CS 1400 Lab #14: Using Application Objects

Objectives:

Recall that an application's data and the methods that work on that data are encapsulated in what we call an Application Class. Sometimes we also refer to this as a Domain Class. Last week you learned how the Form Class and an Application Class work together to achieve the purposes of the application. This week will give you some more practice designing an Application Class and using it in a GUI program.

Study Material

You may want to go back and review the study material in labs 12 and 13.

Designing an Application (or Domain) class.

In project #2, you created a program with a graphical user interface that calculated the number of times a wagon wheel would turn around in a mile, given the radius of the wagon wheel in inches. In that program, all of the data and the methods you used to calculate the number of times that the wheel would turn were part of the Form Class. Now you have learned how to properly write a GUI program by only using the Form Class to manage the user interface, and by putting all of the application data and the methods that work on the application data in an Application Class.

In this lab will design an Application class to do the work for the Wagon Wheel Odometer. Review the code that you wrote in project #2. Think about exactly what data is required for this application. Then what method, or methods do you need to do the application work. Be sure you are not doing user interface work here, i.e. not getting data from a TextBox or storing data in a TextBox.

Now create a class diagram for your Odomoeter class. You can draw this by hand submit and submit a photo of your diagram, or use some drawing software and submit an electronic version. A PDF file is preferred if you are going to submit an electronic version.

File(s) to Submit:

Place your UML class diagram in a zip file and name the zip file lab_14_your-initials_V1.0.zip. For example, I would name my file lab_14_RKD_V1.0.zip. Submit this assignment as Lab #14 on Canvas. Do not submit any other files.

Grading Guidelines

Description	Points possible
Assignment meets grading guidelines: o Your Class Diagram contains a declaration that this is your own work. o Assignment has been properly submitted to Canvas	2
You have a correctly drawn Class Diagram that models a wagon wheel odometer.	3
Total	5