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Windows Forms & ASP.NET, Where Do We Go From Here?

JASON BERES : VP, Product Management
jasonb@infragistics.com / @jasonberes / @infragistics

May – June 2011

Agenda

1 / The Infragistics Value Proposition

2 / User Experience & Platform Choice

3 / Technology landscape

4 / What are others using?

5 / Windows Forms vs. WPF

6 / WPF vs. Silverlight

7 / Silverlight vs. HTML 5

8 / New Emerging Technologies

9 / Wrap Up

About Me

I Manage Interaction Design, Product Management, Technical Evangelism & Product Guidance at Infragistics

Microsoft .NET MVP for 8 Years

Author of 7 books, latest Silverlight 4 Professional from Wrox Press, INETA Speakers Bureau

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About Infragistics

Worldwide leader in user experiences controls and components targeting for Windows Forms, ASP.NET, Silverlight, WPF, jQuery & HTML5

Focus on high performance scenarios for line of business and data visualizations

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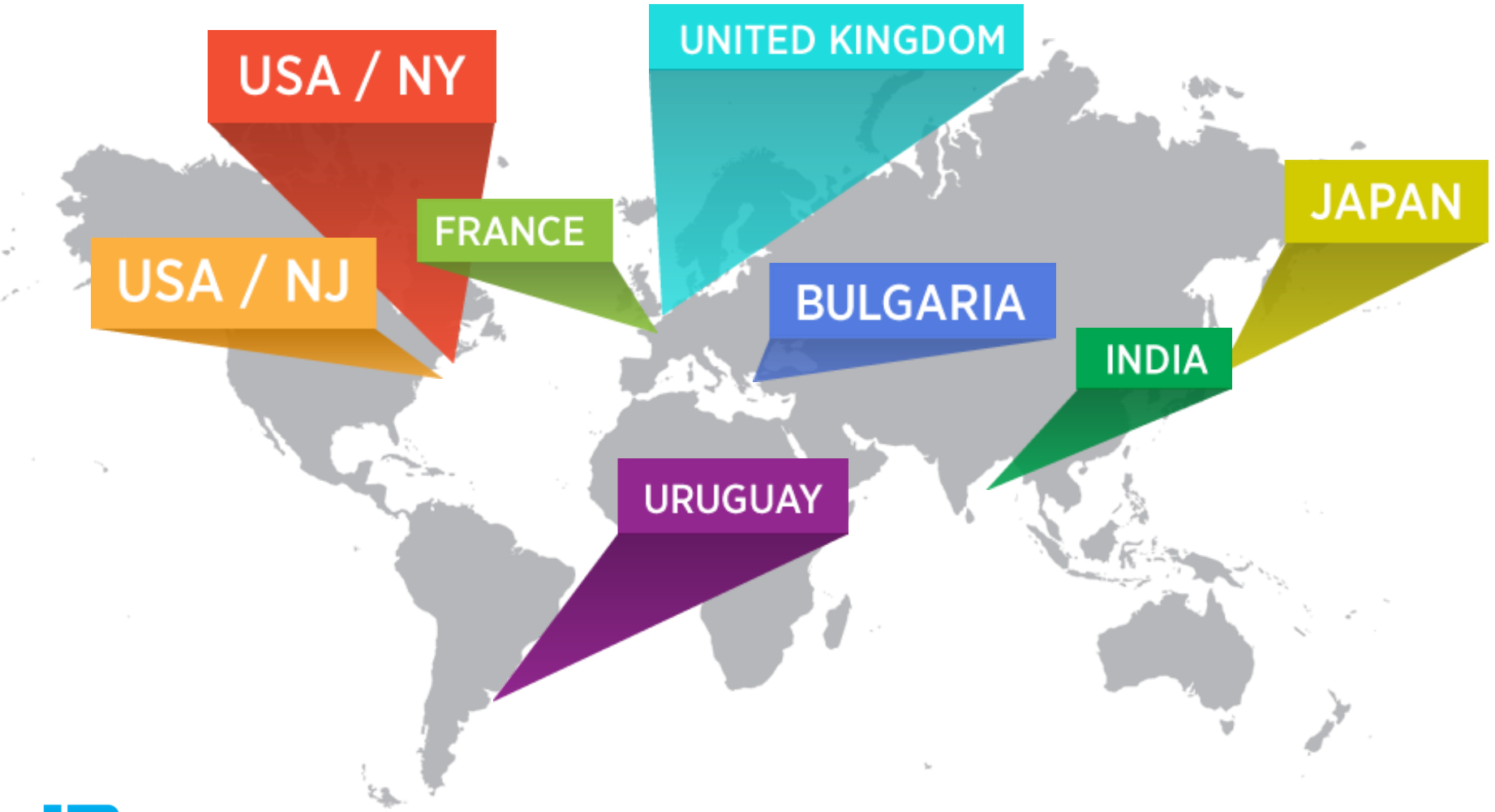
Infragistics Value Proposition

- Performance, ease of use, and styling are key tenets to what we are delivering in our product.
- We consistently deliver enormous value to help you create better,
- more modern applications, faster.
- Exceptional User Experience is a key piece that we deliver across all products.

Cross Platform Modern User Experience

Worldwide Locations



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Packaging

a new way to buy / 9 awesome products / endless opportunities

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2011 Packaging

All NetAdvantage for .NET products:

NetAdvantage for WPF

NetAdvantage for ASP.NET

NetAdvantage for Silverlight

NetAdvantage for Windows Forms

+

2 Data Visualization Products

NetAdvantage for WPF Data Visualization

NetAdvantage for Silverlight Data Visualization

+

3 New Products

NetAdvantage for jQuery

NetAdvantage for Windows Phone

NetAdvantage Reporting

Core Investments

RIA Technologies & Desktop Development

- LOB Components for Microsoft Platforms
- Depth and Breadth on the XAML Platforms (Silverlight/WPF)
- Single code base for SAML components
- Performance, Ease of Use, Styling Quality.

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asp NETADVANTAGE for ASP.NET

wpf NETADVANTAGE for WPF

win NETADVANTAGE for WINDOWS FORMS

wp NETADVANTAGE for WINDOWS PHONE

icon NETADVANTAGE ICONS

jq NETADVANTAGE for JQUERY

sl NETADVANTAGE for SILVERLIGHT

UX Tools & Services

- Quince Pro- A private, secure and organized way to collaborate, communicate and cultivate private UX design libraries to ensure consistent user experiences across your team, department and company.
- Usability, User experiences are key differentiations driving business decisions.
- Customer satisfaction and branding are on par with product features that drive productivity.

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cs SERVICES CONSULTING

ts SERVICES TRAINING

rpt NETADVANTAGE REPORTING

Q pro QUINCE Pro DESIGN LIBRARIES

Q QUINCE PATTERNS BROWSER

Data Visualization

- XAML Platforms
- Dashboards & Reporting
- Performance, Ease of Use, Styling Quality
- Help businesses make better decisions

---

dv NETADVANTAGE for SILVERLIGHT DATA VISUALIZATION

dv NETADVANTAGE for WPF DATA VISUALIZATION

TestAdvantage

- Enterprise level testing capabilities
- Higher quality product through test automation
- Reduce the need for cost of manual testing
- Increase productivity with the time savings as the testing stage finishes faster

