



I don't know if it is my imagination, but these issues are getting bigger each month! I must say I am getting very good support for UNDU from many of the readers and it does make my work putting it together much easier. Again, my thanks for everyone's great contributions. This issue is big because there was so much good stuff to include!

Our randomly selected winner of the UNDU prize this month is **Paul Harding** for his article on [Multi-Color Text in String Grids](#), and his prize is a copy of **Kick-Ass Delphi** by the Coriolis Group. In addition, OOPSoft, Inc has offered a special set of prizes. For this issue and next issue, they will be giving out 5 copies of their ObjectExpress package ([reviewed in issue #18](#)) to randomly chosen contributors. The five winners this month are [Jim Clokey](#), [Eric Fortier](#), [Philip Hibbs](#), [Gene Fowler](#), and [Magnus Baeck](#). Remember, next month there will be 5 more copies give out in addition to the regular UNDU prize! We will also be looking at OOPSoft's new SQLExpress package next issue.

Also, for those of you who are interested, there is now a 16-bit version of the [IniOut Property Manager](#) mentioned in issue #18. If you are viewing this issue as a web page, you can obtain the 16-bit and 32-bit shareware versions by clicking here.

The next issue will be only 1 month away (rather than 2 for this issue). Look forward to seeing reviews on Danny Thorpe's excellent **Delphi Component Design** book, Micro-Edge's **Visual SlickEdit for Delphi**, and the **AddDict** spell checker/thesaurus for Delphi, along with tons of great tips, techniques, and components!

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Where To Find UNDU

When each issue of UNDU is complete, I put them in the following locations:

1. UNDU's official web site at <http://www.informant.com/undu/index.htm>. This site houses all the issues in both HTML and Windows HLP format.
2. *Borlands* Delphi forum on CompuServe (**GO DELPHI**) in the "Delphi IDE" file section. This forum will only hold the issues in Windows HLP format.



Tips & Tricks

In [Issue #19](#) of UNDU, Paul Harding presented an article on how to determine if another application was running. Magnus Baeck shows an even simpler approach in ["Is Someone Else Running" - Revisited!](#) Some of you may be familiar with the InputQuery function in Delphi's DIALOG.PAS unit. Wouldn't it be nice to have a InputQuery that provided a history list or prior selections? Gene Fowler shows us how with his [InputQueryEx](#) function.

Paul Harding is also back with a new tip on displaying [multi-colored text in a string grid](#). Interestingly, this technique can be expanded into a wide number of other capabilities and even answers one of the [Questions From Readers](#) last month!

Do you need to publish Delphi/Pascal source code on a web site? It can be quite a pain having to do all that formatting by hand. But a new freeware package allows you to make it quick and painless. Check out the announcement from Pieter Polak on [Converting Pascal Source to HTML](#).

Duncan Campbell also brings us a quick and easy database tip this month. He shows a way of improving the performance of [processing large database tables](#).

In last issue, there was a question from readers about how to make your application look and behave correctly at differing resolutions. Check out [Borland's Tech Sheet #2861](#) that discusses the issue very clearly.

Last issue, I discussed how to use the SHFileOperation command in the Win95 API to copy/move/delete/rename files and to add system-level undo support to these actions. Well, I left out [one important thing!](#)

Another interesting technique is presented by Eric Fortier discussing the impact of stored properties on EXE size. You can read about it in his tip on [How to Make Your EXE's Lighter!](#)

But there is a lot more! Check out the other tips in this issue: [Form Aspect Ratio](#), [Previous Instances Revisited](#) and an alternate way of [Printing Raw data to the Printer](#).

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The Component Cookbook

This month, we have a couple of great new tips for you! First up is Robby Walker's ["Tip Of The Day" Component](#). With it you can add a professional looking daily tip dialog just like Windows 95 gives you. Emmanuel Fayet also presents a [TFieldPanel](#) component that simplifies gathering multi-field information from users. Check it out!

Also, an error crept into the TPageControl Flambe' article last month by Grahame Marsh. Fortunately, he caught it before everyone got too burnt, so he presents [a quick revision](#) this month.

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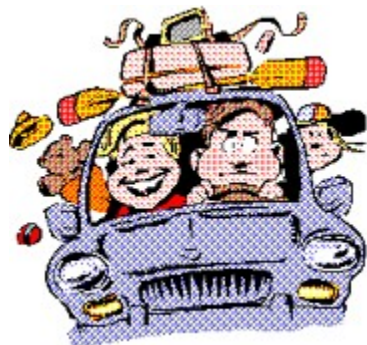
UNDU Subscriber List

The subscriber list is a method by which I can notify the readers when a new issue is out. I will maintain a list of readers email addresses and when a new issue is released, I will fire off a batch mailing to notify everyone that it is available.

This is what you need to do to get on the subscriber list... Simply send me an email to my CompuServe address (RobertV@compuserve.com) and put the words **SUBSCRIBE UNDU** anywhere in the subject line or in the main body of the message. If you no longer wish to be notified of future issues (i.e. you are on the list and want off...) just send an email with the words **UNSUBSCRIBE UNDU**.

Thats all there is to it!

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Learning To Drive

by **Grahame Marsh** - grahame.s.marsh@corp.courtaulds.co.uk

A common feature of many programs is the display of information relating to disc storage, either locally or over a network. These notes relate to some initial probing into the Win95 API: I give a series of utility procedures and functions which encapsulate the API calls into (I think) easier to use forms. I round off this article with an application illustrating their use.

How Many, Which?

The first question to answer is what drives are available? The API `GetLogicalDrives` function returns an integer representing the set of drive letters, bit 0 in the set represents drive A and so on. This set can be scanned and a TString filled with the available drive root directories:

```
procedure GetLogicalDriveList (List : TStrings);
var
  Num : integer;
  Bits : set of 0..25;
begin
  List.Clear;
  integer (Bits) := Windows.GetLogicalDrives;
  for Num := 0 to 25 do
    if Num in Bits then
      List.Add (Char (Num + Ord('A')) + ':\')
  end;
```

Using this it becomes very easy to fill, say, a combo box with a list of drives:

```
GetLogicalDriveList (ComboBox1.Items);
```

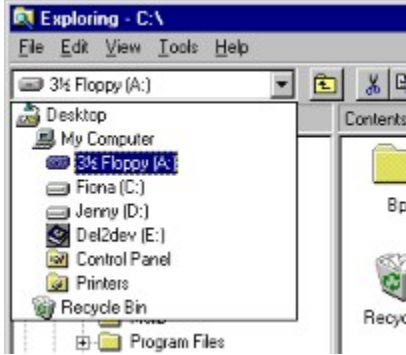
What?

The second question is "What are the drives?". The API `GetDriveType` returns a value which can be cast to a simple list of drive types covering floppy, fixed, removable, remote and CD-ROM.

```
type
  TDriveType = (dtUnknown, dtNoDrive, dtFloppy, dtFixed, dtNetwork, dtCDROM,
               dtRAM, dtFloppy3, dtFloppy5);

function GetDriveType (Drive : Char) : TDriveType;
begin
  Result := TDriveType (Windows.GetDriveType (PChar (Drive + ':\')))
end;
```

However, the last two, `dtFloppy3` and `dtFloppy5` are not returned by the API call, it only returns `dtFloppy`. To find out which kind of floppy takes a bit more work. I started knowing that my drive A is 3½ " floppy. I bought it, I plugged it in, I told the BIOS set up about it, even Win 95 knows the drive size:



So how can I find out? The API call `GetDiskFreeSpace` (more on this call later) can obviously be used to deduce a drive size, but it requires a floppy to be present in the drive, and I wanted a routine which doesn't actually spin the drive. After rummaging through the Win32 programmers reference help file, I came up with the following:

```

function FloppyDriveSize (Drive : char) : TDriveType;
type
  PDIOC_REG = ^TDIOC_Registers;
  TDIOC_Registers = record
    Reg_EBX, Reg_EDX, Reg_ECX, Reg_EAX,
    Reg_EDI, Reg_ESI, Reg_Flags : DWORD
  end;
const
  VWIN32_DIOC_DOS_INT13 = 4;
var
  H : THandle;
  R : TDIOC_Registers;
  C : DWORD;
begin
  Result := dtFloppy;
  H := CreateFile ('\\.\VWIN32', 0, 0, nil, 0, 0, 0);
  if H <> INVALID_HANDLE_VALUE then
    try
      R.Reg_EAX := $800;
      R.Reg_EDX := ord (uppercase(Drive)) - Ord('A');
      if DeviceIOControl (H, VWIN32_DIOC_DOS_INT13, @R,
        SizeOf (R), @R, SizeOf (R), C, nil) and
        (R.Reg_Flags and 1 = 0) then
        if R.Reg_EBX and $FF < 3 then
          Result := dtFloppy5
        else
          Result := dtFloppy3
        finally
          CloseHandle (H)
        end
    end;
end;

```

Looks horrible doesn't it? I arrived at this code knowing that the BIOS had the value I wanted. Back in the good old days of DOS I would not have hesitated: INT 13 service 8 returns, inter alia, a value representing floppy drive size. It turns out that interrupt 13 services are available through the VWIN32 virtual device driver (VxD). To make the "interrupt" call, you first obtain a handle to the driver, the rather strange filename, "\\.\VWIN32" tells `CreateFile` that this is a device driver. The actual call is made using the API `DeviceIOControl` call. This takes the VxD handle, a set of registers for input and returns a set of registers as output. In this case I use the same variable for input and output. The input conditions required are a drive number (A = 0) in DL and the service number in AH. The call is now made to `DeviceIOControl`. The registers now are returned with BL representing a drive size (1 = 360K 5¼", 2 = 1.2M 5¼", 3 = 720K 3½", 4 = 1.44M 3½", 5 = 2.88M 3½", and so on, well, this is as far as my BIOS goes) and the carry flag (least significant bit of the flags) cleared to indicate success. It is now simple to

select either dtFloppy5 or dtFloppy3 drive type. Of course, you could split the drive type into the two 5¼" types and the many 3½" types, but my aim was to display to the same level as Win 95. In practice you can use the utility functions something like:

```

var
  DriveType : TDriveType
....
  DriveType := GetDriveType(Drive);
  if DriveType = dtFloppy then
    DriveType := FloppyDriveSize (Drive);

```

What? A second way!

Another way of finding out about the drive types in a system is to use the Win 95 SHGetFileInfo shell function call. This function returns information about files, directories, folders and, usefully in this case, disc drives. You tell the function what drive interests you, what information you want (as a series of SHGFI_ constants) and it fills a TSHFileInfo record with the information requested. I have encapsulated the call into this procedure:

```

type
  TDriveShellInfo = record
    Icon : hIcon;
    Image : integer;
    DisplayName,
    TypeName : string
  end;

procedure GetDriveShellInfo (Drive : Char; var Info : TDriveShellInfo);
var
  SHFileInfo : TSHFileInfo;
begin
  ShGetFileInfo (PChar (Drive + ':\'), 0, SHFileInfo, SizeOf (TSHFileInfo),
    SHGFI_TYPENAME or SHGFI_DISPLAYNAME or SHGFI_SYSICONINDEX or SHGFI_ICON);
  with Info do
  begin
    Icon := SHFileInfo.hIcon;
    Image := SHFileInfo.iIcon;
    DisplayName := SHFileInfo.szDisplayName;
    TypeName := SHFileInfo.szTypeName
  end
end;

```

The icon is a handle to the drive icon, image is the icon number in the system's image list (more on this later), display name returns the exact text that appears in the explorer combo box Drivelabel (C:) for a hard disc and 3½ Floppy (A:) for a floppy.

Volume Control

If your application needs some specific information about a particular disc, it can call the GetVolumeInformation API. This I have encapsulated as:

```

type
  TVolumeInformation = record
    VolumeName : string;
    VolumeSerialNumber,
    MaximumComponentLength,
    FileSystemFlags : integer;
    FileSystemName : string;
  end;

function GetVolumeInformation (D : char; var V : TVolumeInformation) : boolean;
var
  O : integer;

```

```

begin
  0 := SetErrorMode (SEM_FAILCRITICALERRORS);
  try
    with V do
      begin
        SetLength (VolumeName, MAX_PATH);
        SetLength (FileSystemName, MAX_PATH);
        VolumeSerialNumber := 0;
        MaximumComponentLength := 0;
        FileSystemFlags := 0;
        Result := Windows.GetVolumeInformation (PChar (D+':\'), PChar
(VolumeName), MAX_PATH,
          @VolumeSerialNumber, MaximumComponentLength, FileSystemFlags,
          PChar (FileSystemName), MAX_PATH);
        RealizeLength (VolumeName);
        RealizeLength (FileSystemName)
      end
    finally
      SetErrorMode (0)
    end
  end;
end;

```

VolumeName : The name of the specified volume.

VolumeSerialNumber : The volume serial number.

MaximumComponentLength : This value is the maximum length, in characters, of a filename component supported by the specified file system. A filename component is that portion of a filename between backslashes. The MaximumComponentLength is used to indicate that long names are supported by the specified file system. For example, for a FAT file system supporting long names, the function stores the value 255, rather than the previous 8.3 indicator. Long names can also be supported on systems that use the NTFS and HPFS file systems.

FileSystemFlags : These are flags associated with the specified file system. This parameter can be any combination of the following flags, with one exception: FS_FILE_COMPRESSION and FS_VOL_IS_COMPRESSED are mutually exclusive.

<u>Value</u>	<u>Meaning</u>
FS_CASE_IS_PRESERVED	If this flag is set, the file system preserves the case of filenames when it places a name on disk.
FS_CASE_SENSITIVE	If this flag is set, the file system supports case-sensitive filenames.
FS_UNICODE_STORED_ON_DISK	If this flag is set, the file system supports Unicode in filenames as they appear on disk.
FS_PERSISTENT_ACLS	If this flag is set, the file system preserves and enforces access control lists. For example, NTFS preserves and enforces ACLs, HPFS and FAT do not.
FS_FILE_COMPRESSION	The file system supports file-based compression.
FS_VOL_IS_COMPRESSED	The specified volume is a compressed volume; for example, a DoubleSpace volume.

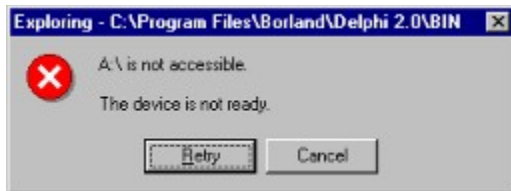
FileSystemName : The name of the file system (such as FAT, HPFS, CDFS or NTFS).

Of this data, the volume name and volume serial number is of most use. The name can be used to

identify a disc of a certain type (during say an installation process). The serial number is useful since it can be used to ensure that the punter has not, say, changed the floppy disc when writing multiple files to it.

Retry Cancel

Before continuing with drive utilities it is worth examining the behavior of Win 95 when there is a disc fault, say, no disc in the drive, then a retry-cancel dialog appears:



It is fairly simple to emulate this behavior by ensuring that each function that can cause an error suppresses critical errors and returns a boolean value to indicate success. You can then wrap the function in a while..do only allowing exit on success or cancel. The retry function in the utilities looks like this:

```
function DiscErrorMessage (Drive : Char) : string;
begin
  Result := Format ('%s:\ is not accessible. '#13#10#13#10+'%s',
                  [uppercase(Drive), SysErrorMessage (GetLastError)])
end;

function Retry (Drive : Char) : boolean;
begin
  Result := Application.MessageBox (
    PChar (DiscErrorMessage (Drive)),
    PChar (Application.Title),
    mb_RetryCancel or mb_IconError) = idRetry
end;
```

I have left this simple on purpose, if a more complex title is required it would be easy enough to write a more specialized retry function. One further level of digression is to look at the SysErrorMessage function. This is in the SysUtils unit. It takes an error code and returns a text message translating the code (eg error code 3 translates to "The system cannot find the path specified.". The version in SysUtils strips off the trailing full stop and CRLF. Additionally, it has no provision for additional parameters, error message 34 returns "The wrong diskette is in the drive. Insert %2 (Volume Serial Number: %3) into drive %1.". It is simple enough to provide the parameters by re-writing the SysErrorMessage function as follows (and, for my preference not strip off the training .CRLF) :

```
function SysErrorMessageParams (ErrorCode: Integer; const Params: array of string) :
string;
const
  L = 255;
begin
  SetLength (Result, L);
  FormatMessage (FORMAT_MESSAGE_FROM_SYSTEM or FORMAT_MESSAGE_ARGUMENT_ARRAY,
    nil, ErrorCode, 0, PChar(Result), L, @Params);
  RealizeLength (Result)
end;

function SysErrorMessage (ErrorCode: Integer): string;
begin
  Result := SysErrorMessageParams (ErrorCode, [''])
end;
```

This does leave you with some work to provide the parameters needed for certain error messages, but at least the error messages themselves are available, and there are, in fact, only a few that take parameters.

