Text and Documents

Outline

- **Ubiquitous rich text**

- **Flow layout**

- **Document structure**

- **Editing**

Rich Text Anywhere

- **Text never 'plain'**
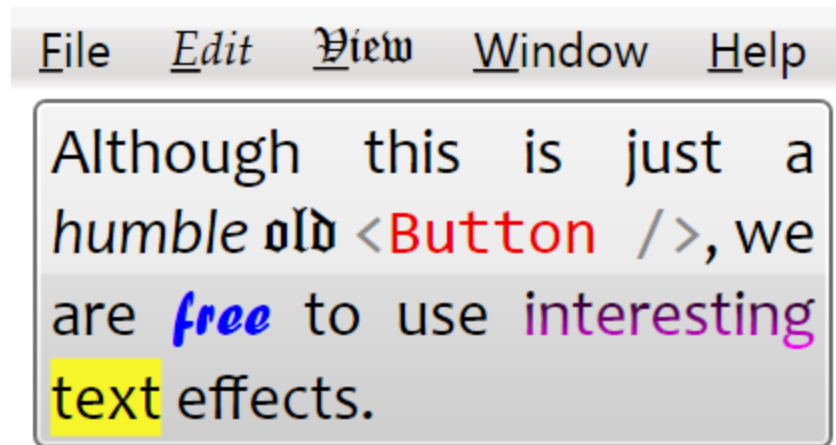
TextBlock

```xml
<Button>
  <TextBlock FontFamily="Candara" FontSize="16"
             TextWrapping="Wrap" TextAlignment="Justify">

    Although this is just a <Italic>humble</Italic>
    <Span FontFamily="Old English Text MT">old</Span>
    <Span FontFamily="Consolas" Foreground="#888">
      &lt;<Span Foreground="#e00">Button</Span> /&gt;
    </Span>,
    we are <Span FontFamily="Forte" Foreground="Blue">free</Span> to use
    <Span>
      <Span.Foreground>
        <LinearGradientBrush StartPoint="0,0" EndPoint="0,1">
          <GradientStop Offset="0" Color="Black" />
          <GradientStop Offset="1" Color="Magenta" />
        </LinearGradientBrush>
      </Span.Foreground>
      interesting
    </Span>
    <Span Background="#cff0">text</Span> effects.
  </TextBlock>
</Button>
```
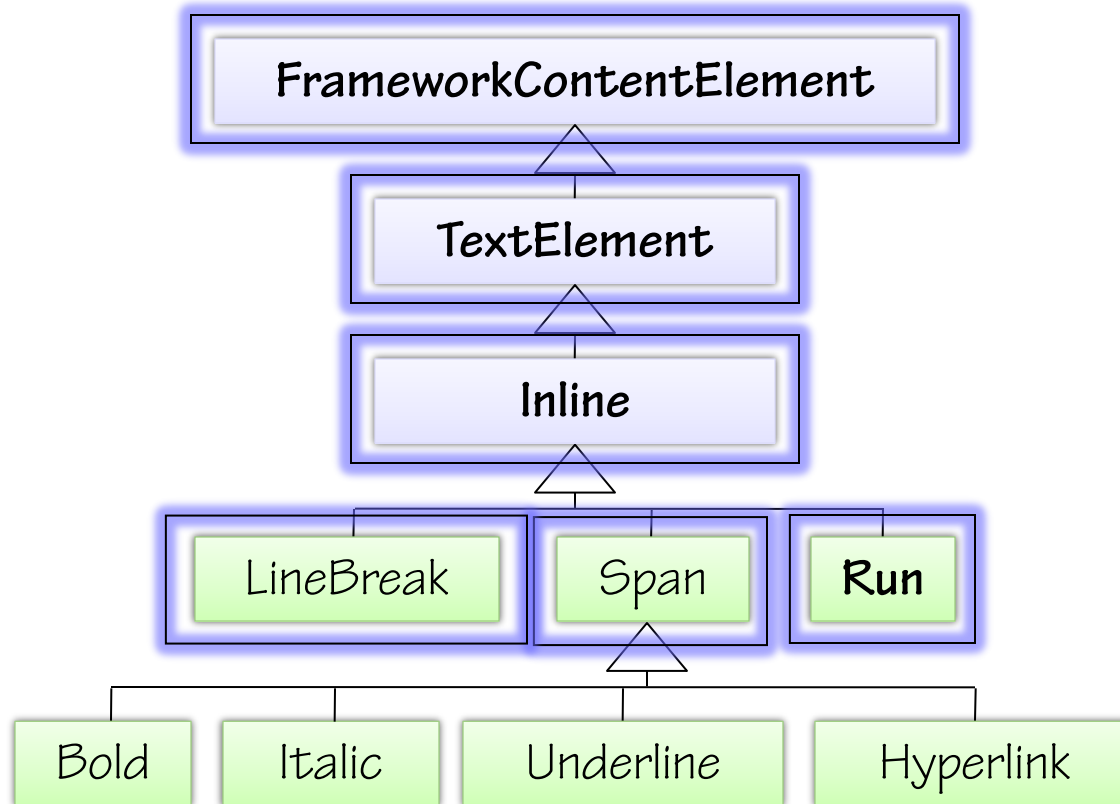
Inline Text Elements

