The Developer's Guide to

Asprise OCR SDK

Version 2.2

Document Version: 2.2

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http://www.asprise.com/product/ocr

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1. INTRODUCTION

About OCR

OCR (Optical Character Recognition) is the technology that allows you to transform images (e.g., images scanned from paper documents) into editable text-based computer files.

About Asprise OCR SDK

Embedded a high performance OCR engine, Asprise OCR SDK is OCR software development kit that can be used with VB, VB.NET, VC++, VC.NET, C#, Java, .Net, Borland C, Delphi, etc.

Features of Asprise OCR

An incomplete list of features offered by Asprise OCR:

1. **Highest Level of Accuracy**
   Asprise OCR can easily recognize difficult documents of poor image quality;

2. **Excellent Format Retention**
   Text layouts on the input documents are perserved;

3. **High Speed**
   Asprise OCR uses optimized OCR engine to perform excellent recognition in very short time;

4. **Ease of Use**
   We strive to make the developer's life easier. Complex parameter configurations are removed from Asprise OCR SDK. You only have to supply the image document. Asprise OCR can intelligently determines the best setting internally.

5. **Barcode Recognition**
   Beside characters (letters and numbers), Asprise OCR can recognize almost every kind of bar code. You can choose to recognize barcode or characters or both.

Components of Asprise OCR SDK

AspriseOCR SDK comprises two main essential components:

- A set of library files, including the dll files, lib files, and header files.

- one sample application in a particular language/framework.

2. ASPRISE OCR SDK INSTALLATION

In order to use Asprise OCR funtions, you have to install Asprise OCR SDK correctly.

Installing Asprise OCR SDK compries of the following steps:

1) Download Asprise OCR SDK from http://www.asprise.com/product/ocr. You can choose the SDK matching your desired programing language.

2) Unzip the SDK to a directory. From now on, the unzipped directory is referred to as the **"[ocr root]"** directory of the Asprise OCR SDK.

3) Copy the three dll files from the **[ocr root]\AspriseOCRLib** folder to your operating system directory, eg. C:\Windows.

4) Validate your installation by double click **[ocr root]\SetupCheck.exe**. The result will be displayed.

Now, you have successfully installed Asprise OCR SDK for your desired programming lanuages.

3. DEVELOPMENT ENVIRONMENT SETUP

This section explains software development environment setup for each programming language supported.

Visual Basic
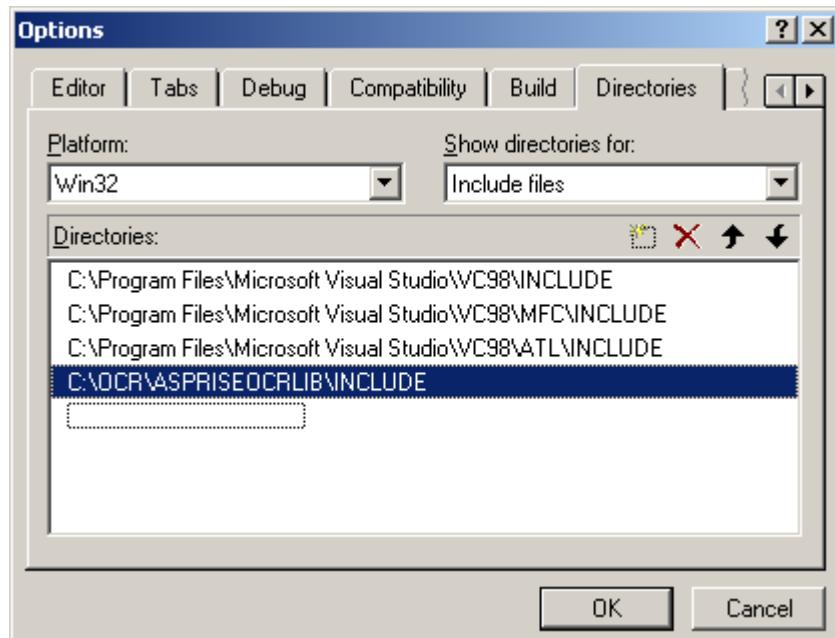
[No particular environment setup is required.]

Visual Basic.NET

[No particular environment setup is required.]
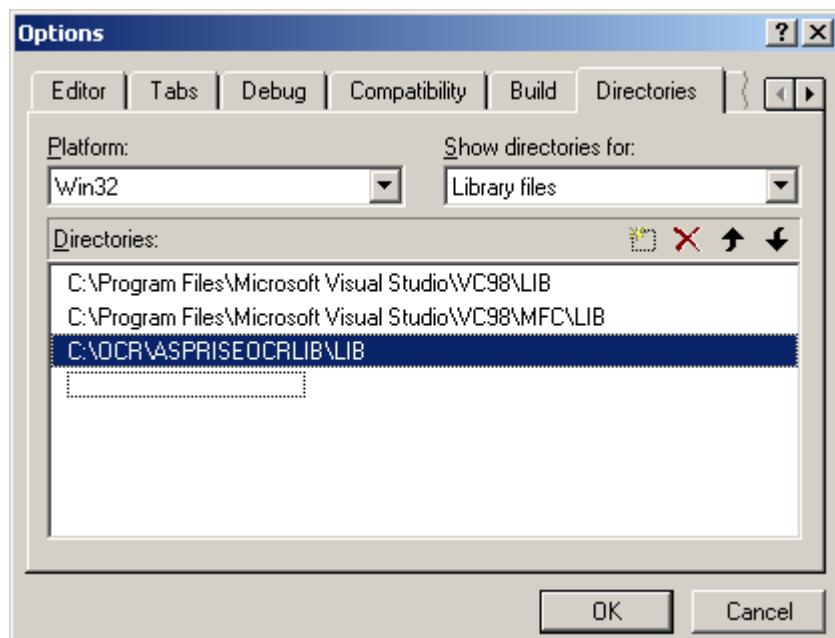
Visual C++ & Borland C++ Builder