So, getting back to Retry-Cancel, you can wrap a call to GetVolumeInformation to show a Retry-Cancel dialog, with an error message using:

```
while not GetVolumeInformation (Drive, VolumeInfo) do
  if not Retry (Drive) then Abort;
```

Total and Free Space

Further information on a particular disc in a drive can be obtained using the GetDiskFreeSpace API call. This returns data needed to calculate the total and free space on a drive:

```
type
  TDiscFreeSpace = record
    SectorsPerCluster,
    BytesPerSector,
    NumberOfFreeClusters,
    TotalNumberOfClusters,
    TotalSpace,
    FreeSpace : integer
  end;

function GetDiscFreeSpace (Drive : char; var D : TDiscFreeSpace) : boolean;
var
  O : integer;
begin
  FillChar (D, Sizeof (TDiscFreeSpace), 0);
  O := SetErrorMode (SEM_FAILCRITICALERRORS);
  try
    with D do
      begin
        Result := Windows.GetDiskFreeSpace (PChar (Drive + ':\'),
        SectorsPerCluster,
          BytesPerSector, NumberOfFreeClusters, TotalNumberOfClusters);
        FreeSpace := BytesPerSector*SectorsPerCluster*NumberOfFreeClusters;
        TotalSpace := BytesPerSector*SectorsPerCluster*TotalNumberOfClusters
      end
    finally
      SetErrorMode (0)
    end
  end;
end;
```

The returned record titles I hope are self explanatory - you won't learn much more from the Win 32 API help. Obviously the two calculated values are going to be the most useful and their difference gives the used space.

A picture is worth a thousand words

Above I used the SHGetFileInfo call to obtain information about a drive. I now will expand on this most useful function, and, in particular, look at the system image list. There are in fact two system image lists, large images and small images. You can set-up a TImageList component to contain say the large images by

```
var
  Images : TImageList;
  SHFileInfo : TSHFileInfo;
  ....
  Images := TImageList.Create (nil);
  Images.ShareImages := true;
  Images := ShGetFileInfo (*.*, 0, SHFileInfo, SizeOf (TSHFileInfo),
    SHGFI_LARGEICON or SHGFI_SYSICONINDEX);
```

In this case the data put into the SHFileInfo structure is of no interest, the function itself returns a handle to a TImageList. The discutil unit obtains image lists of both the large and small icons and holds them

globally available. You can view the image list using this simple form.

Code listings:

[Images1.pas - Form Code File](#)

[Images1.dfm - Form File](#)

[DI1.pas- Example form code file](#)

[DI1.dfm- Example form file](#)

[DI.dpr- Example project file](#)

Also needs [DiscUtils.pas](#)

On my computer this produces a list, the top part of which looks like this:




There is two thing that you can say - boy! what a good collection of icons, but also, the system icons (folders etc.) are mixed up with application icons which are machine specific. So to use these icons you must either extract them and save them yourself, or obtain the image number in the list to reference an image from the system because I don't think you can rely on the absolute location of any image being the same on any other machine. The obtaining the reference number is what I have done in the utilities for the drive images given in the top row.

Application

To illustrate all of these drive utilities I have re-written an example program given by Richter (Advanced Windows, Jeffrey Richter, Microsoft Press, ISBN 1-55615-677-4) in Delphi and added the icon information. When run it displays the available information from the utility functions. These screen shots show a floppy, hard disc and CD-ROM drive:

Disc Volume Information

Logical drives: **A:** Image: 

Drive type: 3½ Floppy Small

Shell name: 3½ Floppy (A:)

Volume information


Volume label: DMAG011
Serial number: 3F58-17D4
Component length: 255
Flags: FS_CASE_IS_PRESERVED
FS_UNICODE_STORED_ON_DISK


File system name: FAT

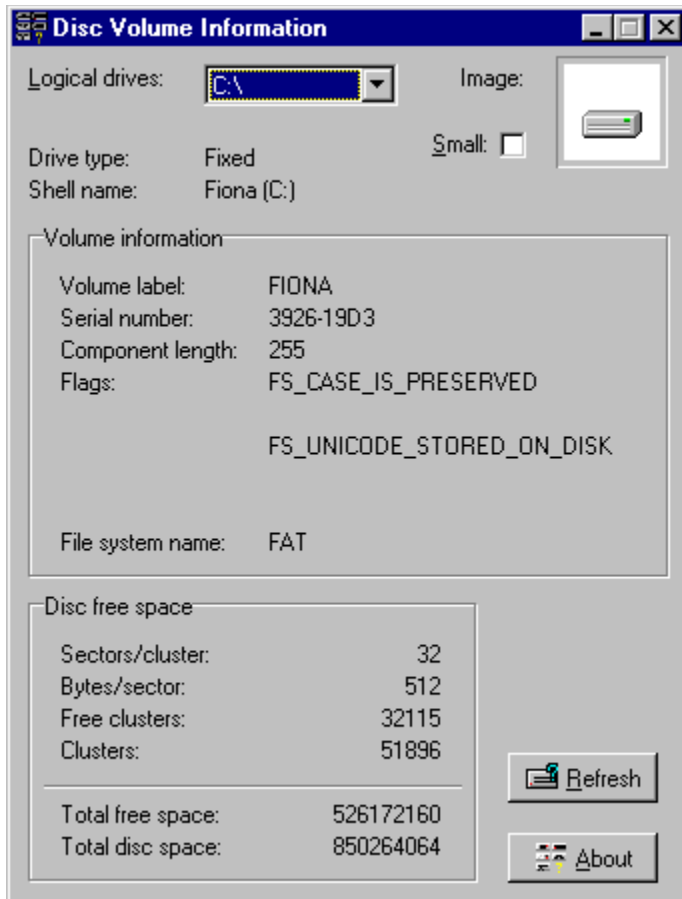
Disc free space

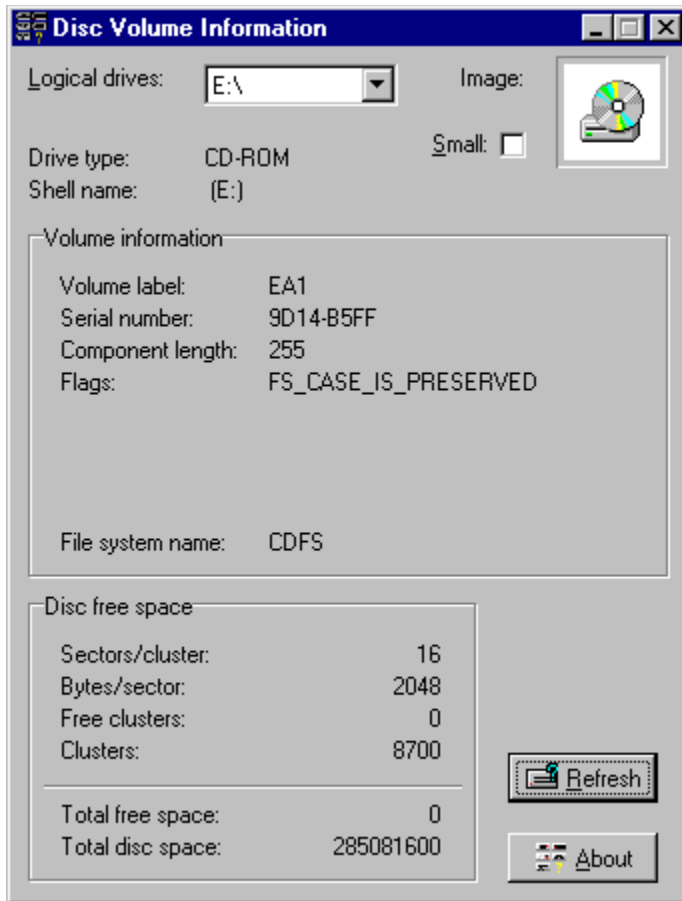
Sectors/cluster:	1
Bytes/sector:	512
Free clusters:	277
Clusters:	2847

Total free space: 141824
Total disc space: 1457664

 Refresh

 About





One advantage of dynamically obtaining an icon of a drive, is that a CD_ROM drive can have an icon on it which will be substituted for the system icon:



Afterthoughts

I would predict that every programmer of Delphi has a unit where useful bits and pieces not otherwise in Delphi are collected. This will be called something like Utils or Useful. My intention is that these disc utilities are not a static set to put somewhere and used as a block together, but they should be merged into your general set of useful stuff you have in your own development area.

Most of these utilities are Win 95 specific, I have new computer arriving soon which, I hope will have NT 4 on it, so I will test and modify these utilities to suit. But I have no interest in backward compatibility to NT 3.5.

Finally, I am working towards a replacement unit for FileCtrl which contains Win 95 look-a-like components. Obtaining the drive information and drive icons is an important step towards this goal. But this will be a future article for UNDU...

[Return to Front Page](#)

Source for Images1.Pas

```
unit images1;

interface

uses
  Windows, Messages, SysUtils, Classes, Graphics, Controls, Forms, Dialogs,
  ExtCtrls;

type
  TForm1 = class(TForm)
    ScrollBox1: TScrollBox;
    PaintBox1: TPaintBox;
    procedure PaintBox1Click(Sender: TObject);
  private
  public
  end;

var
  Form1: TForm1;

implementation

{$R *.DFM}

uses
  DiscUtil;

procedure TForm1.PaintBox1Click(Sender: TObject);
const
  Margin = 5;
var
  XPos,
  YPos,
  Loop : integer;
begin
  PaintBox1.Width := ClientWidth - Margin * 4;
  PaintBox1.Height := LargeImages.Count * (LargeImages.Height + Margin) div
    pred (PaintBox1.Width div (LargeImages.Width+Margin)) +
  Margin * 2;
  XPos := Margin;
  YPos := Margin;

  for loop := 0 to LargeImages.Count - 1 do
  begin
    LargeImages.Draw (PaintBox1.Canvas, XPos, YPos, Loop);

    XPos := XPos + LargeImages.Width + Margin;
    if XPos + LargeImages.Width + Margin > PaintBox1.Width then
    begin
      XPos := Margin;
      YPos := YPos + LargeImages.Height + Margin
    end;
  end;
end;

end;

{$O-}

(*
//'c:\program files\borland\delphi 2.0\bin\delphi32.exe'
```

```

procedure TForm1.SpeedButton1Click(Sender: TObject);
var
  S : TSHFileInfo;
  E,
  Z : integer;
  D1, D2,
  D, T : string;

  I : TIcon;
  L : TImageList;
  H : HResult;
  U,
  V : IShellFolder;
  K : IEnumIDList;
  W,
  Q : PItemIDList;
  R : ULONG;
type
  PA = array [0..24] of char;
var
  A : ^PA;
type
  PSSS = ^TSSS;
  TSSS = packed record
    Size : word;
    Head1,
    Head2 : byte;
    Data : TGUID
  end;
var
  X : PSSS;
begin
  H := SHGetSpecialFolderLocation (0, CSIDL_DRIVES, W);
  X := pointer (W);
  A := pointer (W);
  X^.Head1 := 31;
  Z := ShGetFileInfo (pointer(W), 0, S, SizeOf (S),
    SHGFI_DISPLAYNAME or SHGFI_SYSICONINDEX or SHGFI_PIDL);

  H := SHGetDesktopFolder (U);
  H := U.BindToObject (W, nil, IID_ISHELLFOLDER, pointer(V));

  H := V.EnumObjects (Handle, $FF, K);
  repeat
    H := K.Next (1, Q, R);
    if H = 0 then
      begin
        X := pointer (Q);
        A := pointer (Q);
        if X^.Head1 = $2E then
          begin
            X^.Head1 := X^.Head1 -15;
            Z := ShGetFileInfo (pointer(Q), 0, S, SizeOf (S),
              SHGFI_TYPENAME or SHGFI_ICON or SHGFI_DISPLAYNAME or SHGFI_SYSICONINDEX or
              SHGFI_PIDL or SHGFI_ATTRIBUTES);
          end else begin
            D1 := Char (X^.Head2) + '\';
            Z := ShGetFileInfo (PChar(D1), 0, S, SizeOf (S),
              SHGFI_TYPENAME or SHGFI_ICON or SHGFI_DISPLAYNAME or SHGFI_SYSICONINDEX or
              SHGFI_ATTRIBUTES);
          end;
        end;
      end;
  end;

```

```

        D1 := S.szDisplayName;
        D2 := S.szTypeName;

I := TIcon.Create;
I.Handle := S.hIcon;
Image1.Picture.Icon := I;
I.Free;
Label1.Caption := S.szDisplayName;
Label2.Caption := S.szTypeName;
    Application.ProcessMessages;
    Sleep (1000)
end
until H <> 0;

H := SHGetSpecialFolderLocation (0, CSIDL_BITBUCKET, W);
Z := ShGetFileInfo (pointer(W), 0, S, SizeOf (S),
    SHGFI_TYPENAME or SHGFI_ICON or SHGFI_DISPLAYNAME or SHGFI_SYSICONINDEX or
    SHGFI_PIDL);
E := GetLastError;
Label1.Caption := S.szDisplayName;
Label2.Caption := S.szTypeName;

I := TIcon.Create;
I.Handle := S.hIcon;
Image1.Picture.Icon := I;
I.Free;

    Beep
end; *)

(*
type
    TSHFileInfoA = record
        hIcon: HICON;                { out: icon }
        iIcon: Integer;              { out: icon index }
        dwAttributes: DWORD;         { out: SFGAO_ flags }
        szDisplayName: array [0..MAX_PATH-1] of AnsiChar; { out: display name (or path) }
        szTypeName: array [0..79] of AnsiChar;           { out: type name }
    end; *)
end.

```


Source for Images1.dfm

```
object Form1: TForm1
  Left = 388
  Top = 252
  Width = 349
  Height = 293
  Caption = 'Form1'
  Font.Color = clWindowText
  Font.Height = -11
  Font.Name = 'MS Sans Serif'
  Font.Style = []
  PixelsPerInch = 96
  TextHeight = 13
  object ScrollBox1: TScrollBox
    Left = 0
    Top = 0
    Width = 341
    Height = 266
    Align = alClient
    BorderStyle = bsNone
    TabOrder = 0
    object PaintBox1: TPaintBox
      Left = 0
      Top = 0
      Width = 129
      Height = 105
      OnPaint = PaintBox1Click
    end
  end
end
end
```

Source for DiscUtils.Pas

```
unit DiscUtil;

interface

uses Windows, SysUtils, Controls, ShellAPI, Classes, Forms;

//--- Error handling -----
function DiscErrorMessage (Drive : Char) : string;
function FormatVolumeSerialNumber (N : integer) : string;
function Retry (Drive : Char) : boolean;
function SysErrorMessage (ErrorCode: Integer): string;
function SysErrorMessageParams (ErrorCode: Integer;
    const Params : array of string): string;

//--- Disc volume information -----
type
    TVolumeInformation = record
        VolumeName : string;
        VolumeSerialNumber,
        MaximumComponentLength,
        FileSystemFlags : integer;
        FileSystemName : string;
    end;

function GetNetworkVolumeName (D : char): string;
function GetVolumeInformation (D : char; var V : TVolumeInformation) : boolean;
function GetVolumeName (D : char) : string;

//--- System image lists -----
var
    SmallImages,
    LargeImages : TImageList;

//--- Types of disc drive -----
type
    TDriveType = (dtUnknown, dtNoDrive, dtFloppy, dtFixed, dtNetwork, dtCDROM,
        dtRAM, dtFloppy3, dtFloppy5);

const
    DriveNames : array [TDriveType] of string[9] =
        ('Unknown', 'None', 'Floppy', 'Fixed', 'Network', 'CD-ROM',
        'RAM', '3½ Floppy', '5¼ Floppy');

function FloppyDriveSize (Drive : char) : TDriveType;
function GetDriveType (Drive : Char) : TDriveType;

type
    TDriveShellInfo = record
        Icon : hIcon;
        Image : integer;
        DisplayName,
        TypeName : string
    end;

procedure GetDriveShellInfo (Drive : Char; var Info : TDriveShellInfo);
```

```

//--- Information on available drives -----
procedure GetLogicalDriveList (List : TStrings);

type
  TDiscFreeSpace = record
    SectorsPerCluster,
    BytesPerSector,
    NumberOfFreeClusters,
    TotalNumberOfClusters,
    TotalSpace,
    FreeSpace : integer
  end;

function GetDiscFreeSpace (Drive : char; var D : TDiscFreeSpace) : boolean;

//-----

implementation

//--- Internal

procedure RealizeLength(var S: string);
begin
  SetLength (S, StrLen (PChar(S)))
end;

//--- Error handling

function SysErrorMessageParams (ErrorCode: Integer; const Params : array of string):
string;
const
  L = 255;
begin
  SetLength (Result, L);
  FormatMessage (FORMAT_MESSAGE_FROM_SYSTEM or FORMAT_MESSAGE_ARGUMENT_ARRAY,
    nil, ErrorCode, 0, PChar(Result), L, @Params);
  RealizeLength (Result)
end;

function SysErrorMessage (ErrorCode: Integer): string;
begin
  Result := SysErrorMessageParams (ErrorCode, [''])
end;

function FormatVolumeSerialNumber (N : integer) : string;
begin
  Result := Format ('%X-%X', [longrec(N).hi, longrec(N).lo])
end;

function DiscErrorMessage (Drive : Char) : string;
begin
  Result := Format ('%s:\ is not accessible.'#13#10#13#10+'%s',
    [uppercase(Drive), SysErrorMessage (GetLastError)])
end;

function Retry (Drive : Char) : boolean;
begin
  Result := Application.MessageBox (
    PChar (DiscErrorMessage (Drive)),
    PChar (Application.Title),
    mb_RetryCancel or mb_IconError) = idRetry
end;