Block Text Elements

FrameworkContentElement

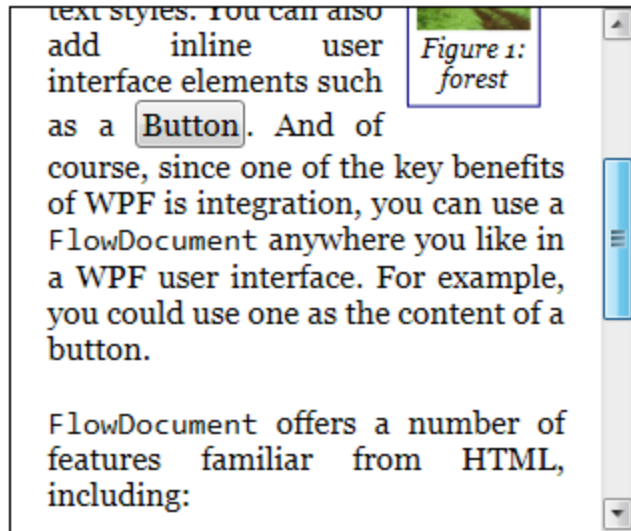△

TextElement

△

Block

△

List   Paragraph   Section   Table
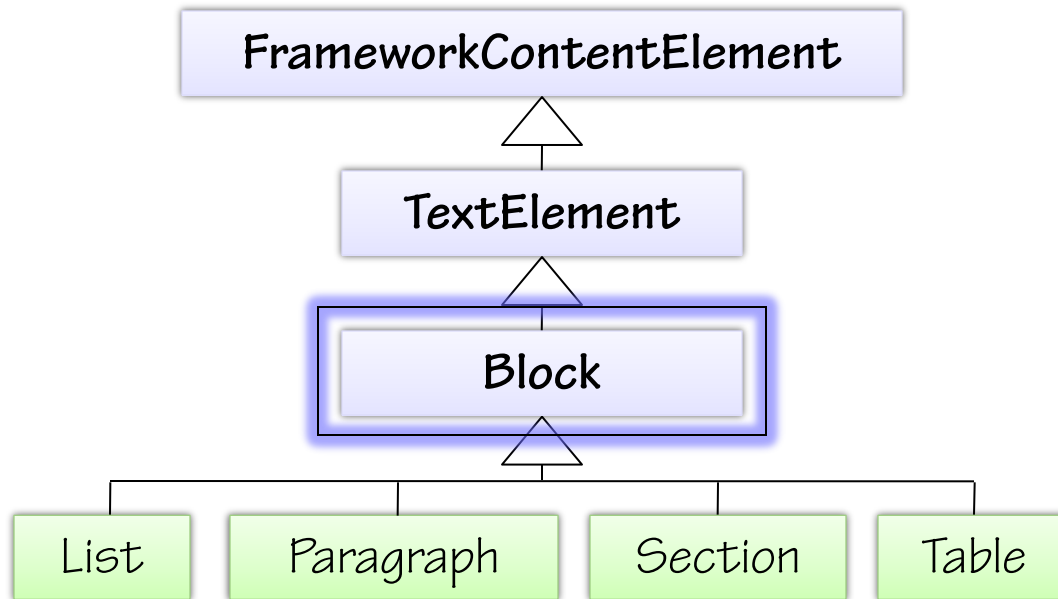
Only useful in a
FlowDocument

