



Mu2e OTSDAQ Software

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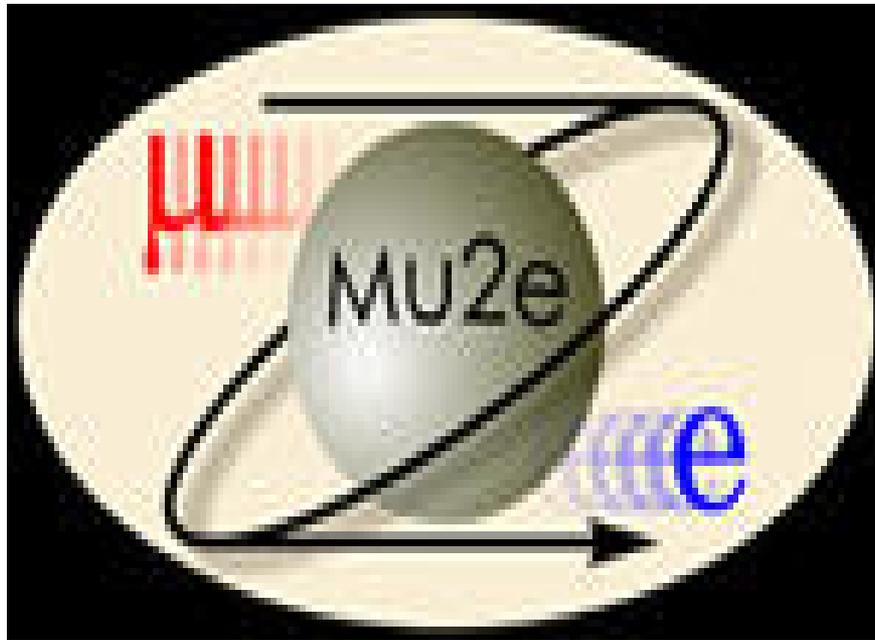


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Mu2e Experiment

Mu2e stands for Muon-to-Electron-conversion. The goal of the experiment is to monitor for rare processes such as a muon changing into an electron.

The outcome of this experiment will guide the selection of hypotheses beyond the Standard Model of Physics.



OTSDAQ Application Software

System Status Monitor

- Design and develop System Status Application
 - Provides the user with an indicator light and status string for each application

Macro Maker

- Improve UI of Macro Maker Application
 - Enables the user to perform front-end interface read and writes.
 - Enables user perform low level debugging of front-end interfaces.

Both Applications were developed using a combination of C++, HTML and Javascript

OTSDAQ Application Software

The screenshot shows the 'System Status' window. On the left, there is a 'Filters' sidebar with options for 'Context', 'Class', and 'Context Address'. The main area contains a table with the following data:

Name	Application Url	App ID	Status	
FESupervisor	http://mu2edaq11.fnal.gov:3075	210	Unknown	ots::FE
ChatSupervisor	http://mu2edaq11.fnal.gov:3075	250	Unknown	ots::Ch
ConsoleSupervisor	http://mu2edaq11.fnal.gov:3075	260	Unknown	ots::Co
LogbookSupervisor	http://mu2edaq11.fnal.gov:3075	261	Unknown	ots::Lo
ConfigurationGUISupervisor	http://mu2edaq11.fnal.gov:3075	281	Unknown	ots::Co
MacroMakerSupervisor	http://mu2edaq11.fnal.gov:3075	300	Unknown	ots::Ma
CodeEditorSupervisor	http://mu2edaq11.fnal.gov:3075	320	Unknown	ots::Co

System Status Monitor

The screenshot shows the 'Macro Maker' window. It is divided into three main sections:

- List of Available FEs:** A dropdown menu showing 'ExampleInterface0:DT...'.
- Manual Commands:** Fields for 'Address:' and 'Data:', both with 'hex' format dropdowns. There are 'READ' and 'WRITE' buttons, and a 'CLEAR HISTORY' button. A checkbox for 'Least Significant Byte First' and a checkbox for 'Read Bit-field' are also present.
- Command History:** A scrollable list of commands such as 'Read [hex] F1F0 from register [hex] 1001' and 'Write [hex] 62 into register [hex] 1001'.

At the bottom, there is a 'Macro Library' section with tabs for 'Private Macros' and 'Public Macros', showing a macro named 'mymacro'.

Macro Maker

Conclusion

Essentially a lesson on good Software Development practices

- Follow naming conventions.
- Give variables and functions meaningful names.
- Commenting code as much as possible. For example, specify the purpose of a module and give a description of how it works.
- Think first and code later. Get clarity on the software requirements.