Composition Patterns

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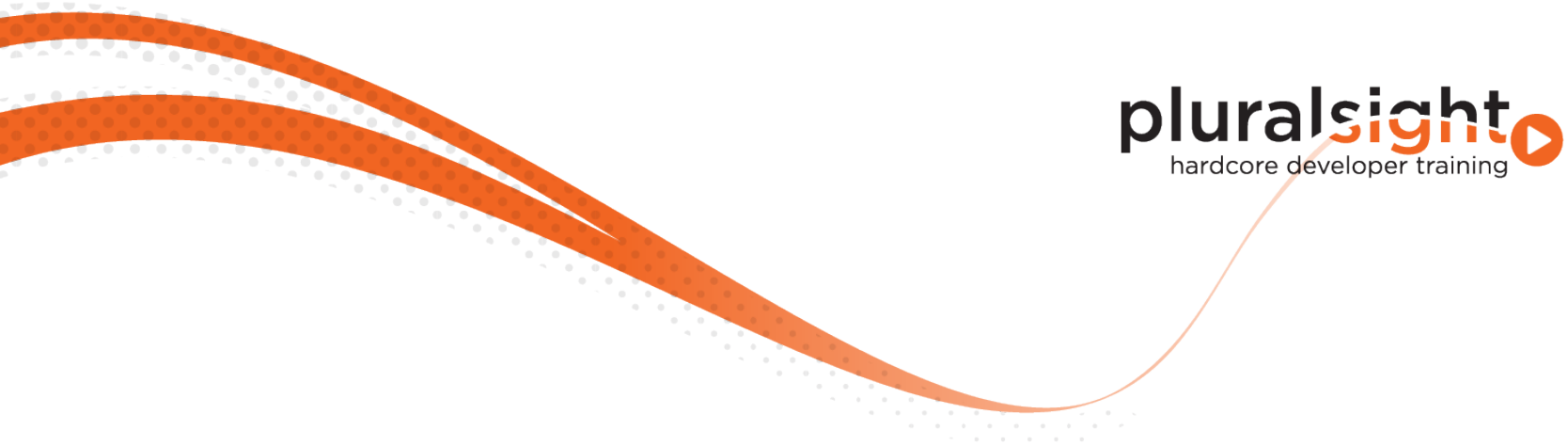
Michael@qedcode.com



pluralsight
hardcore developer training

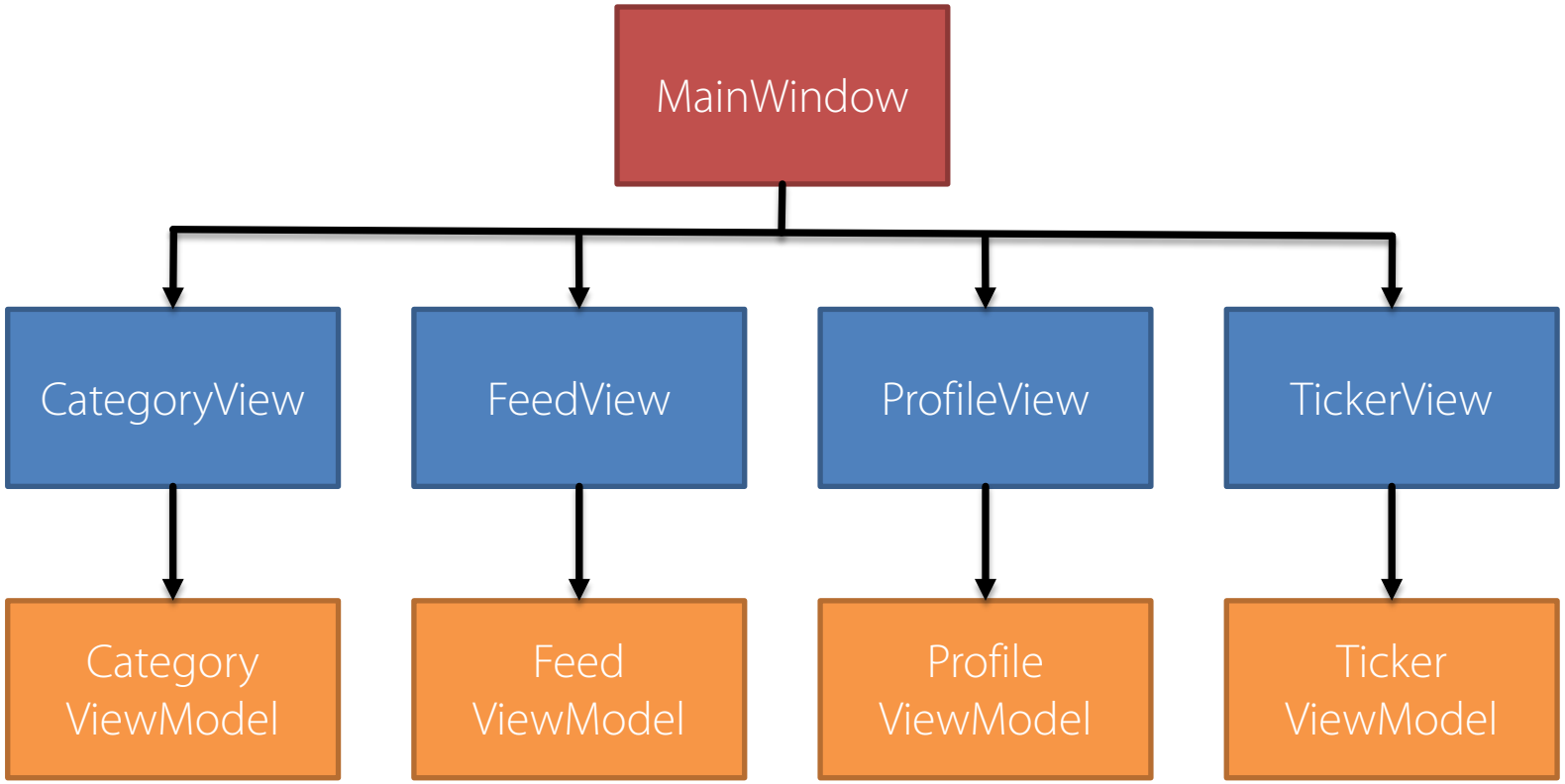
Composability

- **Use a construct in different places**
  - A component is independent of its container
  - Grid
  - StackPanel
  - UserContol
- **Leave holes inside a component**
  - Behavior is injected when needed
  - DataTemplate
  - ControlTemplate
  - ContentControl

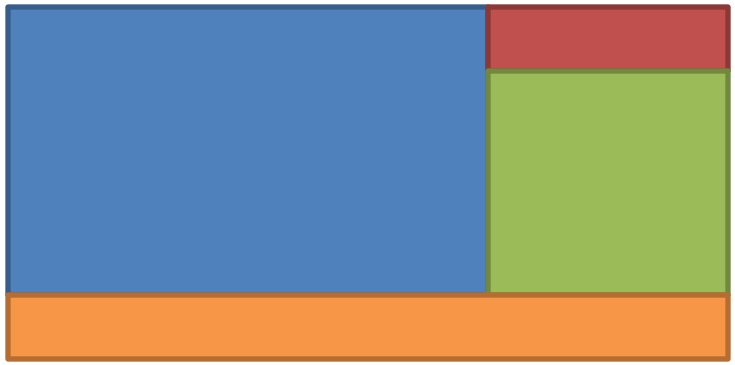
Composition Patterns

- **Isolation**
  - Easy to change
  - Developer/designer
  - Components
- **Organization**
  - Easy to navigate
  - Resources
  - Views
- **Extensibility**
  - Easy to build upon
  - Forms
  - Controls

