SNS/HFIR Experiment Data Archiving Dashboard

Brittany Devine
Centre College and Purdue University
Research Alliance in Math and Science
Neutron Scattering Science Division, Oak Ridge National Laboratory
Mentor: Dr. Shelly Ren
https://sites.google.com/a/g.ornl.gov/b_devine/

Abstract

Data translation is a process in which raw SNS and HFIR instrument experiment data are transformed and archived. A web-based application, called the Translation Service Monitor (TSM), allows instrument teams to see where in the processing chain their experiment data are currently. They can easily find the relevant translation requests by filtering the data based on facility, instrument, status, and dates to make it easier to find the relevant translation requests. However, once the data are translated, users no longer have these luxuries. The Translation Service Diagnostics Tool (TSDT), the current tool used to display recent data translation results (reporting which experiment runs successfully archived and which failed to archive), is significantly less user friendly.

The aim of this project is to create another web-based application (the "Dashboard") that will display information from the Translation Service Diagnose in a similar manner as the TSM, thus unifying user data tracking entirely from the Data Acquisition System to the Data Management System.

Software Tools Used

- SmartGWT
- Netbeans IDE
- GlassFish Server
- Oracle Database

Software Engineering Approach

- Collaborate with current TSDT users
  - Current usage
  - Future aspirations
- Write requirements document
- Design interface and seek approval
- Edit / improve design based off feedback
- Write software application using Java and SmartGWT

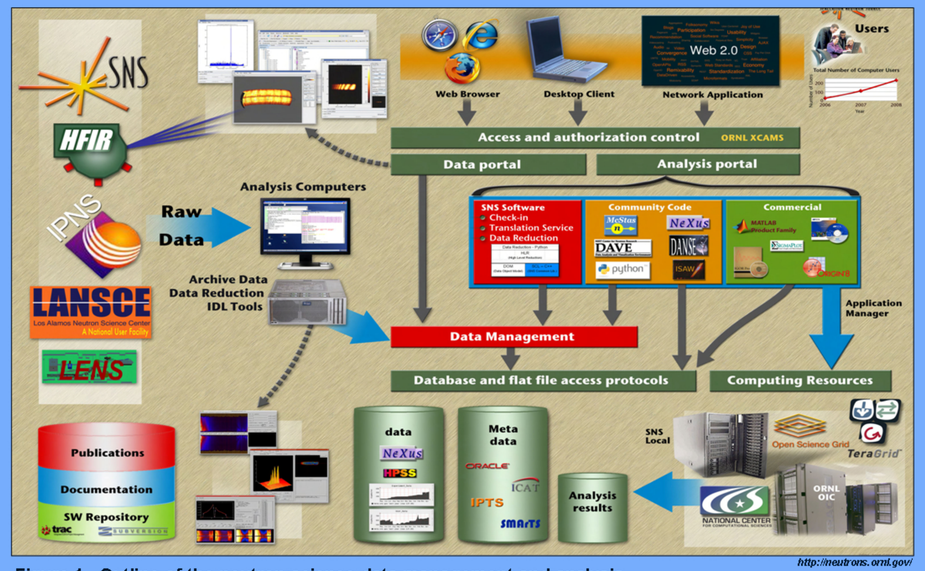


Figure 1. Outline of the neutron science data management and analysis.

Translation Service Diagnostic Tool

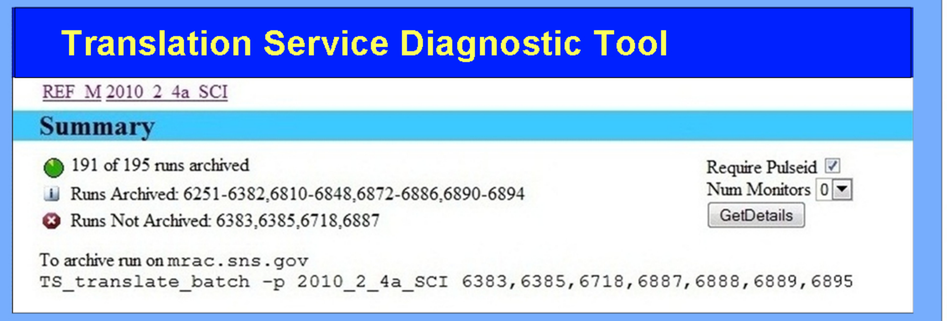


Figure 2. There is no ability to filter the data or interactive with the data in any way.

