Introducing WinFX

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Microsoft Hellas

WinFX

Software Development Trends

Differentiated
User Experience

Business Process
Modeling

Digital Identity
Management

Service-Oriented
Development

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The Managed Code Programming Model for Windows

Windows Presentation Foundation

Unified framework for building
next gen user experiences with
UI, media and documents

“InfoCard”

Technology that simplifies
and improves the safety of
online login and authentication

Windows Communication Foundation

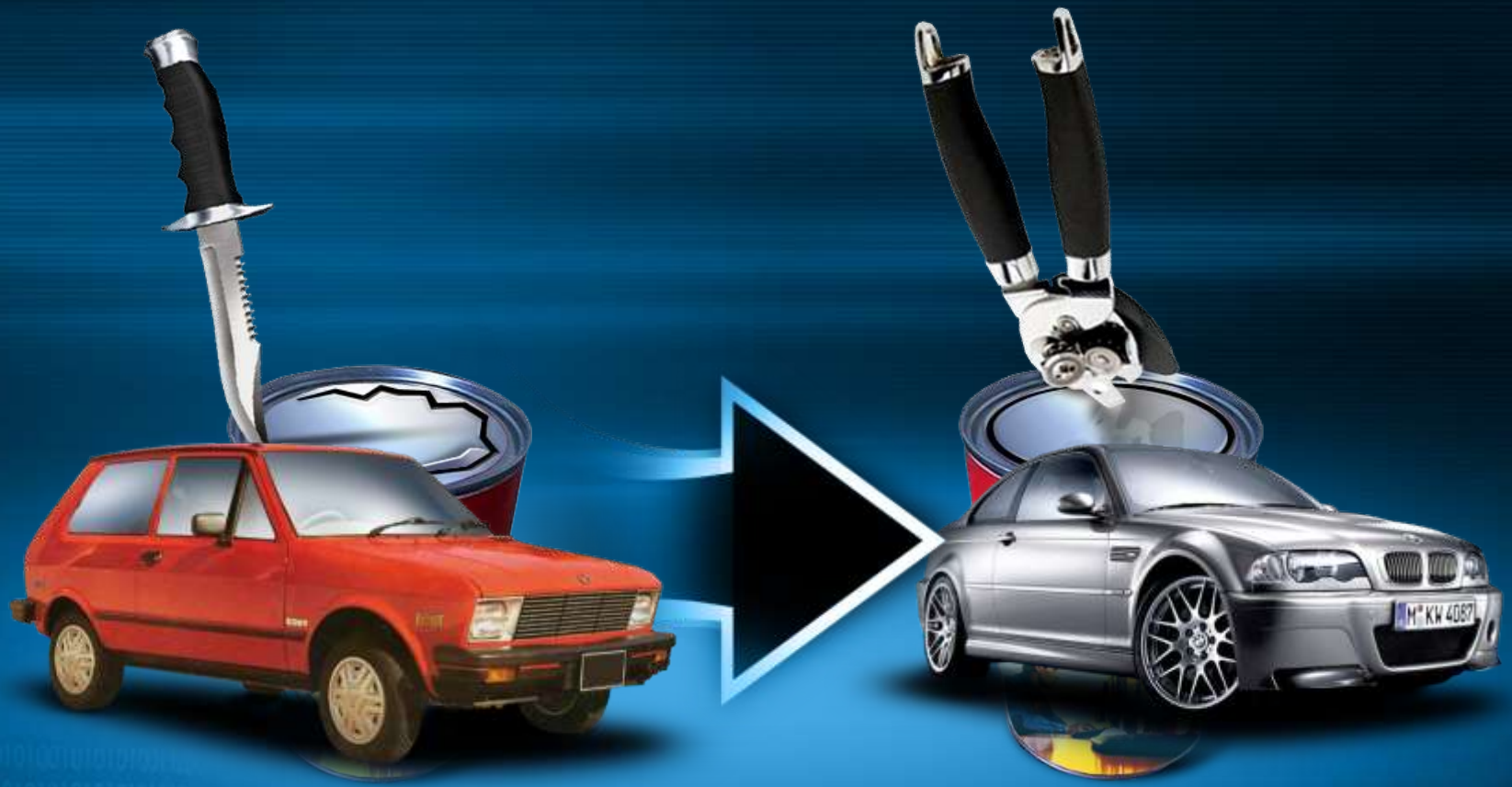
Unified framework for
rapidly building
service-oriented applications

Windows Workflow Foundation

Programming model, engine and tools for building workflow-enabled applications

Windows Presentation Foundation

What Is User Experience?