```

```

//--- Volume Information

function GetVolumeInformation (D : char; var V : TVolumeInformation) : boolean;
var
  O : integer;
begin
  O := SetErrorMode (SEM_FAILCRITICALERRORS);
  try
    with V do
      begin
        SetLength (VolumeName, MAX_PATH);
        SetLength (FileSystemName, MAX_PATH);
        VolumeSerialNumber := 0;
        MaximumComponentLength := 0;
        FileSystemFlags := 0;
        Result := Windows.GetVolumeInformation (PChar (D+':\'), PChar (VolumeName),
MAX_PATH,
          @VolumeSerialNumber, MaximumComponentLength, FileSystemFlags,
          PChar (FileSystemName), MAX_PATH);
        RealizeLength (VolumeName);
        RealizeLength (FileSystemName)
      end
    finally
      SetErrorMode (O)
    end
  end;

function GetVolumeName (D : char) : string;
var
  T : TVolumeInformation;
begin
  if GetVolumeInformation (D, T) then
    Result := T.VolumeName
  else
    Result := ''
  end;

function GetNetworkVolumeName (D : char): string;
var
  L : integer;
begin
  L := MAX_PATH;
  SetLength (Result, L);
  if WNetGetConnection (PChar(D+':'#0), PChar(Result), L) = NO_ERROR then
    RealizeLength (Result)
  else
    Result := GetVolumeName(D)
  end;

//--- floppy disc size determination

function FloppyDriveSize (Drive : char) : TDriveType;
type
  PDIOC_REG = ^TDIOC_Registers;
  TDIOC_Registers = record
    Reg_EBX, Reg_EDX, Reg_ECX, Reg_EAX, Reg_EDI, Reg_ESI, Reg_Flags : DWORD
  end;
const
  VWIN32_DIOC_DOS_INT13 = 4; // Performs Interrupt 13h commands.
var
  H : THandle;
  R : TDIOC_Registers;

```

```

C : DWORD;
begin
  Result := dtFloppy;
  H := CreateFile ('\\.\VWIN32', 0, 0, nil, 0, 0, 0);
  if H <> INVALID_HANDLE_VALUE then
    try
      R.Reg_EAX := $800; // service 8 in AH
      R.Reg_EDX := ord (Uppcase(Drive)) - Ord('A'); // drive number in DL
      if DeviceIOControl (H, VWIN32_DIOC_DOS_INT13, @R, SizeOf (R), @R, SizeOf (R), C,
nil)
        and (R.Reg_Flags and 1 = 0) then // clear CF indicates success
          if R.Reg_EBX and $FF < 3 then // drive type in BL
            Result := dtFloppy5 // 1 = 360K, 2 = 1.2MB
          else
            Result := dtFloppy3 // 3 = 720K 4 = 1.44MB 5 = 2.88MB
          finally
            CloseHandle (H)
          end
        end
      end;

//--- Available drive information

function GetDiscFreeSpace (Drive : char; var D : TDiscFreeSpace) : boolean;
var
  O : integer;
begin
  FillChar (D, Sizeof (TDiscFreeSpace), 0);
  O := SetErrorMode (SEM_FAILCRITICALERRORS);
  try
    with D do
      begin
        Result := Windows.GetDiskFreeSpace (PChar (Drive + ':\'), SectorsPerCluster,
BytesPerSector, NumberOfFreeClusters, TotalNumberOfClusters);
        FreeSpace := BytesPerSector*SectorsPerCluster*NumberOfFreeClusters;
        TotalSpace := BytesPerSector*SectorsPerCluster*TotalNumberOfClusters
      end
    finally
      SetErrorMode (O)
    end
  end;

procedure GetLogicalDriveList (List : TStrings);
var
  Num : integer;
  Bits : set of 0..25;
begin
  List.Clear;
  integer (Bits) := Windows.GetLogicalDrives;
  for Num := 0 to 25 do
    if Num in Bits then
      List.Add (Char (Num + Ord('A')) + ':\')
    end;
end;

function GetDriveType (Drive : Char) : TDriveType;
begin
  Result := TDriveType (Windows.GetDriveType(PChar(Drive + ':\')))
end;

procedure GetDriveShellInfo (Drive : Char; var Info : TDriveShellInfo);
var
  SHFileInfo : TSHFileInfo;
begin
  ShGetFileInfo (PChar (Drive + ':\'), 0, SHFileInfo, SizeOf (TSHFileInfo),

```

```

        SHGFI_TYPENAME or SHGFI_DISPLAYNAME or SHGFI_SYSICONINDEX or SHGFI_ICON);
with Info do
begin
    Icon := SHFileInfo.hIcon;
    Image := SHFileInfo.iIcon;
    DisplayName := SHFileInfo.szDisplayName;
    TypeName := SHFileInfo.szTypeName
end
end;

/-- unit start-up and close-down

function GetImageList (Option : integer) : TImageList;
var
    SHFileInfo : TSHFileInfo;
begin
    Result := TImageList.Create (nil);
    with Result do
    begin
        ShareImages := true;
        Handle := ShGetFileInfo ('*.*', 0, SHFileInfo, SizeOf (TSHFileInfo),
                                Option or SHGFI_SYSICONINDEX)
    end
end;

initialization
    LargeImages := GetImageList (SHGFI_LARGEICON);
    SmallImages := GetImageList (SHGFI_SMALLICON)
finalization
    LargeImages.Free;
    SmallImages.Free
end.

```

Source for DI1.Pas

```
unit di1;

interface

uses
  Windows, Messages, SysUtils, Classes, Graphics, Controls, Forms, Dialogs,
  StdCtrls, DiscUtil, Buttons, ExtCtrls;

type
  TDiscVolInfoForm = class(TForm)
    DrivesCB: TComboBox;
    Label1: TLabel;
    GroupBox1: TGroupBox;
    Label2: TLabel;
    DriveTypeLabel: TLabel;
    RefreshBtn: TBitBtn;
    Panel1: TPanel;
    DriveImageBitmap: TImage;
    Bevel1: TBevel;
    Label3: TLabel;
    Label4: TLabel;
    Label5: TLabel;
    Label6: TLabel;
    Label7: TLabel;
    VolumeLabelLabel: TLabel;
    SerialNumberLabel: TLabel;
    FlagsLabel1: TLabel;
    FlagsLabel2: TLabel;
    FlagsLabel3: TLabel;
    FileSystemLabel: TLabel;
    ComponentLengthLabel: TLabel;
    FlagsLabel4: TLabel;
    FlagsLabel5: TLabel;
    GroupBox2: TGroupBox;
    Label8: TLabel;
    Label9: TLabel;
    Label10: TLabel;
    Label11: TLabel;
    SectorsPerClusterLabel: TLabel;
    BytesPerSectorLabel: TLabel;
    FreeClustersLabel: TLabel;
    ClustersLabel: TLabel;
    AboutBtn: TBitBtn;
    SmallCheckBox: TCheckBox;
    Label12: TLabel;
    Bevel2: TBevel;
    Label13: TLabel;
    Label14: TLabel;
    FreeSpaceLabel: TLabel;
    DiscSpaceLabel: TLabel;
    Label15: TLabel;
    ShellNameLabel: TLabel;
    procedure FormCreate(Sender: TObject);
    procedure FillInInfo(Sender: TObject);
    procedure AboutBtnClick(Sender: TObject);
    procedure FillInImage(Sender: TObject);
  private
    DriveImage : integer;
  public
  end;
```

```

var
  DiscVolInfoForm: TDiscVolInfoForm;

implementation

{$R *.DFM}

procedure TDiscVolInfoForm.FormCreate(Sender: TObject);
begin
  GetLogicalDriveList (DrivesCB.Items);
  DrivesCB.ItemIndex := DrivesCB.Items.IndexOf ('C:\');
  FillInInfo (Sender)
end;

procedure TDiscVolInfoForm.FillInInfo (Sender: TObject);
var
  Drive : char;
  DriveType : TDriveType;
  Loop : integer;
  Info : TDriveShellInfo;
  VolumeInfo : TVolumeInformation;
  DiscFreeSpace : TDiscFreeSpace;
begin
  for loop := 0 to ComponentCount -1 do
    if Components [Loop] is TLabel then
      with Components [Loop] as TLabel do
        case Tag of
          1 : Caption := '';
          2 : Caption := '0'
        end;

        Drive := DrivesCB.Items [DrivesCB.ItemIndex][1];
        DriveType := GetDriveType(Drive);
        if DriveType = dtFloppy then
          begin
            DriveType := FloppyDriveSize (Drive);
            Screen.Cursor := crHourglass
          end;

        try
          DriveTypeLabel.Caption := DriveNames [DriveType];
          GetDriveShellInfo (Drive, Info);
          DriveImage := Info.Image;
          FillInImage (Sender);
          ShellNameLabel.Caption := Info.DisplayName;

          while not GetVolumeInformation (Drive, VolumeInfo) do
            if not Retry (Drive) then Abort;

          with VolumeInfo do
            begin
              if DriveType = dtNetwork then
                VolumeLabelLabel.Caption := GetNetworkVolumeName (Drive)
              else
                if VolumeName = '' then
                  VolumeLabelLabel.Caption := '[none]'
                else
                  VolumeLabelLabel.Caption := VolumeName;

              SerialNumberLabel.Caption := FormatVolumeSerialNumber (VolumeSerialNumber);

```



```

ComponentLengthLabel.Caption := IntToStr (MaximumComponentLength);

if FileSystemFlags and FS_CASE_IS_PRESERVED <> 0 then
  FlagsLabel1.Caption := 'FS_CASE_IS_PRESERVED';

if FileSystemFlags and FS_CASE_SENSITIVE <> 0 then
  FlagsLabel2.Caption := 'FS_CASE_SENSITIVE';

if FileSystemFlags and FS_UNICODE_STORED_ON_DISK <> 0 then
  FlagsLabel3.Caption := 'FS_UNICODE_STORED_ON_DISK';

if FileSystemFlags and FS_PERSISTENT_ACLS <> 0 then
  FlagsLabel4.Caption := 'FS_PERSISTENT_ACLS';

if FileSystemFlags and FS_VOL_IS_COMPRESSED <> 0 then
  FlagsLabel5.Caption := 'FS_VOL_IS_COMPRESSED'
else
  if FileSystemFlags and FS_FILE_COMPRESSION <> 0 then
    FlagsLabel5.Caption := 'FS_FILE_COMPRESSION';

  FileSystemLabel.Caption := FileSystemName
end;

while not GetDiscFreeSpace (Drive, DiscFreeSpace) do
  if not Retry (Drive) then Abort;

with DiscFreeSpace do
begin
  SectorsPerClusterLabel.Caption := IntToStr (SectorsPerCluster);
  BytesPerSectorLabel.Caption := IntToStr (BytesPerSector);
  FreeClustersLabel.Caption := IntToStr (NumberOfFreeClusters);
  ClustersLabel.Caption := IntToStr (TotalNumberOfClusters);
  FreeSpaceLabel.Caption := IntToStr (FreeSpace);
  DiscSpaceLabel.Caption := IntToStr (TotalSpace)
end

finally
  Screen.Cursor := crDefault
end
end;

procedure TDiscVolInfoForm.FillInImage (Sender: TObject);
var
  DriveBitmap : TBitmap;
begin
  DriveBitmap := TBitmap.Create;
  try
    if DriveImage > 0 then
      if SmallCheckBox.Checked then
        SmallImages.GetBitmap (DriveImage, DriveBitmap)
      else
        LargeImages.GetBitmap (DriveImage, DriveBitmap);
    DriveImageBitmap.Picture.Bitmap := DriveBitmap
  finally
    DriveBitmap.Free
  end
end;

procedure TDiscVolInfoForm.AboutBtnClick(Sender: TObject);
begin
  Application.MessageBox (
    #13+
    'Grahame Marsh for'#13+

```

```
'The Unofficial Newsletter of Delphi Users'#13+  
'January 1997'#13,  
PChar (Application.Title), mb_Ok or mb_IconInformation)  
end;  
  
end.
```

Source for DI1.dfm

```
object DiscVolInfoForm: TDiscVolInfoForm
  Left = 392
  Top = 233
  ActiveControl = DrivesCB
  BorderIcons = [biSystemMenu, biMinimize]
  BorderStyle = bsSingle
  Caption = 'Disc Volume Information'
  ClientHeight = 425
  ClientWidth = 337
  Font.Color = clWindowText
  Font.Height = -11
  Font.Name = 'MS Sans Serif'
  Font.Style = []
  OnCreate = FormCreate
  PixelsPerInch = 96
  TextHeight = 13
  object Label1: TLabel
    Left = 8
    Top = 8
    Width = 68
    Height = 13
    Caption = '&Logical drives:'
    FocusControl = DrivesCB
  end
  object Label2: TLabel
    Left = 8
    Top = 48
    Width = 51
    Height = 13
    Caption = 'Drive type:'
  end
  object DriveTypeLabel: TLabel
    Tag = 1
    Left = 96
    Top = 48
    Width = 7
    Height = 13
    Caption = 'X'
  end
  object Bevel1: TBevel
    Left = 272
    Top = 4
    Width = 56
    Height = 56
  end
  object Label12: TLabel
    Left = 224
    Top = 8
    Width = 32
    Height = 13
    Caption = 'Image:'
  end
  object Label15: TLabel
    Left = 8
    Top = 64
    Width = 55
    Height = 13
    Caption = 'Shell name:'
  end
  object ShellNameLabel: TLabel
```

```
Left = 96
Top = 64
Width = 9
Height = 13
Caption = 'X'
end
object DrivesCB: TComboBox
Left = 96
Top = 8
Width = 97
Height = 21
Style = csDropDownList
ItemHeight = 13
TabOrder = 0
OnChange = FillInInfo
end
object GroupBox1: TGroupBox
Left = 8
Top = 88
Width = 321
Height = 177
Caption = 'Volume information'
TabOrder = 5
object Label3: TLabel
Left = 16
Top = 24
Width = 63
Height = 13
Caption = 'Volume label:'
end
object Label4: TLabel
Left = 16
Top = 40
Width = 67
Height = 13
Caption = 'Serial number:'
end
object Label5: TLabel
Left = 16
Top = 56
Width = 89
Height = 13
Caption = 'Component length:'
end
object Label6: TLabel
Left = 16
Top = 72
Width = 28
Height = 13
Caption = 'Flags:'
end
object Label7: TLabel
Left = 16
Top = 152
Width = 83
Height = 13
Caption = 'File system name:'
end
object VolumeLabelLabel: TLabel
Tag = 1
Left = 120
Top = 24
Width = 7
```

```
    Height = 13
    Caption = 'X'
end
object SerialNumberLabel: TLabel
    Tag = 1
    Left = 120
    Top = 40
    Width = 7
    Height = 13
    Caption = 'X'
end
object FlagsLabel1: TLabel
    Tag = 1
    Left = 120
    Top = 72
    Width = 7
    Height = 13
    Caption = 'X'
end
object FlagsLabel2: TLabel
    Tag = 1
    Left = 120
    Top = 88
    Width = 7
    Height = 13
    Caption = 'X'
end
object FlagsLabel3: TLabel
    Tag = 1
    Left = 120
    Top = 104
    Width = 7
    Height = 13
    Caption = 'X'
end
object FileSystemLabel: TLabel
    Tag = 1
    Left = 120
    Top = 152
    Width = 7
    Height = 13
    Caption = 'X'
end
object ComponentLengthLabel: TLabel
    Tag = 1
    Left = 120
    Top = 56
    Width = 7
    Height = 13
    Caption = 'X'
end
object FlagsLabel4: TLabel
    Tag = 1
    Left = 120
    Top = 120
    Width = 7
    Height = 13
    Caption = 'X'
end
object FlagsLabel5: TLabel
    Tag = 1
    Left = 120
    Top = 136
```

```

        Width = 7
        Height = 13
        Caption = 'X'
    end
end
object RefreshBtn: TBitBtn
    Left = 248
    Top = 352
    Width = 75
    Height = 25
    Caption = '&Refresh'
    TabOrder = 2
    OnClick = FillInInfo
    Glyph.Data = {
        76010000424D76010000000000000760000002800000020000000100000000100
        0400000000000001000000000000000000000000000000000000000000000000
        80000080000000808000800000008000800080800000C0C0C0080808000000
        FF0000FF000000FFFF00FF000000FF00FF00FFFF0000FFFFF0033333333333333
        3333333333333333333333333333333333333333333333333333333333333333
        3333333333333333333333333333333333333333333333333333333333333333
        3333333333333333333333333333333333333333333333333333333333333333
        88808F3F3F333333FFF3F0F977777777777703F833FFF33888F3F0F770000000
        00003F338888338F8F3F0F77777777770E003F333FFF33888F3F0F7700000000
        00003F338888338F8F3F0F77777777770E003F333333F8388FF0F7777777777
        0E003F3333338888388F0FFFFFFF0000E00FFFFFFF8F88838F00000000000E
        00E0888888888F888F8F33333333330E000E0333333388FFF8833333333300
        EEE00333333338888833333333333000003333333333333333}
    NumGlyphs = 2
end
object Panel1: TPanel
    Left = 276
    Top = 8
    Width = 48
    Height = 48
    BevelOuter = bvNone
    Color = clWhite
    TabOrder = 4
    object DriveImageBitmap: TImage
        Left = 8
        Top = 8
        Width = 32
        Height = 32
        Center = True
    end
end
object GroupBox2: TGroupBox
    Left = 8
    Top = 272
    Width = 225
    Height = 145
    Caption = 'Disc free space'
    TabOrder = 6
    object Label8: TLabel
        Left = 16
        Top = 24
        Width = 75
        Height = 13
        Caption = 'Sectors/cluster:'
    end
    object Label9: TLabel
        Left = 16
        Top = 40
        Width = 63
        Height = 13

