

## Update on LArSoft review planning

Panagiotis is working with Joe Lykken and David Macfarlane for the LArSoft review. One of the latter two will send out the charge and invite the reviewers. It is expected the review will be in April. <https://indico.fnal.gov/materialDisplay.py?contribId=0&materialId=0&confId=11367> is the information I sent to Panagiotis (out of date as he has been editing in the meantime). It is anticipated that experiment algorithm developers and users of LArSoft will have presentations to the committee – and it would be good to start thinking about how we would like the review agenda structured – please do send ideas and thoughts on this!

## First update on results of the LArSoft/art developers “Operating System” Survey

Marc Paterno, Jim Amundson and Erica developed and distributed a short survey to poll what operating systems LArSoft and art developers are using. A summary of an initial report is posted at <https://indico.fnal.gov/materialDisplay.py?materialId=0&confId=11367>. Current relevant numbers:

Respondents: 47; Developers = 38, users = 9;

Laptop Developers vs Not: Yes = 34, No = 13

Total from all respondents who would use Ubuntu LTS for development if offered: 24 no, 23 yes

## Status of LArLite/LArSoft integration activity

Summary of the status with more details at <https://indico.fnal.gov/materialDisplay.py?materialId=1&confId=11367>

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- Software products needing to be modified: art, nutools, lardata, larsim, and larcare: all exploratory work finished and scripts for migrating user code ready
- Art, nutools, Larsoft: refactored code exists in a development branch in appropriate GitHub repository.
- art migration ready to begin now (have just cut new release)
- nutools migration depends on release of new art.
- LArSoft product migration requires release of nutools. LArSoft code can be merged into upcoming LArSoft v5 release.

Currently under discussion with SCD and MicroBooNE to enable completion to target:

- Future development of code in LArLite and LArSoft to remain compatible with the integration done through the mechanisms provided.
- LArLite developers to put the agreed-upon, and some already available, changes into LArLite, to begin migration of their users' code to the newly-developed interfaces and to provide early and ongoing feedback since we expect iteration will be needed.

## Short term plans for LArSoft Core work

Draft of the next 6-months plan of what the core LArSoft team would plan to work on for the next 6 months (based partly on the requirements workshop, feedback from the Steering Group and from the experiment coordinators at the planning meeting before the new year). We will

go through an equivalent exercise to that we did for last April (<https://indico.fnal.gov/getFile.py/access?contribId=4&resId=0&materialId=slides&confId=9860>) presenting and getting feedback from the coordination group.

Ongoing work:

Technical Lead: Erica: User support, overall technical coordination and directions, outreach to experiments and external projects; especially keeping track of new algorithms and code; ensuring timely acceptance by all experiments of changes, major and minor releases,

User Support : Gianluca, Saba & Vito: Answer questions, address tickets, follow up on any/all issues.

Architecture: Gianluca, Jim K, Marc, Saba: Continue discussions on architectural issues with experiments, art and C++ experts. Document development patterns for algorithm owners to use. Assess new modules for refactoring/improvement.

Continuous Integration & Tests: Vito: Continue operations, documentation, needed extensions for next layer of tests, work with experiments on their tests.  
Later in the year start cross training others in the OPOS group for more operational aspects as possible.

Software Releases : Lynn: Integration, QA and release manager. Later in the year start cross training interns for more operational work. Participate in CI system work.

Project Manager & Communications : Ruth, Katherine: Including Web pages, documentation, newsletter

Specific Activity Goals:

*Target Completion:*

*3/1: Paraview-based event display prototype:* Jim Kowalkowski: Report on pilot/prototype using Paraview-based event display of LArTPC data from MicroBoONE

*5/1: Review of LArSoft:* all:

*4/1: Refactoring/Architecture development:* Saba: Complete Track3DKalmanHit refactoring, make recommended changes to art and LArSoft utilities as a result of this work, Herb (owner) acceptance of the outcomes.

*5/1: LArLite/LArSoft Integration:* Chris Jones, Marc Paterno and team: Complete and in use at/by Microboone.

6/22 : LArSoft Workshop: all:

7/1: *Performance Improvements*: SCD and Experiment contributors - TBD: Improve selected algorithm efficiency performance based on recommendation reports already written.

7/1: *Focus on Usability*: Gianluca: Gather specific input from developers and users and address assess/make progress on several specific issues including:

- 1) Remote site distribution and builds
- 2) Automated algorithm document web pages.
- 3) Comparison of Pandora, LArSoft and LArLite capabilities for quick turnaround algorithm development
- 4) Build and distribution support for “other” Operating systems and versions.

Target Start:

5/1: *Improvements in event display capabilities*: Saba: Based on more specific requirements: Define/design directions based on report from the Paraview-prototype

7/1: *Assess multi-threading needs and impact*: Gianluca: Participate in more general work to design and develop for multi-threading support in art and LArSoft

## Update on Implementation Plan

Next discussion ~2/15 with version including additions from:

- Ruth - add to outline and organizational responsibilities
- Erica – complete first pass of summary of current status of meeting capabilities in the Requirements Document and what capabilities are needed to the experiment milestones in 2016.
- Jim K –process for development and inclusion of new packages.

Working draft at [https://cdcv.sfnal.gov/redmine/projects/lartpc-requirements/repository/revisions/master/show/implementation\\_plan](https://cdcv.sfnal.gov/redmine/projects/lartpc-requirements/repository/revisions/master/show/implementation_plan)

LarSoft newsletter

## LArSoft Collaboration

Software for LArTPCs

### LArSoft forum, redmine – January 2016 newsletter

🕒 January 28, 2016 📧 news

## larforum.org

There is a forum to discuss LArTPC software, called [www.larforum.org](http://www.larforum.org) which has been in existence for several years. Andrzej Szcelc administers the site with Wes Ketchum the moderator of the LArSoft topics. Please consider adding your suggestions to the various topics such as:

- [LArSoft 101](#) – for people new to LArSoft to ask questions
- [Tips, Tricks and HowTos](#) – code snippets, tricks, workarounds that may be useful to others
- [Discussion of Algorithms](#) – HitFinding, Clustering, Vertexing, Showering, Tracking
- [LArIAT](#) – specific to LArIATSoft
- [The Valley of Despair](#) – A place to signal the malfunctioning of modules, services or LArSoft in general.

## Redmine

Redmine is a web-based software project management application which includes a documentation wiki. Erica Snider and Katherine Lato continue to update the LArSoft Redmine pages, starting from the main page and going through all lower-level items. Ones of interest include:

- [main wiki page](#)
- [links to experiment-specific quick start guides](#)
- [guidelines on writing and using algorithms](#)
- [guidelines on writing and using services](#)

## News

There will be monthly newsletters about issues of interest to LArSoft developers and users. Please contact [klato@fnal.gov](mailto:klato@fnal.gov) if you have suggestions about what to include in next month's news or if you have feedback on this month's newsletter.

Currently only available from fnal.gov domain at <http://larsoft.org/larsoft-forum-redmine-january-2016-newsletter/>. We expect to have offsite access within the next few weeks. Expect to send the newsletter to larsoft and experiment mail lists after review by SCD management (cf FIFE newsletter)