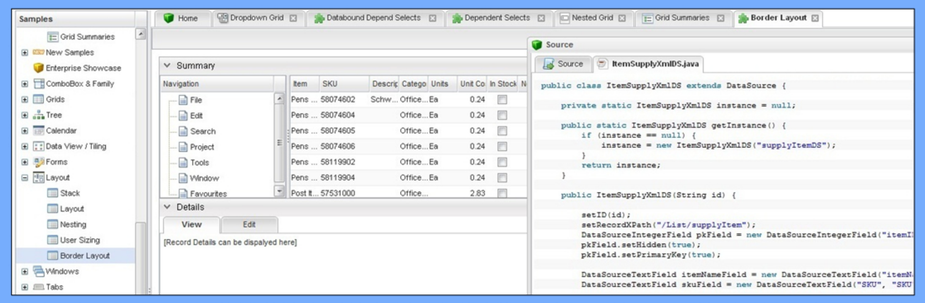
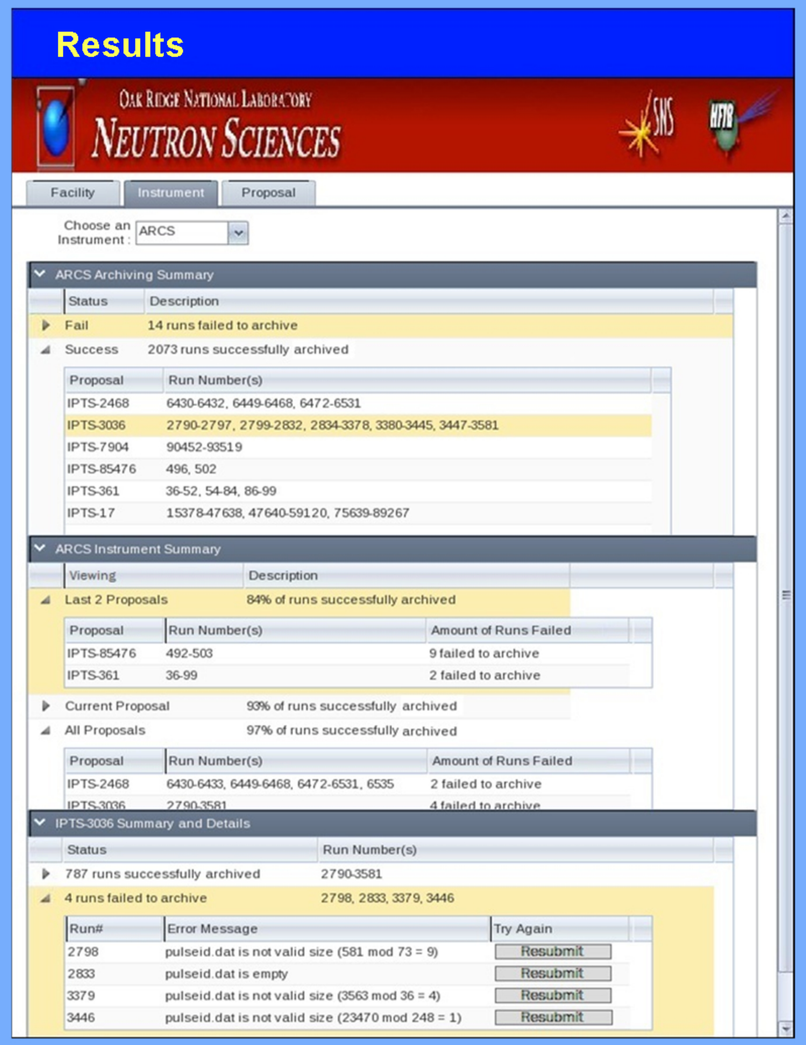


Figure 2. The SmartGWT Showcase. GWT (Google Web Toolkit) is a set of development tools, programming utilities and widgets for developing rich Internet applications using Java. GWT cross-compiles the Java code into optimized JavaScript that automatically works across all major browsers. SmartGWT is an API for building GWT applications. The showcase demonstrates the capabilities of SmartGWT. *Source: http://code.google.com/p/smartgwt/*

Results



Future Research

- Write a script to fetch real data (under development)
- Create a web service to communicate between the database and the user interface (the Dashboard)
- Merge the TSM into the Dashboard to create one interactive monitoring and displaying application

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