---

ta TESTADVANTAGE for WINDOWS FORMS for HP QuickTest Professional software

ta TESTADVANTAGE for WINDOWS FORMS for IBM Rational Functional Tester

User Experience of the Platform

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Focus on What's Important

User Experience

- Useful
- Usable
- Desirable

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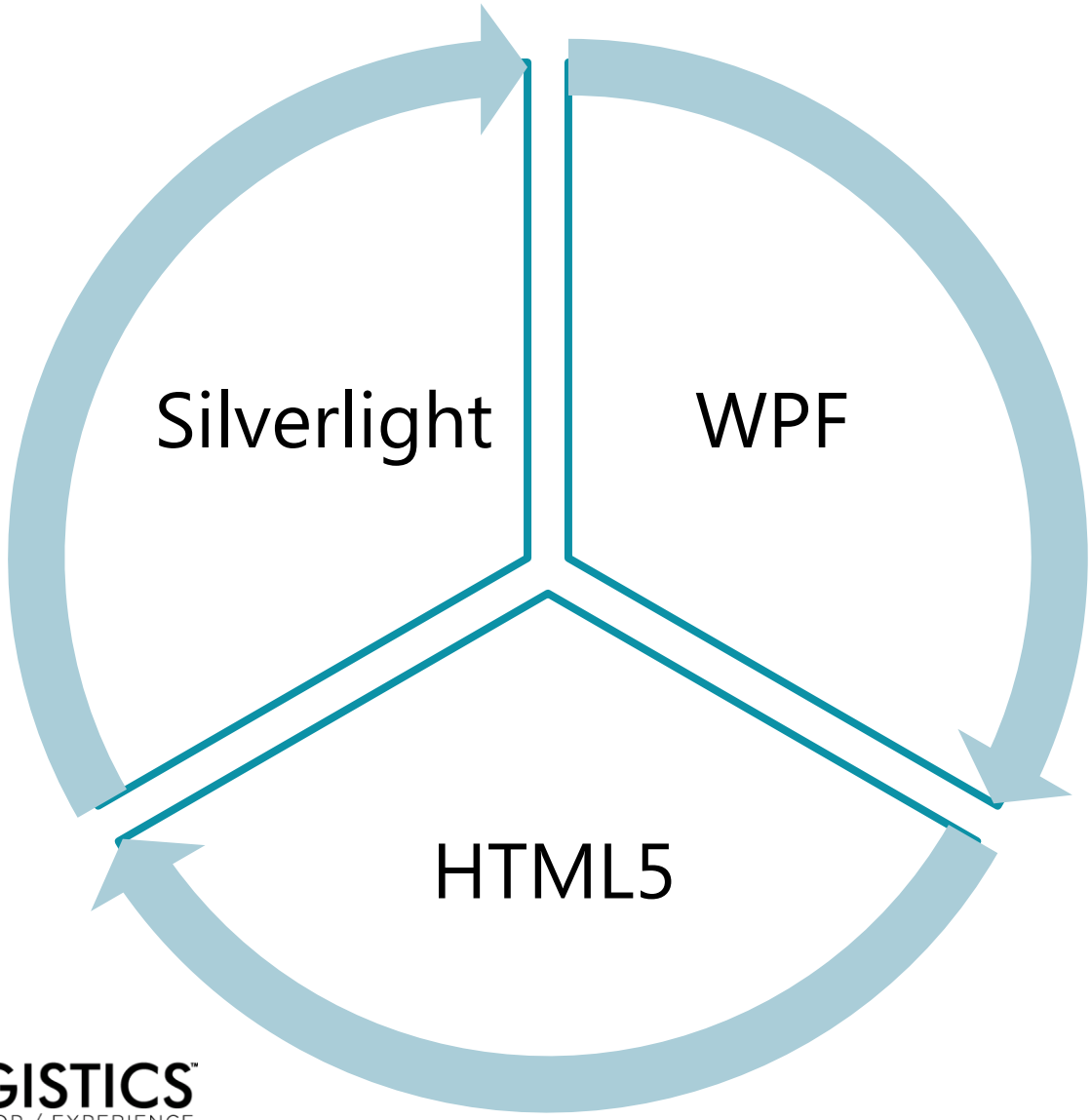
Making the Right Choice

Key Choices Today for UX



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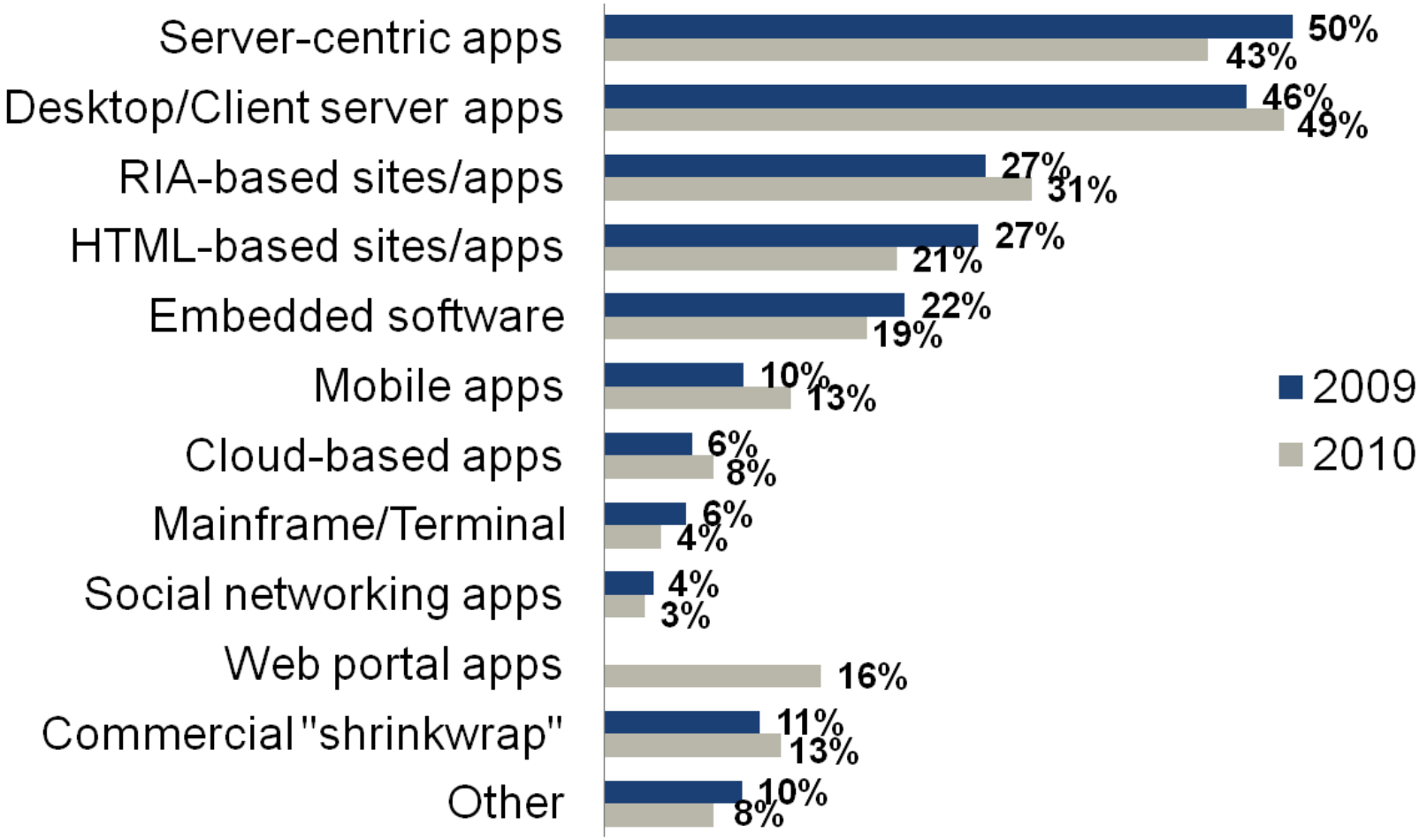
Types of Apps - By the Numbers

"

What are the primary types of software you are currently developing? (multiple responses accepted)



