

Planning Proposal Planning Meeting

Software Development in the Proposal

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- Why develop the software?
- Current Status
- What needs to be done
- What I'm proposing

Software Goals

- ◆ Top Priority Physics Studies
 - ◆ UNO as a VLBL detector
 - ◆ Requires detailed reconstruction programs to study π^0/e^- separation
- ◆ Secondary Studies
 - ◆ Response vs. PMT (10% vs 40%, 8" vs 20", multi-hit vs single hit)
 - ◆ etc
- ◆ Need a package that anybody can use for physics studies

Current Situation

- ♦ Most physics studies done using SK code
 - ♦ Only available to SK collaborators
- ♦ Existing UNO software
 - ♦ Detailed simulation of UNO
 - ♦ Relatively complete event infrastructure
 - ♦ include event display, event bookkeeping, ...
 - ♦ Good for energy response studies, &c
 - ♦ Sorely lacking event reconstruction code

What Needs to be Done

- ◆ Finish Implementing Basic Reconstruction
 - ◆ Vertex fitter (~1 person month)
 - ◆ Implement e/μ ID (~1 person month)
 - ◆ Visible energy, attenuation, &c (~1 person months)
 - ◆ Ring Finder (~2 person months)
- ◆ Implement π^0 reconstruction ala SK
 - ◆ 2 person months
- ◆ Studies of Detector Response using tools

What We Need

- ◆ Need one competent C++ programmer (physicist) for one year
 - ◆ Develop reconstruction
 - ◆ Optimize detector configuration
 - ◆ Provide support help rest of collaboration use UNO code
- ◆ Sufficient CPU to do the work

Who's been working

- ♦ Clark & Chiaki
 - ♦ T2K is nearing construction phase and uses most of our time
- ♦ Brett
 - ♦ BNL support responsibilities. Over subscribed for VLBL development and MINOS
- ♦ Toki and Lee
 - ♦ Long learning curve to develop WC software

Proposal for Proposal

- ♦ Would like to request a post-doc for one year
 - ♦ ~\$70,000 including fringe, etc
- ♦ Sufficient CPU for the development work
 - ♦ ~\$5,000 (possibly added to Brett's CPU cluster at BNL?)