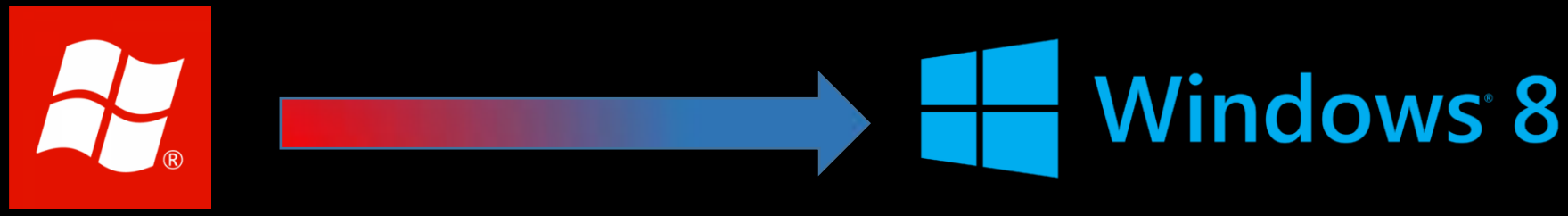
Windows 8 for WP Developers

Hermit Dave



WP Apps published (Invoke IT)

- Scribble
- Alarm Clock
- Learn to write
- Slydr
- Cool Camera
- Nature Sounds
- Wordastic
- Cineworld
- CVC Words

Topics

- Async
- Storage
- Playing Sounds
- Behaviours
- User interface
- Capabilities
- Portable Library

Async

- In Windows Phone dev
  - Async Web service calls
  - Use of thread pool / threads
  - Event driven code
- Windows 8 takes it further
  - System calls are async.
  - Instead of event driven code / callbacks, use await
  - Use of Tasks – no threads directly. Can use Threadpool
  - Sync calls if you do not use await
- Use Async CTP in WP Dev to make porting easier ?


```
private void SetWord(bool bNewWord = true)
{
    this.processedChars.Clear();
    this.SetTitleBackground(true);

    if (bNewWord)
    {
        while (true)
        {
            CurrentWord = LangHelper.GetNextWord();
```

```
private async void SetWord(bool bNewWord = true)
{
    this.processedChars.Clear();
    this.SetTitleBackground(true);

    if (bNewWord)
    {
        while (true)
        {
            CurrentWord = await LangHelper.GetNextWord();
```

Storage

- WP Dev
  - IsolatedStorageFile
  - IsolatedStorageSettings
- Windows 8 dev
  - Storage File / Storage Folders.
  - Get Access to .NET streams using above
  - Package.Current.InstalledLocation.Path – for reading content files
  - ApplicationData.Current provides LocalFolder, RoamingFolder & TempFolder
  - ApplicationData.Current provides LocalSettings & RoamingSettings
  - RoamingFolder / RoamingSettings shared between devices.

```
string file = String.Format("Content/{0}.txt", GetLocale(WordasticConfig.Dictionary));

Uri uriPath = new Uri(file, UriKind.RelativeOrAbsolute);

StreamResourceInfo sriPath = System.Windows.Application.GetResourceStream(uriPath);

using (Stream s = sriPath.Stream)
```


```
string File = Path.Combine(Package.Current.InstalledLocation.Path,
    String.Format("Content\\{0}.txt", GetLocale(WordasticConfig.Dictionary)));

StorageFolder folder = await StorageFolder.GetFolderFromPathAsync(
    Path.GetDirectoryName(File));

using (Stream s = await folder.OpenStreamForReadAsync(Path.GetFileName(File)))
```

```
using (IsolatedStorageFile isf = IsolatedStorageFile.GetUserStoreForApplication())
{
    if (isf.FileExists(GetFileName<T>()))
    {
        using (IsolatedStorageFileStream fs = isf.OpenFile(GetFileName<T>(), System.IO.FileMode.Open))
```


```
StorageFolder storageFolder = Windows.Storage.ApplicationData.Current.LocalFolder;

StorageFile storageFile = await storageFolder.CreateFileAsync(GetFileName<T>(),
    CreationCollisionOption.OpenIfExists);

using (Stream inStream = await storageFile.OpenStreamForReadAsync())
```

```
public static bool IsSettingPersisted(string Key)
{
    return IsolatedStorageSettings.ApplicationSettings.Contains(Key);
}
```


```
public static bool IsSettingPersisted(string Key)
{
    return ApplicationData.Current.LocalSettings.Values.ContainsKey(Key);
}
```

