Microsoft

将Unity游戏移植到Windows Phone上来

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系统要求

Windows PC

Unity 4.3.4

Windows 8.x Professional+, 64 bit

Microsoft Visual Studio 2013 with Windows Phone 8 SDK

Windows Phone SDK 8.0 with Microsoft Visual Studio 2012 Express

Windows Phone device

unity3d.com/unity/download

windows.microsoft.com/zh-cn/windows/download-shop

visualstudio.com/downloads/download-visual-studio-vs

dev.windowsphone.com/zh-cn/downloadsdk

系统要求

Mac OSX

Boot Camp 5+

Windows 8.x Professional & up 64-bit ISO & bootable USB or Disk

Windows 7 USB/DVD download tool

microsoftstore.com/store/msusa/html/pbPage.Help_Win7_usbdvd_dwnTool

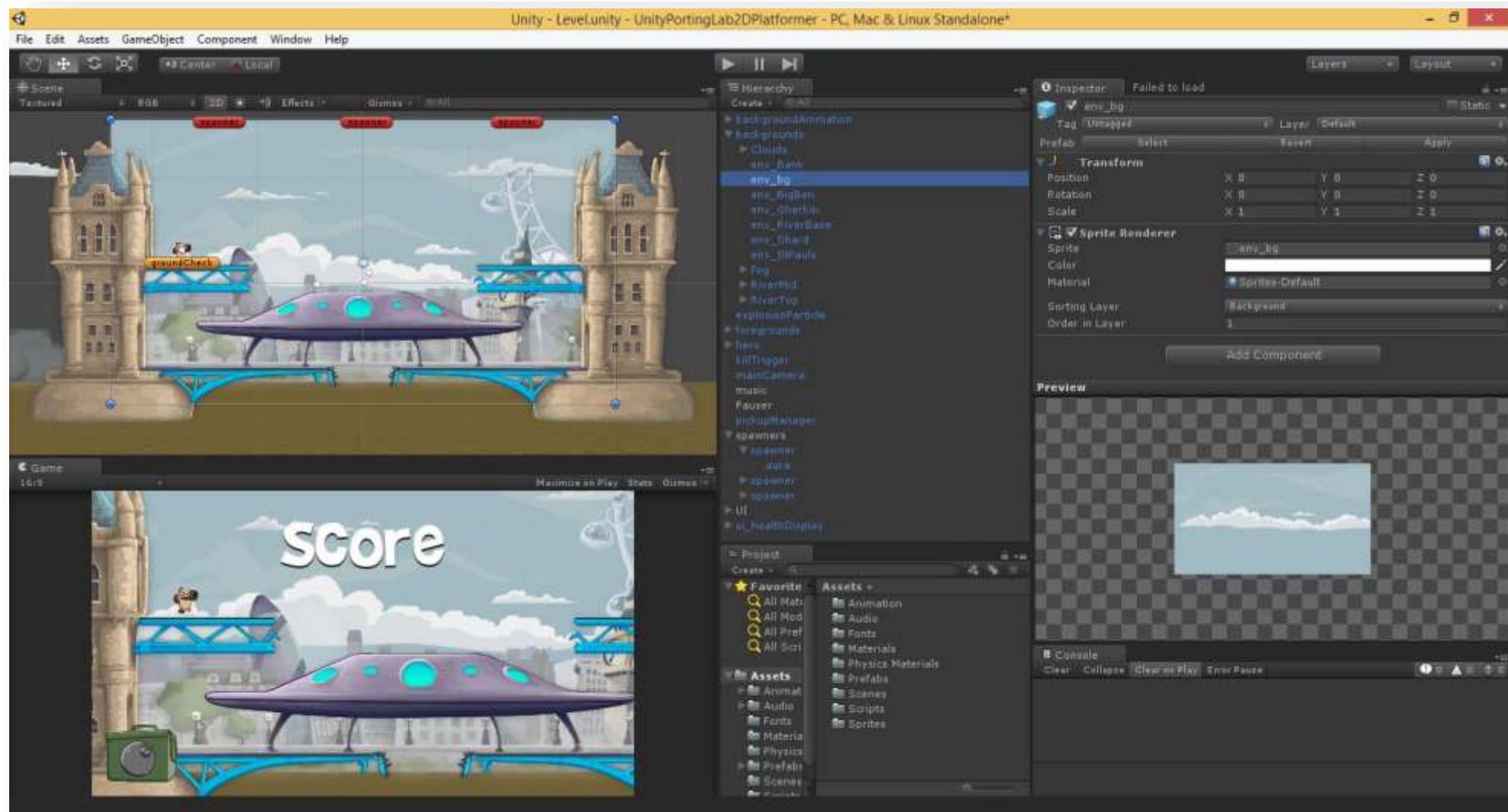windows.microsoft.com/en-us/windows-8/install-windows-on-mac

