LIGO I2U2
Progress Report

Eric Myers

Fred Raab

Dale Ingram

LIGO Hanford Observatory

LIGO I2U2 Software Development

-- Goals --

- Provide easy access to LIGO environmental data
(seismometers, tiltmeters, magnetometers, and weather stations)

- Provide tools with functionality and feel similar to those available to scientists in the LIGO control rooms (such as DMT, DTT, DataViewer, ilog)

- Provide supporting tools for interaction and collaboration between students, teachers, e-Lab developers, and possibly LIGO scientists

Tool, LIGO Analysis (TLA)

A web based _Analysis Tool_ which has a user interface (adjustable!) similar to DMT, DTT, & ROOT and with the potential to provide much of the same functionality (with influences from LabView)

See http://tekoa.ligo-wa.caltech.edu/tla   (user: i2u2   password: inquiry)

Tutorial available on the discussion site (from J. Kerr):

   LIGO e-Lab Documents -> Tools and Tips -> Software Tutor

Basic functionality now works to plot a single channel ("_the circuit is complete_"), but there is much more to be added!

Potential to incorporate _DMT Monitor Framework,_ first to use existing "monitors" (e.g. Bandwidth filtering of magnetometer data, as is now done for seismic data), but also possibly to turn an interesting transformation into a control room Monitor

TLA Output

10/15/06 Hawaii Quake, LVEA_SEISX 0.1-0.3 Hz, max = 200,000 units
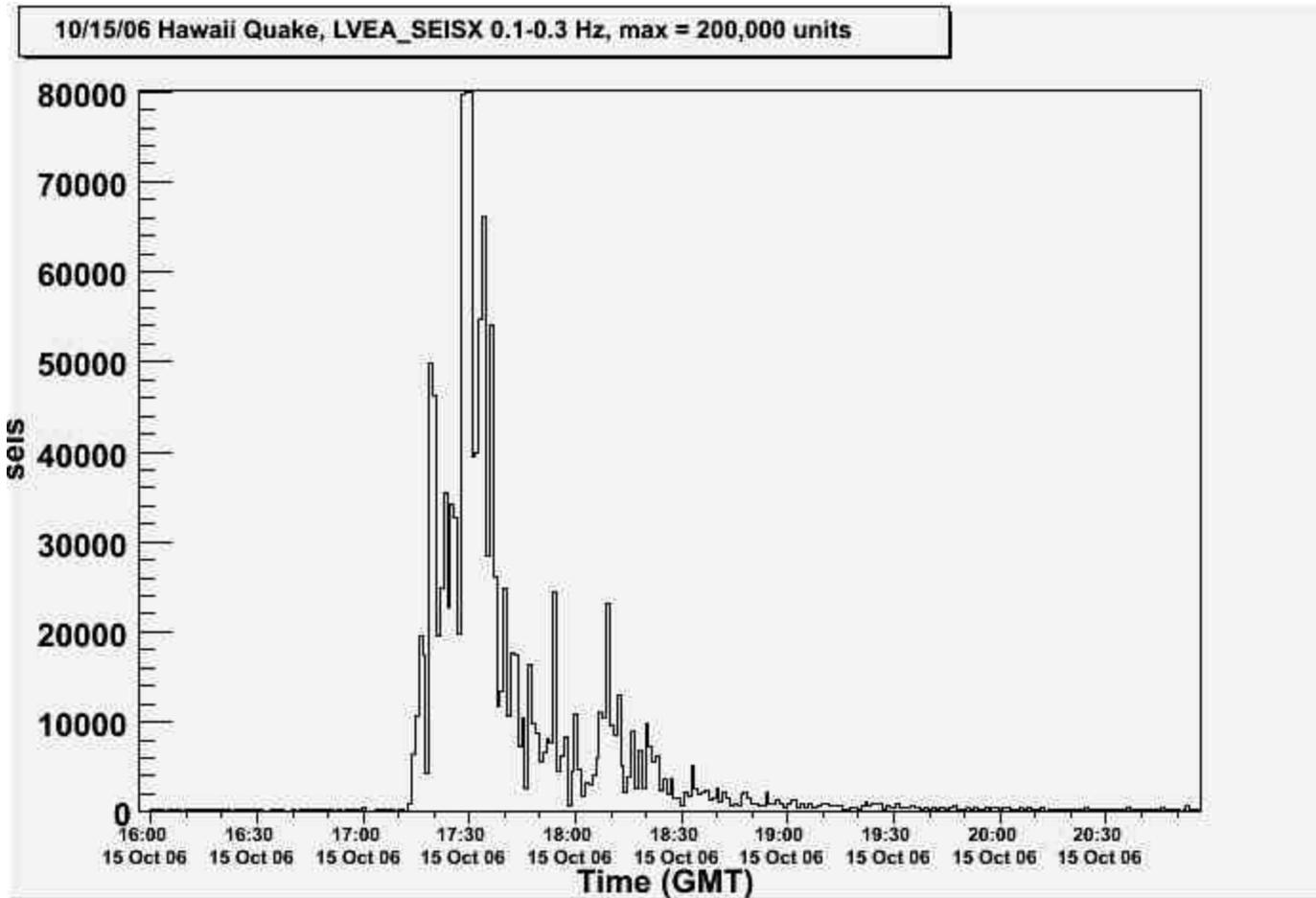
Electronic Logbook

The LIGO control rooms have an electronic logbook (the "ilog").

See: http://ilog.ligo-wa.caltech.edu/ilog   (reader / readonly)

We have modified the discussion forum software used by Einstein@Home to add functionality similar to ilog, including:

- File attachments (images, logs, data, etc)
- Keyword classification (including "getting started", "figure it out"…)

but with more flexibility. Potential to scale to large number of "rooms".   (Could also enable "g-Labs")

See: http://tekoa.ligo-wa.caltech.edu/

   (a reverse proxy of http://i2u2.spy-hill.net site, for "one-stop shopping")

In addition….

We've been **_experimenting_** with bringing together various components to support interaction, collaboration and development of e-Labs:

Discussion forums (and now logbook) – based on BOINC software, which has facilitated useful interaction between scientists and participants on *Einstein@Home*
Account creation is restricted by invitation code: ("inquiry") – welcome!

Glossary – using the same software as *Wikipedia*, but with more control over access policy. Also useful for technical documentation. Wiki may be a good way for students to prepare posters or reports.

RSS News - ("Really Simple Syndication") is used to announce changes to software and glossary, or other announcements.

"blue pages" – presentation of simple HTML documentation (but how much of this is provided on I2U2 portal?) Might be useful for posters.

Teacher Activities

- Summer intern John Kerr

- Teacher workshop, August 2006

- Initial student trials in 2006-07