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Paper for Consideration by TSMAD

Use Case for Themes to Improve the User Experience

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Executive Summary:	This paper proposes use cases for the inclusion of themes in S-101 data. These themes will support better structured interfaces in S-100 ECDIS.
Related Documents:	1. S-100 2. TSMAD20/DIPWG2 16.2A
Related Projects:	1. S-101

Introduction / Background

1. In addition to the chart display a key element of ENC display is conveying textual information to the user. This includes the 'pick report' but can be extended to include other information which is conveyed in a textual form to supplement the navigational display. In order to improve the user experience in future ECDIS, this paper attempts to identify ways in which S-101 data can be structured to support the improved display of textual information.

Analysis/Discussion

2. S-101 includes new constructs such as complex attributes and theme feature types, these will support improved structure of textual information in future ECDIS. In order for this improvement to be realized the underlying S-101 data must include certain features to support it. This paper proposes two theme use cases one to support the structure of pick reports and another to group update information. Use cases are required to ensure that constructs are only included where there is a clear user requirement.

3. One of the conclusions of TSMAD20/DIPWG2 paper 16.2A was that filtering by object groups is required to support better structured pick reports. These object groups would be best defined as themes in the S-101 Feature Catalogue. Each feature would be bound to a theme and each theme could for example be a tab in a pick report. Further work would be required to determine which themes to use and how many. This paper simply proposes the concept and further development could be undertaken as part of S-101 Feature Catalogue development.
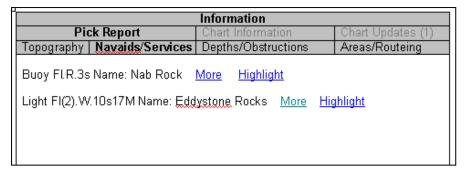

Figure 1. – Example Pick Report structured using four themes.

4. One issue raised at the 2nd S-101 Stakeholders Workshop is how ENC updates are conveyed to users. Currently ECDIS must display these graphically, but reviewing updates in a textual form may also be appropriate. An updates theme would support both graphical and textual display of update information. An updates theme would group information types for each update which would be associated with the updated feature(s). This structure would support the layout shown below with the detailed update information carried in the data eg positions/feature. In the mock-up below a number highlights new updates next to a cell and this prompts the user to examine the update. If significant the passage plan can be amended or the change noted. This approach ensures that mariners consider the impact of updates on routes which may have been planned far in advance.
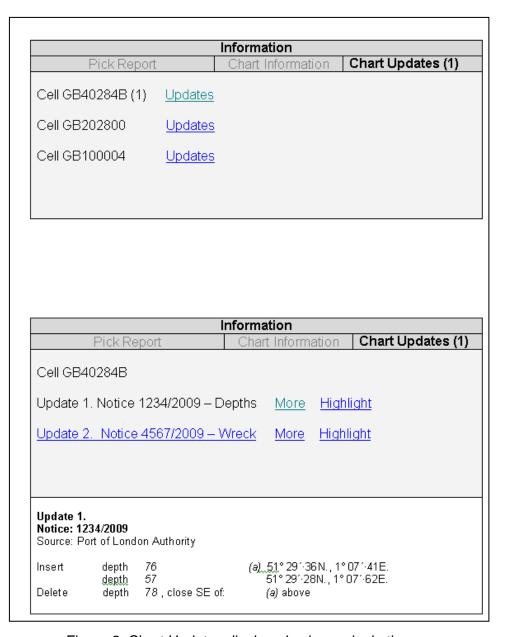
Figure 2. Chart Updates displayed using a single theme.

Conclusion

5. In order to improve the user experience of future ECDIS and ENCs the underlying data structure needs to be designed with ECDIS in mind. The use cases proposed in this document are required to support more consistent interfaces and functionality in future ECDIS.

Action Required of TSMAD

7.   Consider the following Use Case;

A number of themes which group ENC objects by type should be included in S-101 data to support the structure of Pick Reports and other elements of ECDIS functionality.

Consider the following Use Case;

An update theme should be included in S-101 data to support the display of update information to the user.