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Using the Qt to create the complex interactive HENP applications at STAR

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This talk presents an overview of the main components of a unique set of tools, in use in the STAR experiment, born from the fusion of two advanced technologies: the ROOT framework and libraries and the Qt GUI and event handling package.

Together, they allow creating software packages and help resolving complex data-analysis or visualization problems, enhance computer simulation or help develop geometry models demonstrating that it is not only feasible but beneficial to integrate and benefit from the best of each technology.

The core library and system has been under development for the last 4 years and has solidified and made into concrete use through several applications for the STAR experiment at BNL as well as ROOT plugins. As a result, STAR has been empowered with stable interactive applications for online control and offline data-analysis built on top of the STAR ROOT-based framework and this, while preserving the initial software components in a non disruptive manner. In fact, many components are not STAR specific and can be used elsewhere and used in the context of "user custom filters", "detector geometry"components or even various 3D views for the High Energy and Nuclear Physics events.

The portion of the project is already included in the official ROOT distribution and part of LCG binary distribution of the ROOT package for RHIC and LHC experiments.

In full it is available from http://root.bnl.gov Web site.

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