CSE 5335 Project Phase 2

Overview

This is the third of 3 phases of a programming project for CSE 5335.002. The purpose of this phase is to combine the capabilities of the previous 2 projects.

Objectives

To successfully met the objectives of Phase 2, your submission must include the following:

1. You will again use your VirtualBox (https://www.virtualbox.org/) virtual machine with Ubuntu Server as the operating system. **(10 Points)**

2. Create a web page served by your server-side framework -- you may use any web server framework acceptable for Phase 1 and 2 -- that loads your browser-side, Javascript framework -- again, you may use any browser framework acceptable for Phase 1. **(10 Points)**

3. Using the browser-side, Javascript to (a) make at least 100 AJAX-style requests to your server-side framework (b) in 0.5 second intervals where (c) each request load a single record from your NOSQL database, and (d) modify your web page to display the data from each record. **(60 Points)**

   EXTRA CREDIT: For additional points:
   - Add animation to the display of the newly arriving data **(10 Points)**
   - Display only 20 records at a time, removing old records as new ones arrive **(10 Points)**

4. You will include a README.md file (note that this file extension implies the following syntax available for formatting -- http://en.wikipedia.org/wiki/Markdown) as part of your server installation answering the following questions:
   - What aspect of the implementation did you find easy, if any, and why?
   - What aspect of the implementation did you find hard, if any, and why?
   - If you were to use these technologies professionally, what would be your biggest concern?

   (20 Points)

Submitting Your Project

Your implementation will consist of several files in a directory structure. You will need to create a ZIP (or GZ) file of this entire directory structure and upload it to Blackboard by 11:30PM CST on Wednesday, May 6. As listed in Objective #4, your README.md file should make it clear what steps are required to run your web application in a VirtualBox with Ubuntu.

Additional Recommendations

For your own security, I recommend that you use a version control system for capturing ongoing changes to your code, along with frequent external backups. My favorite is Git (http://git-scm.com/), but Subversion is also popular (https://subversion.apache.org/).

As a general practice for modern software development, I strongly recommend following some kind of automated testing scheme to verify the correctness of your code (e.g., http://en.wikipedia.org/wiki/Test-driven_development). Ruby-on-Rails has a strong tradition of using various testing frameworks along with the development process (http://guides.rubyonrails.org/testing.html), and NodeJS likewise has similar tools (http://unitjs.com/).

In the Ruby world, you will want to familiarize yourself with RVM (https://rvm.io/) and bundler (http://bundler.io/) to manage access to 3rd party libraries called “gems”.

In the Javascript world, you will want to familiarize yourself with NPM (https://www.npmjs.com/) and bower (http://bower.io/) for managing addons and 3rd-party libraries (e.g., jQuery and Angular are 3rd-party libraries).

Note Concerning Collaboration

The active Open Source communities for web development mentioned above all heavily leverage the knowledge and experience of it members to get things done. I have no problem with students collaborating to help each other figure out techniques and strategies for implementing the project deliverables, but the size of this project is such that each student should be able to implement the steps individually. I will be performing random tests for uniqueness on the contents of your project upload files.