LArSoft minutes, 23-Mar-2011. -- Eric Church

LArSoft minutes appear at https://cdcvs.fnal.gov/redmine/projects/activity/larsoftsvn. (The location presumably at which you found these!) For further details of matters reported here drill down into the wiki, etc, at that redmine site. Everyone is welcome to attend the bi-weekly meetings. Next meeting will be 4/6/2011. It will be in 7th floor x-over Racetrack, per usual.

There are pdfs on the documents link of the redmine site for today's presentations by Roxanne and Kinga. Click Documents, sort by Date.

Roxanne showed an early outline of her effort to get GENIE AtmosFluxDriver into LArSoft. She's following the lead of Andy Blake, who's done something like this for LBNE WCkv studies. She's able to read the flux data files for Bartol but something goes wrong in actually loading 'the flux up. She's going to try the same with FLUKA flux before getting too worried. There's a Honda flux too. Some discussion followed about how we might get the external GENIE code compiled with the -g flag, so we can drill into it. This is not the first time we'd wished to do this. Brian R will bring this up with Lynn in CD-CET -- our ART support.

Kinga showed her early work on a new clustering algorithm. It leans slightly on her usual one, DBScan, just to identify "noise" hits. We remind people there is DBScan documentation on the old archive at https://cdcvs.fnal.gov/redmine/projects/larsoft/documents. Sort by author, look for Kinga. Kinga uses the handscanner's identified vtx, and then basically histograms hits in theta, then showed nicely identified clusters for a few nice pre-identified events. Slide 12 shows an especially beautiful event and cluster definition. She's working with Biaggio. Mitch suggested that what they're doing can be condensed to one effort. Brian R suggested at the least taking the starting point 2d vtx (now called EndPoints) from the existing algorithms. Others suggested what amounts to an iterative procedure among DBScan, HoughLineFinder, KingaCluster, etc.

Brian R suggested a plan for the ART 0.5.3 cutover. This provoked a rather passionate response. The cutover will obviate all already existing ART files: ArgoNeuT's RawToRoot, MINOS-matched, and Handscanned samples, Saima's large MC sample and Rox/Georgia's uBooNE MC. Yet, as people mention we use ART; we must be able to move forward with all the new features ART releases provide and just to keep up with the framework code. CET (CD Enabling Technology, or something) who supports ART says this particular non-backward-compatible move is rare. It is claimed they have been made to understand how onerous this is for us and all consumers. We will reiterate this to them. Brian R says NOvA made this transition in a few business days. The plan is that Mitch will get all grid submission jobs ready and test them to recreate all above data files, the bulk of which are ArgoNeuT's. We then will freeze a LArSoft release, built against ART 0.4.3, as is. The rank and file will work off this release and in fact check back into it, during the time that people are working with it. They will also svn ci into the dev release. This maintenance of two repository versions is dangerous, and we hope to keep that time period short. Once Mitch's experience with the dev version of LArSoft built against ART 0.5.3 is complete and his newly remade files are shown to be usable, we'll close the tagged/frozen LArSoft release for business and insist everyone move to the dev release and point to Mitch's new files. We can hope 5-10 business days is all this will take. Very worst case, we'll roll back to ART 0.4.3. We don't expect to need to resort to that. Watch your email for further announcements about this.

Brian R urges everyone to develop simple so-called Unit Tests, that exercise their module. Developers then will be responsible to run such tests before svn ci'ing. As LArSoft grows, as it is now doing, to many tens of users, this is vital. Eric gave the example of his svn ci'ing a change that fixed a problem for uBooNE that then broke usage of the code for ArgoNeuT'ers. Bad. A Unit Test run for two detectors woulda turned this up. Brian R suggests people make a Unit Test as a simple analyze() method that makes a few simple histograms.

Bill Seligman reports he will/has now (a post-mtg development) check(ed) in his Geometry:NearestChannel() change that will double the speed of running DriftElectrons. I think the change may be even bigger for uBooNE. This was a bottle neck. Next up we need to try to get CalWire to use less than 2 GB in uBooNE mode.

See ya at the next LArSoft mtg in the Racetrack, 7th floor on 4/6, Wed, 9am CST.

Details for the next meeting:

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>>> video: 85LARSW
>>> phone: 510 883 7860 (ID 85LARSW)
>>> fnal location: Racetrack, 7th floor x-over
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