Project Requirements

The PROG 37721 – Web Services Using .NET and C# Programming project is a group project where 3-4 students collaborate equally to create an object-oriented program of medium complexity that uses principles, best practices and technologies learned in the course.

In this project, you are asked to develop a Windows application (WinForms) or Web Applications (Web App) on any topic of your choice or consider the titles listed below:

a. Online purchasing application (ordering clothes, foods, phones, or flowers etc.)
b. Online bank application (viewing statements, online payments)
c. Managing and storing data (like college student's information).
d. Content Management systems (CMS) for any businesses.
e. Any Games app.

General Requirements

1. The project shall consist of:
    a. At least 3-4 forms (minimum one form per team member)
    b. A database of at least 3-4 tables (one per team member) linked in a one-to-many relationship
    c. At least 3-4 classes (one class per team member) other than the Windows / Web Forms classes. These classes are to handle the business logic

2. Project shall make use of the following technologies/techniques
    a. Windows Forms or Web Forms
    b. Web Services (minimum one)
    c. Data Structures (Dynamic Array, List and Dictionary)
    d. ADO.NET, preferably DataSets and offline connectivity
    e. 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.
    f. Coding conventions
        i. Windows forms / Web Forms and controls conventions

   ii. Naming conventions: names start with capital letters for classes and methods and properties and start with a small letter for variables and fields.

g. UML. The design of the project may be created in Visual Studio Ultimate using UML class diagrams to show structure and sequence diagrams to show main workflows

3. Quality of the design and code will have a significant role when grading the project
   a. Loose coupling
   b. Simple, cohesive classes and methods
   c. Descriptive names for classes, methods and variables
   d. Coding conventions (naming conventions, indentation, code organization)
   e. Comments (both XML style comments and regular code comments)

4. Work assignments
   a. **Each C# class shall have only one author out of the group.** "We all worked on it together" is not acceptable as that would never happen in a professional team project. As a team you collaborate but each team member must take ownership and responsibility of a piece of the code. You will be graded individually based on your contribution.

   b. **The author shall be clearly documented in each source file.** Again, multiple authors in a single file not acceptable.

   c. The work assignments must be consistent with the original project proposal even if minor difference exist AND they must be updated in the project completion document.

5. Lessons Learned Personal Log (Individual)
   a. At least two comments per week containing: a short description of the work done since the last comment AND lessons learned from the work.
   b. Conclusion section with lessons learned throughout the project and course. Provide at least three main lessons learned.

6. Project Report / Presentation
   a. Present the purpose of the application
   b. Present a high-level overview of forms and classes used in the application
   c. Include screenshots and/or demo the application functionality. Each student in the group shall demo the functionality he/she worked on
   d. Present briefly the technologies used in the application (follow the list of requirements given in point 2.

See next page for project schedule…

Project Schedule

The development plan is organized in 4 milestones. The completion of each milestone will be verified and will count in the final grade of the project.

1. **Week 8:** Project Start
2. **Week 10**: 50% complete
3. **Week 13:** 99% complete (code complete). Project to be briefly demonstrated in class
4. **Week 14:** Project Presentation and Delivery. Before project presentations the project completion document must be handed in.