

# Making life easier for scientists: developing an Experiment Scheduler for the MLF

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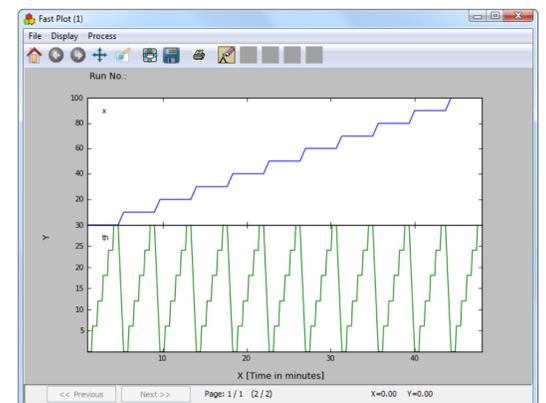
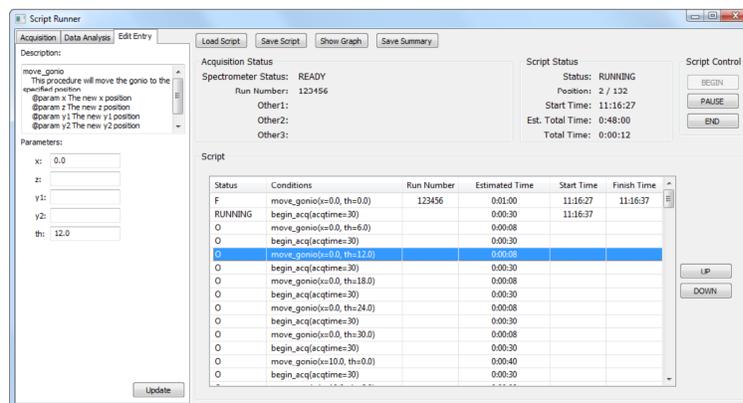
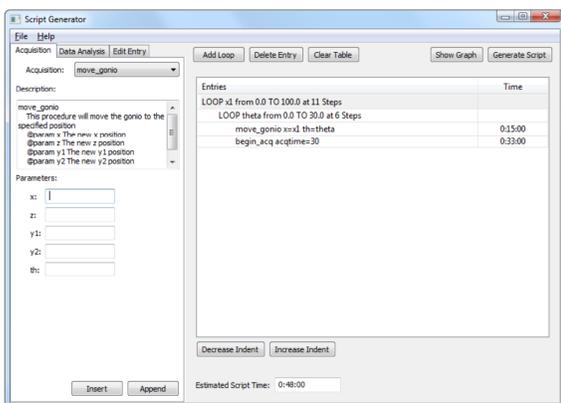
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## Introduction

At the Material and Life Science Facility (MLF) of the Japan Proton Accelerator Research Complex (J-PARC) we developed software to enable scientists to quickly create a series of automated experiments and to monitor these experiments as they are performed.

## The Experiment Scheduler

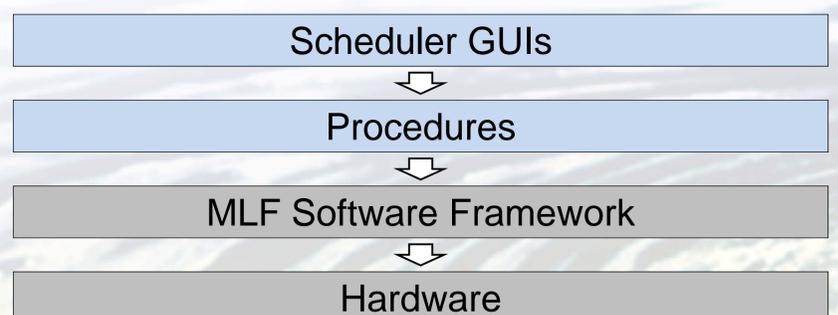


We produced two GUIs: one for generating the script; and, one for running the script. Both GUIs can produce graphs showing the changes in experiment parameters over time, which can help users spot mistakes.

## The Architecture

All the “work” is performed by procedures which:

- Contain the important logic
- Can be common or beam-line specific
- Check the values entered by the user
- Provide time estimates
- Can be written/edited by instrument scientists



## Conclusions

We produced software to help scientists plan and run their experiments. The software was designed to be simple to use and to help prevent mistakes.

As it is common for scientists to perform experiments at different facilities it would be beneficial if similar software could be used at different facilities. Unfortunately, it is very difficult to develop instrument control software that can be shared between facilities due to differences in architecture; however, it is possible to share ideas and designs.

A parallel project to develop software with similar functionality and “look and feel” is already in progress at the ISIS Facility.