Document Viewer Controls

FlowDocumentScrollViewer
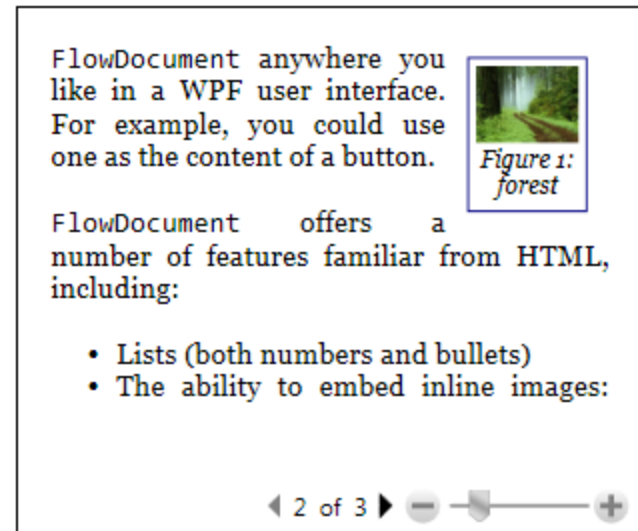
FlowDocumentPageViewer

FlowDocumentReader

Paragraph

```
<FlowDocument>
 <Paragraph>
    This is a paragraph.
  </Paragraph>

  <Paragraph>
    This is another paragraph. Notice how it
    starts a new line. There is also some space
    between this one and the previous one.
  </Paragraph>
</FlowDocument>
```

This is a paragraph.

This is another paragraph. Notice how it starts a new line. There is also some space between this one and the previous one.

Section

- **Allows grouping of other blocks**

- **Structural – no intrinsic behavior**

```
<FlowDocument>
  <Section x:Name="section1">
   <Paragraph>...</Paragraph>
   <Paragraph>...</Paragraph>
  </Section>

 <Section x:Name="section2">
   <Paragraph>...</Paragraph>
   <Paragraph>...</Paragraph>
  </Section>
</FlowDocument>
```

List

```
<List MarkerStyle="...">
  <ListItem>
    <Paragraph>First</Paragraph>
  </ListItem>
  <ListItem>
    <Paragraph>Second</Paragraph>
  </ListItem>
</List>
```

- First
- Second

Disc

1. First
2. Second

Decimal

a. First
b. Second

LowerLatin

i. First
ii. Second

LowerRoman

Table

```
<Table>
  <TableRowGroup>
    <TableRow Background="SkyBlue">
      <TableCell ColumnSpan="3" TextAlignment="Center">
        <Paragraph FontSize="24pt" FontWeight="Bold">
          WPF Instructors
        </Paragraph>
      </TableCell>
    </TableRow>
    <TableRow Background="#FFD" FontS
      <TableCell><Paragraph>Name</Par
      <TableCell><Paragraph>Age</Para
      <TableCell><Paragraph>Favorite
    </TableRow>
    <TableRow>
      <TableCell><Paragraph>Ian</Paragraph></TableCell>
      <TableCell><Paragraph>33</Paragraph></TableCell>
      <TableCell><Paragraph>Blue</Paragraph></TableCell>
    </TableRow>
    <TableRow Background="lightgray">
      ...
  </TableRowGroup>

</Table>
```
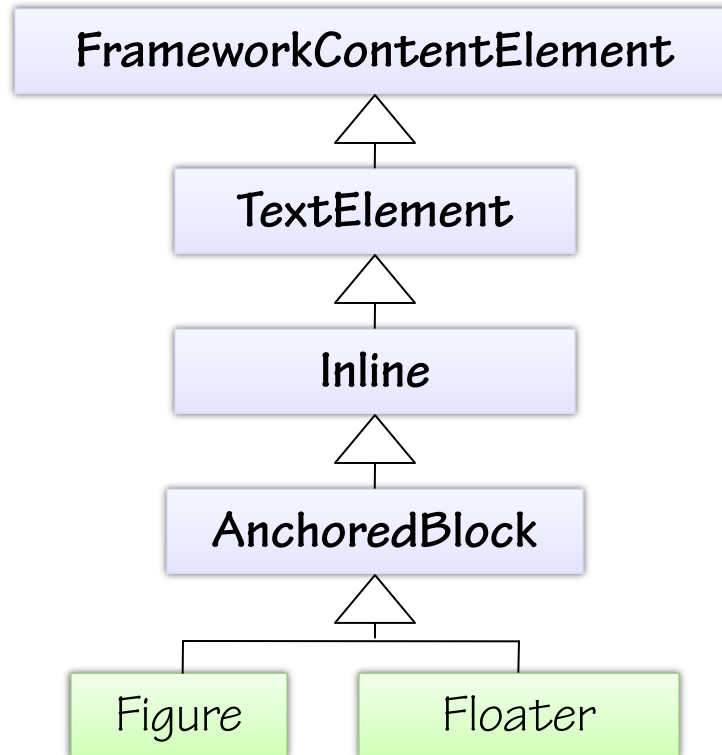
WPF Instructors