Playing Sounds

- Windows Phone
  - Silverlight or XNA to play sounds
  - MediaElement
  - MediaPlayer
  - SoundEffects
- Windows 8
  - XAML or DirectX
  - MediaElement
  - SharpDX – managed wrapper for DX http://sharpdx.org

Behaviours

- Windows Phone
  - Blend provides excellent set of behaviours though System.Windows.Interactivity.dll that comes with blend
  - FluidMoveBehavior, MouseDragElementBehavior etc
  - Can use both XAML and codebehind to manipulate behaviours
- Windows 8
  - No built in support for behaviours
  - http://winrtbehaviors.codeplex.com provides DragFlickBehavior

User Interface - Layout

- Windows Phone
  - Portrait / Landscape
  - Pivot
  - Panorama
- Windows 8
  - Blank
  - Basic
  - Split
  - Items
  - ItemsDetail
  - GroupedItems
  - GroupedDetail

User Interface - Layout

- Windows Phone
  - Support for auto rotation depending upon SupportedOrientations
- Windows 8
  - Apart from Blank page, all pages derive from LayoutAwarePage
  - Automatically supports change in orientation
  - Explicit orientation support using DisplayProperties.AutoRotationPreferences

User Interface - Navigation

- Windows Phone
  - Page exposes BackKeyPress
  - NaviationService
    - Navigate using Uri to XAML Page
    - Properties CanGoBack & CanGoForward
    - Methods GoBack & GoForward, AddBackEntry & RemoveBackEntry
- Windows 8
  - Frame
    - Navigate using Type not Uri
    - Properties CanGoBack & CanGoForward
    - Methods GoBack & GoForward
  - LayoutAwarePage
    - Methods like GoBack & GoHome
  - No back button – add required buttons to page (layoutaware adds back button)


```
NavigationService.Navigate(
    new Uri("/GamePlay.xaml", UriKind.Relative));
```

```
if (NavigationService.CanGoBack)
    NavigationService.GoBack();
```

```
Frame.Navigate(typeof(Gameplay));
```

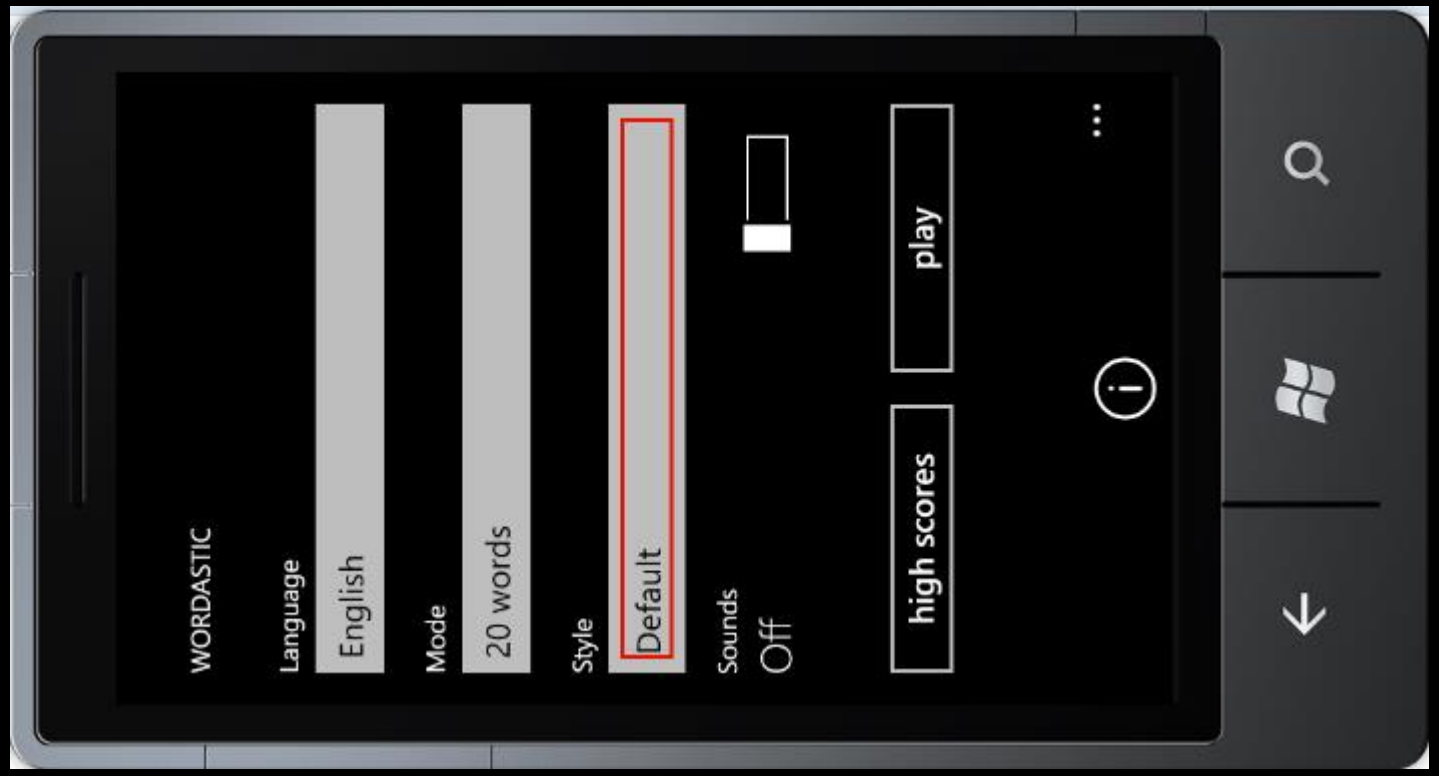
```
if (this.Frame != null && this.Frame.CanGoBack)
    this.Frame.GoBack();
```

