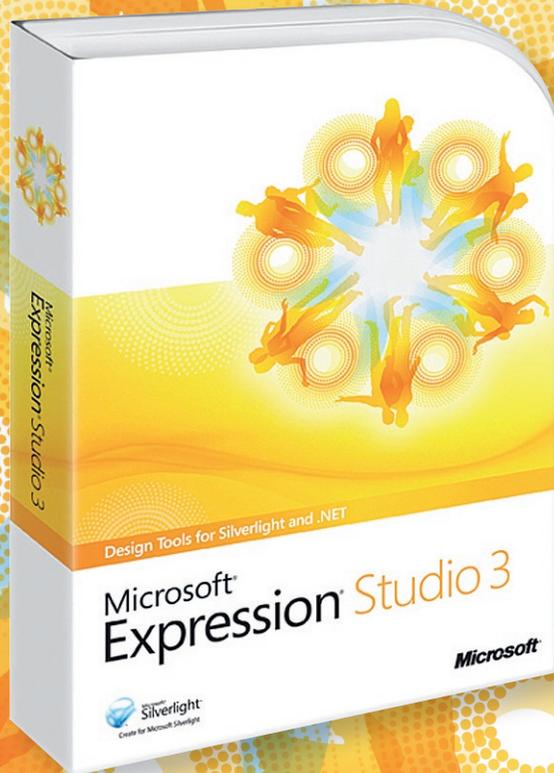


Microsoft® Expression® Studio 3

THE ULTIMATE GUIDE

Design
with Deep
Zoom!>

Add new interactivity to your
projects with Expression
Blend and Silverlight



Plus >

- SuperPreview: REVEALED!
- Discover the top Silverlight sites
- Prototype with SketchFlow
- More on Microsoft Surface
- Win a copy of Expression Studio 3!

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Create standards-compliant sites, test on multiple
browsers and add rich media with Expression Web 3

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Microsoft®

Discover Expression Studio 3 today!



This month we've partnered with Microsoft to bring you a free, 28-page supplement on Expression Studio 3. Whether you're new to Microsoft's web design and development suite or an old hand, we'll reveal the most jaw-dropping new features in version 3 and how you can use them to enhance your websites, speed up your workflow and more. Enjoy!

Dan Oliver editor

www.twitter.com/danoliver

/contributors



Paul Dawson

Experience director at EMC Conchango, Paul's been in the industry since 1996. On page 12, he takes us on a tour of Expression Web 3 and explains how you can start building sites today.

www.conchango.com



Costas Brammer

Costas is visual effects designer at Specialmoves, a high-end interactive production company based in London. On page 22 he explores the exciting possibilities offered by Deep Zoom.

www.specialmoves.com



Kristie Weatherford

Kristie is user experience consultant at technology consulting firm Lab49. On page 16, she explains how to build a prototype using SketchFlow in Expression Blend 3.

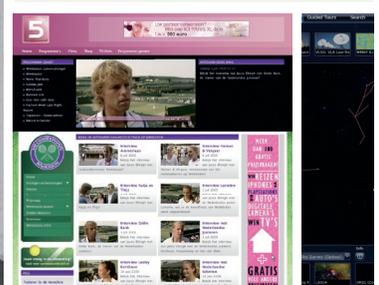
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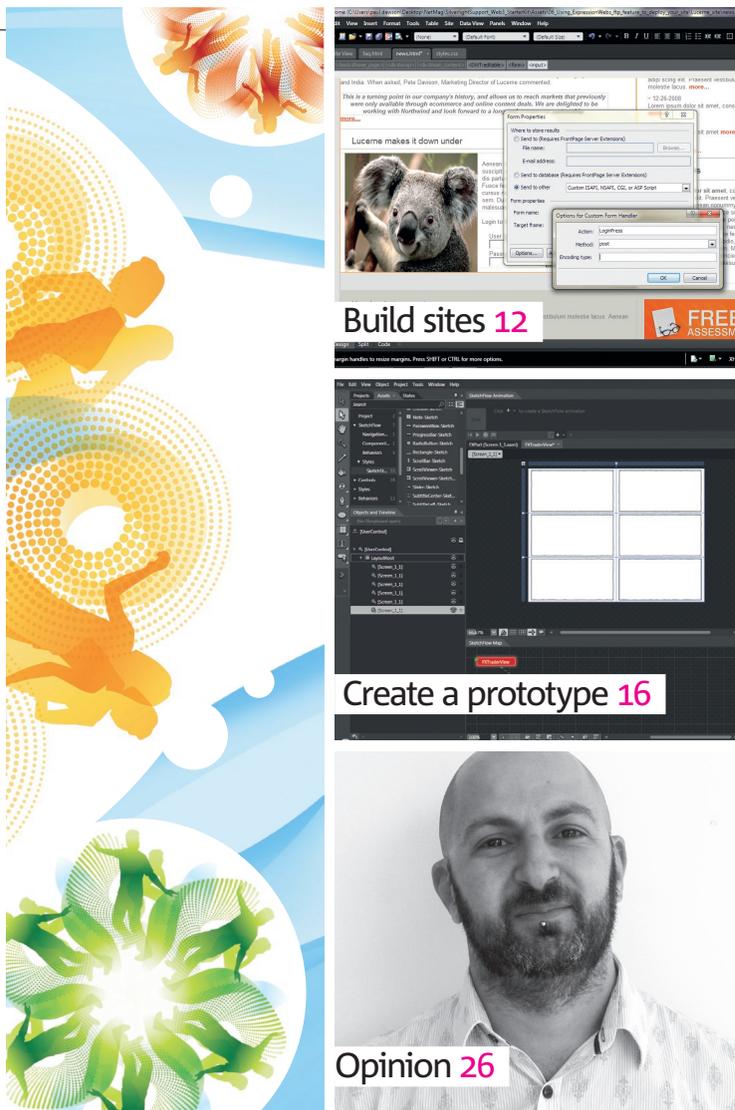


Gary Marshall

IT journalist Gary has been covering business, technology, the internet and popular culture for nearly 10 years. On page 4 he explores the exciting new features in Expression Studio 3.

bigmouthstrikesagain.com

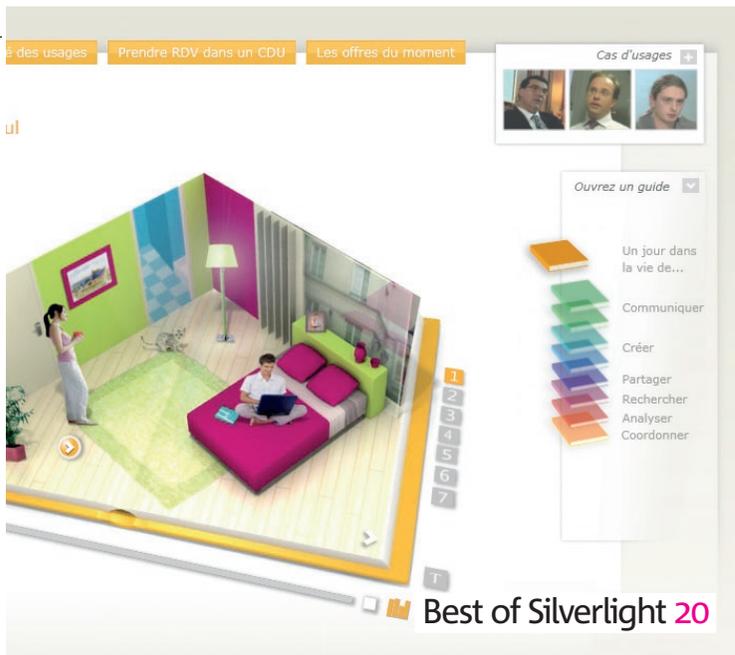




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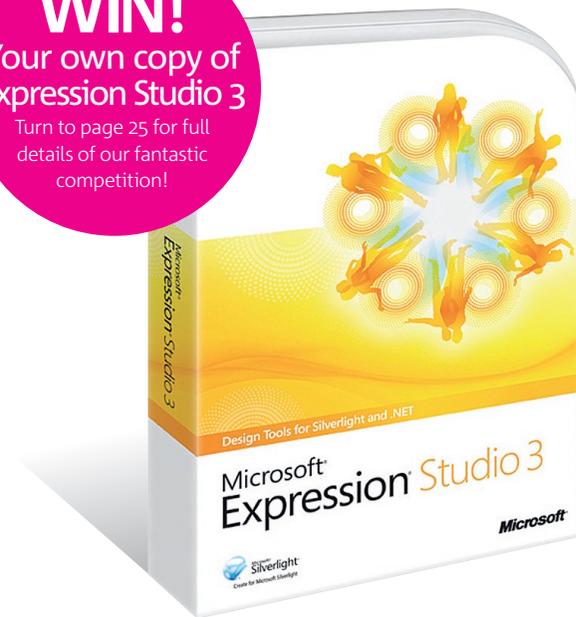
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WIN!
Your own copy of Expression Studio 3
Turn to page 25 for full details of our fantastic competition!



in association with Microsoft 3



* 3 is the magic number

As the Expression suite reaches version 3, Microsoft isn't sitting on its laurels. As **Gary Marshall** discovers, the new versions include powerful new tools and some jaw-dropping new features



Words Gary Marshall has been writing for .net since 1998, when members of the HTML Writer's Guild, sitting in silence in far-away monasteries, painfully drew each web page by hand before nailing the results to wooden servers. At least, that's how he remembers it. www.bigmouthstrikesagain.com

Image Simon Middleweek is a designer and illustrator with more than 10 years' experience working in editorial design. www.twitter.com/simonmiddleweek

The latest version of Microsoft's Expression suite is a very big deal. Expression Web has a brand new user interface, some extremely useful new features and a vastly improved publishing system, while Blend introduces SketchFlow, a way of prototyping online and desktop applications that's likely to save you a great deal of time, effort and expense.

Graphics package Expression Design has been beefed up too, while Expression Encoder offers improved video encoding. As before, the applications are designed to work seamlessly with one another (and with Visual Studio) – so for example, you might create assets in Design, use them in Blend to build an online application in Silverlight and then stick that into a bigger site that you've built in Expression Web.

How much?

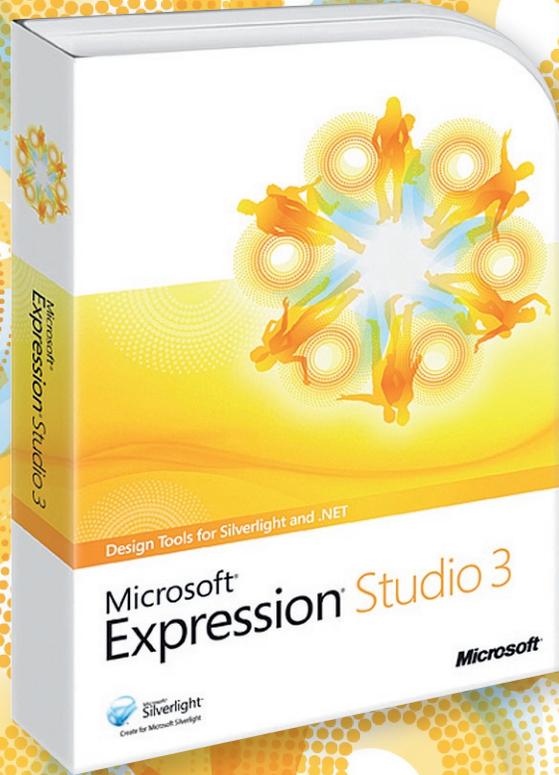
Before we get stuck into the detail, it's worth pointing out that this isn't particularly pricey software. As there's no UK RRP, we checked out prices from local resellers and Microsoft offers the Expression applications in three different bundles. Expression Web (around £100/£57 as an upgrade + VAT) gives you Expression Web 3, Expression Design 3 and Expression Encoder 3, while Expression Studio (around £400/£236 as

an upgrade + VAT) adds Expression Blend with SketchFlow. Then there's Expression Professional Subscription (around £780 + VAT), which takes Expression Studio and adds Visual Studio Standard, Office Standard, Office Visio Professional, Windows XP, Windows Vista Business and a free horse. We're lying about the horse. As well as existing Expression users, the upgrade prices are available to users of any Adobe Creative Suite products. Plus in the case of Expression Web, you're eligible for the upgrade price if you're a Microsoft Office user.

Preview power

The headline new feature in Expression Web is SuperPreview, which is designed to take the drudgery out of cross-browser compatibility testing. It's the result of extensive consultation with web designers, and it provides an easy way for you to test layouts in the various browsers you need to support without running multiple programs or using online browser testing services such as WebShots.

You can view different browsers side by side, clicking on any weird bits to display the relevant bit of the DOM, and we particularly like the overlay view. This enables you to layer one browser on top of another, making even minor layout issues immediately obvious. It isn't limited to different versions of IE either: you can use it to check your designs in Firefox or compare them with your PSD compositions. [>>](#)



expression_3/introduction

Case study i2Q Education

Fresh from the ambitious Attollo project, which used Silverlight 2 to deliver a platform for online education, i2Q Education (www.i2q.co.uk) is using Blend 3 and Silverlight 3 to deliver school data in such a way that parents can understand it – and we're talking about a lot of parents. Where Attollo was designed for 150,000 users, i2Q's latest project is for half a million. The project is called OpenSchool, and as user interface lead Nick Harewood explains, "Schools are required to have an online parental reporting solution in place by 2010, and OpenSchool will deliver the same rich UX that helped differentiate Attollo."

Attollo offered users a full-screen desktop with a customisable look and feel, with LINQ to SQL taking care of data access behind the scenes. OpenSchool picks up where Attollo left off and takes advantage of some of the new features in Silverlight 3 and the Silverlight 3 Toolkit.

OpenSchool is an in-browser application that will also offer a slimmed-down 'out of browser' application and a Silverlight Mobile version. It makes extensive use of Silverlight 3's

new controls, as well as its charting toolkits and extensions for visualising data. "OpenSchool will leverage the student data held in schools and present it to parents through a rich and highly functional UI," Harewood says. "Using the built-in Charting controls, raw attendance, assessment, behaviour and other data types will be presented as highly interactive visuals. The key driver is to make this rich data set accessible to parents so they can become more involved in their children's education." The project began in June, and will be completed in October.

For i2Q, SketchFlow has replaced the familiar, time-consuming and often frustrating model of iterating design ideas: whiteboard to wireframe to static HTML and the odd Visio diagram that "makes great wallpaper" but doesn't do a brilliant job of communicating what an application will actually be like. So what does Harewood think of Expression Blend 3? "First impressions overall are that it's a much better tool for the job," he says. "There are fewer hiccups in the workflow, and everything just

seems more robust and fit for purpose. Another telltale sign of its maturity is the number of choices now available in the Options menu. It seems a much more malleable application, easier to fit to the users' needs and preferences."



Touch of class The OpenSchool system takes advantage of Silverlight 3's controls and data visualisations to create a UI that's simple for parents to understand

➤ Expression Web also has a second kind of page preview, which Microsoft calls Snapshot Preview. This is a live rendering of your page, and it changes as you add or adjust the underlying code.