```

```
    Caption = 'Bytes/sector:'
end
object Label10: TLabel
    Left = 16
    Top = 56
    Width = 63
    Height = 13
    Caption = 'Free clusters:'
end
object Label11: TLabel
    Left = 16
    Top = 72
    Width = 40
    Height = 13
    Caption = 'Clusters:'
end
object SectorsPerClusterLabel: TLabel
    Tag = 2
    Left = 200
    Top = 24
    Width = 6
    Height = 13
    Alignment = taRightJustify
    Caption = '0'
end
object BytesPerSectorLabel: TLabel
    Tag = 2
    Left = 200
    Top = 40
    Width = 6
    Height = 13
    Alignment = taRightJustify
    Caption = '0'
end
object FreeClustersLabel: TLabel
    Tag = 2
    Left = 200
    Top = 56
    Width = 6
    Height = 13
    Alignment = taRightJustify
    Caption = '0'
end
object ClustersLabel: TLabel
    Tag = 2
    Left = 200
    Top = 72
    Width = 6
    Height = 13
    Alignment = taRightJustify
    Caption = '0'
end
object Bevel2: TBevel
    Left = 8
    Top = 96
    Width = 209
    Height = 9
    Shape = bsTopLine
end
object Label13: TLabel
    Left = 16
    Top = 104
    Width = 80
```

```

    Height = 13
    Caption = 'Total free space:'
end
object Label14: TLabel
    Left = 16
    Top = 120
    Width = 81
    Height = 13
    Caption = 'Total disc space:'
end
object FreeSpaceLabel: TLabel
    Tag = 2
    Left = 198
    Top = 104
    Width = 8
    Height = 13
    Alignment = taRightJustify
    Caption = '0'
end
object DiscSpaceLabel: TLabel
    Tag = 2
    Left = 200
    Top = 120
    Width = 6
    Height = 13
    Alignment = taRightJustify
    Caption = '0'
end
end
object AboutBtn: TBitBtn
    Left = 248
    Top = 392
    Width = 75
    Height = 25
    Caption = '&About'
    TabOrder = 3
    OnClick = AboutBtnClick
    Glyph.Data = {
        F6000000424DF6000000000000000076000000280000001000000001000000000100
        0400000000008000000000000000000000000000000000000000000000000000000
        800000800000008080008000000080008000800000C0C0C000808080000000
        FF0000FF000000FFFF00FF000000FF00FF00FFFF0000FFFFFF00333333333333
        333333333333333333B33338080888333333333F7077773333B3333F00000733333
        B333FFFFFFF333BBB33333333333333333333338888888888888888888888883F7FF7973F007
        0073FF7F8073F7000773FFFFFFF3FFFFFFF333333333333333333333888888888888888
        88883F7000773F9000003F7000973F0000003FFFFFFF3FFFFFFF3}
end
object SmallCheckBox: TCheckBox
    Left = 208
    Top = 40
    Width = 49
    Height = 17
    Alignment = taLeftJustify
    Caption = '&Small:'
    TabOrder = 1
    OnClick = FillInImage
end
end
end

```


Source for DI1.dpr

```
program di;

uses
  Forms,
  dil in 'dil.pas' {DiscVolInfoForm},
  DiscUtil in 'DiscUtil.pas';

{$R *.RES}

begin
  Application.Initialize;
  Application.Title := 'Disc Volume Information';
  Application.CreateForm(TDiscVolInfoForm, DiscVolInfoForm);
  Application.Run;
end.
```



Delphi Books & Periodicals

by *Jim Clokey* - jclokey@mtgbcs.mt.lucent.com

Listed below are all English language Delphi books and periodicals of which I am aware. This list was last updated on March 1st, 1997

Authors, publishers and others are invited to suggest books and periodicals for inclusion and to provide information and comments. I will read all email and include [with credit] those comments which I use. Unless you specifically request otherwise, your email address will be included when you are given credit. Please send your comments and suggestions to Jim Clokey

The views expressed in this document are solely those of the author and do not represent the views of his current or any past employer.

If you want the short version, here are [my recommendations](#). If you want to know more about me, [click here](#).

Books

[Beginning Delphi 2](#); Peter Wright

[Borland Delphi How-To](#); Gary Frerking, Nathan Wallace, Wayne Niddery

[Borland's Official No Nonsense Guide To Delphi 2](#); Michelle M. Manning

[Building Internet Applications with Delphi 2](#); Davis Chapman

[Delphi 32 Bit Programming Secrets](#); Tom Swan with Jeff Cogswell

[Delphi - A Developers' Guide](#); Bill Todd & Vince Kellen, with Ray Novak and Brad Saenz

[Delphi By Example](#); Blake Watson

[Delphi Client Server Developer's Guide](#); Joseph D. Booth

[Delphi Database Development](#); Ted Blue, John Kaster, Greg Leif, Loren Scott

[Delphi Developer's Guide](#); Xavier Pacheco, Steve Teixeira

[Delphi In Depth](#); Cary Jensen, Loy Anderson, Joseph Fung, Ann Lynworth, Mark Ostroff, Martin Rudy, Robert Vivrette

[Delphi Nuts and Bolts](#); Gary Cornell

[Delphi Power Toolkit for Windows](#); Harold Davis

[Delphi Programming Explorer](#); Neil Rubenking

[Delphi Programming for Dummies](#); Neil Rubenking

[Delphi Programming Problem Solver](#); Jeff Duntemann, Jim Mischel, Don Taylor

[Delphi Super Bible](#); Paul B. Thurrott, Gary Brent, Richard Bagadazian, Steve Tendon

[Delphi Unleashed](#); Charles Calvert

[Delphi 2 Developer's Guide](#); Xavier Pacheco, Steve Teixeira

[Delphi 2 Developer's Solutions](#); Nathan Wallace, Steve Tendon
[Delphi 2 Unleashed](#); Charles Calvert
[Delphi 3 Unleashed](#); Charles Calvert
[Developing Custom Delphi Components](#); Ray Konopka
[Developing Custom Delphi 3 Components](#); Ray Konopka
[Developing With Delphi](#); Edward C. Weber, J. Neal Ford, Christopher R. Weber
[Developing Windows Applications Using Delphi](#); Paul Penrod
[Foundations of Delphi Development for Windows 95](#); Tom Swan
[Instant Delphi Programming](#); Dave Jewell
[Mastering Delphi](#); Mark Cantu
[Mastering Delphi 2](#); Mark Cantu
[Peter Norton's Guide to Delphi 2](#); Peter Norton, John Paul Mueller
[Programming Delphi Custom Components](#); Fred Bulback
[\(The\) Revolutionary Guide to Delphi 2](#); Brian Long, Bob Swart, Ewan McNab, Dave Jewell, Arjan Jansen, etc
[Secrets of Delphi 2](#); Ray Lischner
[Teach Yourself Database Programming with Delphi in 21 Days](#); Nathan and Ori Gurewich
[Teach Yourself ... Delphi](#); Devra Hall
[Teach Yourself Delphi in 21 Days](#); Andrew J. Wozniwicz, Namir Shammass & Tom Campbell
[\(Special Edition\) Using Delphi](#); Jon Matcho, David R. Faulkner et al.

Periodicals

Delphi Aquarium
Delphi Developer
[Delphi Informant](#)
[The Delphi Magazine](#)
[Unofficial Newsletter for Delphi Users](#)

[Return to Front Page](#)

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Beginning Delphi 2

Author(s): Peter Wright

Publisher: WROX Press

Copyright Date: 1995

ISBN: 1-874416-74-5

Extras: Disk

Price (US\$): \$36.95

Level: Beginner

Comments: I like the WROX Press books because they tend to be information heavy and they also have a layout which appeals to me. I have several Delphi protégés and this is the first book I have them study.

Acquisition Priority: 1 [If you are a Beginner], 3 {All Others}

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Borland Delphi How-To

Author(s): Gary Frerking, Nathan Wallace, Wayne Niddery

Publisher: Waite Group Press

Copyright Date:

ISBN: 1-57169-019-0

Extras: CD-ROM

Price (US\$): \$39.95

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Borland's Official No Nonsense Guide to Delphi 2

Author(s): Michelle M. Manning

Publisher: SAMS Publishing

Copyright Date: 1996

ISBN: 0-672-30871-1

Extras: None

Price (US\$): \$25.00

Level: Beginner

Comments: If you have never used Delphi and are a novice with the IDE and its drag and drop User Interface development method, this book is for you. Written by an ex-Borland QA Engineer, it covers the IDE in enough depth to get you started and is short enough to actually read cover-to-cover.

Acquisition Priority: 1 [If you are a Beginner], 4 [All Others]

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Building Internet Applications with Delphi 2

Author(s): Davis Chapman
Publisher: Que
Copyright Date: 1996
ISBN: 0-7897-0732-2
Extras: CD-ROM
Price (US\$): \$49.99
Level: Intermediate to Advanced
Comments:
Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi 32 Bit Programming Secrets

Author(s): Tom Swan with Jeff Cogswell

Publisher: IDG Books

Copyright Date: 1996

ISBN: 1-56884-690-8

Extras: Floppy Disk

Price (US\$): \$44.99

Level: Advanced

Comments: I have just started reading this book [scanned it all and read first chapter]. My first impressions are that it is a very advanced book ... it starts off with a discussion of Object Pascal which rapidly gets very deep. Although! highly technical, the writing is lucid and well-informed. I suspect this will become a classic along the lines of the Calvert and Pacheco/Teixeira books. Not for the faint-hearted but definitely worth your time and effort.

Acquisition Priority: 1

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi - A Developer's Guide

Author(s): Bill Todd, Vince Kellen with Ray Novak, Brad Saenz

Publisher: M & T Books

Copyright Date:

ISBN: 1-55851-455-4

Extras: CD-ROM

Price (US\$): \$44.95

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi By Example

Author(s): Blake Watson

Publisher: QUE

Copyright Date:

ISBN: 1-56529-757-1

Extras: none

Price (US\$): \$29.99

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi Client Server Developer's Guide

Author(s): Joseph D. Booth

Publisher: M & T Books

Copyright Date: 1997

ISBN: 1-55851-492-9

Extras: CD-ROM

Price (US\$): \$44.95

Level:

Comments:

Acquisition Priority:

Delphi Database Development

- Author(s):** Ted Blue, John Kaster, Greg Leif, Loren Scott
- Publisher:** M & T Books
- Copyright Date:** 1996
- ISBN:** 1-55851-469-4
- Extras:** CD-ROM
- Price (US\$):** \$44.95
- Level:** Advanced
- Comments:** This is really a reference book for the Delphi Database components, the BDE and Interbase Server. It provides documentation that is not readily available elsewhere, such as, the full BDE API in Pascal (rather than C/C++) with Error codes, the full Interbase SQL reference and a host of other reference information. This is not a book to read cover to cover, unless you also read a dictionary that way. The book also covers alternatives to the BDE.
- Acknowledgment:** My thanks to Alan Gauld for this review. Larry Bradshaw says "If you are finding the Delphi BDE call documentation a bit sparse or have had some difficulty translating the C++ version into Pascal, we recommend this book. Did you know that there was a TSession.CloseDatabase method ? Or that the Delphi 1.0 documentation was incorrect for the method and that rather than take a string it takes a parameter of type TDatabase? If you had this book you could find that on page 139, or through the excellent index ! and cross reference. I cannot praise this book highly enough. It does not simply reiterated the Borland docs, but rather adds significant value with code samples for each method or procedure documented. It is technical, but if you do Delphi 1 or 2 database applications or BDE work, this is a must have reference. My hat's off to the authors.
- Acquisition Priority:** 1 [Developers working on database applications] / 3 {All Others]

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi Developer's Guide

Author(s): Xavier Pacheco, Stave Teixeira

Publisher: SAMS

Copyright Date:

ISBN: 0-672-30704-9

Extras: CD-ROM

Price (US\$): \$49.99

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi In Depth: Power Techniques from the Experts

Author(s): Cary Jensen, Loy Anderson, Joseph Fung, Ann Lynworth, Mark Ostroff, Martin Rudy, Robert Vivrette

Publisher: Osborne McGraw-Hill

Copyright Date: 1996

ISBN: 0-07-882211-4

Extras: CD-ROM

Price (US\$): \$42.95

Level: Advanced

Comments: One of the best Delphi books. Some reviews have indicated problems with the mix of writing styles that comes with any book whose chapters are written by different authors. The strength and depth of the material makes this a very minor concern. Should be read cover to cover by the advanced developer.

Acquisition Priority: 2

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi Nuts and Bolts: for Experienced Programmers

Author(s): Gary Cornell
Publisher: Osborne McGraw Hill
Copyright Date:
ISBN: 0-07-882203-3
Extras: None
Price (US\$): \$24.95
Level:
Comments:
Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi Power Toolkit for Windows

Author(s): Harold Davis

Publisher: Ventana

Copyright Date:

ISBN: 1-56604-292-5

Extras: CD-ROM

Price (US\$): \$49.95

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi Programming Explorer

Author(s): Jeff Duntemann, Jim Mischel, Don Taylor

Publisher: The Crinoline Group

Copyright Date:

ISBN: 1-883577-25-X

Extras: Floppy Disk

Price (US\$): \$39.99

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi Programming for Dummies

Author(s): Neil Rubenking

Publisher: IDG Books

Copyright Date:

ISBN: 1-56884-200-7

Extras: None

Price (US\$): \$19.99

Level: Beginning

Comments: Larry Bradshaw says "If you don't have any other Delphi book, we recommend Rubenking's book. This book is easy to read, targeted to the not-so-technical audience and yet covers some programming topics which are not to be found in either the Borland documentation or most other references. It is cheap but an excellent starter book for Delphi. Keep it handy though; we think you will continue to refer to it (as we do).

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi Programming Problem Solver

Author(s): Neil Rubenking

Publisher:

Copyright Date:

ISBN: 1-56884-795-5

Extras:

Price (US\$): \$

Level:

Comments: Ahto Tanner [ahto@estpak.ee] commended this book to me with the comment that it is a how-to book with code samples that solve real-world problems.

Acquisition Priority: 3

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi Super Bible

Author(s): Paul B. Thurrott, Gary Brent, Richard Bagadazian, Steve Tendon

Publisher:

Copyright Date:

ISBN: 1-57169-027-1

Extras:

Price (US\$): \$54.99

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi Unleashed

Author(s): Charles Calvert
Publisher: SAMS Publishing
Copyright Date:
ISBN: 0-672-30499-6
Extras: CD-ROM
Price (US\$): \$45.00
Level:
Comments:
Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi 2 Developer's Guide

Author(s): Xavier Pacheco and Steve Teixeira

Publisher: SAMS Publishing

Copyright Date: 1996

ISBN: 0-672-30914-9

Extras: CD-ROM

Price (US\$): \$59.99

Level: Intermediate to Advanced

Comments: An excellent book ... One of the few "must haves". It is marred by several errors ... the authors would like to know if you discover any errors. This book clearly belongs on your bookshelf not just as a reference but as something to read cover to cover.

Acquisition Priority: 1

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi 2 Developer's Solutions: Cutting Edge How-Tos for the Professional Developer

Author(s): Nathan Wallace & Steve Tendon

Publisher: Waite Group Press

Copyright Date: 1996

ISBN: 1-57169-071-9

Extras: CD-ROM

Price (US\$): \$59.99

Level: Intermediate to Advanced

Comments: I always purchase How-To books and am always disappointed in the purchase ... UNTIL I have a question and find the answer neatly worked out. This is one of the better how-to books. The code examples are well done. I think the! basic issue in determining if you should purchase this book is whether there is one solution in the book that you can use today. In fact, I now tend to go to my local bookstore when I have a problem and look through the chapters of a how-to book, if the! book solves the problem or at least points me in the right direction, I buy it.

Acquisition Priority: 3 [The highest rating I would give to a how-to book]

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi 2 Unleashed

Author(s): Charles Calvert

Publisher: SAMS Publishing

Copyright Date: 1996

ISBN: 0-672-30858-4

Extras: CD-ROM which includes much of the first edition accessible with Adobe Acrobat Reader

Price (US\$): \$59.99

Level: Advanced

Comments: DELPHI UNLEASHED, by the same author, was one of the first Delphi books published ... not surprising since the author was a member of the Borland Delphi development team. This book, surpasses the original in its depth. It delves into the innards of Delphi in a way that is unmatched by any other author.

Acquisition Priority: 1

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Delphi 3 Unleashed

Author(s): Charles Calvert

Publisher: SAMS Publishing

Copyright Date:

ISBN: 0-672-31015-5-4

Extras: CD-ROM which includes much of the first edition accessible with Adobe Acrobat Reader

Price (US\$): \$59.99

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Developing Custom Delphi Components

Author(s): Ray Konopka

Publisher: Coriolis Group Books

Copyright Date: 1996

ISBN: 1-883577-47-0

Extras: CD-ROM

Price (US\$): \$39.99

Level: Advanced

Comments: Excellent, well written, well organized, easy to understand and usable examples, good learning tool. Since I assume that virtually every advanced developer will be building components [in fact, this is one of the tests of being! an advanced developer] this is an absolutely necessary book.

Acquisition Priority: 1

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Developing Custom Delphi 3 Components

Author(s): Ray Konopka

Publisher:

Copyright Date:

ISBN: 1-57610-112-6

Extras:

Price (US\$): \$49.99

Level: Advanced

Comments: Excellent, well written, well organized, easy to understand and usable examples, good learning tool. Since I assume that virtually every advanced developer will be building components [in fact, this is one of the tests of being! an advanced developer] this is an absolutely necessary book.