Step 1: Add **[ocr root]\AspriseOCRLib\include** folder into your IDE's include path. For VC++ IDE, click the menu **Tools -> Options**, and select **Directories** tab as shown below:
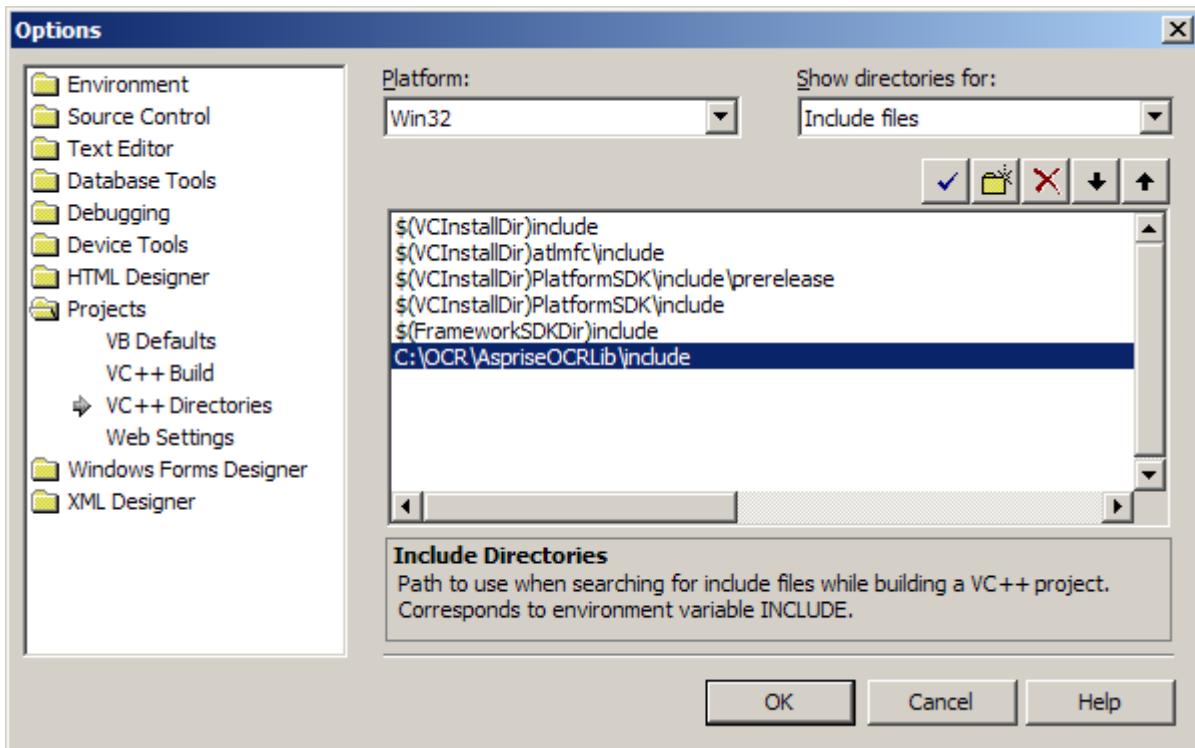
In above sample, the [ocr root] directory is C:\OCR.

Step 2: Add **[ocr root]\AspriseOCRLib\lib** to your IDE's library directory. The figure belows shows the VC++ setting:
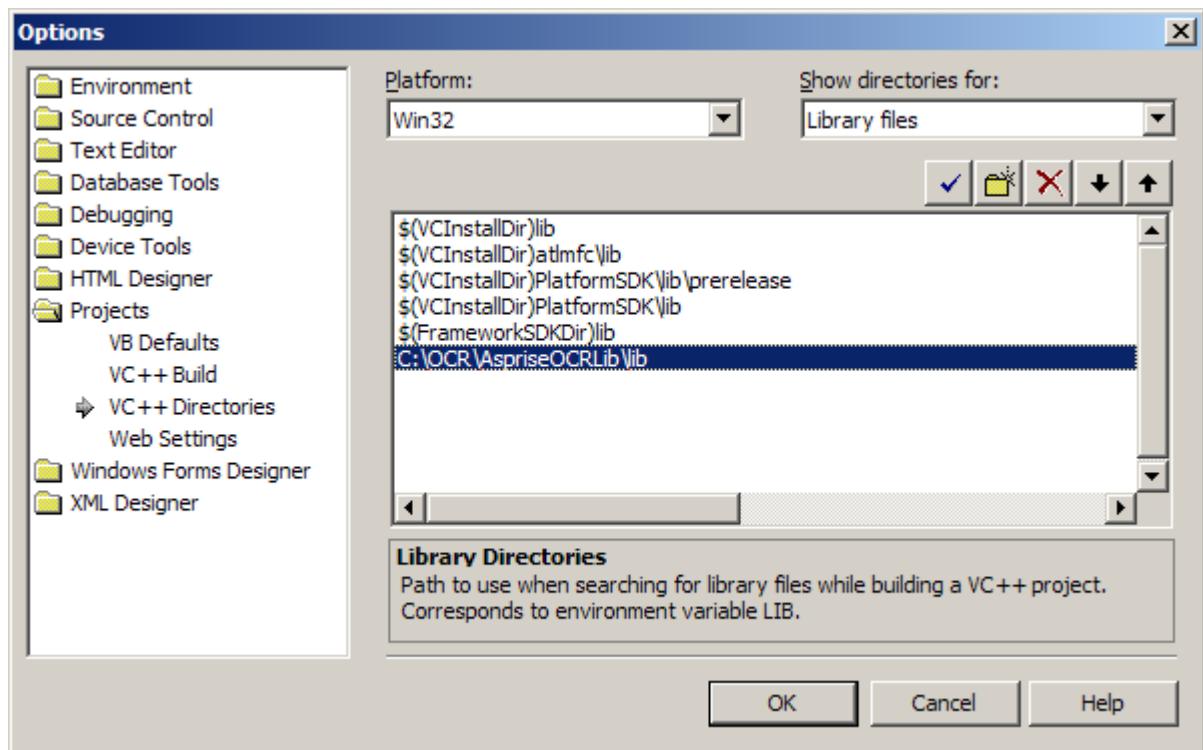
Visual C++.NET

Step 1: Add **[ocr root]\AspriseOCRLib\include** folder into your IDE's include path. For VC++.NET IDE, click the menu **Tools -> Options**, and select **Projects -> VC++ directories** in the left panel as shown below:

In above sample, the [ocr root] directory is C:\OCR.

Step 2: Add **[ocr root]\AspriseOCRLib\lib** to your IDE's library directory. The figure belows shows the VC++.NET setting:

.NET, C#

[No particular environment setup is required.]

4. INTRODUCTION TO ASPRISE OCR APIS

This section explains all the functions that you can use to perform various OCR tasks.

Asprise OCR exposes the following functions that enable you to perform OCR:

[string] OCR([string] imagePath, [int] imageFileType)
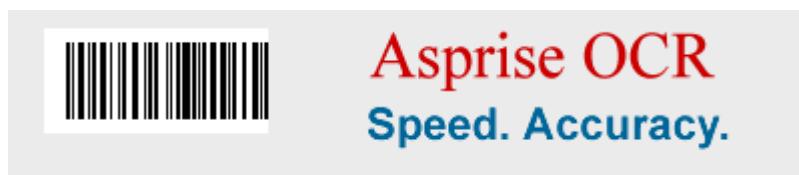
Note that [string] and [int] are string type and 32-bit integer type, which vary across different languages.

