Telerik Academy

Data-binding List Controls

In Windows Universal Applications

Apps for Windows Phone & Windows Store

Telerik Software Academy

http://academy.telerik.com

Telerik Academy

Table of Contents

Telerik Academy

The ViewModel

The way to abstract the UI from the BL

The ViewModel

- The ViewModel is a Model-of-the-View
  - Exposes public properties for View to bind
- ViewModel objects are the objects that do most of the work
  - Except UI
- The ViewModels needs to:
  - Perform data storage operations
  - Contain business logic

Telerik Academy

The ViewModel

- In most cases a ViewModel is a POCO object
  - Nothing special about it
  - Contains little or no XAML/WPF/SL dependencies and references
- Yet the ViewModel cannot be absolutely decoupled from the XAML platform
  - In some cases it needs to inherit from `INotifyPropertyChanged`

The ViewModel

Live Demo

Telerik Academy

Binding List Controls

DisplayMemberPath and SelectedValuePath

Binding List Controls

- List controls like `ListBox` and `ComboBox` display multiple items at a time
  - Can be bound to a collection in the `ViewModel/DataContext`
  - Can keep track of the current item
  - When binding the `DisplayMemberPath` specifies the property to be displayed
    - The `SelectedValuePath` specifies the property to be used as selected value (some ID)

Telerik Academy

DisplayMemberPath

- If we want to show every object of the `PhonesStore` class and display one of its properties
  - The `ListBox` class provides the `DisplayMemberPath` property

```
<ListBox
  ItemsSource="{Binding Phones}"
  DisplayMemberPath="Model"
  IsSynchronizedWithCurrentItem = "True"
/>
```

Telerik Academy

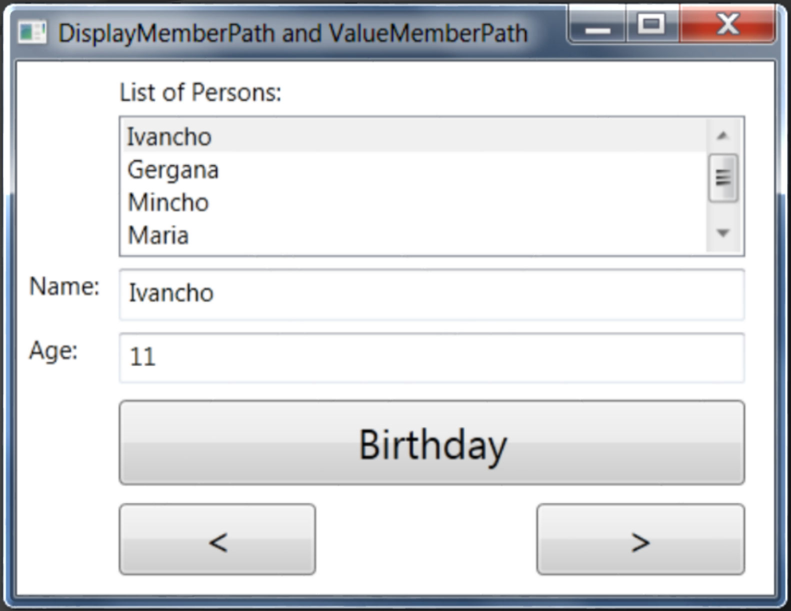
SelectedValuePath

- The ItemsControl class provides a path to describe the selected value of a piece of data

```
<ListBox Name="ListBoxPeople" ItemsSource="{Binding}"
  DisplayMemberPath="Name" SelectedValuePath="Age" />
```

- Data which is often used when the selection changes or an item is double-clicked

```
private void ListBoxPeople_SelectionChanged(
  object sender, SelectionChangedEventArgs e)
{
   int index = ListBoxPerson.SelectedIndex;
   if (index < 0) { return; }
   Person item = (Person) ListBoxPerson.SelectedItem;
   int value = (int) ListBoxPerson.SelectedValue; …
}
```

