Application for 2017 University of California Larry L. Sautter Award for Innovation in Information Technology

Project Title	**Inspect**
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The Problem

Many areas of campuses, hospitals and other institutions require regular inspections to improve safety and meet regulatory compliance. This includes a wide range of operations, including laboratories, food service areas, clinical settings, industrial shops and more. Often multiple steps and several people are involved in the process of inspecting, noting findings and resolving issues.

With such diverse areas needing to be inspected, and each institution wishing to customize for specific areas, Risk & Safety Solutions set out to create a flexible, adaptable tool that could streamline the process in a variety of settings.

The Solution: Inspect

Inspect is a cloud-based inspection tool that provides streamlined inspections using a mobile device, as well as a desktop component for managing completed inspection reports. It is available for iOS and Android devices. The flexible workflow allows for single inspector, multiple inspectors (for cross-

discipline involvement) and self-led inspections. Inspect also comes with a reporting dashboard that provides trend analysis to identify top concerns and improve results.

Creating an inspection is simple:

- Select an inspection

- Identify a finding

- Enter comments using the keyboard or talk-to-text feature

- Add images to a finding using the camera on the mobile device or images on the camera roll

- Include detailed action plans for resolution

- Add "tags" to classify content in multiple ways for reporting

- Assign finding to specific functional groups for resolution

In addition, users can:

- Create inspections without internet access – helpful when working in locations with spotty or no connectivity

- Create configurable inspection types and editable checklists

- Use the desktop version for editing findings, resolution, location and people management, reporting and trending
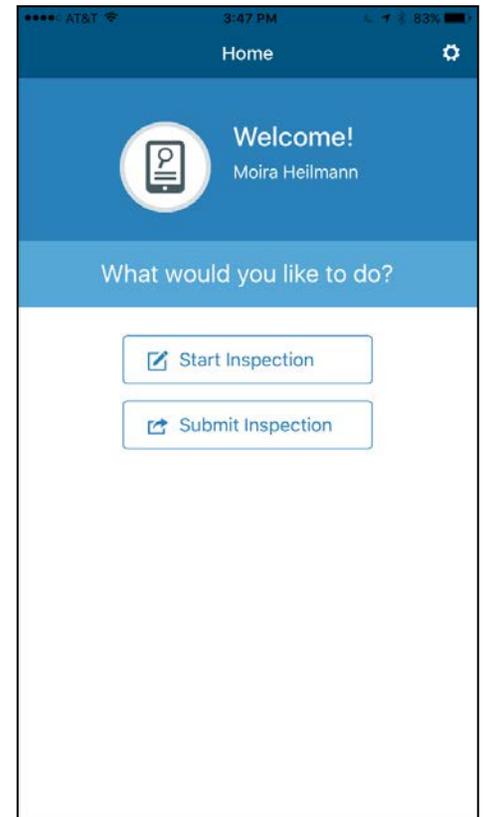
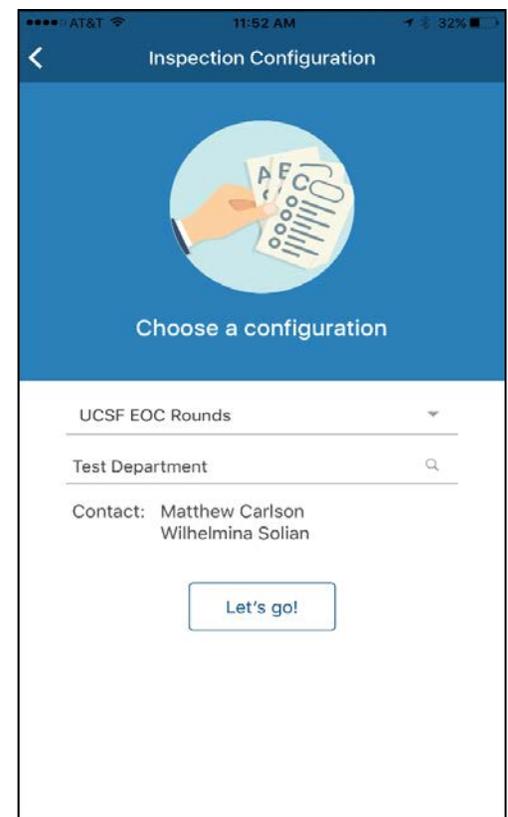- Provide a detailed resolution audit trail

Figure 1: Inspect landing page

Figure 2: Configuration page

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Figure 3: Inspect Dashboard

We have also created an Inspect Dashboard, which was developed for Medical Center EH&S

Directors, Practice Clinical Managers and Supervisors. The purpose of the Dashboard is to help

departments track performance related to inspections, measure compliance and improve the overall

safety culture. The Dashboard provides information about trending over time so users can easily

identify which areas are improving or which areas need additional information and guidance. In

summary, the Dashboard will help users make more informed business decisions and create a more

robust safety culture.

Each of our products comes with a variety of implementation tools that institutions can choose from

to simplify the adoption process. This includes templated electronic and/or print-ready

announcements outlining the product, PowerPoint presentations about the product, print-ready or

electronic tutorials and "how-to" videos that demonstrate how to complete certain tasks. (For

example, the *Inspect – Responsible Person* video found here:

https://www.youtube.com/watch?v=tFr7leau9JM)

By putting the emphasis on designing a user-focused system, providing implementation support and access to a Service Desk to take in feedback and troubleshoot when issues arise, we have created a system that campuses want to adopt. Development on Inspect began in March 2016 and piloting began in September 2016 with continuous enhancements being made based on user feedback. To date, Inspect is being piloted at five UC campuses and four UC medical centers. Response to the application has been very positive. John M. Seaman, CSMP, General Safety Manager at UC Santa Barbara, summed it up this way:

In a nutshell, the UC Inspect App simplifies the inspection process, increases accountability, and provides a sustainable way to document and store required records.

Technology Used

Inspect is a multi-part application consisting of a mobile application and a desktop web client. The desktop is built with HTML5, SASS, Bootstrap, and Angular on the front end. Inspect's backend is written with NodeJS and Express with a MongoDB as the database. The mobile app is written with Apache Cordova and Ionic and communicates with the Inspect server. Both applications utilize a stateless authentication strategy, with multiple instances of the server behind a load balancer. The Dashboards are developed using Power BI, the leading self- service Business Intelligence platform from Microsoft.

Relevant URLs:
- https://ehs.ucop.edu/inspect/
- https://ehs.ucop.edu/analytics/