Project Requirements and Details

The PROG 30000 – Enterprise Software systems project is a group project where 3-4 students collaborate equally to create an enterprise web-based application. The project can be based on the classroom or textbook case study or can be a new idea. In both cases, a proposal must be submitted and accepted. Projects must incorporate the principles, technologies and techniques covered in class as well as something new which will need a certain level of research and experimentation.

Project Requirements

Content Requirements

The project must demonstrate the use of layered approach as below:

1. A presentation layer consisting of at least 4-6 views that are significant from the point of view of interactivity with the user. This shall allow each team member to practice the interactivity mechanisms studied in class.
2. A business logic layer consisting of at least 2-3 significant business use-cases implemented by 4-6 business logic classes other than the user interface classes developed for Part 1.
3. A data layer that uses a database to persist the data.

Technology Requirements

1. Code developed using at least Visual Studio 2015
2. Frameworks to be used
    a. ASP.NET MVC 5
    b. Web API for web services
    c. Entity Framework for model persistence to database
3. Data formats:
    a. SQL Server for relational database
    b. JSON for data delivered through Web API

Principles and Best Practices

a. Object-Oriented Design. The application shall demonstrate the application of best principles of object-oriented design:
    i. Information hiding / encapsulation
    ii. Code reuse through inheritance
    iii. Reuse through abstraction and polymorphism
    iv. Loose coupling, separation of concerns
    v. Simple, cohesive classes and methods
b. A visual design (e.g., UML diagram) should be created for the project.
c. Coding conventions
    i. MVC and coding conventions

   ii. Scope prefixes conventions (e.g. use of _ prefix for any field)
   iii. Naming conventions: names start with capital letters for classes and methods and properties and start with a small letter for variables and fields.
   iv. Descriptive names for classes, methods and variables

d. Commenting. The code shall be commented according to the following requirements
   i. Each class shall have a header with the principal author of the code and a short description of what the code in the file is for
   ii. Each method and field shall be commented with *XML style comments* and include a brief description of the purpose of method and field. If the Author of the method is different than the author of the class the author name shall also be included in method headers
   iii. The code (inside methods) shall be commented to explain WHY the code is there (not how, not what) wherever necessary.

Project Presentation

Prepare a 10 - 15 min video on the presentation of the project. Submit the link of the video along with the project. Some basic requirements of the presentation:

a. Present the purpose of the application
b. Demo the application's functionality. Each student in the group shall demo the functionality he/she worked on
c. Demo the architecture of the project (e.g., layers, MVC, data), walkthrough the code of critical parts.
d. Identify how the project completed meets the requirements identified in this document:
   i. Content requirements
   ii. Technology requirements
   iii. Principles and Best Practices

Projects missing the presentation may not be marked.

Project Schedule

Dec 15th 2017: Meet with your professor to discuss about the current status and progress on the project and obtain feedback.

Jan 5th 2018: Submit Final Project and Presentation

Project Submission

All the project deliverables and presentations shall be archived and submitted via SLATE.