NIF Experiment Interface Consolidation and Simplification to Support User Facility

Presentation to ICALEPCS 2015, User Interfaces Track
October 17-23, 2015

Allan Casey
NIF Data Systems
The internal NIF IT page was built for commissioning the laser...
… the NIF user portal needs to be relevant to all users
Provide Collaborative Environment to all both inside and outside LLNL

- Input/Edit Proposals and experiment data. Upload images and other files.
- Collaborate with others
- View status info

NIF User Portal

The World

NIF - LLNL

Shot Setup

- Proposal data and files
- Lists of values
- Experiment set-up, schedule, and status info

Goal is to give NIF experimenters a unified, simple UI to manage their proposals and experiments
Proposal Management Tool

<table>
<thead>
<tr>
<th>NIF User Portal</th>
<th>Portal Evolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal</td>
<td>Firm requirements</td>
</tr>
<tr>
<td>Proposal Workflow</td>
<td>It is the first process in the experiment lifecycle</td>
</tr>
<tr>
<td></td>
<td>Allows SW team to become proficient with a new environment</td>
</tr>
</tbody>
</table>

NIF Experiment Tools

- Shot Setup
- Parts & Calibration
- Shot Planner
- Reporting
- Experiment Review
- Archive

Common Data
Experiment Lifecycle Visualization

Detailed requirements are under development.

Experiment visibility is a big issue for users.

Initial deployment will help navigate the existing toolset.

NIF User Portal

Proposal

Lifecycle

Experimental Lifecycle & Proposal Workflow

Portal Evolution

NIF Experiment Tools

Shot Setup

Parts & Calibration

Shot Planner

Reporting

Experiment Review

Archive

Common Data
Proposed End State

Portal Evolution

Experimental Users  Expert Groups  User Office

NIF User Portal

Proposal  Lifecycle  Reviews  Documents  Metrics  Calendar
Research  Results

Full Experiment Lifecycle Workflow

NIF Experiment Tools

Shot Setup  Parts & Calibration  Shot Planner  Reporting  Experiment Review  Archive

Common Data
Considerations for selecting the platform

- Hardware
- External website
- COTS v Custom
- Integration
- Staff skills
- Cost & Schedule

ORACLE

CSS HTML

jQuery

Bootstrap

$ $$ $$
Various Cloud services solutions were considered
In the end, SalesForce was selected as the cloud platform

- Hardware maintained by vendor
- Security handled by vendor
- COTS but with the ability to customize
- Oracle based like legacy tools
- Apex language integrates with latest tech stack; JS, HTML5 etc.
- COTS helps with schedule and thus cost

Came the closest to meeting all of our requirements
With all tools there are advantages and disadvantages, SalesForce is no different

The Good
- Collaboration
- Unit Testing
- Workflows
- Object Security

The Not So Good
- Development Environment
- Debugging
- The Way It Is
NIF User Portal - Proposal Management Tool
http://nifportal.force.com/

Common interface for all users to interact with their proposals and experiments
Proposed End State

Portal Evolution

Experimental Users
Expert Groups
User Office

NIF User Portal

Proposal
Lifecycle
Reviews
Documents
Metrics
Calendar
Research
Results

Future updates

Shot Setup
Parts & Calibration
Shot Planner
Reporting
Experiment Review
Archive

Common Data
Drag and drop interface for ranking proposals

Use the Web to collaborate and not Excel
Drag and drop interface for ranking proposals

Use the Web to collaborate and not Excel
Experiment editor

An Excel like experience for experiment definition
Show Key Experiment Lifecycle Status Information

Instead of seeing all the data for all experiments...
Show key experiment lifecycle status information

<table>
<thead>
<tr>
<th>Experiment LaserShot2</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready To Execute</td>
<td></td>
</tr>
<tr>
<td>2 Week Review</td>
<td></td>
</tr>
<tr>
<td>3 Month Review</td>
<td></td>
</tr>
<tr>
<td>Setup complete</td>
<td></td>
</tr>
</tbody>
</table>

… users can see the simplified status
Provide users with the ability to get to NIF tools

I want to launch NIF User applications

Give the appearance of launching tools from the outside