



Application Approver

Project Plan

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Executive Summary

The Florida State Department of Management Services (DMS) provides many different services to the state agencies, some of which are: managing leases of state facilities, human resources, and state purchasing. Recently an audit was conducted by the Auditor General's office of the Facilities area in the Real Estate division. One of the findings of the audit was that there is currently no way to track and report the internal applications that employees can access. Because of this, such an application must be created and Joe Wright, the Chief Information Officer of DMS' Information Technology department, is the sponsor of the project.

The proposed solution is to create a new application that will perform all of the required tasks. Evan Machnic, who is the intern, will be given the responsibility of designing and creating the application using the Ruby on Rails framework. The main assumption on this project is that the application will be completed in the five weeks from 30 June 2009 to 4 August 2009. Because of this, time is also the biggest constraint. After the period of internship, the application will continue to be maintained by DMS Information Technology employees. This project plan details these points and discusses others as well.

Introduction

Recently, the Auditor General's office of Florida conducted an audit of the Facilities area within the Department of Management Services. The audit was performed in order to identify inefficiencies and use those findings to create a better way of managing the divisions. One of the biggest roles of the Department of Management Services is managing the buildings for the entire state of Florida, including the leases of private facilities. The key finding is that there is no current way of reporting employees that have access to the various internal applications used throughout DMS. The Information Technology office decided that an application needed to be created to produce said reports and the application will be written in the Ruby on Rails language and framework. In addition to the reporting capabilities, there needed to be ways to request and grant employee access to applications. The main focus is completing the capabilities for the Facilities Operations Group of DMS though the application should be scalable to allow for addition of other groups.

The problem that is fueling the need for this project is the inability to easily find out which employees have access to the different internal applications. With the current system, if an employee leaves or is terminated, the applications manager for that

department must be notified so that he/she can remove access for the former employee. The problem here is that frequently, no notification is sent and the employee remains in the system even though he/she is no longer employed. This creates for great inefficiencies as well as security vulnerabilities. It is important to complete this project so that the current wasted money from inefficiencies can be spent in an area that needs it.

The other problem that this application hopes to alleviate is the inability to print reports with a list of employees and their approved applications. This is the main problem that the auditor general found and probably would find in other departments. Fixing this problem would help to fix the other one because if managers were able to view/print the reports then former employees would easily be found. If these problems are not solved, then DMS could lose more money and in an extreme circumstance, the management and employees may be replaced.

Project Sponsor

The sponsor for this project is the Chief Information Officer for DMS, Joe Wright. Because of this, Mr. Wright needs ways to easily generate various reports and the process should be as unobtrusive as possible. The main purpose of this project from Mr. Wright's perspective is that he needs to be able to view all employees and the applications to which they have access. These reports will be displayed on a computer screen as well as having the option to print and email.

Proposed Solution

The current solution to the previously discussed problems is to create a new, internal web application. This application will be written in Ruby on Rails to utilize the model-view-controller way of organizing applications. Many of the new applications for DMS are written in Ruby on Rails because they can be written quickly and are very modular and scalable. The application will connect to the DMS Central Directory, MySQL database which provides all of the needed information for tracking and reporting. The milestones for this project will be: create a name and layout based around the Central Directory's design; complete modifications of the database; three milestones coinciding with creation of the Applications Manager, Supervising Manager and Departmental Manager sections; complete tests on all aspects of the application; deploy the application to the server. The project will be finished on August 4th, 2009 when Evan Machnic's internship finishes.

After considering the needs of the organization, a solution was proposed to create a new application with the needed functionality. The application will be designed and created by Evan Machnic with help from other team members if needed. The plan is to use existing databases that will provide most of the information, though they may require modification to accommodate the tracking abilities. Because there are multiple roles involved, authentication will be implemented to allow access for only specific roles. If a user does not have the required role, then he or she should not have the option to access the restricted areas. This will simplify the application for the users as well as keep it nice and thin. The biggest disadvantage to this plan is that everything will be created from scratch and that requires more man-hours and thus more money

Team Members

Dan Pelletier is the overall Project Manager. He oversees all aspects of system design and project life cycle. Mr. Pelletier will be present at project meetings and will guide the project as a whole. His email is Dan.Pelletier@dms.myflorida.com and office phone number is (850) 487-9849.