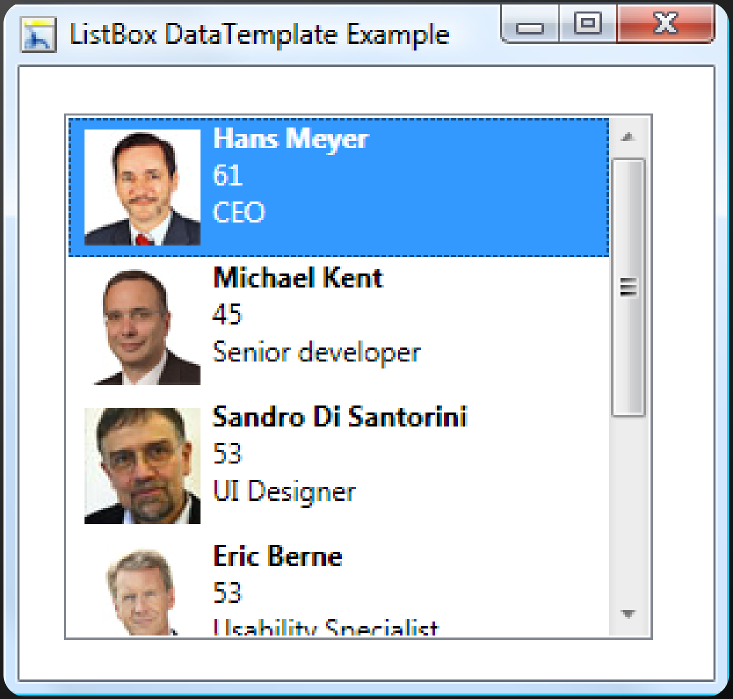


DisplayMemberPath and SelectedValuePath

Live Demo

Telerik Academy

Using Data Templates



Hans Meyer
61
CEO

Michael Kent
45
Senior developer

Sandro Di Santorini
53
UI Designer

Eric Berne
53
Usability Specialist

Using Data Templates

- Data templates allow displaying more than one property from a custom class
- A data template is a tree of elements to expand in a particular context
- For example, for each `Phone` object, you might like to be able to concatenate the `Vendor`, `Model` and `Year` together
- This is a logical template that looks like this
  - `Year: Vendor Model`

Using Data Templates (2)

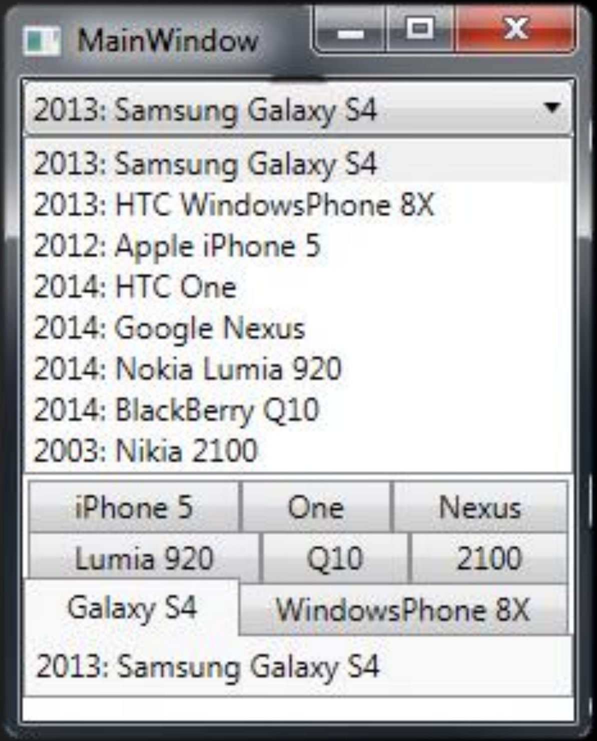
- To define this template for items in the `ListBox`, we create a `DataTemplate` element

```
<ListBox ItemsSource="{Binding}">
  <ListBox.ItemTemplate>
    <DataTemplate>
      <TextBlock>
        <TextBlock Text="{Binding Year}" />:
        <TextBlock Text="{Binding Vendor}" />
        <TextBlock Text="{Binding Model}" />
      </TextBlock>
    </DataTemplate>
  </ListBox.ItemTemplate>
</ListBox>
```

Telerik Academy

Using Data Templates (2)

- The `ListBox` control has an `ItemTemplate` property
  - Accepts an instance of the `DataTemplate` class
- The `ListBox` shows all the items in the collection



2013: Samsung Galaxy S4

2013: Samsung Galaxy S4
2013: HTC WindowsPhone 8X
2012: Apple iPhone 5
2014: HTC One
2014: Google Nexus
2014: Nokia Lumia 920
2014: BlackBerry Q10
2003: Nikia 2100

iPhone 5 | One | Nexus
Lumia 920 | Q10 | 2100
Galaxy S4 | WindowsPhone 8X

2013: Samsung Galaxy S4

Using Data Templates

Live Demo

Telerik Academy

Data-binding List Controls

Questions?

http://academy.telerik.com

Telerik Academy

Exercises

1. Write a program to manage a simple system with information about towns and countries. Each country is described by name, language, national flag and list of towns. Each town is described by name, population and country. You should create navigation over the towns and countries. Enable editing the information about them. Don't use list controls but only text boxes and simple binding
2. Rewrite the previous exercise using list controls.