Windows Phone development

Rajen Kishna
Technical Evangelist
@rajen_k
blog.rajenki.com
rajenki@microsoft.com
Let’s Get Started
Dev center & tools

Dev Center
  Design Guidelines
  Developer Tools & SDKs
  Videos, Blogs, Samples, Publish
  http://developer.windowsphone.com/

Tools
  Visual Studio, Blend, Emulator, Device Unlock, App Deploy, Store Test Kit
Design Principles

Pride in craftsmanship
More with less
Fast and fluid
Authentically digital
Win as one

Using a common UI model and ecosystem creates complete end-to-end user scenarios. In other words, try not to reinvent the wheel. Innovation is great, but not at the expense of the user experience.

http://aka.ms/wpuxprinciples
UI Framework & XAML

UI Framework
Signature & Standard Controls
Layouts
Tree based
Retained mode / composited framework
Fully extensible
  UserControl & Panel
Styling
Templating
Subclassing

XAML
eXtensible Application Markup Language
A declarative, markup-based language to define your user experience
Everything you can do in XAML you can do in code – it’s just easier in XAML.

```csharp
StackPanel stackPanel = new StackPanel();
TextBox textBox = new TextBox();
stackPanel.Children.Add(textBox);

Button button = new Button();
stackPanel.Children.Add(button);  
</StackPanel>
```
App manifest

Define application parameters
- Display name
- App icon
- Supported resolutions
- Tile template
- Tile images

Declare capabilities used by app

Specify hardware requirements

Packaging metadata
tools & ui framework

demo
Controls

Reusable & Customizable
Embody the Windows Phone design principles

Signature Controls
  Panorama, Pivot, LongListSelector, AppBar

Standard Controls
  Map, WebBrowser, Ads, Intrinsic Controls (Button, TextBox, Grid, etc)

Toolkit Controls
  DatePicker, TimePicker, Rating, AutoCompleteBox, etc
Signature Controls: Panorama

Visible Screen Area

Panorama Panels
Signature Controls: Pivot
Signature Controls: LongListSelector

Sticky Headers

JumpList

Grid View
controls
demo
Pages & Navigation

Frame control contains the page control and other elements such as the system tray and application bar.

*Screens
Transient UI the user does not navigate to Shown in a Popup control by a Page.
Windows Phone Live Tiles

Live Tiles provide glanceable access to information users care the most about

Live Tiles can be updated:

- From within your app while it is running
- As a scheduled task when your app is not running
- In response to Push Notifications
Windows Phone Live Tiles

All apps have at least one tile, known as the default tile

- Created by user pinning your app to the Start Screen
- Launches main app page

Apps can create additional (secondary) tiles

- Created programmatically
- Can launch to any page in your app

Static or Dynamic Content

- Image / text Based
- Apps can generate image from XAML content

In Windows Phone 8.0, you can support three different tile sizes
Windows Phone 8 Supports Three Tile Templates

Flip
- Flips from front to back
- Similar to the WP 7 Tile template

Iconic
- Clean iconic layout designed to reflect Windows Phone design principles

Cycle
- Cycles through up to nine images
Applications can show content and a count on the lock screen.

- Lock screen settings or deep link from app
- Background image
- Detailed status is the content from the primary tile (if available)
- Quick status shows designated icon with count from primary tile (when > 0)
live activity
demo
Launchers & Choosers

Enables an app to reuse common functionality from the phone

Microsoft.Phone.Tasks

Launchers

Simply launches an experience, like the browser or a map
You pass data to the launcher, but it does not return data to your app