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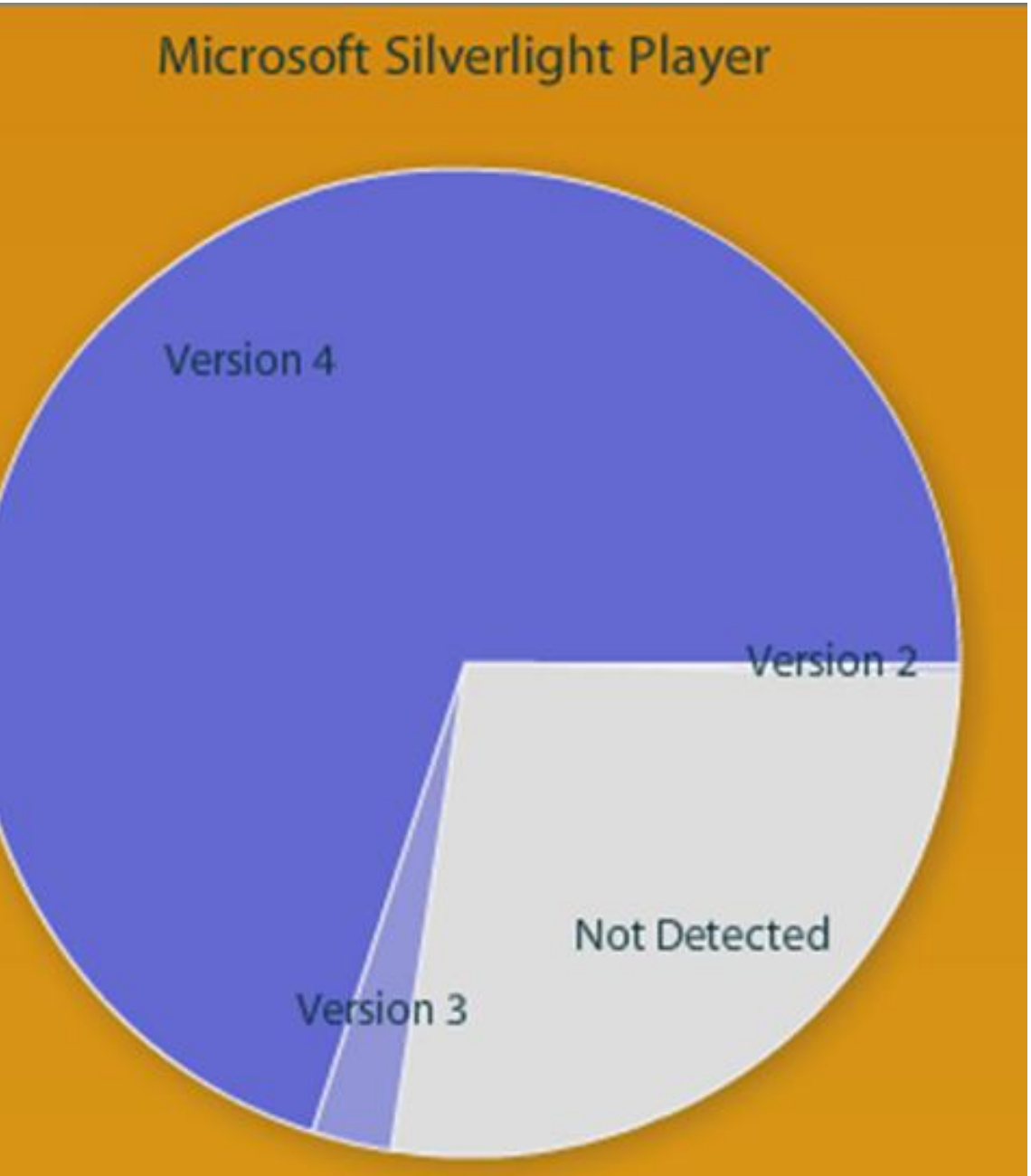
Forrester Research

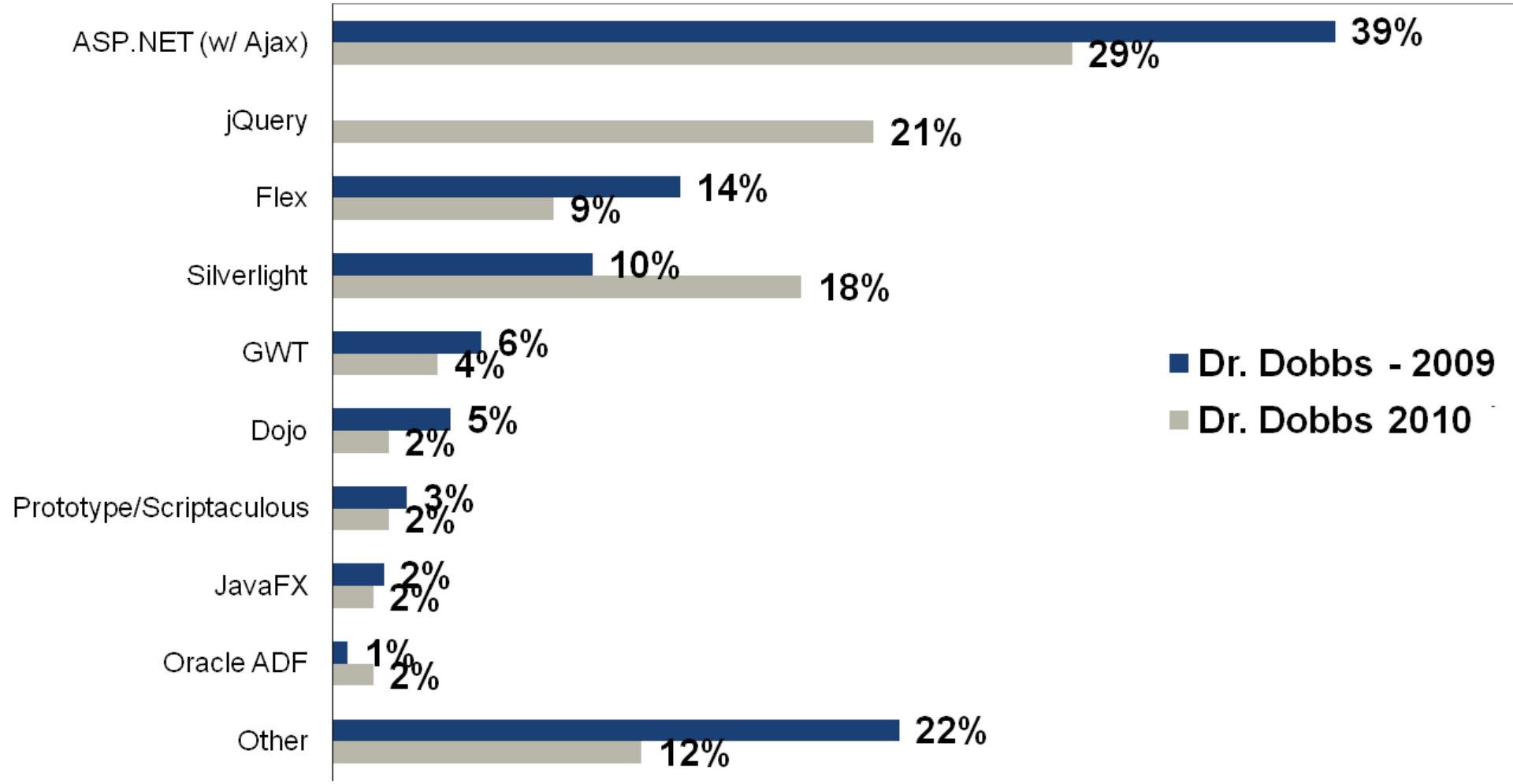
RIAStats.com



~75% Computers connected to Internet run Silverlight

> 95% Windows 7 computers run Silverlight

UX Choice – By the Numbers



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Forrester Research

Windows Forms vs. XAML

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Windows Forms vs. WPF

- WPF is not a replacement for Windows Forms
  - It's just a tool, a means to an end
- WPF
  - Media, Animations, Theming, 3D, Web-like navigation
- Windows Forms
  - Familiarity, lots of domain knowledge, great design time, simple forms over data