User Interface - Views

- Windows Phone
  - Landscape
  - Portrait
- Windows 8
  - FullScreenLandscape
  - Filled
  - FullScreenPortrait
  - Snapped

  - LayoutAware automatically adds these. Customise them as needed.
  - Snapped View is required – Can choose to support it fully if wanted


WORDASTIC
Language
English
Mode
20 words
Style
Default
Sounds
Off
high scores
play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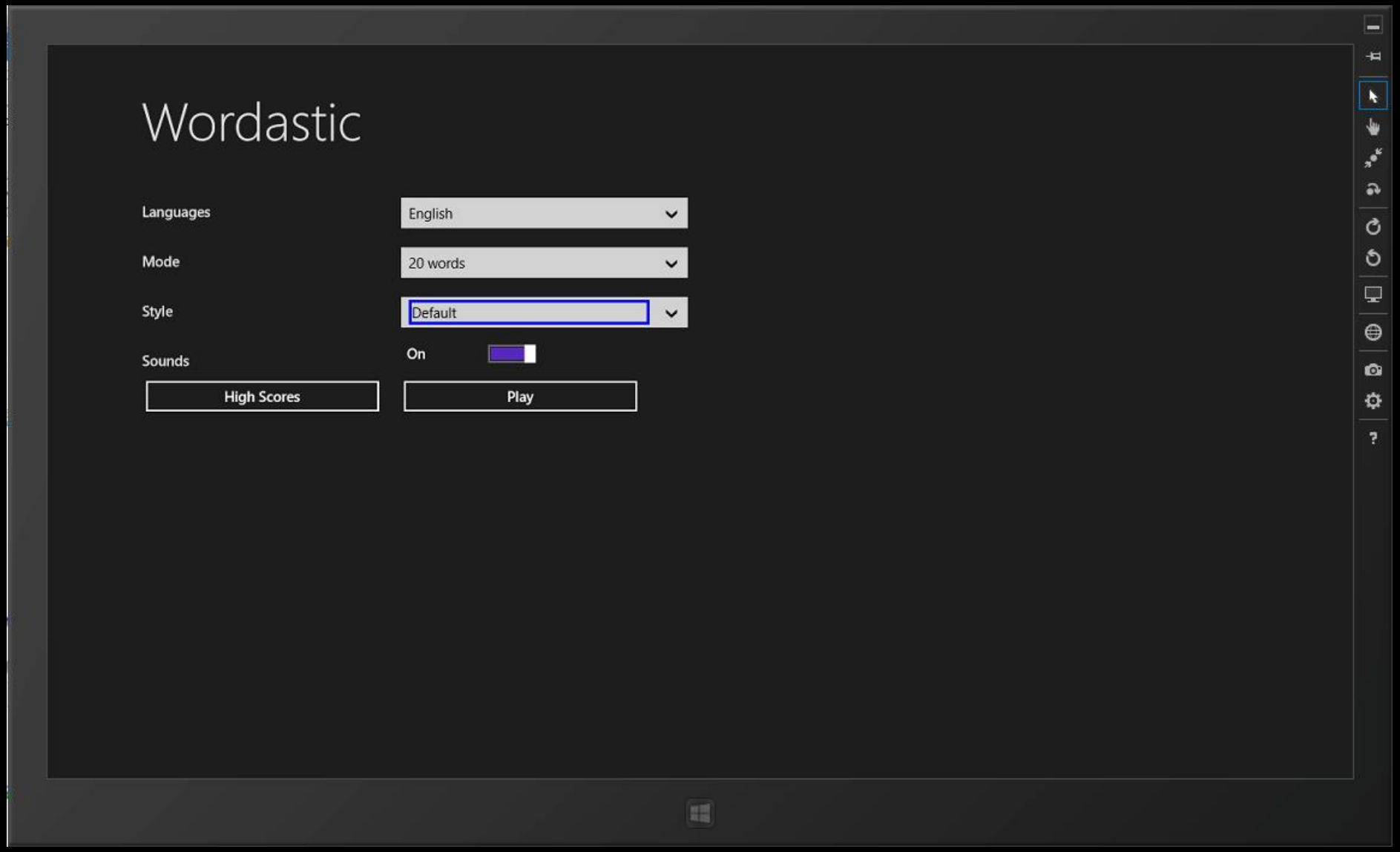
Windows 8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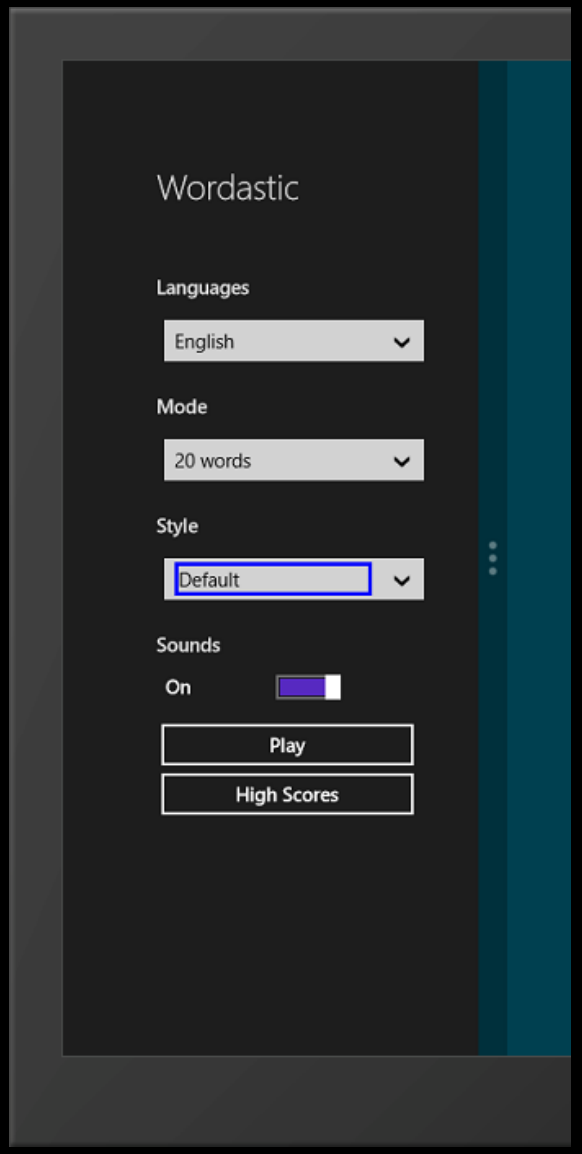
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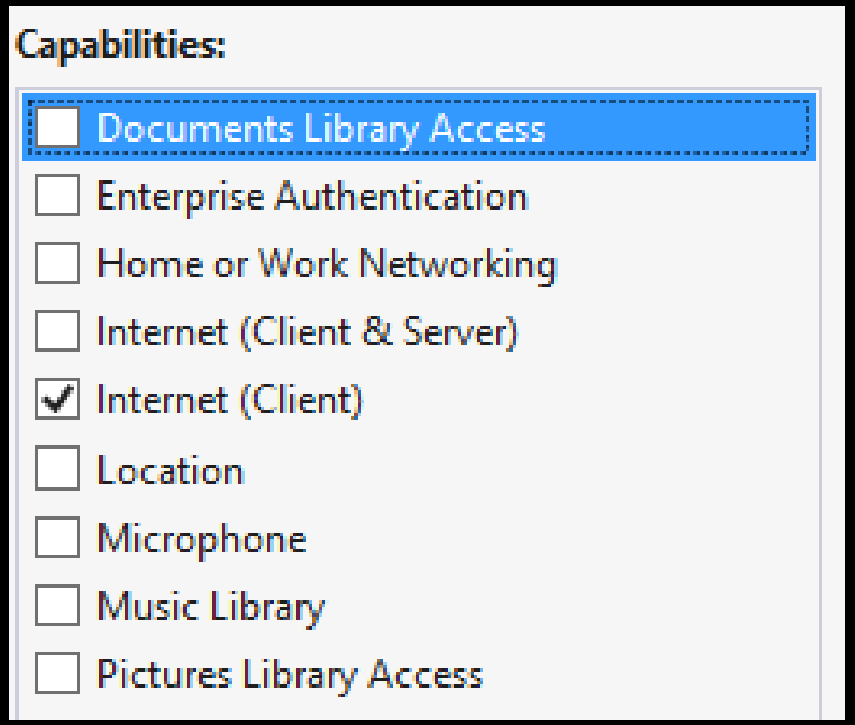
Capabilities

