



Contribution ID: 17

Type: Oral

SurveyPad, a common interface to GEODE & data processing tools

The metrology and alignment of components installed in accelerators is a very complicated process requiring many calculations to ensure the best performance of the CERN complex. Throughout the years, surveyors at CERN have been relying on several pieces of offline software, each meant for different purposes, with different text data formats and principles of operations. At the same time, they had to use a survey database, and its web interface named Geode, as the source of theoretical positions and all related measurements and computations. Since a need to simplify this workflow arose – SurveyPad was created. SurveyPad is a C++ plugin-based software that requires a plugin to be created for each survey piece of software. The plugins provide communication with their corresponding software and come with a graphical user interface within SurveyPad that allows an easy manipulation of the project files. The plugins share a common interface and some more advanced features, including advanced text editing and grammars. Using one token look-ahead, left-to-right grammars (LALR(1)) a tailor-made parsing of the software files can be performed. This provides detailed in-line help, sophisticated text colour styling, error checking and linking between different parts of the text files. Lastly, although the pieces of survey software cannot communicate with one another, the plugins can. They cooperate and share some functionalities via SurveyPad. Having a plugin dedicated to Geode, users can easily navigate between downloads, calculations in other plugins, and uploading the results, facilitating the entire workflow. Current feedback from users indicates that despite ongoing developments, SurveyPad has already proved to be a functional and convenient tool used by surveyors on a daily basis.

Author: LEWANDOWSKI, Przemyslaw (CERN)

Co-author: KLUMB, Francis (CERN)

Presenter: LEWANDOWSKI, Przemyslaw (CERN)

Session Classification: Session 12 - Surveying concepts and strategies II

Track Classification: Surveying Concepts and Strategies