This function performs OCR on the specified image and returns the text recognized as a string. You pass the file path to the image to be recoginzed in the first argument and the image file type in the second argument. If you are unsure about the image file type or you want Asprise OCR detect it automatically, you can simply put '**-1**' in the second arugment. Asprise OCR supports a wide range of image types. Image file types supported are listed in the table below. However, usually, you can pass image type as '-1' to let the system detect the image type automatically.

imageFileType (int) [Hex values]	File Extensions	Remarks
0x0420	.bmp	Windows bitmap
0x0421	.cut	Dr. Halo Cut File
0x0422	.doom	
0x0424	.ico	Icons
0x0425	.jpg, .jpeg	Jpeg
0x0426	.lbm	Interlaced bitmap
0x0427	.pcd	PhotoCD
0x0428	.pcx	
0x0429	.pic	PIC
0x042A	.png	Portable Network Graphics
0x042B	.pnm, .pbm	PNM
0x042C	.sgi	Silicon Graphics
0x042D	.tga	Targa

imageFileType (int) [Hex values]	File Extensions	Remarks
0x042E	.tif, .tiff	Tiff
0x042F	.chead	CHEAD
0x0430	.raw	RAW
0x0431	.mdl	Half life model
0x0432	.wal	Quake 2
0x0434	.lif	Homeworld file
0x0435	.mng	Mng animation
0x0435	.jng	JNG
0x0436	.gif	GIF
0x0437	.dds	DDS
0x0438	.dcx	DCX
0x0439	.psd	Photosh
0x043A	.exif	EXIF
0x043B	.psp	PSP
0x043C	.pix	PIX
0x043D	.pxr	PXR
0x043E	.xpm	XPM
-1	.*	System auto detect.

For example, for the following image: (C:\ocr.gif): [This image is available at **[ocr root]\sampleImages]**

Function call: **OCR("C:\\ocr.gif", -1)** returns the following text:

```
[123456789012]
Asprise OCR
Speed. Accuracy.
```

Note that '**[123456789012]**' represents the bar code detected. The content of the barcode is '**123456789012**'.

[string] OCRpart([string] imagePath, [int] imageFileType, [int] startX, [int] startY, [int] width, [int] height)

Performs OCR on part of the image only. The coordinate of the upper left corner of the area to be OCRed is **(startX, startY)**. The width and height of this area is **width** and **height**, respectively.

For example, function call OCR("C:\\ocr.gif", -1, 0, 0, 300, 85) returns the following:

```
[123456789012]
Asprise C
Speed. Acc
```

Note that the image size for C:\ocr.gif is (400, 85).

[string] OCRBarCodes([string] imagePath, [int] imageFileType)

This function performs OCR on the given image and returns all the bar codes. If there is more than one bar code, each bar code is separated with a line break ('\r\n').

Eg.

OCRBarCodes("C:\\ocr.gif", -1) returns:

```
123456789012
```

[string] OCRpartBarCodes([string] imagePath, [int] imageFileType, [int] startX, [int] startY, [int] width, [int] height)

This function performs OCR on the specified part of the given images and returns all the bar codes detected. If there is more than one bar code, each bar code is separated with a line break ('\r\n').

Eg.

OCRpartBarCodes("C:\\ocr.gif", -1, 0, 0, 200, 80) returns:

```
123456789012
```

Subimages/Pages

Some image files may contain mutliple subimages or pages, for example, TIFF files. In this case, Asprise OCR performs OCR on all the subimages/pages and returns all the text recoginized. Text recoginized from different pages are separated with '**\r\n* * *\r\n**'.

5. OCR PROGRAMMING WITH VISUAL BASIC

OCR programming with Visual Basic comprises of two steps:

1) Declared the exposed functions by Asprise OCR;

2) Call these functions to perform your desired OCR tasks.
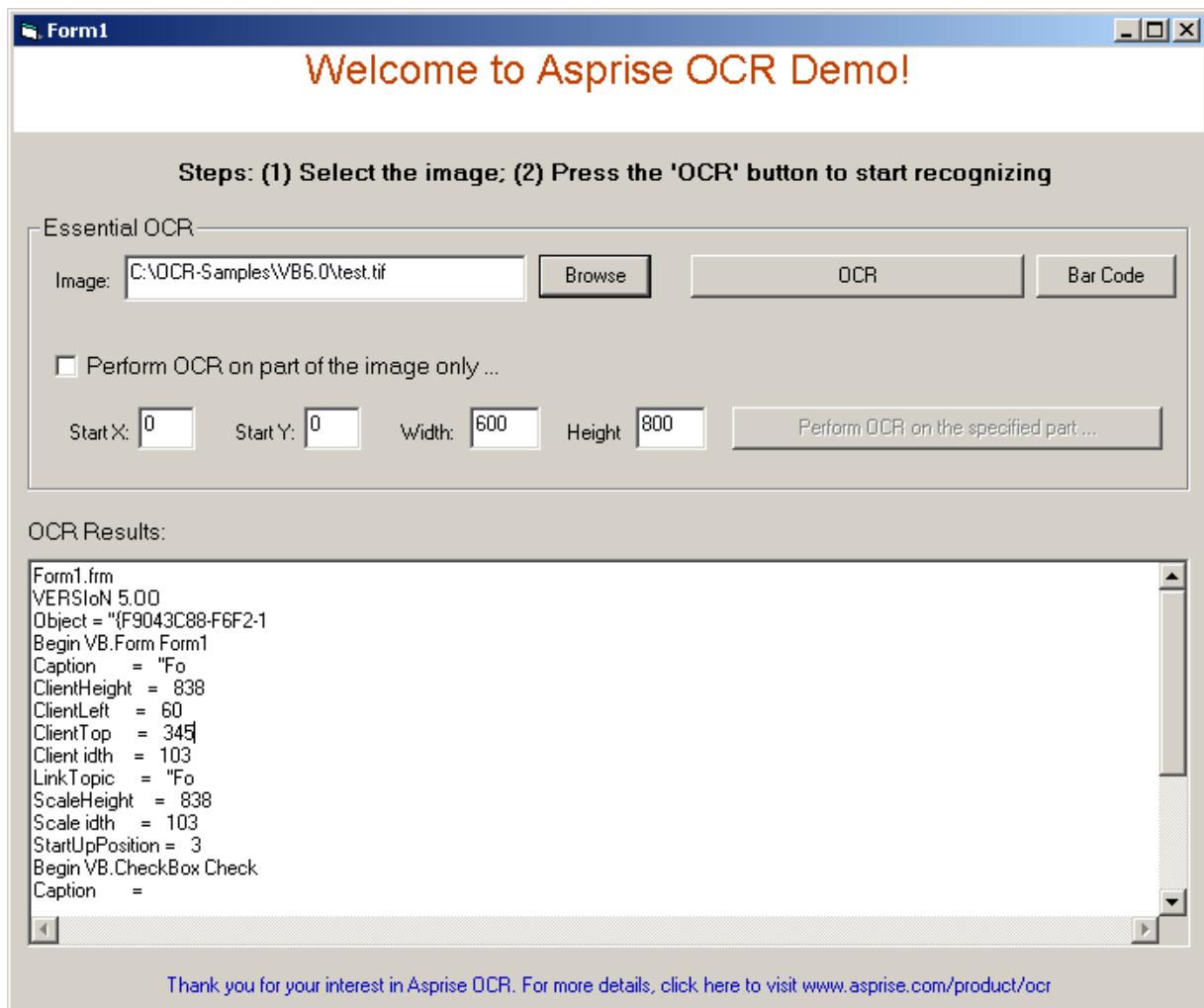
First, you need to declare the following functions exposed from the dll:

```
1. Private Declare Function OCR Lib "AspriseOCR.dll" (ByVal file As String,
   ByVal imageType As Long) As String
2. Private Declare Function OCRBarCodes Lib "AspriseOCR.dll" (ByVal file As
   String, ByVal imageType As Long) As String
3. Private Declare Function OCRpart Lib "AspriseOCR.dll" (ByVal file As
   String, ByVal imageType As Long, ByVal startX As Long, ByVal startY As
   Long, ByVal width As Long, ByVal height As Long) As String
```

