S2S was designed from the ground up using open standards and technologies. The framework was initially created to develop "data dashboard" interfaces on top of OpenSearch services, but has been generalized to support web services and standards with semantic annotation capabilities. We apply OWL, a W3C standard for ontologies on the Web, to create a vocabulary for the description of framework metadata. Our faceted browsing platform is heavily focused on the use of jQuery; we have created reusable user interface "widgets" that leverage OpenLayers and MapServer technology to perform selection and visualization, which can be used in this and future platforms. The use of open standards and technologies has enabled rapid iterations over software development lifecycles, and has kept the framework agile as new use cases and ideas have emerged.

S2S has been applied in the creation of an integrated MapServer and faceted browsing interface. BCO-DMO has been using MapServer to provide data access for a number of years. They have collaborated with the TWC to develop an RDF knowledge base for the contents of their metadata catalog. We used this knowledge base to develop an S2S OpenSearch interface for data access. We coordinated with BCO-DMO’s MapServer developer to establish a communication protocol through which S2S results are fed to their data access interface.

S2S has been used in the development of the International Open Government Data Search (IOGDS) interface. IOGDS searches nearly 500,000 datasets from 38 countries. We have developed an OpenSearch service for additional Web service standards. There are multiple ways to use and extend the project, whether it is to use vocabulary terms from the R2R and SeaVox vocabularies, with RDF and S2S annotate the Web services, or "rel" attributes to URL template parameters, shown in the Countries facet example. For BCO-DMO, we have widgets that use vocabularies from the SeaVox vocabulary governance group. We are also planning to use vocabulary terms from the B2R and SeaCliff projects.

S2S provides an OWL ontology for describing Web services, their operations, inputs and outputs. The ontology can be extended for different Web Service standards (such as SAWSDL or OpenSearch). Using an ontology and RDF allows us to perform simple reasoning tasks for matching UI "widgets" with Web service outputs. Our next version of the S2S server will support descriptions of Web Services provided as 5-star linked data.

S2S is available for download at our SVN repository: 
https://scm.escience.rpi.edu/svn/public/s2s/
There are multiple ways to use and extend the project, whether it is to use vocabulary terms from the R2R and SeaVox vocabularies, with underlying data services and scientific intent. One of the first use cases is to extend the S2S framework to support a workflow system with rules regarding dataflow and scientific intent.

We are shifting the focus of S2S development from a search interface framework to a broader application integration framework. The intent is to create vocabularies and rules that match user interface components with underlying data services and scientific intent. One of the first use cases is to extend the S2S framework to support a workflow system with rules regarding dataflow and scientific intent.