Delphi Lesson 1: Introduction to the IDE

Parts of the IDE

Delphi is a visual IDE for Pascal (actually Pascal with a few additions), it is comparable to other visual IDEs like Visual Basic. The IDE has 3 parts which are designed to make it very easy to make Windows applications: the VCL, the form designer and the object inspector.

The VCL

The way Delphi has decided to make Windows programming easy is by doing it for you. The VCL stands for Visual Component Library and it is a collection of prewritten Windows code. You can see these components along the right hand side of main window. It appears as a toolbar and you just select the component you want to use and Delphi will set everything up for you. Most of the useful components can be found under these three tabs: Basic, Advanced and System.

The Form Designer

The basic element of any visual program is a window and a form is a sort of template for this window. This is what the form designer helps you create. Once you select a component from the VCL (e.g. a button) you will need to place it somewhere. By clicking on the form you will see your button appear. The appearance of your form (position on screen, height, width, etc.), if you have not made any changes to the form's properties (more on this later), will be the same in the form designer as when you run your program.

When you create a new application in Delphi you are immediately given your first form, its creation and destruction will be handled by Delphi. By default the main form controls your program, the form appears when your program begins and your program terminates when the form is closed.

The Object Inspector

When you begin to think to yourself "what this application needs to be just right is a touch of mauve in the background", you are going to need something to help you make that change. This is what the Object Inspector does. Each component in the VCL, and also forms, have a set of properties (properties are basically easy to modify variables). When you click on one of the components sitting on your form you will see its properties displayed in the object inspector. You will find the object inspector hanging around on the left side of the screen, (top or bottom changes depending on which version of Delphi you are using), the easiest way to learn what to do is just to play with the stuff and make use of the Delphi help file (in my opinion the Delphi help is extremely useful and the information is quite clear).

But the object inspector's purpose in life goes beyond simply bringing purple to your components. You will see another tab labeled events, this is a list of events which your component can respond to. By selecting an event and double clicking in the text box beside it you will automatically create the default event (e.g. by double clicking on the OnClick event for Button1, Delphi will generate a procedure called Button1OnClick), an event is type of procedure we will discuss how it works later. For the moment just use the default events and fill in the code.

Coding

Until now you have probably been working with programs where you wrote the whole program. When you are working with Delphi you will find that a lot of code is generated by Delphi and you will just have to fill in certain pieces. Also, you may see generated code which you don't understand right now, just ignore it for now. The approach we are taking is to introduce visual programming first and then fill in your understanding of how it works.

Most of the coding will not be anything new, all the stuff you learned with Pascal is still applicable here. One thing which you will need immediately is the ability to access properties in your program. You can access a property belonging to a particular component this way ¡component name¿.¡property name¿ and read and set it like any normal variable.

Accessing Properties Sample Code:

```
Procedure Form1.Button1Click( Sender : TObject )
Begin
  If Button1.Caption = 'I''m growing' Then
  Begin
    Button1.Caption = 'I''m shrinking';
    Button1.Width   = Button1.Width-10;
  End
  Else
  Begin
    Button1.Caption = 'I''m growing';
    Button1.Width   = Button1.Width+10;
  End;
End;
```