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User Experience in Software?

Ease of Use

- Learn ability
- Performance
- Reliability
- Security
- Optimized form factors
- Legibility / Readability
- Relevance / Contextualization

Measuring UX ROI
(end user behaviors / benefits)

- Success
- Productivity
- Retention
- Comprehension
- Conversion
- Satisfaction
- Excitement
- Repeat Use

Richness

- Graphics & Media
- Data Visualization
- Higher Fidelity Information
- Globalization
- Accessibility
- Hardware & Printing
- Integration

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User Experience Challenges

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Key Scenarios

Next-Gen Windows Smart Client applications:

- Installed desktop applications
- Browser applications (XAML Browser Application)
- Common code base and flexible deployment

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Windows Presentation Foundation

A productive, unified approach to UI, media and documents to deliver unmatched UX

- Deliver Innovative User Interfaces
- Increase Developer-Designer Productivity
- Achieve Flexible Application Deployment
- Leverage Existing Code Base and Skills Set

Superior UX with UI, Media & Documents

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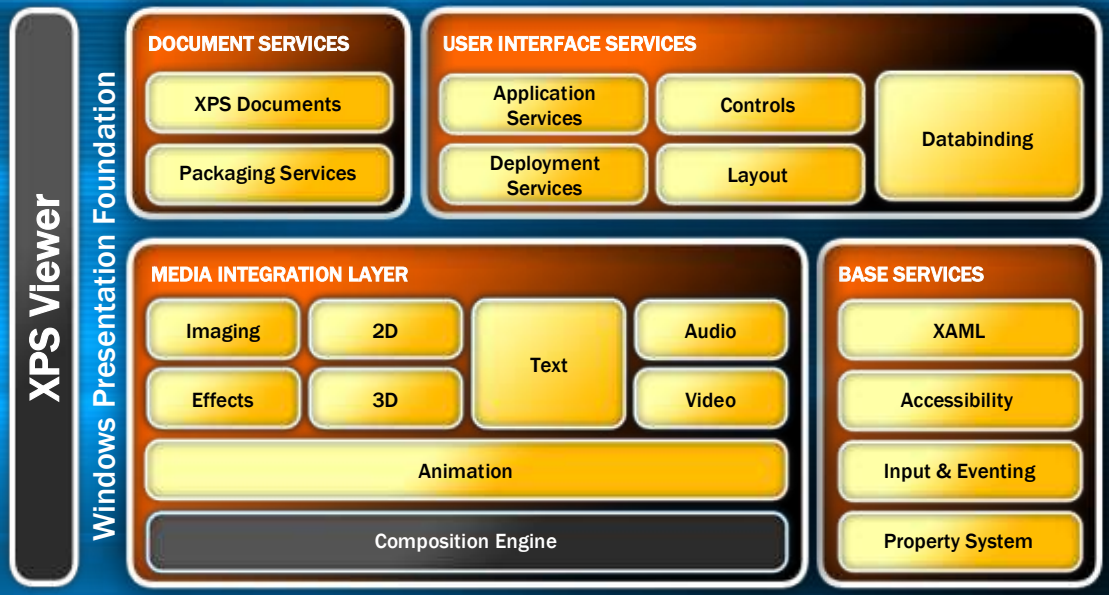
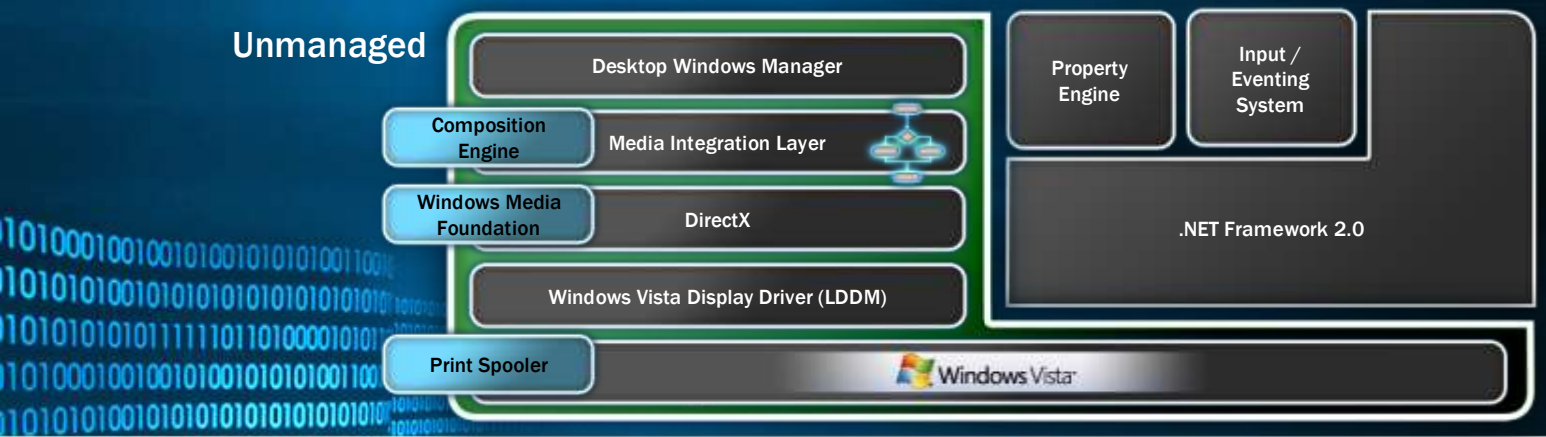
Introducing WPF