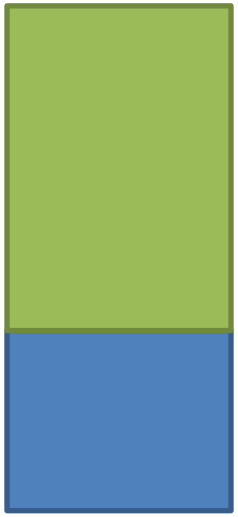
Grid Layout


MainWindow
CategoryView
FeedView
ProfileView
TickerView
Category ViewModel
Feed ViewModel
Profile ViewModel
Ticker ViewModel

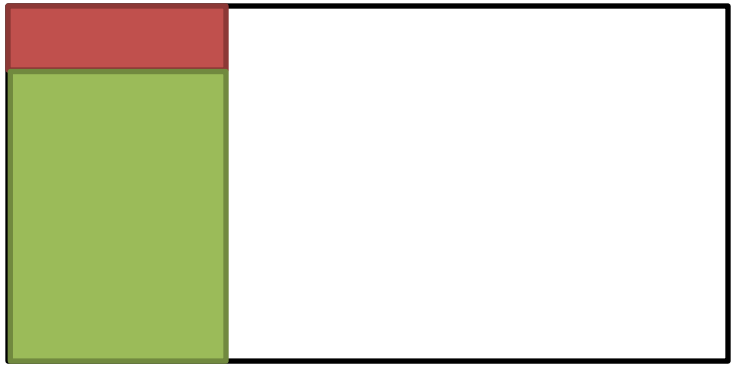
Form Factors



Tablet



Phone



Snapped

Recruiting

User Groups

Networking

Blogging

Open Source

Other

Michael P.

+4 Interviewed J T.

Devlin L.

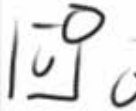
+2 Refferred Huston Co

Dave O.

+5 Taught MVC Master

Tim R.

+5 Presented at C#s



1.

Tim R.

2.

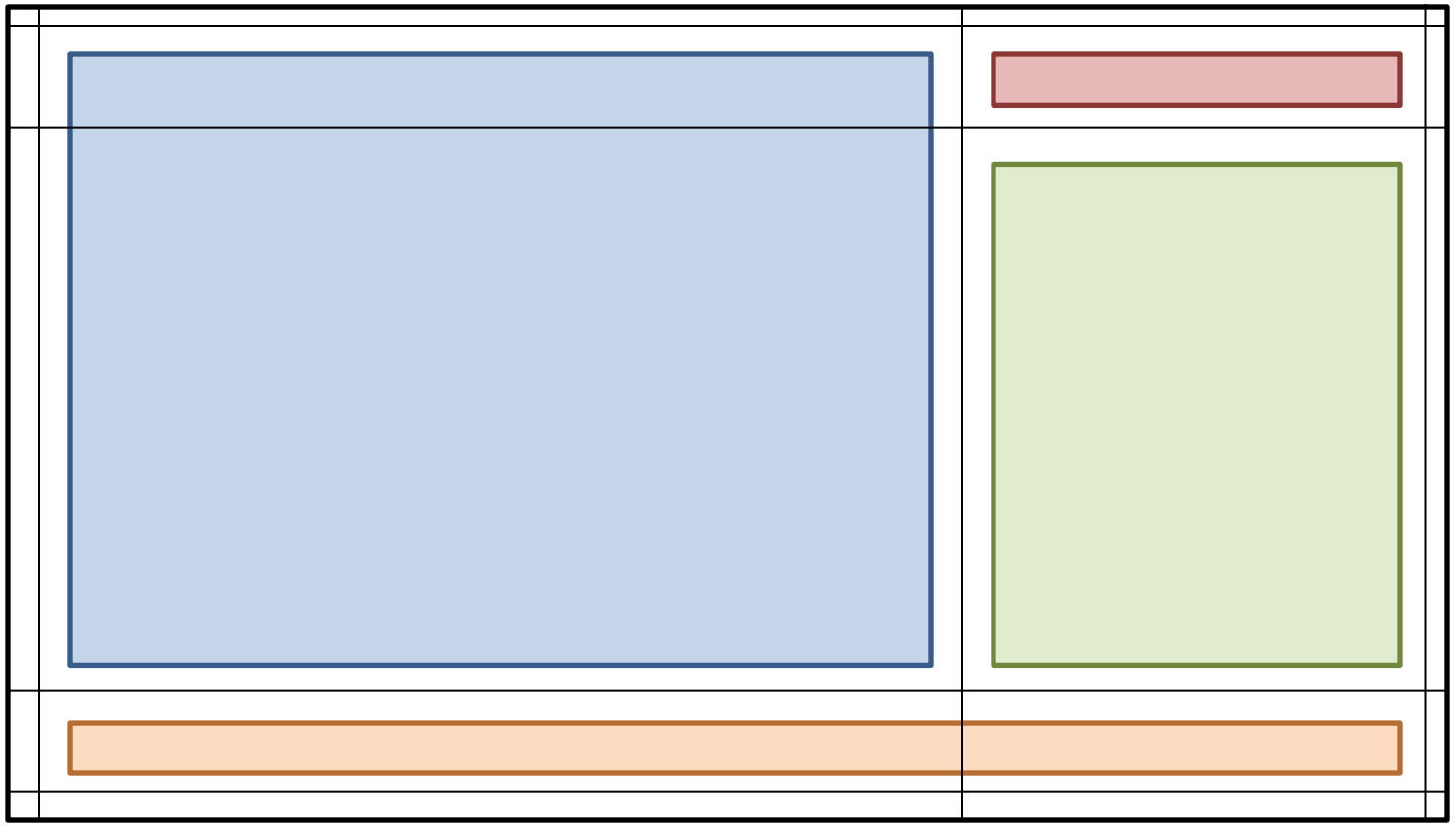
Devlin L.

3.

