

Microsoft

developers
build what's next now

tech 2012
days



Windows Phone applicaties ontwerpen en ontwikkelen met de Metro UI



Fons
Sonnemans
Trainer
Reflection IT



Fons Sonnemans

- Freelance Software Development Consultant
 - Visual C#, Visual Basic, JavaScript
 - Windows Forms, ASP.NET WebForms & MVC, Silverlight, Windows Phone, Windows 8
 - SQL Server, Oracle
 - Trainer, Coach, Advisor, Architect, Designer, Developer
- www.reflectionit.nl

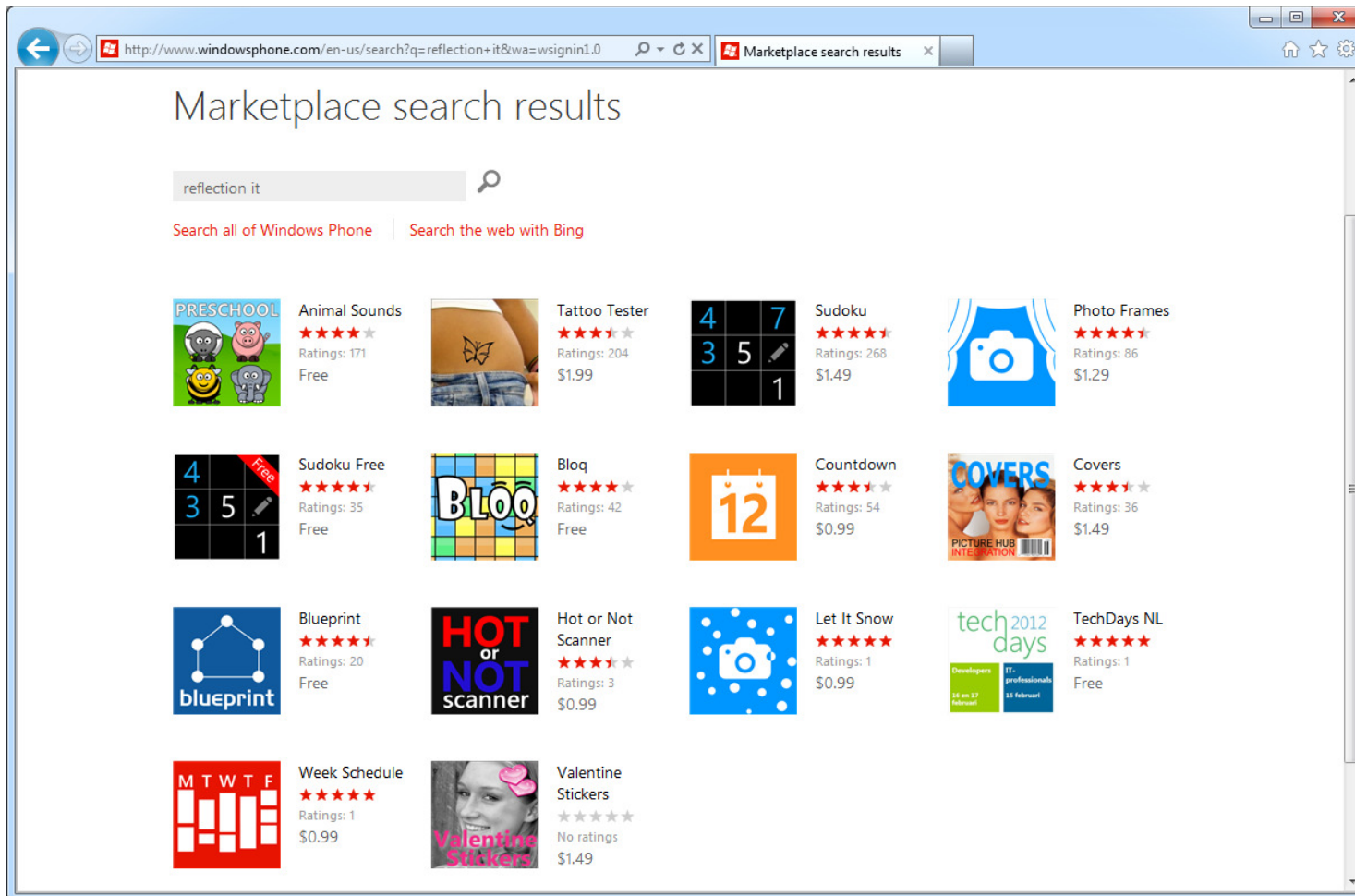


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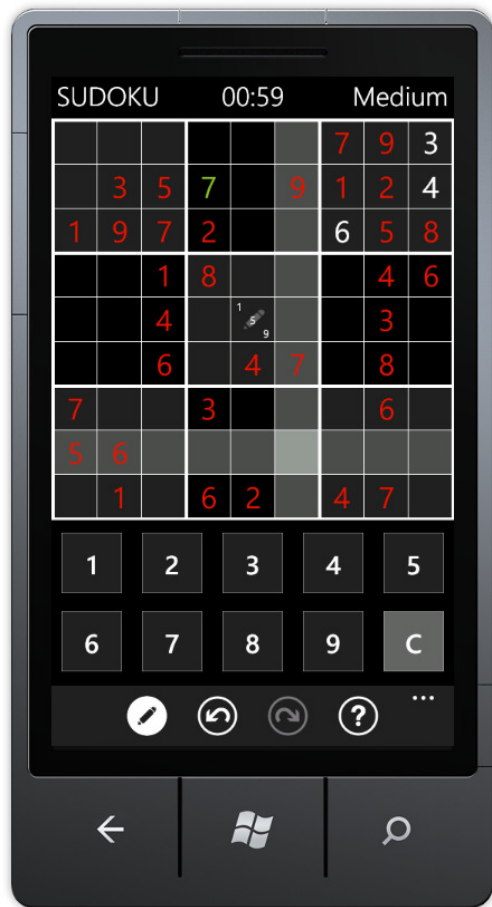


Microsoft

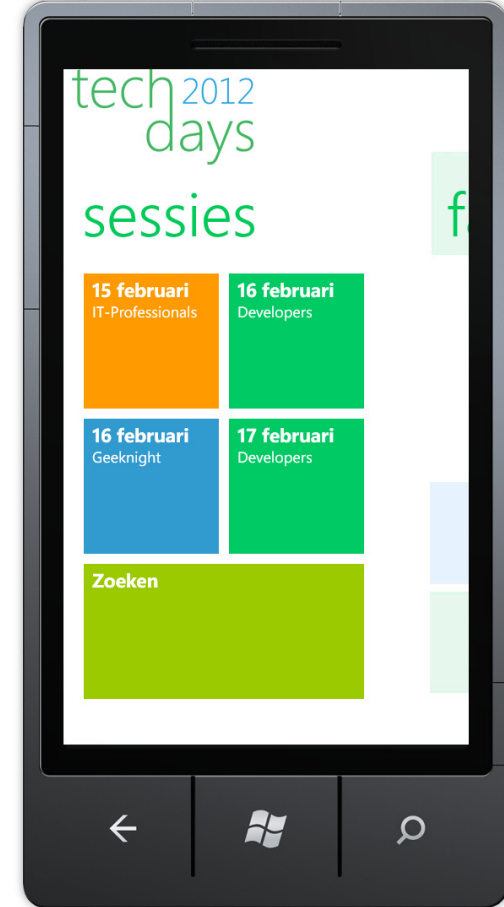
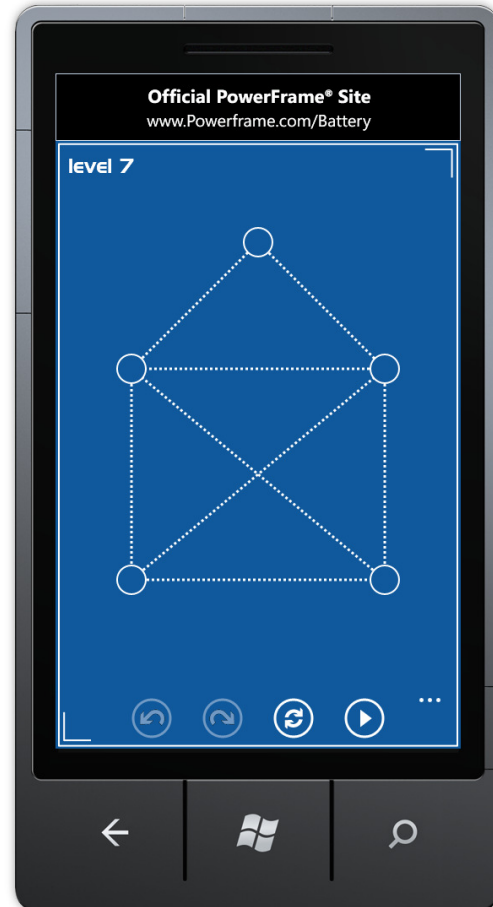
Windows Phone Apps



Windows Phone Apps



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Topics

- Metro Design Principles
- Metro Design Language



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Metro Design Principles

The Metro Design Principles are the pillars (usually abstract concepts) that guide the creation of experiences for Windows Phone.