Acquisition Priority: 1

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Developing with Delphi: Object Oriented techniques

Author(s): Edward C. Weber, J. Neal Ford, Christopher R. Weber
Publisher: Prentice Hall PTR
Copyright Date: 1996
ISBN: 0-13-378118-6
Extras: Floppy Disk
Price (US\$): \$29.95
Level: Beginning to Intermediate
Comments: This is very much a book like Mastering Delphi and similar works ... with a big BUT. The approach here is object-oriented and it discusses the Delphi IDE and Object Pascal from that viewpoint. It is not as complete in its coverage of Delphi features as the longer books, but it is a good introduction to the object-oriented nature of Delphi.
Acquisition Priority: 2

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Developing Windows Applications Using Delphi

Author(s): Paul Penrod
Publisher: John Wiley & Sons
Copyright Date:
ISBN: 0-471-11017-5
Extras: None
Price (US\$): \$29.95
Level:
Comments:
Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Foundations of Delphi Development for Windows 95

Author(s): Tom Swan

Publisher: IDG Books

Copyright Date:

ISBN: 1-56884-347-X

Extras: CD-ROM

Price (US\$): \$39.99

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Instant Delphi Programming

Author(s): Dave Jewell

Publisher: WROX Press

Copyright Date:

ISBN: 1-874416-57-5

Extras: Floppy Disk

Price (US\$): \$24.95

Level:

Comments:

Acquisition Priority:

Mastering Delphi

Author(s): Marco Cantu

Publisher: Sybex

Copyright Date: 1995

ISBN: 0-7821-1739-2

Extras: CD-ROM

Price (US\$): \$49.99

Level: All

Comments: This is a 1450 page tome that tries to cover all of Delphi. I bought it when it first came out, read 3 chapters, skimmed 6 more and have not touched it since. I do not think a library needs more than one of this type of book and then only when starting with Delphi. I would select either this one [or a similar book] based on personal preference for layout and writing style.

Acquisition Priority: 2

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Mastering Delphi 2

Author(s): Marco Cantu

Publisher: Sybex

Copyright Date:

ISBN:

Extras:

Price (US\$): \$

Level:

Comments: Alan Gauld says "I got this as an extra to the Delphi Developer's Guide book. It has paid for itself in several ways ... e.g.: the Media Player "! Play" method does not work properly and the book gives a work around which involves sending a MouseDown / MouseUp combination to the right screen coordinates using PostMessage. Its a good beginner all purpose guide and alternative to the manuals.

Acquisition Priority:

Peter Norton's Guide to Delphi 2

Author(s): Peter Norton and John Paul Mueller

Publisher: SAMS Publishing

Copyright Date: 1996

ISBN: 1-672-30898-3

Extras: CD-ROM

Price (US\$): \$49.99

Level: Beginner to Intermediate

Comments: This is a 750 page tome that tries to cover much of Delphi. For my development work, some of the topics can be useful. I do not like the code listings in blue type since they are hard to copy for ease of reference and hard to ! read when working at the computer. It does have a very good tear out page in front which provides an easy reference to Delphi Keyboard Shortcuts, Windows 95 Keyboard Shortcuts, Form Design Keys and Mouse Movement Keys in the Editor as well as some Handy! Editor Tidbits. Larry Bradshaw says "An excellent reference for all manner of technical menu items such as Help files, Install sets, OLE Automation, Creation Order, Delphi on a LAN. I like the overview of the Windows 95 Server Architecture on page 508. We use this book, oddly, when no other reference will suffice ... and it has become one of the look-there-first references in our office.

Acquisition Priority: 3

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Programming Delphi Custom Components

Author(s): Fred Bulback

Publisher:

Copyright Date:

ISBN:

Extras:

Price (US\$): \$

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

(The) Revolutionary Guide to Delphi 2

Author(s): Brian Long, Bob Swart, Ewan McNab, Dave Jewell, Arjan Jansen, etc.

Publisher: WORX Press

Copyright Date:

ISBN: 1-874416-67-2

Extras: CD-ROM

Price (US\$): \$49.95

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Secrets of Delphi 2

Author(s): Ray Lischner

Publisher: Waite Group

Copyright Date: 1996

ISBN: 1-57169-026-3

Extras: CD-ROM

Price (US\$): \$49.99

Level: Advanced

Comments: This book [along with several others] is one of the most valuable books for the advanced Delphi developer. It is packed with information you can find nowhere else. It is the only place you can find complete descriptions for component messages and Delphi streams. Acknowledgment: My thanks to John M. Miano for the review.

Acquisition Priority: 1 [Advanced Developers] / 3 [Others]

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Teach Yourself Database Programming with Delphi in 21 Days

Author(s): Nathan & Ori Gurewich

Publisher: SAMS Publishing

Copyright Date:

ISBN: 0-672-30851-7

Extras: CD-ROM

Price (US\$): \$39.99

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Teach Yourself ... Delphi

Author(s): Devera Hall

Publisher: MIS Press

Copyright Date:

ISBN: 1-55828-390-0

Extras: Floppy Disk

Price (US\$): \$27.95

Level:

Comments:

Acquisition Priority:

 The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

Teach Yourself Delphi in 21 Days

Author(s): Andrew J. Wozniewicz, Namir Shamma, Tom Campbell

Publisher: SAMS Publishing

Copyright Date:

ISBN: 0-672-30997-1

Extras: None

Price (US\$): \$29.99

Level: Beginning

Comments: Based on comments from Richard Telfer [richard.telfer@gecm.com] ... I have been using this to learn Delphi 1 and have so far done the first 7 days plus day 21 (DLLs). It comes from the SAMS Borland Press series so presumably Borland endorses it. The book does what it claims to do ... teaches you Delphi in a finite time. Day means that ... most of a work day not a couple of hours. Some of the descriptions could be shortened by referring back to earlier ones but the book generally gives a longer and more detailed explanation to aid clarity.

Acquisition Priority: 1 [If you are a Beginner]

 **The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997
(Special Edition) Using Delphi**

Author(s): Jon Matcho, David R. Faulkner et al.

Publisher: QUE

Copyright Date: 1995

ISBN: 1-56529-823-3

Extras: None

Price (US\$): \$29.99

Level:

Comments:

Acquisition Priority:

 **The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997**

Delphi Informant

Frequency: Monthly

Extras: Web Site with all code available for download

Price (US\$): \$49.95 per year

Address: Informant Communications Group Inc., 10519 E. Stockton Blvd.,
Suite 142, Elk Grove, Ca 95624-9704

URL: <http://www.informant.com>

Comments: Excellent, slightly less technical than Delphi Magazine and a bit more informal in its writing style.

Acquisition Priority: 1

 **The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997**

(The) Delphi Magazine

Frequency: Monthly

Extras: Disk with all code from each issue included in magazine

Price (US\$): \$140.00 per year

Address: The Delphi magazine, iTEC, 9a London Road, Bromley, Kent
BR1 1BY, England

U.S. Address: The Delphi magazine [USA], RR1, Box 6020, Waterbury Center,
VT 05677

Comments: Excellent and technical, probably the best in the industry from a
technical viewpoint. Tight, crisp writing style.

Acquisition Priority: 1

 **The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997**

Unofficial Newsletter for Delphi Users

Frequency: Irregular but about one issue every 6 weeks. Electronically distributed.

Extras: Available in Help format or HTML format.

Price (US\$): \$FREE ... Yes Free

URL: <http://www.informant.com/undu/index.htm> (Use this to download)

Comments: Published, edited and mostly written by Robert Vivrette. Not as many articles per issue as the commercial magazines. Articles are short and address specific issues in a thorough manner.

Acquisition Priority: 1



RECOMMENDED DELPHI BOOKS & PERIODICALS

The Delphi newsgroups continually have postings asking for recommendations on Delphi books and periodicals. This set of pages is an effort to provide a comprehensive and annotated list of all books and periodicals relevant to the Delphi developer. The list will be updated until all current books and periodicals are included and then as necessary when new books and periodicals are published.

For the **ADVANCED** Delphi Developer:

Books

Code Complete

[Delphi 32 Bit Programming Secrets](#)

[Delphi 2 Developer's Guide](#)

[Delphi In Depth](#)

[Delphi Unleashed 2](#)

[Developing Custom Delphi Components](#)

[Secrets Of Delphi 2](#)

Periodicals

[Unofficial Newsletter for Delphi Users](#)

[Delphi Magazine, The](#)

[Delphi Informant](#)

For the **BEGINNING** to **INTERMEDIATE** Delphi Developer:

Books

Guidelines for Enterprise-Wide GUI Design

[Beginning Delphi 2](#)

[Borland's Official No Nonsense Guide to Delphi 2](#)

Periodicals

[Unofficial Newsletter for Delphi Users](#)

[Delphi Informant](#)

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About Jim Clokey

As a Senior Software Engineer, I have been working with Delphi since version 1.0 [beta 3]. I work as an on-site consultant for organizations involved with designing and building major client-server and desktop applications.

In addition to writing Delphi code, my expertise is in application architecture, GUI design, standards development, test design development and project management.

Contact Information

Permanent Email: master@pipeline.com
Current Assignment: jclokey@mtgbc.com
Voice - Current Assignment: 908-957-2607
Voice Mail: 610-670-7787
Pager: 800-675-0271 [enter area code and number and the # key]
Fax - Current Assignment: 908-957-5604

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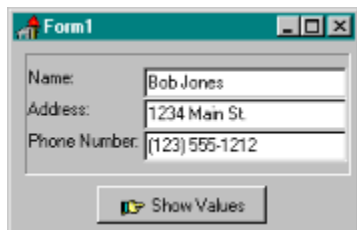
How To Be Outstanding in Your Field with TFieldPanel

by Emmanuel Fayet - 100333.2250@compuserve.com

If you need a quick way to display or collect an address or other data, you can now drop a TFieldPanel on a form and initialize the Fields property with the names of the fields you want. For example:

Name
Address
Phone Number

Now run the project and you will get a form with those field names, and an edit box after each. It might look something like this after typing in some sample values:



When you need to retrieve the data that has been entered, you just look back at the Fields property. The format of each field is <field name>=<fieldvalue>. The button click method in this sample application shows how it is done:

```
procedure TForm1.BitBtn1Click(Sender: TObject);
var
  i : integer;
  s : string;
begin
  s:= '';
  With FieldPanel1.Fields do
    for i:= 0 to Count-1 do
      s:= s + Strings[i] + #13;
  ShowMessage(s);
end;
```

I hope you find TFieldPanel useful in your applications. If you improve it, please let us know. I see two natural extensions of the component: a DB version that will read and write fields from a database blob field, and an other version that will use formatted edit controls (date, money, ..)

[Source to TFieldPanel](#)

[Return to The Component Cookbook](#)

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Source for TFieldPanel

```
unit Fldpanel;

interface

uses
  SysUtils, WinTypes, WinProcs, Messages, Classes, Graphics, Controls,
  Forms, Dialogs, ExtCtrls, StdCtrls;

type
  TFieldPanel = class(TPanel)
  private
    FFields: TStrings;
    FFieldsName: TStrings;
    FFieldsValue: TStrings;
    FEdits: TStrings;
    FLabels: TStrings;
    FScrollBar: TScrollBar;
    FTopIndex: integer;
    procedure Display;
    procedure SetTopIndex(const Value: integer);
    procedure ScrollBarScroll(Sender: TObject; ScrollCode: TScrollCode; var ScrollPos:
Integer);
  protected
    procedure CreateWnd; override;
    procedure SetFields( value: TStrings );
    procedure WMSize(var Message: TWMSize); message WM_SIZE;
  public
    constructor Create(AOwner: TComponent); override;
    destructor Destroy; override;
  published
    property Fields: TStrings read FFields write SetFields;
  end;

  TFieldPanelEdit = class(TEdit)
  private
    procedure CNKeyDown(var Message: TWMKeyDown); message CN_KEYDOWN;
    procedure CMEnter(var Message: TCMEEnter); message CM_ENTER;
    procedure CMExit(var Message: TCMEExit); message CM_EXIT;
    procedure UpdateValue;
  end;

procedure Register;

implementation

procedure TFieldPanelEdit.UpdateValue;
begin
  with TFieldPanel(Parent) do
  begin
    FFieldsValue.Strings[FTopIndex+self.Tag]:= self.Text;
    FFields.Strings[FTopIndex+self.Tag]:= FFieldsName.Strings[FTopIndex+self.Tag] +
'=' + self.Text;
  end;
end;

procedure TFieldPanelEdit.CMExit(var Message: TCMEExit);
begin
  UpdateValue;
end;
```



```

procedure TFieldPanelEdit.CMEnter(var Message: TCMEnter);
begin
  with TFieldPanel(Parent) do
    FScrollBar.Position:= FTopIndex+self.Tag;

    inherited;
end;

procedure TFieldPanelEdit.CNKeyDown(var Message: TWMKeyDown);
begin
  with TFieldPanel(Parent) do
    begin
      if (Message.CharCode = VK_TAB) and (GetKeyState(VK_SHIFT) >=0) then
        begin
          if (self.TabOrder=FLabels.Count-1) and
            (FLabels.Count+FTopIndex<FFields.Count) then
            begin
              UpdateValue;
              SetTopIndex(FTopIndex+1);
              FScrollBar.Position:= FTopIndex+self.Tag;
              Message.Result:=1;
              Exit;
            end;
          end;
        end;

      if (Message.CharCode = VK_TAB) and (GetKeyState(VK_SHIFT) <0) then
        begin
          if (self.TabOrder=0) and (FTopIndex<>0) then
            begin
              UpdateValue;
              SetTopIndex(FTopIndex-1);
              FScrollBar.Position:= FTopIndex+self.Tag;
              Message.Result:= 1;
              Exit;
            end;
          end;
        end;
      end;

    inherited;
end;

constructor TFieldPanel.Create(AOwner: TComponent);
begin
  inherited Create(aOwner);
  ControlStyle:= ControlStyle -[csAcceptsControls, csSetCaption];

  bevelOuter:= bvLowered;
  caption:= '';

  FFields:= TStringList.Create;
  FFieldsName:= TstringList.Create;
  FFieldsValue:= TStringList.Create;

  FLabels:= TStringList.Create;
  Fedits:= TStringList.Create;
  FScrollBar:= TScrollBar.Create(self);
  FTopIndex:= 0;
end;

procedure TFieldPanel.CreateWnd;
begin
  inherited CreateWnd;

```

```

    Display;
end;

destructor TFieldPanel.Destroy;
begin
    FFields.Free;
    FFieldsName.Free;
    FFieldsValue.Free;

    FLabels.Free;
    FEditions.Free;
    FScrollBar.Destroy;

    inherited Destroy;
end;

procedure TFieldPanel.SetFields( value: TStrings );
begin
    FFields.Assign(Value);
    Display;
end;

procedure TFieldPanel.WMSize(var Message: TWMSize);
begin
    if (csDesigning in ComponentState) then
        Display;
end;

procedure TFieldPanel.SetTopIndex(const Value: integer);
var i: integer;
begin
    if (Value>=0) and (FTopIndex<>value) and (FLabels.Count+Value-1<FFields.Count) then
        begin
            FTopIndex:= Value;
            for i:=0 to FLabels.Count-1 do
                TLabel(FLabels.Objects[i]).Caption:= FFieldsName.Strings[i+FTopIndex]+'.';

                for i:=0 to FEditions.Count-1 do
                    TFieldPanelEdit(FEditions.Objects[i]).Text:= FFieldsValue.Strings[i+FTopIndex];
                end;
            end;
end;

procedure TFieldPanel.ScrollBarScroll(Sender: TObject; ScrollCode: TScrollCode; var
ScrollPos: Integer);
begin
    SetTopIndex(ScrollPos);
end;

procedure TFieldPanel.Display;
var Label1: TLabel;
    Edit1: TFieldPanelEdit;
    i, p, widthLabel, maxLabel, leftLabel, topLabel, heightLabel, heightInterLabel,
    widthScrollBar: integer;
    bShowScrollBar: boolean;
begin
    while FLabels.Count<>0 do
        begin
            (FLabels.Objects[0] as TLabel).Destroy;
            FLabels.Delete(0);
        end;
    while FEditions.Count<>0 do

```

```

begin
  (FEdits.Objects[0] as TFieldPanelEdit).Destroy;
  FEdits.Delete(0);
end;

FFieldsName.Clear;
FFieldsValue.Clear;
for i:=0 to FFields.Count-1 do
begin
  p:= pos('=',FFields.Strings[i]);
  if p<>0 then
  begin
    FFieldsName.Add( copy( FFields.strings[i], 1, p-1) );
    FFieldsValue.Add( copy( FFields.strings[i], p+1, length(FFields.Strings[i])-
p) );
  end
  else
  begin
    FFieldsName.Add( FFields.strings[i] );
    FFieldsValue.Add( ' ' );
    FFields.strings[i]:=FFields.strings[i]+'=';
  end;
end;

heightInterLabel:= 8;
heightLabel:= Canvas.TextHeight('W');
widthLabel:= 0;
for i:=0 to FfieldsName.Count-1 do
  if Canvas.TextWidth(FFieldsName.Strings[i]+':')>widthLabel then
    WidthLabel:=Canvas.TextWidth(FfieldsName.Strings[i]+': ');

leftLabel:= 2;
topLabel:= heightInterLabel+1;
widthScrollBar:= GetSystemMetrics(SM_CXVSCROLL);
maxLabel:= (Height - topLabel) div (heightLabel + topLabel);
if maxLabel>FfieldsName.count then maxLabel:= FFieldsName.count;

if (maxLabel<FFieldsName.count) and (FFieldsName.count>0) then bShowScrollBar:=
true else bShowScrollBar:= false;
if bShowScrollBar then
begin
  FScrollBar.Parent:= self;
  FScrollBar.Kind:= sbVertical;
  FScrollBar.Width:= widthScrollBar;
  FScrollBar.Height:= Height-1;
  FScrollBar.left:= width-FScrollBar.width-1;
  FScrollBar.top:= 1;
  FScrollBar.Min:= 0;
  FScrollBar.Max:= FfieldsName.Count-1;
  FScrollBar.OnScroll:= ScrollBarScroll;
  FScrollBar.Visible:= true;
end
else
begin
  FScrollBar.Parent:= self;
  FScrollBar.left:= 0;
  FScrollBar.top:= 0;
  FScrollBar.Width:= 0;
  FScrollBar.Height:= 0;
  FScrollBar.Visible:= false;
end;

for i:=0 to maxLabel-1 do

```

```

begin
  label1:= TLabel.Create(self);
  label1.Parent:= self;
  label1.Left:= leftLabel;
  label1.Top:= topLabel;
  label1.Caption:= FfieldsName.Strings[i]+':';
  FLabels.AddObject(FfieldsName.Strings[i], Label1);

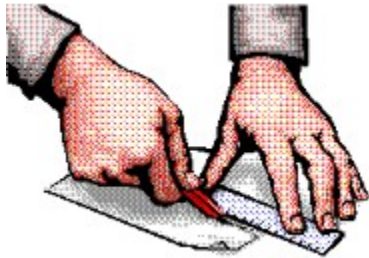
  Edit1:= TFieldPanelEdit.Create(self);
  Edit1.Parent:= self;
  Edit1.Left:=leftLabel+widthLabel;
  Edit1.Top:=topLabel;
  if not bShowScrollBar then Edit1.Width:= Width-((2*LeftLabel)+widthLabel)
    else Edit1.Width:= Width-((2*LeftLabel)
+widthLabel+widthScrollBar);
  Edit1.TabStop:= true;
  Edit1.TabOrder:= i;
  Edit1.Tag:= i;
  Edit1.Text:= FfieldsValue.Strings[i];
  FEdits.AddObject(FfieldsName.Strings[i], Edit1);

  topLabel:= topLabel + heightLabel + heightInterLabel;
end;
end;

procedure Register;
begin
  RegisterComponents('Examples', [TFieldPanel]);
end;

end.

