

Module 3

"Data Binding Collections [Foundation]"



TEKNOLOGISK
INSTITUT

Agenda

- ▶ **Data Binding to Collections**
- ▶ Data Templates
- ▶ Change Notification

Binding Item Controls

- ▶ Item controls can be bound to a collection of objects
- ▶ **ItemsControl.**
 - **ItemsSource**
 - **DisplayMemberPath**
 - **IsSynchronizedWithCurrentItem**
 - Is **ItemControl.CurrentItem** synchronized with **ICollectionView.CurrentItem**?
 - **ItemTemplate**
- ▶ Can also just bind a single property to a list

Collection Views

- ▶ A collection view manages data currency for collection
 - Is automatically generated behind the scenes
 - Retrieve via `CollectionViewSource.DefaultView()`

- ▶ `ICollectionView`
 - `CurrentPosition`, `CurrentItem`
 - `MoveCurrentTo`, `MoveCurrentToFirst`, `MoveCurrentToLast`,
`MoveCurrentToNext`, `MoveCurrentToPrevious`,
`MoveCurrentToPosition`
 - `IsCurrentBeforeFirst`, `IsCurrentAfterLast`

- ▶

<code>ICollectionView</code>	<code>CollectionView</code>
• <code>IList</code>	<code>ListCollectionView</code>
• <code>IBindingList</code>	<code>BindingListCollectionView</code>

Master-Detail Binding

- ▶ Master-Details view can be created by
 - Binding primary **ItemsControl** to master collection
 - Binding secondary **ItemsControl** to property (or relation) between master and details collection
 - Synchronizing on current items
- ▶ Remember to set **IsSynchronizedWithCurrentItem = true** on primary **ItemsControl**

Agenda

- ▶ Data Binding to Collections
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- ▶ Change Notification

Data Templates

- ▶ Data Templates are XAML-fragments determining how bound data is displayed
- ▶ **DataTemplate**
 - Can be set via **ContentControl.ContentTemplate** property
 - Can be set via **ItemsControl.ItemTemplate** property
 - Mutually exclusive with **DisplayMemberPath** property!
 - Can be defined
 - Directly in bound control
 - In **Resources**
- ▶ Data template can be automatically applied to all elements of a certain type
 - Set **DataTemplate.DataType**
 - Don't specify an **x:Key** for data template!

Agenda

- ▶ Data Binding to Collections
- ▶ Data Templates
- ▶ **Change Notification**

INotifyPropertyChanged

- ▶ Implement **INotifyPropertyChanged** to propagate modifications to a single element through data binding
 - **PropertyChanged** event
 - Raise event with CLR property name whenever it is changed

ObservableCollection<T>

- ▶ Implement collections by inheriting **ObservableCollection<T>**
 - Located in **WindowsBase.dll**!
- ▶ Automatically propagates adding and removal of elements to collection
- ▶ Handling change notifications overall
 - Implement **INotifyPropertyChanged** on single elements of type **T**
 - Inherit collection storage class from **ObservableCollection<T>**

Summary

- ▶ Complex Data Binding
- ▶ Data Templates
- ▶ Change Notification



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