WPF Benefits for Coders

- Separation of UI and logic with declarative code
- Interoperability with Windows Forms
- GPU Acceleration
- Vector graphics
- Richer 3rd Party (more in the Toolkit)
- Enhanced layout capabilities
- Data templates
- UI Virtualization
- Code re-use with XAML / Windows Phone 7

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Apples to Apples

	Windows Forms	PDF	GDI+	Windows Media Player	Direct3D	WPF
Forms, Controls	X		X			X
Complex text		X				X
Images	½		X			X
Video / Audio	½			X		X
2D Graphics	½		X			X
3D Graphics					X	X

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The Declarative Glue

– eXtensible Application Markup Language

- Easily toolable, declarative markup
- Code and content are separate
- Can be rendered in the browser / standalone application

XAML

```
<Button Width="100"> OK
  <Button.Background>
    LightBlue
  </Button.Background>
</Button>
```

C#

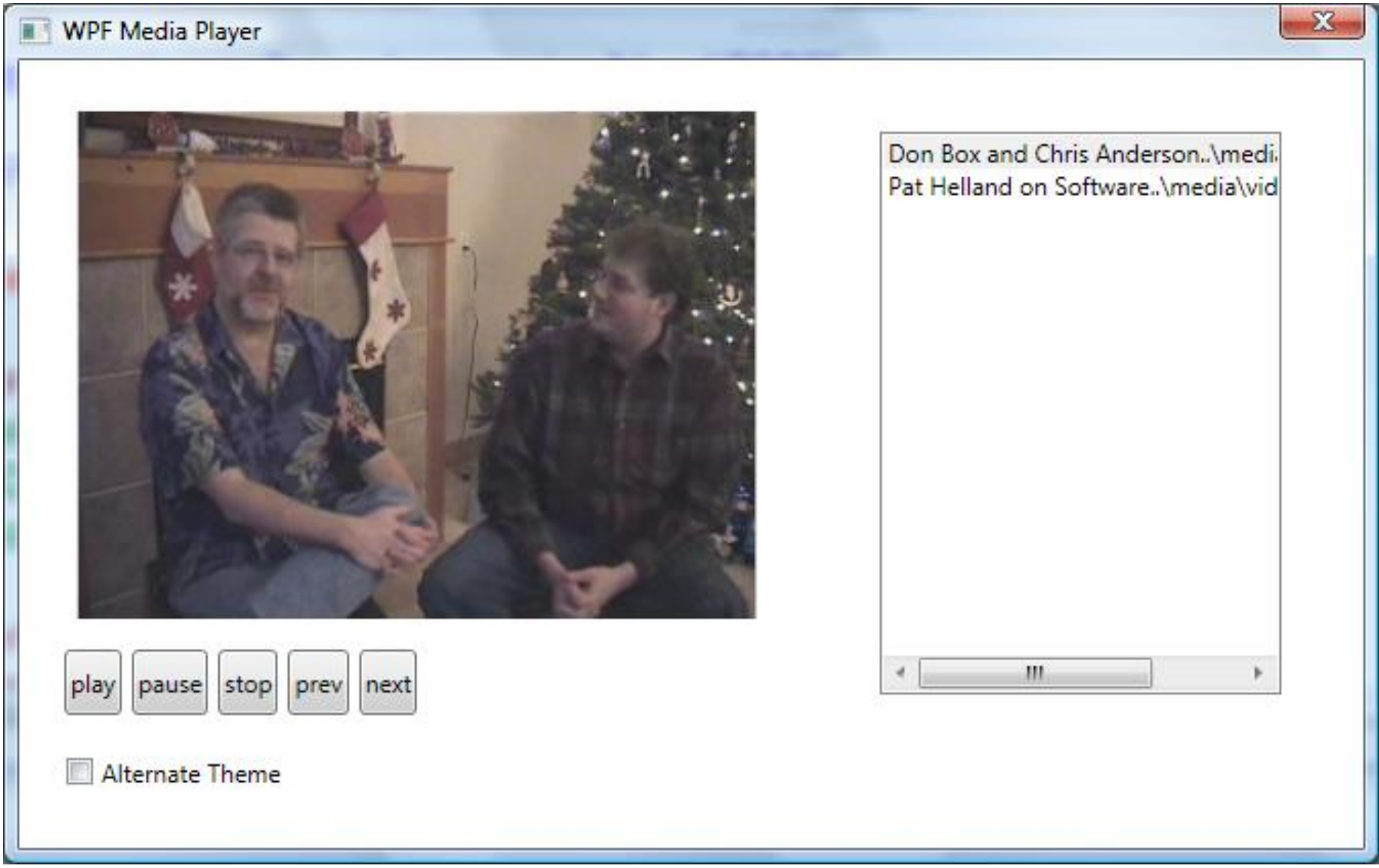
```
Button b1 = new Button();
b1.Content = "OK";
b1.Background = new
SolidColorBrush(Colors.LightBlue);
b1.Width = 100;
```

VB.NET

```
Dim b1 As New Button
b1.Content = "OK"
b1.Background = New _
    SolidColorBrush(Colors.LightBlue)
b1.Width = 100
```

Developer – Designer User Experience

- XAML Brings Designers & Developers Together
- Visual Studio + Expression Blend
  - XAML – Common Syntax
  - Same Project Structure
  - Results
    - Optimized Workflow
    - No (or less) Throwaway Artwork
    - Faster Time to Market
- UX -> Design -> Designers -> Developers?
  - Beauty and the Beast



