

# A290/A590 C#/.NET Final Project – Fall 2016

[LAST MODIFIED: Monday, November 7, 2016]

**DESIGN NOTE:** For this project, you have control over the potential “target audience” for your application. Be sure to address this in Phase 1. A target audience of “IT professionals” would probably lead you to some very different design decisions than a target audience of “children K-6”.

## DUE DATES

**PHASE 1:** Monday, November 14, 2016 in class (2:30pm)

**PHASE 2:** Monday, November 28, 2016, in class (2:30pm)

**PHASE 3:** Friday, December 9, 2016 at 11:59:00.00pm (SHARP)

**[FAILURE TO MEET ANY OF THESE DEADLINES WILL RESULT IN A SCORE OF ZERO (0) FOR THAT PHASE]**

## General Description

The purpose of this final project is to take all the skills that you gained from the course and use them to create your own application [“application” in this context includes “game” and other interactive creations that you might not usually consider an application] using Visual Studio 2015 C# and .NET 4.5.

The actual application that you develop will involve finding a process or task that you can address with a Windows-based application. It will also be crucial that your proposed application/project is **feasible** in the time available. There are several steps to this process that you will need to follow:

1. Pick a task or process that you can address with this particular programming environment and submit a proposal, outlining what your application will do. Submit your initial proposal for approval.
2. Storyboard your application interface with a focus on design and usability.
3. Work out the logical or programming design of your application.
4. Submit #2 and #3 for approval before beginning any serious work on your application.
5. Actually create your application, including all proper commenting and other documentation.
6. Submit your Final Project application by the prescribed deadline.

### Phase 0: Pick a Task or Process

Brainstorm some ideas that you would like to pursue for this project. What is going to be the focus of your project? Is there a particular task or type of task you would like to address with your application? Is there an area of interest you have that suggests possible application(s)? Do you want an application that creates, manipulates, displays, or some combination?

### Phase 1: Submit Your Proposal

Before you begin any serious work, you will need to submit a brief proposal for your project. Make sure you are aware of the deadline for this submission. What you need to do in your proposal is very basic: 1) Describe your proposed application in sufficient detail that the reader gets a clear idea of your goal, 2) clearly explain why you think this would be a useful application, and, 3) clearly explain why you are confident that you can successfully complete this project in the time allowed.

### Phase 2a: Storyboard Your Application

Now you begin the actual design of your application. The first question you need to deal with here is how best to “deliver” the functionality of your application consistent with user expectations and experience. Based on this you can sketch out what Windows Forms, User Controls and/or other visible features you will want to include, as well as the manner in which they relate to each other. You should always keep in mind

the basic principles of Design and Usability discussed at the beginning of this course. You will be asked to explain how your application addresses these principles in Phase 2 of this Project.

### ***Phase 2b: Programming/Logical Design***

You must also clearly define what programming or logical elements you need to make your application a reality. What functions and/or methods will you need to employ? What sorts of invisible objects (if any) will you need to use? What events will you need to handle and how? What external resources (images, sounds, movies, etc.) will you need your application to access and how? You are encouraged to “experiment” with some of your proposed logical features, but only insofar as they establish a “proof-of-concept” in your own mind.

### ***Phase 2a + 2b: Submit your Formal Proposal***

Your application storyboards together with your logical design will represent your formal proposal for the Final Project. You do not have to wait for approval on this phase to begin working on your application, but it is in your own best interest to complete this before you begin any **serious** work on the final application.

### ***Phase 3a: Create your Application***

Actually make the application. Make sure to pace yourself – you do not want to do this all the night before.

### ***Phase 3b: Submit your Final Project***

Package your Final Project in a single file that can be submitted to Canvas. **BE SURE** that you include all appropriate comments in every \*.cs file that is part of your application **AND both** a README.TXT file in the main folder that tells us, as the evaluators, anything we need to know to make sure we probably test your application as well as any last minute changes or other issues you need to bring to our attention **AND** a separate User’s Guide that carefully describes what your application does and how it does it, for someone who might be trying to use it for the first time as a potential user or customer. Again we will be looking for a README.TXT **and** a User’s Guide.

## ***Specific Requirements and Deadlines***

We will be collecting these various parts of the project in phases. The phases will be similar to the Written and Programming Assignments that you have been doing. Keep in mind that each Phase may take you more than the 1-2 hours you spend on these other assignments as they should be more involved.