Sarah Hamilton is the testing Project Manager. She is in charge of project testing including prototyping and usability tests. Her email is Sarah.Hamilton@dms.myflorida.com and office phone number is (850) 414-6999.

Bernardo Telles will be in charge of system design, database design, and Ruby on Rails development. In addition to designing and creating the project database, he will also make sure everyone's development software is consistent so as to ensure compatibility. His email is Bernardo.Telles@dms.myflorida.com and phone number is (850) 487-3321.

Mary Jordan is the project's graphics designer. She will create the header banner for the web-based application. Having her on board is a good thing because it takes keeps the developers from having to think too much about visual design and they can concentrate on writing the application. Her email is Mary.Jordan@dms.myflorida.com and phone number is (850) 414-0452.

Evan Machnic is the intern for the project in charge of writing the application. He is a senior at Florida State University and will be interning until August 4th, 2009. This project is also serving as his required project for the LIS4910 Information Technology Project course. His email is Evan.Machnic@dms.myflorida.com.

All team members will primarily be reached via email or phone which are outlined in the "Team Member" section. In case of emergencies, there is an on-call number for the

development team at (850) 728-6755. There will be two weekly meetings probably at the beginning and end of the week. The first meeting will be to outline needs for the week and the second will be to wrap up the week and give status reports. Most meetings are informal and will be held in Dan Pelletier's office unless presentation equipment is needed in which case a conference room will be booked.

Scope

Goal

The goal of this project is to decrease inefficiencies discovered through an internal audit by creating a program to track employee access to internal web-based applications.

Objective One

The first objective is to agree on a name for this application because it is going to be brand new and not just plugged in to an existing application. After meeting with the group members, the name that was agreed upon is "Application Approver" and a new banner was created to be the header. This objective is important because the server needs to be set up with a new sub-domain before the application can be deployed.

Objective Two

After agreeing upon a name, a method for login and authentication needs to be created. There are going to be three roles for the Application Approver: Requesting Manager, Administrator, and Applications Manager. After the employee logs in, he or she will be directed to a section of the site based on the role of that employee. The employee will not see any part of the application that he or she does not need so as to avoid any confusion.

Objective Three

The third objective is to create the Applications Manager section. This will only be visible to employees with that role and will only have the functionality of changing an employee's status from "Removed" or "Approved" to "Finished." The removed employees will come from nightly reports sent from PeopleFirst and approved will come from the Administrator's approval. The

updating should only be done after that employee is added to or removed from an application within the Applications Manager's division.

Objective Four

Objective four is the creation of the Requesting Manager's section. This will include a "Search" function for employees and then the ability to choose applications to request access for that employee. The Rails plugin "searchLogic" will provide the searching capabilities instead of writing a custom search because it provides all of the needed functions. This will also help immensely with limited amount of time for this project.

Objective Five

The fifth objective is making the Administrator section. The administrator will be able to log in and immediately see all employees who have been requested. He or she can then approve that employee which will notify the appropriate Applications Manager.

Objective Six

The final objective is to commit the application to the repository and go live. There will be usability testing done and possibly revisions done before the application is in use. Once the application is tested and live then this will be the completion of the project.

Assumptions and Constraints

The Department of Management Services' biggest assumption is that Evan Machnic will be able to finish the project in the allotted time. The internship did not officially begin until 30 June 2009 and it ends on 4 August 2009. This is a very limited time frame to create a web application from the ground up, and assumes that Evan will not run into any difficult obstacles. Ideally, the developer would have time to design and test both paper and electronic prototypes but the time constraints allow only a limited amount of design.

Another assumption is that the current developers who know Ruby on Rails will continue employment with the organization. Rails is a fairly new framework for the

web, currently only at version 2.3.2. It's use is on the rise because of the speed of getting an application up and running. The problem is that most Ruby on Rails developers are in the Northern and Western United States. Currently, it is difficult to find many Rails programmers in the Southeast. It is also a framework that is only taught on a limited basis at Universities so DMS may run into trouble finding developers if it loses any.