```



Keeping Form Aspect Ratio

By Grahame Marsh - grahame.s.marsh@corp.courtaulds.co.uk


In [UNDU Issue #17](#) I showed how I limited a form to a square shape by intercepting the Win 95 WM_Sizing message. I was distracted enough by the usefulness of this to write a component which, when placed on a form, limits the form's shape to a given aspect ratio.

To create a component which influences the form on which it is placed you have to intercept the form's messages in the component. Here is the [shell code](#) for this.

You are simply inserting a new WndProc for the original WndProc. The only twist is the need to use MakeObjectInstance to convert a method pointer (which can't be passed to the API) into a pointer (which can be).

The two example components which use this shell are TAspect which can control a forms shape and TMinMax which can control the minimum and maximum size a form can be sized to under a variety of conditions. You need to find WM_Sizing and WM_GetMinMaxInfo in the API help file to understand how these components work and what the properties are for.

Here's two palette bitmaps for you to clip and use in your DCR file:

TAspect: 

TMinMax: 

Have Fun!

[Source for Aspect.pas](#)

[Source for MinMax.pas](#)

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A Bit More About Previous Instances

by Robert Vivrette - RobertV@compuserve.com

In Issue #16 of UNDU, I presented an article about [limiting multiple instances of a program in Delphi](#)

It turns out there is one additional issue that needs addressing... Using the source in issue #16, if you run an application, then minimize it, then try to launch it again, it restores the original copy (as it should). However, you can not then re-minimize the application. It just ignores you.

The problem stems from the fact that there is a hidden application window floating around. The applications MainForm is a child of this window. When you restore just the main form, the application still thinks it's minimized. Then when you click on the minimize button of the main form, the application says "forget it... I am already minimized". The solution is that the application needs to be restored instead of the main form being restored. When you are searching for a second instance of the application, you really should be looking for the application window and not the main form window. However, it can be done the latter way also. Here is a modified example of the DPR source that shows how this can be done to make the technique work correctly.

```
program Project0;

uses
  Windows,
  Forms,
  Unit0 in 'Unit0.pas' {Form1};

var
  Handle1 : LongInt;
  Handle2 : LongInt;

{$R *.RES}

begin
  Application.Initialize;
  Handle1 := FindWindow('TForm1',nil);
  if handle1 = 0 then
    begin
      Application.CreateForm(TForm1, Form1);
      Application.Run;
    end
  else
    begin
      {Obtain handle to owner of Main Form. This is the application window}
      Handle2 := GetWindow(Handle1,GW_OWNER);
      {Hide application window to avoid zoom effect}
      ShowWindow(Handle2,SW_HIDE);
      {Restore application window}
      ShowWindow(Handle2,SW_RESTORE);
      {Set Main Form as foreground window}
      SetForegroundWindow(Handle1);
    end;
end.
```

Note that we first find the Main form window, then use GetWindow to find its owner. Then we send the restore to that window, and then set the main form as the foreground window. When the restore goes to the application window, it restores the main form. I am sending a hide to the application first to avoid a zoom effect from the Win95 task bar. If you comment out the line with SW_Hide, you will see what I mean.

Also keep in mind that this technique works correctly only outside of the Delphi IDE. When you try to run an application from the IDE, the design-time copy of the main form is still around and Windows see's that

as another instance of the program according to our test.

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Borland's Solution to Form Resolution

Last issue, I posted a reader question concerning form resolution. The question centered around the fact that you would want your application to look essentially the same regardless of what the screen resolution is and/or the system font size (small fonts vs large fonts).

Although I got quite a few responses on this issue, the one that I think explains the issues best is a tech sheet that Borland itself put out. It covers the issues in some depth so it will help readers see a little more about all the factors that come into play.

Some of the solutions that were sent in went to great lengths to change the form's font size to be the same visual size regardless of the setting of large fonts and small fonts. Big mistake in my opinion. A key reason behind the use of Small fonts vs. Large fonts is that a user might be visually impaired and writing code to force a font to be a specific height despite the system font size setting could cause problems. It is better to design the interface such that differing resolutions and font size have as little impact on the program (and user) as possible.

Anyway, here is a complete reprint of Borland's tech sheet #2861... You can find all of their tech sheets on the CompuServe Delphi forum in the "From Borland" file section.

#2861 - Form display with different screen resolutions.

When designing forms, it is sometimes helpful to write the code so that the screen and all of its objects are displayed at the same size no matter what the screen resolution is. Here is some code to show how that is done:

```
implementation
const
  ScreenWidth: LongInt = 800; {I designed my form in 800x600 mode.}
  ScreenHeight: LongInt = 600;

{$R *.DFM}

procedure TForm1.FormCreate(Sender: TObject);
begin
  scaled := true;
  if (screen.width <> ScreenWidth) then
  begin
    height := longint(height) * longint(screen.height) div ScreenHeight;
    width := longint(width) * longint(screen.width) div ScreenWidth;
    scaleBy(screen.width, ScreenWidth);
  end;
end;
```

Then, you will want to have something that checks to see that the font sizes are OK. You can iterate over each child control's font to adjust its size as necessary. This can be done as follows:

```
type
  TFooClass = class(TControl); { needed to get at protected }
              { font property }

var
  i: integer;
begin
  for i := ControlCount - 1 downto 0 do
    TFooClass(Controls[i]).Font.Size :=
      (NewFormWidth div OldFormWidth) *
      TFooClass(Controls[i]).Font.Size;
end;
```

Note: *The following are issue to bear in mind when scaling Delphi applications (forms) on different screen resolutions:*

Decide early on in the form design stage whether you're going to allow the form to be scaled or not. The advantage of not scaling is that nothing changes at runtime. The disadvantage of not scaling is that nothing changes at runtime (your form may be far too small or too large to read on some systems if it is not scaled).

If you're NOT going to scale the form, set Scaled to False. Otherwise, set the Form's Scaled property to True.

Set AutoScroll to False. AutoScroll = True means 'don't change the form's frame size at runtime' which doesn't look good when the form's contents do change size.

Set the form's font to a scaleable TrueType font, like Arial. MS San Serif is an OK alternate, but remember that it is still a bitmapped font. Only Arial will give you a font within a pixel of the desired height. NOTE: If the font used in an application is not installed on the target computer, then Windows will select an alternative font within the same font family to use instead. This font may not match the same size of the original font any may cause problems.

Set the form's Position property to something other than poDesigned. poDesigned leaves the form where you left it at design time, which for me always winds up way off to the left on my 1280x1024 screen - and completely off the 640x480 screen.

Don't crowd controls on the form - leave at least 4 pixels between controls, so that a one pixel change in border locations (due to scaling) won't show up as ugly overlapping controls.

For single line labels that are alLeft or alRight aligned, set AutoSize to True. Otherwise, set AutoSize to False.

Make sure there is enough blank space in a label component to allow for font width changes - a blank space that is 25% of the length of the current string display length is a little too much, but safe. (You'll need at least 30% expansion space for string labels if you plan to translate your app into other languages) If AutoSize is False, make sure you actually set the label width appropriately. If AutoSize is True, make sure there is enough room for the label to grow on its own.

In multi-line, word-wrapped labels, leave at least one line of blank space at the bottom. You'll need this to catch the overflow when the text wraps differently when the font width changes with scaling. Don't assume that because you're using large fonts, you don't have to allow for text overflow - somebody else's large fonts may be larger than yours!

Be careful about opening a project in the IDE at different resolutions. The form's PixelsPerInch property will be modified as soon as the form is opened, and will be saved to the DFM if you save the project. It's best to test the app by running it standalone, and edit the form at only one resolution. Editing at varying resolutions and font sizes invites component drift and sizing problems.

Speaking of component drift, don't rescale a form multiple times, at design time or a runtime. Each rescaling introduces roundoff errors which accumulate very quickly since coordinates are strictly integral. As fractional amounts are truncated off control's origins and sizes with each successive rescaling, the controls will appear to creep northwest and get smaller. If you want to allow your users to rescale the form any number of times, start with a freshly loaded/created form before each scaling, so that scaling errors do not accumulate.

Don't change the PixelsPerInch property of the form, period.

In general, it is not necessary to design forms at any particular resolution, but it is crucial that you review their appearance at 640x480 with small fonts and large, and at a high-resolution with small fonts and large before releasing your app. This should be part of your regular system compatibility testing checklist.

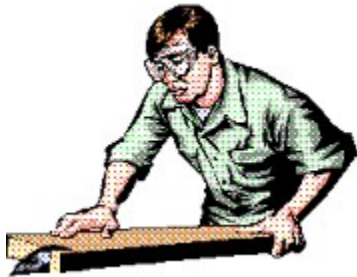
Pay close attention to any components that are essentially single-line TMemos - things like TDBLookupCombo. The Windows multi-line edit control always shows only whole lines of text - if the control is too short for its font, a TMemo will show nothing at all (a TEdit will show clipped text). For such components, it's better to make them a few pixels too large than to be one pixel too small and show not text at all.

Keep in mind that all scaling is proportional to the difference in the font height between runtime and design time, NOT the pixel resolution or screen size. Remember also that the origins of your controls will be changed when the form is scaled - you can't very well make components bigger without also moving them over a bit.

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Speeding up Processing of Large Tables

by **Duncan Campbell ("Dunk")** - duncan@tvl.com

Recently I have been writing an app, working with large tables (10,000+ Records) containing many fields (50+). I had a section of my program that required me to loop through a large number of records, updating them as I went. For various reasons, the TQuery component was not appropriate for this situation, and I was very dismayed by how slow the TTable seemed to be processing. I traced the speed problems down to the fact that I had a number of calculated fields that were being re-calculated far too often, and came up with a "quick and dirty" method of speeding things up, that you may find useful.

First of all, I create a global variable -gPROCESS_OK - of type Boolean which I initialize as TRUE.

In the "OnCalcFields" of my TTable, I put the following code:

```
if gPROCESS_OK then
  {code for calculated fields}
```

Then when I want to do my large process, I perform the following steps:

```
with myTable do
  try
    {this stops the user from noticing that anything is going on}
    DisableControls;
    {this turns OFF the calculated fields}
    gPROCESS_OK := False;
    {perform process}
  finally
    {Turn calculated fields back on}
    gPROCESS_OK := TRUE;
    {and re-enable the data-aware controls}
    EnableControls;
end;
```

As you can see, at the beginning of the try..finally block, I first disable all data-aware controls, and turn off calculated fields processing. I then perform my loop before finally turning back on the calculated fields and re-enabling data-aware controls.

I have found this method to be very useful in increasing performance when large numbers of records need to be processed.

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SHFileOperation Revisited

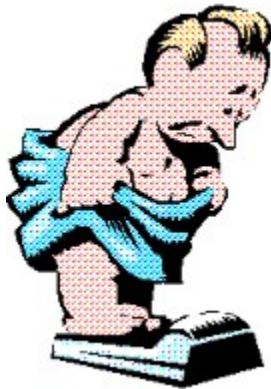
by Robert Vivrette - RobertV@compuserve.com

Last issue, I discussed how to use the SHFileOperation command in the Win95 API to copy/move/delete/rename files and to add system-level undo support to these actions.

However, I left out one little issue in the discussion. When you are assigning values to the pFrom and pTo portions of the record structure, they need to be terminated with two nulls (#0) rather than just a single null. These two record fields are used to specify source and destination file names, and they allow you to input more than one filename on each. To use more than a single file name, you must make them a single string, each terminated by a single null value, and then the entire string terminated with an additional null. That way, the operation system knows where each file name ends and also knows when it has reached the end of all the names. Even if you are using only a single name, it must end with two nulls or you get all sorts of odd behaviors.

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How To Make Your EXE's Lighter!

by Eric Fortier - cfortier@clic.net

This quick tip is a way to trim down the size of you applications, and in my case, these changes enabled me to cut down over 260K from one executable! I think everyone will benefit from this.

If you're like me, you build your own components, and add plenty of properties. What you should know is that the properties of your component are stored in a file which is linked into the executable you create, the *.DFM file. So, with careful programming you can have less properties stored in those DFM files! How you ask? Well, VERY simple! consider this property:

```
published
  property MyCount: integer read FMyCount write FMyCount;
```

This property will always be saved in the DFM file. There are two ways to have Delphi think before saving it, to see if it's really necessary. These ways are through the DEFAULT and STORED directives. First, if your MyCount property is almost always zero, you can use this definition instead:

```
published
  property MyCount: integer read FMyCount write FMyCount DEFAULT 0;
```

and add this to the create method of your component:

```
constructor xx.Create...
begin
  inherited Create(AOwner);
  FMyCount:=0;
  ...
end;
```

This way, Delphi will check to see if the property is set to zero, and if so, it will not be saved to the DFM file and it will "default" to 0 next time it loads.

You can also explicitly state if you want the property stored or not with the STORED keyword:

```
published
  property MyCount: integer read FMyCount write FMyCount STORED True;
  {or}
  property MyCount: integer read FMyCount write FMyCount STORED IsStored;
  (with IsStored being a procedure)
```

This way, you'll cut the size of your DFM file, and your executable. I cut almost all my DFM size in half, and stripped more than 260K off my executable! Remember to load and save back the .DFM file for the changes to appear!

There are also other ways to cut down the size of things. Another way, as suggested by another user, is to make property names smaller. This has to be used with care however, because you might name a property "BACK1" and not remember what it is after a while.

This same user also suggest to move the property to the PUBLIC declaration module of the component, thus removing it entirely from the DFM file. This too has the side effect from removing it from the Object Inspector, so you have to know it's there if you want to use it.

After using defaults for your properties, you might want to use the Delphi code editor to load a .DFM file to take a look. There might be "residual" properties which are cluttering the file. By removing the unwanted, orphaned properties (left over after the "Default" procedure) you will take out another slice off those DFM, in the case of some components, I was able to scrape off 10-20 K.

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Revision for TPageControl

by *Grahame Marsh* - Grahame.S.Marsh@corp.courtaulds.co.uk

An error crept into the destroy method of the [TExPageControl](#) in the article in issue #19 of UNDU. I didn't check to see if the FGlyphs property had been set before setting the OnChange property to nil to remove the link. It seems that I had only tested the component with it linked to a TImage which was my main reason for writing the component in the first place. Sorry, to anyone who suffered the great pile of Access Violation errors you get with this bug! There must be a moral to this story somewhere.

Anyway, here is what you need to change the destructor to solve the problem:

```
destructor TExPageControl.Destroy;
begin
  if Assigned (FGlyphs) then
    FGlyphs.OnChange := nil;
  FCanvas.Free;
  inherited Destroy;
end;
```

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Displaying Multi-Colored Text in a String Grid

by Paul Harding - 100046.2604@compuserve.com

Here is a tip you might find useful... namely how to display multi-colored text in a string grid.

As you may already know, if you wish to display text in a string grid, you can set the text of an individual cell using: `StringGrid1.Cells[Col,Row]` However, you can also display the text in each cell of the grid in different colors, and for this tip I'll just demonstrate a simple way to alter the color of a cell's text just by clicking on it.

Originally, I was going to demonstrate the technique by just making positive numbers black and negative numbers red. However, the technique is far more powerful than this and there is a far simpler way of showing whether a number in a cell is positive or negative: namely using the `OnDrawCell` event to look at the cell's value and decide its color based off whether it is positive and negative.