Choosers

Launches an experience to return data to your app, like a photo
<table>
<thead>
<tr>
<th>Launchers &amp; Choosers</th>
</tr>
</thead>
<tbody>
<tr>
<td>AddressChooserTask</td>
</tr>
<tr>
<td>AddWalletItemTask</td>
</tr>
<tr>
<td>BingMapsDirectionsTask</td>
</tr>
<tr>
<td>BingMapsTask</td>
</tr>
<tr>
<td>CameraCaptureTask</td>
</tr>
<tr>
<td>ConnectionSettingsTask</td>
</tr>
<tr>
<td>EmailAddressChooserTask</td>
</tr>
<tr>
<td>EmailComposeTask</td>
</tr>
<tr>
<td>GameInviteTask</td>
</tr>
<tr>
<td>MapDownloaderTask</td>
</tr>
<tr>
<td>MapsDirectionsTask</td>
</tr>
<tr>
<td>MapsTask</td>
</tr>
<tr>
<td>MapUpdaterTask</td>
</tr>
<tr>
<td>MarketplaceDetailTask</td>
</tr>
<tr>
<td>MarketplaceHubTask</td>
</tr>
<tr>
<td>MarketplaceReviewTask</td>
</tr>
<tr>
<td>MarketplaceSearchTask</td>
</tr>
<tr>
<td>MediaPlayerLauncher</td>
</tr>
<tr>
<td>PhoneNumberChooserTask</td>
</tr>
<tr>
<td>PhoneCallTask</td>
</tr>
<tr>
<td>PhoneNumberChooserTask</td>
</tr>
<tr>
<td>PhotoChooserTask</td>
</tr>
<tr>
<td>SaveAppointmentTask</td>
</tr>
<tr>
<td>SaveContactTask</td>
</tr>
<tr>
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<tr>
<td>SavePhoneNumberTask</td>
</tr>
<tr>
<td>SaveRingtoneTask</td>
</tr>
<tr>
<td>SearchTask</td>
</tr>
<tr>
<td>ShareLinkTask</td>
</tr>
<tr>
<td>ShareMediaTask</td>
</tr>
<tr>
<td>ShareStatusTask</td>
</tr>
<tr>
<td>SmsComposeTask</td>
</tr>
<tr>
<td>WebBrowserTask</td>
</tr>
</tbody>
</table>
launchers & choosers
demo
WebBrowser control
  Standard XAML control
  Embed in your app – can even “host” the entire app

IE10 Based
  HTML5 support
  Hardware accelerated
  Built for touch
| CSS 2D Transforms | CSS Selectors | HTML5 Canvas | RequestAnimationFrame |
| CSS 3D Transforms | CSS Transitions | HTML5 Drag And Drop |
| CSS Animations | CSS Values And Units | HTML5 Forms And Validation |
| CSS Backgrounds & Borders | Data URI | HTML5 Geolocation |
| CSS Color | DOM Element Traversal | HTML5 History API |
| CSS Device Adaptation* | DOM HTML | HTML5 Parser |
| CSS Flexbox* | DOM Level 3 Core | HTML5 Sandbox |
| CSS Fonts | DOM Level 3 Events | HTML5 Selection |
| CSS Grid* | DOM Style | HTML5 Semantic Elements |
| CSS Image Values (Gradients) | DOM Traversal And Range | HTML5 Video And Audio |
| CSS Media Queries | DOMParser And XMLSerializer | JavaScript Typed Array |
| CSS Multi-Column Layout* | ECMAScript 5 | ICC Color Profiles |
| CSS Namespaces | Formdata | IndexedDB |
| CSS OM Views | HTML5 Application Cache | Page Visibility |
| CSS Regions And Exclusions* | HTML5 Async Scripts | Pointer (Mouse, Pen, And Touch) Events* |
| CSS OM Views | HTML5 BlobBuilder | |
making money
Making Money

Paid Apps

King Killian
Price: $0.99
Size: 45 MB

The story is about a sick boy who dreams of a fantastical land where someone decides to crash the party. Learn what happens.

Ragdoll Run
Price: $0.99
Size: 11 MB

Ragdoll Run Premium removes ads to provide you with more screen space and unlocks the Premium characters Bobo and...

Trial -> Paid

In-App Purchase

Confirm Purchase

Bag of 50 Gold
From Money for Nothing By ChipsForFree

$0.99 plus applicable taxes

This amount will be charged to your account. Change payment method

Ads

runtime five
Maecenas praesent acummsan bibendum
runtime six
Test Ad
www.bing.com
Payment Methods

Leading Credit Cards

Mobile Operator Billing: **3x greater sales** than when only credit card is available

More Mobile Operator partners than Google Play

30 Total!

Access to markets with low credit card penetration

Alipay & PayPal:

10x purchases in China!