As with SuperPreview it's not an Internet Explorer-only job: it supports Firefox, and displays ASP.NET and PHP pages as well as HTML ones courtesy of the included ASP.NET and PHP development server, which saves you the effort of installing a local web server.

The graphics side of things has been boosted, too. Version 3 of Expression Web supports Photoshop import and gives you the ability to embed Deep Zoom images via Silverlight or Seadragon. And while we're on the subject of Silverlight, the bundled Encoder makes it easy to

convert video clips to Silverlight, stick them into your web project and skin the video player. Plus you can encode video into Silverlight without leaving Expression Web if Expression Encoder is installed.

Deep Zoom isn't new to Silverlight 3 – it's in Silverlight 2 – but it's a welcome addition to Expression Web. The technology takes giant, high-resolution images and cleverly carves them up, downloading data on a just-in-time basis as the user pans and zooms.

One of the best demonstrations of Deep Zoom is the Hard Rock Café's memorabilia website (www.memorabilia.hardrock.com), and there's a fascinating demo at Deep Earth (www.codeplex.com/deepearth). You can't create Deep Zoom images from inside Expression Web, but the

necessary software – Deep Zoom Composer – is a free download from Microsoft.com.

To find out more about using Deep Zoom, turn to page 22 for our in-depth tutorial.

Better Blend

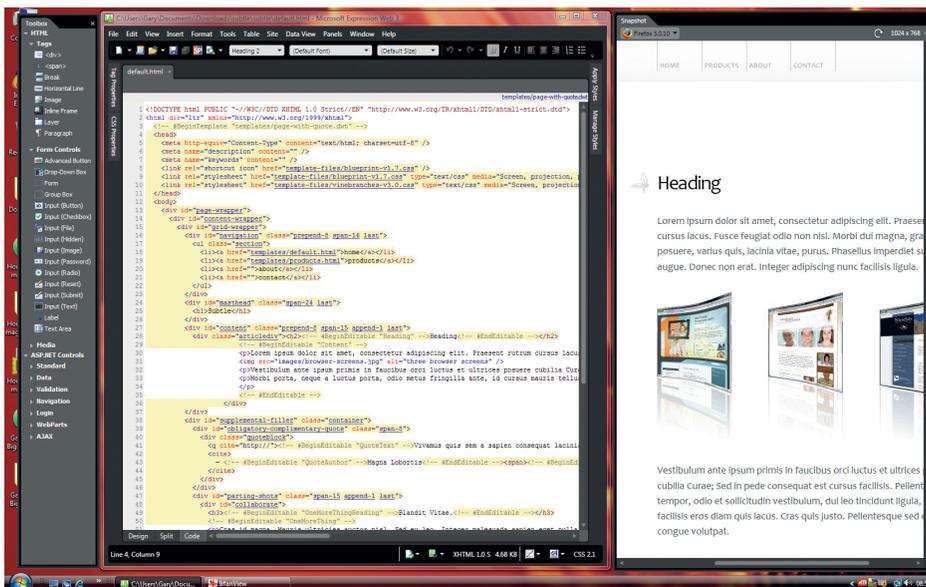
Version 3 of Expression Blend is very interesting indeed. In addition to a number of worthwhile new features – the ability to import PSD and AI files while retaining layers and shapes; better font embedding and management; more control over animation; smooth layout transitions; support for WPF and Silverlight graphic effects; a redesigned Asset Library; and the ability to use sample data for prototyping and testing data-enabled applications when the data source is unavailable – Microsoft has added Behaviors, which are reusable components that you can drag onto your project to add interactivity.

In addition to Blend's own Behaviors, coders can create their own using the Blend 3 SDK. But the key thing about Behaviors is that you don't need to be a coder to take advantage of them.

For example, you might have a Behavior for a video playback slider that displays the time when the user hovers their mouse over the slider; to use it, you'd just drag and drop it onto your slider control (if you'd like to know how to create that one, Jobi Joy has posted a tutorial at jobijoy.blogspot.com/2009/07/slider-preview-as-expression-blend-3.html).

Template creator

Another welcome change is the modified Make Into Control command, which enables you to turn artwork into templates for UI controls. For example, you might create a text box with specific formatting, which Blend will store for re-use, or you might create a slider control in a Photoshop mock-up, bring it into Blend and turn the slider control into a reusable skin that you can drag and drop throughout your application.



Panel precision Expression Web's panels can be set to auto-hide or detached altogether to create a custom workspace



Movable feast Expression Blend's interface has been given number of visual and functional tweaks, with the Assets Library now in the form of a dockable panel

As you'd expect, Blend's Silverlight support has been boosted to make it play nice with Silverlight 3. There's a new project type, Silverlight Application + Web Site, which publishes your Silverlight application along with an HTML page to launch it, and you can configure your applications to run in their own windows outside the web browser (although the new Library caching feature, which can speed up performance, isn't supported in out-of-browser applications).

We've left the best new feature until last, though: version 3 of Blend now comes with SketchFlow, an extraordinarily clever – and exceptionally handy – way of turning prototypes and bright ideas into finished applications.

The path from an initial idea to a finished application can be a rocky one. Initial designs are refined or replaced entirely, interactive elements are suggested, tried and tested, and everyone from the client's marketing director to the CEO's dog has an input. Wouldn't it be great if you could start with a sketch, make it work like an application, tweak it as you go along and let interested parties play with mock-ups before you nail down the final design – without having to build version after version after version?

With SketchFlow you can do exactly that. It supports both WPF and Silverlight applications and works in essentially the same way for each, although the available libraries differ slightly according to whether you're planning to create a desktop application or an in-browser one.

Go with the Flow

You really need to see SketchFlow in action to appreciate how simple and useful it is, but to give you an example let's think about a login system or an ecommerce application. You'll need a login screen for people to enter their credentials, a failure screen if they get it wrong, a logged-in screen if they enter the right information, and you'll probably want a common header across each one.

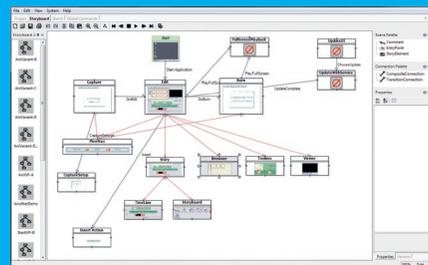
SketchFlow is an extraordinarily clever way of turning prototypes and bright ideas into finished applications

SketchFlow What inspired Blend's most jaw-dropping feature?

Christian Schormann is the man behind SketchFlow, and he's been working on the idea for a long time. "I've been designing user interfaces for complex authoring applications for years, and I got more and more frustrated with the tools I had to actually come up with a design and iterate on it," he recalls. "This was particularly cumbersome, with dynamic UIs that would reformat or change state, or resize – all these dynamic aspects of user interaction just can't be easily mocked up in a normal static drawing program. And the more dynamic user interfaces get, the less satisfying static mock-ups are as your primary mental evaluation device."

Schormann began sketching out a solution in Windows Forms. "I wanted to be able to create a mind-map of the structure of a user experience, think about that in an abstract fashion even before, potentially, ever creating any concrete UI. I wanted a tool that would allow me to be as fuzzy or vague as I liked, but that would let me become concrete whenever I wanted to. So I started playing with the ideas you see in the prototype screenshot (below), and found that they worked pretty well, even in my shaky and incomplete prototype.

"You have a very different mindset during prototyping than during production – it's all about exploration, tentativeness, expanding

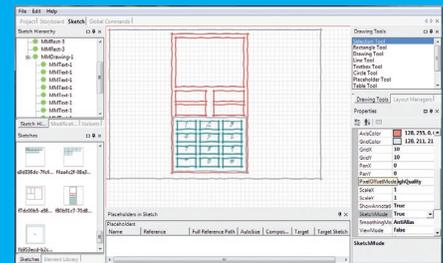


Early days Christian Schormann sketched out his ideas for a prototyping system in Windows Forms

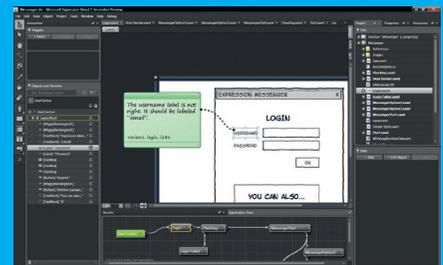
If you're building an ecommerce site, there's going to be a product page with buy buttons, a shopping basket and the various components of a checkout system. To start prototyping these systems in SketchFlow, you'd map out the relationship between the different components in the Map panel, which creates a series of underlying XAML files for each screen.

You can bind these files so, for example, if there's a common interface element such as a header that will appear on each screen, you can create it once and then bind it to the screens on which it needs to appear. Then it's just a matter of bashing together a rough UI, which you can do by dragging and dropping standard components such

your mind space. I wanted a tool that better reflected that mindset," he adds. When he joined Microsoft, he found a number of people who had been thinking along similar lines. "We designed the whole feature set for Blend 3 with SketchFlow in mind. The different bits and pieces of Blend 3 really have been designed to re-enforce and support each other – for example, behaviors and sample data stand well on their own, but they add incredible expressive power to the prototyping story. The Photoshop import works beautifully on its own, but combined with the data binding story it's quite amazing what you can do with it, to quickly convert a static comp into a living and breathing application."



Easy does it The Sketch Editor was designed to make it simple to bash out drafts of user interface ideas



Integrated "We designed the whole feature set for Blend 3 with SketchFlow in mind," Schormann says

as buttons and boxes, by importing a Photoshop mock-up or scanning in the biro drawing you did on the back of a napkin.

Sketching it out

Even if you didn't design your UI on the back of a napkin, SketchFlow includes a Sketch visual style that you can use to make it look as if you did. It's not a gimmick, though: the dashed-off appearance of a sketch can make users more likely to offer feedback, because they may assume that a polished, high quality interface involves so much work that the merest suggestion of a change might make you blow a gasket.

More importantly, by making everything look sketched you can avoid wasting time on issues of the "I'm really not sure about that shade of green" variety and get your users to concentrate on more important elements of your application.

It's what happens next that makes SketchFlow brilliant. You can now start adding features inside Blend: so, for example, you could right-click on a button, select Navigate To and



expression_3/introduction

User interface A guided tour of the new UI

Expression Web 3 looks a bit different from its predecessors, but there's more to its new user interface than a fashionable black makeover. The toolbars and menus have been tweaked, information gets out of your way when you don't need it and Snapshot and SuperPreview make it easy to spot potential problems.

1 New Site menu

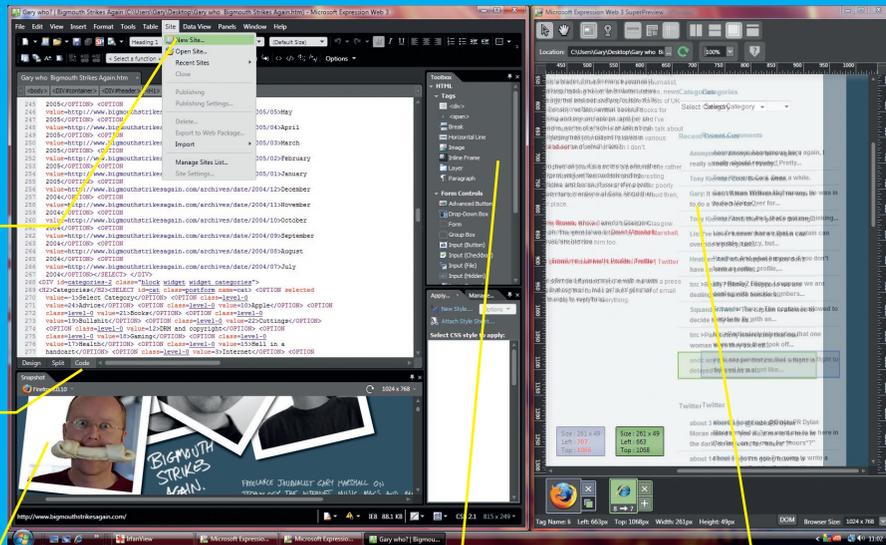
Site management and settings have been relocated from the File menu to the new Site menu. The program now transfers multiple files simultaneously, you can transfer to multiple destinations and the FTP service supports both FTPS and SFTP.

2 Revised toolbars and new Code View bar

In addition to the eye-friendly dark user interface, Expression Web's toolbars have been reorganised and there's a new Code View toolbar for code navigation and formatting.

3 Snapshot

Snapshot provides a real-time view of your page as it will appear in the browser, and you can set it to render as various versions of IE and Firefox. Thanks to the built-in ASP.NET and PHP development server, Snapshot can preview data-driven pages as well as static ones.



4 Auto Hide Panels

If you like panels to get out of the way when you don't need them, you'll like the Auto Hide feature in version 3. As the name suggests, this feature makes panels hide themselves when you move the mouse away.

5 SuperPreview

Expression Web 3's headline feature is exceptionally handy. The blurring you see here is because we've overlaid the same page in Firefox and in Internet Explorer 8 to see whether there are any layout differences. You can display the relevant bit of the DOM to see where a particular problem lives.

make it call up another screen; you could experiment with transition effects between screens; you could bring in sample data to show how list boxes would work; or you could drag and drop Behaviors to add interactivity.

You can then publish your project in one of two ways. Option one is to bash it out as a Word document, but the second option – publishing it

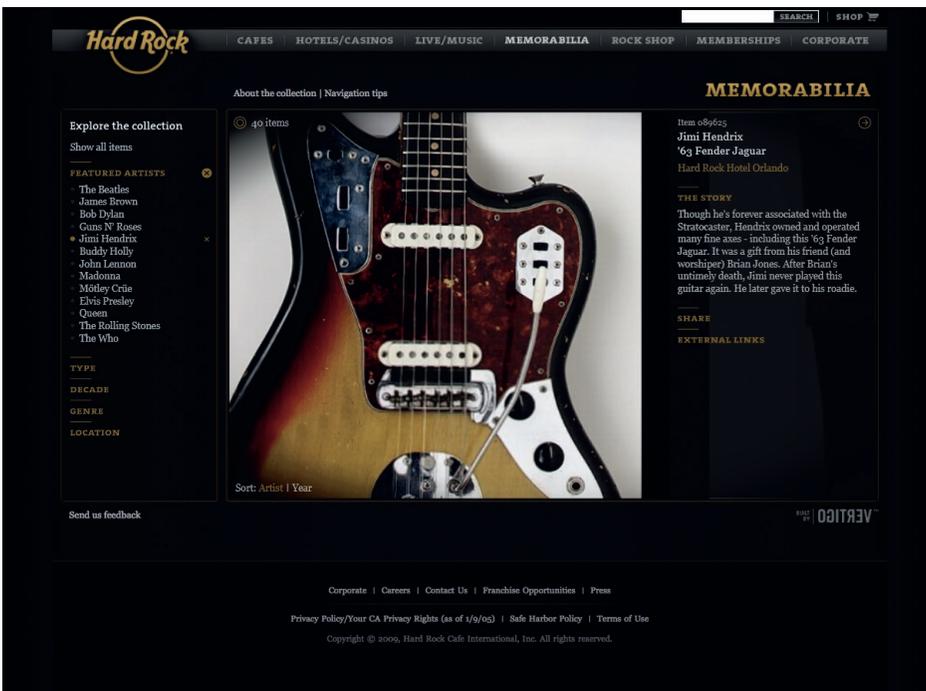
for viewing in SketchFlow Player – is much more fun and much more useful.

