

Nautical Charts



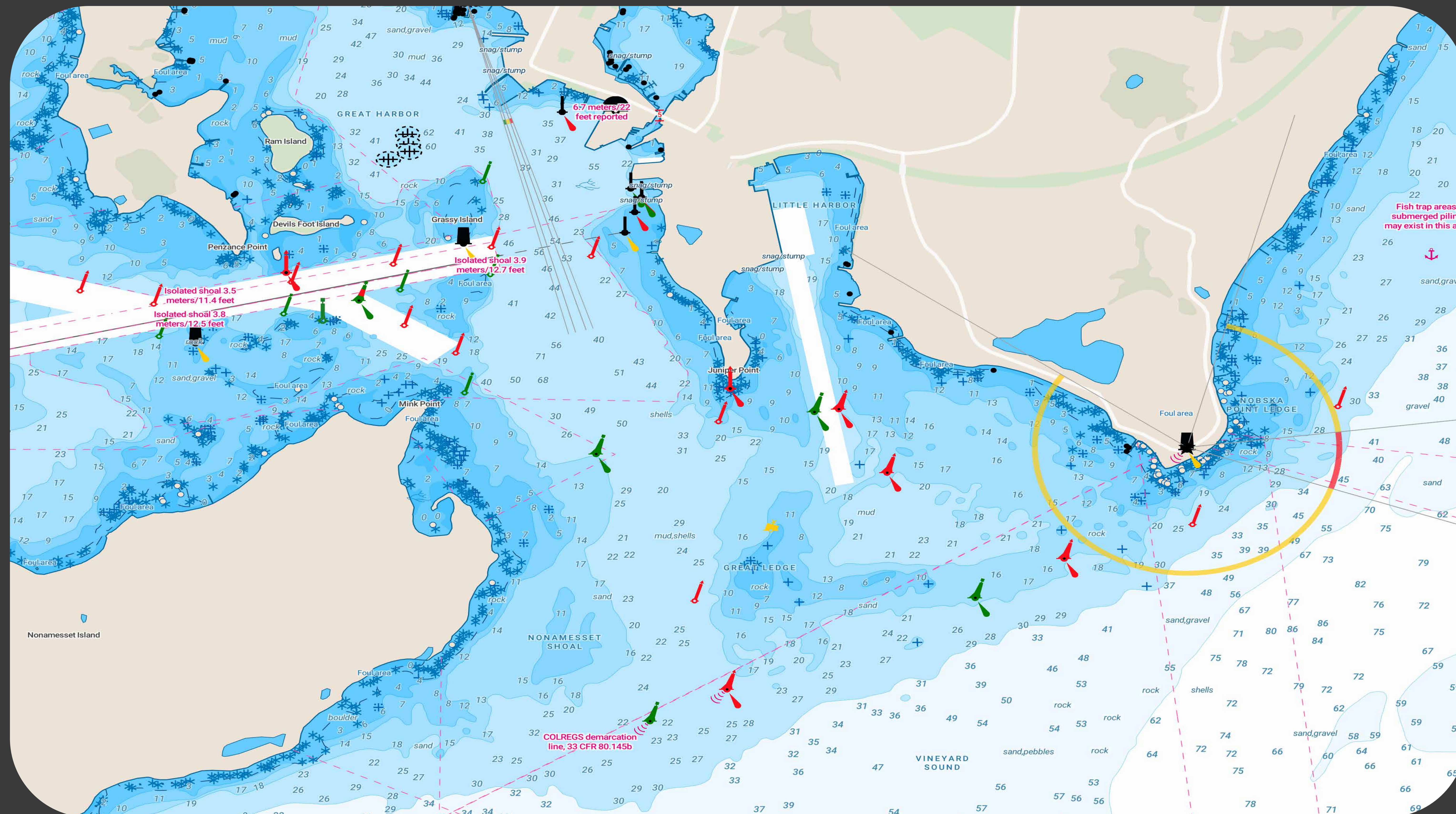
S-57 Data Model to Vector Tiles, the hypothetical global API/MAAS and the \$2M seed round

Overview

The International Hydrography Organization (IHO)—operating under the auspices of the United Nations—has 97 current Member States. Each Member State produces and manages their hydrographic S-57 data through a designated national hydrography office. 96 IHO Member States monetize their hydrographic data using varying combinations of upfront fees, royalty percentages and cost per square mile.

Problem

The inherent fragmentation of the data provider market makes the building of a global data API or maps as a service solution for hydrographic nautical chart data a challenging problem requiring ~\$1M upfront capital for data acquisition.



Technical Barriers

Mapping client SDK's built to serve custom-designed vector tiles face compounding performance degradation by the total number of data sources and number of children tile layers.

S-57 is an object based model with over 140 objects related to the marine environment and maritime navigation, each represented across 6 different scale-bands or resolutions.

Solution

Transform data model—merging and joining S-57 objects by both scale-band & data type while preserving their most necessary attribute values. Organizing by data type also helps eliminate feature dropping in the creation of mbtiles.

S-57 -> .shp -> .geojson -> .mbtiles

This map data footprint is 4-5x smaller than the same data in .geojson and maintains full cartographic design control, yielding a significant performance improvement and a better user experience.

Market

Billions. Shipping, consumer services, military, education.