**CPS420 – Framework Project: Phase 1**

**Assigned: Week 2 Due: Week 4 30 Points**

Choose a web application development framework to research, convey the details of to the class, and write an application for. A framework is a reusable set of libraries or classes for a software system. See: <https://en.wikipedia.org/wiki/Software_framework>

You may do this project individually or in a small team. Keep in mind that everyone on the team must contribute and you will be responsible for logistics of getting the code and presentation coordinated.

Frameworks to choose from include, but are not limited to:

* AngularJS/Angular 2.0 (JavaScript) : <http://www.angular2.com/>
* ASP.NET - used in this class, which is an open-source server-side web application framework designed for web development to produce dynamic web pages. It was developed by Microsoft to allow programmers to build dynamic web sites, web applications and web services. <https://msdn.microsoft.com/en-us/library/dd381412(v=vs.108).aspx>
* CakePHP (PHP): CakePHP makes building web applications simpler, faster, while requiring less code, A PHP 5.5+ framework offering a flexible database access layer and a powerful scaffolding system that makes building both small and complex systems simpler, easier and, of course, tastier. <https://cakephp.org/>
* Django (Python) - Django is a high-level Python Web framework that encourages rapid development and clean, pragmatic design. https://www.djangoproject.com/
* MEAN Stack - MEAN is a collection of JavaScript-based technologies — MongoDB, Express.js, AngularJS, and Node.js. <http://mean.io/>
* MVC Frameworks such as ASP.NET MVC <https://en.wikipedia.org/wiki/Model%E2%80%93view%E2%80%93controller>
* Ruby on Rails (Ruby)- Learning to build a modern web application is daunting. Ruby on Rails makes it much easier and more fun. It includes everything you need to build fantastic applications <http://rubyonrails.org/>
* Spring (Java) - Spring helps development teams everywhere build simple, portable, fast and flexible JVM-based systems and applications. <https://spring.io/>
* Other JavaScript-Based Backbone.js, Cappuccino, Javascript MVC, Google Web Toolkit (GWT), Ember.js, Angular.js, Batman.js, etc.
* Other Web Frameworks. See: <https://en.wikipedia.org/wiki/Comparison_of_web_frameworks>

**Requirements (Deliverables) for Phase 1: Proposal Web Document**

* 1. Create an account and a static Website document with Wix, Weebly, WordPress or some other cloud based hosting site to promote your team (provide a link in a Word document). You can also use a hosting site if you have one, or use a cloud file storage like Google Docs, etc.
  2. On the website, include
     + statement your team name and mission
     + the framework name
     + tools to be used (i.e. editors, compilers, IDE’s, etc.)
     + the problem to be solved with the application (describe the subject matter of the application), and the team members (1 or more).
     + useful links to the framework such as the API, tutorial sites, documentation sites, etc.

**Other Phases:**

Each of the other Phases will be a separate assignment posted in Blackboard with due dates, points and deliverables. Here are some brief descriptions of the phases in advance. Keep in mind the assignment for each phase will be posted and will contain details which may or may not reflect exactly what you see below.

Phase 2 (Design): Design the application based upon the problem statement in your proposal

Phase 3 (Implementation): Develop a web application with the following aspects:

1. Include your Design Documentation
2. Front End (HTML, CSS, JS, etc.) and Back End components
3. At least a 2-table database
4. Include the code zipped up in a folder on Blackboard which I will provide for each project

Phase 4 (Documentation): Develop documentation and a presentation of 16-20+ slides, including the following items:

1. Architecture diagrams
2. Code Samples
3. Define the framework, and describe the technologies used.
4. Describe how to connect to a database or other data source with the framework/language.
5. Describe the tools such as editors, etc. used to develop using the framework
6. Design documents
7. Screenshots
8. Test Plan
9. Whether it is primarily for frontend or backend
10. Include a webliography with all essential links for downloads, learning, code samples, etc.
11. Provide the documentation and presentation files in a folder on Blackboard which I will provide for each project team.

Phase 5 (Presentation): Presentation Delivery and Peer Review, including: Live code demonstration of the application you developed using the framework you chose. Attendance is mandatory for everyone in all of the presentations. You will not only present your work, but also be the audience for and review the rest of the class.