Then you can start to call these functions:

```
1. Private Sub Command2_Click()
2.    Dim ret As String
3.    ret = OCR("C:\\ocr.gif", -1)
4. End Sub
```

The code below shows a completed VB OCR demo application as shown in the figure.

Code listing:

```
1.VERSION 5.00
2.Object = "{F9043C88-F6F2-101A-A3C9-08002B2F49FB}#1.2#0"; "COMDLG32.OCX"
3.Begin VB.Form Form1
4.    Caption          =   "Form1"
5.    ClientHeight     =   8385
6.    ClientLeft       =   60
7.    ClientTop        =   345
8.    ClientWidth      =   10335
9.    LinkTopic        =   "Form1"
10.    ScaleHeight      =   8385
11.    ScaleWidth       =   10335
12.    StartUpPosition =   3  'Windows Default
13.    Begin VB.CheckBox Check1
14.       Caption         =   "Perform OCR on part of the image only ..."
15.       BeginProperty Font
16.          Name            =   "MS Sans Serif"
17.          Size            =   9.75
18.          Charset         =   0
19.          Weight          =   400
20.          Underline       =   0   'False
21.          Italic          =   0   'False
22.          Strikethrough   =   0   'False
23.       EndProperty
24.       Height           =   495
```

```
25.        Left            =      360
26.        TabIndex        =      18
27.        Top             =      2520
28.        Width           =      4095
29.     End
30.     Begin VB.CommandButton Command4
31.        Caption         =      "Perform OCR on the specified part ..."
32.        Height          =      375
33.        Left            =      6240
34.        TabIndex        =      16
35.        Top             =      3120
36.        Width           =      3735
37.     End
38.     Begin VB.TextBox X
39.        Height          =      375
40.        Left            =      1080
41.        TabIndex        =      12
42.        Text            =      "0"
43.        Top             =      3120
44.        Width           =      495
45.     End
46.     Begin VB.CommandButton Command3
47.        Caption         =      "Bar Code"
48.        Height          =      375
49.        Left            =      8880
50.        TabIndex        =      4
51.        Top             =      1800
52.        Width           =      1215
53.     End
54.     Begin VB.CommandButton Command2
55.        Caption         =      "OCR"
56.        Height          =      375
57.        Left            =      5880
58.        TabIndex        =      3
59.        Top             =      1800
60.        Width           =      2895
61.     End
62.     Begin VB.TextBox textPath
63.        Height          =      405
64.        Left            =      960
65.        TabIndex        =      2
66.        Top             =      1800
67.        Width           =      3495
68.     End
69.     Begin MSComDlg.CommonDialog dlgOpenFile
70.        Left            =      8040
71.        Top             =      2160
72.        _ExtentX        =      847
73.        _ExtentY        =      847
74.        _Version        =      393216
75.     End
76.     Begin VB.TextBox text
77.        Height          =      3375
78.        Left            =      120
79.        MultiLine       =      -1   'True
80.        ScrollBars      =      3    'Both
81.        TabIndex        =      1
82.        Top             =      4440
83.        Width           =      10095
84.     End
85.     Begin VB.CommandButton Command1
86.        Caption         =      "Browse"
```

```
87.        Default          =    -1   'True
88.        Height           =    375
89.        Left             =    4560
90.        TabIndex         =    0
91.        Top              =    1800
92.        Width            =    975
93.    End
94.    Begin VB.Frame Frame1
95.        Caption          =    "Essential OCR"
96.        BeginProperty Font
97.          Name            =    "MS Sans Serif"
98.          Size            =    9.75
99.          Charset         =    0
100.          Weight          =    400
101.          Underline       =    0    'False
102.          Italic          =    0    'False
103.          Strikethrough   =    0    'False
104.        EndProperty
105.        Height           =    2415
106.        Left             =    120
107.        TabIndex         =    5
108.        Top              =    1440
109.        Width            =    10095
110.        Begin VB.TextBox H
111.          Height          =    375
112.          Left            =    5280
113.          TabIndex        =    15
114.          Top             =    1680
115.          Width           =    615
116.        End
117.        Begin VB.TextBox W
118.          Height          =    375
119.          Left            =    3840
120.          TabIndex        =    14
121.          Top             =    1680
122.          Width           =    615
123.        End
124.        Begin VB.TextBox Y
125.          Height          =    375
126.          Left            =    2400
127.          TabIndex        =    13
128.          Text            =    "0"
129.          Top             =    1680
130.          Width           =    495
131.        End
132.        Begin VB.Label Label6
133.          Caption         =    "Height"
134.          Height          =    375
135.          Left            =    4680
136.          TabIndex        =    11
137.          Top             =    1800
138.          Width           =    735
139.        End
140.        Begin VB.Label Label5
141.          Caption         =    "Width: "
142.          Height          =    375
143.          Left            =    3240
144.          TabIndex        =    10
145.          Top             =    1800
146.          Width           =    735
147.        End
148.        Begin VB.Label Label4
```

```
149.          Caption         =    "Start Y: "
150.          Height          =    375
151.          Left            =    1800
152.          TabIndex        =    9
153.          Top             =    1800
154.          Width           =    735
155.       End
