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two pass decoding in C# and ByteScout BarCode Reader SDK

ByteScout BarCode Reader SDK: the barcode decoder with support for code 39, code 128, QR Code, Datamatrix, GS1, PDF417 and all other popular barcodes. Can read barcodes from images, pdf, tiff documents and live web camera. Supports noisy and damaged documents, can split and merge pdf and tiff documents based on barcodes. Can export barcode decoder results to XML, JSON, CSV and into custom data structures.

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Source Code Files:

Program.cs

```
using Bytescout.BarCodeReader;
using System;

namespace TwoPassDecoding
{
    class Program
    {
        static void Main()
        {
            Reader reader = new Reader();
            reader.RegistrationName = "demo";
            reader.RegistrationKey = "demo";

            // Limit search to 1-dimensional barcodes only (exclude 2D barcodes to speed up the processing).
            // Change to barcodeReader.BarcodeTypesToFind.SetAll() to scan for all supported 1D and 2D barcode types
```

```

        // or select specific type, e.g. barcodeReader.BarcodeTypesToFind.PDF417 = True
        reader.BarcodeTypesToFind.All1D = true;

    // Input barcode document
    var inputDocument = "example.pdf";

    Console.WriteLine("First Attempt - Reading barcodes from PDF document...");
    var foundBarcodesFirstAttempt = GetBarcodes(reader, inputDocument);

    if(foundBarcodesFirstAttempt != null && foundBarcodesFirstAttempt.Length > 0)
    {
        DisplayBarcodeResult(foundBarcodesFirstAttempt);
    }
    else
    {
        Console.WriteLine("No Barccodes found...");
        // Try Second attempt
        Console.WriteLine("\n\nSecond Attempt - Reading barcodes from PDF document...");

        // Change PDF rendering resolution
        reader.PDFRenderingResolution = 150;

        // Get found barcodes
        var foundBarcodesSecondAttempt = GetBarcodes(reader, inputDocument);

        if(foundBarcodesSecondAttempt != null && foundBarcodesSecondAttempt.Length > 0)
        {
            DisplayBarcodeResult(foundBarcodesSecondAttempt);
        }
    }

    // Cleanup
    reader.Dispose();

    Console.WriteLine();
    Console.WriteLine("Press any key to continue.");
    Console.ReadKey();
}

/// <summary>
/// Get Barcodes
/// </summary>
public static FoundBarcode[] GetBarcodes(Reader reader, string inputDocument)
{
    /* -----
    NOTE: We can read barcodes from specific page to increase performance.
    For sample please refer to "Decoding barcodes from PDF by pages" program.
    ----- */
    return reader.ReadFrom(inputDocument);
}

/// <summary>
/// Display found barcodes
/// </summary>
public static void DisplayBarcodeResult(FoundBarcode[] foundBarcodes)
{
    foreach (FoundBarcode barcode in foundBarcodes)
    {
        Console.WriteLine("Found barcode with type '{0}' and value '{1}' on page {2} at {3}",
            barcode.Type, barcode.Value, barcode.Page, barcode.Rect);
    }
}
}
}

```

```

<?xml version="1.0" encoding="utf-8"?>
<Project Sdk="Microsoft.NET.Sdk">
  <PropertyGroup>
    <OutputType>Exe</OutputType>
    <TargetFramework>netcoreapp2.0</TargetFramework>
    <EnableDefaultCompileItems>>false</EnableDefaultCompileItems>
    <GenerateAssemblyCompanyAttribute>>false</GenerateAssemblyCompanyAttribute>
    <GenerateAssemblyConfigurationAttribute>>false</GenerateAssemblyConfigurationAttribute>
    <GenerateAssemblyFileVersionAttribute>>false</GenerateAssemblyFileVersionAttribute>
    <GenerateAssemblyInformationalVersionAttribute>>false</GenerateAssemblyInformationalVersionAttribute>
    <GenerateAssemblyProductAttribute>>false</GenerateAssemblyProductAttribute>
    <GenerateAssemblyTitleAttribute>>false</GenerateAssemblyTitleAttribute>
    <GenerateAssemblyVersionAttribute>>false</GenerateAssemblyVersionAttribute>
    <GenerateAssemblyCopyrightAttribute>>false</GenerateAssemblyCopyrightAttribute>
    <GenerateAssemblyTrademarkAttribute>>false</GenerateAssemblyTrademarkAttribute>
    <GenerateAssemblyCultureAttribute>>false</GenerateAssemblyCultureAttribute>
    <GenerateAssemblyDescriptionAttribute>>false</GenerateAssemblyDescriptionAttribute>
  </PropertyGroup>
  <ItemGroup>
    <Compile Include="Program.cs" />
    <None Include="example.pdf">
      <CopyToOutputDirectory>Always</CopyToOutputDirectory>
    </None>
  </ItemGroup>
  <ItemGroup>
    <PackageReference Include="Microsoft.Windows.Compatibility" Version="2.0.0" />
  </ItemGroup>
  <ItemGroup>
    <Reference Include="Bytescout.BarCodeReader">
      <SpecificVersion>False</SpecificVersion>
      <HintPath>c:\Program Files\Bytescout BarCode Reader SDK\netcoreapp2.0\Bytescout.BarCodeReader.dll</HintPath>
    </Reference>
  </ItemGroup>
</Project>