SketchFlow Player is a Silverlight-based application that runs in a web browser and that enables users – clients – to see your ideas in action. This isn't a slideshow or a screencast, though: it's an interactive application, and everything you've added in Blend will work in

their browser. Scrolly bits scroll, list boxes list, data is displayed and animations animate in a classic case of 'show, don't tell' where even the crudest biro sketch works like a real application – which, of course, it is.

You can provide multiple versions in the same publication, so you might offer different interface ideas, alternative input methods or anything else you fancy getting feedback on, and the client can then add their comments about what they like or don't like. That data can then be brought back into Blend, where the annotations will appear in context on the design surface, and you can start refining your prototype into something more solid.

Because you've been building the application as you go along, you're not rebuilding or recoding your application every time there's a change. If you import your UI design from Photoshop, Illustrator or Expression Design you can apply it to your application in much the same way you'd apply a CSS design to change a web page.

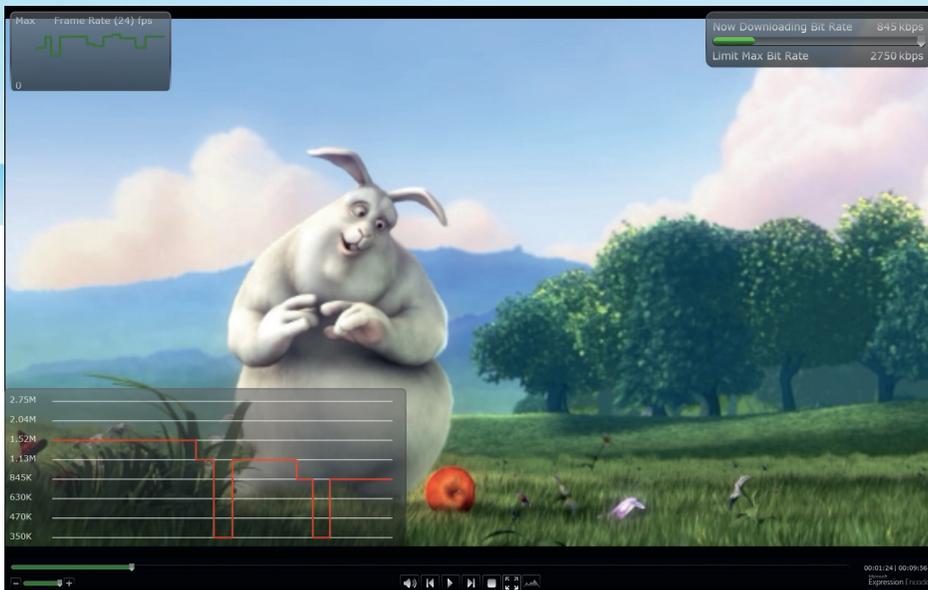


Zoom zoom Expression Web 3 enables you to insert Deep Zoom images, as showcased to excellent effect by the Hard Rock Café memorabilia site. For more on the Deep Zoom feature, turn to page 22 for Costas Brammer's tutorial



Versatile video You can invoke Expression Encoder from within Expression Web, or use it as a stand-alone application for creating Silverlight video

8 in association with Microsoft



Smooth operator IIS Smooth Streaming is Microsoft's implementation of adaptive streaming technology, with bit rates changing to match users' bandwidth availability – which drastically reduces the amount of stuttering and buffering

Our first thought on seeing SketchFlow in action was "Agencies are going to love this", and that's what Microsoft says it's hearing too. As SketchFlow's creator Christian Schormann told us: "We've had a lot of feedback from agency-style customers, who've told us that SketchFlow really helps them – not just in their core design processes, but that it really makes a difference when bidding for contracts, because they can answer more rapidly, more effectively and at much lower cost to RFPs. That provides a direct benefit to their bottom line, and that is always a good result for any design tool to achieve."

Further features

There are several new features in Expression Design 3 and Expression Encoder 3 that we think are worth highlighting. As before, Design enables you to import vector and bitmap images or create new images for reuse in Web or Blend,

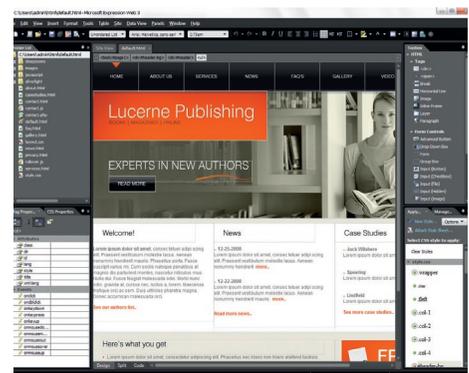
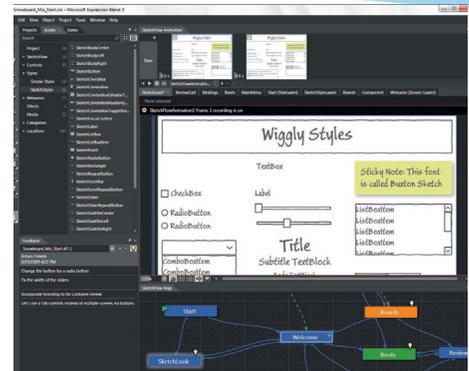
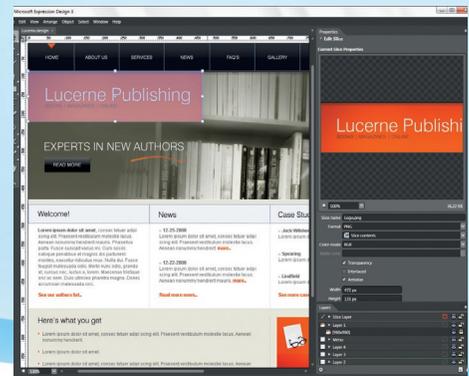
source), and the Timeline now enables you to build a single clip from multiple media files.

Silverlight 3 pops up again in the form of support for offline video, H.264 media and playing embedded video in a separate browser, and there's a collection of new templates for easy encoding and export.

Superior streaming

Encoder 3 also adds more support for IIS Smooth Streaming, Microsoft's version of adaptive streaming technology. This enables you to encode clips at various bit rates, which are then broken up into small chunks and delivered according to the amount of bandwidth available to the user – so if their connection starts to clog, the bit rate drops, and if it improves, the bit rate does too.

When running in tandem with Silverlight 3's graphics acceleration support, Smooth Streaming



Top Expression Design 3 now boasts Photoshop import and the same flexible workspace system as Expression Web **Middle** SketchFlow's hand-drawn styles ensure users pay attention to the important bits, not the colour of the logo **Above** The Expression apps work together, so for example you might create a UI in Expression Design and then bring it into Expression Web

Since day one, there's been a constant dialogue between Microsoft and the design/development community

and you can output your finished assets as an HTML composition, PSD, PDF, Silverlight/Windows Presentation Foundation canvas or, if you're creating assets for Web or Blend, XAML. Version 3 adds Photoshop import, enabling you to open PSDs while retaining the original layers.

The interface has been given a tweak, and as you'd expect the application has been updated to support Silverlight 3, so for example Drop Shadow and Gaussian Blur effects can now be exported as WPF and Silverlight 3-compatible effects.

Expression Encoder has been freshened up, too. The new Screen Capture utility makes it easy to create video documentation: you can capture still and video images of the on-screen action as well as your webcam (or any external audio or video

is capable of reliably streaming 1080p 'true HD' high definition video. According to Microsoft, testing by firms such as NBC "has shown that engagement times far exceed those using other non-adaptive streaming platforms, so the upside for content monetisation is very encouraging". We suspect that's marketing speak for "if people have to wait for video they bugger off" – a situation adaptive streaming is designed specifically to address. Microsoft has already inked deals with the big content delivery networks to support IIS Smooth Streaming, with Akamai, Level3 and Limelight already supporting the technology. If you'd like to see it in action there's a compelling demo at www.iis.net/media/experiencesmoothstreaming.

We've been very impressed with Microsoft's Expression applications since day one – not just because of the software itself, but also with Microsoft's approach to it. There's been a constant dialogue between the company and the design/development community in the form of betas, technical previews, conferences, webcasts and blogs, and it's clear that Microsoft has been listening.

From banishing everyday irritations to reducing the hassle of prototyping online applications, version 3 of the suite is a significant upgrade that should make existing Expression users very happy – and that could well tempt users of other web building applications to switch. ●

Do you find the new features in Expression 3 useful? Share your experiences at forum.netmag.co.uk

/profile Specialmoves

Members of high-end interactive production company Specialmoves explain their distinct approach to design and why they're enthusiastic users of Microsoft technologies

Specialmoves

Agency location Shoreditch, London

Team 19

Expertise Interaction design, visual design, 3D, Flash, Silverlight, Flex, Unity, HTML/CSS, back end (.NET, PHP, Django, Perl)

Established 2000

Clients TBWA, MTV, Glue, Work Club, Poke, BBC, Agency Republic, Adam & Eve, Publicis, Mydeco, BBH, Dare, Isobel, Albion, Tribal DDB, Iris, Euro RSCG, GT

Q&A

.net: When did Specialmoves form and what do you specialise in?

Katy Morgan, office manager: Specialmoves was founded in 2000 by Darrell Wilkins, Pascal Auberson and James Norwood. We're a high-end interactive consultancy and production company that works with creative agencies and media owners building remarkable websites, online advertising and games.

.net: What sets you apart from other agencies?

Darrell Wilkins, executive creative director: Specialmoves offers much more than just beautiful work. Brilliant interaction design, superior technical know-how and a meticulous production process are the reasons why leading creative agencies

choose us. They know we can deliver work our competitors can't.

Seb Bicaís, developer and technical project manager:

Utility and relevance lie at the very core of what we do. We use our knowledge and experience to create outstanding interaction design resulting in brilliant interactive experiences.

Specialmoves is driven by finding creative solutions to technical problems – we're really good at it.

Coming from diverse backgrounds, we've built up a shared technical knowledge and skill set that's second to none. This, combined with a platform-neutral stance, means we can apply the same exacting standards to every single project.

.net: Which projects have you employed Microsoft technologies to deliver?

Matthew Harney, senior interactive developer:

Most of our projects that have involved complex, back-end architecture have been built around Microsoft technologies.

.net: Why did you choose Microsoft technologies?

SB: We find Microsoft technologies very well adapted for the web, and using the same editor for every aspect of the architecture makes things easier to integrate. Being able to build web services, DLLs, console applications and simple server scripts with the same tool is also a big plus. The latest versions of IIS, ASP.NET and SQL Server are very satisfying in terms of robustness, speed and scalability. Also, we develop in C#, which makes developing Silverlight applications really easy.

.net: What other key tools do you use?

MH: Photoshop and Illustrator often start the design process, then we add flourish with 3DSMax, Mental Ray and RealFlow as needed. Video comes in and out of Final Cut and we employ an in-house audio specialist who writes his own tools as needed. On the coding side, we use everything from GCC cross-compilers for ARM mobile development, Visual Studio with Expression and Eclipse for web development, and good old Notepad for Unity3D. Our most-used tool is a big blackboard and chalk.

.net: Which part of the design process do you see as the most valuable?

DW: When creating an interactive piece that's fun and really easy to use, it's essential to plan as much of the user experience design before going ahead with any of the visuals.

Costas Brammer, visual effects designer: We start with sketches, which develop into fully fledged skeleton designs and act as a solid foundation for our visual designers to work from. The end results not only look great but are a pleasure to use.

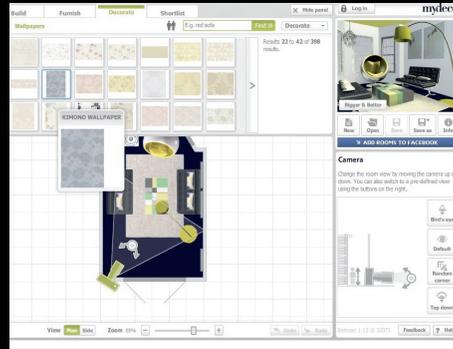


Top row, l-r: Darrell Wilkins, Pascal Auberson, Seb Bicaís, Alex Gounaropoulos, Anthony Hughes, James Norwood
Bottom row, l-r: Sylvie Brandl, Chi Li, Val Rabot, Ciaran Park, Katy Morgan, Matt Bilson, Nicola Borradaile, Matthew Harney



“Expression 3 allows designers and coders to work together more quickly”

Darrell Wilkins



.net: Where do you find inspiration for the online games you produce?

Chi Li, visual web designer: Arcade games from the 80s/90s are a great source of inspiration for web game ideas. Their stripped-down nature and focused gameplay translates very well on to the web.



.net: How do you secure repeat business?

DW: Make sure you have the best people in every position, from office manager and producers through to technical architects and visual designers.
KM: Getting out of the way and letting people's talents shine through is really important.



.net: Which new feature in the Microsoft Expression suite are you most excited about?

CB: There are so many features available 'for free' in Microsoft Expression it's hard to really consider them all, but the visual design tool combined with the integration of Behaviors is a great feature.
MH: It allows designers and coders to work together through source control much more quickly than we're used to with other current tools.

.net: Which project are you most proud of?

DW: The Virtual FA Cup. In an industry being swept away by often pointless, irrelevant AR projects, we created something simple, effective and relevant.

.net: What advice would you have for someone who wants a job at Specialmoves?

DW: Look at what we do and how we go about it. If you have similar motivations, and are keen to learn, then just apply! ●

(1-2) Robin Hood Showdown is a 3D action game based on the BBC1 drama. Utilising the Unity plug-in, we were able to deliver rich 3D environments, fluid character animations and dynamic gameplay rarely seen in a browser. (3-4) Built to support the BBC's *Baby Borrowers*, the Baby Challenge 3D game (specialmoves.com/our-work/content/bbc-baby-challenge/game.html) tests your ability to look after very young children. (5) Launched on the eve of the FA Cup semi-finals, this site (specialmoves.com/our-work/content/fa-cup-demo) harnesses Augmented Reality technology to enable

football fans to see themselves holding The Virtual FA Cup. They can then send a photo or video on to their mates. (6-7) The MyDeco 3D Room Planner (mydeco.com/rooms/planner) is a unique take on planning and decorating rooms. One of the easiest and most intuitive planning tools to use, this online application enables you to create 3D renders of your own room designs. It's a unique, easy to use and powerful online app that's been extremely well received by users and garnered several accolades including an FWA award, the E-consultancy Innovation Award 2008 in User Experience, plus IMA and BIMA

nominations. (8-9) Pimp My Ride (specialmoves.com/our-work/content/pimp-my-ride/game.html) involved a big update to one of MTV UK's most popular games. With a brand new level, great handling and a high score table, the game is now up there with the best online driving games. (10) We helped Tribal DDB bring its Cornetto Love Message Generator (cornetto.com) to life. Users can write a love note, send a plane to fly the message over a city of choice and then send a realistic video of the flight via web or phone. Two months into the campaign, over 45,000 love messages have been sent across Italy, France and Portugal.