156.    Begin VB.Label Label3
157.          Caption         =    "Start X: "
158.          Height          =    375
159.          Left            =    360
160.          TabIndex        =    8
161.          Top             =    1800
162.          Width           =    735
163.       End
164.    Begin VB.Label Label1
165.          Caption         =    "Image: "
166.          Height          =    255
167.          Left            =    240
168.          TabIndex        =    6
169.          Top             =    480
170.          Width           =    975
171.       End
172.    End
173.    Begin VB.Label Label9
174.       Caption            =    "OCR Results: "
175.       BeginProperty Font
176.          Name            =    "MS Sans Serif"
177.          Size            =    9.75
178.          Charset         =    0
179.          Weight          =    400
180.          Underline       =    0    'False
181.          Italic          =    0    'False
182.          Strikethrough   =    0    'False
183.       EndProperty
184.       Height             =    255
185.       Left               =    120
186.       TabIndex           =    20
187.       Top                =    4080
188.       Width              =    1575
189.    End
190.    Begin VB.Label Label8
191.       Alignment          =    2    'Center
192.       Caption            =    "Thank you for your interest in Asprise OCR.
  For more details, click here to visit www.asprise.com/product/ocr"
193.       ForeColor          =    &H00C00000&
194.       Height             =    375
195.       Left               =    0
196.       TabIndex           =    19
197.       Top                =    8040
198.       Width              =    10335
199.    End
200.    Begin VB.Label Label7
201.       Alignment          =    2    'Center
202.       Caption            =    "Steps: (1) Select the image; (2) Press the
  'OCR' button to start recognizing"
203.       BeginProperty Font
204.          Name            =    "MS Sans Serif"
205.          Size            =    9.75
206.          Charset         =    0
207.          Weight          =    700
208.          Underline       =    0    'False
```

```
209.          Italic              =    0    'False
210.          Strikethrough       =    0    'False
211.       EndProperty
212.       Height              =    375
213.       Left                =    240
214.       TabIndex            =    17
215.       Top                 =    960
216.       Width               =    9975
217.    End
218.    Begin VB.Label Label2
219.       Alignment           =    2  'Center
220.       BackColor           =    &H80000009&
221.       Caption             =    "Welcome to Asprise OCR Demo!"
222.       BeginProperty Font
223.          Name             =    "Arial"
224.          Size             =    18
225.          Charset          =    0
226.          Weight           =    400
227.          Underline        =    0    'False
228.          Italic           =    0    'False
229.          Strikethrough    =    0    'False
230.       EndProperty
231.       ForeColor           =    &H000040C0&
232.       Height              =    735
233.       Left                =    0
234.       TabIndex            =    7
235.       Top                 =    0
236.       Width               =    10335
237.    End
238.End
239.Attribute VB_Name = "Form1"
240.Attribute VB_GlobalNameSpace = False
241.Attribute VB_Creatable = False
242.Attribute VB_PredeclaredId = True
243.Attribute VB_Exposed = False
244.'Option Explicit
245.
246.Private Declare Function OCR Lib "AspriseOCR.dll" (ByVal file As
   String, ByVal imageType As Long) As String
247.Private Declare Function OCRBarCodes Lib "AspriseOCR.dll" (ByVal file
   As String, ByVal imageType As Long) As String
248.Private Declare Function OCRpart Lib "AspriseOCR.dll" (ByVal file As
   String, ByVal imageType As Long, ByVal startX As Long, ByVal startY As
   Long, ByVal width As Long, ByVal height As Long) As String
249.
250.
251.
252.Private Sub Check1_Click()
253.    If Check1.Value = Checked Then
254.        Command4.Enabled = True
255.    Else
256.        Command4.Enabled = False
257.    End If
258.End Sub
259.
260.Private Sub Command1_Click()
261.
262.Dim fnum As Integer
263.
264.    On Error Resume Next
265.    dlgOpenFile.ShowOpen
266.    If Err.Number = cdlCancel Then
```

```
267.        ' The user canceled.
268.        Exit Sub
269.    ElseIf Err.Number <> 0 Then
270.        ' Unknown error.
271.        MsgBox "Error " & Format$(Err.Number) & _
272.            " selecting file." & vbCrLf & _
273.            Err.Description
274.        Exit Sub
275.    End If
276.    On Error GoTo 0
277.
278.    ' Read the file.
279.    'fnum = FreeFile
280.    'Open dlgOpenFile.FileName For Input As #fnum
281.    'text.text = Input$(LOF(fnum), fnum)
282.    'Close #fnum
283.
284.    textPath.text = dlgOpenFile.FileName
285.
286.End Sub
287.
288.Private Sub Command2_Click()
289.    Dim ret As String
290.    ret = OCR(textPath.text, -1)
291.    text.text = ret
292.End Sub
293.
294.Private Sub Command3_Click()
295.    Dim ret As String
296.    ret = OCRBarCodes(textPath.text, -1)
297.    text.text = ret
298.End Sub
299.
300.Private Sub Command4_Click()
301.    Dim ret As String
302.    ret = OCRpart(textPath.text, -1, CLng(X.text), CLng(Y.text),
  CLng(W.text), CLng(H.text))
303.    text.text = ret
304.End Sub
305.
306.Private Sub Form_Load()
307.    dlgOpenFile.InitDir = App.Path
308.    dlgOpenFile.DialogTitle = "Open File"
309.    dlgOpenFile.Flags = _
310.        cdlOFNFileMustExist + _
311.        cdlOFNHideReadOnly + _
312.        cdlOFNLongNames + _
313.        cdlOFNExplorer
314.    dlgOpenFile.CancelError = True
315.    Command4.Enabled = False
316.End Sub
317.
318.Private Sub Label8_Click()
319.    Set oIE = CreateObject("InternetExplorer.Application")
320.    oIE.Visible = True
321.    oIE.Navigate ("http://asprise.com/product/ocr/")
322.End Sub
```

