Background & Objectives

Change management procedures and controls ensures that the appropriate due diligence has been done and the appropriate people are informed prior to any changes occurring. ITS implemented a rudimentary change control system that they have been using for several years but it lacked functionality and features.

The existing PCR system was used to manage, communicate, and filter changes within the infrastructure environment. The new solution helps better leverage information sharing within the organization and improve notifications and processes for a more effectively and efficiently run business.

New PCR system:
- Improved usability
- Increased performance
- Added new features:
  - ERS feed
  - Enhanced mobile interface
  - Public web interface
- Re-engineered change request business workflow
- Corrected defects found in the existing system

Process

**SCRUM Process Methodology**

- Agile process
- Iterative development (Sprints)

**Project-Specific Development Practices**

11 guidelines were added to provide a deeper understanding across the team as to how we assign work and how we are to complete that work.

Technologies

Ruby on Rails application framework
RadRails development IDE
MySQL database management system

Design

**Application Architecture**

The PCR System employs a Model-View-Controller (MVC) pattern. The purpose of using an MVC pattern is to separate the application data model and the user interface or view. The MVC decouples data access and business logic from data presentation and user interaction by introducing an intermediate component: the controller.

State Diagrams

PCR’s are state-dependent. In order for team Yuengwing to fully understand the business practices and needs of ITS, many state diagrams, like the one pictured above, were used to design the system. These became invaluable during implementation as they contain all the information needed to model the system.

Challenges

- Since this application was to be modeled around best business practices of ITS, there was extensive domain-specific knowledge that needed to be transferred from ITS to team Yuengwing.
- The Ruby on Rails application framework takes a very simplistic approach to web application development; however, the majority of the team had little to no experience with Ruby on Rails.
- Team Yuengwing is a dynamic team consisting of members with many different strengths. As such, it was difficult to get everyone to use the processes that were defined as everyone does work slightly different.