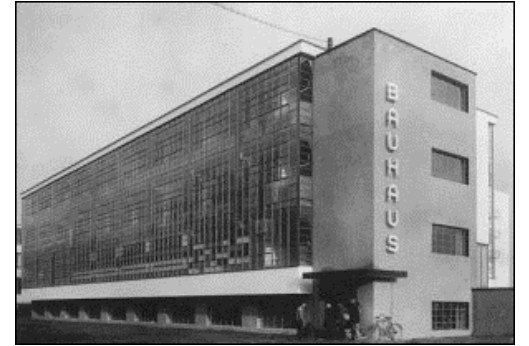
Microsoft

Transfer
Transfer
Ankomst
Arrivale



Metro - Three key influences

- Modern Design
 - Bauhaus
- International Typographic Style
 - Swiss Design
- Motion Design
 - Cinematography



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Metro - Three key influences

- Modern Design
 - Reduce to the Essence
- International Typographic Style
 - Clear, Honest and Beautiful
- Motion Design
 - Bring it to Life



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Metro Design Principles

- Light, Clean, Open, Fast
 - Fierce Reduction
- Content, not Chrome
- Typography
- Motion
- Authentically Digital



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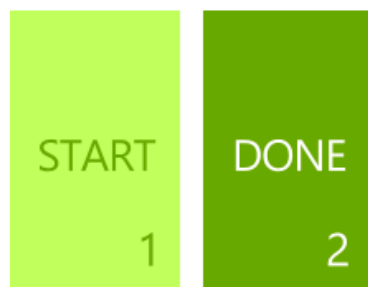


Microsoft

Fierce Reduction



"**Fierce Reduction** is not only about making clean UIs but also, and first, about simplifying the application flow."



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Content, not Chrome

Your feedback is very important to us.
Please leave us your name, email and comments
about our service. We will do our best to contact
you back in 24 hours. Thank you!

f e e d b a c k

Name

E-Mail

Comment

send

feedback

Name

Arturo Toledo

E-Mail

arturot@microsoft.com

Comment

send

- **"The star of the show is information/content, not UI controls or interface."**
- Less is more

Typography

- Beautiful use of typography to convey structured information
- Pay attention to
 - balance
 - weight
 - scale
 - color



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Motion

- Why use motion?
 - Delight the user
 - Hint towards interaction
 - Perceived performance
 - Help the user find their way

Motion brings your
app to life

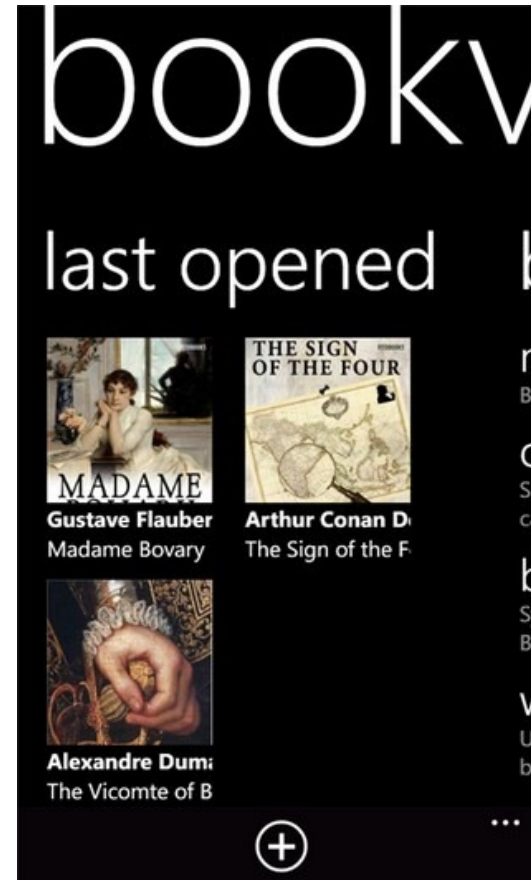
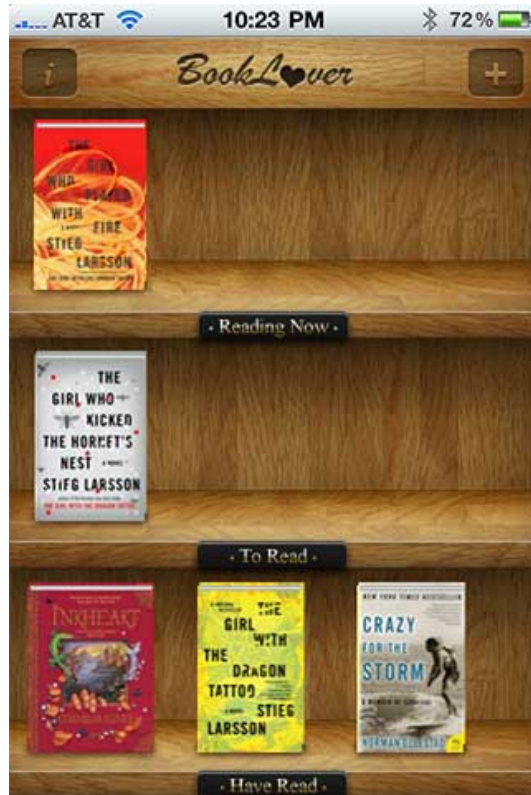


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Authentically Digital



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Metro style Design Principles

- Pride in craftsmanship
- Be fast and fluid
- Authentically digital
- Do more with less
- Win as one



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Metro Design Language

The Metro Design Language is a set of concrete user interaction, visual design, motion and application flow elements and rules.

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Metro Design Language

- Layout
- Typography
- Motion
- Iconography
- Images & Photos
- Themes & Personalization
- Touch Gestures
- UI controls
- Navigation
- Hardware



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Microsoft

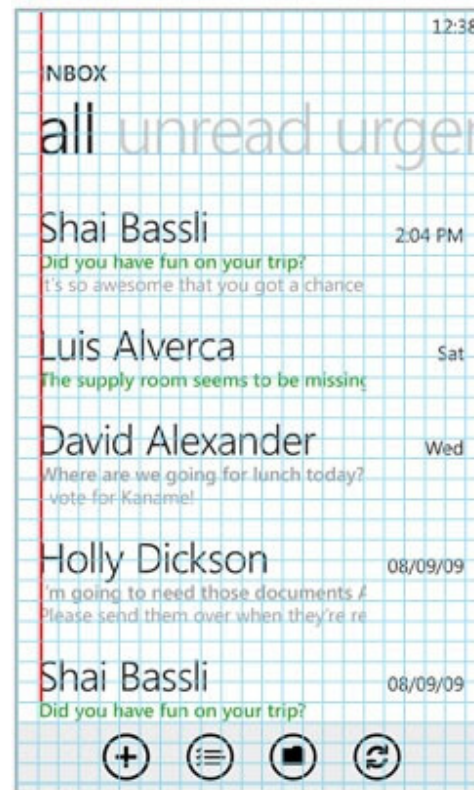
Layout

- Focus on primary task
- Do a lot with very little
- Fiercely reduce unnecessary elements
- Use whitespace to delight your users
- Design on a Grid

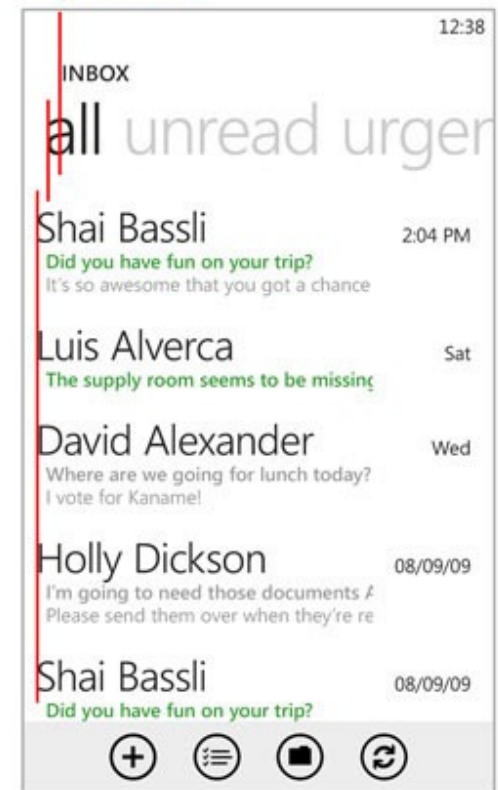


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CORRECT



INCORRECT



Microsoft

Examples

Trein informatie - v2.0

Vertrektijden Re

Alle stations in een lijst:

