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SharpDocx

# Summary

SharpDocx is inspired by Web technologies like ASP.NET and JSP. Developers familiar with those technologies should feel right at home.

First you create a view in Word. A view is a Word document which also contains C# code. Code can be inserted anywhere: 24 would insert 24.

The next step is to create documents based on this view. This requires two lines of code:

var document = DocumentFactory.Create("view.cs.docx");

document.Generate("output.docx");

Out of the box SharpDocx supports inserting text, tables, images and more. This tutorial shows you how.

If you want, you can specify a view model to be used in your view. Then you could write things like < % foreach (var item in Model.MyList) { % >. See the Model sample.

If you want to do something that's not supported by SharpDocx, you can do so by creating your own document subclass. See the Inheritance example.

Generating documents with SharpDocx can be very fast: a slightly modified Model sample produced 25 documents per second on my modest laptop. That’s 1500 documents per minute. Single threaded.

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# The basics

At any point in the text you can insert C# statements. Like right here.

The result looks like this:



## Write method

If you want to display the value of i, you can use the Write method. Right now, i is 1.

There’s also a shorthand notation for the Write method: i is still 1.

You can insert line breaks by using ‘\n’:

This paragraph  
contains two  
line breaks.

## Conditional content

You can use an if statement to display conditional content.

This will be displayed.

In this case, any formatting will be lost because the code parser ignores any formatting.

If you want to conditionally display text with formatting, use two code blocks and place the text between curly brackets, like this.

This **will** *also* be displayed.

If you want, you can span multiple elements. E.g.

The diverging pronunciation of tomato (though not so much potato) is primarily one of regional dialect.

The pronunciation 'tuh-MAH-toh' is the standard pronunciation in the UK and is accepted in the US regions of New England along with parts of the lower East Coast, while 'tuh-MAY-toh' is found almost everywhere else.

## Loops

If you want to add something in a loop, you should do so programmatically. This example does loop, but doesn’t add anything to the document:

The value of i is **9**.

In the next loop we’ll call the AppendParagraph method, which *will* insert new paragraphs:

The value of i is **0**.

The value of i is **1**.

The value of i is **2**.

The value of i is **3**.

The value of i is **4**.

The value of i is **5**.

The value of i is **6**.

The value of i is **7**.

The value of i is **8**.

The value of i is **9**.

## Tables

Design your tables in Word, and create rows using the AppendRow method.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| i \* 1 | i \* 2 | i \* 3 | i \* 4 | i \* 5 | i \* 6 | i \* 7 | i \* 8 | i \* 9 | i \* 10 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |
| 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

## Images

Insert images using the Image method.

​

If only a file name is specified, SharpDocx searches this file in a directory specified by the ImageDirectory property. Right now this property has been set to ‘C:\Projects\SharpDocx\Samples\SampleProjects\Tutorial\bin\Release\net45/../../../../../Images’.

The Image method accepts a second optional parameter that specifies the relative size of the image. Here’s  at 15%.

Images that are too wide to be displayed at 100% are automatically scaled back. Here’s an example:



## Replacing text

If you want to replace text, you can use the Replace method.

This will replace *all* occurrences of the specified string.[[1]](#footnote-2)

Here’s the **replaced text**. And here’s some more replaced text.

## Referencing assemblies and importing namespaces

If you want to use specific types in a view, you can use the Assembly and Import directives to get access to them. Directives look like regular code blocks, but they always start with < %@.

Reference an assembly with the Assembly directive.[[2]](#footnote-3)

Import namespaces with the Import directive.

In C# you would write:

using System.Xml.Linq;

Now we can use types in System.Xml.Linq. Let’s read some news.

**A Third of All Chrome Extensions Request Access To User Data on Any Site**More than a third of all Google Chrome extensions ask users for permission to access and read all their data on any website, a recent survey conducted by US cyber-security firm Duo Labs of over 120,00…

**Former Facebook Employees Say The Company's Prioritization Of Privacy is About Optics**Last May, Facebook promised to launch a "Clear History" feature that it said would give users more control over their data. 9 months later it's nowhere to be found and now a report claims that it's a …

**Facebook Will Shut Down Its Spyware VPN App Onavo**An anonymous reader quotes a report from TechCrunch: Facebook will end its unpaid market research programs and proactively take its Onavo VPN app off the Google Play store in the wake of backlash foll…