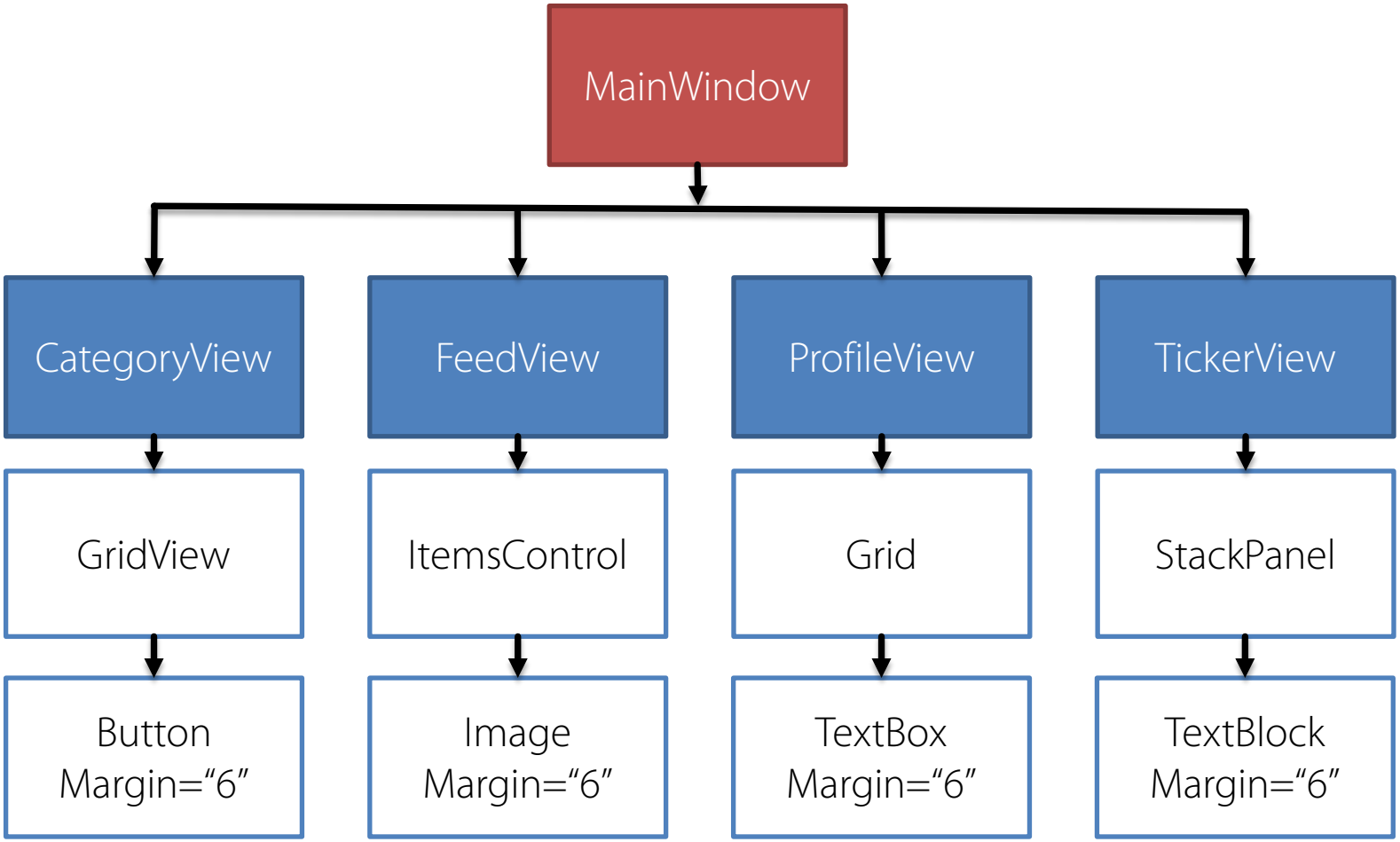
Kristie C.

4.