The file containing the above code is located at **[ocr root]\sampleApp**.

6. OCR PROGRAMMING WITH VISUAL BASIC.NET

OCR programming with Visual Basic.NET comprises of two steps:

1) Declared the exposed functions by Asprise OCR;

2) Call these functions to perform your desired OCR tasks.
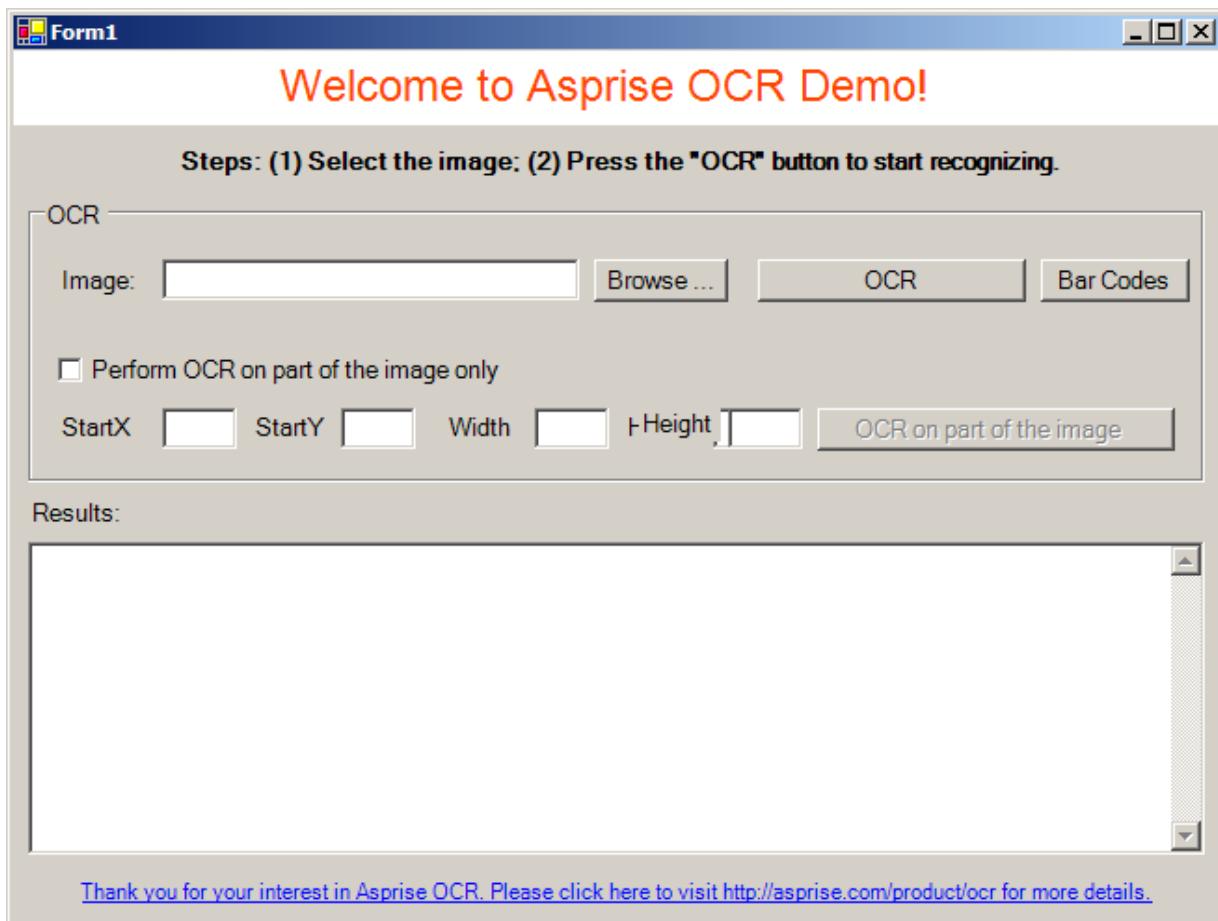
First, you need declare the following functions exposed from the dll:

```
1.    Declare Function OCR Lib "AspriseOCR.dll" (ByVal file As String,
   ByVal type As Integer) As String
2.    Declare Function OCRBarCodes Lib "AspriseOCR.dll" (ByVal file As
   String, ByVal type As Integer) As String
3.    Declare Function OCRpart Lib "AspriseOCR.dll" (ByVal file As String,
   ByVal type As Integer, ByVal startX As Integer, ByVal startY As Integer,
   ByVal width As Integer, ByVal height As Integer) As String
4.    Declare Function OCRpartBarCodes Lib "AspriseOCR.dll" (ByVal file As
   String, ByVal type As Integer, ByVal startX As Integer, ByVal startY As
   Integer, ByVal width As Integer, ByVal height As Integer) As String
```

Now, you can make calls to these functions. eg.

OCR(“C:\\ocr.gif”, -1)

The code listed below creates a OCR utility application as shown in the figure.

Welcome to Asprise OCR Demo!

Steps: (1) Select the image; (2) Press the "OCR" button to start recognizing.

OCR

Image: [ ] [Browse ...]   [OCR]   [Bar Codes]

☐ Perform OCR on part of the image only

StartX [ ] StartY [ ] Width [ ] ⊢Height [ ] [OCR on part of the image]

Results:
[   ]

Thank you for your interest in Asprise OCR. Please click here to visit http://asprise.com/product/ocr for more details.

```vbnet
1.Public Class Form1
2.
3.    Declare Function OCR Lib "AspriseOCR.dll" (ByVal file As String,
  ByVal type As Integer) As String
4.    Declare Function OCRBarCodes Lib "AspriseOCR.dll" (ByVal file As
  String, ByVal type As Integer) As String
5.    Declare Function OCRpart Lib "AspriseOCR.dll" (ByVal file As String,
  ByVal type As Integer, ByVal startX As Integer, ByVal startY As Integer,
  ByVal width As Integer, ByVal height As Integer) As String
6.    Declare Function OCRpartBarCodes Lib "AspriseOCR.dll" (ByVal file As
  String, ByVal type As Integer, ByVal startX As Integer, ByVal startY As
  Integer, ByVal width As Integer, ByVal height As Integer) As String
7.
8.    Private Sub CheckBox1_CheckedChanged(ByVal sender As System.Object,
  ByVal e As System.EventArgs) Handles CheckBox1.CheckedChanged
9.        If CheckBox1.Checked Then
10.            buttonOCRPart.Enabled = True
11.        Else
12.            buttonOCRPart.Enabled = False
13.        End If
14.    End Sub
15.
16.    Private Sub buttonBrowse_Click(ByVal sender As System.Object, ByVal
  e As System.EventArgs) Handles buttonBrowse.Click
17.        OpenFileDialog1.InitialDirectory = Application.StartupPath
18.        OpenFileDialog1.ShowDialog()
```

```
19.          textImage.Text = OpenFileDialog1.FileName
20.
21.      End Sub
22.
23.      Private Sub buttonOCR_Click(ByVal sender As System.Object, ByVal e
  As System.EventArgs) Handles buttonOCR.Click
24.          textResults.Text = OCR(textImage.Text, -1)
25.      End Sub
26.
27.      Private Sub buttonBarcodes_Click(ByVal sender As System.Object,
  ByVal e As System.EventArgs) Handles buttonBarcodes.Click
28.          textResults.Text = OCRBarCodes(textImage.Text, -1)
29.      End Sub
30.
31.      Private Sub buttonOCRPart_Click(ByVal sender As System.Object, ByVal
  e As System.EventArgs) Handles buttonOCRPart.Click
32.          Dim startX As Int32
33.          Dim startY As Int32
34.          Dim width As Int32
35.          Dim height As Int32
36.
37.          On Error Resume Next
38.
39.          startX = System.Convert.ToInt32(textStartX.Text)
40.          startY = System.Convert.ToInt32(textStartY.Text)
41.          width = System.Convert.ToInt32(textWidth.Text)
42.          height = System.Convert.ToInt32(textHeight.Text)
43.
44.          textResults.Text = OCRpart(textImage.Text, -1, startX, startY,
  width, height)
45.
46.      End Sub
47.
48.      Private Sub GroupBox1_Enter(ByVal sender As System.Object, ByVal e
  As System.EventArgs) Handles GroupBox1.Enter
49.          buttonOCRPart.Enabled = False
50.
51.      End Sub
52.
53.      Private Sub LinkLabel1_LinkClicked(ByVal sender As System.Object,
  ByVal e As System.Windows.Forms.LinkLabelLinkClickedEventArgs) Handles
  LinkLabel1.LinkClicked
54.          System.Diagnostics.Process.Start("http://asprise.com/product/ocr
  ")
55.      End Sub
56.End Class
```

The complete Visual Basic.NET project is located at **[ocr root]\sampleApp**.

IMPORTANT NOTICE FOR THE SAMPLE APPLICATION:

This binary executable was built using Visual Studio .NET 2003. If you are using a different
version of Visual Studio .NET, you should rebuild the binary executable.

