605.484 Agile Development with Ruby on Rails

Syllabus

Instructor

Kalman Hazins (Instructor)
E-mail: kalmanh@gmail.com

Faacy Farook (Teaching Assistant)
E-mail: faacyfarook@yahoo.com

Please, contact us over e-mail. **Be sure to include course number somewhere in the subject line of the e-mail.** Also, please CC: both the instructor and the teaching assistant on all class-related e-mails in order to keep both of us in sync on all the appropriate decisions that need to be made throughout the course. We will make every effort to respond to your inquiry within 24 hours or earlier. If an issue is urgent, please indicate "urgent" within the subject line of the email and we will respond as soon as is practical.

Course Description

Modern web applications are expected to facilitate collaboration, with user participation being a significant facet of the system. Components such as wikis, blogs, and forums are now commonplace. While feature sets continue to expand, there is continuing pressure to develop and deploy capabilities more quickly to enable organizations to remain competitive. This pressure has led to the development of languages and frameworks geared toward **rapid prototyping**, with Ruby on Rails being one of the most popular. Ruby on Rails is a Model-View-Controller (MVC) framework that enables efficient application development and deployment. Techniques such as Convention over Configuration and Object-Relational Mapping with Active Record along with enhanced AJAX support offer a simple environment with significant productivity gains.
This code-intensive course introduces Ruby on Rails, the patterns it implements, and its applicability to the rapid development of collaborative applications.

Prerequisites

605.481 - Principles of Enterprise Web Development or equivalent work experience.

Course Goal

Fully utilize Ruby on Rails framework in order to rapidly develop and deploy web applications.

Course Objectives

By the end of this course, students will be able to:

- Efficiently use the Git version control software for configuration management of their programs
- Demonstrate moderate fluency in their ability to write code using the Ruby language
- Rapidly prototype web applications using the popular Ruby on Rails framework
- Become familiar with Test-Driven and Business-Driven developments using RSpec and Capybara gems in Ruby on Rails

Course Structure

The course content is divided into 14 modules. Course Modules can be accessed by clicking Course Modules on the left hand side menu in Blackboard. A module will have several sections including the overview, content, optional readings, possible discussions, and assignments. Most modules run for a period of seven (7) days, exceptions are noted on the Course Outline page. Students should regularly check the Calendar and Announcements for assignment due dates. **Please, note that the schedule outlined in Course Outline is tentative.**

Required Software

Students will need access to the following software bundles:

- Ruby 2.0 or greater with DevKit
- Rails 4.2 or greater (not 5)
- Git

See the section titled “How do I get and install the software?” later.

Operating System

You are free to use an operating system of your choice as Ruby and Rails are (mostly) cross-platform.

I expect some basic familiarity with the command-line (yes, even if you are using Windows ☺ - you should be able to open up a command prompt and type some commands).

IDEs

I use Sublime Text 3. You are free to use your own IDE / text editor.

Before making a decision on which editor to use – you might want to check out the following:

- Sublime Text 3 (available for both Windows and Mac)
- RubyMine (https://www.jetbrains.com/student/)
- Aptana Studio
- https://www.coursera.org/learn/ruby-on-rails-intro/lecture/dchF3/editors-ides-for-ruby-on-rails

How do I get and install software?

1. On Windows
2. On Mac
3. If you don’t feel like installing anything, Cloud9 might be a good option

Recommended Textbooks

There are no **required** textbooks, but the following 2 textbooks (1 for Ruby and 1 for Rails) are recommended if you feel that reading might aid your Ruby/Rails knowledge

1. Agile Web Development with Rails 4
2. Head First Ruby

In addition, you might find the following books helpful:

1. Beginning Ruby, 2nd edition
2. Eloquent Ruby
3. Rails 4 in Action

Coursera

I recently created an online course for Coursera called “Ruby on Rails: An Introduction”. (Faacy was actually involved in helping me facilitate the course as well.) You might find that exploring the material in that course as well as the follow on course “Rails with Active Record and Action Pack” will help you practice Ruby and Rails knowledge. These courses are free to explore the material as well as practice with provided tests and they only charge you if you decide to get a certificate or would like to submit your work to be graded remotely.

Student Coursework Requirements

Back to THIS course.