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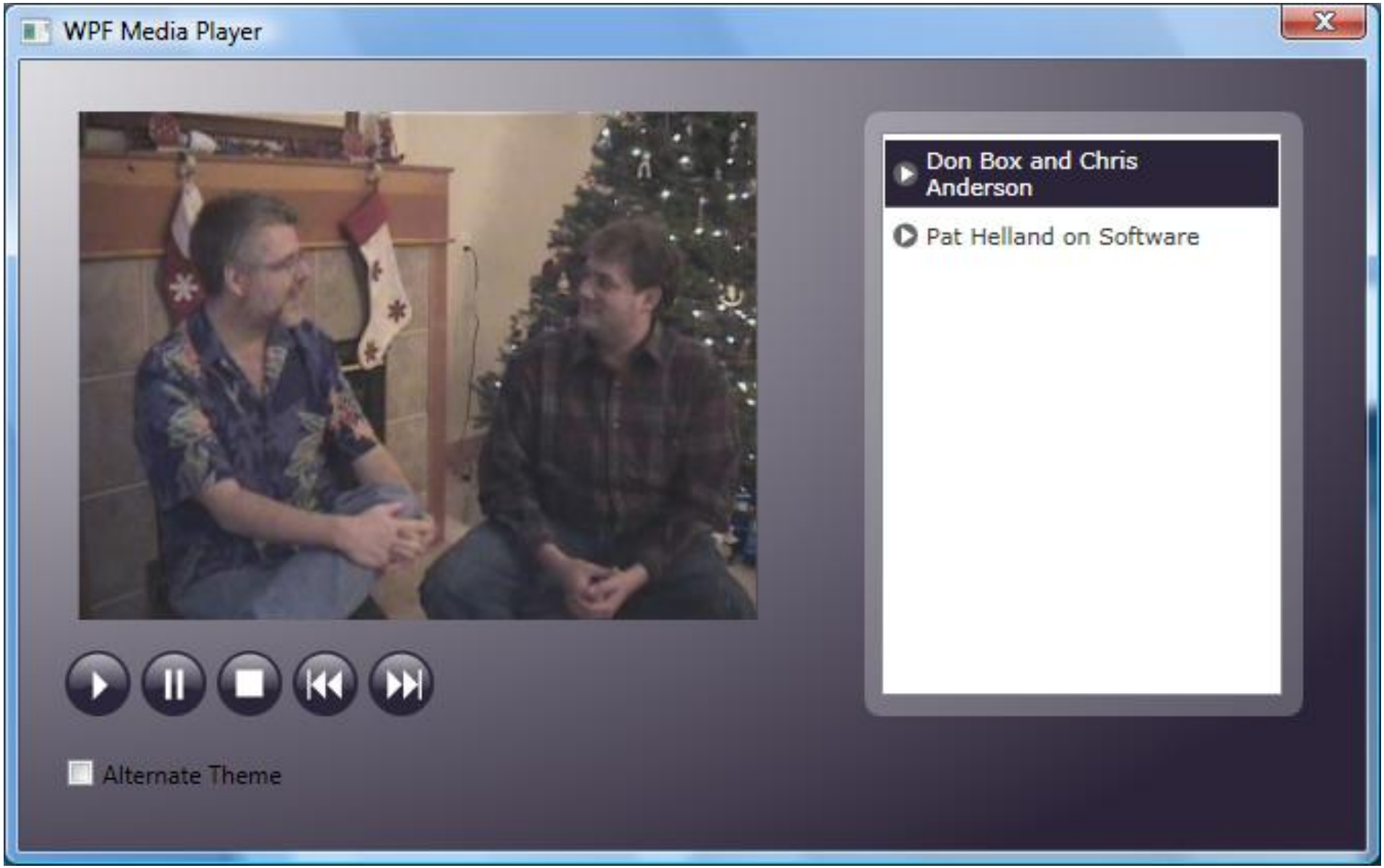

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Is it more of a XAML Choice?

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WPF – Rich Client

New application development targeting new client technology

Line of business – both internal and customer facing

Silverlight – Web RIA

Simpler deployment model

Lighter weight framework

Dashboards, audio/video, interactive user interfaces

The XAML UX

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Problems Solved with XAML

- Makes prototyping applications simpler
  - Use of XAML by developer and designer enhances workflow
  - Common tooling brings application design closer to original concept of designer - Reduces “throw away” art work
- Rich, Interactive Graphics
  - Vector, Composition, Animation
- Improved User Experience
- Sophisticated Interactions Reduce Human-Computer Impedance Mismatch

Silverlight vs. WPF

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1 / What's the Difference?

2 / Which on is Faster?

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Feature Matrix

Feature	WPF	Silverlight
File Access	Unlimited	My Documents, My Videos, My Pictures
Printing	Full access	Printing UI Elements
Document Editing	Flow Document, Rich Text	RichTextArea
Commanding	Raising Commands, Routed Commands	Raising Commands
Communications	WCF, WS-*, Low level communications	Subset of WCF, Sockets – Cross Domain Issues
Clipboard Access	Anything Serializable	Text only
Drag & Drop	Anything	Files
Attached Devices	Anything with a driver – COM, Win32	Webcams, Camera, Microphone, COM API
Input Controls	Keyboard, Mouse, Pen, Multi-touch	Out of Browser Elevated Trust for full keyboard access

http://www.infoq.com/news/2010/06/WPF-vs-Silverlight

Key Asks for Applications

- Performance a top frequently requested ask:
  - *"Performance improvement of column charts with large amounts of data"*
  - *"Performance increase"*
  - *"Improve Control Performances."*
  - *"Improve performance"*
  - *"Performance, performance, performance"*
  - *"Work on the Performance."*
  - *"We need to support large data volum[es] with good performance"*

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Cool Examples
Performance
COM Interoperability – Out of Browser
RAD RIA Services

DEMO

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Silverlight vs. HTML5

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From the Horses Mouth

- **Silverlight** - Delivers the richest set of capabilities available to developers today, making the choice of Microsoft technologies even more compelling.
- **Silverlight and XNA** - Core fundamental building blocks for building rich experiences that take full advantage of Windows Phone.
- **HTML5** - Solution for many scenarios, and developers should make the appropriate choice based on application needs, knowing that we have a heritage and a future vision of supporting a wide variety of technologies to meet those needs.

Microsoft®

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- HTML5 will be the new standard for HTML, XHTML, and the HTML DOM

- The previous version of HTML came in 1999. The web has changed a lot since then.

- HTML5 is still a work in progress. However, *most* modern browsers have some HTML5 support.

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Who's Driving It?

- Apple
- Google
- Microsoft

HTML5 is a cooperation between the World Wide Web Consortium (W3C) and the Web Hypertext Application Technology Working Group (WHATWG).

WHATWG was working with web forms and applications, and W3C was working with XHTML 2.0. In 2006, they decided to cooperate and create a new version of HTML.
Some rules for HTML5 were established:

- New features should be based on HTML, CSS, DOM, and JavaScript
- Reduce the need for external plugins (like Flash)
- Better error handling
- More markup to replace scripting
- HTML5 should be device independent
- The development process should be visible to the public

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Why Is It Cool?

- Semantic Web
  - Tags for how we think, how we read

```
<article>
 <header>
 <hgroup>

 <section>
 <section>

  <figure>
<figcaption>

 <footer>
```

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HTML 5 Markup

<article>
<aside>
<audio>
<canvas>
<command>
<datalist>
<details>
<embed>
<figcaption>
<figure>
<footer>
<header>
<hgroup>
<keygen>
<mark>
<meter>
<nav>
<output>
<progress>
<rp>
<rt>
<ruby>
<section>
<source>
<summary>
<time>
<video>
<wbr>

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Source: http://www.w3schools.com/html5/html5_reference.asp

JavaScript API

Contacts
Selection
Offline Apps
Indexed Database
Web Workers
Web Storage
Web Sockets
Web SQL DB
Server Events
XMLHttpRequest Level 2
Geolocation
Canvas 2D Context
HTML Microdata
Media Capture
Messaging
Forms
File API

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Source: http://www.w3schools.com/html5/html5_reference.asp

HTML4

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
    <title>About the Show - Polymorphic Podcast</title>
    <style type="text/css">h1{color:#ff9900;}</style>
    <script type="text/javascript" src="jquery-
1.4.2.min.js"></script>
</head>
<body>
   <h1>Polymorphic Podcast</h1>
   <h2>About the Show</h2>
   <p><a href="http://weblogs.asp.net/craigshoemaker">Craig
    Shoemaker</a> is a software developer, podcaster, blogger
and New-
    Media Evangelist for <a
    href="http://infragistics.com/">Infragistics</a>.</p>
<div id="footer"> </div>
</body>
</html>
```

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HTML5