/Expression_Web_3/ start building sites

The latest version of Microsoft's web design and development software makes web building easier than ever. EMC Conchango's Paul Dawson gives you a guided tour of its possibilities

It's not often that a new tool comes around that's a new and serious player in a particular field, but with the launch of version 3, Expression Web is now a real contender in the world of visual web page design.

The focus we all have now is on standards compliance, cross-browser compatibility, accessibility and the integration of rich media components, so it's no surprise that Expression Web has a lot to offer in these areas.

Expression Web is as far from Frontpage as you can possibly get, and much closer to 'proper' development tools like Visual Studio, paying close attention to the quality of code.

In short, the first time I saw Expression Web 3, I was surprised. Surprised at where Microsoft had taken it, and how it seemed to be much more open and ready to integrate with the other tools that we all use, like Photoshop. It even has a setting for you to work more effectively with PHP-coded sites!

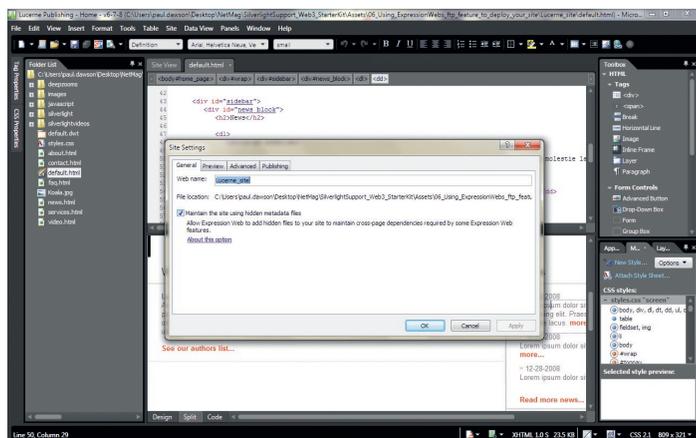
It's clear that Expression Web is a tool for professionals and doesn't try to automate everything. So there's plenty of scope for a visual-only designer to find it a challenge – but there are plenty of tools to help them become more knowledgeable and gently coax them down the right paths while allowing the 'pro' to do it in their own way if they wish.

I won't 'review' Expression Web here, or compare it to its rivals, but rather take you through a few of its key features so you get a feel for what it's all about ...

Getting started

The first step in using Expression Web, unless you're planning on just tweaking a single web page, is defining a site.

A site is literally a folder that contains all the necessary files for a site. It's pretty straightforward: just select **File > Open** and pick the folder within which your site sits. This can be an empty folder for a new project, or an existing folder. Expression Web doesn't really care where it is, so long as it's local and it has all the access it needs to it.



First steps The first time you create a template in Expression Web 3, you need to check the box that says **Maintain the site using hidden metadata file**

Expert tip Intellisense: a brief history

IntelliSense works by accessing an automatically generated in-memory database of classes, variable names and other constructs defined in or referenced by the application being edited.

The idea is to speed up development by reducing the amount of memorisation required or the need to refer to external documentation.

Intellisense first debuted as a mainstream product in 1996 in Visual Basic, and was a significant part of why that particular language brought so many new people to programming. IntelliSense is now also supported by the Visual Studio editors for C++, C#, J#, Visual Basic, XML, HTML and XSLT among others.

Helping write standards-compliant code is the next key feature. In the **Page Editor** options, you'll see that you can set the document declaration that you're targeting. Not only does this drive the doctype declaration in the meta data, but more importantly it will drive the way in which the editor helps with keeping the code you write compliant to that standard.

The first big weapon in the arsenal to help you adhere to these standards is IntelliSense, Microsoft's auto-completion tool, which is well tested in products like Visual Studio. What IntelliSense does is a little like predictive text input, only more intelligent. Although it allows you to type anything you want, the 'intelli' bit of the functionality will retrieve lists of things that are possible,

What IntelliSense does is a little like predictive text input, only more intelligent

based on the standards compliance you're looking for. So, if you set XHTML 1.0 as your primary document type, it will never suggest any tags or markup that aren't part of the XHTML 1.0 standard.

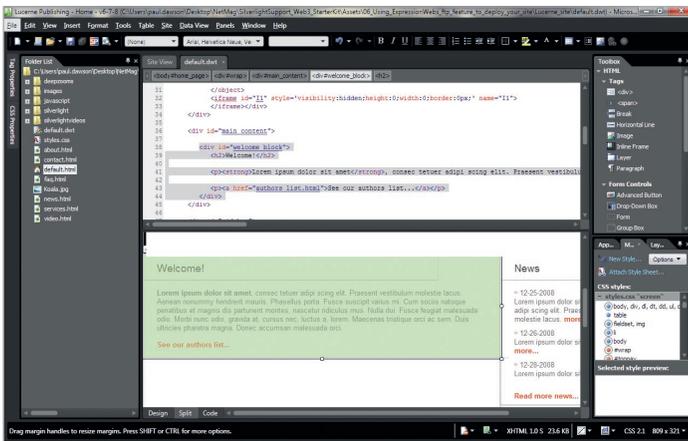
Keeping it relevant

As you type < to open a piece of markup, IntelliSense pops up with the list of markup that's possible in the context you're in.

Either keep typing and the focus in the list will go to the relevant tag, or scroll up and down the list. When the markup you want is highlighted in the list, hit the [Tab] key or [Enter] and it will auto complete and move you on to the next IntelliSense list.

When you type > to close the tag, for example, the corresponding </ form> is also created, and the cursor placed between them so you can start writing the contents of the form.

IntelliSense is also aware of the classes, ids and styles in use in the site, and makes them available as a list for selection at appropriate points.



Crumb of comfort Clicking on `welcome_block` selects the entire div: this breadcrumb is pretty useful for helping you work out where you are on the site

The other use of the doctype setting is to check your code for compliance to the standard. So if you write markup in such a way that's not compliant to the standard, Expression Web will warn you as you type it. It uses similar visual cues to the spellchecking functionality in Word, underlining the tags that don't conform with a hover-over message that tells you what error it has picked up.

All the way through editing you'll see the bottom bar updating various things from the size of the file you're editing to some compatibility and error checking tools. The first is checking compliance to the selected Doctype Schema, enabling you to jump straight to any detected incompatibilities and rectify them. The second is looking for more fundamental code errors such as unclosed or incomplete tags. So as well as highlighting it in the code with a red wavy underline, all errors are consolidated here.

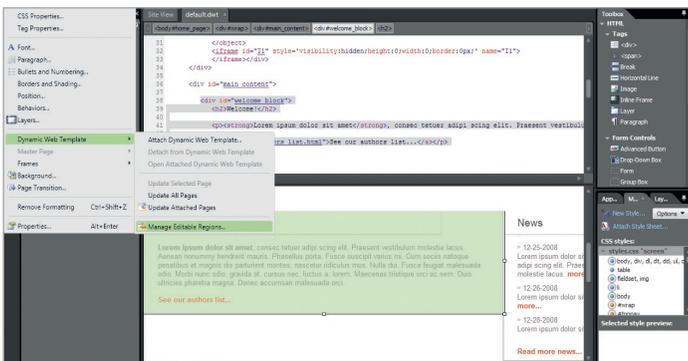
Templating

The first thing we're going to do is create some new pages, and we're going to use a feature in Expression Web called Dynamic Site Templates. This pretty much does what it says on the tin, and users of DreamWeaver will be familiar with the concept – it allows dynamic web pages to be created from a template. But first, if you've not used a template in Expression Web before, you'll need to make a change to the site settings.

From the **Site** menu, select **Site Settings**. The dialogue shown in the bottom-left screengrab will pop up and you'll need to check the box that says: **Maintain the site using hidden metadata files**. These are files that Expression Web uses that it doesn't publish as part of the finished site, to keep things like references to external files, and links and references between files in the site intact, no matter what you do to them.

Pretty much every WYSIWYG HTML editor does this, either in a database or some other kind of config file, but for once it's nice to see an application make this option specific. I know I've been confused by .dat files and the like in other packages, not sure which ones are required to make the site work and which ones are only needed to do the editing.

Once this is checked, we can define a template from which all new pages on the site can be generated. Doing this is pretty trivial, as all you do is save the file from which you want to start any new pages as a .dwt (dynamic web



Checkers

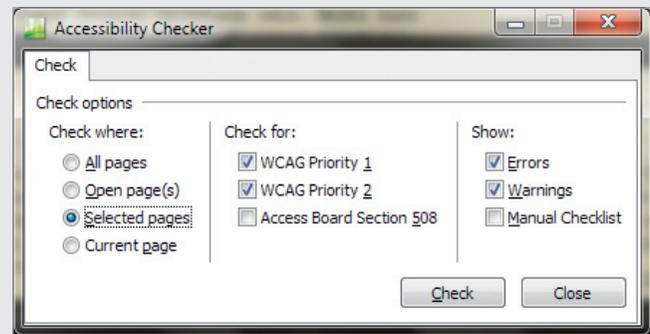
No, not Gordon Brown's holiday home ...

Checkers are tools for checking that what you've created is compliant to the published Doctype Schemas, works in your target browsers and is accessible. Expression Web has all of these, and first up is the accessibility checker.

Seeing as UK legislation is a bit hazy on what constitutes 'accessible', and seeing as many of us work on sites that have to be compliant to the laws of the country in which they're being used, it's handy that the settings for the accessibility checker are pretty flexible. And anyone who's done any accessibility testing of any worth also knows that an automated checker will only clearly define a relatively small number of things that are known for certain to be accessibility issues, in that they specifically contravene one of the WCAGs. So it's also handy to be able to turn on warnings and the manual checklist so we can look for things that aren't so easily measurable by an automated tool.

The accessibility report is viewable 'in situ' alongside the code and design view, and can be re-run over and over as you trawl through and fix up issues it has highlighted – or extend its remit to the entire site.

The compatibility checker works in a similar way and is equally comprehensive in the options available and how it takes you directly to the errors so you can fix them up there and then.



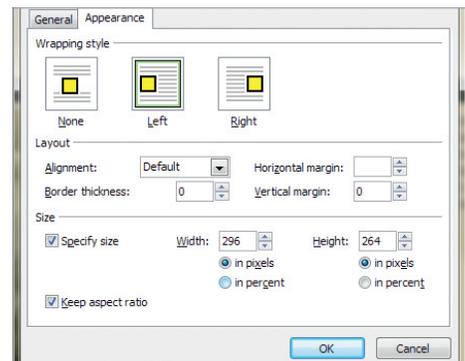
Options open Different countries demand different accessibility standards, so the settings for the accessibility checker are reassuringly flexible

template) file. We'll call ours `default.dwt`. The process of saving it also opens it for editing, which we need, because we need to define which aspects of the page are to be different (ie editable for each new page) and which are to be common and updated from the template (ie non-editable).

By default, the whole of the template is deemed to be non-editable, so we'll add in a few regions that we'll change on the subsequent pages. Click inside the area that you want to make editable, and in the very handy breadcrumb trail at the top you'll see clearly where in the page structure you are.

We want the whole area called `welcome_block` to be editable, so click on it. This also selects the entire div: this breadcrumb is also pretty useful for helping you work out where you are in the structure of any page. >>

Right To make complex changes to an image, right-click on it to pull up the picture properties dialogue



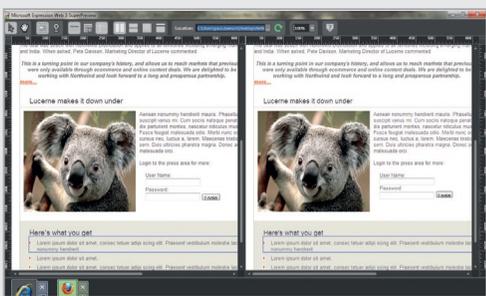
Left Click **Manage Editable Regions** and you're invited to name the selected region and make it editable

SuperPreview

A great new way to test in different browsers

SuperPreview is a superb new tool that enables you to configure the comparison between a range of different browsers, including the dreaded IE6 SP1. There is a variety of views that allow side-by-side comparison, and as you scroll and click around the pages, the containers and other non-visible elements are highlighted for you for ease of debugging.

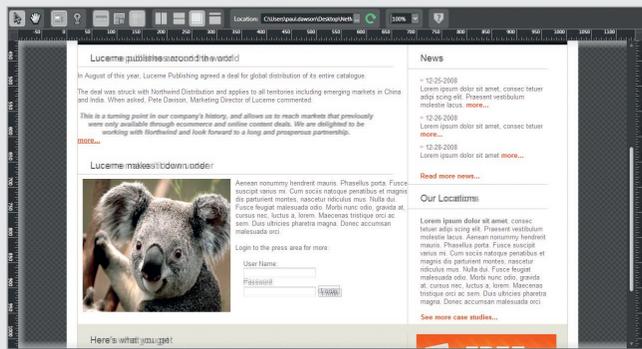
In the case below I've got it configured to look at IE8 running in IE6 compatibility mode, and Firefox 3.5.2. There is a variety of views



that allow side-by-side comparison and as you scroll and click around the pages, the containers and other non-visible elements are highlighted for you

for ease of debugging. However, my favourite view is the overlay view. The code we wrote here was very standards compliant, and not too complex, so it wasn't surprising that the pages didn't render that differently, and in the side-by-side view they look pretty identical.

But when I turned on overlay, look what happened:



No, the printers haven't got that image wrong. The blurring of the text is the result of very tiny differences in layout and sizing, overlaid on top of each other.

In this case, you can easily pick out the differences in how they render the blockquote, the H1 formatted text and the form. The designers who work with me – who consider themselves to be pixel perfect – have never been so happy!

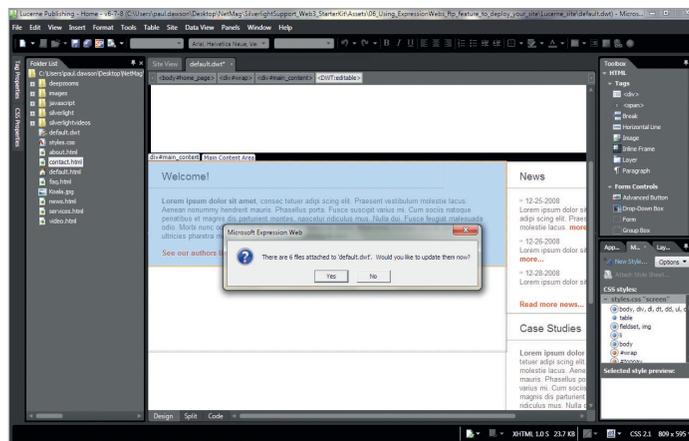
Make it editable



Now from the Format menu, select **Dynamic Web Templates** and then **Manage Editable Regions**. The dialogue that opens up invites you to name the region that you've just selected and to make it editable. We'll use a friendly name, **Main Content Area**, which doesn't affect the div name in the HTML, and click **add** to make it an editable region.

Note there's a new tag up in the breadcrumb called **<DWT:Editable>** that marks the beginning of the section. As we've already added the region, the dialogue box in the screenshot has the **rename** button where the **add** button used to be.

