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Cloud based multi-platform data analysis application

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With the start-up of the LHC in 2009, more and more data analysis facilities have been built or enlarged at Universities and laboratories. In the mean time, new technologies, like Cloud computing and Web3D, and new types of hardware, like smartphones and tablets, have become available and popular in the market. Is there a way to integrate them into the existing data analysis models and allow physicists to do their daily work more conveniently and efficiently?

In this paper we will discuss the development of a platform independent thin client application for data analysis on Cloud based infrastructures. The goal of this new development is to allow physicists to be able to run their data analysis with different hardware, like laptop, smart
phone, tablet and access their data everywhere. The application can run within the web browser and smartphones without compatibility problems. Based on one of the most popular graphic engines, people can view 2D histograms, animated 3D event displays and even do event analysis. The heavy processing jobs will be sent to the Cloud via a master server, in such a way that people can run multiple complex jobs simultaneously.

After having introduced the new system structure and the way the new application will fit in the overall picture, we will describe the current progress of the development and the test facility and discuss further technical difficulties that we expect to be confronted to, like the security (user authentication and authorization) data discovery and load balancing.

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