```
<!doctype html>
<html lang="en">
<head>
    <title>About the Show - Polymorphic Podcast</title>
    <style>h1{color:#ff9900;}</style>
    <script src="jquery-1.4.2.min.js"></script>
</head>
<body>
   <header>
      <hgroup>
         <h1>Polymorphic Podcast</h1>
         <h2>About the Show</h2>
      </hgroup>
   </header>
   <p><a href="http://weblogs.asp.net/craigshoemaker">Craig
    Shoemaker</a> is a software developer, podcaster, blogger
and New-
    Media Evangelist for <a
    href="http://infragistics.com/">Infragistics</a>.</p>
</body>
</html>
```

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Emerging Technologies

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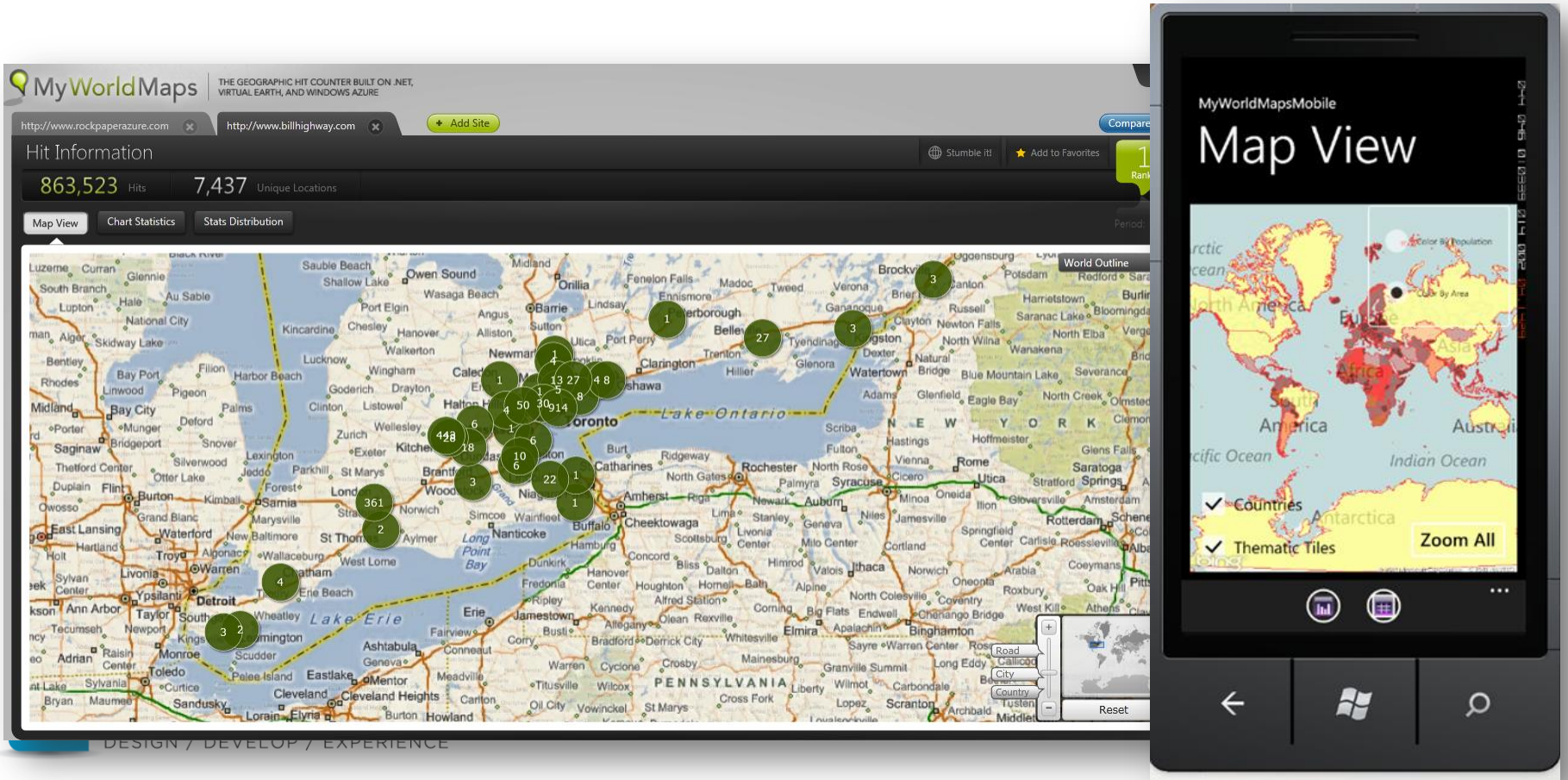
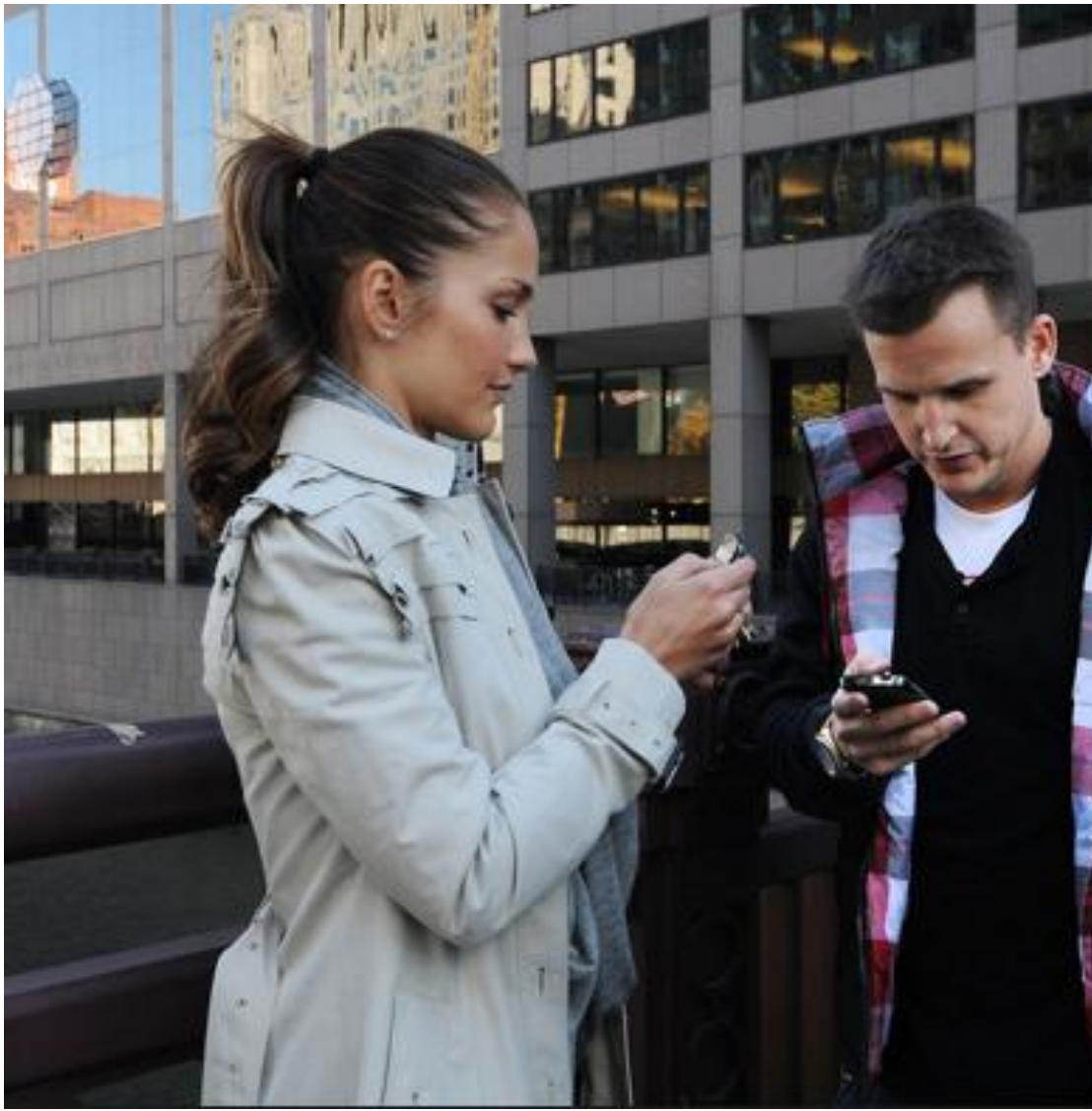
Enter the Phone

- Customer demand increases for ubiquitous applications / dashboard experience



Best Practices - Information Dissemination

- Don’t Discriminate - Include the same content for all devices
- Include Most Relevant Information First
- Augment Display with the Real World – Date, Time, Weather, Location



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One Last Thing …

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LightSwitch

- Developers aren't the only ones building applications

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Fast Forms Over Data

Screens

Logic

Data

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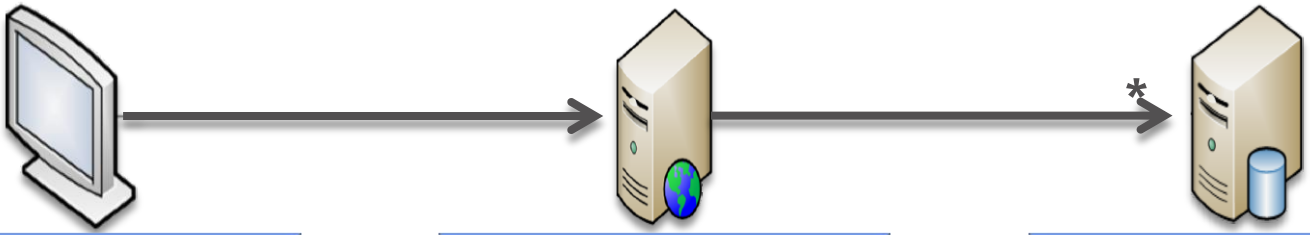
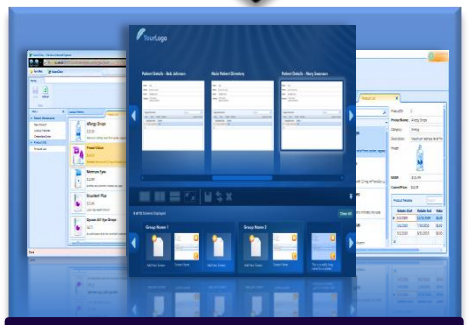
Solid Modern Foundation



Client Tier



Screens | Methods | Controls

Data Workspace

WCF RIA Services

Silverlight 4.0

Browser Host | Desktop Host

Middle Tier

