

# What's new with Silverlight 4

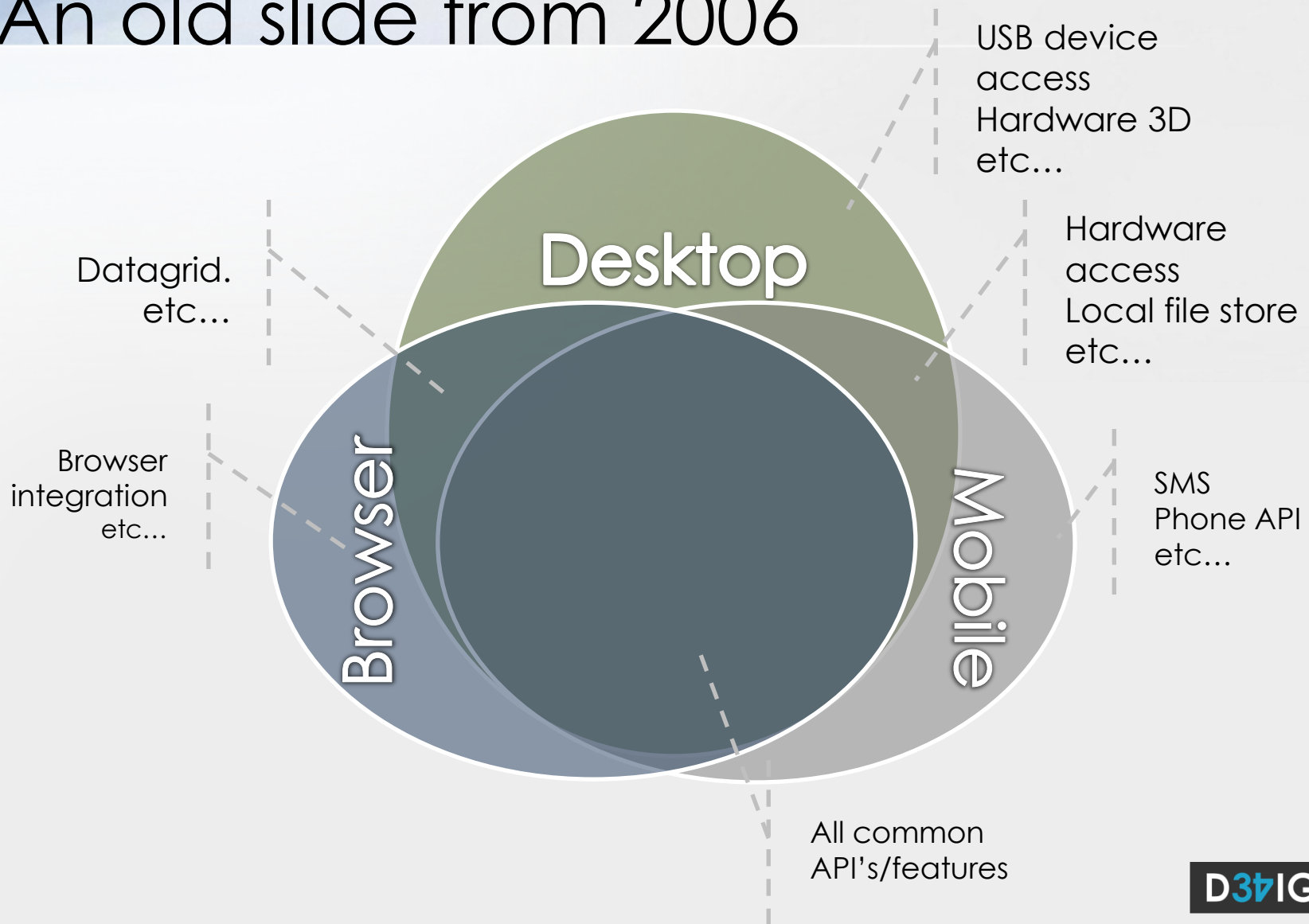
**D37IGN**

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# Silverlight Versions

- V1: Cross-Browser, Cross-Platform, Html DOM Integration, Media. Javascript Support, Http Networking, 2D Vector/Animation. 2007-09-05
- V2: V1, CLR Support, Core Framework, Multithread, Templating Model, Visual state, Deep Zoom, ADO.NET Data Services. XML Support, LINQ, File Upload Support, DRM Support. 2008-09-25
- V3: V2, Out of Browser, Pixel Shader, Bitmap API, GPU Acceleration, Text Animation, File Save Dialog, Local Fonts, Network Status. 2009-07-09