Paypal option vs Credit Card

List of MOs:
Tips on Making Money

Use Trial API or Freemium (IAP)
   70x more downloads, 7x more revenue

Use Live Tiles
   Top 50 apps are 3.7x more likely to have Live Tiles

Use Push Notifications
   Top 50 apps are 3.2x more likely to use these – keeps users engaged

Use Ad Control with Localization
   More local relevance drives more clickthroughs

Follow the Windows Phone Design Principles
   Conformant apps are featured in the store more frequently
Tips on Making Money

Localize Your App
  Language, currency, symbols

Publish Globally
  Fastest growth occurring in new markets

Watch Your Memory Usage
  Apps that use < 90MBs of memory work well on all devices – performance tools help

Act on Feedback
  Prompt for reviews and feedback... and fix

Update Frequently
  Top 50 apps are updated every 2-3 months
additional features
VoIP and video chat

Lync lets you connect with coworkers

Corporate presence, IM, and multi-party chat
Search for corporate contacts
Single tap to join conference from appointment

Skype lets you reach business partners

Call Skype accounts for free via audio/video
Send instant messages to one person or an entire group even while you’re in a video or phone call

VoIP + Video capabilities are available to developers
A new way to send

- Tap to send data
- Interact with NFC tags
- Establish Wi-Fi or Bluetooth connection
- Tap to pay via Secure SIM element
- Available to developers through the Proximity API
Wallet

A password-protected place to store your credit and debit cards, loyalty and membership cards, and coupons

- Card balances are kept up to date
- Real-time announcements of offers and deals
- Wallet is extensible by developers
Wallet != NFC

**Wallet**
- Cards & Deals
- Apps
- Store

**NFC**
- Tap to Share
- Tap to Pair
- Tag Reading

“Secure”

“Proximity”
World-class maps to quickly get to appointments

- Built-in maps with core NAVTEQ technology and street data from Nokia in all phones
- View offline maps without coverage or data connection
- Nokia Drive (turn-by-turn directions) with voice
- Map control and APIs available for developers
Native Code: Ease of Porting

Native code makes it easier to share code

1. Share common code between Windows 8 and Windows Phone 8
2. Simplifies porting apps between iOS/Android
3. Take advantage of native Open Source Libraries
Native Code for Killer Games

- havok
- audio:kinetic
- unity
- Autodesk
- FMOD
Third party apps can communicate through Bluetooth

App to app communication
App to device communication
It’s time to have a conversation with your app

Use programmatic voice commands to launch a particular deep-linked page in the app
Speech recognition combined with speech synthesis allows developers to create conversational apps
Applications can show content and a count on the lock screen.

- Lock screen settings or deep link from app
- Detailed status is the content from the primary tile (if available)
- Quick status shows designated icon with count from primary tile (when > 0)
Lens apps
Custom URI Associations

Launch another app to enhance your experience
Call with Skype
Play an album on Spotify
Post a message on Twitter
Launch your app from core experiences
Browser
Messaging
Email
File Type Associations

Launch another app as a handler for a file you own
Microsoft Word
Adobe Reader

Launch your app when the user invokes a file you can interpret
We have an amazing amount of online training on all aspects of Windows Phone development.

40 hours of video or audio training!

Slides, video, audio, self-assessments

Jump Start: [http://aka.ms/wp8js](http://aka.ms/wp8js)
Design Boot Camp: [http://aka.ms/wp8designbootcamp](http://aka.ms/wp8designbootcamp)
Training Kit: [http://aka.ms/wp8hol](http://aka.ms/wp8hol)
Absolute Beginners: [http://aka.ms/wpdevbegin](http://aka.ms/wpdevbegin)
Questions?

Rajen Kishna
Technical Evangelist
@rajen_k
blog.rajenki.com
rajenki@microsoft.com