



ELECTRONIC COLLABORATION LOGBOOK

Presented by Igor Mandrichenko, FNAL
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Authors

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Project Objective and History

- To provide a web-based electronic logbook tool to collaborations and groups at FNAL to support their research activities
- Project started as Control Room Logbook (CRL) for D0
 - Java based, data stored on local disk in the file system
- Web interface added by Suzanne Gysin
 - About 20 instances at FNAL
- Rewritten completely in 2010-2011
 - All data is stored in the database
 - New name: Electronic Collaboration Logbook (ECL)
- Shift Scheduler added in 2012

Concepts: Logbook Entry

- Immutable text or *form*
- Has timestamp and author
- Belongs to a *category*
- May have picture or document attachments
- May have one or more *tags*
- *Comments* can be added
- May have *related entries*
- Textile formatted (<http://textile.thresholdstate.com/>)

Concepts: Forms

- Forms are created by ECL form builder as a list of named fields. Each field has:
 - Name
 - Type
 - Text (1 line or multiline)
 - Selector (1 choice or multi choice)
 - Checkbox
 - Radio button set
 - Optional instructions
- HTML forms

Concepts: Categories and Tags

- Categories and Tags are used add structure to the logbook
- Categories are organized into a tree structure
 - Categories have subcategories, recursively
- Each entry belongs to one and only one category
- Administrator can move entries between categories if necessary
- Tags are defined by an administrator
- An entry can have 0 or more tags attached to it
- Administrator or the entry creator can modify tags on existing entry

Concepts: Comments and Related Entries

- Entries are immutable, but can be amended by
- Comments
 - Simple text with an author and a timestamp
- Related entries
 - Full featured entry (with pictures and attachments) with a reference to and referenced by an older entry

Example of a Form Entry

25973, Aaron Higuera (higuera), Sat, 04/28/2012 14:53:42

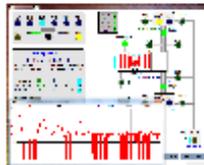
Shift_Notes/Control_Room_Shifts

Form:	ShiftForms/MINERvA_Start_Shift
Shifter 1:	Aaron Higuera
Shifter 2:	none
Run Series:	3900/27
Shifter Location and Phone Number:	Fermilab - 630-840-2060
MCR Called:	True
MCR Logbook Checked:	True
Underground Activity:	none
Run Plan:	Replacing Laura F. Take neutrino data until the end of the LE run.

Example of a Logbook Thread

21262, Mayling Wong-Squires (mlwong), Mon, 05/07/2012 12:48:03 MP9/Vacuum Oven ▼21261

Screen shot of furnace status at room temperature, start of cycle



[status-start.png](#)

Comments:

Mayling Wong-Squires (mlwong) 05/09/2012 12:56:10
Baking the support frame for FRIB QWR

[+ add related entry](#) [+ add comment](#)

21261, Mayling Wong-Squires (mlwong), Mon, 05/07/2012 10:36:15 MP9/Vacuum Oven ▲ 21262

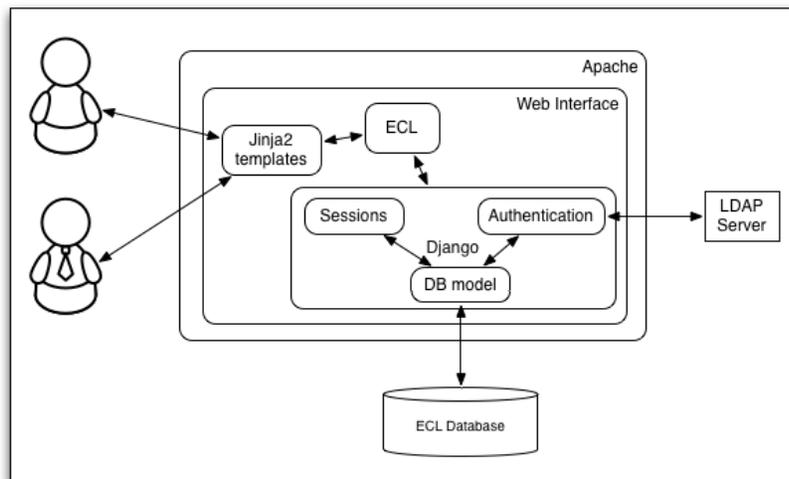
Support frame for FRIB QWR bakeout started - ramp up 5C/min, soak 600C for 10 hours

Comments:

Mayling Wong-Squires (mlwong) 05/07/2012 10:44:25
Correction – ramp up 10C/min, soak 800C for 3 hours

[+ add related entry](#) [+ add comment](#)

ECL Architecture



Technology used

- Apache
- Django
 - Database layer
 - Session mechanism
 - User authentication (local passwords and/or LDAP), password sent over HTTPS
- Jinja2 templates
- Python
- PostgreSQL v9 database
 - Everything, including attached documents and pictures is stored in the database
 - Text indexing package is native since v9

Latest addition: Shift Scheduler

- Shift Scheduler was added to ECL as an extension of its functionality
- ECL and Shift Scheduler share common Members and Organizations (Institutions) Database

Shift Scheduler

- Shift Schedule is a collection of Scheduling Intervals
- Scheduling Interval has name, begin and end date
- Shift
 - Repeats every day, from start day of the week to end day of the week, within the Scheduling Interval
 - E.g. every Wednesday, Thursday, Friday from 8am to 4pm
 - Has one or more *roles*
 - E.g. Captain, DAQ Expert
 - Each role has points
 - Institution collects points as members sign up for shifts
- Shifters can swap shifts
- Administrator can assign or remove people from shifts

Future Work

- Integration of the Logbook and Shift Scheduler
 - Shift related entries
 - Linking entries and shifts
 - Who was on shift ?
- Mobile (smartphone, tablet) clients
 - We have an IOS app which can take pictures and create an ECL entry
 - Distribution is postponed until legal issues between Apple and DOE are resolved
 - Working on Android app.