**Israel Launches Spacecraft To the Moon**The first privately funded mission to land on the moon took one giant step forward this evening as an Israeli spacecraft blasted off from Cape Canaveral, Florida. "[I]f the mission is successful, it w…

**YouTube Videos Could Get Demonetized If They Have 'Inappropriate Comments'**In response to a mother's inquiry into why her son's gymnastics videos were deemed not advertiser friendly, YouTube said on Twitter it has "taken a number of actions to better protect the YouTube comm…

**China's CRISPR Twins Might Have Had Their Brains Inadvertently Enhanced**An anonymous reader quotes a report from MIT Technology Review: The brains of two genetically-edited girls born in China last year may have been changed in ways that enhance cognition and memory, scie…

**Waymo Self-Driving Cars Can Now Obey Police Hand Signals**In the event that a traffic light is not working, Waymo's self-driving cars will now be able to use AI to detect and respond to the arm movements of a traffic cop as they wave traffic through an inter…

**Google Will End Forced Arbitration For Employees**Google said it will no longer require current and future staff to go through mandatory arbitration for disputes with the company. "The change goes into effect on March 21," reports CNET. "The search g…

**Verizon Plans To Roll Out Its 5G Mobile Network In 30 Cities This Year**Verizon has announced plans to turn on its 5G mobile network in 30 U.S. cities this year. "It revealed the plan during an investor meeting Thursday, though didn't disclose the list of cities," reports…

**Experts Find Serious Problems With Switzerland's Online Voting System**An anonymous reader quotes a report from Motherboard: Switzerland made headlines this month for the transparency of its internet voting system when it launched a public penetration test and bug bounty…

**Consumer Reports No Longer Recommends the Tesla Model 3**Consumer Reports is pulling its recommendation of the Tesla Model 3, citing reliability issues with the car. "Tesla buyers are more likely to be satisfied with their car than customers of any other br…

**Unearthed Emails Show Google, Ad Giants Know They Break Privacy Laws**AmiMoJo shares a report from The Register: Privacy warriors have filed fresh evidence in their ongoing battle against real-time web ad exchange systems, which campaigners claim trample over Europe's d…

**American Airlines Has Cameras In Their Screens Too**An anonymous reader quotes a report from BuzzFeed News: A viral photo showing a camera in a Singapore Airlines in-flight TV display recently caused an uproar online. The image was retweeted hundreds o…

**Queensland, Australia Drivers Set To Get Emoji Number Plates**The unusual move is set to be rolled out by Personalised Plates Queensland (PPQ) from next month, allowing drivers to adorn their number plates with a touch of emotion. From a report: Royal Automobile…

**Nike Bricks Its Shoes With a Faulty Firmware Update**AmiMoJo writes: Nike users are experiencing some technical difficulties in the wild world of connected footwear. Nike's $350 "Adapt BB" sneakers are the latest in the company's line of self-lacing sho…

In a real world scenario you wouldn’t fetch data or have this much code in a view. But hey, this is just an example.

## The Map

The Map maps OpenXmlElements to plain text and vice versa. It’s being used internally by the Replace method and for finding the C# code in views, among other things. At the moment Map.Text looks something like this:

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The next step is to create documents based on this view. This requires two lines of code:  
 var document = DocumentFactory …

The Map might be handy when you want to search the document for text.

## The SharpDocx solution

### Building the example programs

The Tutorial, Inheritance and Model samples will by default be build for .NET Framework 3.5, 4.5 and .NET Core 2.0. The .NET Core 2.0 builds will use the .NET Standard 2.0 version of SharpDocx.

The Tutorial and Inheritance samples will by default run in .NET Framework 4.5. The Model sample will by default run in .NET Core 2.0. If you want to change this, right click on the solution file in Visual Studio and select **Edit SampleName.csproj**. This will open the csproj-file. The first target named on this line will be used for startup/debugging in Visual Studio:

<TargetFrameworks>net45;net35;netcoreapp2.0</TargetFrameworks

### Unix-like systems

On Unix-like systems, remove the net45 and net35 targets from all projects, because they are only available on Windows. Other than that, the library and samples should compile and run fine.

1. Actually, this will only replace text in the body of the document, and not in headers, footers, end- or footnotes. So this won’t work as expected. But you can use code here. [↑](#footnote-ref-2)
2. When you’re using the .NET Standard version of SharpDocx, all SDK DLL’s (System.\* and Microsoft.\* DLL’s) are automatically referenced. So in this scenario, referencing System.Xml is not needed. [↑](#footnote-ref-3)