EECE.2160: ECE Application Programming

Using Visual Studio

This document provides a tutorial for creating projects and source files in Visual Studio. The tutorial assumes the use of Visual Studio Community 2017. (Figures 1 and 2 actually show screens from Visual Studio 2012, which works similarly.) **Students using VLabs must follow slightly different steps, which are detailed later in this document.**

Project Creation

1. After starting Visual Studio, select **File→New Project** from the main menu, or simply click the "**Create New Project …** " link on the welcome screen.

The dialog window that appears allows you to choose the type and name of your project. After selecting **Visual C++** in the list of templates on the left, choose **Windows Desktop Wizard** from the list of project types in the middle, as shown in Figure 1. Use the boxes at the bottom of this window to specify a name and location for your project.

Important note: Project names don't really matter. Choose a generic name (for example, "program1" or "appPrograms"). You can reuse the same project for multiple assignments, as described later.

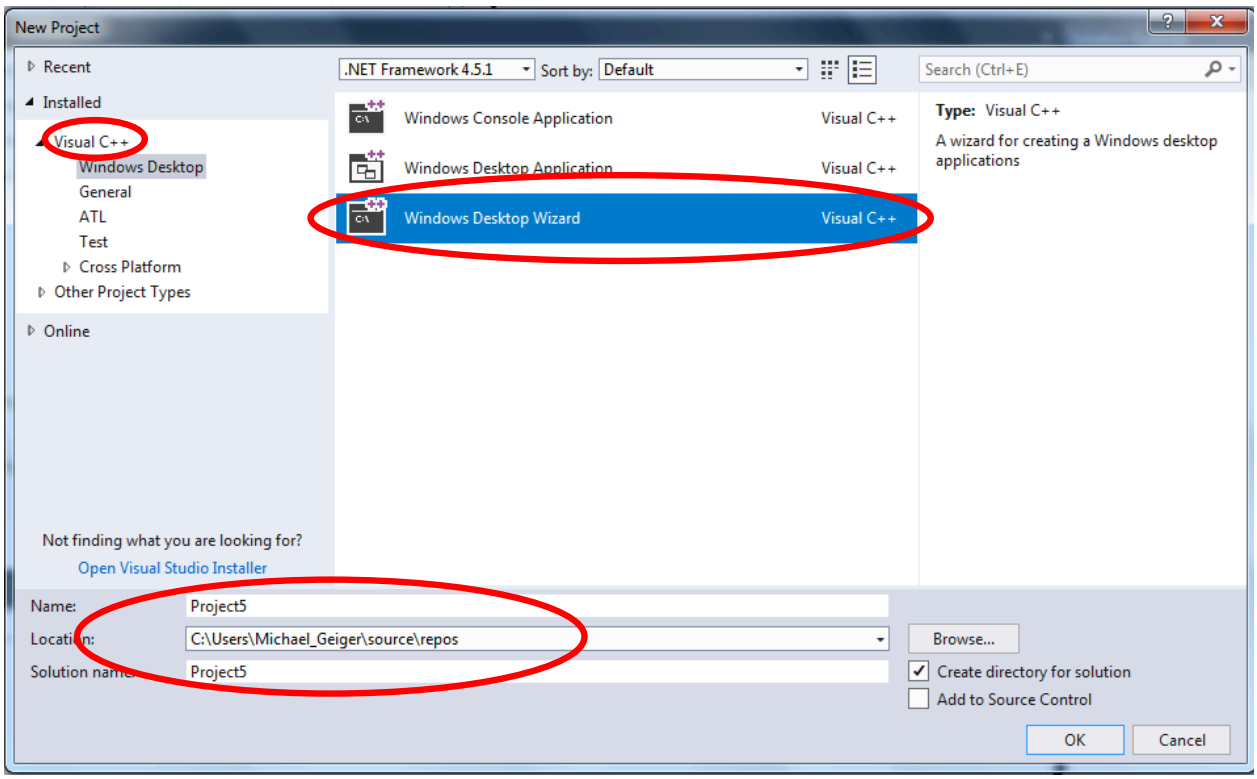

Figure 1: Creating a new Visual Studio project by selecting "Visual C++" from the list of templates, "Windows Desktop Wizard" from the list of project types, and specifying a name and location for your project. In this example, the project—not the source code file—is called "Project5" and stored in "C:\Users\Michael_Geiger\source\repos\".

2. In the dialog box that appears, set the "Application type" to **Console Application (.exe)** and click the **Empty Project** box under "Additional Options," as shown in Figure 2 below. After selecting these options, click Ok, and Visual Studio will set up an empty project for you.