WPF Architecture





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Designer-Developer Productivity

- Microsoft Tools for Designer & Developers
- Declarative Programming through XAML
- Third Party Tools (e.g. Aurora by Mobiform, ZAM 3D by Electric Rain)

With XAML designers & developers can streamline their collaboration

Designers design

Developers add business logic

Declarative Programming Through XAML

XAML = 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 Collaboration

Controls, Templates, Styles & Resources, Layouts, Animation

Animation, Triggers, Timelines

UI Services

- Templates
- Layout
- Controls Library
- Styles and Resources
- Annotation

```
<StackPanel>
  <StackPanel.Triggers>
    <EventTrigger RoutedEvent="Button.Click">
      <EventTrigger.Actions>
        <BeginStoryboard>
          <BeginStoryboard.Storyboard>
            <Storyboard>

              <ColorAnimation To="Yellow" Duration="0:0:0.5"
                Storyboard.TargetName="TheBrush"
                Storyboard.TargetProperty="Color" />

              <DoubleAnimation To="45" Duration="0:0:2"
                Storyboard.TargetName="LowerEllipseTransform"
                Storyboard.TargetProperty="Angle" />

              ...
  </StackPanel.Triggers>

  ... remainder of contents of StackPanel, including x:Name'd
    TheBrush and LowerEllipseTransform ...

</StackPanel>
```

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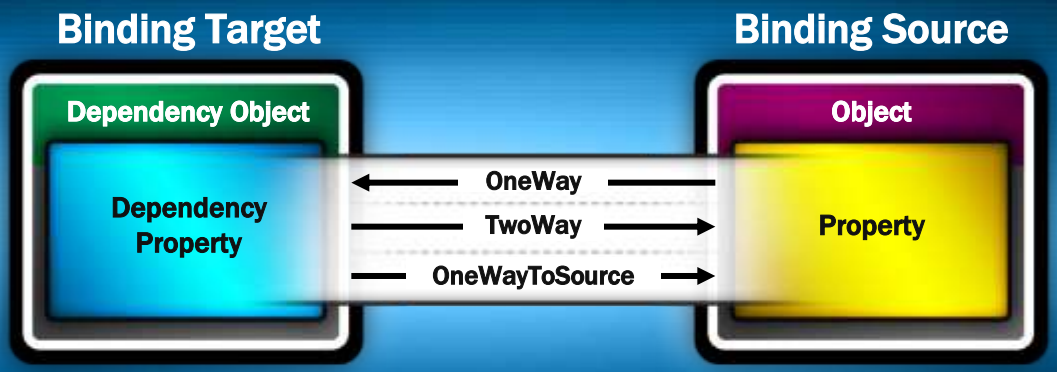
Data Binding