Alle stations

Stations in omgeving:

Hilversum
Afstand tot station: 0.102 KM

Hilversum Sportpark
Afstand tot station: 1.282 KM

Hilversum Noord
Afstand tot station: 1.354 KM

Disclaimer

Discount fares on **Find air travel** and train tickets. Vacation & last
www.cheapfares.com

⚙️ ⋮

SPOORBOEKJE 13:08

vertrektijden st

Rotterdam

| | |
|-----------------|--|
| 13:08 +2 min | Breda Spoor 3 <i>Fyra</i> |
| 13:11 +3 min | Amsterdam Centraal Schiedam C, Delft, Den Haag HS Spoor 8 <i>Sneltrain</i> |
| 13:13 | Hoek van Holland Strand Maassluis, Hoek v Hol Haven Spoor 1B <i>Sprinter</i> |
| 13:15 | Dordrecht Spoor 7 <i>Stoptrein</i> |
| 13:16 | Den Haag Centraal Delft, Den Haag HS Spoor 9 <i>Intercity</i> |
| 13:17 | Venlo |

⬆️ ⬇️ ↺ ⋮

TREIN PLANNER 22:21

vertrektijden

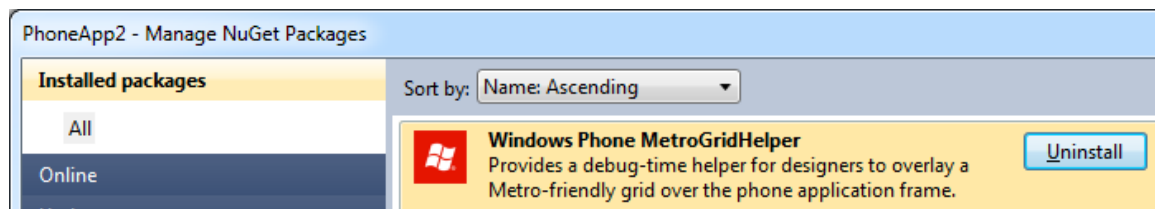
Purmerend

| | | |
|-----------------|---------|---|
| 22:13 +4 min | spoor 1 | Hoofddorp Sprinter (3385) |
| 22:16 | spoor 2 | Hoorn Kersenboogerd Sprinter (3376) |
| 22:43 | spoor 1 | Hoofddorp Sprinter (3387) |
| 22:46 | spoor 2 | Hoorn Kersenboogerd Sprinter (3378) |
| 23:13 | spoor 1 | Hoofddorp Sprinter (3389) |

📍 🔍 ⋮

Layout - Design on a Grid

- MetroGridHelper



```
public App() {  
    ...  
  
    // Show graphics profiling information while debugging.  
    if (System.Diagnostics.Debugger.IsAttached) {  
  
        // Display the metro grid helper.  
        MetroGridHelper.IsVisible = true;  
    }  
}
```



Microsoft

Typography

- Use fonts other than Segoe sparingly
- Avoid using font sizes that are smaller than 15 points in size.
- Maintain consistent capitalization practices to prevent a disjointed or jagged reading experience.
- The title bar application title should be all capitals.
- User all lower case letters for most other application text including page titles, list titles, etc.



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Segoe WP Regular

abcdefghijklmnopqrstuvwxyz1234567890
ABCDEFGHIJKLMNOPQRSTUVWXYZ

Segoe WP Bold

**abcdefghijklmnopqrstuvwxyz1234567890
ABCDEFGHIJKLMNOPQRSTUVWXYZ**

Segoe WP Semi-bold

abcdefghijklmnopqrstuvwxyz1234567890
ABCDEFGHIJKLMNOPQRSTUVWXYZ

Segoe WP Semi-light

abcdefghijklmnopqrstuvwxyz1234567890
ABCDEFGHIJKLMNOPQRSTUVWXYZ

Segoe WP Black

**abcdefghijklmnopqrstuvwxyz1234567890
ABCDEFGHIJKLMNOPQRSTUVWXYZ**

Motion

- **Storyboards**
- Visual State Manager
- Behaviors
 - **FluidMoveBehavior**
- Controls
 - ListBox, Pivot, Panorama, Toolkit (**Page Transitions**, ToggleSwitch, ListPicker, etc)



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Toolkit Page Transitions

```
RootFrame = new TransitionFrame();

<toolkit:TransitionService.NavigationInTransition>
  <toolkit:NavigationInTransition>
    <toolkit:NavigationInTransition.Backward>
      <toolkit:TurnstileTransition Mode="BackwardIn" />
    </toolkit:NavigationInTransition.Backward>
    <toolkit:NavigationInTransition.Forward>
      <toolkit:TurnstileTransition Mode="ForwardIn" />
    </toolkit:NavigationInTransition.Forward>
  </toolkit:NavigationInTransition>
</toolkit:TransitionService.NavigationInTransition>
<toolkit:TransitionService.NavigationOutTransition>
  <toolkit:NavigationOutTransition>
    <toolkit:NavigationOutTransition.Backward>
      <toolkit:TurnstileTransition Mode="BackwardOut" />
    </toolkit:NavigationOutTransition.Backward>
    <toolkit:NavigationOutTransition.Forward>
      <toolkit:TurnstileTransition Mode="ForwardOut" />
    </toolkit:NavigationOutTransition.Forward>
  </toolkit:NavigationOutTransition>
</toolkit:TransitionService.NavigationOutTransition>
```

Build what's next now

- RotateTransition
- SlideTransition
- SwivelTransition
- TurnstileTransition



Toolkit Page Transitions

```
<Style x:Key="DefaultPage"
    xmlns:toolkit="clr-namespace:Microsoft.Phone.Controls;assembly=Microsoft.Phone.Controls.Toolkit"
    TargetType="phone:PhoneApplicationPage">
    <Setter Property="toolkit:TiltEffect.IsTiltEnabled"
        Value="True" />
    <Setter Property="toolkit:TransitionService.NavigationInTransition">
        <Setter.Value>
            <toolkit:NavigationInTransition>
                <toolkit:NavigationInTransition.Backward>
                    <toolkit:SlideTransition Mode="SlideRightFadeIn" />
                </toolkit:NavigationInTransition.Backward>
                <toolkit:NavigationInTransition.Forward>
                    <toolkit:SlideTransition Mode="SlideLeftFadeIn" />
                </toolkit:NavigationInTransition.Forward>
            </toolkit:NavigationInTransition>
        </Setter.Value>
    </Setter>
    <Setter Property="toolkit:TransitionService.NavigationOutTransition">
        <Setter.Value>
            ...
        </Setter.Value>
    </Setter>
</Style>
```

style="{StaticResource DefaultPage}"