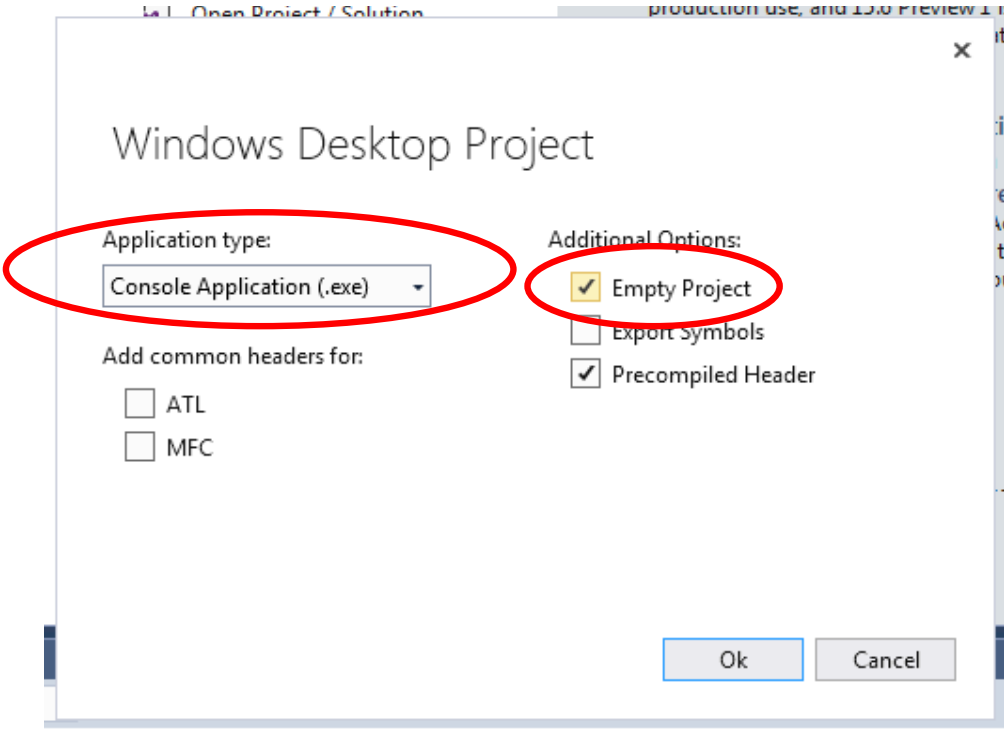

Figure 2: Completing project setup by choosing "Console Application (.exe)" as the Application Type and specifying the Empty Project option

3. To create your first file, simply right click the “Source Files” folder in the Solution Explorer window, choose **Add → New Item**, choose **C++ file (.cpp)** as the file type, then type the full name (including the .c extension) for the file you’d like to create (for example, prog1_simple.c). The file should appear under the “Source Files” folder, which is an indication the file is part of your project and it will be compiled each time you rebuild your project.

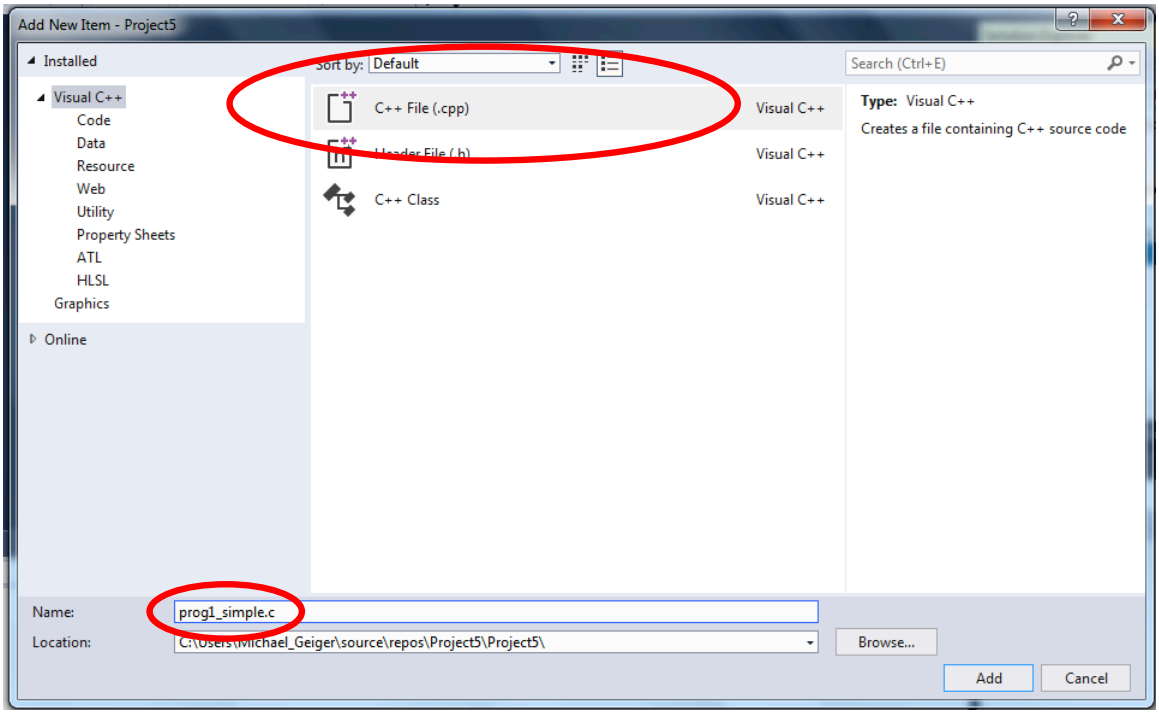

Figure 3: Specifying the type and name of your new file after right-clicking the Source Files folder in the Solution Explorer pane. The file type should always be “C++ File (.cpp)”, and the file name you specify should reflect the assignment on which you’re working. For example, for the first assignment assignment, the file could be named *prog1_simple.c*.

Running programs

To get your program to terminate with a message saying, "Press any key to continue …" in Visual Studio only (not Xcode), use the **Start Without Debugging** command (press Ctrl + F5) to run your code. Do not use additional code—such as the `system("pause")` function or an infinite loop—in your code to achieve the same result. Doing so will render our grading program useless.

VISUAL STUDIO COMMUNITY 2017 USERS: If you start with an empty project, as described earlier, your program will not pause by default at the end of execution when using "Start Without Debugging." So, you have to modify the project settings to get this behavior.

Right click on your project, then choose **Properties → Configuration Properties → Linker → System**. Under the "SubSystem" option, select "Console" (/SUBSYSTEM:CONSOLE). Your project should now work correctly when using "Start Without Debugging."