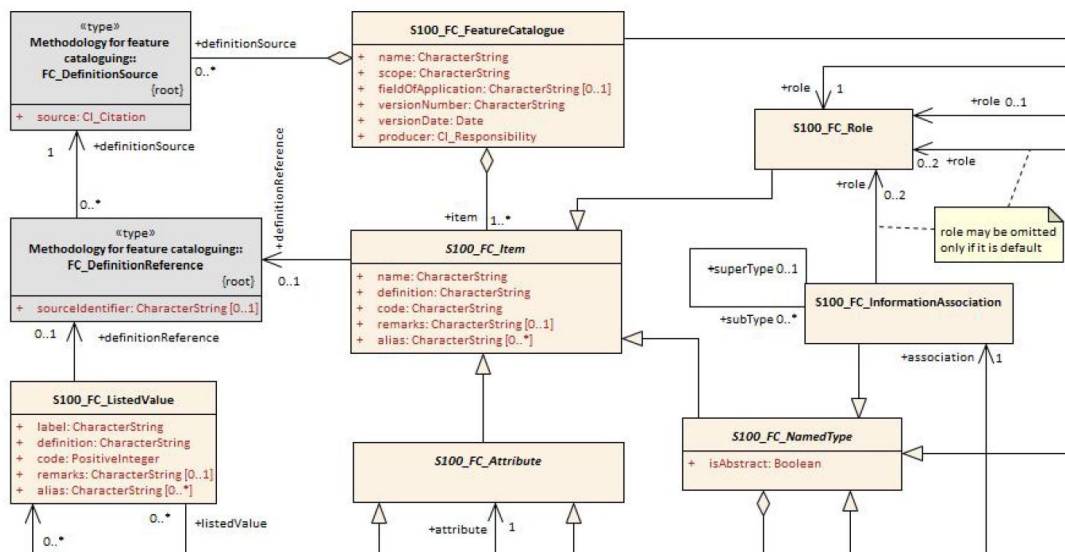
Fig. 1. Feature catalogue Data Model

Using the FC_DefinitionReference enables version management. You can also use the key when generating the Registry's DDR information as a local DB by utilizing the DDR's key value.

Fig. 2. FCB local DB creation improvement

When creating an FC by S-100 FCB, you can now save the information source of features and attributes and the unique key value of the Registry by using DefinitionReference. Item defined in the FC standard was used.

Fig. 3. Add source of information when creating FC

Such FC with source identifier can check the version of the DDR in the Registry. This enables FC update with version control from S-101 version 1.0.1.

S-100 PCB improvements

A problem that occurs when creating a local DB in S-100 PCB has been improved. In addition, the Help function provided by the S-100 PCB is available.
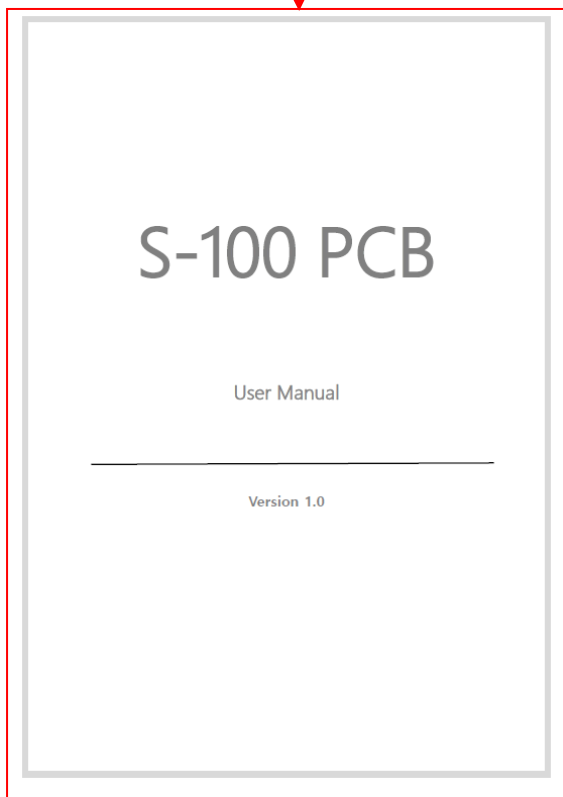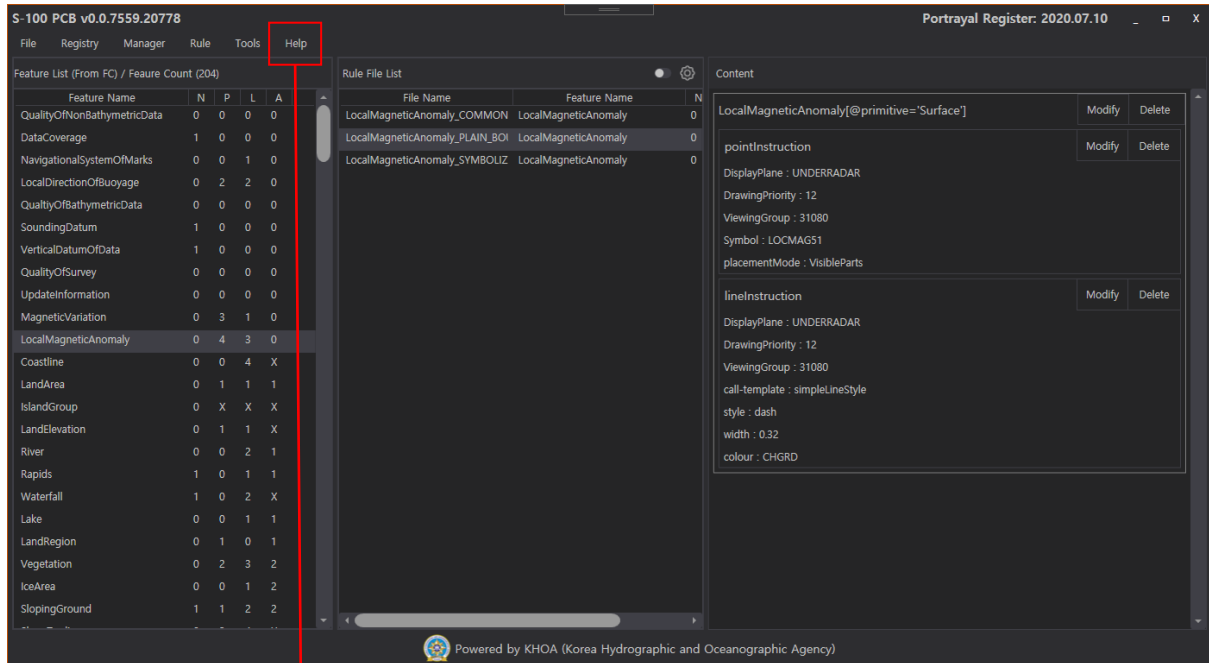
Conclusions

To improve version control of FC, KHOA suggests to store the source information of features and attributes by using definition Reference. In addition, we would like to suggest a method on updating FC with version control by utilizing S-100 FCB.

Recommendations

Request review the FCB and PCB improvements described in this document.

Action Required of S-101PT

The S-101PT is invited to:

    a. Note this paper

    b. Discuss the FCB/PCB improvements reported by this paper