Contribution ID: **54** Type: **Team for the Future of NICA Dubna 2018**

BM@N online monitoring development

BMN online monitoring development
BM@N - Baryonic Matter at Nuclotron is a fixed target experiment that is part of NICA (Nuclotron-based Ion Collider fAcility). This experiment is dedicated to study ion collsions to strudy properties of the equation-of state (EoS) of dense nuclear matters. This EoS plasy crutioan role for understanding nature of neutron stars and collapses of supernovae.
Data taking in experiment require continuous monitoring of quality. Therefore it's important to have an on-line system for monitoring quality of experimental data. Currently was implemented fast decoding algorithm and monitoring system to BmnROOT. System consists of two parts –first is RawDataDecoder that get raw data from DAQ system and decode into ROOT format. Second part i s BmnMonitor that read data from ZeroMQ socket and fill histograms. Histograms are made accessible by ROOT ThttpServer. Lighttpd web server serving as local proxy makes it available for
for outside http requests.
Tasks:

1. Installation of BmnROOT
2. Installation of lighttpd web server
3. Extension of the monitoring functional: adding new histograms for existent detector presenting classes; writing new classes particularly for cathode strip chamber and other.

Recommenced literature:
1. http://mpd.jinr.ru/howto-install-mpdroot/
2. http://zeromq.org/
3. ROOT Data Analysis Framework, Users's Guide
4. https://root.cern.ch/js/
5. https://github.com/root-project/jsroot/blob/master/docs/HttpServer.md

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