But there is quite a bit more in this technique. What you can do, is use the string grid's `Objects` property to store a color (or anything else) with each cell. Every cell on a grid has the ability to store a pointer to an object. So, using this, we can actually store a number, by typecasting the number into a pointer like this: `Pointer(56745)` and we can get the number back by typecasting the pointer like this: `LongInt(myPtrVariable);`

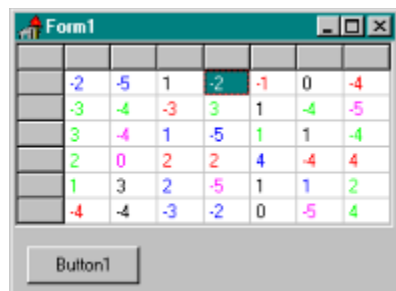
Now, since colors are just `LongInts`, we can do this: `Pointer(clRed)`, and we are halfway there.

To access the pointer to the object in each cell, we just do this:

```
StringGrid1.Cells[col,row] := '7';  
StringGrid1.Objects[col,row] := Pointer(clLime);
```

Now we have stored the text '7' in the cell, and the "value" of the color Lime Green in the cells' object pointer. When we come to draw the cell, we just use the pointer value to get the color we need.

The sample project demonstrates a string grid, and a button dropped onto a form. When the button is clicked, the string grid gets filled with a random selection of numbers. Initially, all of the cell's `Objects` properties are saved as `Pointer(clBlack)`. But when you double-click on a cell, it randomly changes it to one of 4 other colors.



When the grid draws its own cells, it has to know what color to use. Using the `OnDrawCell` event, simply retrieve the color from the object pointer, and use it to draw the text, and hey presto, you have a grid of colored numbers!

We have cheated really, because we are not storing a "proper" object in the `Objects` property of the grid. If we HAD stored objects there, they would need to be freed up before the grid gets destroyed. Since we haven't really stored objects in the grid, we'll just finish off by setting all our pointers back to nil in the

form's OnClose event.

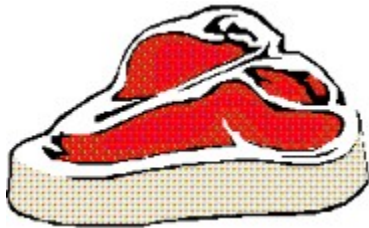
Obviously this technique is a lot more powerful than just displaying random numbers in different colors. Keep in mind that the Objects property for each cell can hold pretty much anything. The color we store could indicate specific states for the cell. For example, in an accounting situation you might have numbers that need authorization. You could mark them by changing their color to red and when the user selects that cell and clicks on a "Authorize" button, the cell color changes to black. Also, since the Objects property is storing pointers, you could keep pointers to some other object. Perhaps a bitmap that should be used along with the number, or maybe even a pointer to some explanatory text.

The possibilities are endless!

[Source Code For This Project](#)

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Printing Raw Data

by Philip Hibbs - 101621,1264

Reading UNDU#19, I was interested to see the solution for sending raw data to the printer. I myself had this problem, but resolved it another way. I used the Windows API function SpoolFile like this:

```
iRet := SpoolFile('Generic / Text Only', 'LPT1', pcTitle, pcTempName);
```

where pcTempName is the name of the file to be sent to the printer. Note that this file will automatically be deleted by the spooler, so be careful!

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Converting Delphi Source files to HTML

Announcement by Pieter Polak - PP@coas.com

Do you need to publish Delphi/Pascal source code on your web site? It can be quite a pain having to do all that formatting by hand. But to simplify this job, we have created a tool which convert Pascal source files into HTML with full syntax highlighting. This is a free tool, and can be found on <http://www.coas.com/pas2html> or can be downloaded from the BDELPHI32 forum on Compuserve.

Currently I am working on a new version which will be available as a Delphi expert as well, so you can run the conversion from within the IDE. In addition to the CGI version, an ISAPI version will become available as well (to increase performance on Windows/NT servers running IIS). Also a version with a graphical (windows) interface will become available within a short time.

Try it out and let me know what you think!

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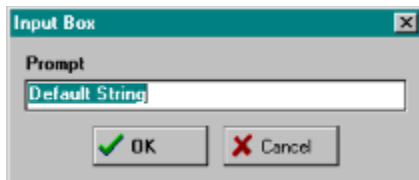
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Adding a History List to an InputQuery Box

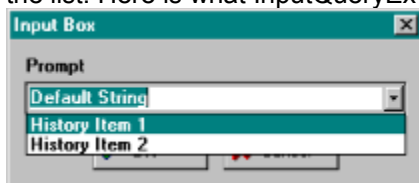
by Gene Fowler - acorioso@ccnet.com

InputQueryEx is an InputQuery with a history list so you can recycle, or simply cycle through, past inputs. This quick user-input collector that keeps its past, is a very useful thing to have on hand, whatever you call it. This code was created for Delphi 1.0, although I expect that it wouldn't be too different in Delphi 2.0.

For those of you who are unfamiliar with InputQuery, this is what it looks like:



As you can see, it is just a simple input box that allows the user to specify a string value. The enhanced InputQueryEx function, replaces the Edit box with a Combobox and allows you to specify history items for the list. Here is what InputQueryEx looks like:



If you want to see an InputQueryEx among a number of InputQuerys, grab ftp.coriolis.com/pub/Controls/dbdexpand.zip and unzip it. Two "hand-held" outrigger editors for Database Desktop, MemoEdit and PictEdit will tumble out. If that's awkward but you have Kick Ass Delphi (Coriolis) on a near-by shelf, the pictures are on pages 318-9 and the editors are on the disk.

[InputQueryEx Source](#)

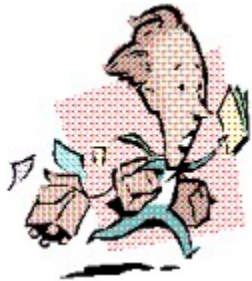
The following is some sample code showing the use of InputQueryEx:

```
procedure TForm1.Button1Click(Sender: TObject);
var
  NewString: string;
  ClickedOK: Boolean;
  History : TStringList;
begin
  NewString := 'Default String';
  Label1.Caption := NewString;
  History := TStringList.Create;
  History.Add('History Item 1');
  History.Add('History Item 2');
  ClickedOK := InputQueryEx('Input Box', 'Prompt', NewString, History);
  if ClickedOK then { NewString contains new input
string }
    Label1.Caption := 'The new string is ' + NewString + ' ';
    History.Free;
end;
```

Obviously, this example doesn't really do anything with the history list, so you would probably want to make the History string list a global variable and add new strings to it as you go. Even better, you would probably want to save it to an INI file or the Registry if appropriate.

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"Is Someone Else Running?" - Revisited!

Editors Note: In Issue #19 of UNDU, Paul Harding presented an article on how to determine if another application was running. This article was an extension of the technique used to determine if an application already had an instance running (which was from issue #12). As you will see, the tip by Magnus Baeck below shows a much simpler way to see if another (different) application is running. However, this tip will **not** work as a way to limit multiple instances of the same program.

by **Magnus Baeck** - baeck@swipnet.se

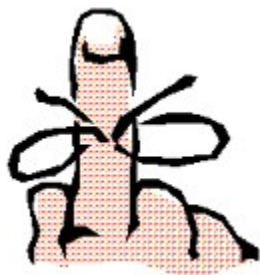
There is a much easier solution to the 'Is Someone Else Running?' article in UNDU 19. Instead of checking class names, why not just check if a certain EXE is running? The following code does the trick with both D1 and D2:

```
function IsModuleRunning(ModuleName: string): Boolean;
{$IFDEF VER80}
var
  S: array [0..127] of Char;
{$ENDIF}
begin
{$IFDEF VER80}
  StrPCopy(S, ModuleName);
  IsModuleRunning := GetModuleHandle(S) <> 0;
{$ELSE}
  IsModuleRunning := GetModuleHandle(PChar(ModuleName)) <> 0;
{$ENDIF}
end;
```

The ModuleName parameter can also indicate a DLL. This method would of course fail if there were two modules with the same name, but that would have to be very unusual.

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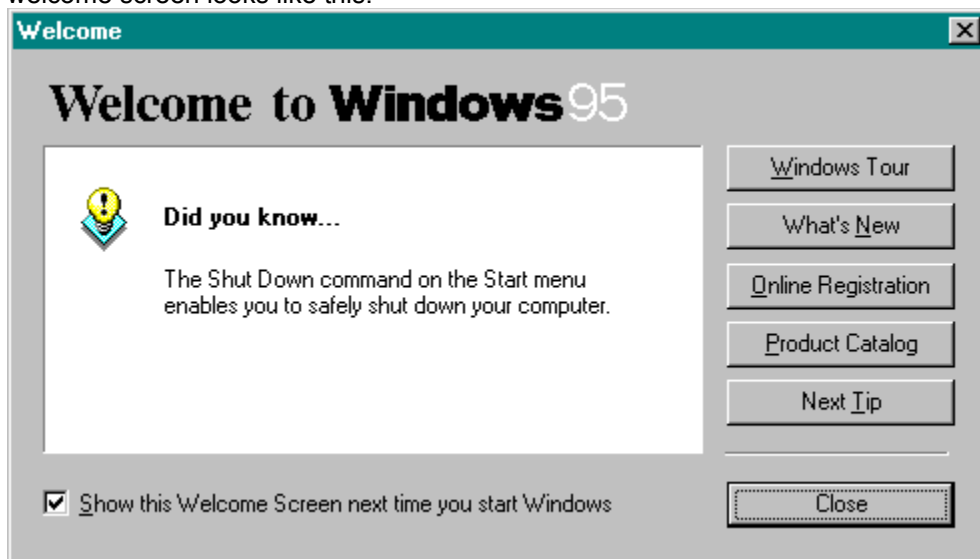
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Tip Of The Day

by *Robby Walker - RobertAWalker@msn.com*

You load up Windows 95 and the first thing you see is the welcome screen (if you haven't disabled it). The welcome screen looks like this:



Wow! What a cool idea... So, how do I use it in my own applications? The best way is to develop a tip of the day component. Of course another advantage is that you learn a lot by developing it. You become more familiar with string lists and file access, and also learn how to wrap a form into a component. All of these are key Delphi concepts.

There are two things needed for a tip of the day component: the form which displays the tips and the component which displays the form. Let's start with the form.

There are a few key pieces that we will mainly discuss: the tip label, the "Show Tips at Startup" checkbox, and the buttons. When the form is created, it loads a tip file into a TStringList called Tips. The tip file format is very simple. The first line of the file is a True or False to indicate whether to show the tips or not. Then after that is simply a list of all the tips, one tip per line. An example tip file might look like this:

```
True
You can get context-sensitive help by clicking on the help button.
Buttons captions that are gray indicate the button has been disabled.
Don't take candy from strangers.
Chocolate ice cream tastes really good.
```

When the first string is read, if it is 'True', then the show at startup checkbox is checked. If the string is anything else, then the show at startup checkbox is cleared. Then, the first tip is displayed in the tip label and the form opens and a tip is shown. At this point, the user has two courses of action. They may either hit the Next Tip or the OK button. Both of these events have one thing in common; they both advance to the next tip. The way this is done is by moving the first tip to the end of the tip list. For instance, if you had the list 1-2-3-4-5, and you moved 1 to the end, you would have 2-3-4-5-1. Since you wanted the next

tip, this moves it to the front position which is where the tip is read from. In the next button clicked event, the tip at the front of the list is then displayed. In the OK button clicked event, a few things are still left. The new show at startup status is written to the first line in the file. Then, the tip list is destroyed and the form is closed. If after all of this talk about the form, you want to see it, here is its source and form source.

[Source for TipBox](#)

[Source for the TipBox form](#)

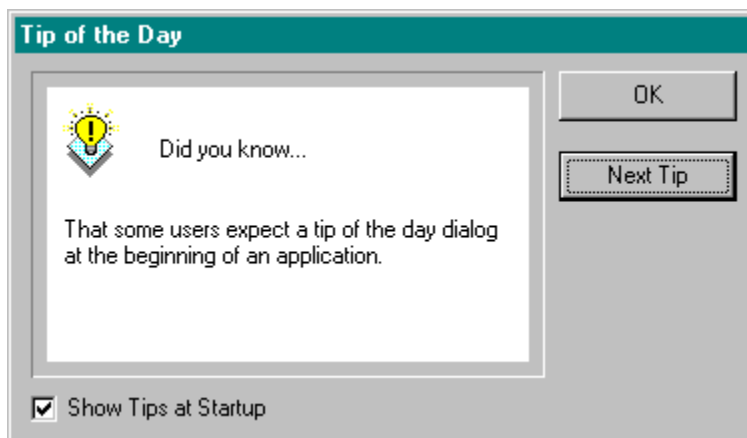
So, now we have a fully functional form. Next we need a component to access the form with. It is a very simple component. It is descended from TComponent because it is a non-visible component. It has only two properties: the name of the file which holds the tips and a read-only property which hold the value of the show on startup checkbox. It has one method, the procedure Execute. Execute takes no arguments but rather simply creates the tip form, passes the file name to the form, shows the form modally, and then destroys the form. The only other method in the unit is the register method which registers the component onto the UNDU page.

[Source for TipDlg](#)

To use this component, simply place it on the form, and somewhere call the Execute method like this:

```
procedure TForm1.Button1Click(Sender: TObject);  
begin  
    TipOfTheDayDlg1.Execute;  
end;
```

and abracadabra! A tip of the day form pops up onto your screen...



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The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997

InputQX.PAS Source

{ The InputQX unit, containing the InputQueryEx function for Borland's Delphi is Copyright (c) 1996 by Gene Fowler but may be used freely by the good folk shaping Delphi interfaces.

InputQueryEx produces an Input dialog as InputQuery does, but the Edit is replaced by a Dropdown Combobox so that you have a history of previous inputs that you can reuse.

This function is based mostly on Borland's InputQuery function in the DIALOGS.PAS unit of Delphi 1.0. This function was copied into this unit and used as the basis of the new InputQueryEx function. Changes that have been made from the original are noted.

Want to see this "in action"? Assuming you're on-line (and have BDE installed), <ftp://ftp.coriolis.com/Controls/dbdxpand.zip>. This unzips two "outrigger" editors to use with Database Desktop, MemoEdit and PictEdit. PictEdit has an InputQueryEx under the Full Image Editors button.

-- Gene Fowler

```
}  
  
unit InputQX;  
  
{SS-,W-,R-}  
{SC PRELOAD}  
  
interface  
  
uses Classes, Graphics, Controls, Buttons, StdCtrls, Forms, Dialogs;  
  
function InputQueryEx(const ACaption, APrompt: string;  
                       var Value: string; var Values: TStringList): Boolean;  
  
implementation  
  
function InputQueryEx(const ACaption, APrompt: string;  
                       var Value: string; var Values: TStringList): Boolean;  
  
var  
  W      : TForm;  
{Edit: TEdit;}                               {OLD}  
  Combo : TComboBox;                           {NEW}  
  i      : Integer;                             {NEW}  
  S      : String;                              {NEW}  
  L      : TLabel;  
  OKButton: TBitBtn;  
  CancelButton: TBitBtn;  
begin  
  Result := False;  
  W := TForm.Create(Application);  
  try  
    with W do  
      begin  
        BorderStyle := bsDialog;  
        Ctl3D := True;  
        Width := 280;  
        Height := 160;  
        Caption := ACaption;  
        Font.Name := 'MS Sans Serif';  
        Font.Size := 8;
```

```

Font.Style := [fsBold];
Position := poScreenCenter;

L := TLabel.Create(W);
with L do
begin
  Parent := W;
  AutoSize := True;
  Left := 10;
  Top := 10;
  Caption := APrompt;
end;

{Edit := TEdit.Create(W);          } {OLD}
{with Edit do                      } {OLD}
{begin                             } {OLD}
{  Parent := W;                    } {OLD}
{  Left := 10;                      } {OLD}
{  Top := L.Top + L.Height + 5;    } {OLD}
{  Width := W.ClientWidth - 20;    } {OLD}
{  MaxLength := 255;               } {OLD}
{  Text := Value;                  } {OLD}
{  SelectAll;                      } {OLD}
{end;                               } {OLD}
{L.FocusControl := Edit;          } {OLD}

Combo := TComboBox.Create(W);      {NEW}
with Combo do                      {NEW}
begin                              {NEW}
  Parent := W;                    {NEW}
  Left := 10;                      {NEW}
  Top := L.Top + L.Height + 5;     {NEW}
  Width := W.ClientWidth - 20;     {NEW}
  MaxLength := 127;               {NEW}
  SelectAll;                      {NEW}
  Text := Value;                  {NEW}
  Combo.Items.Clear;              {NEW}
  if Values.Count > 0 then        {NEW}
  begin                            {NEW}
    For i := 0 to Values.Count - 1 do {NEW}
    begin                          {NEW}
      S := Values[i];              {NEW}
      Combo.Items.Add(S);          {NEW}
    end;                          {NEW}
  if Combo.Items[0] <> Combo.Text then {NEW}
  begin                            {NEW}
    Combo.Items.Insert(0, Combo.Text); {NEW}
    for i := 0 to Combo.Items.Count - 1 do {NEW}
    if Combo.Items[i] = Combo.Items[0] then {NEW}
    Combo.Items.Delete(i);        {NEW}
    end                            {NEW}
  end                              {NEW}
  else                             {NEW}
    Combo.Items.Add(Combo.Text)    {NEW}
  end;                             {NEW}
L.FocusControl := Combo;          {NEW}

OKButton := TBitBtn.Create(W);
with OKButton do
begin
  Parent := W;
  Kind := bkOK;
  Style := MsgDlgButtonStyle;

```

```

if not MsgDlgGlyphs then
begin
    Glyph := nil;
    Margin := -1;
end
else Margin := 2;
{Top := Edit.Top + Edit.Height + 10;}           {OLD}
Top := Combo.Top + Combo.Height + 10;         {NEW}
Width := 77;
Height := 27;
Left := (W.ClientWidth div 2) - (((OKButton.Width * 2) + 10) div 2)
end;

CancelButton := TBitBtn.Create(W);
with CancelButton do
begin
    Parent := W;
    Kind := bkCancel;
    Style := MsgDlgButtonStyle;
    if not MsgDlgGlyphs then
    begin
        Glyph := nil;
        Margin := -1;
    end
    else Margin := 2;
    Top := OKButton.Top;
    Width := 77;
    Height := 27;
    Left := OKButton.Left + OKButton.Width + 10;
end;
ClientHeight := OKButton.Top + OKButton.Height + 10;
end;
{if W.ShowModal = mrOK then }           {OLD}
{begin }                               {OLD}
{ Result := True; }                   {OLD}
{ Value := Edit.Text; }               {OLD}
{end; }                               {OLD}
if W.ShowModal = mrOK then           {NEW}
begin                                 {NEW}
    Result := True;                   {NEW}
    Value := Combo.Text;               {NEW}
    if Combo.Items[0] <> Combo.Text then {NEW}
        Combo.Items.Insert(0, Combo.Text); {NEW}
    for i := 1 to Combo.Items.Count - 1 do {NEW}
        if Combo.Items[i] = Combo.Items[0] then {NEW}
            Combo.Items.Delete(i); {NEW}
    Values.Clear; {NEW}
    For i := 0 to Combo.Items.Count - 1 do {NEW}
        begin {NEW}
            S := Combo.Items[i]; {NEW}
            Values.Add(S); {NEW}
        end; {NEW}
    end; {NEW}
end; {NEW}
finally
    W.Free;
end;
end;
end.