# An old slide from 2006



# Silverlight 4 beta

Improvements focus on 3 key area

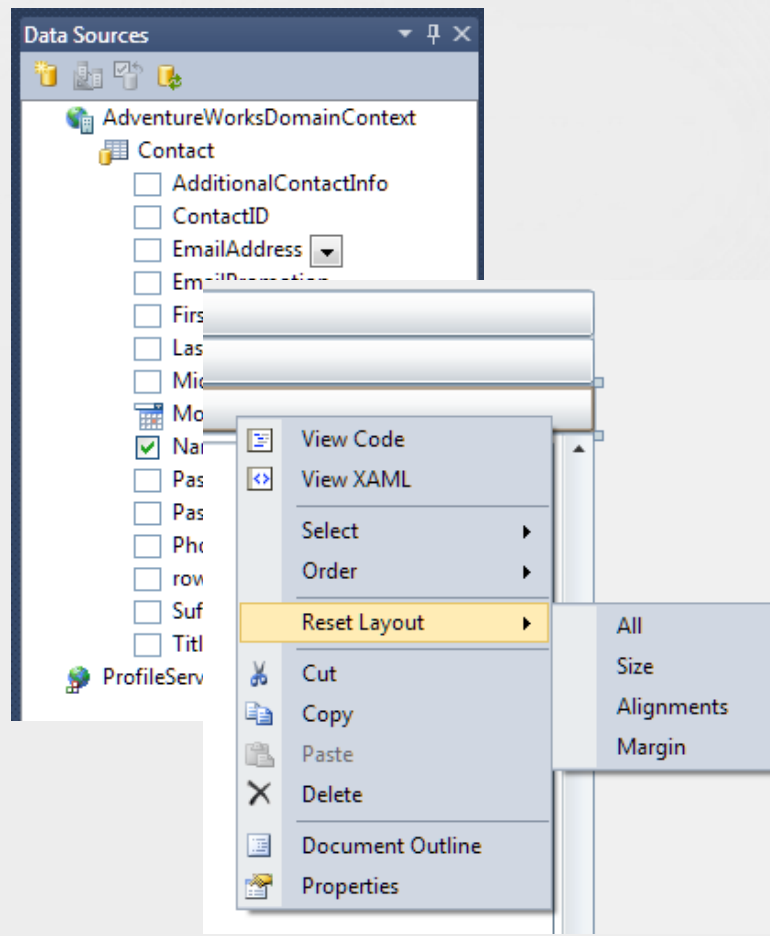
- Line of business applications
- Media
- Out of browser

# 1 Improved tooling – VS 2010 and Blend 4

## General enhancements

- Design surface is back
- Style and template pickers
- Reset layout
- Reset value

\* It is in beta, so expect bugs \*



# 2 Commands

## General enhancements

- Abstract execute and can execute logic away from UI
- System.Windows.Input.ICommand has existed since v2
- Now defined on
  - ButtonBase
  - Hyperlink
- But support for commanding != parity with WPF
  - Not implemented
    - CommandManager
    - RoutedCommand
    - RoutedUICommand
- This means creating custom commands and command managers to track dependent values and handle updating can execute