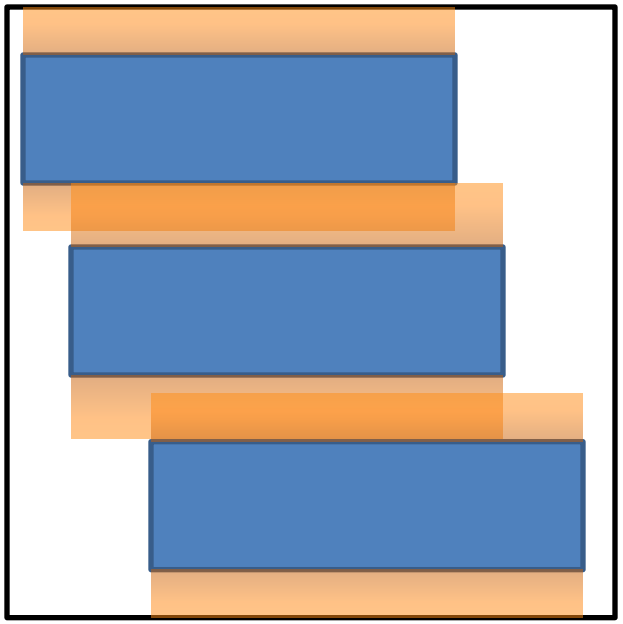
Balanced Whitespace

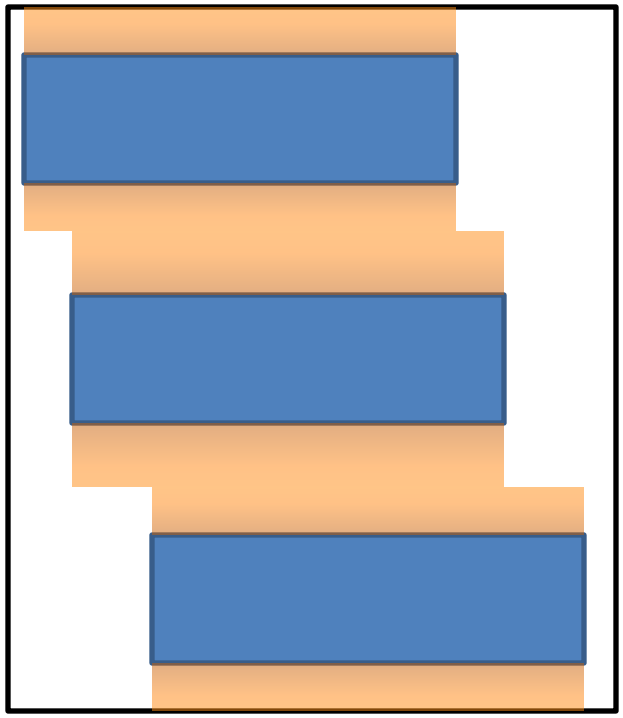


Balanced Whitespace

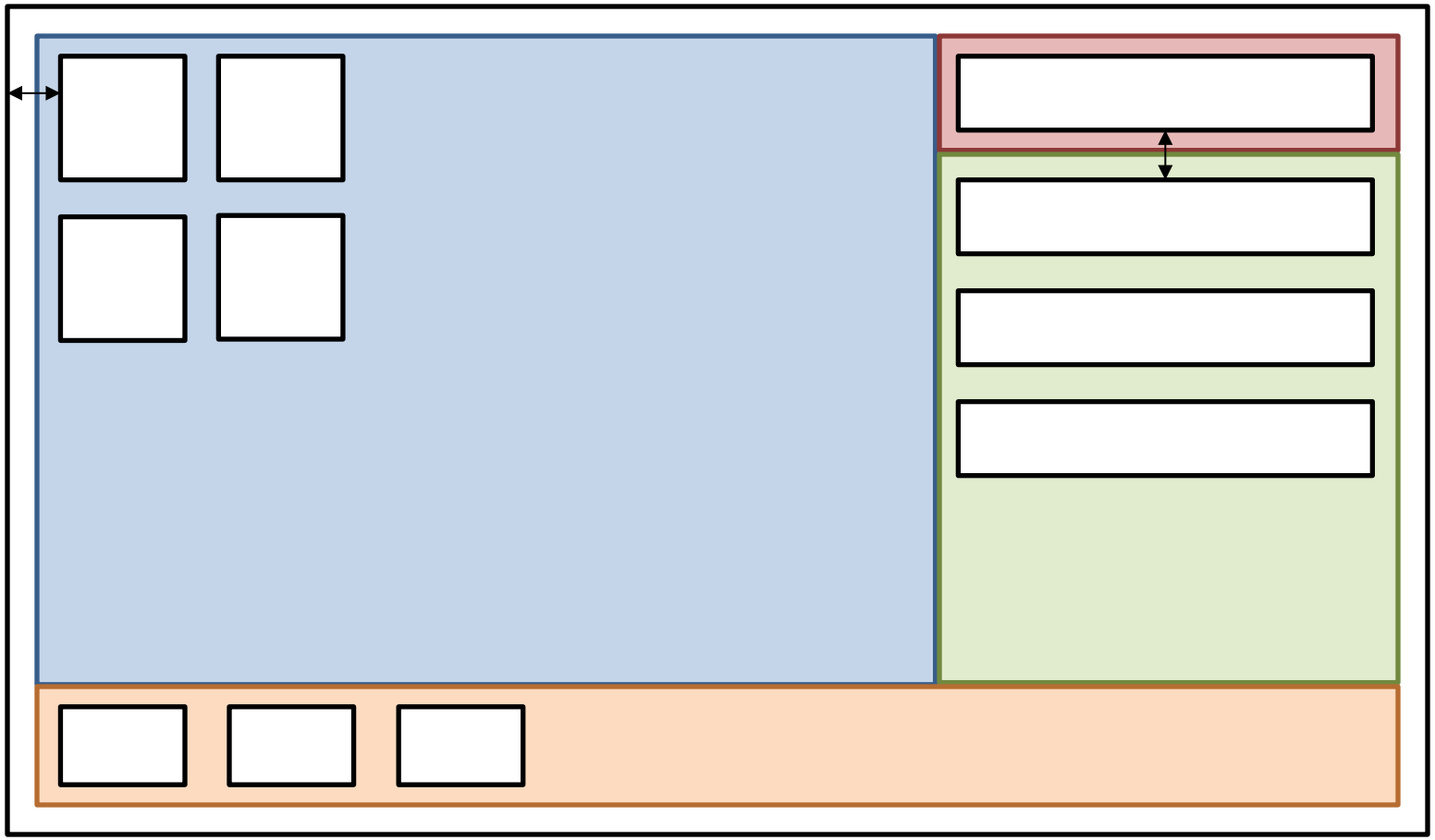


HTML vs XAML

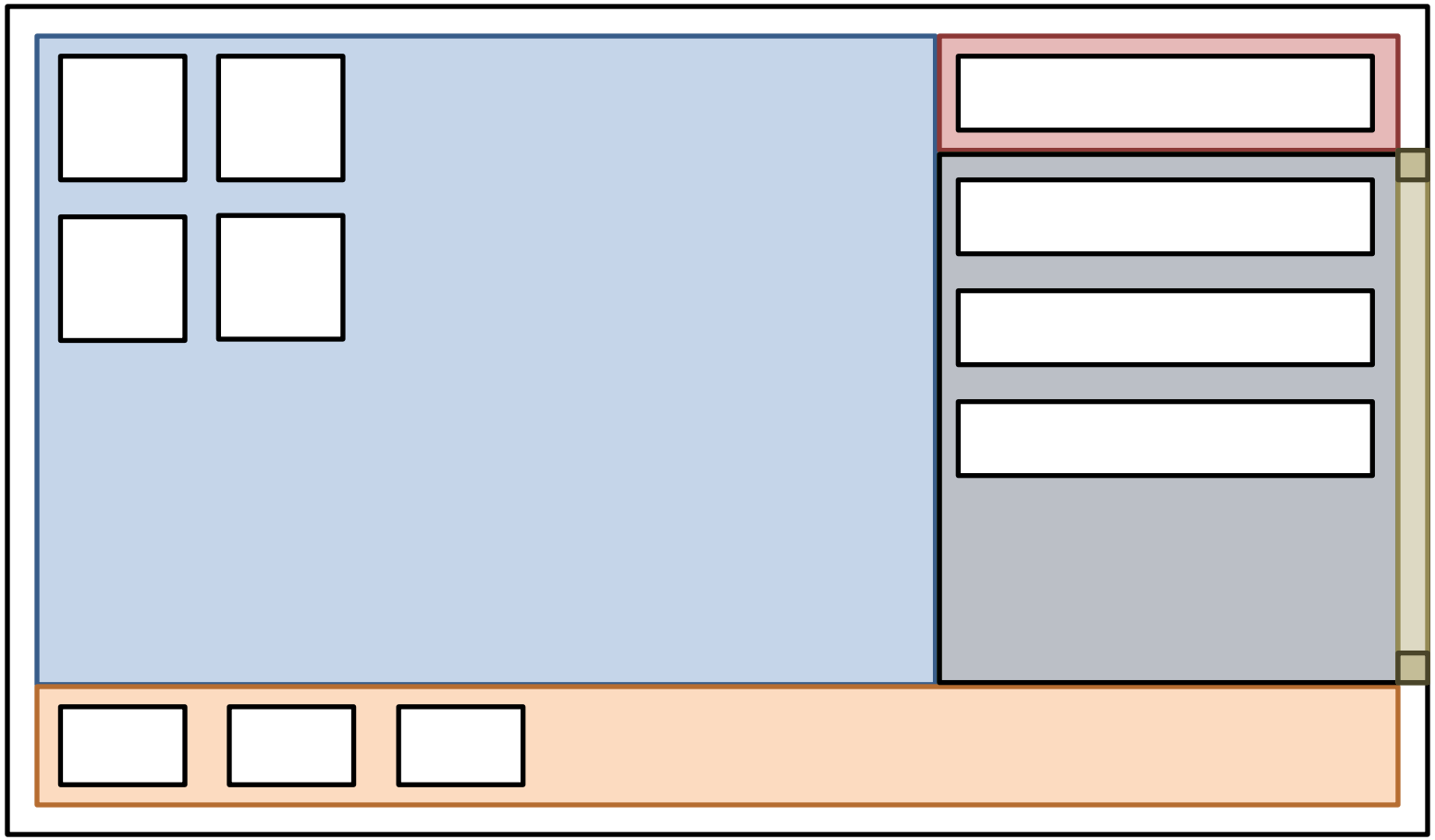




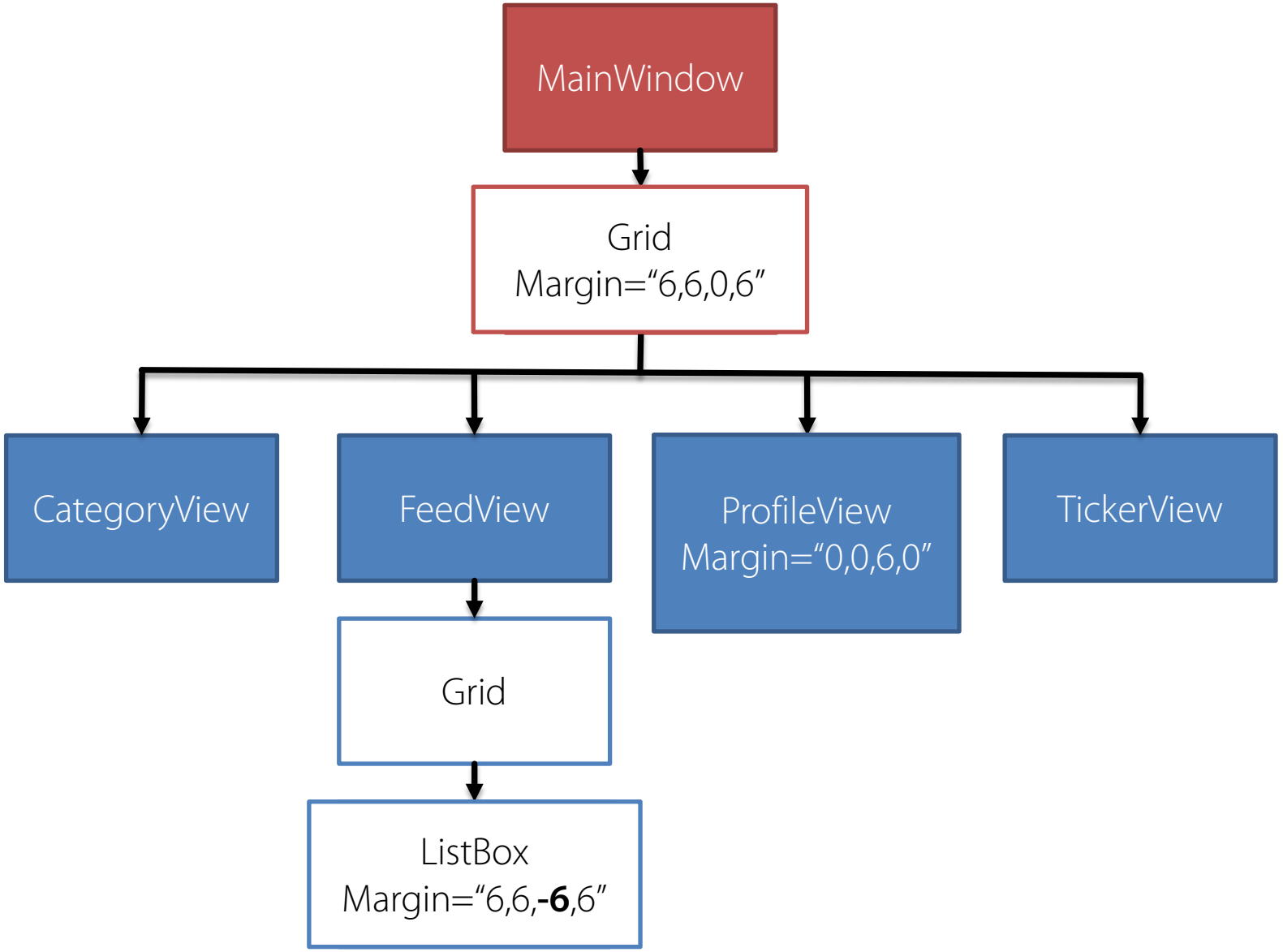
Half the Space