Alternative Solutions

One alternative solution is to add on to the existing Directory application. Since the database being used is the same with some minor changes, this seems like the most logical alternative. Many of the functions such as role-based authentication, employee search, and sessions are already in the Directory so they would not need to be re-created. This solution would save quite a bit of time and with the constraints, makes a lot of sense. The problem here is that users may get confused as to where to go for the application approval process. Currently, people already have to learn how to use the new Directory and this would be another feature. The argument against that is by utilizing the role-based authentication, users who do not have access would not even know that there is an Application Approver, though in the end it was decided to keep the applications separate.

Another solution is to find an "off-the-shelf" application to perform the tasks. This seems like a good idea at first because if there is an application already out there, employees would not have to "reinvent the wheel." The drawback is that depending on the program, it could cost more in the long-run do to licensing and upgrades. Also, the good thing about Ruby on Rails is that it provides a great deal of functionality out-of-the-box and if it doesn't have it, there is probably a free plugin to do that task. If the Department of Management Services was programming in a closed-source framework then this may be viable, but since Rails is being utilized, the costs of this solution outweigh the benefits.

Work Breakdown Schedule

Task Number	Task Name	Duration
1	Process Flow	0.5 days
1.1	Discuss Background With Manager	1 hr
1.2	Create User Types for Application	1 hr
1.3	Create Process Flow Chart	2 hrs
2	Prototype Design	5 days
2.1	Create Scenarios for User Roles	0.38 days
2.1.1	Whiteboard Scenario for Approving Manager	3 hrs
2.1.2	Whiteboard Scenario for Requesting Manager	3 hrs
2.1.3	Whiteboard Scenario for Applications Manager	2 hrs
2.2	Create Use Cases for Scenarios	3 hrs
2.3	Create Artifacts for Prototype	2 days
2.3.1	Whiteboard Artifacts for Approving Manager	3 hrs
2.3.2	Whiteboard Artifacts for Requesting Manager	2 hrs
2.3.3	Whiteboard Artifacts for Applications Manager	3 hrs
2.3.4	Create Wireframes of Artifacts on Computer	5 hrs
3	Software Configuration	3 days
4	Application Approver WebApp	16 days
4.1	Implement Restful Authentication	2 days
4.1.1	Install Plugins	2 hrs
4.1.2	Create Authenticated Users and Sessions	3 hrs
4.1.3	Create New Roles for Users	3 hrs
4.1.4	Create Login Based on Role	1 day
4.2	Applications Manager Section	2.5 days
4.2.1	Create Layout	4 hrs
4.2.2	Add Functionality for "Approved" Employees	1.5 days
4.2.2.1	Display "Approved" Employees on Page	4 hrs
4.2.2.2	Add "Finish" Button that Updates Status	4 hrs
4.2.3	Add Functionality for "Removed" Employees	1.5 days
4.2.3.1	Display "Removed" Employees on Page	4 hrs
4.2.3.2	Add "Finish" Button that Updates Status	4 hrs
4.3	Requesting Manager Section	8 days
4.3.1	Create Layout	1.5 days
4.3.2	Add Applications to Database	0.5 days
4.3.2.1	Add Apps Table and Apps_Employees Join Table	2 hrs
4.3.2.2	Add Divisions and Sub Divisions to Database	2 hrs

4.3.3	Create Employee Search Functionality With Pagination	3 days
4.3.4	Create Application Request Functionality per Employee	3 days
4.4	Approving Manager Section	3.5 days
4.4.1	Create Layout	4 hrs
4.4.2	Add Functionality for "Requested" Employees	1 day
4.4.2.1	Display "Requested" Employees	4 hrs
4.4.2.2	Add Button that Updates Status	4 hrs
4.4.3	Add Employee Search Functionality	2 hrs
4.4.4	Add Application Search Functionality	6 hrs
5	Test Application and Clean Up Code	1 day