help.apple.com/bootcamp/mac/5.0/help

digitaltrends.com/computing/how-to-install-windows-8-on-a-mac/
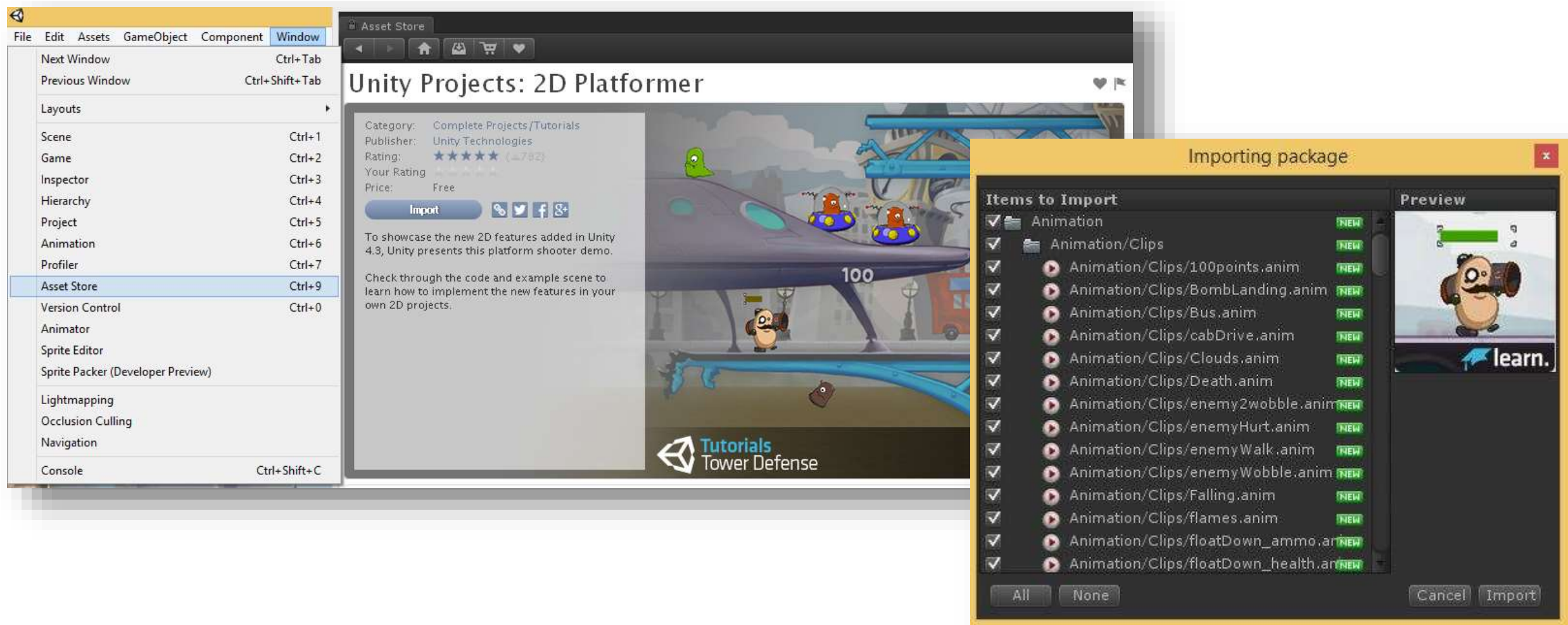