Name	Age	Favorite Color
Ian	33	Blue
Kirk	23	Purple
Brian	47	Anything in neon

Information may not be strictly accurate.

Figures and Floaters

```
┌─────────────────────────────────┐
│   FrameworkContentElement        │
└─────────────────────────────────┘
              △
              │
┌─────────────────────────────────┐
│         TextElement              │
└─────────────────────────────────┘
              △
              │
┌─────────────────────────────────┐
│           Inline                 │
└─────────────────────────────────┘
              △
              │
┌─────────────────────────────────┐
│        AnchoredBlock             │
└─────────────────────────────────┘
              △
         ┌────┴────┐
┌──────────┐   ┌──────────┐
│  Figure  │   │  Floater │
└──────────┘   └──────────┘
```

Floater

```xml
<Paragraph>
  <Floater HorizontalAlignment="Right" Width="85" Margin="3,0">
    <BlockUIContainer>
      <Border BorderBrush="Navy" BorderThickness="1" Padding="4">
        <Grid><Grid.RowDefinitions> <RowDefinition /> <RowDefinition />
          </Grid.RowDefinitions>

          <Image Source="Forest.jpg" />
          <TextBlock Margin="2" FontStyle="Italic" FontSize="13"
                     Grid.Row="1" HorizontalAlignment="Center"
                     TextWrapping="Wrap" TextAlignment="Center">
        Figure 1: forest</TextBlock>
        </Grid>
      </Border>
    </BlockUIContainer>
  </Floater>

  A <Span Style="{StaticResource Code}">
  FlowDocument</Span> may contain
  ...

</Paragraph>
```


ay contain any
. You can also
rface elements
And of course,
enefits of WPF
     can   use   a
ere you like in a WPF user
e, you could use one as the

Figure 1: forest

Figure

- **Can be positioned further from anchor**

```
<Paragraph>

  <Figure HorizontalAnchor="ParagraphCenter"
          VerticalAnchor="PageTop" />

  Foo, bar
</Paragraph>
```

Typography

- **Ligatures**
- **Stylistic alternates**
- **Swashes**
- **Capitals**
- **Numerical styles**
- **Fractions**

```xml
<TextBlock FontFamily="Palatino Linotype"
    Typography.DiscretionaryLigatures="true"
    Typography.ContextualLigatures="true"
    Typography.StandardLigatures="true">

    Quite effective find
</TextBlock>
```



```xml
<TextBlock Typography.Capitals="SmallCaps">
    Hello, world!
</TextBlock>
```



```xml
<TextBlock Typography.Fraction="Stacked">
    1/2 + 1/4 = 3/4
</TextBlock>
```



```xml
<TextBlock Typography.NumeralStyle="Lining"
           Text="123456" />
<TextBlock Typography.NumeralStyle="Oldstyle"
           Text="123456" />
```


pluralsight
see what you can learn

Integration

- **Two worlds:**
  - FrameworkElement: most UI elements
  - FrameworkContentElement: document elements

- **Hosting FCE in FE world:**
  - FlowDocument + reader control
  - TextBlock

- **Hosting FE in FCE world:**
  - BlockUIContainer
  - InlineUIContainer

pluralsight
see what you can learn

TextBox and RichTextBox

- **TextBox: plain text**

- **RichTextBox: FlowDocument**

Summary

- **Ubiquitous rich text**

- **Flow layout**

- **Block elements**

- **Editing**