- WMAppManifest.xml

```
<Capabilities>
  <Capability Name="ID_CAP_GAMERSERVICES" />
  <Capability Name="ID_CAP_IDENTITY_DEVICE" />
  <Capability Name="ID_CAP_IDENTITY_USER" />
  <Capability Name="ID_CAP_LOCATION" />
  <Capability Name="ID_CAP_MEDIALIB" />
  <Capability Name="ID_CAP_MICROPHONE" />
  <Capability Name="ID_CAP_NETWORKING" />
  <Capability Name="ID_CAP_PHONEDIALER" />
  <Capability Name="ID_CAP_PUSH_NOTIFICATION"
  <Capability Name="ID_CAP_SENSORS" />
  <Capability Name="ID_CAP_WEBBROWSERCOMPONENT
  <Capability Name="ID_CAP_ISV_CAMERA" />
  <Capability Name="ID_CAP_CONTACTS" />
```

- Package.appxmanifest

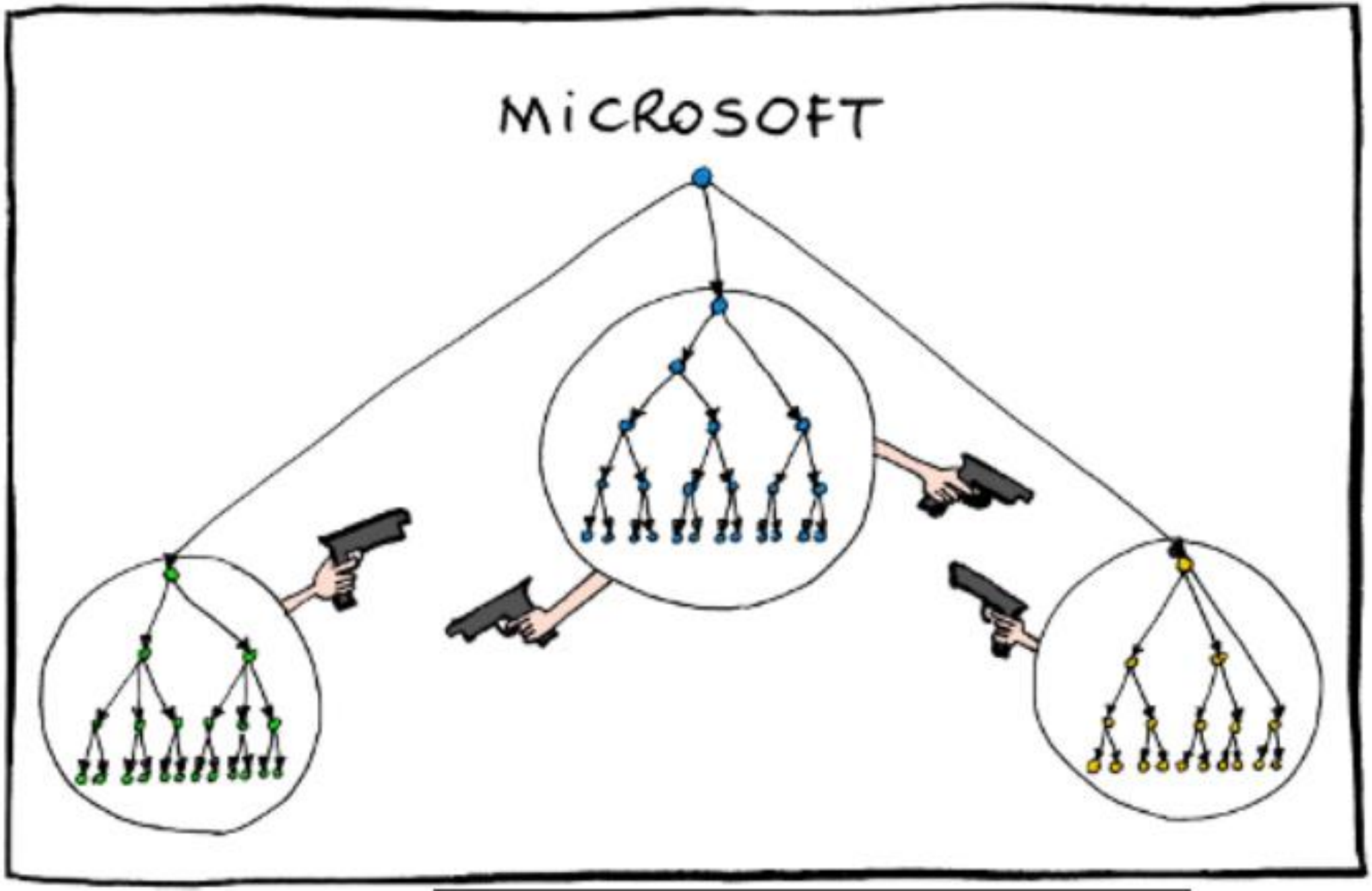


Portable Library

- In addition to use Async CTP, you can put common logic in portable library.
- Portable libraries require you to choose target platforms and the output can be directly referenced on other platforms.
- Create with VS 2012 for broadest support
- http://bit.ly/PortableLib for more info
- Alternative to porting code to individual platforms

Portable Library