```
Public Class ApplicationDataService
    Private Sub Patients_CanRead(ByRef result As Boolean)
        result = Me.Application.User.HasPermission(Permissions
    End Sub
    Private Sub Patients_Updating(ByVal entity As Patient)
        entity.DateUpdated = Date.Now
    End Sub
    Private Sub SaveChanges_Executed()
        If (Me.DataWorkspace.ApplicationData.Doctors.Details.D
            '...
        End If
    End Sub
End Class
```

Submit Pipeline | Queries

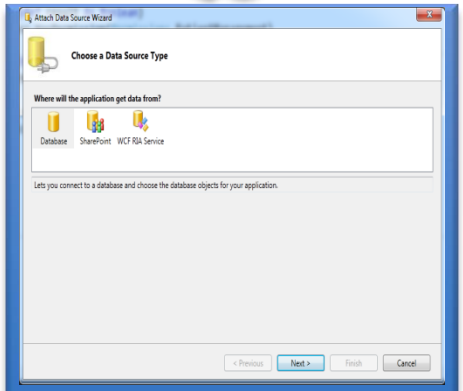
Data Workspace

WCF RIA Services

ASP.NET 4.0

IIS 6.0/7.0

Data Access



SQL Server | Azure | SharePoint | Other ...

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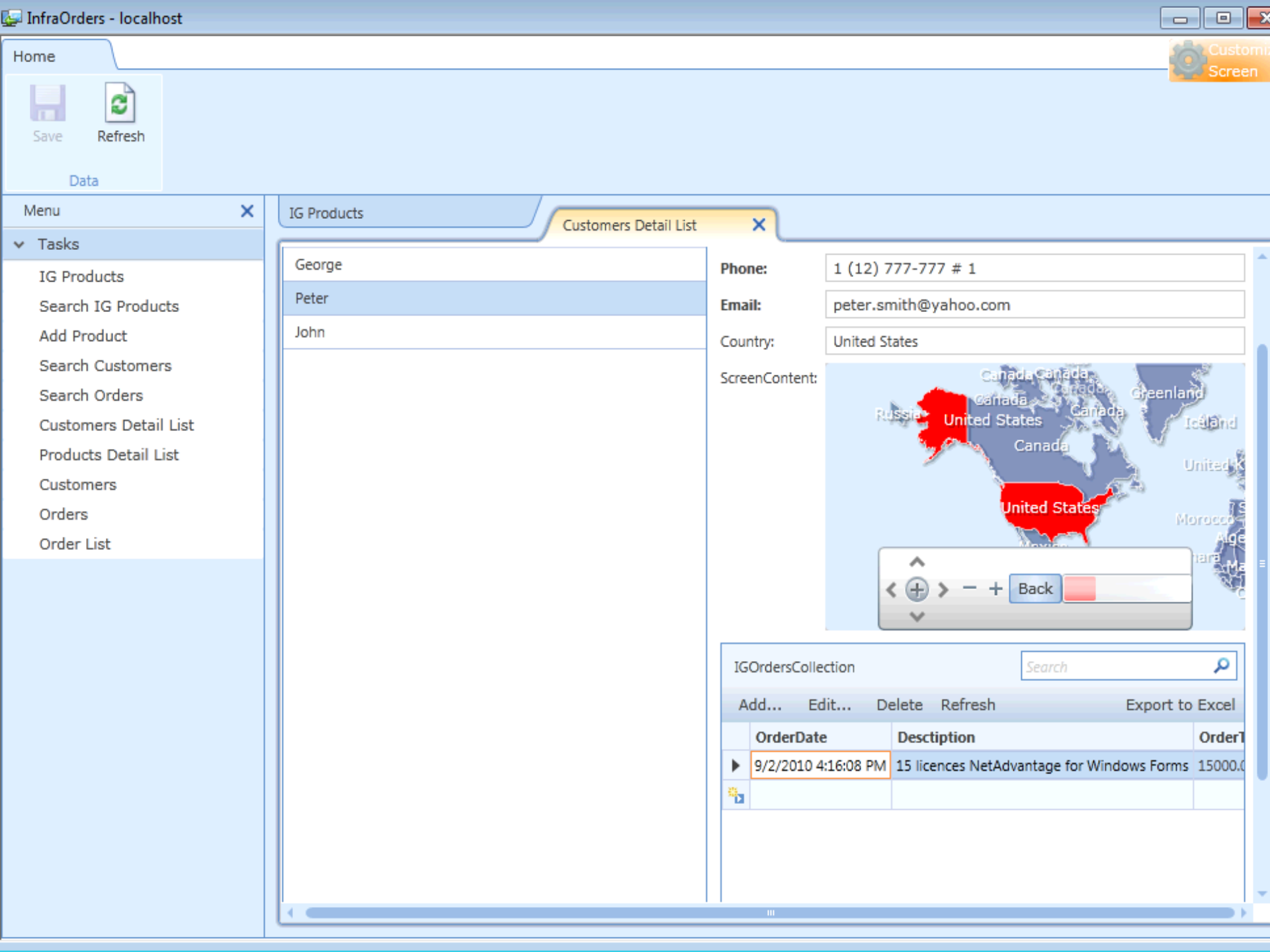
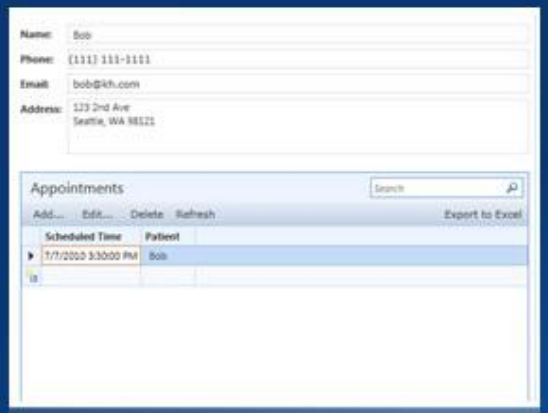
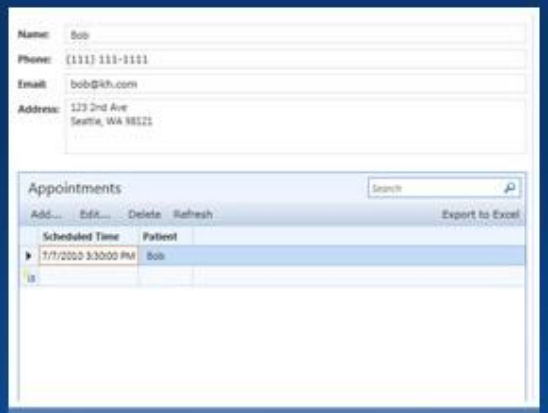

InfraOrders - localhost
Home
Save
Refresh
Data
Customi
Screen
Menu
Tasks
IG Products
Search IG Products
Add Product
Search Customers
Search Orders
Customers Detail List
Products Detail List
Customers
Orders
Order List
IG Products
Customers Detail List
George
Peter
John
Phone:
1 (12) 777-777 # 1
Email:
peter.smith@yahoo.com
Country:
United States
ScreenContent:
Canada
Greenland
Russia
United States
Iceland
Back
IGOrdersCollection
Search
Add...
Edit...
Delete
Refresh
Export to Excel
OrderDate
Desctiption
9/2/2010 4:16:08 PM
15 licences NetAdvantage for Windows Forms

YourLogo

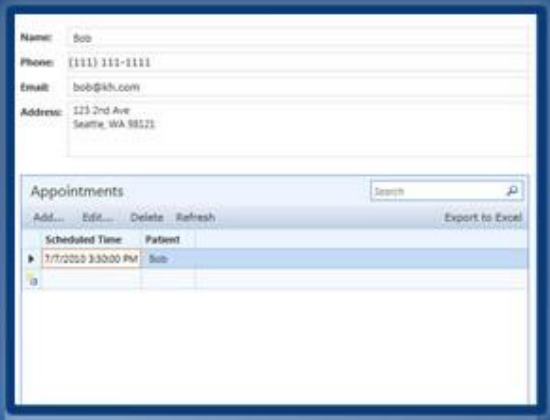