# 3

## Improved mouse handling

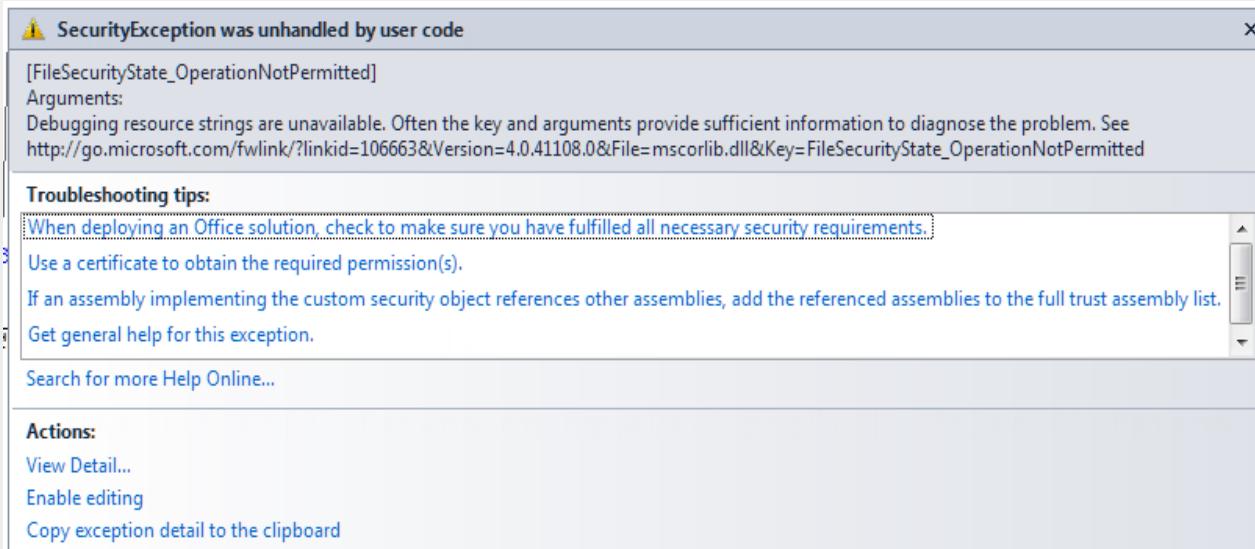
### General enhancements

- Hook and handle `MouseRightButtonDown` event to hide default context menu
- Hook `MouseRightButtonUp` and insert context menu logic
- Mouse wheel support included in items controls, or you can hook the mouse wheel for custom handling

# 4 Drag and drop

## General enhancements

- Similar but not identical events to Windows drag and drop
  - DragEnter, DragLeave, DragOver, Drop
  - AllowDrop = true
  - e.Data in drop handler is IDataObject
- Drop target must be a container
  - Example: can't handle drop on a MediaElement or Image
- FileInfo is touchy

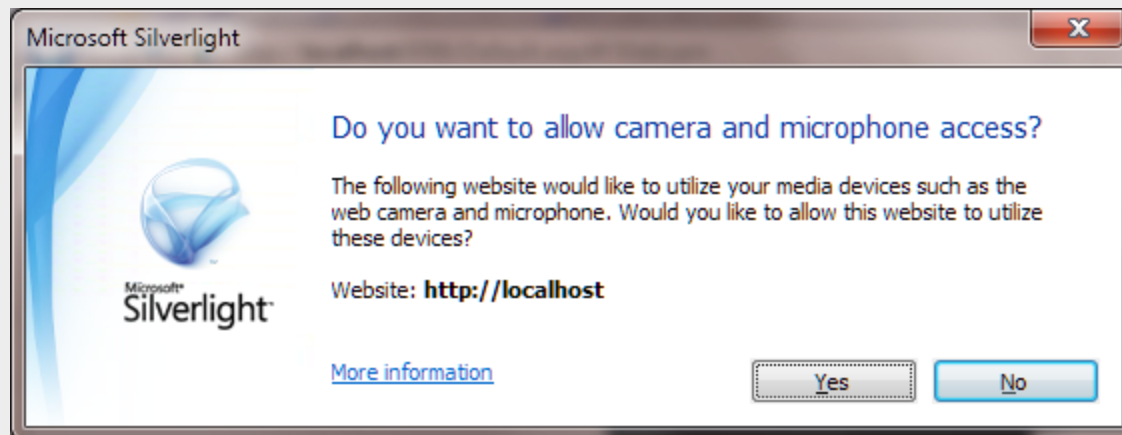


# 5

## Webcam and microphone

### Media enhancements

- Request to devices must be initiated by the user
- System.Windows.Media.CaptureSource
- Determine response from user authorization
  - System.Windows.Media.CaptureDeviceConfiguration.AllowDeviceAccess
  - System.Windows.Media.CaptureDeviceConfiguration.RequestDeviceAccess()