Feature	Assemblies	.NET Framework	Metro style	Silverlight	Windows Phone	Xbox 360
Core	mscorlib.dll, System.dll, System.Core.dll, System.Xml.dll, System.Xml.Serialization.dll	√	√	√	√	√
Managed Extensibility Framework (MEF)	System.ComponentModel.Composition.dll	√	√	√		
Network Class Library (NCL)	System.Net.dll	√	√	√	√	
Serialization	System.Runtime.Serialization.dll	√	√	√	√	
Windows Communication Foundation (WCF)	System.ServiceModel.dll, System.ServiceModel.Web.dll	√	√	√	√	
Model-View-View Model (MVVM)	System.Windows.dll	Only 4.5	√	√	√	
Data annotations	System.ComponentModel.DataAnnotations.dll	Only 4.0.3 and 4.5	√	√		
LINQ to XML	System.Xml.Linq.dll	Only 4.0.3 and 4.5	√	√	√	
.NET for Metro styles apps	See .NET APIs for Metro style apps.	Only 4.5	√			


MICROSOFT

XNA

- As you know XNA for some strange un-explained reason did not make it to Windows 8 Metro apps.
- Xamarin to the rescue
- http://monogame.codeplex.com/
- Allows you to create XNA game useable on Metro and available in Marketplace as Metro apps.
- Consume your favourite XNA api
- Still use C++ and DX if you like it like that.