Application for 2015 University of California Larry L. Sautter Award for Innovation in Information Technology

Project Title    LHAT Dashboard

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Development Team Members

The LHAT Dashboard was originally developed for the Environmental Health & Safety (EH&S) Directors. As part of the development process, UC Risk & Safety Solutions collaborated with the EH&S Directors and was able to gather valuable requirements contributing to the success of the project.

The team members listed below made up the core application development team:

• Nicole Vang, Scrum Master and Business Analyst
• Connie Oberholster, Business Intelligence Architect
• Colin Aiken, Developer
• Tony Tang, Developer

Project Description

LHAT is a University of California systemwide assessment tool that helps Principal Investigators identify activities and hazards to ensure that lab personnel are properly protected in their work environment. The application has grown and become a popular application, used by nine of the campuses.

The data being captured within the application is extremely valuable to EH&S leadership as the application gathers information related to compliance within laboratories. As a result, the Business Intelligence team received a request to develop a dashboard and provide comprehensive reporting regarding the LHAT application.

The LHAT Dashboard enables a user to conduct a comparative analysis on their specific campus’ data or UC-wide data related to a lab's hazards and assessments and Personal Protective Equipment (PPE). The dashboard quickly identifies gaps in certifications, distributed PPE and assessments of hazards within labs. By identifying these gaps, Environmental Health & Safety leadership is able to take the appropriate action to ensure that laboratories are in compliance and following the proper policies and procedures.
**Project Benefits**

The LHAT application gathers an abundance of data related to a laboratory's PPE, hazards and assessments. The LHAT Dashboard then communicates that data in a way that can be quickly and easily understood so that EH&S leadership can gain further insight regarding compliance issues within laboratories across all campuses.

The dashboard allows EH&S leadership to navigate through various charts in one place where they can quickly assess their campus’ performance in relation to PPE and hazards and assessments. This in turn saves the user time on reporting efforts and helps them to quickly determine whether their laboratories are in compliance and quickly identify performance issues.

**Dashboard Layout**

![Dashboard Layout Image]
**Chart and Table Details**

| **Chart 1** - Hazards & Assessments Stacked Bar Chart | Displays inter-campus totals for Principal Investigator-certified labs and Principal Investigator-not certified labs. This allows EH&S to identify where there are gaps in certifications and guides them on what actions need to take place to ensure certification is complete. |
| **Chart 2** - Hazard Types by Lab Bar Chart | Displays UC-wide identified hazard categories. You can then select specific hazards in the bar chart to view positive responses to the corresponding hazard assessment. This chart allows users to identify who responded positively to an assessment and in turn this will help EH&S leadership better identify what hazards are present in labs across their campus. |
| **Chart 3 and Table 1** – UC-Wide Labs without Certifications Bar Chart and Table | Displays a comparison of labs without certifications against uncertified labs that have assessments. This chart quickly identifies which labs are not compliant and directs EH&S leadership to take proper action toward those labs. |
| **Chart 4** - Protective Equipment Bar Chart | Displays a comparison of recommended PPE based on LHAT Safety PPE Training Certification to actual PPE issued. The chart will help identify who still needs to receive PPE and will help EH&S identify gaps in PPE distribution. |
| **Chart 5** - Issued PPE | Displays issued PPE by gender and PPE types. This chart will help from a budget perspective as EH&S leadership can plan accordingly for purchasing PPE. |
| **Chart 6 & 7** - All Body wear and All Eyewear | Displays body wear sizes by gender and eyewear manufacturers. Select any bar on Chart 6 or 7 to display a drill down report for PPE by organization for body wear or eye wear. This chart will also help from a budget perspective as EH&S leadership can plan accordingly for purchasing specific PPE. |

**Innovative**

The LHAT Dashboard breaks down the data from LHAT and displays information in various interactive charts. By creating one place where managers and leadership can receive an overview of a lab’s hazards, assessments and PPE, we are able to help end users save time on their reporting efforts and give an overview of a laboratory’s performance and identify potential risks. By identifying these risks, EH&S
leadership can then take the proper action which will in turn improve the safety of labs for all UC campuses.

**Operational Efficiency**

The LHAT Dashboard provides a visualization of the summarized data that has been captured within LHAT. The data being displayed in the dashboard is a reflection of the data within LHAT and is updated on a nightly basis.

There is an export function within the dashboard that allows users to quickly export detailed reports to Excel or PDF. This functionality replaces a manual and paper-heavy process that existed prior to the development of the dashboard and makes reporting efforts much more efficient compared to past efforts.

**Access to Dashboard**

The dashboard is accessible via SharePoint. Due to the sensitive information being shared within the dashboard, users need to receive approval by EH&S leadership in order to view the dashboard itself. Once they have received approval, the user can request access through SharePoint and the Business Intelligence team will grant the user access to the dashboard.

To request access to the LHAT Dashboard, please contact [erm@ucop.edu](mailto:erm@ucop.edu).

**Collaboration**

The LHAT Dashboard was developed with input from EH&S professionals. The Business Intelligence team initially received the request for an LHAT Dashboard from Ken Smith, UC Executive Director of Environmental Health and Safety. Once initial requirements were gathered from Ken, Russell Vernon, EH&S Director for UC Riverside, stepped in and acted as the Product Owner for this effort. Russell was able to provide support and guidance to the Business Intelligence team by utilizing his knowledge and experience around EH&S and the LHAT application. UC Risk & Safety Solutions follows an Agile methodology, and end users were involved throughout the development process of the LHAT Dashboard.

**Project Timeline**

The LHAT Dashboard was developed in iterative cycles, beginning in early 2014 and released in November of 2014 to all of the EH&S directors. Upon release, feedback was continuously collected and the requested changes/enhancements have been prioritized by the EH&S Management Advisory Group.

The Business Intelligence team has made minor changes to the LHAT Dashboard, but the team is currently developing a campus-specific LHAT Dashboard so the dashboard can be widely viewed by each individual campus.
Technology Used

The dashboard was built using SQL Server Reporting Services 2012 with SQL Server 2012 as the database and is hosted on a SharePoint portal.