



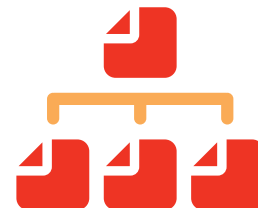
Success Story: Semantic Interoperability

Summary:

TerpSys helped its clients enforce Semantic Interoperability standards by assisting external software development teams as they submitted data models for review, mapping and approval.

Client: National Cancer Institute Center for Bioinformatics (NCICB)

The client, a division of the National Cancer Institute, is engaged in Open Source software development for the use and benefit of multiple cancer research centers.



Objectives:

- Promote developer acceptance of data, metadata and vocabulary standards
- Manage developer expectations, and provide encouragement and motivation
- Maintain high levels of service in a dynamic environment with evolving standards
- Create educational materials, business rules, and processes to facilitate semantic interoperability among open source tools, incorporating required feedback loops
- Improve processes, tools, enhance automation efforts, metadata repositories and controlled vocabularies for use by the cancer research community

Challenge

Achieving Semantic Interoperability is not a simple proposition. Defining and mapping "metadata" – data about data – to controlled vocabularies lies at the heart of the process. It requires careful planning, and although new to many developers, is absolutely essential to data sharing and reusability.

TerpSys had to educate developers and researchers about this fundamental paradigm shift, which might prove particularly frustrating to those used to more independence in software development. We also had to coordinate disparate internal and external software developers, data curators, and subject matter experts, fostering collaboration among teams competing for resources.

Finally, with regard to the human element, we had to keep our many customers engaged and committed to common end goals during what could well have been an extremely detailed, lengthy, and frustrating workflow.

Solution

TerpSys began by serving as the user liaison to internal customer groups employing data models using tools meant to automate the process. We facilitated the workflow, moving models through various teams and software components, keeping users informed and involved in decisions affecting their models.

Next, we captured "lessons learned" from each data model's journey through the process. We channeled those lessons into process documentation, standard operating procedure development, Developer Training Boot Camps, industry meeting posters and presentations, and one-on-one user-centric educational sessions and emails.

We also took this feedback to the developers of the automated tools to improve the functionality, effectiveness, and efficiency of the overall process. We currently contribute to ongoing design discussions for future releases.

Results

- Facilitated development and acceptance of developer data models and related metadata
- Helping enforce client/industry standards, and promote standards reuse and expansion
- Assisting customers to develop business rules and processes, manage expectations, and foster cooperation within the cancer research community
- Soliciting stakeholder feedback and ensuring that positive change results from it