Iconography – Tiles & Splashscreen

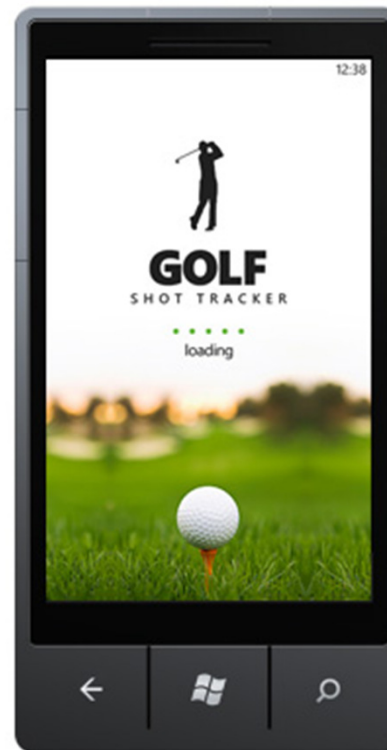
correct



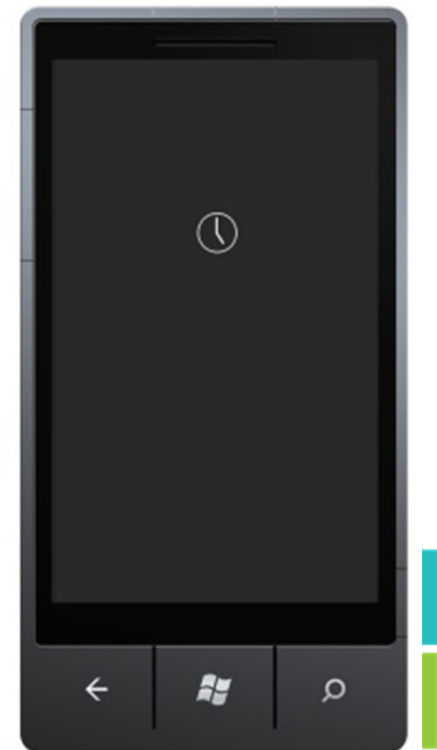
incorrect



correct



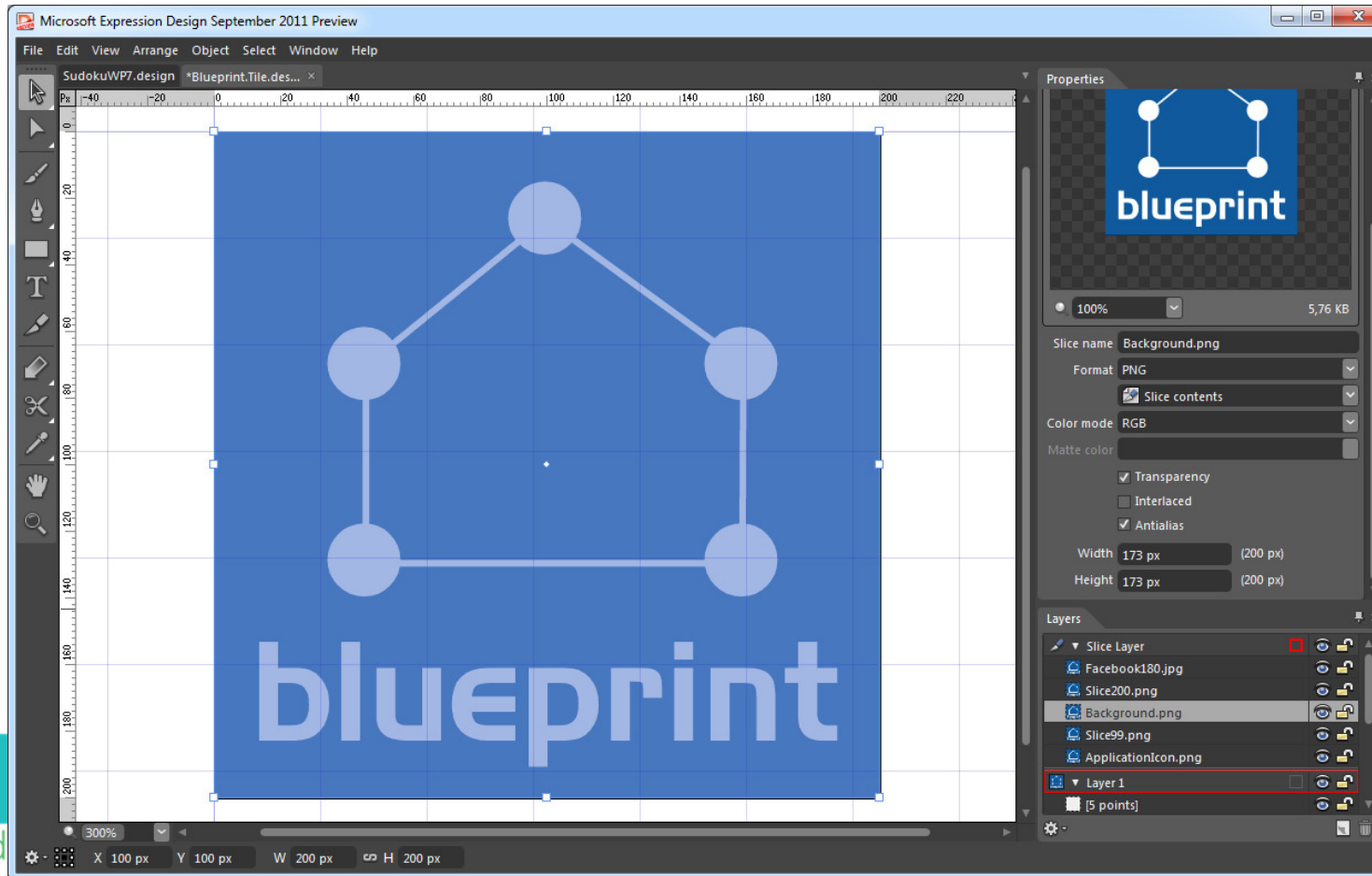
not great



build what's next now

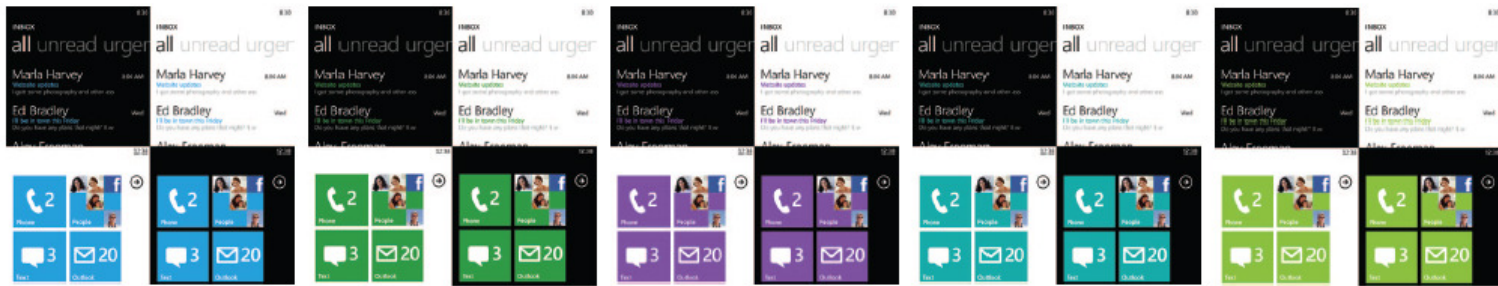
Microsoft

Iconography – Tiles & Expression Design

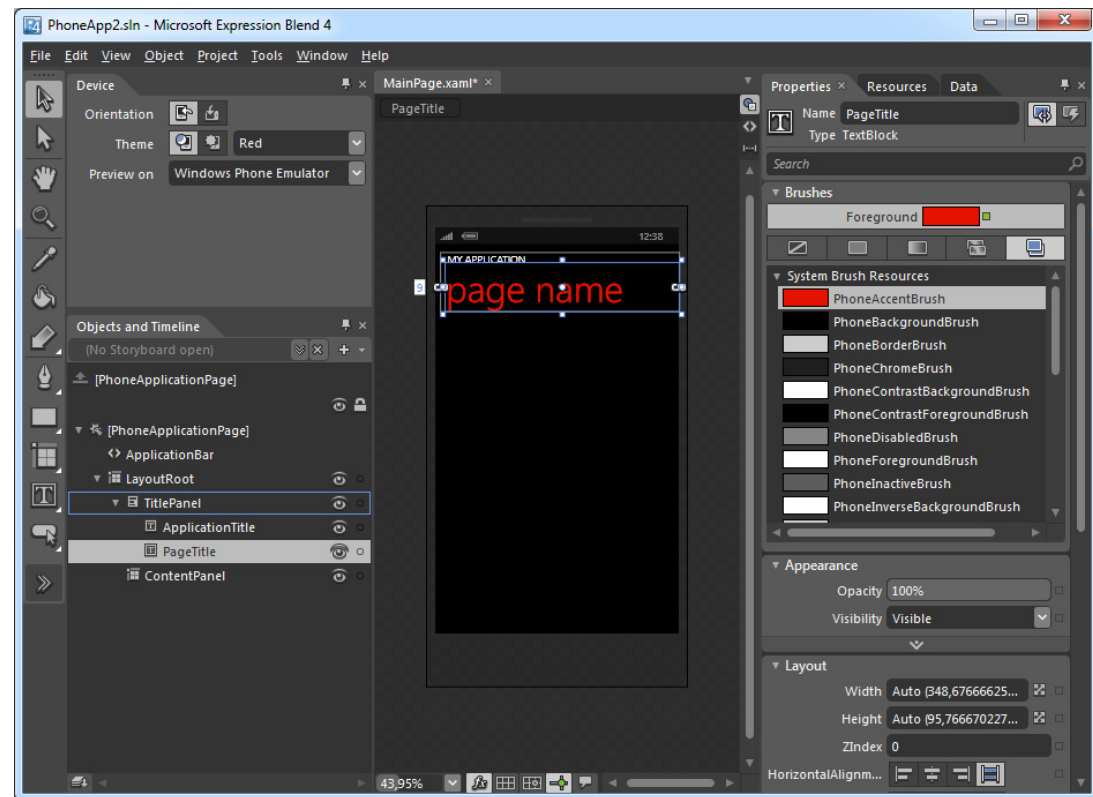
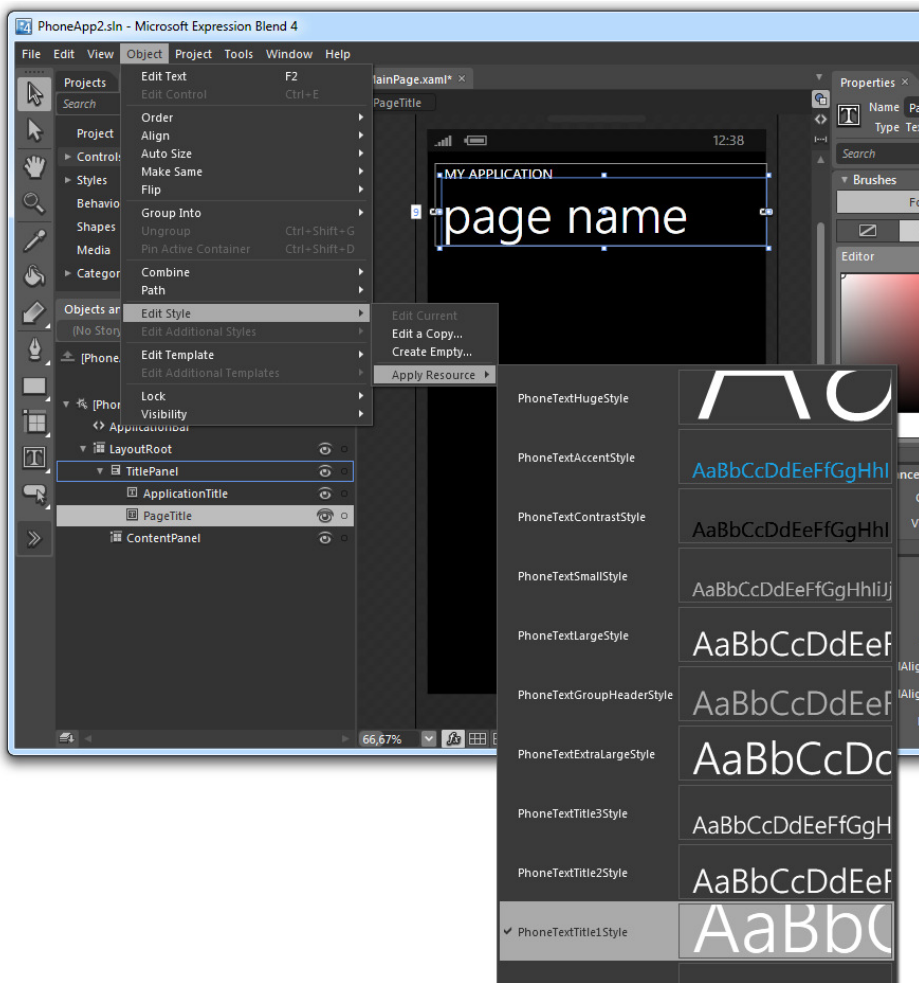