### ***Phase 1 (and Phase 0) [30 points]***

**Due:** Monday, November 14, 2016 **no later than 2:30 PM** (classtime)

This will be *Step 1* from the *General Description* above. You will need to turn in a short paper in **hardcopy only** with your name and email address. You should **ALSO include all the initial ideas (from Phase 0 BRAINSTORMING)** that you thought of for this final project – with **ONE** of your ideas clearly selected as your proposed application. You want to include a clear description of the task or process that you want to address with your proposed application. Make sure that you clearly and specifically:

- 1) Describe your proposed application in sufficient detail that the reader gets a clear idea of your goal
- 2) Clearly explain why you think this would be a useful application
- 3) clearly explain why you are confident that you can successfully complete this project in the time allowed.

**SUBMISSION NOTE:** Submit Phase One in **hardcopy form only** during class time on Monday, November 14, 2016.

## **Phase 2a and 2b [70 points]**

**Due:** Monday, November 28, 2016 **no later than 2:30PM**

This will be *steps 2, 3, & 4* from the *General Description* above. You will need to have your entire storyboard for the project you are doing. **Yes, this means you will actually draw or otherwise represent on paper the overall design and component relationships of your entire application.** If you have any interactivity clearly show this in the storyboard. Also, you will need to turn in a written paper in print (not hand-written) with your name and email address that very clearly and precisely addresses the logic of how you intend to create the under-lying functionality of your application using C#/Visual Studio 2015. Again, be sure you discuss:

- 1) What functions and/or methods will you need to employ?
- 2) What sorts of invisible objects (if any) will you need to use?
- 3) What events will you need to handle and how?
- 4) What external resources (images, sounds, movies, etc.) will you need your application to access and how?, and
- 5) How your application Design will address:
  - a. Consistency of Elements and Style.
  - b. Provide Clear Navigation.
  - c. Logical Grouping of Tasks.
  - d. Prioritization of Visual Elements.
  - e. Care for the User.
- 6) Anything else you deem appropriate.

**SUBMISSION NOTE:** Submit Phase Two (parts a and b) in **hardcopy form only** during class time on Monday, November 30, 2015. **[NOTE: If you want a copy of your storyboard to work from, you are responsible for making a copy. I will be keeping the copy you turn in for reference when grading the final submission.]**

## **Phase 3a and 3b [100 points]**

**Due:** NO LATER than Friday, December 9, 2016 @ 11:59:00.00 PM (SHARP) EARLY SUBMISSIONS WELCOME.

This will be *steps 5 & 6* from the *General Description* above. You will submit your final completed project by the time above. BE SURE to submit your entire project folder as a single ZIPPED file to Canvas. There will be a "Final Project" assignment for each student to submit the project on Canvas. **NOTE: Be sure your submission file is created with a WinZip compatible tool or is a self-extracting archive file.**

## **Overall Grading Criteria**

This project counts for 50% of your final grade and will be evaluated on a 100-point scale.

The grading will be split into 70% project and 30% design process. Because the actual design and creation process you go through is very important to the final project I am including it as a major component of the overall grade. The design process score will be based upon the submissions you make for Phases 1 & 2. The project is what you will submit for Phase 3.

Phase 1 will be scored on a 30-point scale and Phase 2 will be scored on a 70-point scale and the two scores added together to calculate the "design process" part [30%] of your score.

Project grading will be based on the individual submission. I/we will not be grading on an absolute scale, but will take into account what you have shown us from the beginning, as well as how well you realized

your pre-stated goals and how much of an improvement you may have made since then for your final project submission. There is, however, a basic rubric for what will go into any successful Phase 3.

Here are the things that we will be looking for and the approximate “weight” each will carry out of the 100 points for your actual submission that will be used to calculate project portion [70%] of your final score.

#### **Design Components (50)**

Consistency of Elements and Style (fits with stated goal/plan). (13)  
Provide Clear Navigation (fits with stated goal/plan) (8)  
Logical Grouping of Tasks (fits with stated goal/plan). (8)  
Prioritization of Visual Elements (fits with stated goal/plan). (8)  
Care for the User (consistency with expectations and experience of average user). (13)

#### **Programming Components (50)**

Effective use of available Programming objects/types (15)  
Effective use of events, functions, and methods (15)  
Clearly written code (organization) (5)  
Clearly and properly commented code/file (5)  
Documentation (User's Guide **AND** README.TXT) (10)

#### **SUMMARY of “How will my score be calculated?”:**

**Phase 1** (30 points) + **Phase 2** (70 points) = up to 30 points of your **OVERALL** Project Score.

**Phase 3** (100 points) = up to 70 points of your **OVERALL** Project Score.

Your total out of this 100 points (30 + 70) = your average/score for the A290/A590 Final Project and 50% of your A290/A590 Final Grade