This means that if you forget to give it a friendly name, or want to make a reference to the name of the actual div in the friendly name, you can rename it without any trouble. Close the dialogue and you're ready to go.



Ring the changes After you save the .dwt file, you're prompted to push the changes made in the template through to the other files that are attached to it

When you want to make changes to the common (non-editable) areas on all your pages, just open **default.dwt** again and make the change.

In the design view, you can use the **View** menu to define which 'visual aids' are turned on. This is useful in templates, as one of them is **Template Region Labels**. Turning these on displays clearly where the editable regions are and what they're called.

If you're working in a scenario where others have to edit these pages you can use the name we defined above as a note to content editors eg 'Put main page content here'.

Conflict resolution

Okay, now save the .dwt file before we move on. Expression Web will prompt you before closing it to push the changes made in the template through to the other files that are attached to the template (as shown in the above screenshot).

The process that follows is pretty good, as it deals with any conflicts between templates and pages that already exist. Once some editable regions are set up in the DWT, you can start creating new files from the template. Doing this is also pretty straightforward: just Choose **File > New > Create from**

Expression Web makes every attempt to help you write clean, light, efficient code

Dynamic Web Template. In the **Attach Dynamic Web Template** window, click the default document representing your .dwt file, then click **Open**.

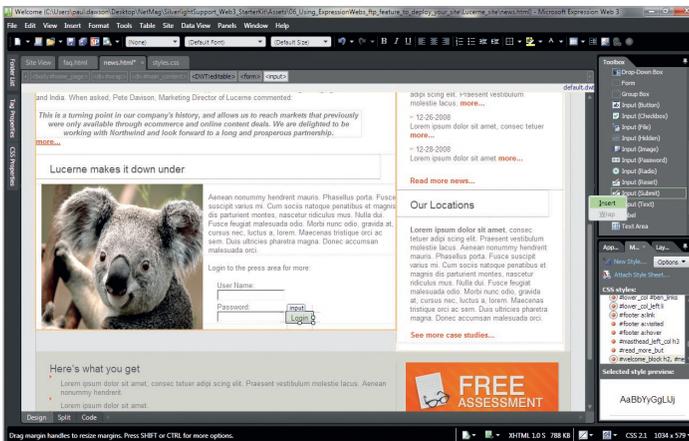
This opens up a new file called **Untitled_1.html**, which you can then rename to become the page you want to create.

Let's do some basic editing in this page to show how you add content and styling. By editing the existing containers in the editable content area, we can change copy, and apply existing styles using entirely the design view.

Clean code

Expression Web makes every attempt to help you write clean, light, efficient code. Sure, it's quite possible to format text in the design or code view without creating a CSS style, but if you select **New Style** from the **Manage Styles** tab at the bottom-right, you get a dialogue box. You'll notice that it gives you the option to create this new style in an external style sheet, be it a new one or an existing one. You can also bodge it into the current page if you need to, of course, but you can't say that the software doesn't make it pretty easy to do it right.

Let's put some more content in. An image, for example, is as you'd expect: **Insert > Picture**, and select a file from your disk. In the **WYSIWYG** view you can resize the image of course, but also adjust its positioning and padding by



Simple form Using the toolbox on the top right, I put in some simple form fields, including a login button that I can then type into to change the wording, and resize

dragging the margins and resizing them in the design view. The design view shows the padding as a grey column for ease of reference, and backs up any visual changes you make by showing you the pixel value as you make the change.

If you want to get complex, though, pull up the picture properties by right-clicking the image, and you'll see pretty much everything you need. That includes the wrapping style, which no matter how much I tried VALIGNing or HALIGNing, I just couldn't remember how to do in code, but it was all here.

Once resized, another right-click option is to re-sample the image. So if it started as a 1MB image and you're only using it at just under 300 pixels, it will resample it and resave the image in the resolution at which you'll be using it, thereby saving valuable bandwidth.

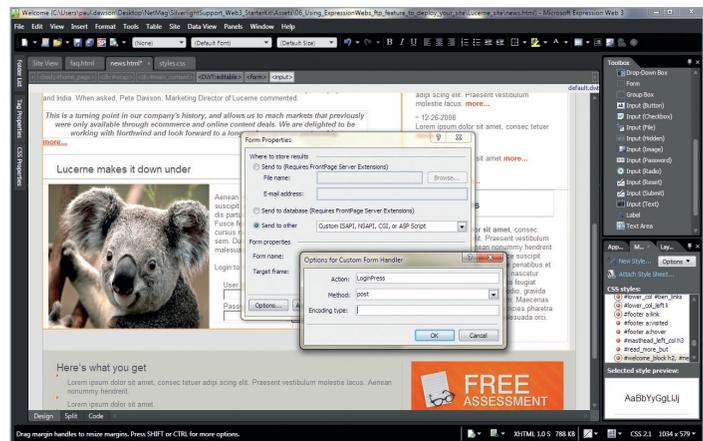
The trickier bits

Although typically I'll call on a developer to do things like make forms work, I always need to show them what I need. In many cases, when they're commonly used forms, or where I'm using an open source script, I'll wire the thing in and make it work properly.

Let's put in a simple form to see how it's done in Expression Web. The main feature we'll be using here is the toolbox. It's the box on the top right and it contains a whole bunch of 'stuff' you might want to insert into a web page in terms of tags and markup.

Select an item, right-click, hit **Insert**, and it appears in the design view. In the screengrabs above, I'm putting in some simple form fields, including a login button that I can then type into to change the wording, and resize, before going on to the more advanced properties where I can choose the script type, and even wire it up correctly to the appropriate post action.

The other thing that was bugging me as I was working with this image is that when I had the code view open I could see clearly that it was referencing the original location of the file on my hard disk, which I had got from the Sample Pictures folder in Windows 7. I was upset that it hadn't asked me to



Further options More advanced properties enable you to choose the script type and even wire it up correctly to the appropriate post action

move it into the site directory and I kept making mental notes to move it manually before deploying the site.

But Expression Web was way ahead of me. The moment I wanted to close the file it spotted all the things that I'd done that needed tidying up. As well as offering to save the image in the right place, it also offered to save changes to the style sheet we made and move a piece of script I used. In short, anything that you do during the editing process that isn't saved somewhere in the site

Import > PSD enables you to bring in all the elements you need from a single PSD

folder, it will handle and ask you to tidy up. There are a few other tidying up tools available as well, like the code optimiser that will even remove white space, as well as tidy up your code formatting.

Layering it on thick

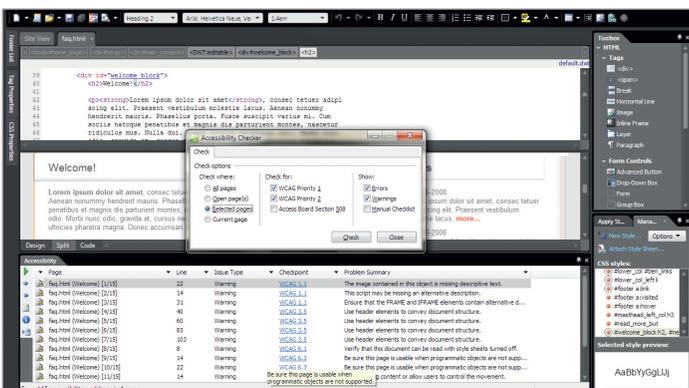
"But," I hear you cry, "I get all my images from a designer who just gives me a PSD file from Photoshop. I've still got to chop up those files into the images I need." Well, thankfully Expression Web has an answer to that, too. You can either insert an image straight from a PSD file or you can import an entire PSD file using the import function.

Now, I have a confession. I don't have Photoshop installed on my machine. It's a new machine running Windows 7, so I have an excuse, but it's also a good way to test this. So, I downloaded one of Chris Anderton's Deluxive PSDs from deluxive.deviantart.com and tried it out.

When you select the **Insert > Picture** option you get the ability to see all of the layers, and to select and deselect any you choose, and to select the image format and quality in which the image is then saved.

Selecting **Import > PSD** will just do this process without inserting the image into a specific part of the page. It enables you to bring in all the elements you need from a single PSD and get them in the right place and format in your site folder before setting about building anything.

Seeing as all many of our UI developers do with Photoshop is import slices of PSDs into web projects, this may save us a Photoshop licence or two!



Switching to manual Automated tools can be a blunt instrument when it comes to accessibility, so the manual checklist is a big help in staying on top of potential issues

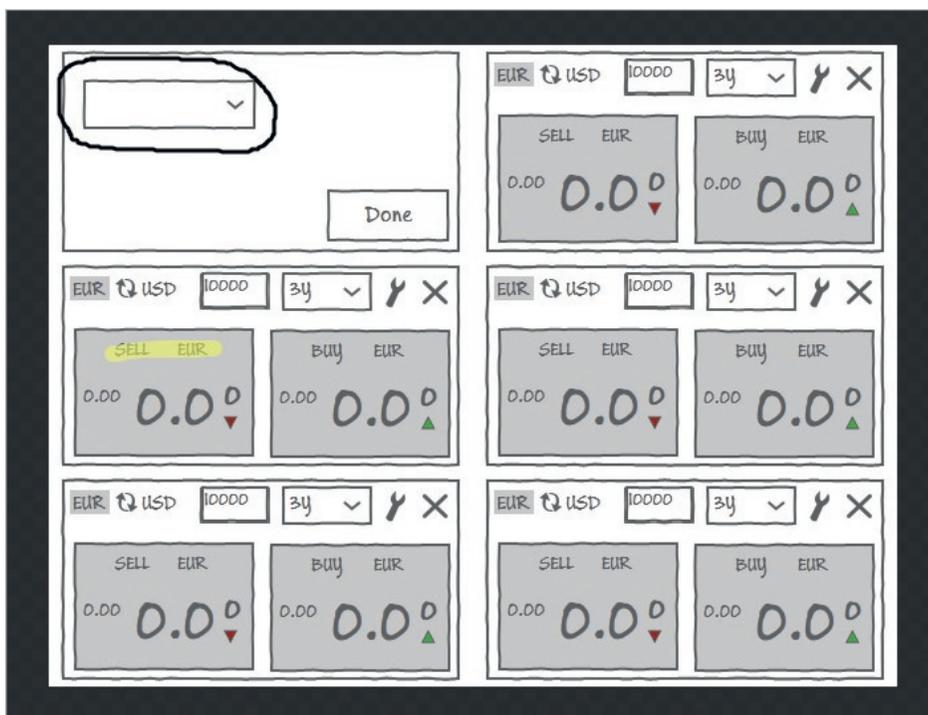


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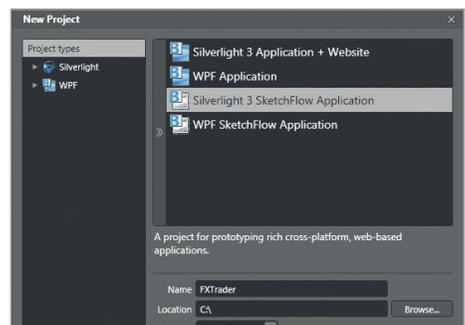
/Blend/build a SketchFlow prototype

Kristie Weatherford of technology consulting firm Lab49 explains how to use the SketchFlow feature in Expression Blend to build a currency trade prototype

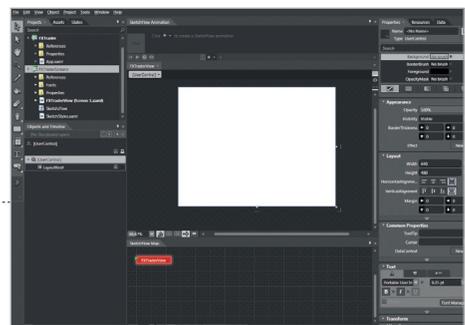


Expert tip Properties panel

The Properties panel is contextual: it changes depending on what's selected in the Design view. The Search field will help locate the properties in this tutorial. But beware! When you want rounded corners, the property on a Border is CornerRadius, but on a Rectangle you have to use the RadiusX and RadiusY properties. This is an example for Silverlight projects: round corners are not available on sketchy style controls in SketchFlow projects. Searching helps you find properties, but some effects are applied differently from one control to another and may not have the same name.



START **New project** Choose File > New Project... > Silverlight 3 SketchFlow Application. Name the project FXTraderDemo. Click OK. The SketchFlow Map should appear in the bottom pane. On the top left we'll be working with the Assets tab to use Sketch-styled controls.



2 Default page A default file, Screen1, will open. This is the name that will display in the SketchFlow Player, so first we should change this to FXTraderView by clicking the blue screen in the map area. This will be the default page and you can right-click and select Visual Tag > Red for emphasis.

What you'll learn In this tutorial, I'll build a Silverlight F/X currency trade prototype to demonstrate some of the functionality available in SketchFlow and Microsoft Expression Blend 3 while implementing a real-world example from the financial services domain

Knowledge needed None

Requires Microsoft Expression Blend 3

Project time 1-2 hours

SketchFlow is a compelling new tool for creating interactive prototypes. It incorporates the review, commenting and collaboration that comes with the process of designing apps and interactive content. Using 'sketchy' styled controls adds interactivity to your mock-ups: that means textboxes that work like real textboxes, combo boxes that really drop down, radio buttons and checkboxes that work. Controls used in mock-ups can load sample data, or you can go one step further and consume services. Data validation during the prototyping design phase – can it be true?

The SketchFlow map of your application flow quickly creates click-through prototypes and the SketchFlow Player enables clients and users to

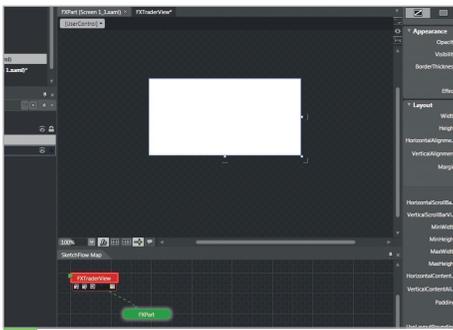
comment and mark up their feedback directly on the designs. Importing feedback keeps it in one place and creates a trail from review to revision.

