SQLPlotter : Developing a web-interface for a physics analysis database [1]

Date published:
Monday, 1 September, 2014
Document type:
Summer student report
Author(s):
Sneha

Project Specification: SQLPlotter is a C++ macro written using ROOT classes which has previously been developed to allow the possibility of making histograms from the results of SQL-queries running on physics analysis data stored in a relational database. This project is aimed at developing a web ? interface for this SQLPlotter with a ROOTinstallation running locally on the web-server, eliminating the requirement of learning ROOT in depth and providing the users with an easy to use interface that can be accessed anytime, anywhere to do physics analysis inside a database. Abstract: As part of the CERN openlab collaboration a study was made into the possibility of performing analysis of the data collected by the experiments at the Large Hadron Collider (LHC) [1] through SQL-queries on data stored in a relational database[2]. To show how SQL-queries can be used to perform basic physics analysis tasks, a C++ macro called ?SQLPlotter? was developed to make ROOT-plots using the output-data from SQL-queries. This project, a web-interface to SQLPlotter basically addresses two major objectives. One objective is to make particle physics analysis more accessible, especially to students who do not have the software skills currently needed to analyse LHC data. Another important aim is to demonstrate the underlying principle of SQLPlotter that SQL queries can be used to perform complex analysis tasks. The web-interface has been implemented using basic web-technologies, including PHP, HTML5 and JavaScript. In future, this web-interface can be envisaged to be brought into production as an educational tool for students interested in physics analysis.
Report on ZENODO:
Document on ZENODO [2]

- Visit Us
- RSS Feeds

DISCLAIMER: This Web page contains pointers to material related to the management of CERN openlab in the Information Technology Department at the European Organization for Nuclear Research (CERN). Their use and distribution are regulated by the CERN copyright notice.