Or: Parallels Desktop 9.0 for Mac

download.parallels.com/desktop/v9/ga/docs/ko_KR/Parallels%20Desktop%20User's%20Guide/36432.htm
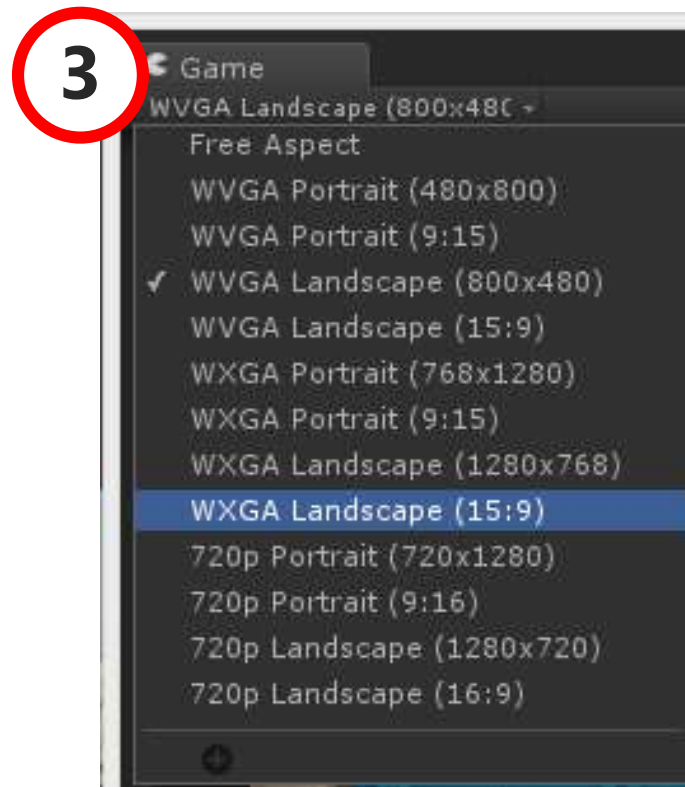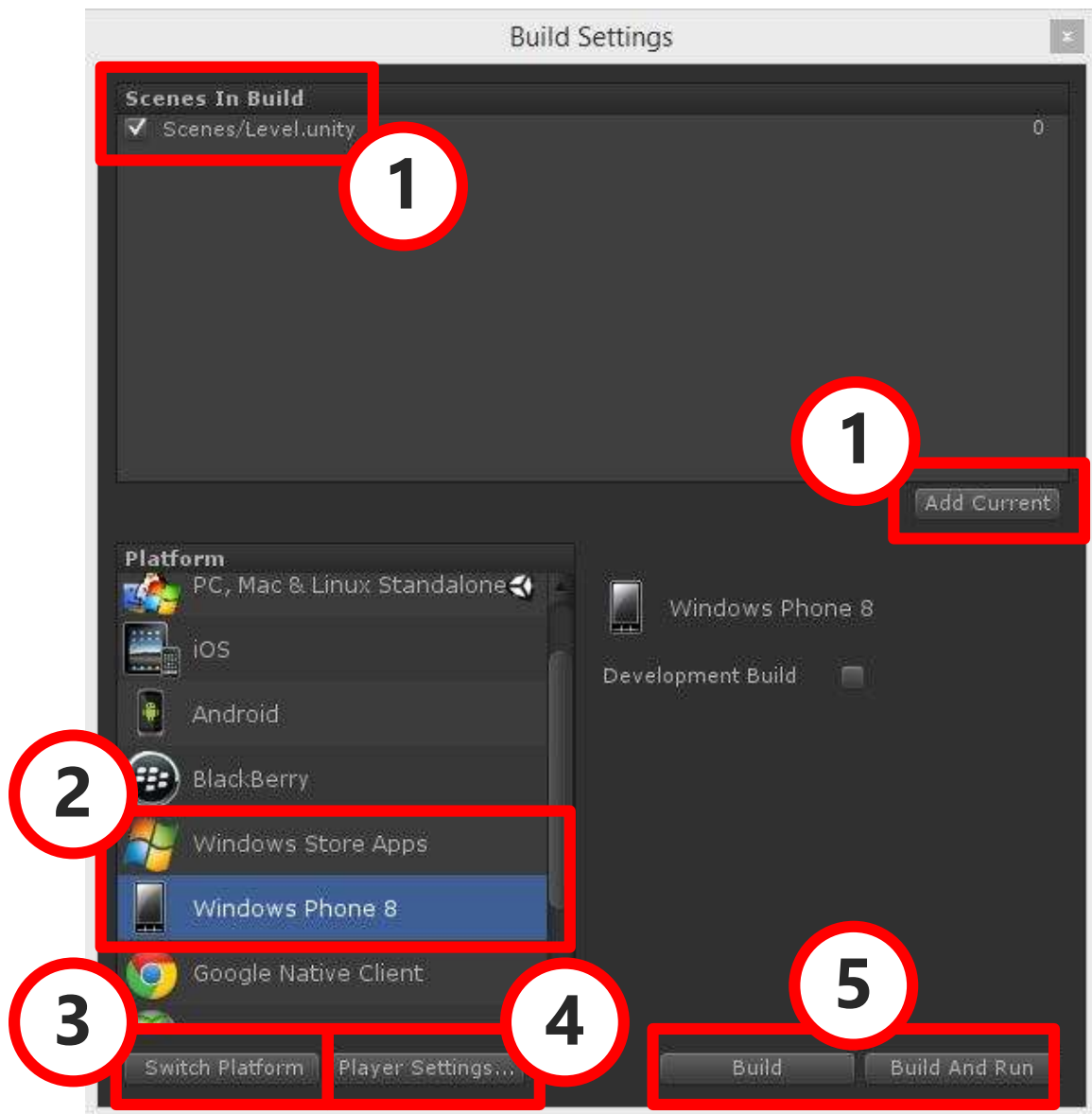
Unity3D 编辑