Overflow



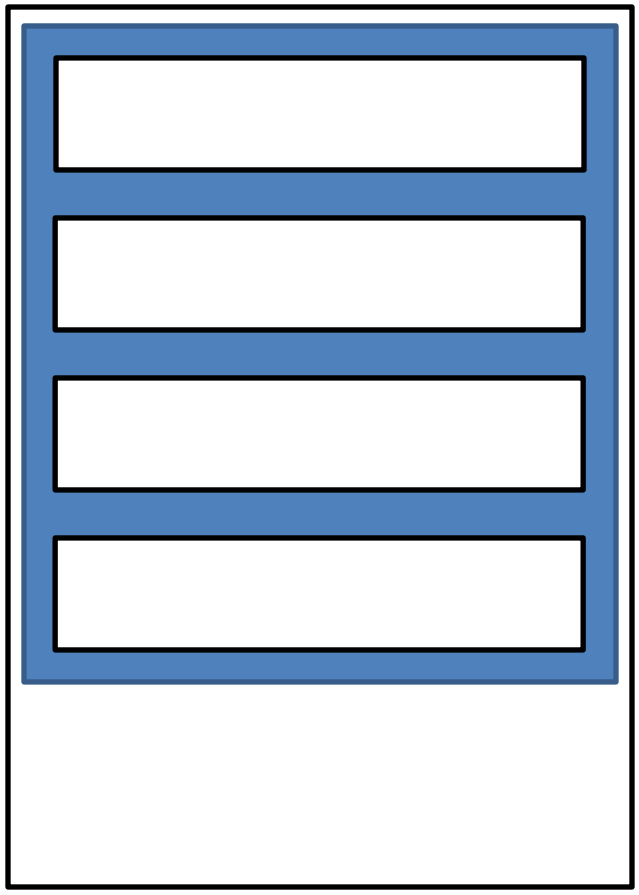
Adjust Margins



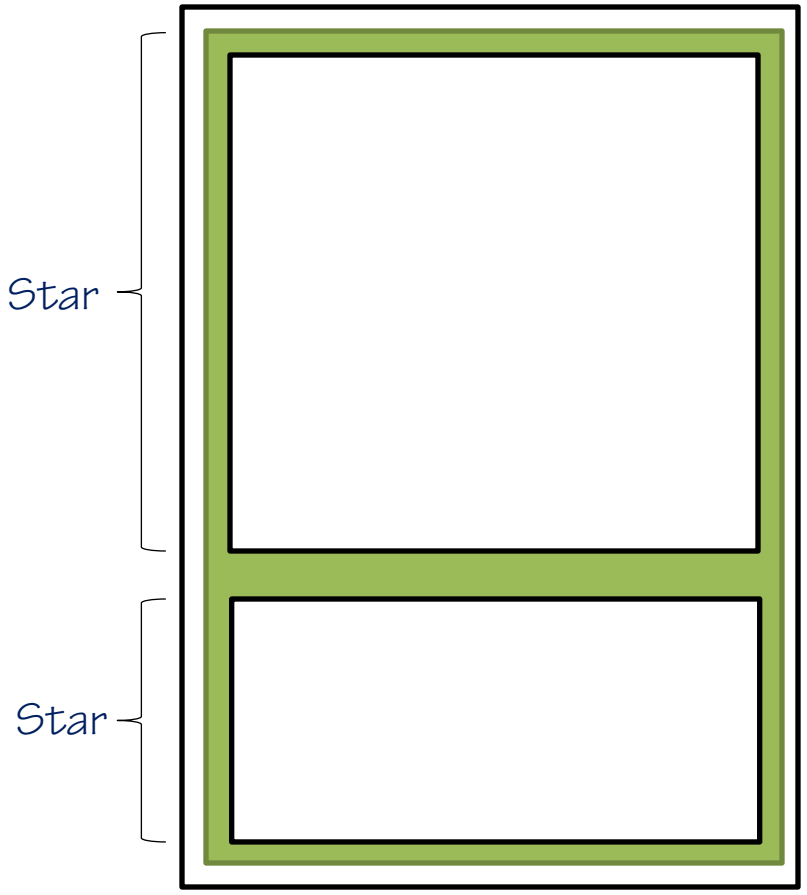
Extension Grid

- **Auto-sized controls**
  - Check box
  - Button
  - Single-line text box
- **Container-sized controls**
  - Multi-line text box
  - List box

