

## Tracking and Following Ships Around the Globe, Using Web 3.0 Technology

The combination and compilation of many disparate silos of data, all mashed together, is already a common sight on the internet but is definitely growing in importance. In fact, this is a tenet of what some people call “Web 3.0”—Web 1.0 was the one-way delivery of information posted on the internet; Web 2.0 was the impact of user-generated content, from reviews of products on Amazon.com to the content contributed to Wikipedia and similar sites; and Web 3.0 is the widespread application of “semantic data,” and particularly information that is derived from the use of that data.

Semantic data (or “linked data”) represents a structured approach to defining data and relationships: to a computer, the statement “John Adams was a US President” is meaningless; it’s simply a collection of text characters that only have meaning to the humans reading it. By defining to a computer that the person named “John Adams” held the position of “US President,” and then doing this many, many times, and with many different pieces of data, one can create an environment in which a computer can collate, repackage, and more importantly, interpret large amounts of data in new ways.

One example is the simple creation of sites that combine data about a vessel’s location, its name, and type of activity, and then apply all that information onto a map of the world or a region, eventually showing in a dynamic fashion which ships are where in the world. Because a lot of this data is available in the form of data feeds, companies gather and use the feeds in different ways.

Vessel tracking sites include <http://www.vesseltracker.com>, <http://www.marinetraffic.com>, and <http://sailwx.info>, among others. Each website presents its information in various ways, and each uses available information differently. For example, **VesselTracker.com** applies its data to **Google Earth**, though one must subscribe to the VesselTracker website to view real-time data in Google Earth. **MarineTraffic.com** uses **Google Maps**, which

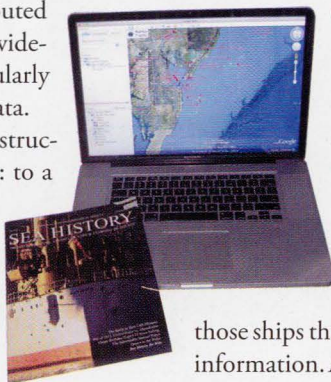
allows it to load much quicker and doesn’t require the user to launch a new program (as Google Earth does) onto his computer. A friend recently described to me how he and his wife follow the vessels they can see entering Baltimore harbor from their condominium using **MarineTraffic.com**. The site offers clear, differently colored icons for different types of ships and shows an impressive amount of information about each ship.

Both of these sites use AIS (Automatic Identification System) data, an automated tracking system for ships in port, which transmits information—including the vessel’s identity, type, position, course, speed, navigational status, and other safety-related information—automatically to shore stations, other ships, and aircraft. Another site, <http://sailwx.info>, tracks vessels in the open ocean, in addition to those near shore. Its data feeds come just from

those ships that include their location when contributing weather information. About 4,000 vessels now participate in this program, managed by the National Oceanic and Atmospheric Administration (NOAA). **Sailwx.info** allows you to narrow the search by ship type as well: tall ships, cruise ships, oceanographic research vessels, etc. To see where the participating tall ship fleet is at any given time, for example, go to <http://sailwx.info/shiptrack/tallships.phtml>.

The collection of this data, to create dynamic tools for graphically displaying textual data feeds, is a great example of what can be done with semantic data. It becomes easy to limit such feeds to only oil tankers, or only ships built in 2004, or ships that left Singapore in the last three months. As more structured data becomes available, researchers and casual users will be able to easily view, manipulate, and uncover new knowledge from data silos.

Suggestions for other sites worth mentioning are welcome at [peter@shipindex.org](mailto:peter@shipindex.org). See <http://shipindex.org> for a free compilation of over 140,000 ship names from indexes to dozens of books and journals. ⚓



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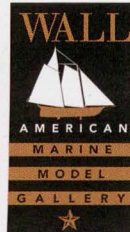
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