**Assignment: Applications**

20 points

Now that you have learned about the different types of applications, do a web search to find examples of each type of application.

* Make sure not to duplicate the examples given in the descriptions.
* Give at least **five examples**of each type of application.
* Include a verbal description or a screenshot with caption for each example you find.

Developers use different types of applications, such as console, windows, web, smart device, class and control library applications. Console applications are command-line driven, windows applications use graphical user interfaces such as buttons and icons to interact with the user, web applications help developers make easy-to-use web sites that connect to the workstation from the web server via the Internet, and smart device applications are for portable devices. The class library has prewritten codes, such as codes for buttons, which developers can use immediately without creating their own, while the control library has a collection of custom-made codes to make specifically-designed buttons.

The console application uses commands built-in to its machine code, which means communication between user and computer is rapid. An example of a command is:

C:\> at.exe /? >atref.txt

This command shows the at.exe program passing information to the atref.txt file with the /? command. Another example is the command prompt below. The command “findstr.exe” is a tool to find patterns, and the command “\/delete” after it tells the tool to allow code to “output only lines with “/delete” in them.”

C:\> at.exe /? | findstr.exe "\/delete"

Another example shows how to retrieve the program and make it print the output:

*C:\FileName> Sample Program   
Printing text output from this sample program*

In code, command line applications use commands such as “Console.ReadLine()” to tell the command line to pause for the user to see the output. Another command such as “Console.WriteLine()” writes a specific output of the program to the command line.

Examples of Windows applications include the “Start” button at the bottom of a PC computer, the “OK” button from a popup message, and the menus that contain clickable choices in a Word document, such as Font choices, language-setting choices, and indentation buttons. Other examples include Windows Forms applications created from code, and the download progress bars that illustrate the progress of a downloading item. All these examples use GUI or graphical user interface, which allow the computer to fulfill the user’s commands, rather than the computer using direct computer command codes.

Web applications help developers make web-sites without spending too much time on reviewing HTML. Web applications also use graphical user interface and use a web browser to open on the user’s screen over the Internet. One example is the Google browser website that contains GUI such as buttons, textboxes, and images. Other examples include the below websites in the sources that also contain GUI and links to other web pages. The example shows how to create a user-responsive button on a welcome website. The button is clickable and uses the EventArgs class which is responsible for handling events. When the user clicks the button, the button will respond with an event. Then, this code makes Label2 visible, and the textbox requires the user to write his name in it. Then, Label3 shows text identifying the date and time of the visit.

Protected Sub Button1\_Click(sender As Object, e As EventArgs) \_

Handles Button1.Click

Label2.Visible = True

Label2.Text = "Welcome to Tutorials Point: " + TextBox1.Text

Label3.Text = "You visited us at: " + DateTime.Now.ToString()

End Sub

Another example shows how the SelectedIndexChanged event is used to change selection of an item in a data list of a web application. The SelectedItemTemplate specifies the structure and features, using the control library, for an item.

Protected Sub DataList1\_SelectedIndexChanged(ByVal sender As \_

System.Object, ByVal e As System.EventArgs) \_

Handles DataList1.SelectedIndexChanged

DataList1.DataBind()

End Sub

A class library has a set of specified codes for developers, so they don’t have to create their own classes or form items. An example of a predefined class in VB.NET is the System.Object class, which defines all “classes, structures, enumerations, and delegates.” Another example is the System.Drawing.FontFamily class which defines different font types. Next, the System.IO.Pipes namespace has a set of types that allow communication between pipes, that send inputs and outputs to one another. Also, the System.IO.Compression namespace has classes that compress or decompress data streams. Finally, the System.Windows.Forms.NativeWindow class gives a “low-level encapsulation” or a covering of a “window handle” and procedure.

A control library defines custom-made items for developers, such as custom-made buttons or textboxes. One type of user-specified control in the base control class is the composite control, which is an “encapsulated” container of Windows Forms controls. These controls have default keyboard commands built in and the user can choose between their properties. Extended controls are another example which inherit the properties of the Windows forms controls, and add to those with “custom properties, methods, or other features.” Another example is Custom Controls which can inherit all the basic properties from the base control class and allow the user to further define its function. To exemplify, a “clock control” can look like an “analog clock” when the developer uses “custom painting” to make the clock time change as a result of “Tick events from an internal Timer component.” Further, ActiveX Controls adapt themselves to information downloaded from another source, and the “Windowless controls” are used for a purpose other than Windows Forms applications.

Smart devices are network-connected portable devices made using code. Examples include laptops, Kindles to read books, cell phones, small digital clocks to carry in a pocket, and music-oriented devices such as iPods. These applications use graphical user interface instead of command prompts to interact with the user.

In conclusion, there are many applications, such as console, web, window, smart device, and class and control library applications which help the user communicate with the computer or finish his task in different ways. While a console application uses a command line, the web, window and smart device applications use graphical user interfaces to communicate with the user in interactive pictures. Class library applications defined a set of prewritten codes, like control library applications, but the latter also allows the user to customize the codes.

Sources:

<http://www.tutorialspoint.com/vb.net/vb.net_web_programming.htm>

<http://msdn.microsoft.com/en-us/magazine/cc164014.aspx#S3>

<http://hscripts.com/tutorials/vbnet/console-programming.html>

<http://msdn.microsoft.com/en-us/library/75670ez0(v=vs.90).aspx>

<http://msdn.microsoft.com/en-us/library/system.marshalbyrefobject(v=vs.110).aspx#inheritanceContinued>

<http://msdn.microsoft.com/en-us/library/system.windows.forms.progressbar(v=vs.110).aspx>

<http://msdn.microsoft.com/en-us/library/ms171725(v=vs.90).aspx>

<http://en.wikipedia.org/wiki/Smart_device>