Asset Store 资源商店

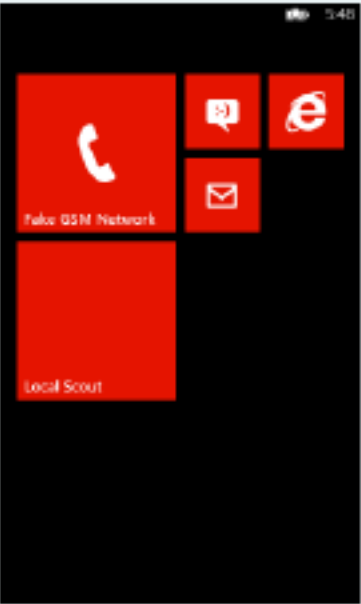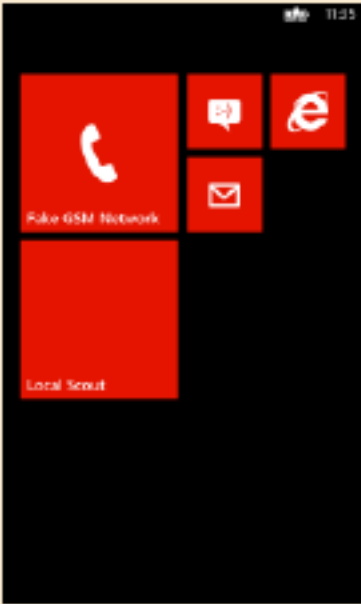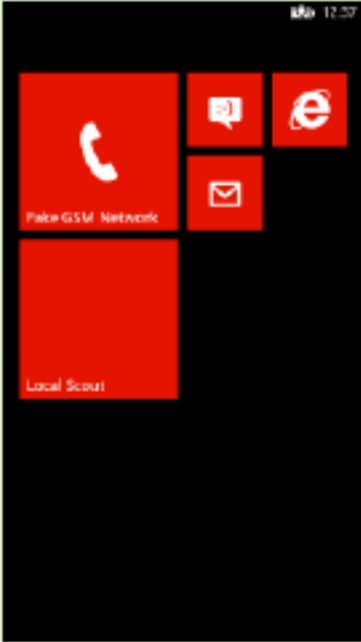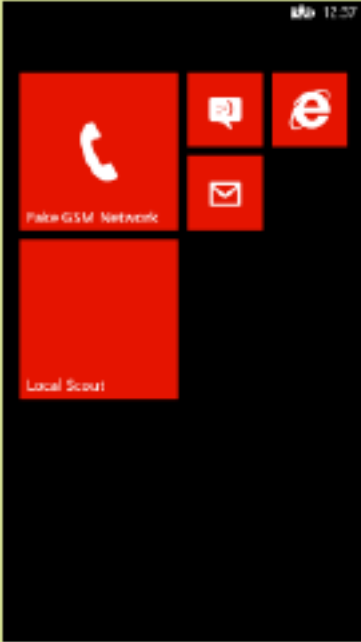## Download a sample tutorial for porting

构建设备

多种分辨率

WVGA	WXGA	720p	1080p
480 x 800	768 x 1280	720 x 1280	1080 x 1920
15:9	15:9	16:9	16:9

图块

- Appear on your Start Screen, represents the icon for your app
- 3 Tile sizes: small, medium, and wide
- 3 Tile templates: flip, iconic, and cycle