These features and ease of use have given many of us at Lab49 'SketchFlow fever', and our positive client reviews have proved it communicates the message of our designs in a whole new way. Even the directors and developers at Lab49 have created mock-ups using SketchFlow on their own to communicate functionality on their projects. Here, I'll use it to create a currency trade prototype. ●

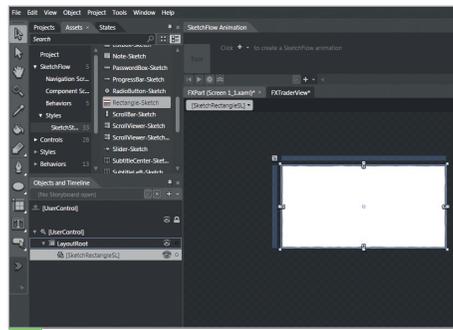


About the author

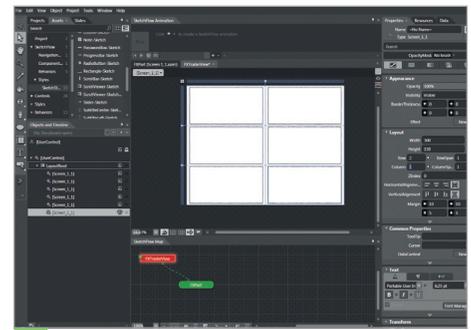
Name Kristie Weatherford
Job User experience consultant
Company Lab49
Areas of expertise Silverlight & WPF, animation, interaction
Favourite ice cream Dove Chocolate & Brownie Affair



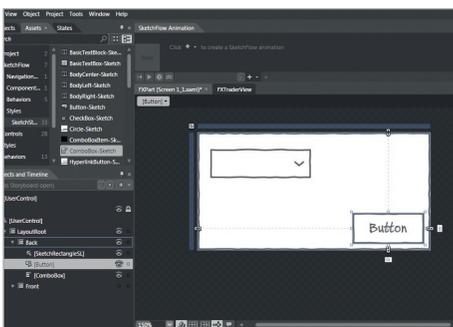
3 Add screen In the SketchFlow Map, hover over the FXTraderView screen. Select icon for Create and insert a Component screen. A green screen appears; drag it out and rename it FXPart. Select UserControl in Objects and Timeline. In Properties panel, change Width to 300 and Height to 150.



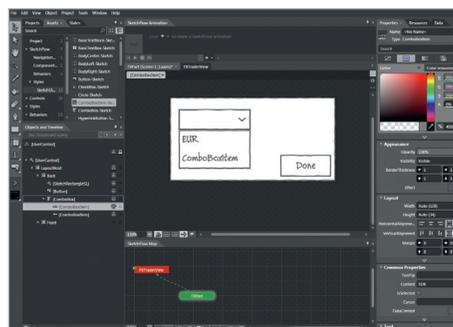
4 FXPart Layout Select Assets (top left). Expand SketchFlow, expand Styles and select SketchFlowStyles. Choose Rectangle-Sketch from the list. Draw a rectangle the size of the UserControl. Go back to FXTraderView. From the application menu, select Project > Build project.



5 FXTraderView Layout From Assets, select Project and Screen_1_1 our FXPart. Copy the component five times. Arrange evenly in two columns and three rows. The alignment guides added in Blend 3 should make this easier for beginners; advanced users can use a Grid or a Uniform Grid.



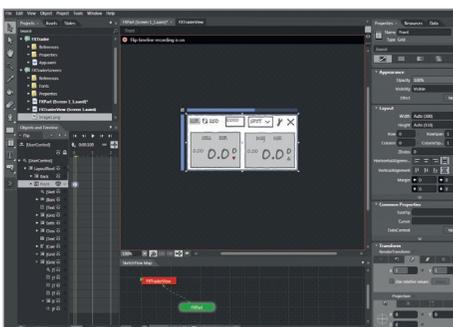
6 Set up Back Return to FXPart component screen. Select Rectangle; right-click. Select Group Into > Grid. Rename the grid Back. Make a copy, rename it Front. Click Hide icon on Front grid in Objects and Timeline. Ensuring Front is selected in Objects and Timeline, add a SketchStyle Button and ComboBox to Back grid.



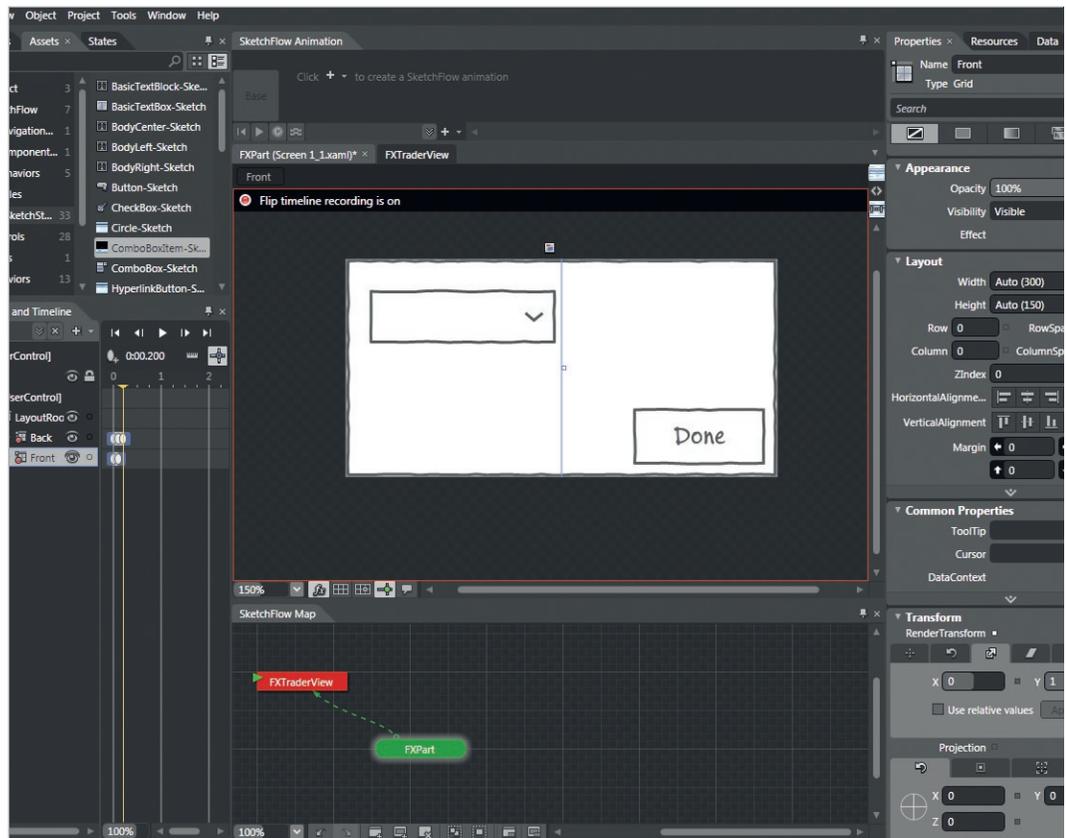
7 Content Drag some ComboBoxItems from the Assets panel to the ComboBox in the Objects and Timeline panel. Name these with currency values to give interactivity to the mock-up. Select button and change Content value to Done. Click the Hide icon on the Front grid to go to the normal state.



8 Front Select the Front grid in Objects and Timeline. Start adding TextBlocks, icons, TextBox and ComboBox using the SketchFlow-styled controls from the Assets panel. Add two rectangles and add TextBlocks to display the currency and the rate of change. Add a red and green arrow.



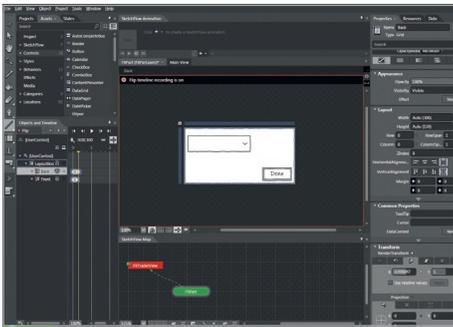
9 Storyboard In Objects and Timeline, click the + icon to create a new Storyboard. Name it Flip. With the yellow slider at the 0 position on the timeline, select the Front grid and create a keyframe (see Expert Tip, page 18). Move the slider to the 0:00.100 position and create another keyframe.



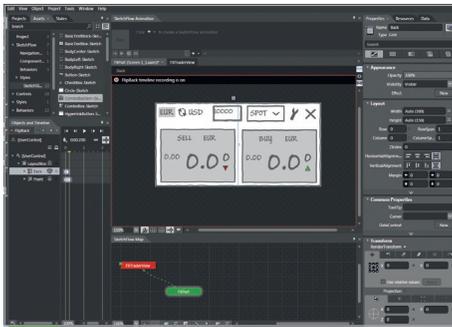
10 Animations With the slider still at the second keyframe and the Front grid selected, expand Transform in the Properties panel. Select Scale. Change the X value to 0. Select the Back grid in the Objects & Timeline panel. Create a keyframe at the 0 mark. Set the Scale transform X value to 0.

11 Create Flip Create keyframes at 0:00.1.00 and 0:00.2.00 on the Back grid timeline. Change the Scale transform X value to 1 at the third keyframe. Close the Storyboard (click the X next to its name top-left in Objects and Timeline) to return to the default view. Select Grid in Objects and Timeline. Change Cursor value in Common Properties to Hand.

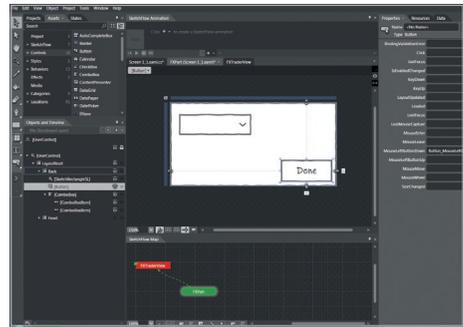
expression_3/technique/blend



12 More animation Click the New icon. Name the new Storyboard **FlipBack** and select the **Front** grid. Create a keyframe at the 0 position on the **Front** grid's timeline and set the **Scale** transform value to 0. Create another keyframe at the 0:00.100 position and another at 0:00.2.00.



13 Flip back On the third keyframe on the **Front** grid timeline, set the **Scale** transform value to 1. This makes the front show again. Select **Back** grid. Create a keyframe at the 0 position. Set the **Scale** transform value to 1. Create another keyframe at 0:00.1.00. Set the **Scale** transform value to 0.



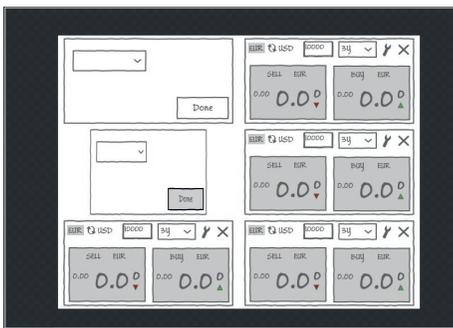
14 Hook up the flip back Close the Storyboard. Select the **Front** grid and **Hide** it to show the **Back** grid content. Select the **Done** button. Switch the **Properties** panel to **Events**. Double-click the **Click** value. **FXPart**'s code behind the file will open with the event handler added.

```

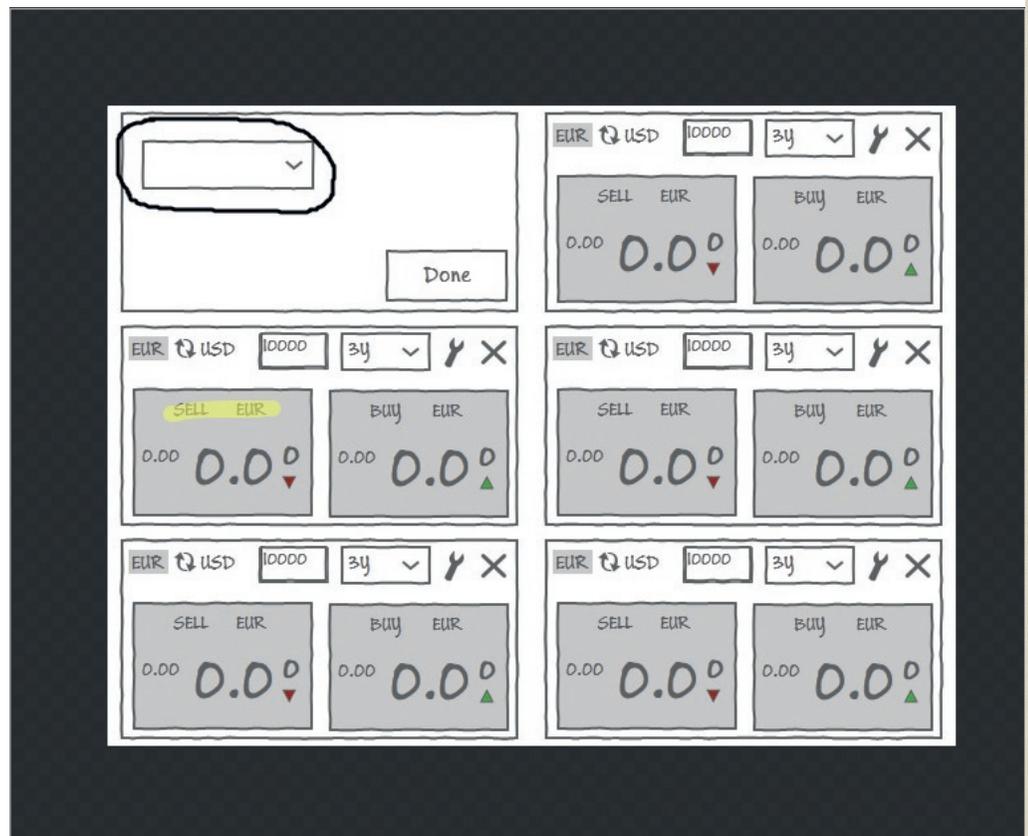
7 using System.Windows.Media;
8 using System.Windows.Media.Animation;
9 using System.Windows.Shapes;
10
11 namespace FXTraderScreens
12 {
13     public partial class Screen_1_1 : UserControl
14     {
15         public Screen_1_1()
16         {
17             // Required to initialize variables
18             InitializeComponent();
19         }
20
21         private void Settings_MouseLeftButtonDown(object sender, System.Windows.Input.MouseButtonEventArgs e)
22         {
23             this.Flip.Begin();
24         }
25
26         private void Button_Click(object sender, System.Windows.RoutedEventArgs e)
27         {
28             this.FlipBack.Begin();
29         }
30
31     }

```

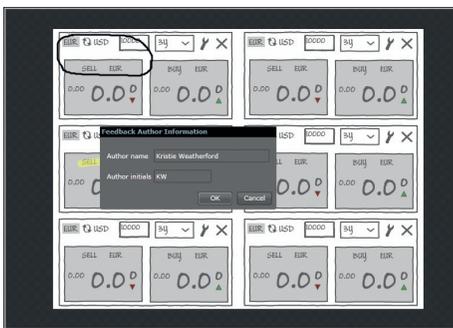
15 Begin storyboard Remove placeholder code. Write `this.FlipBack.Begin();` to register the click event. Return to **FXPart**'s design. Unhide **Front** grid. Select **Settings** icon. Switch to **Events** in the **Properties** panel. Double-click **MouseLeftButtonDown**. Remove comment placeholder code.



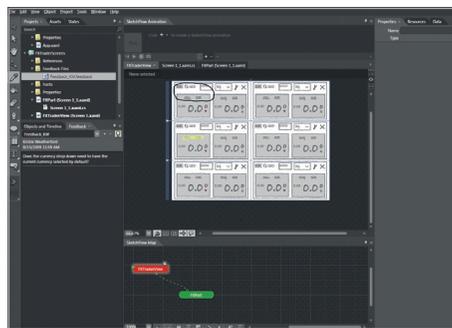
16 Run project Write `this.Flip.Begin();` to register the click event starting the **Flip** animation Storyboard. In the **Menu**, select **Project > Run Project**. The **SketchFlow** Player will launch. Click **Settings** icon. The **Flip** animation will hide the **Front** grid and show the **Back**, creating a flipping effect.