```

Source for Colored String Grids

```
unit Unit1;

interface

uses
  Windows, Messages, SysUtils, Classes, Graphics, Controls, Forms, Dialogs,
  StdCtrls, Grids;

type
  TForm1 = class(TForm)
    StringGrid1: TStringGrid;
    Button1: TButton;
    procedure Button1Click(Sender: TObject);
    procedure StringGrid1DrawCell(Sender: TObject; Col, Row: Longint;
      Rect: TRect; State: TGridDrawState);
    procedure FormClose(Sender: TObject; var Action: TCloseAction);
    procedure StringGrid1DblClick(Sender: TObject);
  private
    { Private declarations }
  public
    { Public declarations }
  end;

var
  Form1: TForm1;

implementation

{$R *.DFM}

procedure TForm1.Button1Click(Sender: TObject);
var
  C, R: Integer;
  Value: Integer;
begin
  {fill the string grid with random integer values}
  Randomize;
  for C := 1 to StringGrid1.ColCount-1 do
    for R := 1 to StringGrid1.RowCount-1 do
      begin
        Value := Random(10) - 5;
        StringGrid1.Cells[C,R] := IntToStr(Value);
        StringGrid1.Objects[C,R] := Pointer(clBlack);
      end;
  end;

procedure TForm1.StringGrid1DrawCell(Sender: TObject; Col, Row: Longint;
  Rect: TRect; State: TGridDrawState);
const
  LM = 3; {each individual cell's left margin}
  TM = 2; {each individual cell's top margin}
var
  ptr: Pointer;
begin
  {use whatever color is stored in the object's pointer}
  ptr := StringGrid1.Objects[Col, Row];
  StringGrid1.Canvas.Font.Color := LongInt(ptr);
  {let'd draw the fixed rows and the fixed columns in silver}
  if gdFixed in State then
    StringGrid1.Canvas.Brush.Color := clSilver;
```

```

    {let's draw the highlight in the following way when the cell is selected}
    if gdSelected in State then
        begin
            StringGrid1.Canvas.Brush.Color := clHighlight;
            StringGrid1.Canvas.Font.Color := clHighlightText;
        end;
        {finally, do the actual cell drawing}
        StringGrid1.Canvas.TextRect(Rect, Rect.Left + LM, Rect.Top + TM,
StringGrid1.Cells[col,row]);
    end;

procedure TForm1.FormClose(Sender: TObject; var Action: TCloseAction);
var
    C, R: Integer;
begin
    for C := 1 to StringGrid1.ColCount-1 do
        for R := 1 to StringGrid1.RowCount-1 do
            begin
                {make all the grid's objects point to nothing}
                StringGrid1.Objects[C, R] := nil;
                {if we had stored objects in the grid, we should free them like this:}
                StringGrid1.Objects[C, R].Free;}
            end;
    end;

procedure TForm1.StringGrid1DbClick(Sender: TObject);
begin
    With StringGrid1 do
        Case Random(4) of
            0 : Objects[Col,Row] := Pointer(clRed);
            1 : Objects[Col,Row] := Pointer(clLime);
            2 : Objects[Col,Row] := Pointer(clBlue);
            3 : Objects[Col,Row] := Pointer(clFuchsia);
        end;
    end;

end.

```



Questions (And Answers) From UNDU Readers

I often get a wide variety of emailed questions from readers of UNDU. Some of them have been quite interesting and the solutions are equally interesting. Anyway, I figured "Why not let everyone help on the solution?"

Each month I will present a few questions here that readers have submitted to me and open them up to all the readers of UNDU. If you know the answer to a question, feel free to send it in to

RobertV@compuserve.com. I will chose the best solution to the question and post it in the following issue. This way, everyone gets to see the answer!

The solutions can be anything including even shareware components that might solve a particular problem.

Last Months questions were:

Steven Lucey asked *"How do you make forms so that they will display correctly no matter the resolution or font size (large or small) at runtime?"*

I received quite a few responses on this one, but I found that the Borland discussed the issue the best. Take a look at [Borland's response](#) to this in their tech sheet #2861.

Steven Gill asked *"I am trying to work out how to add bitmaps to StringGrids. I want to use the first column as a status column with a graphic indicating the status. What's a simple way to do this?"*

Interestingly, this one was answered by an unrelated tip sent in by Paul Harding on [Displaying Multi-colored Text in a String Grid](#). Check out the last few paragraphs and you'll see where this is going!

I didn't get any really good questions for this month, so hopefully, I will get a few for next month!

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Source for TipBox.pas

```
unit tipbox;

interface

uses
  Windows, Messages, SysUtils, Classes, Graphics, Controls, Forms, Dialogs,
  StdCtrls, ExtCtrls;

type
  TTipOfTheDayForm = class(TForm)
    Panell: TPanel;
    OKBtn: TButton;
    ShowOnStartup: TCheckBox;
    Bevell: TBevel;
    NextBtn: TButton;
    BulbImage: TImage;
    diduknow: TLabel;
    Tip: TLabel;
    procedure NextBtnClick(Sender: TObject);
    procedure OKBtnClick(Sender: TObject);
    procedure FormShow(Sender: TObject);
  protected
    Tips: TStringList;
  public
    TipFileName: String;
  end;

var
  TipOfTheDayForm: TTipOfTheDayForm;

implementation

{$R *.DFM}

procedure TTipOfTheDayForm.NextBtnClick(Sender: TObject);
begin
  Tips.Move(1, Tips.Count - 1);
  Tip.Caption := Tips[1];
end;

procedure TTipOfTheDayForm.OKBtnClick(Sender: TObject);
begin
  if ShowOnStartup.Checked
  then Tips[0] := 'True'
  else Tips[0] := 'False';
  Tips.Move(1, Tips.Count - 1);
  Tips.SaveToFile(TipFileName);
  Tips.Free;
  Close;
end;

procedure TTipOfTheDayForm.FormShow(Sender: TObject);
begin
  Tips := TStringList.Create;
  Tips.LoadFromFile(TipFileName);
  Tip.Caption := Tips[1];
  if Tips[0]='True'
  then ShowOnStartup.Checked := True
  else ShowOnStartup.Checked := False;
end;
```


Source for TipDlg.pas

```
unit tipdlg;

interface

uses
  Windows, Messages, SysUtils, Classes, Graphics, Controls,
  Forms, Dialogs, TipBox, IniFiles;

type
  TTipOfTheDayDlg = class(TComponent)
  private
    FTipFileName: String;
    function GetShowStatus: Boolean;
  published
    property TipFile: String read FTipFileName write FTipFileName;
    property ShowOnStart: Boolean read GetShowStatus;
  public
    procedure Execute;
  end;

procedure Register;

implementation

function TTipOfTheDayDlg.GetShowStatus: Boolean;
  var FileHandle: Integer;
      Buffer: String;
begin
  FileHandle := FileOpen(FTipFileName, fmOpenWrite);
  if FileHandle = -1
  then begin
    Result := False;
    exit;
  end
  else begin
    FileRead(FileHandle, Buffer, 4);
    FileClose(FileHandle);
    if Buffer = 'True'
    then Result := True
    else Result := False;
  end;
end;

procedure TTipOfTheDayDlg.Execute;
begin
  TipOfTheDayForm := TTipOfTheDayForm.Create(Application);
  try
    TipOfTheDayForm.TipFileName := FTipFileName;
    TipOfTheDayForm.ShowModal;
  finally
    TipOfTheDayForm.Free;
  end;
end;

procedure Register;
begin
  RegisterComponents('UNDU', [TTipOfTheDayDlg]);
end;

end.
```



```
object diduknow: TLabel
  Left = 56
  Top = 24
  Width = 74
  Height = 13
  Caption = 'Did you know...'
end
object Tip: TLabel
  Left = 8
  Top = 64
  Width = 225
  Height = 65
  AutoSize = False
  WordWrap = True
end
end
object OKBtn: TButton
  Left = 272
  Top = 8
  Width = 89
  Height = 25
  Caption = 'OK'
  Default = True
  TabOrder = 1
  OnClick = OKBtnClick
end
object ShowOnStartup: TCheckBox
  Left = 8
  Top = 168
  Width = 129
  Height = 17
  Caption = 'Show Tips at Startup'
  State = cbChecked
  TabOrder = 2
end
object NextBtn: TButton
  Left = 272
  Top = 48
  Width = 89
  Height = 25
  Caption = 'Next Tip'
  TabOrder = 3
  OnClick = NextBtnClick
end
end
```

 **The Unofficial Newsletter of Delphi Users - Issue #20 - March 1997**
Source for WSC.pas

```
unit WSC;

interface

uses
  SysUtils, Messages, Classes, Forms, Windows;

type
  TMyShell = class(TComponent)
  private
    FParent : THandle;           // keep forms handle
    FOldDefWndProc,             // keep the forms WndProc
    FNewDefWndProc : pointer;    // our new WndProc
    procedure NewDefWndProc (var Msg : TMessage);
  public
    constructor Create (AOwner : TComponent); override;
    destructor Destroy; override;
    procedure Loaded; override;
  end;

implementation

// Get the forms Parent and create a pointer to our new WndProc
constructor TMyShell.Create (AOwner : TComponent);
begin
  inherited Create (AOwner);
  FParent := (AOwner as TForm).Handle;
  FNewDefWndProc := MakeObjectInstance (NewDefWndProc)
end;

// Chuck it all
destructor TMyShell.Destroy;
begin
  SetWindowLong (FParent, GWL_WndProc, longint(FOldDefWndProc));
  FreeObjectInstance (FNewDefWndProc);
  inherited Destroy
end;

// Put our WndProc into the Form
procedure TMyShell.Loaded;
begin
  inherited Loaded;
  FOldDefWndProc := pointer(SetWindowLong (FParent, GWL_WndProc,
  longint(FNewDefWndProc)))
end;

// Our new WndProc - this does nothing
procedure TMyShell.NewDefWndProc (var Msg : TMessage);
begin

  // put your code in here ---

  // Call the forms WndProc
  with Msg do
    Result := CallWindowProc (FOldDefWndProc, FParent, Msg, wParam, lParam)
  end;
end.

end.
```

Source for Aspect.pas

// Aspect Component - used to control form or client area shape (aspect ratio)

unit Aspect;

interface

uses SysUtils, Messages, Classes, Forms, Windows;

type

TAspect = **class**(TComponent)

private

FParent : THandle;
FOldDefWndProc,
FNewDefWndProc : pointer;
FAspectX,
FAspectY : integer;
FActive,
FClient : boolean;
procedure NewDefWndProc (var Msg : TMessage);

protected

public

constructor Create (AOwner : TComponent); override; destructor
Destroy; override;
procedure Loaded; override;

published

// activate the aspect ratio control
property Active : boolean read FActive write FActive default true;
// set the X part of the aspect ratio
property AspectX : integer read FAspectX write FAspectX default 1;
// set the Y part of the aspect ratio
property AspectY : integer read FAspectY write FAspectY default 1;
// does the ratio apply to the client area or to the whole form area?
property Client : boolean read FClient write FClient default true;

end;

implementation

constructor TAspect.Create (AOwner : TComponent);

begin

inherited Create (AOwner);
FParent := (AOwner as TForm).Handle;
FNewDefWndProc := MakeObjectInstance (NewDefWndProc);
FActive := true;
FClient := true;
FAspectX := 1;
FAspectY := 1;

end;

destructor TAspect.Destroy;

begin

SetWindowLong (FParent, GWL_WndProc, longint(FOldDefWndProc));
FreeObjectInstance (FNewDefWndProc);
inherited Destroy;

end;

procedure TAspect.Loaded;

begin

inherited Loaded;
FOldDefWndProc := pointer(SetWindowLong(FParent, GWL_WndProc,
longint(FNewDefWndProc)));

```

end;

procedure TAspect.NewDefWndProc (var Msg : TMessage);
var
  CaptionHt, Xi, Yi : integer;
begin
  if FActive then with Msg do
    begin
      if Msg = WM_Sizing then
        begin
          if FClient then
            CaptionHt := GetSystemMetrics (sm_CYCaption)
          else
            CaptionHt := 0;
          with PRect (lParam)^ do
            case wParam of
              WMSZ_BottomRight,
              WMSZ_Bottom : Right := Left + (Bottom - Top) *
                AspectX div AspectY - CaptionHt;
              WMSZ_BottomLeft,
              WMSZ_Right : Bottom := Top + (Right - Left) *
                AspectY div AspectX + CaptionHt;
              WMSZ_TopRight,
              WMSZ_Left : Top := Bottom - (Right - Left) *
                AspectY div AspectX - CaptionHt;
              WMSZ_TopLeft,
              WMSZ_Top : Left := Right - (Bottom - Top) *
                AspectX div AspectY + CaptionHt;

            end;
          Result := 0;
          exit;
        end;
      if Msg = WM_GetMinMaxInfo then
        begin
          if FClient then
            CaptionHt := GetSystemMetrics (sm_CYCaption)
          else
            CaptionHt := 0;
          with PMinMaxInfo (lParam)^.ptMaxSize do
            begin
              Xi := X;
              Yi := X * FAspectY div FAspectX;
              if Yi > GetSystemMetrics (sm_CYScreen) then
                begin
                  Yi := Y;
                  Xi := Y * FAspectX div FAspectY
                end;
              X := Xi - CaptionHt;
              Y := Yi;
            end;
          Result := 0;
          exit;
        end;
      end;
    end;
  with Msg do
    Result := CallWindowProc (FOldDefWndProc, FParent, Msg, wParam, lParam);
  end;
end.

```

Source for Min/Max

```
// MinMax component - used to form resizing

unit
  Minmax;

interface

uses
  SysUtils, Messages, Classes, Forms, Windows;

type
  TBeforeResizeEvent = procedure (Sender : TObject; var MaxMinInfo : TMinMaxInfo) of
    object;

  TMinMaxChange = (mmMaximizedWidth, mmMaximizedHeight, mmMaximizedLeft,
mmMaximizedTop,
                    mmMinTrackWidth, mmMinTrackHeight, mmMaxTrackWidth,
mmMaxTrackHeight);
  TMinMaxChanges = set of TMinMaxChange;

  TMinMax = class(TComponent)
  private
    FParent : THandle;
    FOldDefWndProc,
    FNewDefWndProc : pointer;
    FActive : boolean;
    FMaximizedWidth,
    FMaximizedHeight,
    FMaximizedLeft,
    FMaximizedTop,
    FMinTrackWidth,
    FMinTrackHeight,
    FMaxTrackWidth,
    FMaxTrackHeight : integer;
    FChanges : TMinMaxChanges;
    FBeforeResize : TBeforeResizeEvent;
    procedure NewDefWndProc (var Msg : TMessage);
  protected
    constructor Create (AOwner : TComponent); override;
    destructor Destroy; override;
    procedure Loaded; override;
  public
    published
      property Active : boolean read FActive write FActive default true;
      property Changes : TMinMaxChanges read FChanges write FChanges default [];
      property MaximizedWidth : integer read FMaximizedWidth write FMaximizedWidth;
      property MaximizedHeight : integer read FMaximizedHeight write FMaximizedHeight;
      property MaximizedLeft : integer read FMaximizedLeft write FMaximizedLeft;
      property MaximizedTop : integer read FMaximizedTop write FMaximizedTop;
      property MinTrackWidth : integer read FMinTrackWidth write FMinTrackWidth;
      property MinTrackHeight : integer read FMinTrackHeight write FMinTrackHeight;
      property MaxTrackWidth : integer read FMaxTrackWidth write FMaxTrackWidth;
      property MaxTrackHeight : integer read FMaxTrackHeight write FMaxTrackHeight;
      property OnBeforeResize : TBeforeResizeEvent read FBeforeResize write
FBeforeResize;
    end;

implementation
```



```
Result := CallWindowProc (FOldDefWndProc, FParent, Msg, wParam, lParam)
end;
end.
```

