

SE31520: Enhancing the CS-Alumni Application

Due on Monday, December 10, 2012

Alexander Brown

Contents

Introduction	3
Server Architecture	3
Client Architecture	3
Test Strategy	3
Evaluation	3

Introduction

Server Architecture

Having worked in a Level 3 Service team, my attitude toward changing existing code is not to do so unless it is completely necessary and at that, to modify the code as little as possible.

The first change I made was to make a simple addition to the UserController which would echo the username of the currently logged-in user. This allowed me to *a)* confirm the user has been logged-in; *b)* check if the user is an administrator (currently this is defined by the username being equal to “admin”).

This change involved adding a single method (and associated GET route) which only rendered JSON (i.e. it would only accept content-type JSON).

The only other change I made to add functionality to include the details of a user’s image in the JSON file from the GET request to `/user/:id.json`.

Figure 1

Figure 1: UML Class diagram for the CSA server

Client Architecture

As the client doesn’t need to do a lot I decided to keep it fairly simple. I still tried to follow the Model, View, Controller (MVC) design pattern as best as I could. Separating out a lot of the REST interaction into a sole class.

This also means it would be relatively easy to swap out this method of interaction without too much effort. The views take up the majority of the class diagram as there are different ways of presenting the same information. However even these have been kept as simple as possible.

Figure 2 shows the UML Class diagram for the client.

Figure 2: UML Class diagram for the client

From this I then started to consider the choice of language. Ruby was the obvious choice to keep a bit of compatibility between client and server. I also found that Rails has a gem which provides client-based REST access to a Rails application; ActiveSupport. This saved me a lot of time and effort during implementation, not having to work out the exact, correct, REST requests and the form the JSON files passed between the two take.

Ruby also has some nice graphics libraries, FXRuby is one which is cross-platform, with a lot of good documentation, based on the FOX toolkit for C++.

Test Strategy

Evaluation