Themes & Personalization

METRO COLORS



Themes & Personalization



Microsoft

Images & Photos

- Supports
 - JPG (preferred but not transparent)
 - PNG
- Build Action
 - Content (preferred)
 - Resource (default)
- `BitmapImage.CreateOptions`



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Microsoft

BitmapImage.CreateOptions

| CreateOptions | Functional Behavior |
|---|--|
| None | No initialization options are specified. This is the NOT the default value for the BitmapImage.CreateOptions property in Silverlight for Windows Phone (DelayCreation is the default). |
| DelayCreation | Causes a BitmapSource object to delay initialization until it is necessary. This is useful when dealing with collections of images. This is the default value in WP7(and Mango) of the BitmapImage.CreateOptions property in Silverlight. |
| IgnoreImageCache | Loads images without using an existing image cache. This option should only be selected when images in a cache need to be refreshed. |
| BackgroundCreation | Causes object to initialize as soon as declared, uses image cache for same URIs, downloads images in background and decodes them in background. |
| BackgroundCreation, DelayCreation | Causes object to delay initialization until it is necessary, uses image cache for same URIs, downloads images in background and decodes them in background. |
| BackgroundCreation, DelayCreation, IgnoreImageCache | Causes object to delay initialization until it is necessary., ignores image cache for same URIs, downloads images in background and decodes them in background. |

BitmapImage.CreateOptions

- Default (DelayCreation)

```
<Image Source="{Binding ImageUrl}" />
```

- BackgroundCreation + DelayCreation

```
<Image>  
  <Image.Source>  
    <BitmapImage UriSource="{Binding ImageUrl}"  
                  CreateOptions="BackgroundCreation,DelayCreation" />  
  </Image.Source>  
</Image>
```

- Link

- <http://blogs.msdn.com/b/slimperf/archive/2011/06/13/off-thread-decoding-of-images-on-mango-how-it-impacts-you-application.aspx>



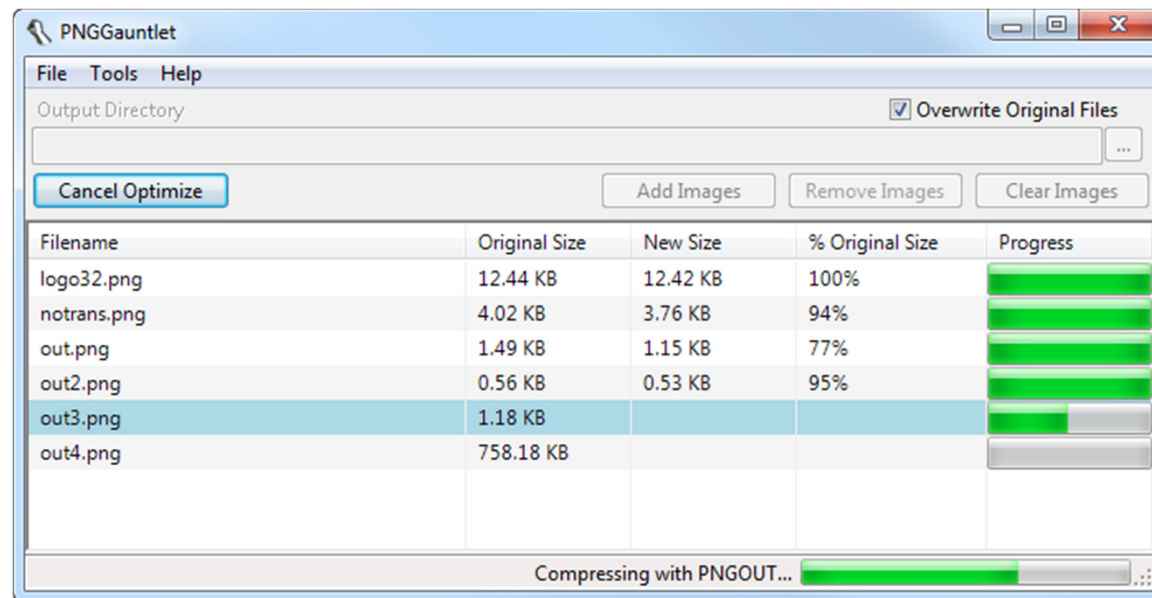
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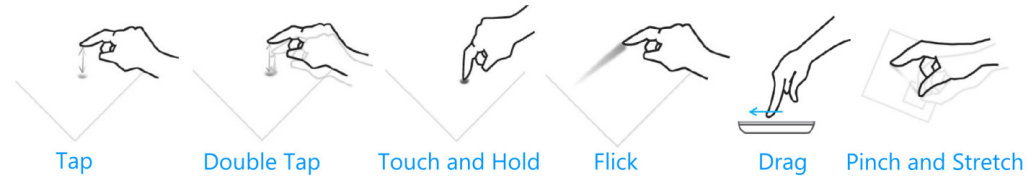
Microsoft

Images & Photos

- PNGGauntlet
 - Squished all the PNGs in your app to make the resulting XAP deployment file smaller, and the PNGs smaller on the phone itself.