Preferred Containers

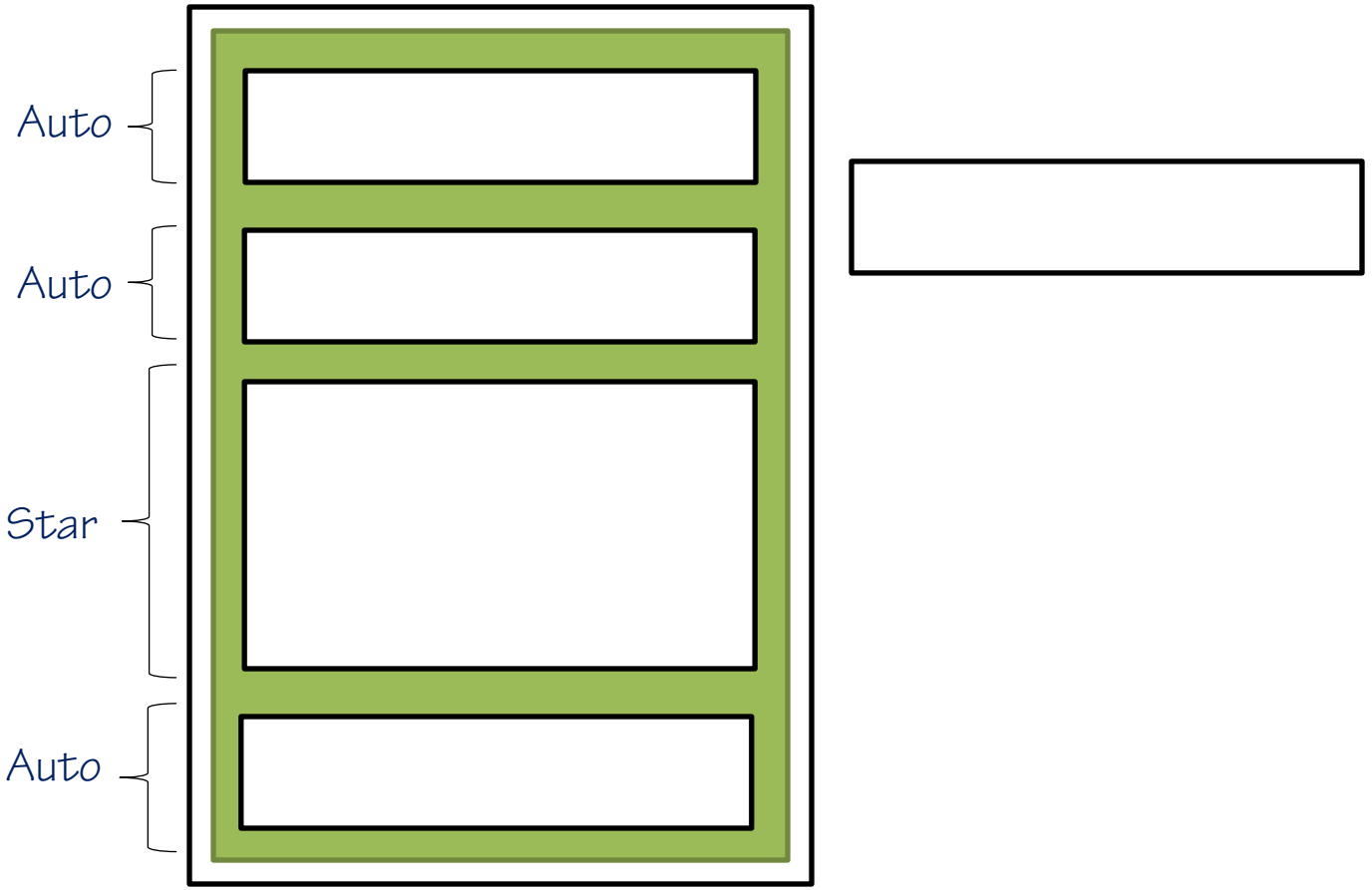


Stack Panel

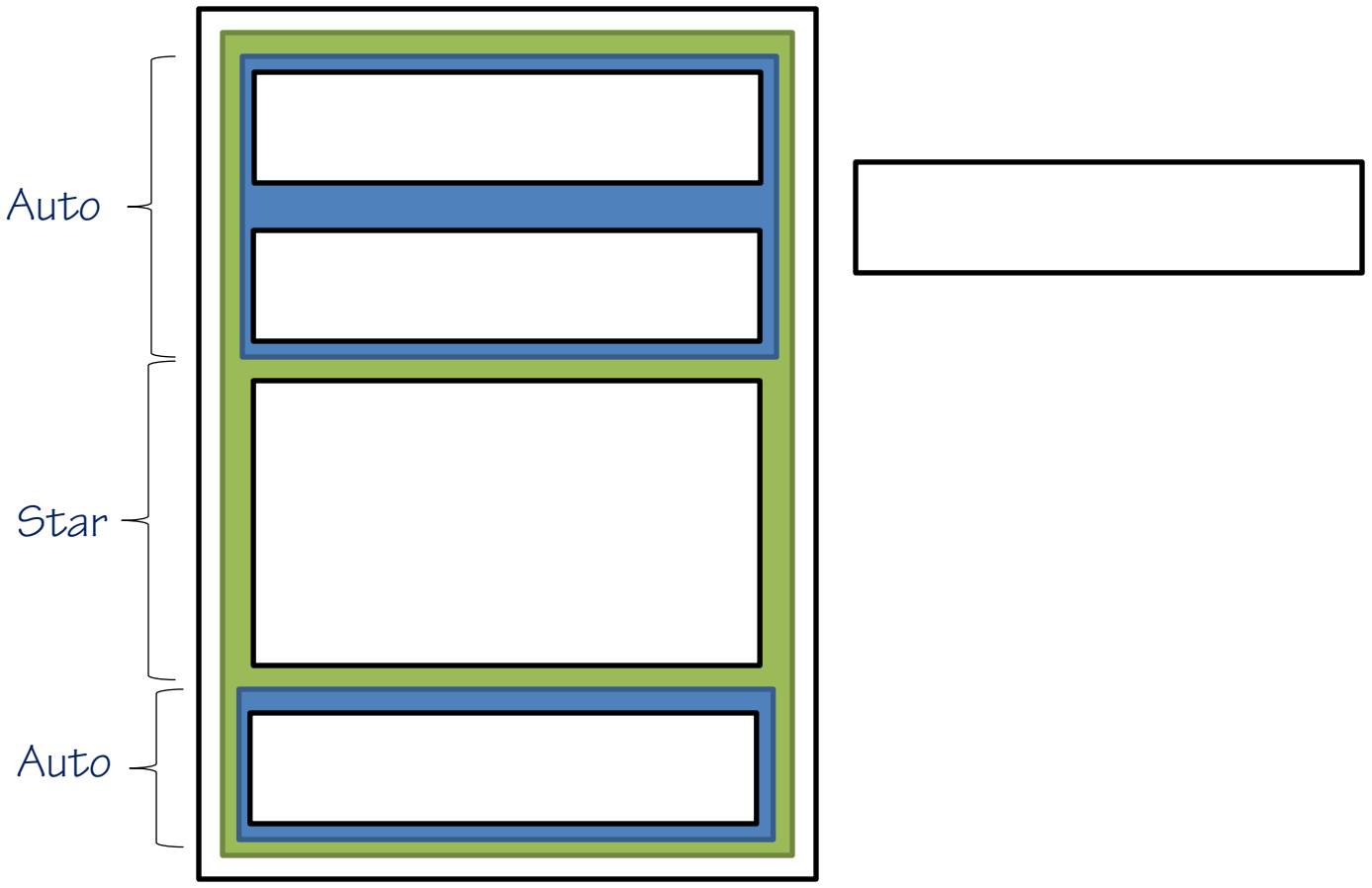


Grid

Combining Controls



Combining Containers



Assets

Xamalot.com

Syncfusion.com/downloads/metrostudio

INKSCAPE

Inkscape.org

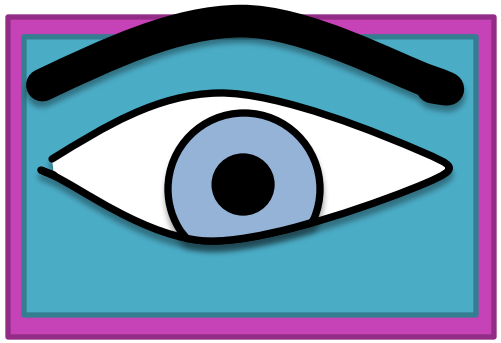
Adobe

Adobe.com/products/illustrator.html

Separate Assets

- **Developer/Designer independence**
  - Even if they are the same person.
- **Resource Dictionary**
  - Prefix keys.
  - Merge dictionaries.