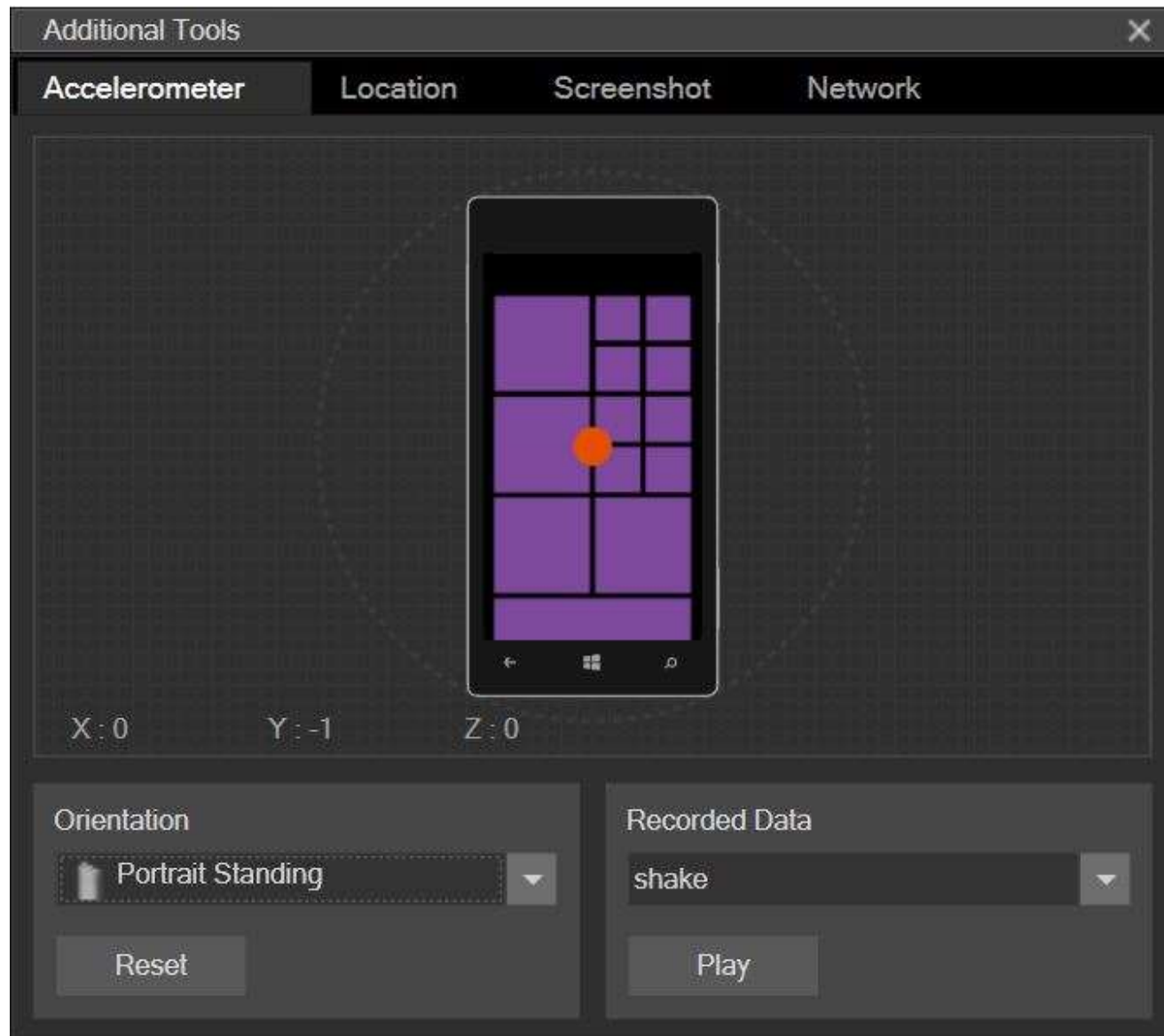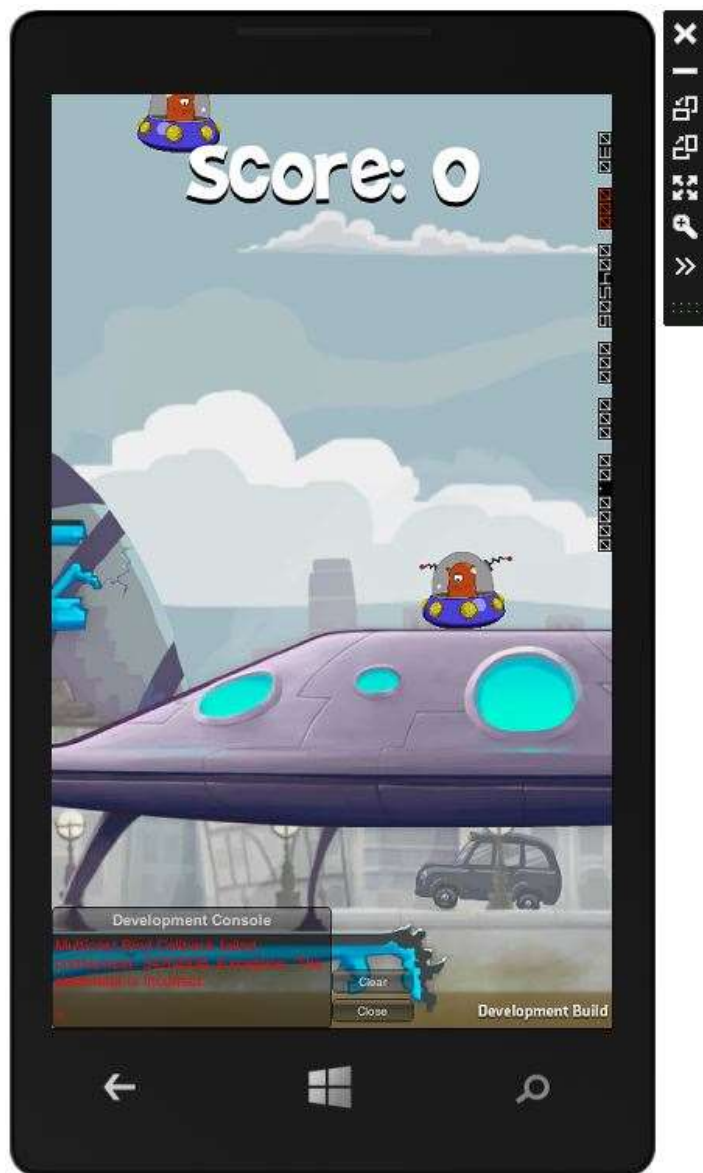msdn.microsoft.com/zh-cn/library/windowsphone/develop/hh202948(v=vs.105).aspx