Weekly workload is expected to be in the range of 4–7 hours. Here is an approximate breakdown: listening to the audio annotated slide presentations (approximately 2–3 hours per week), coding assignments (approximately 2–3 hours per week) and some possible outside reading (approximately 1 hour a week).

Students may choose to work on coding assignments in teams of 2. In the beginning of the course, you will have an option to pick your own teammate. If you don't pick a teammate – you may choose to be assigned a teammate to work with (lottery ☺). The grade gotten on the assignment by the team is the grade that both students receive. While I strongly encourage teamwork (specifically for this course since we are dealing with technologies like Git), I understand if you would like to work alone and are not interested in joining a team.

The course consists of **8** coding assignments and **3** quizzes. The breakdown of the final grade is as follows:

Task	**Percent of your grade**
Assignment 1 (Environment setup)	5%
Assignments 2-6	11% *each*
Assignment 7-8	15% each
3 Quizzes	10% *altogether*

Assignments will require you to show your understanding of the material presented in the module by coding and sometimes deploying applications to the web. (Detailed instructions for submitting assignments will be provided on the actual assignments.)

Grading

Student assignments are due according to the dates in the Calendar. The grades for the assignments will be posted one to two weeks after assignment due dates.

Each assignment will get a letter grade of either A+, A, A-, B+, B, and so on.

Late assignments will automatically get a half a letter grade lower (A- instead of A, B+ instead of A- and so on) for every 24 hours late unless you contact me in advance and I grant you an extension. "In advance" means at least 48 hours before the assignment is due. You must have an email from me stating that I granted you an extension, which means that you need to send me an email asking for one. Please, keep the email stating that you were granted an extension until the end of the course (when you receive your final course grade). If I made a mistake, you'll have proof that I did, in fact, give you an extension.

Academic Misconduct Policy

All students are required to read, know, and comply with the Johns Hopkins University Krieger School of Arts and Sciences (KSAS) / Whiting School of Engineering (WSE) Procedures for Handling Allegations of Misconduct by Full-Time and Part-Time Graduate Students.

This policy prohibits academic misconduct, including but not limited to the following: cheating or facilitating cheating; plagiarism; reuse of assignments; unauthorized collaboration; alteration of graded assignments; and unfair competition. You may request a paper copy of this policy at this by contacting:

Mark Tuminello
Phone 410-516-2306
E-mail mtumine2@jhu.edu

Policy on Disability Services

Johns Hopkins University (JHU) is committed to creating a welcoming and inclusive environment for students, faculty, staff and visitors with disabilities. The University does not discriminate on the basis of race, color, sex,

religion, sexual orientation, national or ethnic origin, age, disability or veteran status in any student program or activity, or with regard to admission or employment. JHU works to ensure that students, employees and visitors with disabilities have equal access to university programs, facilities, technology and websites.

Under Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990 and the ADA Amendments Act of 2008, a person is considered to have a disability if c (1) he or she has a physical or mental impairment that substantially limits one or more major life activities (such as hearing, seeing, speaking, breathing, performing manual tasks, walking, caring for oneself, learning, or concentrating); (2) has a record of having such an impairment; or (3) is regarded as having such an impairment class. The University provides reasonable and appropriate accommodations to students and employees with disabilities. In most cases, JHU will require documentation of the disability and the need for the specific requested accommodation.

The Disability Services program within the Office of Institutional Equity oversees the coordination of reasonable accommodations for students and employees with disabilities, and serves as the central point of contact for information on physical and programmatic access at the University. More information on this policy may be found at the Disabilities Services website or by contacting (410) 516-8075.

Disability Services

Johns Hopkins Engineering for Professionals is committed to providing reasonable and appropriate accommodations to students with disabilities.

Students requiring accommodations are encouraged to contact Disability Services at least four weeks before the start of the academic term or as soon as possible. Although requests can be made at any time, students should understand that there may be a delay of up to two weeks for implementation depending on the nature of the accommodations requested.

Requesting Accommodation

New students must submit a Student Request for Accommodation form along with supporting documentation from a qualified diagnostician that:

- Identifies the type of disability
- Describes the current level of functioning in an academic setting
- Lists recommended accommodations

Questions about disability resources and requests for accommodation at Johns Hopkins Engineering for Professionals should be directed to:

Mark Tuminello
Disability Services Coordinator
Phone 410-516-2306
Fax 410-579-8049
E-mail mtumine2@jhu.edu or ep-disability-svcs@jhu.edu