

WSU Senior Project Sponsorship (spring/fall 2013)

Unified RESTful Search Service for Structured and Unstructured Documents

Schweitzer Engineering Laboratories software packages produce and collect a variety of electronic documents, in a variety of formats such as XML, JSON, CSV, Microsoft Word and Excel, and Adobe PDF. While each software package has a distinct role, frequently the data produced and consumed by the packages represents a common entity in the user's domain.

We propose a Senior Design project to create a search service that will provide a unified API to search across these disparate document types using the proposed RESTful* web service. The output of this search service – the search results – will enable new features in existing SEL software packages as well as future applications.

SEL will provide, as needed, the required materials for the project.

High Level Features

- Cross-platform (Linux, Windows)
- RESTful web service API with user authentication
- HTML5 user interface for setup, administration
- Search results from structured documents include structure-specific metadata regarding the precise location of the search result within in the documents
- Search Data sources include:
 - File system
 - Database
 - Other web services

High Level Development Requirements

- Suite of use cases written using SEL standard Use Case templates, to be reviewed and approved by SEL engineers.
- Specifications written using SEL standard SRS templates, enumerating all functional requirements, to be reviewed and approved by SEL engineers.
- Design specifications created using SEL standard SRS templates, enumerating all developer requirements, to be reviewed and approved by SEL engineers.
- Design documentation created for all significant components and subsystems using SEL standard design templates, to be reviewed and approved by SEL engineers.
- Use of a source control system to maintain all code, documents and development artifacts.
- Automated unit tests

* REST (Representational State Transfer) is an “architectural style that abstracts the architectural elements within a distributed hypermedia system.” A RESTful web API is a web API implemented using HTTP and REST principles. (ref Wikipedia).