Touch Gestures



- All basic or common tasks should be completed using a single finger.
- Touch controls should respond to touch immediately.
- For time consuming processes, developers should provide feedback to indicate that something is happening by using content to indicate progress, or consider using a progress bar or raw notification as a last resort.
- The touch and hold gesture should generally be used to display a context menu or options page for an item.

```
<Rectangle width="100" Height="100" Fill="Red"  
Tap="Rectangle_Tap" />
```



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Microsoft

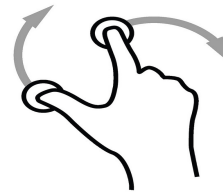
MultiTouch Behaviors



Stretch



Pinch



Rotate

```
<Image Source="Images/Penguins.jpg"  
        Stretch="None">  
  <Custom:Interaction.Behaviors>  
    <MultiTouch_Behaviors_WP7:MultiTouchBehavior />  
  </Custom:Interaction.Behaviors>  
</Image>
```



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<http://multitouch.codeplex.com/>



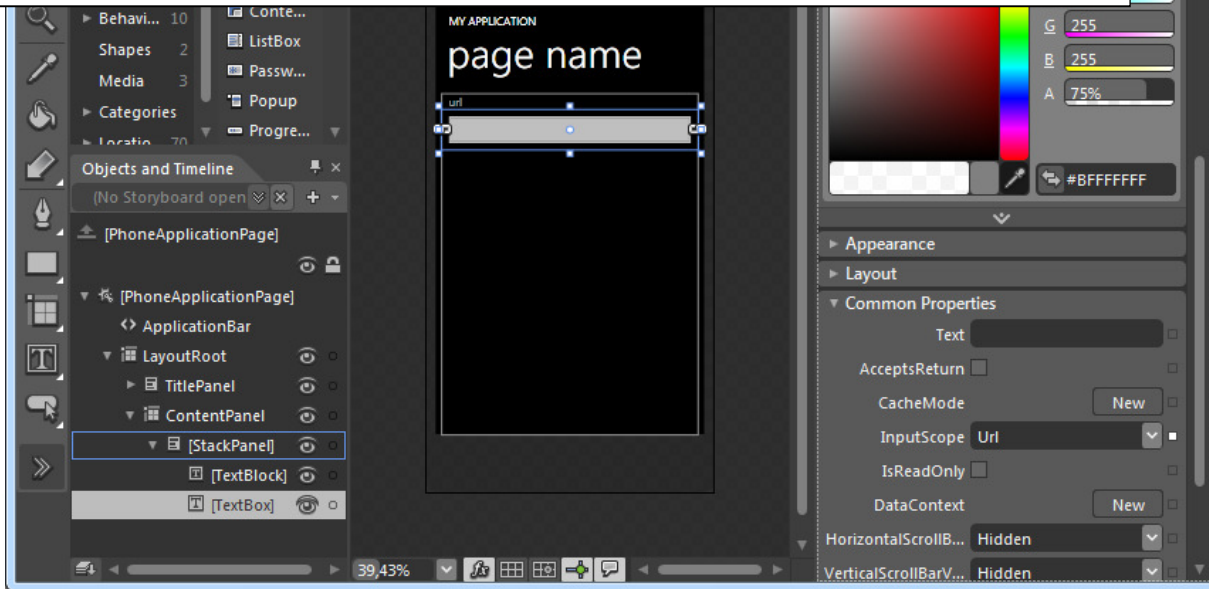
Microsoft

UI Controls



TextBox (InputScope), "Labels"

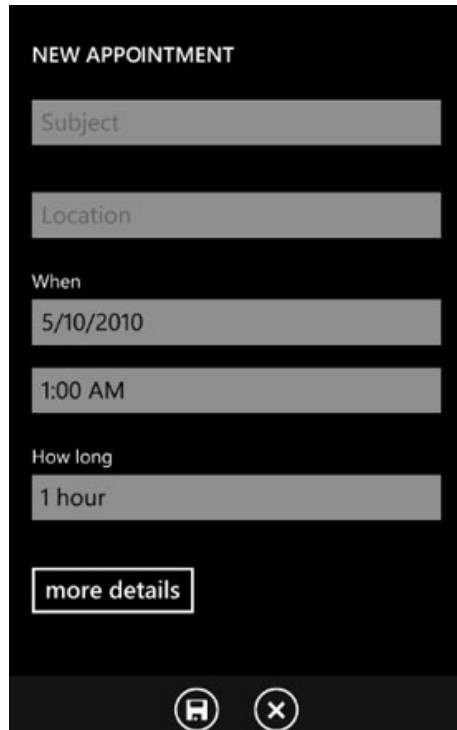
```
<StackPanel Orientation="Vertical">  
    <TextBlock Text="url"  
        Style="{StaticResource PhoneTextSubtleStyle}"/>  
    <TextBox InputScope="Url"/>  
</StackPanel>
```



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UI Controls - Toolkit



NEW APPOINTMENT

Subject

Location

When

5/10/2010

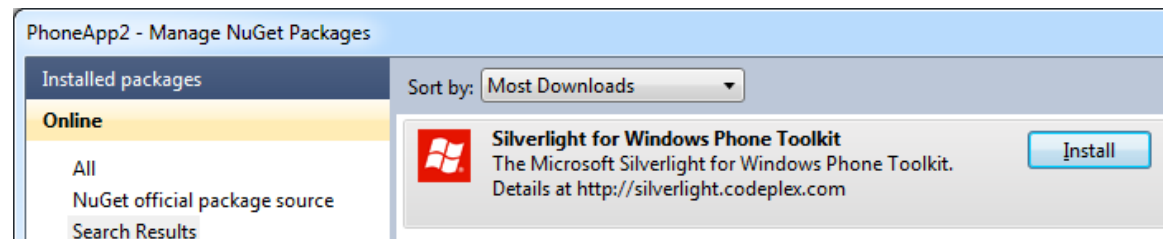
1:00 AM

How long

1 hour

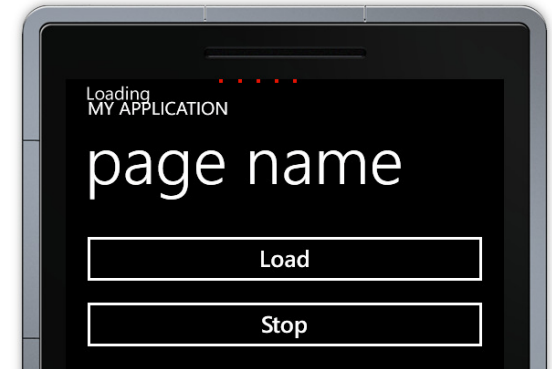
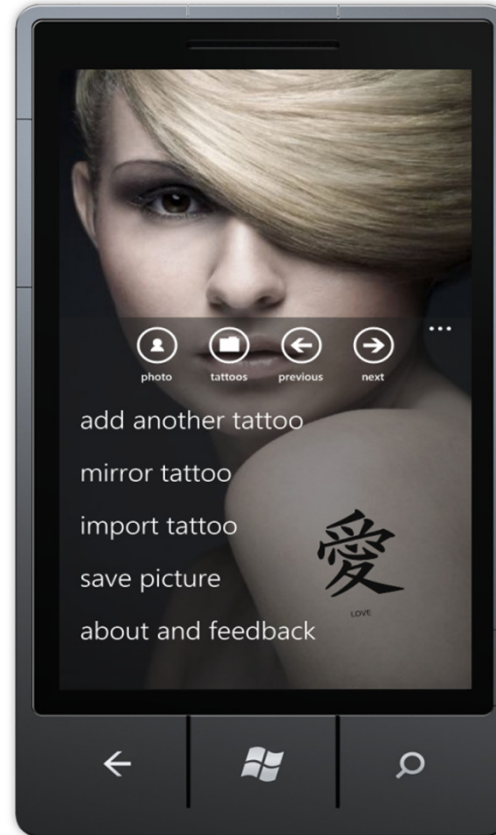
more details

- PhoneTextBox
 - Hint & Action
- DatePicker & TimePicker
- ListPicker
- ToggleSwitch
- More...



