

EASE: Alert Management For Process Variables



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Intro

EASE is the Easiest Alert System Ever. EASE is a user friendly website that works with Epics and the archiver to collect data on process variables. EASE allows users to easily set triggers that will alert them once the process variable they are interested in crosses the threshold they specified. Data is collected at 1-5 min. intervals so that SLAC employees can get these important alerts in a timely manner. Alerts are sent out in the form of emails and text messages. In the future we hope to implement a slac bot that will allow for instant messages to mobile and desktop devices.

Keywords: EASE, Trigger, Alert, Process variable

Motivation

At the moment there isn't a great way of noticing when there are problems with certain process variables and Input-Output Controllers (IOCs). Usually problems don't become apparent until they impede processes that people are working on. Creating a system that notifies PCDS employees as soon as a problem arises could sufficiently increase the safety and efficiency of the SLAC work environment.

Research

Coming into SLAC I had a basic understanding of HTML and CSS, but I had never created a fully functioning website. At first, it was hard to imagine how I'd be able to contribute to this project, but with the help of youtube and coworkers I was able to get up to speed. The EASE website uses the django api. In order to get more familiar with django I researched how to create a basic django website. This helped extensively and allowed me to become a contributive member of this project!

Specific research included me learning how to create a functioning profile page, learning how to implement email verification for user registration, learning how to allow users to retrieve lost passwords, and more

Who is EASE meant for?

EASE is meant to be an easy to use, straight forward website for SLAC employees who aren't as tech savvy. Managing process variables and setting alerts doesn't have to be extremely difficult! EASE will allow anyone to create their own Triggers and Alerts with ease! With a click of a button EASE also allows you to subscribe to Alerts created by other employees.

Screenshots

Process

Through the process of creating the website we have noticed there are a few things we wanted to change. For example, initially registration would simply ask for a username and email. Along the way we decided that we wanted to verify the user had an active email so I created a 2-step verification process which involved the user going to his email and clicking a link to finish the registration. Later on, we decided we also wanted users to input their first and last name during registration so the website could greet them by name. We also decided along the way we wanted to allow users to edit their username, email, and password so I created a functioning form and link to do so.

Goals

We have managed to get a beta version of EASE working. Our immediate goal is to fix a few formatting and functional bugs in the site so that we can launch it for a select group of employees. Obviously we will find bugs along the way and we will implement new functionalities to the site, but those will come in later versions.

At the moment EASE can only read from the archiver. Later we hope to implement the ability for EASE to interact with PVs and IOCs through epics. Whenever an important IOC goes down a SLAC employee must log into the system and find a way to get it back online so it doesn't impede work. This can be annoying if you get a call at 2 am or while on vacation asking you to get this fixed. Often times these IOCs can be rebooted by going through simple trouble shooting steps such as restarting the system.

In the future we would like to implement scripts into EASE that would run these trouble shooting steps when it loses connection to a PV or IOC. Running these steps before contacting a SLAC employee will ensure that the problem is one worth looking at

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