```

TwoPassDecoding.VS2005.csproj

```

<Project DefaultTargets="Build" xmlns="http://schemas.microsoft.com/developer/msbuild/2003">
  <PropertyGroup>
    <Configuration Condition=" '$(Configuration)' == '' ">Debug</Configuration>
    <Platform Condition=" '$(Platform)' == '' ">AnyCPU</Platform>
    <ProductVersion>8.0.50727</ProductVersion>
    <SchemaVersion>2.0</SchemaVersion>
    <ProjectGuid>{C664E764-C424-4CD5-AF69-F6B05FB17BA8}</ProjectGuid>
    <OutputType>Exe</OutputType>
    <RootNamespace>TwoPassDecoding</RootNamespace>
    <AssemblyName>TwoPassDecoding</AssemblyName>
  </PropertyGroup>
  <PropertyGroup Condition=" '$(Configuration)|$(Platform)' == 'Debug|AnyCPU' ">
    <DebugSymbols>>true</DebugSymbols>
    <DebugType>full</DebugType>
    <Optimize>>false</Optimize>
    <OutputPath>bin\Debug</OutputPath>
    <DefineConstants>DEBUG;TRACE</DefineConstants>
    <ErrorReport>prompt</ErrorReport>
    <WarningLevel>4</WarningLevel>
  </PropertyGroup>
  <PropertyGroup Condition=" '$(Configuration)|$(Platform)' == 'Release|AnyCPU' ">
    <DebugType>pdbonly</DebugType>
    <Optimize>>true</Optimize>
    <OutputPath>bin\Release\</OutputPath>
    <DefineConstants>TRACE</DefineConstants>
    <ErrorReport>prompt</ErrorReport>
    <WarningLevel>4</WarningLevel>
  </PropertyGroup>
</ItemGroup>

```

```

<Reference Include="Bytescout.BarCodeReader, Version=8.20.0.1340, Culture=neutral, PublicKeyToken=f7dd1bd
  <SpecificVersion>False</SpecificVersion>
  <HintPath>C:\Program Files\Bytescout BarCode Reader SDK\net2.0\Bytescout.BarCodeReader.dll</HintPath>
</Reference>
<Reference Include="System" />
<Reference Include="System.Data" />
<Reference Include="System.Drawing" />
<Reference Include="System.Xml" />
</ItemGroup>
<ItemGroup>
  <Compile Include="Program.cs" />
</ItemGroup>
<ItemGroup>
  <None Include="example.pdf">
    <CopyToOutputDirectory>Always</CopyToOutputDirectory>
  </None>
</ItemGroup>
<Import Project="$(MSBuildBinPath)\Microsoft.CSharp.targets" />
<!-- To modify your build process, add your task inside one of the targets below and uncomment it.
      Other similar extension points exist, see Microsoft.Common.targets.
<Target Name="BeforeBuild">
</Target>
<Target Name="AfterBuild">
</Target>
-->
</Project>

```

TwoPassDecoding.VS2008.csproj

```

<Project DefaultTargets="Build" xmlns="http://schemas.microsoft.com/developer/msbuild/2003" ToolsVersion="3.5">
  <PropertyGroup>
    <Configuration Condition="'$(Configuration)' == " ">Debug</Configuration>
    <Platform Condition="'$(Platform)' == " ">AnyCPU</Platform>
    <ProductVersion>9.0.30729</ProductVersion>
    <SchemaVersion>2.0</SchemaVersion>
    <ProjectGuid>{C664E764-C424-4CD5-AF69-F6B05FB17BA8}</ProjectGuid>
    <OutputType>Exe</OutputType>
    <RootNamespace>TwoPassDecoding</RootNamespace>
    <AssemblyName>TwoPassDecoding</AssemblyName>
    <OldToolsVersion>2.0</OldToolsVersion>
    <TargetFrameworkVersion>v3.5</TargetFrameworkVersion>
  </PropertyGroup>
  <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Debug|AnyCPU' ">
    <DebugSymbols>true</DebugSymbols>
    <DebugType>full</DebugType>
    <Optimize>>false</Optimize>
    <OutputPath>bin\Debug</OutputPath>
    <DefineConstants>DEBUG;TRACE</DefineConstants>
    <ErrorReport>prompt</ErrorReport>
    <WarningLevel>4</WarningLevel>
  </PropertyGroup>
  <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Release|AnyCPU' ">
    <DebugType>pdbonly</DebugType>
    <Optimize>true</Optimize>
    <OutputPath>bin\Release</OutputPath>
    <DefineConstants>TRACE</DefineConstants>
    <ErrorReport>prompt</ErrorReport>
    <WarningLevel>4</WarningLevel>
  </PropertyGroup>
  <ItemGroup>
    <Reference Include="Bytescout.BarCodeReader, Version=8.20.0.1340, Culture=neutral, PublicKeyToken=f7dd1bd
      <SpecificVersion>False</SpecificVersion>
      <HintPath>C:\Program Files\Bytescout BarCode Reader SDK\net3.5\Bytescout.BarCodeReader.dll</HintPath>
    </Reference>
    <Reference Include="System" />
    <Reference Include="System.Data" />
    <Reference Include="System.Drawing" />