UI Controls - Phone

- **SystemTray**
- **ApplicationBar**
- Panorama
- Pivot
- Pages



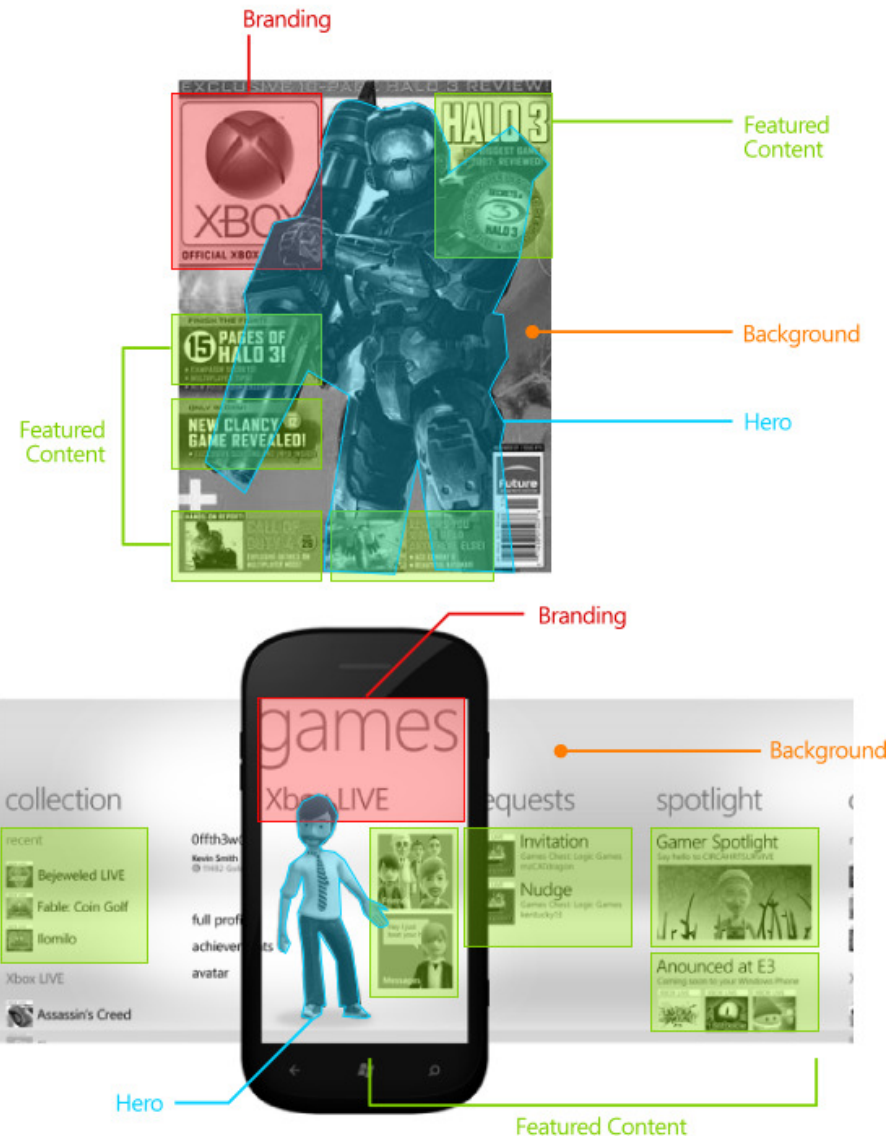
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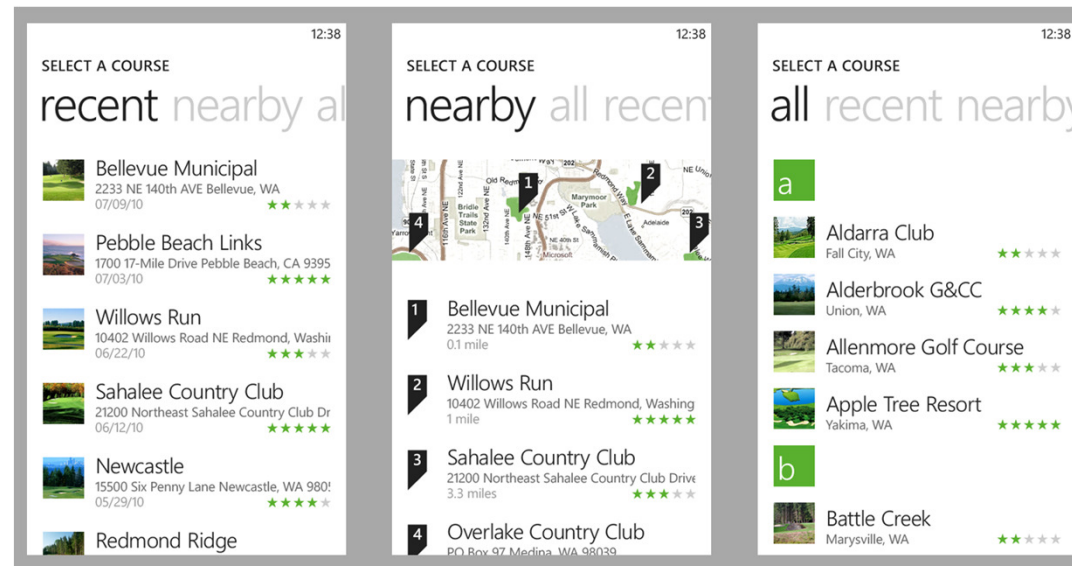
Panorama

- Panorama(s) are the “Magazine Cover(s)” of your app.
- They display only the top or featured content for users. They expose a sneak peak. Not all the content
- Panoramas are not best friends with ‘draggable’ controls or objects
- Panoramas can’t hold large amounts of data



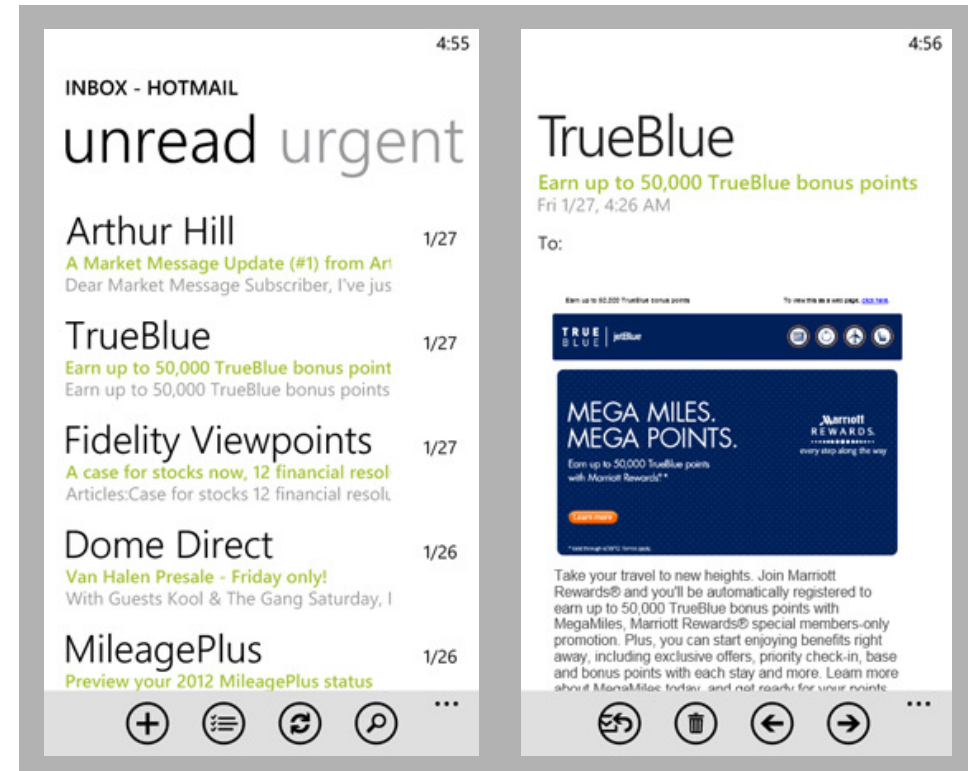
Pivot

- Pivots help you present lists with information from the same data source but sorted out in different ways.
- Pivots are **not** best friends with 'draggable' controls or objects
- Pivots can also be used for displaying completely unrelated information