Layout & Databinding

```
<StackPanel>
    <Label>Select A Customer</Label>
    <ListBox
        Name="myListBox"
        Background="HoneyDew"
        ItemsSource="{Binding
        {StaticResource myDataSource}}"
    </ListBox>
</StackPanel>
```

- UI can be bound to CLR objects and XML
- Dependency properties can also be bound to ADO.NET and objects associated with Web Services and Web properties
- Sort, filter, and group views can be generated on top of the data
- Data templates can be applied to data

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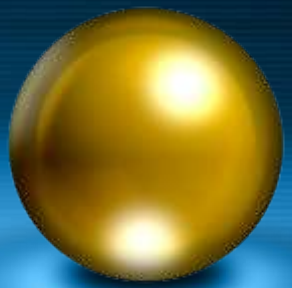
2D Graphics, 3D Graphics, Imaging

3D Graphics



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ClearType & Antialiasing

Sub-pixel positioning & natural widths

I want to conclude this article by suggesting why support fo
phy belongs among the important things, and not relegated t
typography is not to prettify text, but to articulate it. That it
way — utilizing all the art it can draw from its own heritage,
script tradition, and individual creative vision — should not
and organizational relationship of typography to text. A typo
the one in which you engage as you read this article, is a sys
that helps readers navigate text and helps writers express th
years since Gutenberg developed metal type casting at Mai
script has developed a particularly rich typographic culture,

I want to conclude this article by suggesting why suppo
typography belongs among the important things, and no
The role of typography is not to prettify text, but to artic
so in an aesthetic way — utilizing all the art it can draw from its own heri-
tage, the heritage of manuscript tradition, and individual creative vision —
should not disguise the expressive and organizational relationship of typogra-
phy to text. A typographic culture, such as the one in which you engage as
you read this article, is a system of visual indicators that helps readers navi-
gate text and helps writers express their ideas. In the 550 years since Guten-
berg developed metal type casting at Mainz, the printed Latin script has
developed a particularly rich typographic culture, using romans, italics, bold

Times New Roman 12 p
ClearType Subpixel Spa

ClearType

Enlarged view of Capital Script D shows jaggies on shallow curves

ClearType + Ydirection Antialiasing

ClearType with Ydirection Antialiasing smooths out the jaggies on shallow curves and other ydirecton features

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New Fonts For WPF In Vista

Calibri
Candara
Cambria
Constantia
Corbel
Consolas

Consolas

```
<TextPanel ID="root"
  xmlns="http://schemas.microsoft.com/2003/xaml
  xmlns:def="Definition"
  FontFamily="Calibri">
```

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Audio & Video

```
<Border Width="400"
        BorderBrush="Green"
        BorderThickness="9">
  <StackPanel>
    <MediaElement Source="aero.wmv" />
    <Button>Hello</Button>
  </StackPanel>
</Border>
```

- Formats: WMV, MPEG, Some AVIs
- Can be synchronized with animations
- Windows Media Foundation used to instantiate playback machinery into a DirectShow graph

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New Document Technologies

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UI, Media & Document Services

Interoperability

Incrementally embrace WPF, while preserving existing investments.

WPF - Windows Forms Interoperability

WPF - HWNDs

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WPF Summary

Deliver Innovative User Interfaces

Increase Developer-Designer Productivity

Achieve Flexible Application Deployment

Leverage Existing Code Base & Skill Set

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WPF Resources

- WPF @ Windows Vista Developer Center
  http://msdn.microsoft.com/windowsvista/building/presentation/
- WPF/WinFX Community Site
  http://www.winfx.com
- Microsoft Expression
  www.microsoft.com/expression

WinFX

WinFX Ship Schedule and Vehicle

- Core component of Windows Vista
- Down-level Windows XP and Windows Server 2003
- Consistent development experience

WinFX – Take the Next Step

- Get started with Visual Studio 2005
- Download WinFX
- Give us feedback

Q&A

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