7. OCR PROGRAMMING WITH VISUAL C++/BORLAND C++/C

Before you can start OCR programming with C or C++, you need to set up your IDE first (see section 3).
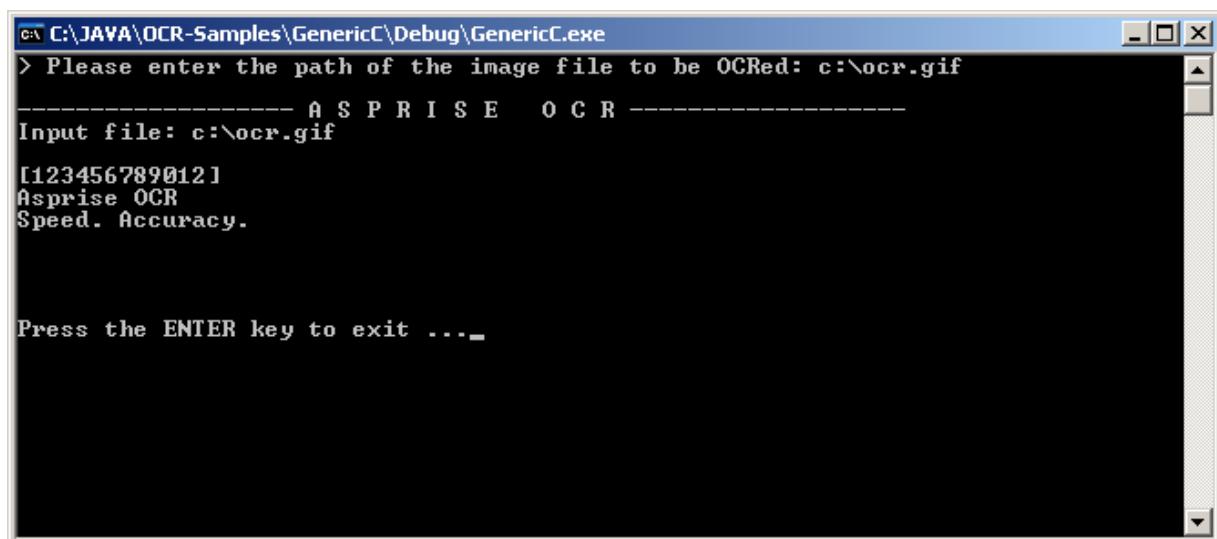
The following code creates a basic program to perform OCR:

```
1.#include <stdio.h>
2.#include "AspriseOCR.h"
3.
4.
5./**
6. * Returns the path of the image file to be OCRed.
7. */
8.char * getInputFile(int argc, char* argv[]);
9.
10.
11./**
12. * Program entry point.
13. */
14.int main(int argc, char* argv[])
15.{
16.        char *text = ""; // used to point to the OCR text recognized.
17.
18.
19.        /*-------------------------------------------------------------
20.        | Gets the path of the image file to be OCRed.
21.        \-------------------------------------------------------------*/
22.
23.        char *input = getInputFile(argc, argc);
24.
25.
26.        printf("\r\n------------------ A S P R I S E   O C R --- \r\n");
27.        printf("Input file: %s\r\n\r\n", input);
28.
29.
30.        /*-------------------------------------------------------------
31.        | Performs the actual OCR.
32.        | The image path is specified in the first argument of the OCR
 func.
33.        | The second argument is the type of the image.  All supported
 types
34.        | are defined in 'AspriseOCR.h'. Use IMAGE_TYPE_AUTO_DETECT to
 let
35.        | the system to detect the image type automatically.
36.        \-------------------------------------------------------------*/
37.
38.        text = OCR(input, IMAGE_TYPE_AUTO_DETECT);
39.
40.
41.        /*-------------------------------------------------------------
```

```
42.            | Prints out the OCR results.
43.            \---------------------------------------------------------------*/
44.
45.         printf(text);
46.
47.         printf("\r\n\r\n\r\n\r\nPress the ENTER key to exit ...");
48.         getchar();
49.         return 0;
50.}
51.
52.
53.
54.char * getInputFile(int argc, char* argv[]) {
55.         char* file;
56.
57.         if(argc == 2) // if the user specifies a file as the argument,
  use it.
58.                   return argv[1];
59.
60.         // otherwise, ask the user to input a file path.
61.
62.         file = (char *)calloc(sizeof(char), 200); // maximum 200
  characters.
63.
64.         printf("> Please enter the path of the image file to be OCRed:
  ");
65.         scanf("%s", file);
66.         getchar(); // consumes the ENTER key.
67.
68.         return file;
69.}
```

The UI output:

8. OCR PROGRAMMING WITH C#, .NET

OCR programming with C# comprises of two steps:

1) Declared the exposed functions by Asprise OCR;

2) Call these functions to perform your desired OCR tasks.
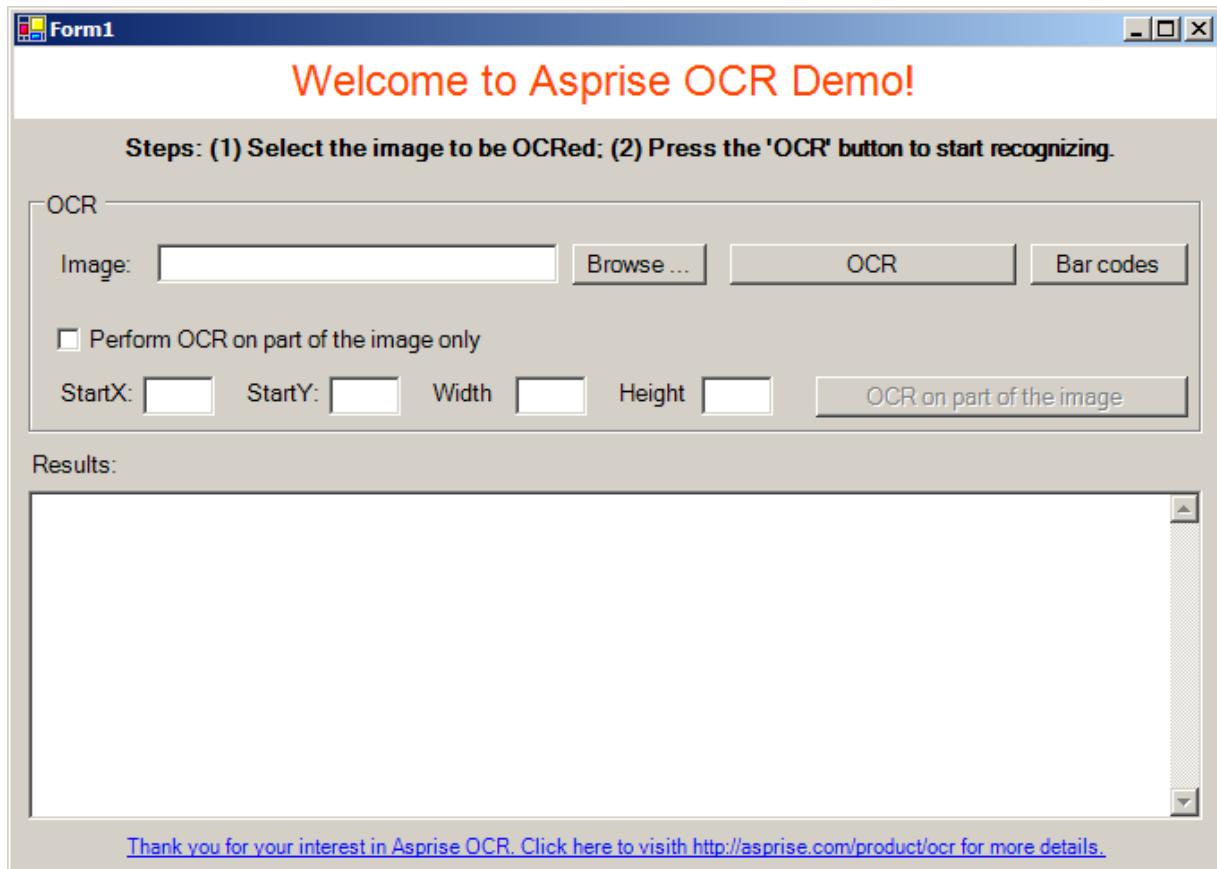
First, you need declare the following functions exposed from the dll:

```
1.        [DllImport("AspriseOCR.dll")]
2.        static extern string OCR(string file, int type);
3.
4.        [DllImport("AspriseOCR.dll")]
5.        static extern string OCRpart(string file, int type, int startX,
   int startY, int width, int height);
6.
7.        [DllImport("AspriseOCR.dll")]
8.        static extern string OCRBarCodes(string file, int type);
9.
10.        [DllImport("AspriseOCR.dll")]
11.        static extern string OCRpartBarCodes(string file, int type, int
   startX, int startY, int width, int height);
```