Patient Details - Bob Johnson



Main Patient Directory



Patient Details - Mary Swanson



6 of 12 Screens Displayed

Close All

Group Name 1

Add New Screen

Screen Name

Add New Screen

Group Name 2

Add New Screen

Screen Name

This is a really long name for a screen.

Easy Business Apps

Easy CRUD

DEMO

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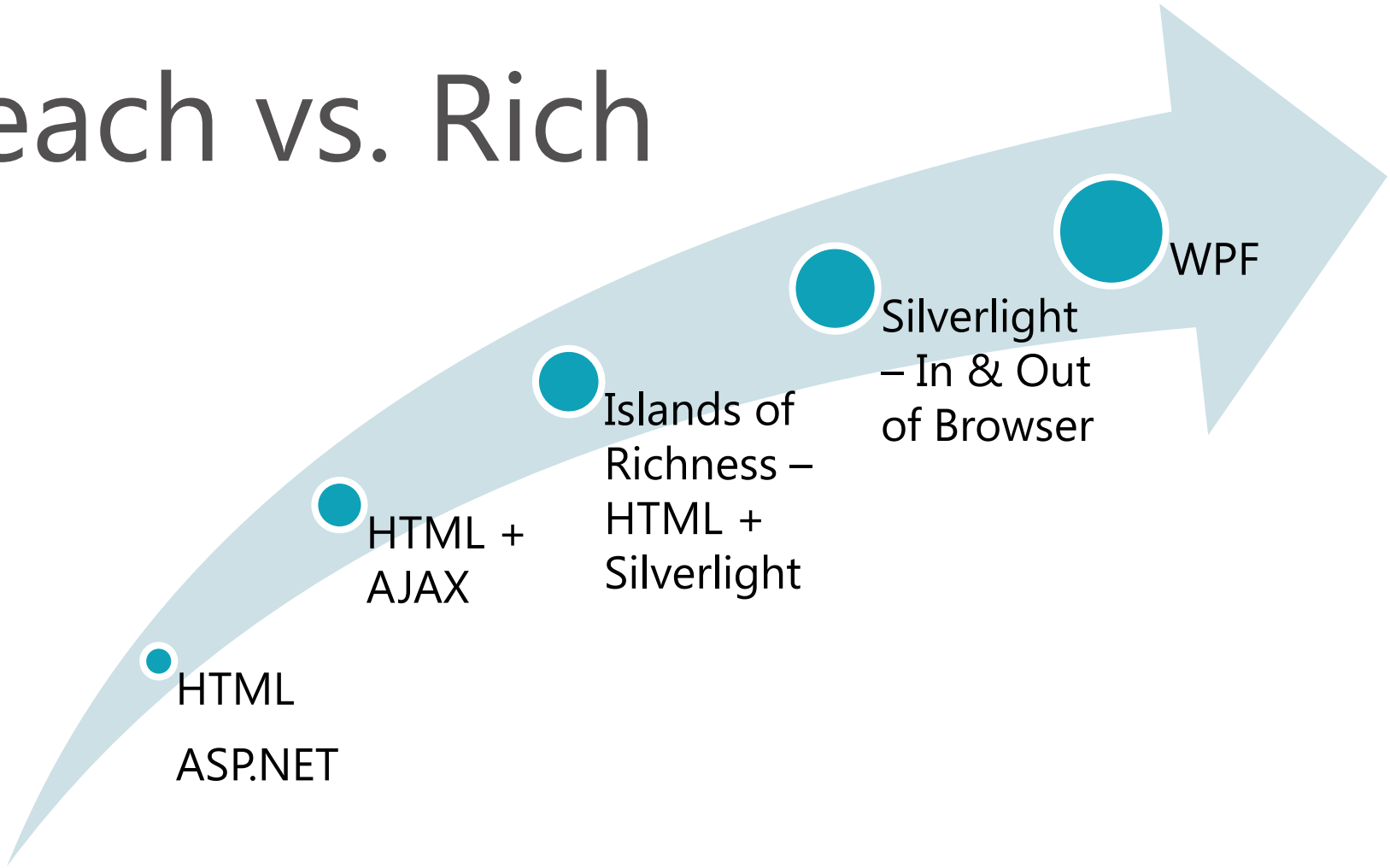
Platform Summary

Reach vs. Rich



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Wrap Up

- There are many user experience technology options
  - Use a good process to discovers what users need
  - Research the correct platform that best suites your application needs
- Silverlight is a high performance, rich platform for delivering line of business and great user experience
- HTML5 is new, about 2 years away from widespread adoption with the disparate browser support and changing spec
- Consider emerging platforms like Windows Phone 7 & LightSwitch

My email - jasonb@infragistics.com
Twitter - @jasonberes

Resources

- Infragistics
  - http://www.infragistics.com
- Quince UX Patterns Explorer
  - http://quince.infragistics.com
- Demos
  - http://samples.infragistics.com
- Web sites:
  - http://www.infragistics.com/ux
  - http://community.infragistics.com
- Books
  - Silverlight 4 Professional – Jason Beres, et al.

Thank You!

Jason Beres
jasonb@infragistics.com
@jasonberes

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