http://wat-docs.azurewebsites.net/Tools

http://aka.ms/WSIP
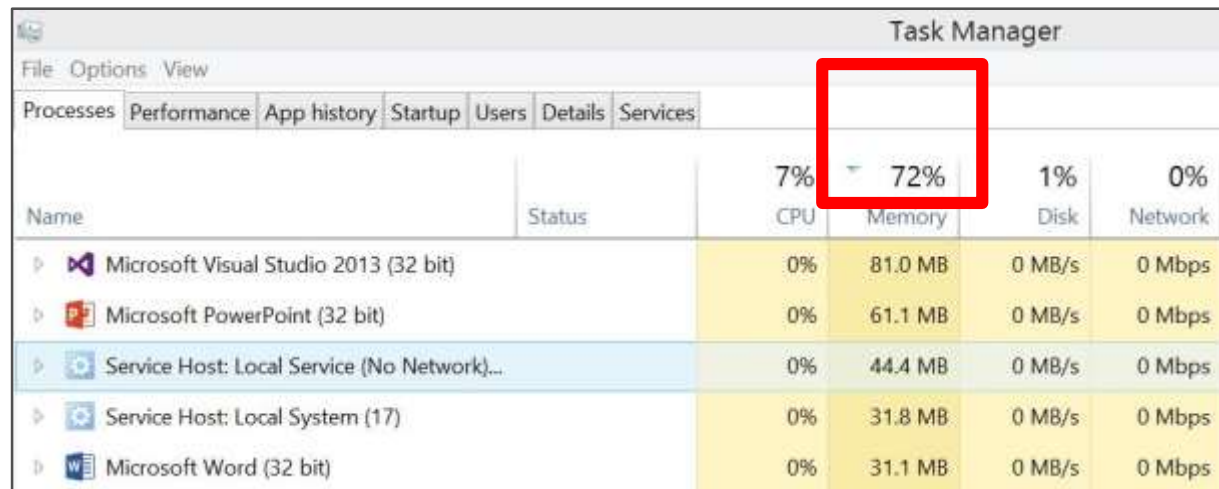
模拟器

模拟器错误

- Delete unused processes to free the total memory used.
- http://support.microsoft.com/kb/2911380/en-us

图块本地通知

- ## Scheduling options:
  - Update Tile once
  - Create a schedule to update a Tile indefinitely
  - Create a schedule to update a Tile for a specific number of times
  - Stop any schedule that is running

- ## Namespace: ShellTileSchedule

http://msdn.microsoft.com/zh-cn/library/windowsphone/develop/jj207047(v=vs.105).aspx