# 6 Host HTML content

## Out of browser enhancements

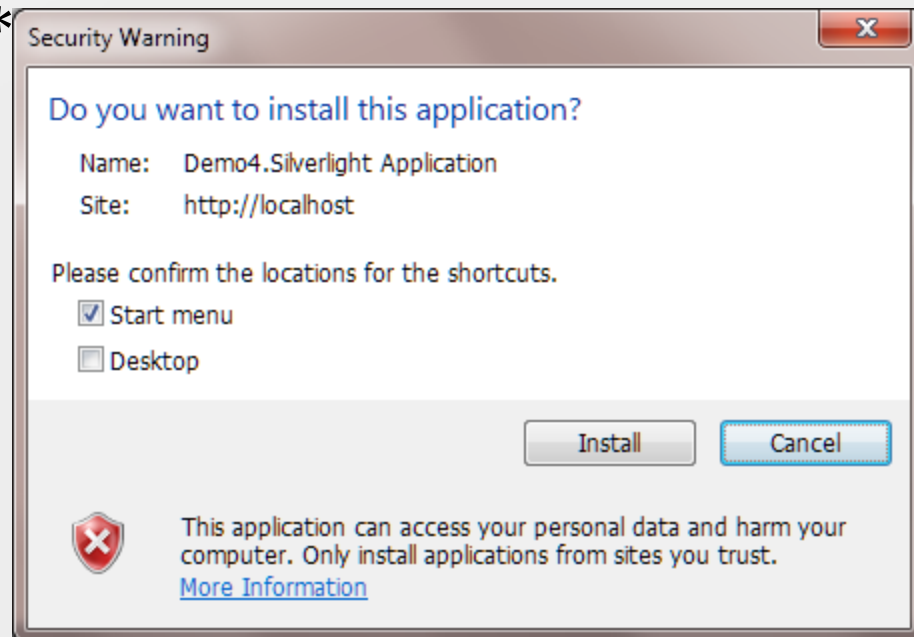
- WebBrowser control provides OOB support
- Not available in the browser



# 7 Trusted applications

## Out of browser enhancements

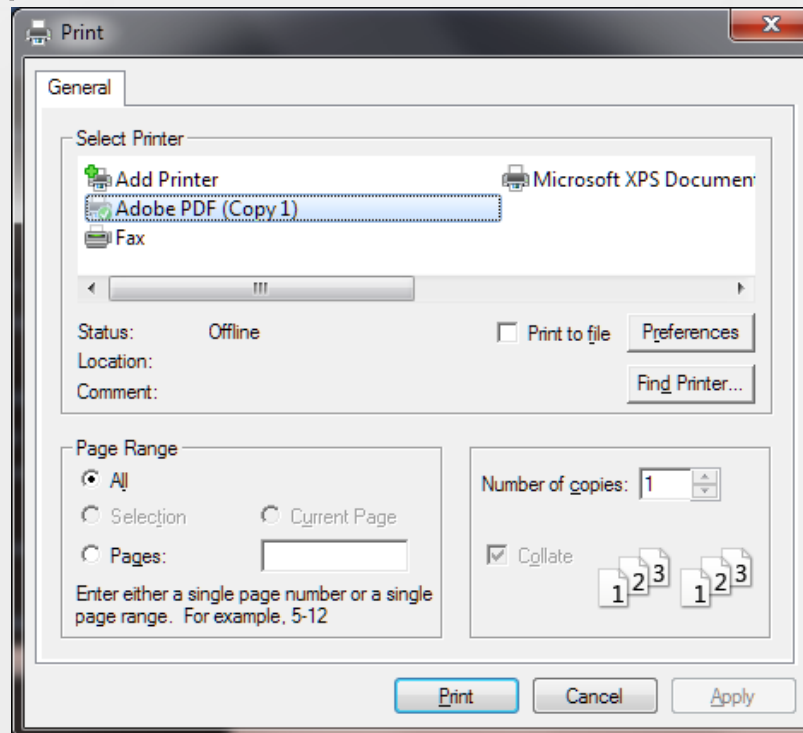
- Click once style install dialog
- Access My Documents
- Less restricted service access (no cross domain issues)
- COM interop\*



# 8 Printing

## LOB development enhancements

- PrintDocument provides support for multi-page document printing
- Specify PageVisual
- Must be initiated by the user



# 9 Clipboard Access

LOB development enhancements

- Access to clipboard as a result of user action
- Only text data is supported
- 3 simple functions: ContainsText, GetText,SetText



# Notification Windows

Out of browser enhancements

- provide a notification mechanism to the user
- App does not need the focus

# DRM & H.264

## Media enhancements

- Offline DRM Support (Rental, Subscription, Purchase)
- SL 3 supports VC-1 media, now SL4 supports MP4 playback

# COM interoperability

LOB development enhancements

- COM Objects Access (Speech SDK, MS Office)
- dynamic keyword from C# 4.0
- No Intellisense 😊
- Required trusted application