Then you can start to call these function. eg.

string result = OCR("C:\\ocr.gif", -1);

The following code listed creates a OCR application as shown in the figure.

```
1.#region Using directives
2.
3.using System;
4.using System.Collections.Generic;
5.using System.ComponentModel;
6.using System.Data;
7.using System.Drawing;
8.using System.Windows.Forms;
9.using System.Runtime.InteropServices;
10.
11.
12.#endregion
13.
14.namespace OCRSampleApp
15.{
16.    partial class Form1 : Form
17.    {
18.        [DllImport("AspriseOCR.dll")]
19.        static extern string OCR(string file, int type);
20.
21.        [DllImport("AspriseOCR.dll")]
22.        static extern string OCRpart(string file, int type, int startX,
    int startY, int width, int height);
23.
24.        [DllImport("AspriseOCR.dll")]
25.        static extern string OCRBarCodes(string file, int type);
26.
27.        [DllImport("AspriseOCR.dll")]
```

```
28.         static extern string OCRpartBarCodes(string file, int type, int
    startX, int startY, int width, int height);
29.
30.
31.         public Form1()
32.         {
33.             InitializeComponent();
34.             openFileDialog1.InitialDirectory = Application.StartupPath;
35.         }
36.
37.         private void groupBox1_Enter(object sender, EventArgs e)
38.         {
39.
40.         }
41.
42.         private void buttonBrowse_Click(object sender, EventArgs e)
43.         {
44.             DialogResult dr = openFileDialog1.ShowDialog(this);
45.             textImage.Text = openFileDialog1.FileName;
46.         }
47.
48.         private void checkBox1_CheckedChanged(object sender, EventArgs
    e)
49.         {
50.             if (checkBox1.Checked)
51.             {
52.                 buttonOCRPart.Enabled = true;
53.             }
54.             else
55.             {
56.                 buttonOCRPart.Enabled = false;
57.             }
58.         }
59.
60.         private void Form1_Load(object sender, EventArgs e)
61.         {
62.             buttonOCRPart.Enabled = false;
63.         }
64.
65.         private void buttonOCR_Click(object sender, EventArgs e)
66.         {
67.             string result = OCR(textImage.Text, -1);
68.             textResults.Text = result;
69.         }
70.
71.         private void buttonBarCode_Click(object sender, EventArgs e)
72.         {
73.             string result = OCRBarCodes(textImage.Text, -1);
74.             textResults.Text = result;
75.         }
76.
77.         private void buttonOCRPart_Click(object sender, EventArgs e)
78.         {
79.             int startX = 0;
80.             int startY = 0;
81.             int width = -1;
82.             int height = -1;
83.             try
84.             {
85.                 startX = Convert.ToInt32(textStartX.Text);
86.                 startY = Convert.ToInt32(textStartY.Text);
87.                 width = Convert.ToInt32(textWidth.Text);
```

```
88.                 height = Convert.ToInt32(textHeight.Text);
89.             }
90.         catch (Exception ex)
91.         {
92.             Console.WriteLine(ex.StackTrace);
93.         }
94.         String result = OCRpart(textImage.Text, -1, startX, startY,
  width, height);
95.         textResults.Text = result;
96.     }
97.
98.     private void linkLabel1_LinkClicked(object sender,
  LinkLabelLinkClickedEventArgs e)
99.     {
100.
101.         System.Diagnostics.Process.Start("http://asprise.com/pr
  oduct/ocr");
102.
103.     }
104.
105. }
106.}
```

The complete C# project is available at **[ocr root]\sampleApp**.

IMPORTANT NOTICE FOR THE SAMPLE APPLICATION:

This binary executable was built using Visual Studio .NET 2003. If you are using a different version of Visual Studio .NET, you should rebuild the binary executable.

9. APPLICATION PACKAGING AND DISTRIBUTION

WARNING: Before you can distribute your Asprise OCR based programs to your clients/end users, you need to purchase a license from LAB Asprise! first. Visit this page to find how to order: http://asprise.com/product/ocr.

So you have successfully developed your applications with Asprise OCR. It's time to distribute your programs to the end users. Distributing Asprise OCR based applications is very easy.

You simply distribute the three dll files for Asprise OCR along with your own program files.

10. SUPPORT AND PROFESSIONAL SERVICES

Support Web Site

http://www.asprise.com/product/ocr

Basic Support

Our team provides basic support for general Asprise OCR developers. Email your technical questions to support@asprise.com

Advice: You are strongly recommended to subscribe our premium support service in order to get your problems sloved quickly.

Premium Support Services

We provide you free up to 6 months' premium support services subscription with every license purchased. You may optionally extend premium support services after your subscription expires. More details will be included in the email sent to you when you purchase licenses.

Professional Services

Our team are ready to help you to develop various applications, components. Please send your query to info@asprise.com

Sales Related, Business Opportunties

Please direct your email to sales@asprise.com.

# # #