17 Feedback & comments When reviewing your interactive **SketchFlow** mock-up with a client or team, feedback can be captured directly in the **SketchFlow** Player. In the **Feedback** tab on the bottom left, type some comments and click the + icon. Select the pencil or highlighter to draw directly on the designs; use the eraser to remove your markings.



18 More feedback Add feedback to the design and click the folder icon for **Feedback** options. Select **Export Feedback**. Enter author information. Click **OK**. Pick a place to save the **Feedback** file and name it. Click **Save** to create an **XML** **Feedback** file that will be imported into the project.



19 Import feedback Close the browser. Select **Window > Feedback**. Click the + icon. Browse to the saved **Feedback** file to import it to the project. Click the **Lightbulb** icon to show and hide the ink markup notes. **Feedback**, review and collaboration directly in the project!

Expert tip Keyframes

Create keyframes on a storyboard timeline by selecting the object you want to animate in the **Objects** and **Timeline** panel and move the yellow slider to the time position you want to place your keyframe. Select the **Record keyframe** icon located above the 0 position on the timeline to place a keyframe. You can also position the yellow slider where you want to animate an object, and instead of recording a keyframe you can just move the object or change a property and **Blend** will record a keyframe automatically. **Advanced** users can choose to apply **Easing** functions to keyframes with **Silverlight 3**.

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1-5 Wimbledon 2009

URL www.nets5.nl/web/show/id=488596/langid=43
Built by SBS Broadcasting

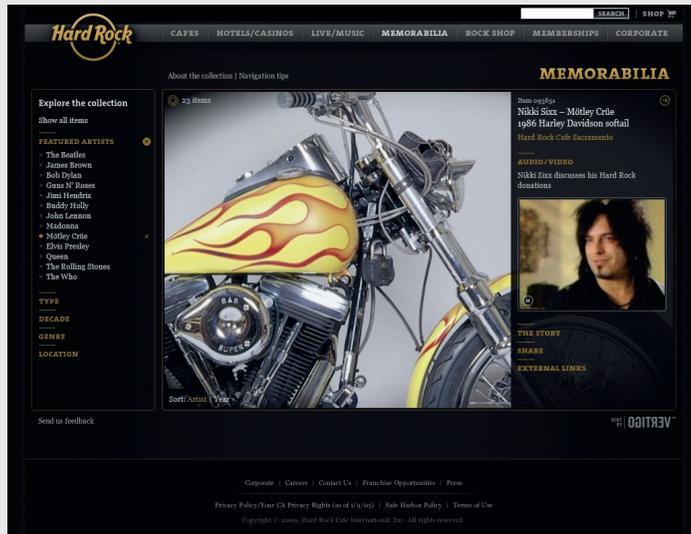
Created by the SBS Broadcasting network in Hollandsd, this 2009 Wimbledon site was a great example of what can be done with Silverlight's streaming video (which now boasts H.264 and AAC support). You can still watch the majority of this year's matches from the tennis tournament, and relive those moments of Murray-mania that had us all hooked (it's also a nice reminder of what British sunshine looks like, lest we forget).

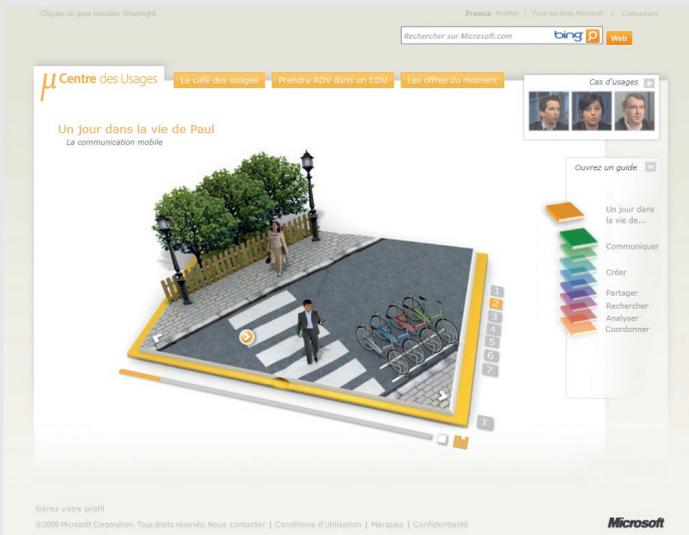


6-10 Hard Rock Memorabilia

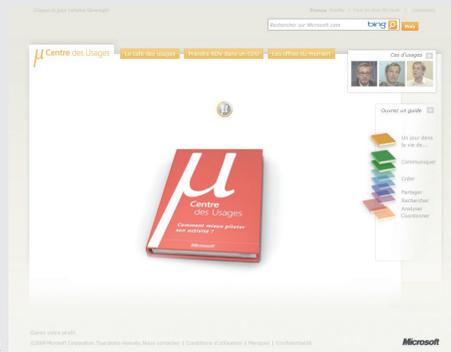
URL memorabilia.hardrock.com
Designed by Duncan/Channon
Built by Vertigo

One of the most high profile exponents of Silverlight's Deep Zoom technology has been the Hard Rock Memorabilia site. You can view thousands of items from the annals of rock history, and seamlessly zoom in on extreme detail (to the point where you can even make out individual fingerprints!). There's no need to wait for huge downloads, because images are updated as you close in on specific detail. The site, designed by Duncan/Channon (www.duncanchannon.com) and built by Vertigo (www.vertigo.com) in 2008, still stands out as a shining example of Deep Zoom. (Turn to page 22 to find out how to start using this technology on your own websites.)





1



2



3

1-5 Microsoft Centre des Usages

URL www.microsoft.com/france/entreprises/centre-des-usages/
 Built by www.mrmworldwide.com

The Centre des Usages website was built for Microsoft by MRM Worldwide. The aim of the site is to educate French businesses on how Microsoft can help them in different walks of life (whether in the home, office or on the road). The site's navigation takes the form of a series of books that, as you select them, pop open in the main content area of the site. You can then interact with each pop-up scenario. It's a fantastic way to illustrate Microsoft technologies working in a variety of scenarios.



4



5

6-10 Microsoft WorldWide Telescope

URL www.worldwidetelescope.org/webclient/
 Built by In house

Space is cool. And in the shape of the Microsoft WorldWide Telescope, Microsoft Research has produced a truly stunning piece of technology that enables you to navigate your way around the great beyond. Made up of a combination of satellite and telescope images, this application uses Microsoft's Visual Experience Engine to provide you with the ability to pan and zoom across the night sky. You'll need to hand over an extra chunk of your hard drive to the app, but it's well worth it. To infinity and beyond ... No. You're right. We should be sensible about this. ENGAGE WARP DRIVE!



6



7



8



9



10

/Silverlight/design with Deep Zoom



Costas Brammer of high-end interactive production company Specialmoves explains how to make best use of Silverlight's powerful new feature



Expert tip Get creative

Deep Zoom has been used on some great sites, such as Hard Rock Memorabilia (bit.ly/ZUCGD) and Microsoft's photosynth.net. Both use layers of images, set at different Z depths. If you need to do advanced zooming to layers like this, you can either set this up in Deep Zoom Composer or arrange the layers programmatically. Unless you're doing something based on information retrieval, try to be creative: many examples on the web are just simple mosaics (though some are still fun, such as bit.ly/p1VMJ).

What you'll learn I'll explain how import a high-res PDF into Deep Zoom Composer, an application dedicated to the preparation of Deep Zoom content. We'll then take this into Microsoft Expression Blend, where we'll place it into an empty Silverlight project and ready it for web export

Knowledge needed Basic understanding of Photoshop and Microsoft Expression Blend
Requires Adobe Photoshop, Microsoft Blend, Deep Zoom Composer
time 30 minutes

Deep Zoom is a great feature of Silverlight (available as a free download at silverlight.net/GetStarted), which is really so simple that you'll wonder why anyone else hasn't released such a tool until now.

Rather like the step up from the older, linear-based computer tapes to the quicker 'random access memory' of hard drives, a Deep Zoom component lets you see the overview of a data element (be it a magazine article, picture or a map of the Earth) then quickly home in on the detail you want. It's like browsing the index of a book then jumping straight to the desired page, but with the smoothness of Deep Zoom it becomes so much more.

In this tutorial, we're going to run through the

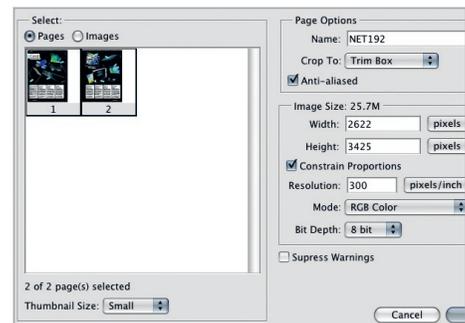
process of taking pages from a magazine (ready for print) and preparing those to use as a Deep Zoom experience on the web. We'll start in Photoshop and then import the image into Deep Zoom Composer. We'll then take this into Expression Blend, where we'll place it into an empty Silverlight project and ready it for web export.

The PDF used here is on the CD, but if you don't have Photoshop, find a folder of images (JPEG, PNG, TIFF or BMP) and jump straight to Step 4. ●

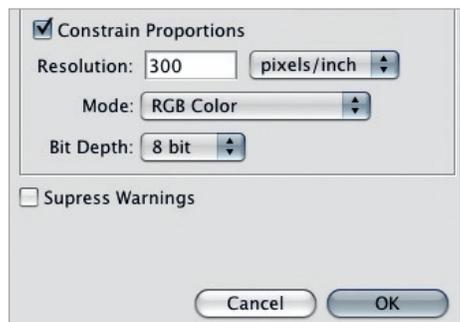


About the author

Name Costas Brammer
Company Specialmoves
Site specialmoves.com
Areas of expertise Motion visual effects, UXD design
Favourite ice cream Ben and Jerry's Chunky Monkey



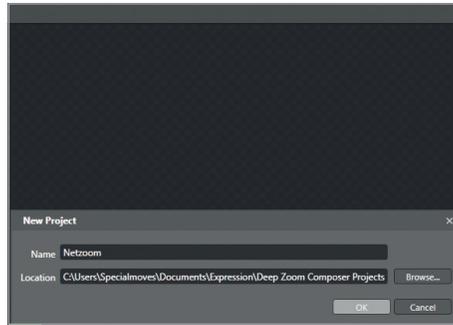
START Photoshop Import the PDF you're going to use for your Deep Zoom experience into Photoshop. Choose **File > Open**. Select **NET192.pdf** from the CD. When the import dialog appears, select both page thumbnails, and under **Page Options**, choose **Trim Box**.



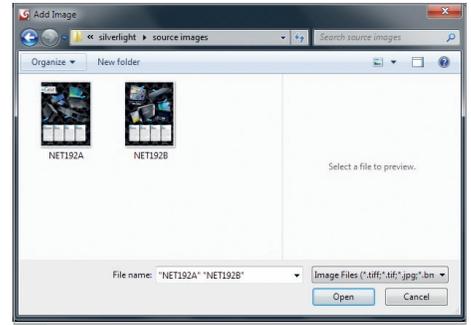
2 Quality We want to keep the quality as high as possible at this stage of the process, as the nature of Deep Zoom is to allow high-res images to load quickly even on a web connection. As this PDF was made for print, keep the default setting of 300dpi. When you're done, press **OK**.



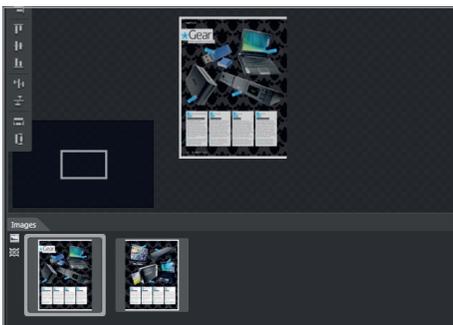
3 Flatten Flatten the images (Layer > Flatten Image) and save them as a PNG. Deep Zoom supports a number of popular image formats, but it's always good to keep things simple. Choose File > Save As, choose PNG as the format, and name the files NET192A.png and NET192B.png.



4 New Project With the images ready, open Deep Zoom Composer (available as a free download). Select New Project in the splash window. If the splash window doesn't appear on load, choose File > New Project. Name the project Netzoom and save it to a directory of your choice.



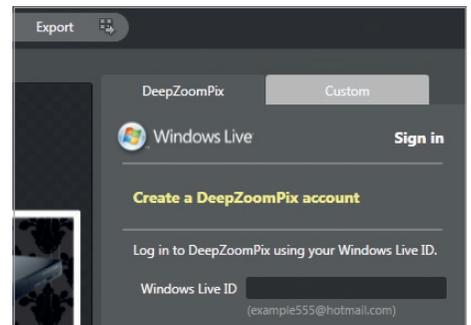
5 Import A blank project will open and you'll see three tabs near the top of the window: Import, Compose and Export. If the Import tab isn't selected, click on it. Using the Add Image button on the right, import the two PNGs you saved from Photoshop (NET192A.png, NET192B.png).



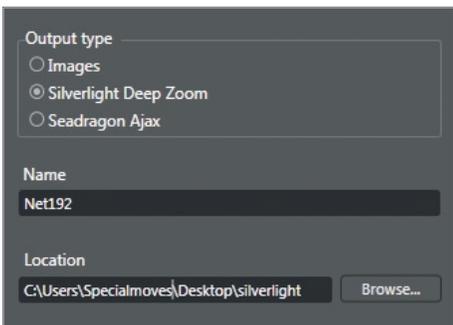
6 Composer View Click on the Compose tab and you'll be presented with the Composer View. Drag both images from the image gallery at the bottom onto the artboard. You can use the Selection (arrow), Pan (hand) and Zoom (magnifying glass) tools to navigate around.



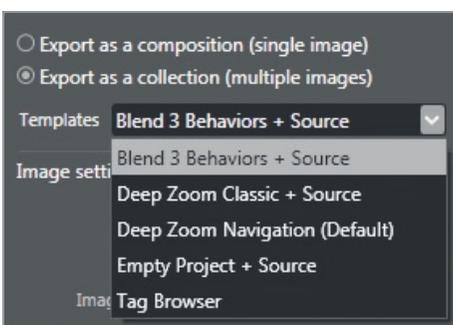
7 Click and drag Click and drag the images so that they sit next to each other – the auto-snapping in Deep Zoom Composer is very accurate and in this case it should work well enough that you don't need to use any of the other alignment buttons in the left-hand toolbar.



