Today's Lecture

- App – Auto-Tune
  - Multimedia input
- Primer – WPF
  - Single content controls
    - ToolTip
    - ToolTip -> Advanced Rendering
  - Items Control
    - ListBox, TabControl, ListView, ComboBox
  - Range Control

Reminders
- Blog Post (Week)
- Homework 3

AutoTune -> News

- Auto-Tune the News #8: dragons, geese, Michael Vick (ft. T-Pain)
  - [YouTube Video](http://www.youtube.com/watch?v=bDOYN-6gdRE)

I Am T-Pain

- Buy U a Drank - I Am T-Pain - Auto-Tune iPhone App
  - [YouTube Video](http://www.youtube.com/watch?v=btN5yuVcRes)

Small Group Exercise

- Are we trending towards more media or less in apps?
- Is that a good or bad thing?

- Split into groups of 2-4 students

Revisiting Our Controls

- What have we covered
  - Layout
    - Grid, StackLayout
  - Controls
    - Label, Button, CheckBox, RadioButton, TextBox
  - Round out the simple controls today
    - ToolTip
    - TextBlock
    - GroupBox
    - Expander
    - Items Controls
Start things off

- Create our standard layout
  - 3x3 Grid, 640x480 window
  - Can you write out the code below?

ToolTip

- Property-element of a control

```xml
<Button>Connect
  <Button.ToolTip>
    <ToolTip>
      Click here to connect the Wiimote
    </ToolTip>
  </Button.ToolTip>
</Button>
```

or

```xml
<Button Content="Connect" ToolTip="Click here to connect the Wiimote" />
```

Work with me

- WPF
  - Containers in containers in containers
  - Could we change rendering via our own container for the tool tip?
  - Yes!

```xml
<Button>Connect
  <Button.ToolTip>
    OUR CUSTOM CONTAINER HERE!
  </Button.ToolTip>
</Button>
```

Let's get a bit crazy….

Conceptualize it

- Title Bar
  - Instructions on what to do here
  - Two nominal elements
    - Upper title bar
    - Text blob

Think lowest level

- Ignore that we will be in a tool tip

```xml
<StackPanel>
  <Label FontWeight="Bold" Background="Navy" Foreground="Gold">
    Connect the Wiimote
  </Label>
  <TextBlock Padding="10" TextWrapping="WrapWithOverflow" Width="200">
    Before you connect the Wiimote, you will need to make sure that the Wiimote is paired with the system. See the System Interface Design website for instructions on how to do so.
  </TextBlock>
</StackPanel>
```
What would it look like?

Before you connect the Wiimote, you will need to make sure that the Wiimote is paired with the system. See the System Interface Design website for instructions on how to do so.

Now embed it

Before you connect the Wiimote, you will need to make sure that the Wiimote is paired with the system. See the System Interface Design website for instructions on how to do so.

ToolTip in action

Connect the Wiimote

Before you connect the Wiimote, you will need to make sure that the Wiimote is paired with the system. See the System Interface Design website for instructions on how to do so.

To infinity and beyond?

Protip: Make sure the Wiimote still has battery power.

StackPanel++

Voila

Protip: Make sure the Wiimote still has battery power.
Images in the Project

- Simple version
  - Find your image file and it will get copied to the project directory

Pseudo-Containers

- May have headers
  - Frame -> ActiveX web control
  - Don't set content, use source
  - GroupBox
  - Expander

Code - GroupBox

```xml
<GroupBox Grid.Row="2" Grid.Column="0"
Header="Group Hdr">
  <StackPanel>
    <RadioButton>Option 1</RadioButton>
    <RadioButton>Option 2</RadioButton>
    <RadioButton>Option 3</RadioButton>
  </StackPanel>
</GroupBox>
```

Code - Expander

```xml
<Expander Grid.Row="2" Grid.Column="2"
Header="Expander Hdr">
  <StackPanel>
    <CheckBox>PS3</CheckBox>
    <CheckBox>XBox 360</CheckBox>
    <CheckBox>Wii</CheckBox>
  </StackPanel>
</Expander>
```

Items Controls

- Derived from Selector
  - ListBox
  - ComboBox
  - ListView
  - TabControl

- Key features
  - Multiple items that can be selected
  - Items can be anything
    - Text
    - Image
    - Another container

Which ones?

- ComboBox
  - Drop down box
  - ComboBoxItem
- ListBox
  - Generic list
  - ListBoxItem
- ListView
  - View property -> GridView
- TabControl
  - TabItem
ComboBox

<ComboBox Grid.Row="0" Grid.Column="2">
    <ComboBoxItem>Computer Science</ComboBoxItem>
    <ComboBoxItem>Computer Engineering</ComboBoxItem>
    <ComboBoxItem>Information Technology</ComboBoxItem>
    <ComboBoxItem>Software Engineering</ComboBoxItem>
</ComboBox>

ListBox

<ListBox Grid.Row="1" Grid.Column="2">
    <ListBoxItem>
        <StackPanel>
            <Button>Button magic</Button>
            <Button>Go, go gadget</Button>
        </StackPanel>
    </ListBoxItem>
    <ListBoxItem>Go Irish!</ListBoxItem>
</ListBox>

TabControl

<TabControl Grid.Row="2" Grid.Column="1">
    <TabItem>Tabs</TabItem>
    <TabItem>Are</TabItem>
        <StackPanel>
            <Label>Label magic</Label>
            <CheckBox>,$\text{Sith Lord}$</CheckBox>
        </StackPanel>
    </TabItem>
</TabControl>

Other Items Controls

- Alternative controls
  - TreeView
  - Can nest TreeViewItem in TreeViewItem
- ToolBar
  - Ability to do an OverflowMode
- StatusBar

Range Controls

- Last controls for today
  - ProgressBar
  - Slider

Questions?

- Weekly Blog
- Homework 3

Project 2 will be coming soon as well – Wii Fit (Discuss on Friday)