Canvas

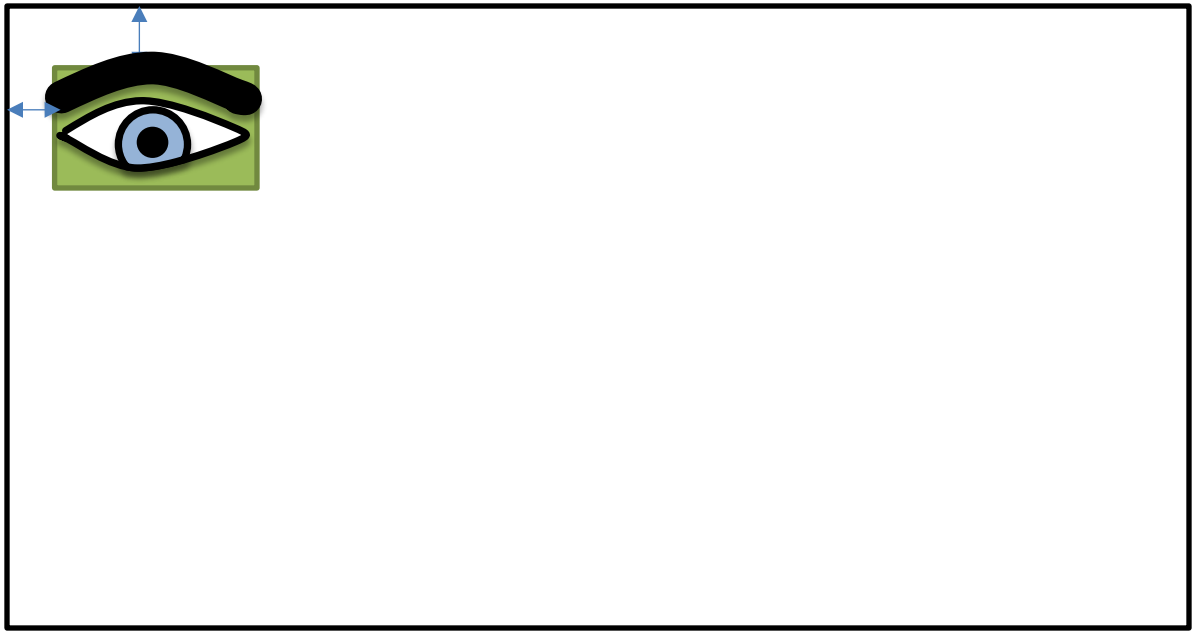


Paths

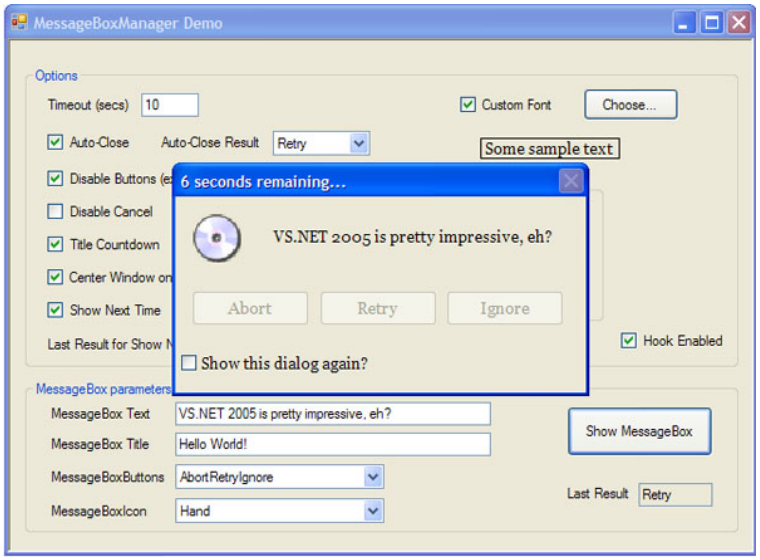
Canvas

Viewbox

Content Control

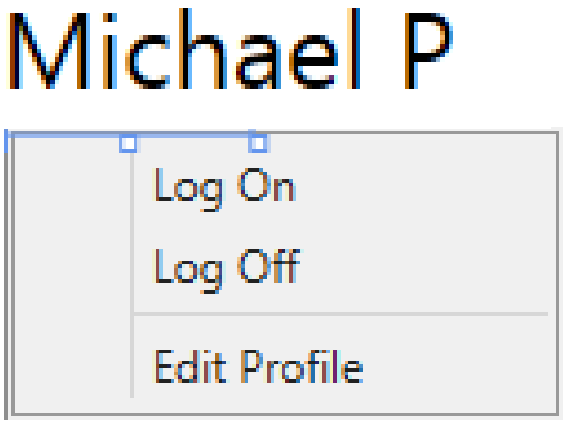


Control Templates

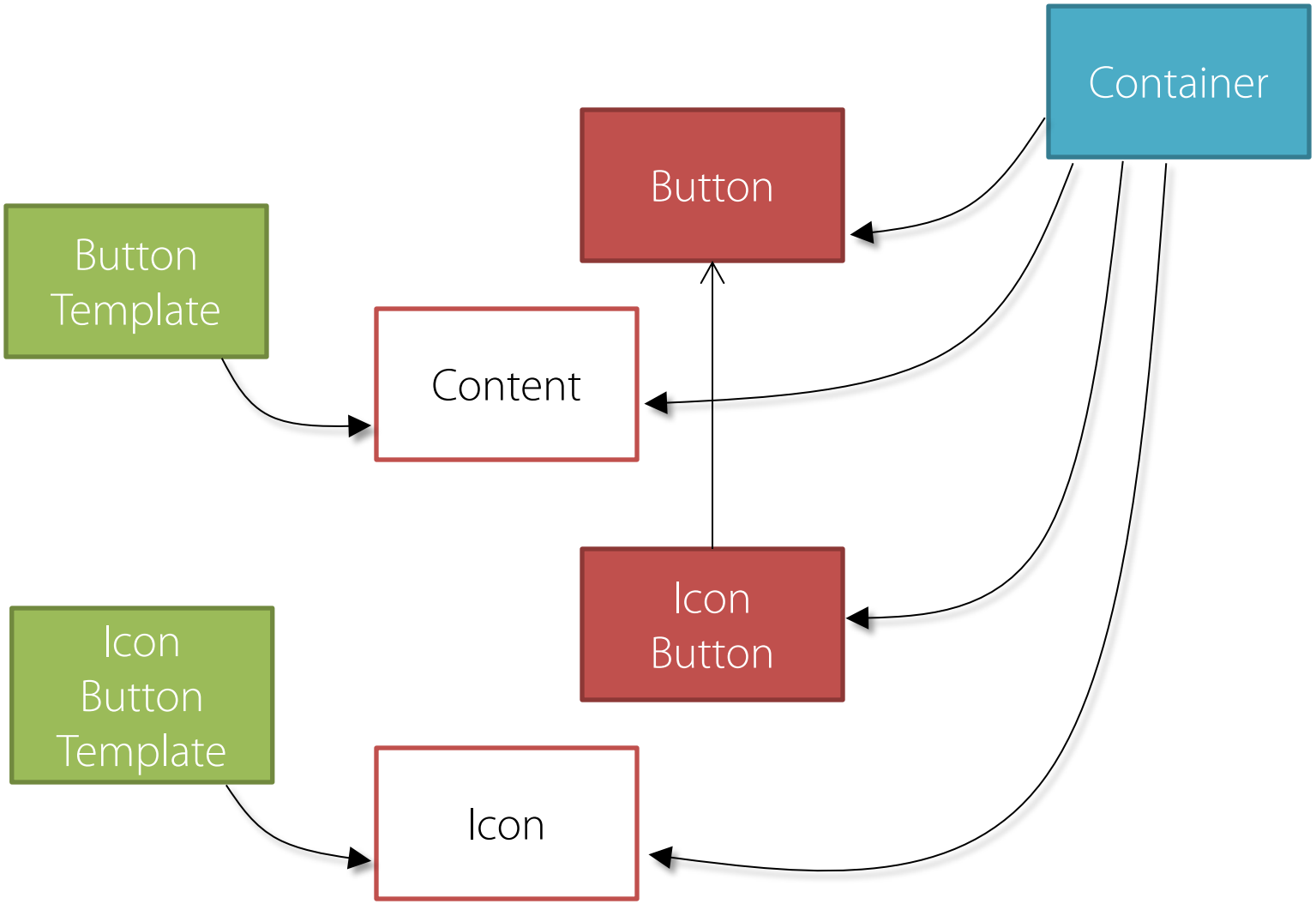


“Lookless” Controls

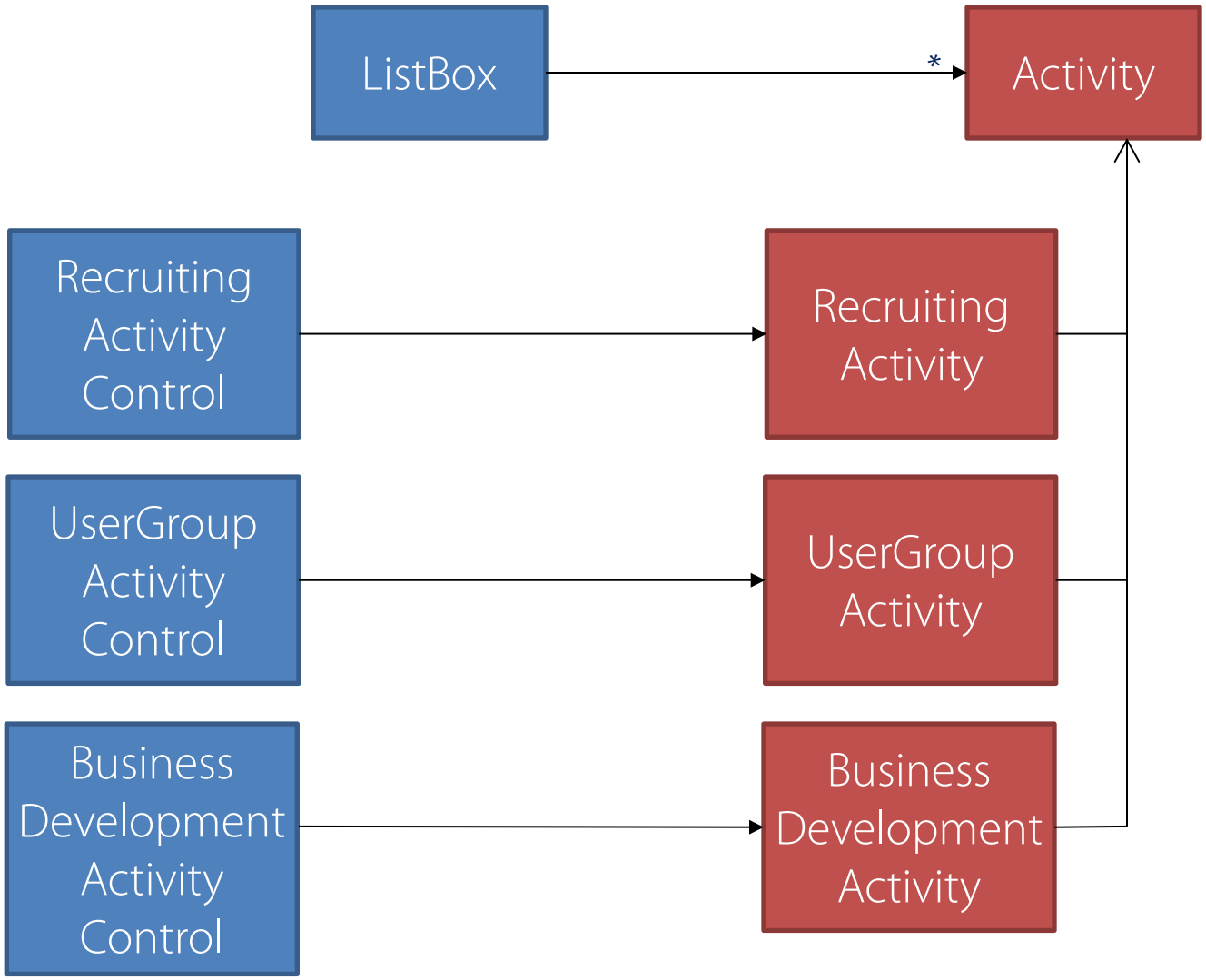
- Control specifies behavior
- Template determines appearance
- Choose based on desired behavior
- Customize the default template



Control Extension



Implicit Data Templates



Platform Support

- **WPF**
  - <DataTemplate DataType="{x:Type …}">
- **Windows 8**
  - DataTemplateSelector
- **Silverlight and Windows Phone**
  - ContentControl

Conclusion

- **Benefits**
  - Isolation
  - Organization
  - Extensibility
- **Patterns**
  - Grid Layout
  - Balanced Whitespace
  - Overflow
  - Justified List Box
  - Extension Grid
  - Assets
  - Control Templates
  - Control Extension
  - Implicit Data Templates