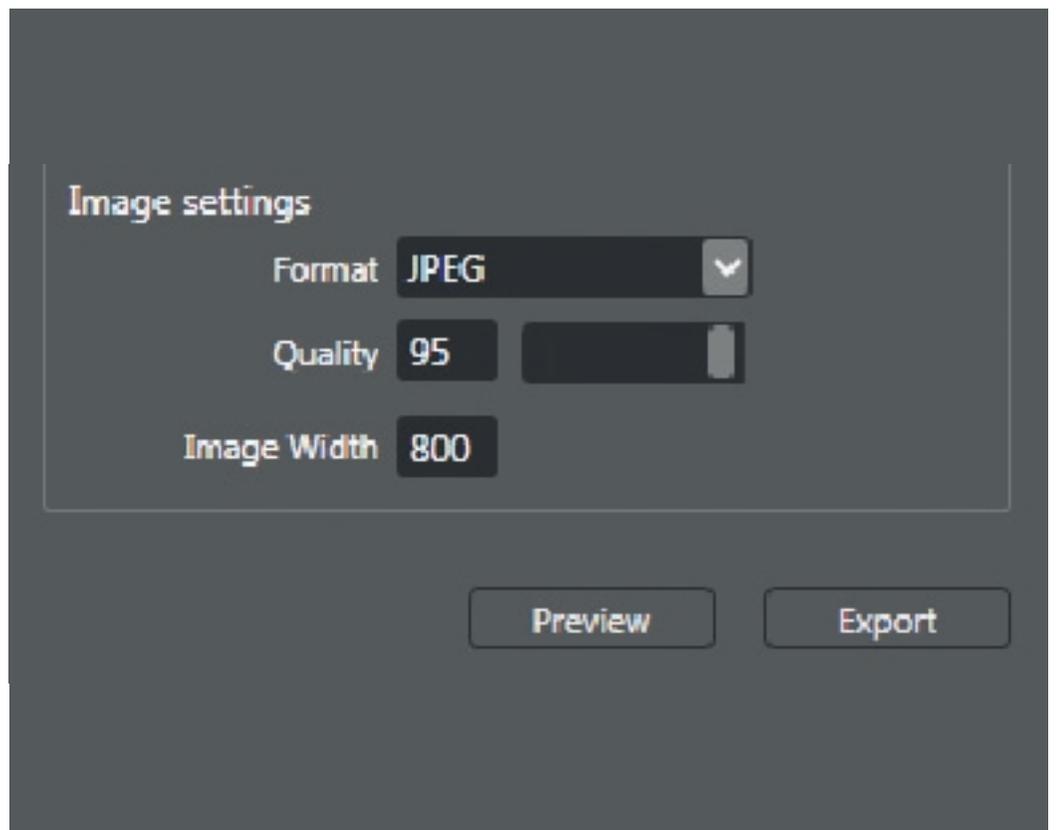
8 Export Once you're happy with the positioning, you're all ready to export. Click on the Export tab at the top. You'll now see two tabs on the right-hand panel: DeepZoomPix and Custom. Click on the Custom tab and you'll be presented with a number of export options.



9 Output type Ensure the Output type is Silverlight Deep Zoom, and type Net192 in the Name box. For export location, select the directory in which you'd like the Deep Zoom assets to be saved. Ideally, this will be the same folder that contains the rest of your Silverlight project files.

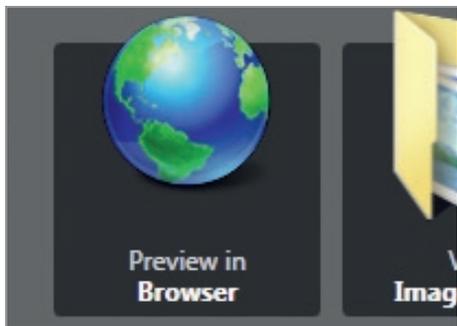


10 Pre-generated template As this will be a Blend project, we'll choose Export as collection for image type. This enables us to select a pre-generated template for export from the drop-down list. Select Blend 3 Behaviors + Source from the list.

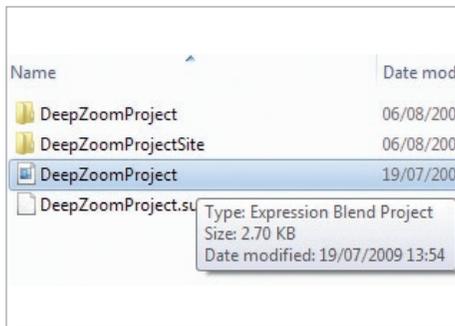


11 Choose compression settings Keep the default image format settings. You'll notice you have a choice of JPEG or PNG compression – Blend treats both in the same manner, so it's primarily a matter of personal preference. Once you're done, press the Export button.

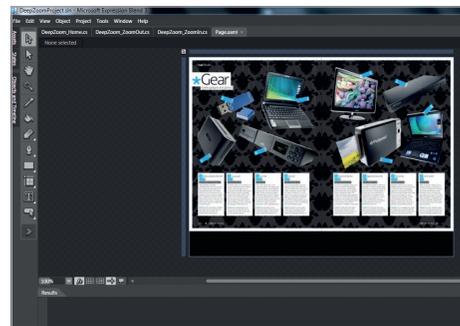
expression_3/technique/silverlight



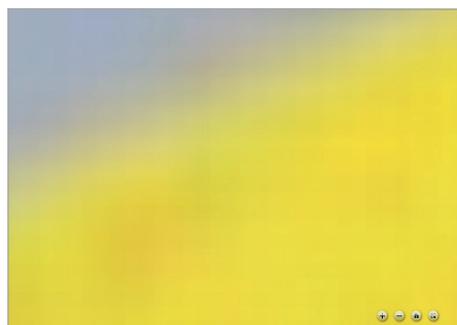
12 Preview After the export process, a menu bar will pop up asking what you'd like to do next. You can now select **Preview in Browser** to check how things are looking. If this is all you need to do then you can finish the tutorial here and load the generated files up to your website.



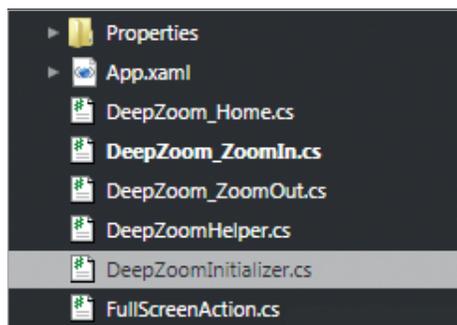
13 Edit If you want to edit the Deep Zoom Silverlight application, select **View Project Folder** from the post-export menu. You'll see the **DeepZoomProject** files Composer has created. Double-click on the **DeepZoomProject.sln** file, or right-click and **Open with...**, to open the project in Blend.



14 Open in Blend When the project opens in Blend, you'll see the same layout as in Deep Zoom Composer. Things get a little confusing here, as Blend calls the Deep Zoom Component a **MultiScaleImage** component. Run the project from Blend by pressing the **F5** key.



15 Extreme pixellation Once the browser has opened, zoom in as far as you can and take note of the extreme pixellation. The screengrab shown above demonstrates clearly how we can zoom in so far that we lose the crispness of the image.



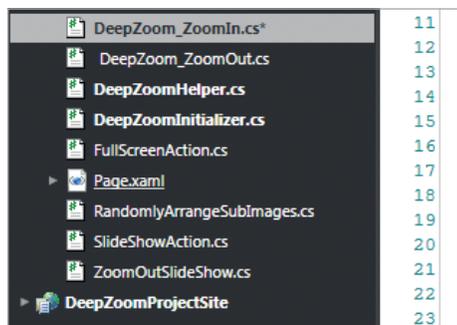
16 Set limits To fix the limits of how far the zoom-in is permitted to go, we need to alter the default code files generated for us from Deep Zoom Composer. In the **Projects** view, find the file **DeepZoomInitializer.cs** and double-click to open it.

```
private void Zoom(double newzoom, Point p)
{
    if (newzoom < 0.5)
    {
        newzoom = 0.5;
    }

    if (newzoom > 20.0)
    {
        newzoom = 20.0;
    }

    msi.ZoomAboutLogicalPoint(newzoom / zoom, p.X, p.Y);
    zoom = newzoom;
}
```

17 Add code Scroll down to find the private function named **Zoom**. There's already a snippet of logic to control how far we can zoom out. Just add another bit of code directly under it to say `if (newzoom > 20.0) newzoom = 20.0;`. This locks the maximum zoom at 20x. Run the project again with **F5** and test the zoom-in.



18 And again The mouse wheel is now limited, but if you use the button interface in the Silverlight control you're still able to zoom further than we'd like. Open **DeepZoom_ZoomIn.cs**. Add `if (newzoom > 20.0) newzoom = 20.0;` into the zoom function as before, then test it with **F5**.



FINISH Go further So there we have it – a Deep Zoom-enabled magazine article with a quick look at how to customise the zoom behaviour. Deep Zoom Composer is much more advanced than this, however, and you can get great effects by linking different layers of zooming images.

Expert tip Complex comps

Be mindful of the final hosting solution when working with complex Deep Zoom compositions. For standard mosaic, you'll need around 12,000 images, stitched using a free tool such as **AndreaMosaic** (www.andreaplanet.com/andreamosaic) before being processed with Deep Zoom Composer. You can then export this into Blend or Visual Studio to produce the Silverlight application to host on the web. If you're hosting the Deep Zoom from your own website you might need to change the mime type to serve **.xaml** files.

Win a copy of Microsoft Expression Studio 3!

The release of Microsoft Expression Studio 3 is great news for the web design and development community. Its rich array of purpose-built tools and technologies offer amazing possibilities to bring your creative ideas to life.

First up, there's website designer and HTML/CSS editor Expression Web, which makes creating standards-based websites faster and easier than ever. Its range of powerful features includes SuperPreview – a visual tool for testing websites in different browsers; Snapshot Preview – a live rendering of your page that changes as you add or adjust code; the ability to embed Deep Zoom images via Silverlight; and much more.

Expression Studio 3 also comes with Expression Blend, the latest version of Microsoft's interface builder for Silverlight and Windows Presentation Foundation applications. Exciting new features include Behaviors – reusable components you can drag onto your project to add interactivity – and SketchFlow, a quick and easy way of creating prototypes that demonstrate UI flow, screen layout and application state transitions.

The suite also features Expression Design, a professional design tool for creating graphics content, with a wide range of powerful importing, slicing and exporting capabilities. Finally, there's Expression Encoder 3, which makes it easy to prepare video for use in a variety of ways, including Silverlight on the web.

It's the design suite your toolkit won't be complete without – and we've got 10 copies to give away! For a chance to win, just go to www.futurecomps.co.uk/expression2009 and answer the following question. Good luck!

Question What's the name of the new prototyping tool in Microsoft Expression Blend 3?

Terms and conditions **Competition rules**

Employees at Future Publishing and Microsoft and their immediate families and agents are not eligible to enter. No purchase of .net magazine is necessary to enter the competition. The editor's decision is final and no correspondence will be entered into. Microsoft has the right to substitute the prize for a similar prize of equal or higher value if the stated prize is not available. There are no cash alternatives. The competition closes on 30 November 2009.



Rich Wand on...

Below the Surface

Microsoft Surface is opening up a new world of gesture-based interactions – and designing for it requires a whole new range of skills, explains Rich Wand of EMC Conchango

With a wave of gestural mobile devices and gaming systems flooding the market, more and more people are interacting directly with digital content – click is fast being replaced by tap, flick and pinch. Microsoft recently announced Natal, a sensor-based interface that responds to contact-free gestures such as a wave and a nod. And while we eagerly await this technology to come to market, there's plenty to be excited about already with the launch of Microsoft Surface.

Surface incorporates the naturalness of hand-gesture recognition but also blends reality and virtual reality by enabling users to interact with digital content using 'real' physical objects. From a design perspective there are a lot of new principles to master. Designing a Surface experience is not the same as designing for traditional websites.

“Designing for Surface is not the same as designing for traditional websites”

Rich Wand

The key is to avoid retrofitting existing experiences and introduce new ways of thinking that enable new interaction models. For those looking to get involved in this new era of interaction design, here are some pointers:

- **Make it finger-friendly:** Fingers don't have the same level of precision as a mouse, so make sure all interactive elements are sized and spaced to optimise gestural interactions.
- **Encourage active exploration:** Don't make users memorise how to do things. Make the experience discoverable and reward the user for exploring. Nudge and entice users to do more.
- **Enhance the user's sensory experience:** Don't just focus on visual experiences. Surface doesn't just encourage but mandates a fuller sensory experience. Use sound to reinforce user interactions and create fuller sensory experiences.
- **Encourage social participation:** Surface moves beyond solitary desktop experiences. Design your application to invite people to join in and encourage person-to-person interactions. Consider the challenges of multi-stranger versus multi-friends scenarios and different levels of task coupling. For example, how do the actions of one user affect the other? What happens when new people approach the table from a different side?
- **Make it alive:** Ensure every action has an immediate response, regardless of how subtle this feedback is. Even if no one is interacting, don't let the Surface device sit there lifeless.

● **Make it magical:** Add a certain amount of realism but then augment it further with something that doesn't exist in the real world. For example, use real-world behaviour such as acceleration but then disrupt the physics in a way that only a digital experience can.

● **Make the interface invisible:** In a Surface experience, the interface shouldn't be visible as the content becomes the interface. Design an interface-free application that enables users to directly manipulate the digital content.

● **Remember the enjoyment factor:** Playfulness can manifest itself in many forms, such as through copy or interaction design, not to forget playfulness through interaction with other people. Don't ignore this important dimension in designing engaging and immersive experiences.

Where do we go from here?

Different gestural interfaces will bring different design philosophies and with this fresh and exciting challenges. Erase your mind to a world without GUIs and design with no preconceptions of interactions models that have been. Don't underestimate what seem to be simple applications – often the simplicity masks the complexity. ●

Rich Wand is a senior user experience consultant at EMC Conchango. He works on digital experiences for the web and beyond. He's at his happiest working when there is no mouse in sight.

Expression_3 glossary

Useful design and development terms

Deep Zoom

Cool Silverlight feature in Expression Web 3 and Deep Zoom Composer that enables users to pan around and zoom in a large, high resolution image or a large collection of images.

Expression Blend 3

The latest version of Microsoft's user interface builder for Silverlight and Windows Presentation Foundation applications.

Expression Design 3

The latest version of Microsoft's illustration and vector graphics design tool.

Expression Encoder 3

The latest version of Microsoft's video encoding tool.

Expression Studio 3

The latest version of Microsoft's Expression Suite, which includes Expression Web 3, Expression Blend 3, Expression Design 3, and Expression Encoder.

Expression Web 3

The latest version of Microsoft's website designer and HTML/CSS editor.

IIS Smooth Streaming

Technology that enables adaptive streaming of media, providing a stutter free viewing experience for viewing true HD media (720p+) online.

Silverlight 3

The latest version of Microsoft's plug-in for the creation of rich web applications that run on Mac OS, Windows and Linux.

SketchFlow

A tool in Expression Blend that enables you to quickly create prototypes that demonstrate UI flow, screen layout and application state transitions.

Snapshot Preview

Page preview feature in Expression Web 3. It provides a live rendering of web pages that changes as you add or adjust the underlying code.

SuperPreview

Visual tool in Expression Web 3 for testing websites in different browsers.

Surface

A revolutionary multi-touch computer with a large, horizontal user interface. Surface responds to natural hand gestures and real-world objects, helping people interact with digital content in a simple and intuitive way.

Visual Studio

An Integrated Development Environment (IDE) that can be used to develop console and graphical user interface applications, Windows Forms applications, websites, web apps, and web services.

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