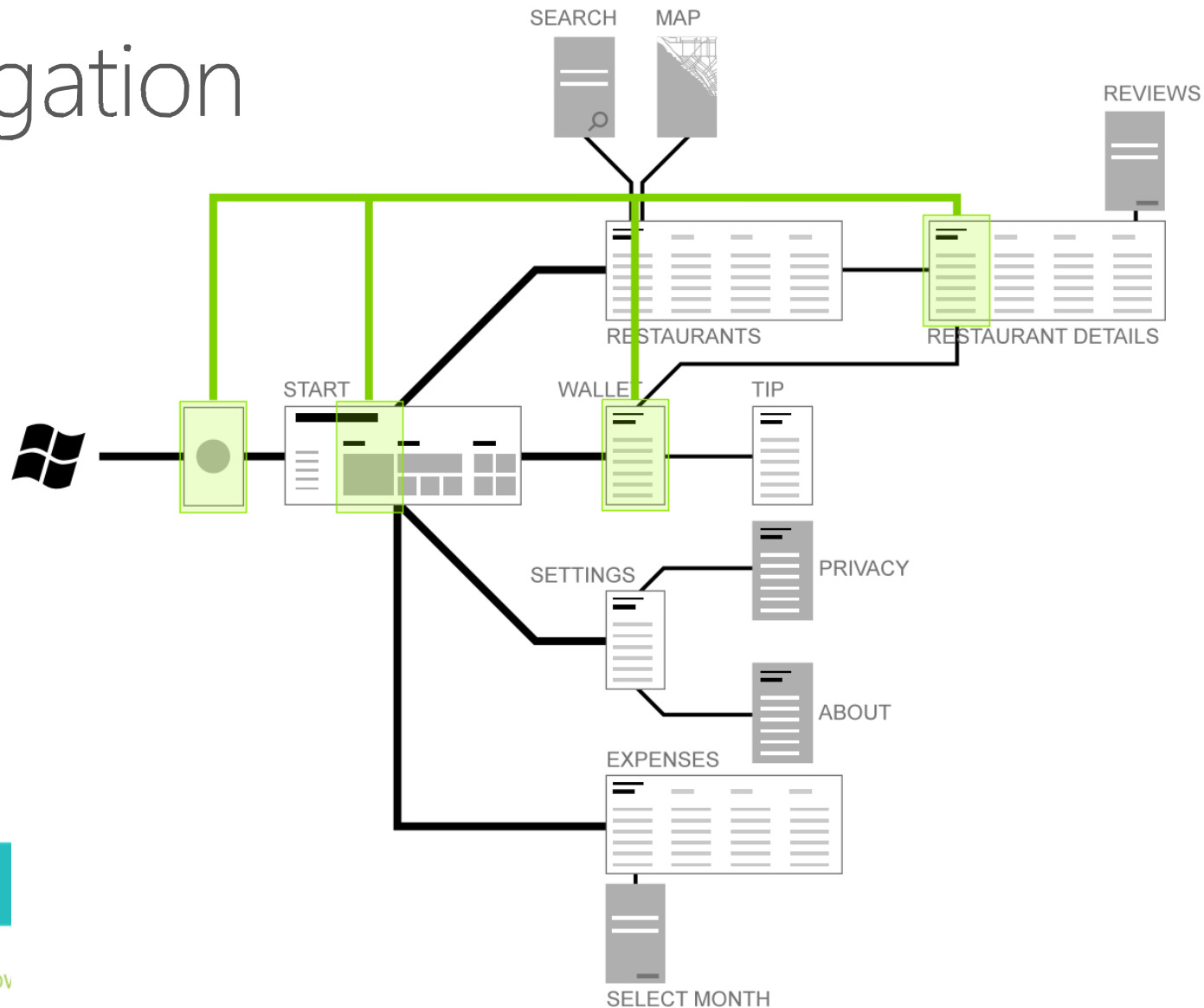


Pages

- Pivots and Panoramas are great for content consumption. **Pages are best for content input and content generation.**
- If you only need to present a set of data without multiple views use a Page
- Pages are great for showing details of a previously selected item

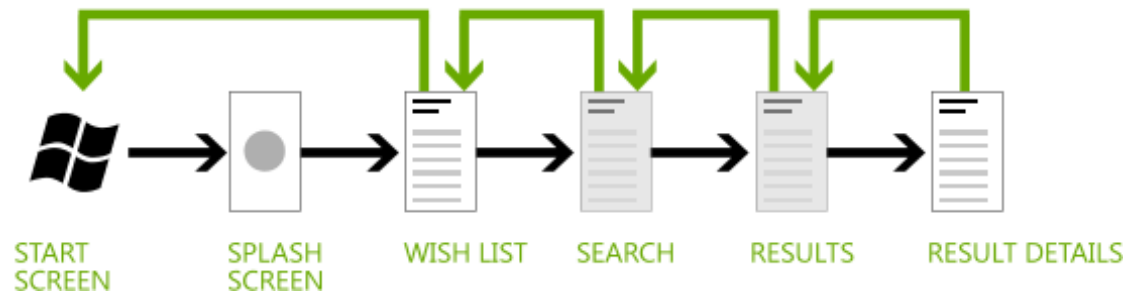


Navigation



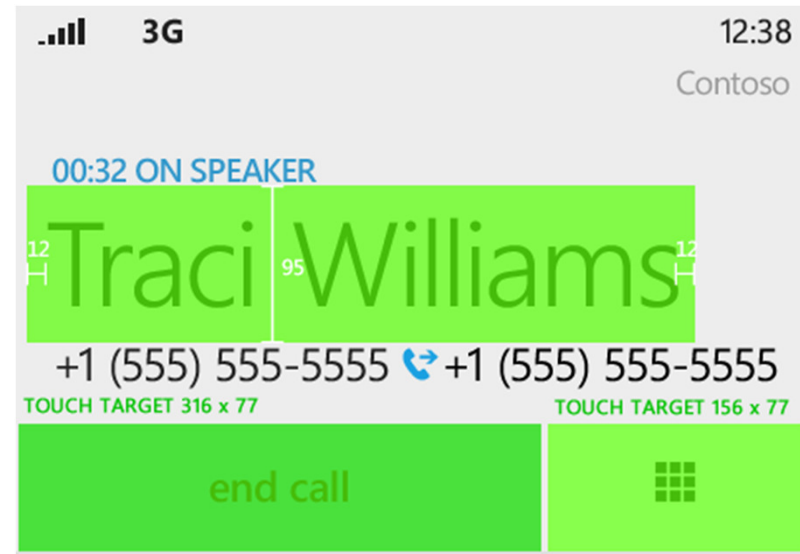
Navigation

- Removing Steps in the Backstack
 - `NavigationService.RemoveBackEntry()`



Hardware

- **Touch**
- Back Button
- Screen Orientation
- **Tombstoning**
- Sensors
- "Dark & Light Theme"



Hardware – WP7 Tombstone Helper

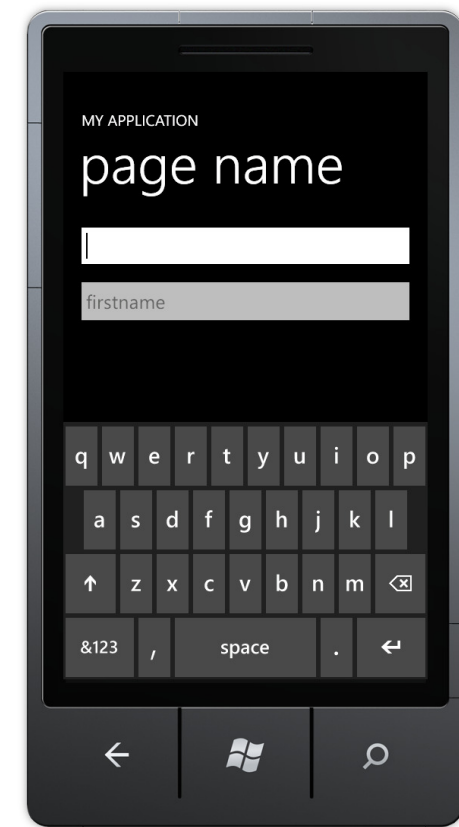
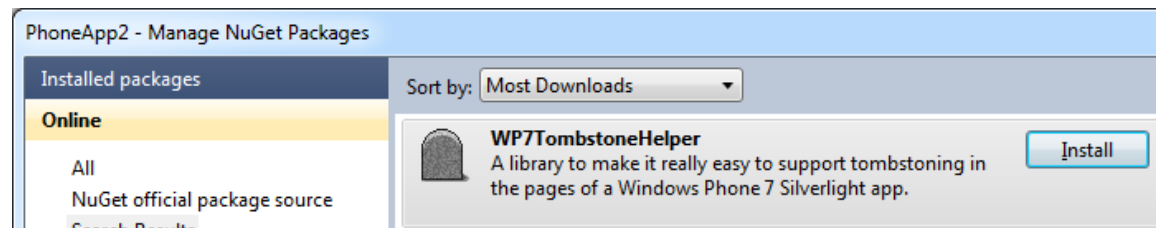
- This library adds extension methods to `PhoneApplicationPage` so you don't have to worry about maintaining the **state of a page** in your app if it gets tombstoned.

```
using TombstoneHelper;

public partial class MainPage : PhoneApplicationPage {

    protected override void OnNavigatedFrom(NavigationEventArgs e) {
        base.OnNavigatedFrom(e);
        this.SaveState();
    }

    protected override void OnNavigatedTo(NavigationEventArgs e) {
        base.OnNavigatedTo(e);
        this.RestoreState();
    }
}
```



Metro Links

- 31 Weeks of Windows Phone Metro Design
 - http://ux.artu.tv/?page_id=190
- The principles of Microsoft Metro UI decoded
 - <http://www.riagenic.com/archives/487>
- User Experience Design Guidelines for Windows Phone
 - <http://msdn.microsoft.com/en-us/library/hh202915.aspx>



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Metro Video's

- Windows Phone Design Days - Metro
 - <http://channel9.msdn.com/Blogs/Jaime+Rodriguez/Windows-Phone-Design-Days-Metro>
- Designing Metro style: principles and personality
 - <http://channel9.msdn.com/Events/BUILD/BUILD2011/APP-395T>
- All Thumbs: Redesigning an Existing UI to Suit Windows Phone 7
 - <http://channel9.msdn.com/Events/MIX/MIX11/OPN02>



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Microsoft

Simple, clean, &
impactful text here.



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Microsoft

A man with long brown hair, wearing a bright yellow bicycle helmet and a dark grey jacket, is looking back over his right shoulder. He has a grey backpack on his back. The background is a solid blue wall with a blue door visible on the left. The word "Questions" is written in white text on the right side of the image.

Questions

Contact



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<http://www.twitter.com/fonssonemans>



<http://www.linkedin.com/in/fonssonemans>



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