```

```

    <Reference Include="System.Xml" />
  </ItemGroup>
  <ItemGroup>
    <Compile Include="Program.cs" />
  </ItemGroup>
  <ItemGroup>
    <None Include="example.pdf">
      <CopyToOutputDirectory>Always</CopyToOutputDirectory>
    </None>
  </ItemGroup>
  <Import Project="$(MSBuildToolsPath)\Microsoft.CSharp.targets" />
  <!-- To modify your build process, add your task inside one of the targets below and uncomment it.
       Other similar extension points exist, see Microsoft.Common.targets.
  <Target Name="BeforeBuild">
  </Target>
  <Target Name="AfterBuild">
  </Target>
  -->
</Project>

```

TwoPassDecoding.VS2010.csproj

```

<?xml version="1.0" encoding="utf-8"?>
<Project DefaultTargets="Build" xmlns="http://schemas.microsoft.com/developer/msbuild/2003" ToolsVersion="4.0">
  <PropertyGroup>
    <Configuration Condition="'$(Configuration)' == ''">Debug</Configuration>
    <Platform Condition="'$(Platform)' == ''">AnyCPU</Platform>
    <ProductVersion>
    </ProductVersion>
    <SchemaVersion>2.0</SchemaVersion>
    <ProjectGuid>{152D91ED-9533-49A6-9433-0037FA578D4F}</ProjectGuid>
    <OutputType>Exe</OutputType>
    <RootNamespace>TwoPassDecoding</RootNamespace>
    <AssemblyName>TwoPassDecoding</AssemblyName>
    <OldToolsVersion>3.5</OldToolsVersion>
    <TargetFrameworkVersion>v4.0</TargetFrameworkVersion>
  </PropertyGroup>
  <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Debug|AnyCPU' ">
    <DebugSymbols>true</DebugSymbols>
    <DebugType>full</DebugType>
    <Optimize>>false</Optimize>
    <OutputPath>bin\Debug\</OutputPath>
    <DefineConstants>DEBUG;TRACE</DefineConstants>
    <ErrorReport>prompt</ErrorReport>
    <WarningLevel>4</WarningLevel>
  </PropertyGroup>
  <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Release|AnyCPU' ">
    <DebugType>pdbonly</DebugType>
    <Optimize>true</Optimize>
    <OutputPath>bin\Release\</OutputPath>
    <DefineConstants>TRACE</DefineConstants>
    <ErrorReport>prompt</ErrorReport>
    <WarningLevel>4</WarningLevel>
  </PropertyGroup>
  <ItemGroup>
    <Reference Include="Bytescout.BarCodeReader, Version=8.20.0.1340, Culture=neutral, PublicKeyToken=f7dd1bd"
      <SpecificVersion>False</SpecificVersion>
      <HintPath>C:\Program Files\Bytescout Bar Code Reader SDK\net4.0\Bytescout.BarCodeReader.dll</HintPath>
    </Reference>
    <Reference Include="System" />
    <Reference Include="System.Data" />
    <Reference Include="System.Drawing" />
    <Reference Include="System.Xml" />
  </ItemGroup>
  <ItemGroup>
    <Compile Include="Program.cs" />
  </ItemGroup>

```

```
<ItemGroup>
  <None Include="example.pdf">
    <CopyToOutputDirectory>Always</CopyToOutputDirectory>
  </None>
</ItemGroup>
<Import Project="$(MSBuildToolsPath)\Microsoft.CSharp.targets" />
<!-- To modify your build process, add your task inside one of the targets below and uncomment it.
      Other similar extension points exist, see Microsoft.Common.targets.
<Target Name="BeforeBuild">
</Target>
<Target Name="AfterBuild">
</Target>
-->
</Project>
```

VIDEO

<https://www.youtube.com/watch?v=EARS PJF IJMU>

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