# Full Keyboard Access

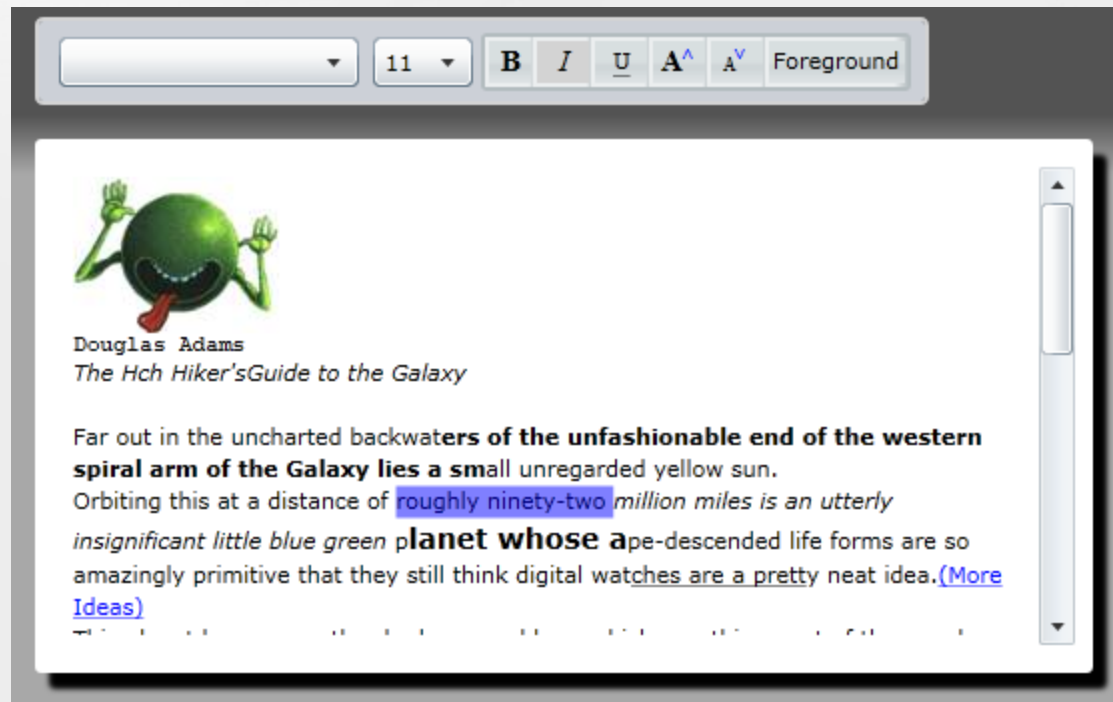
LOB development enhancements

- Full keyboard access on full screen
- KIOSK apps, or games
- Needs to have trusted level

# RichTextArea Control

LOB development enhancements

- Support for different formats of text
- Supports Image
- Supports links



# MEF

## LOB development enhancements

- To build large, extendible applications
- Supports plugin model
- Import, Export, Composite
- Will be part of .NET Framework 4.0
- Open source at Codeplex

# WCF Ria Services

## LOB development enhancements

- Encapsulate data access and business logic for your application
- Authentication and authorization
- Very flexible – EF, LINQ to SQL, POCO

The image shows a screenshot of Visual Studio with two dialog boxes open. On the left, a 'Contact' entity is shown with its properties: ContactID, NameStyle, Title, FirstName, MiddleName, LastName, Suffix, EmailAddress, EmailPromotion, Phone, PasswordHash, PasswordSalt, AdditionalCont..., rowguid, and ModifiedDate. The 'Add New Item - Demo4.Web' dialog is open, showing 'Domain Service Class' selected under 'Visual C#' templates. The 'Add New Domain Service Class' dialog is also open, showing the following configuration:

- Domain service class name: AdventureWorksDomainService
- Enable client access
- Available DataContexts/ObjectContexts: AdventureWorksEntities (Entity Framework)
- Entities: Contact (checked)
- Enable editing:
- Generate associated classes for metadata

At the bottom of the 'Add New Item' dialog, the 'Name' field contains 'DomainService1.cs'.

# 17 Networking improvements

## LOB development enhancements

- Pass client credentials via NetworkCredential
- Must use the ClientHttp networking stack
  - System.Net.Browser.WebRequestCreator.ClientHttp
- UDP multicast
- Support for net.tcp binding
  - Builds on sockets implementation – ports 4502-4534 only
  - No transport level security (SSL)
  - Http polling duplex option still exists

# Other Features?

- TextTrimming
- Google Chrome Support
- Right to left flow (FlowDirection)
- Implicit theming
- Fluid UI support

# IIS Smooth Streaming

- Adaptive streaming
- Use encoder to encode your videos

Thank you

Thanks to Robert Atland of Neudesic