



LArSoft Steering Group June 15, 2023 Meeting Notes

Attendees; Tom Junk, Steven Gardiner, Angela Fava, Adam Lyon, Erica Snider, Katherine Lato

LArSoft Status:

- Erica reviewed the 2023 LArSoft work plan which is posted at the Indico site for the meeting: <https://indico.fnal.gov/event/59999/>
 - Specific items:
 - Multi-threading: Person who was on the project two years ago is back, and recently completed most of the work from that time, notably the updates needed to allow services that access databases to work properly in multi-threading environments. One of the services updated is one needed by ICARUS for their production workflow.
 - Multi-threading workshop: There was good discussion and sharing of information. Based on the presentations and discussion, the project team reaffirmed their current vision and work directions, and in particular, the need to identify and adapt some code for execution on GPUs.
 - SPACK - on the critical path for a number of things, the most important being the migration to Alma Linux 9, the next OS to be supported. The project needs to clarify whether it is possible to stage the final phase of work in order to allow this OS migration to proceed, rather than pursuing the full implementation of Phase 2 which has a highly uncertain timeline to completion.
 - Geometry adaptations to allow pixels: This work is proceeding nicely, and is nearing completion of a fully re-factored geometry system. We hope to be ready to introduce a draft pixel readout geometry on the time scale of a few weeks.
 - Event generator interface re-factoring: The project has inquired with the GENIE collaboration regarding how to proceed with this work. Steven mentioned efforts to promote a community-wide adoption of HepMC3 as a standard for all generators.
 - This would help with future generator integrations.
 - LArSoft would like to be involved in that discussion.
 - Documentation: focusing mainly on the documentation required for the new geometry system. The current documentation is not adequate for someone who comes in with a new detector, and needs to implement all the necessary detector-specific elements. We have found that the various geometry descriptions vary in important details. The new geometry will address both of these needs by specifying the minimum requirements needed to allow the system to operate correctly, so will also be an improvement over what we have currently.
 - Event Displays: No work here, but the project hears and continues to communicate to CSAID the common desire from the experiments

Round Table:

- ICARUS, Angela Fava:
 - The Event Display is a high priority for us. She will reach out to Jim when she is back from Italy in July.

- DUNE, Tom:
 - LArSoft can “have WebEvd back”. DUNE took it over for maintenance. They want to try it out again and exercise it.
 - Erica: the project would need to understand what it means to “take it back”. The critical question for us is, can this be the community solution that the experiments have been asking for? ICARUS is working on a different code base and is offering that as a community solution. If either or both of these could be the basis of a community solution, then we would consider that.
 - Found a memory link in legacy LArG4.
 - DUNE should move to refactored LArG4 rather than fix the legacy code.
- SBND, Steven:
 - GENIE throws an exception while running production using GDML file that hasn’t been changed in a while. GENIE hasn’t changed. Still investigating.
- DSSL, Adam:
 - There was a lot of good information in the frameworks workshop. We have a plan to pull out suggestions before moving forward. Kyle will present that at a CSAID Roadmap meeting in the near future. LArSoft will be involved as well.