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Web-based graphics in ROOT

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The ROOT framework provides various implementations of graphics engines tailored for different platforms, along with specialized support of batch mode. Over time, as technology evolves and new versions of X11 or Cocoa are released, maintaining the functionality of correspondent ROOT components becomes increasingly challenging. The TWebCanvas class in ROOT represents an attempt to unify all these flavors together and provide a single implementation for all supported platforms –based on web technologies. The presentation will explore the utilization of the latest JavaScript ROOT v7, which offers comprehensive support for all ROOT classes, ensuring seamless integration and enhanced functionality across various platforms. Additionally, the presentation will discuss the implementation of HMAC-based authentication to bolster security for server-client communication, ensuring data integrity and confidentiality in web-based interactions. Furthermore, the presentation will showcase efforts in automating the testing of web graphics functionality, streamlining the development process and ensuring the reliability and robustness of the ROOT Web GUI.

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