翻转图块模板

- Title
- Count
- BackContent
- WideBackContent

- SmallBackgroundImage
- BackgroundImage
- WideBackgroundImage

- BackBackgroundImage
- WideBackBackgroundImage
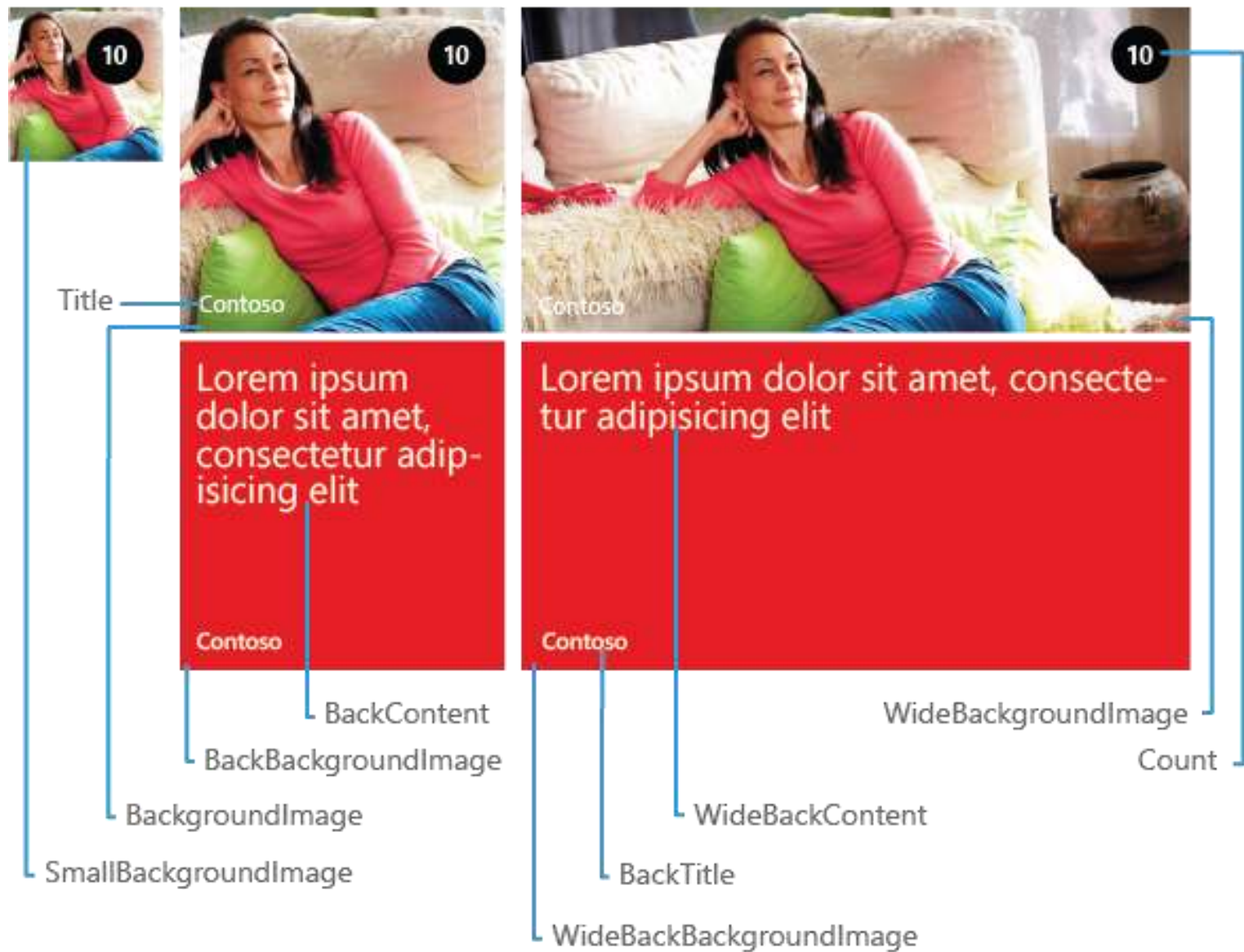
C# .NET Framework

缺少的API?

Mono.NET

https://github.com/mono/mono/tree/master/mcs/class/System/System.Net

Windows Phone .NET

http://msdn.microsoft.com/en-us/library/windowsphone/develop/br211377.aspx

http://msdn.microsoft.com/library/windowsphone/develop/ff626516(v=vs.92).aspx

.NET API

Mono .NET API

Windows Phone 8 .NET API
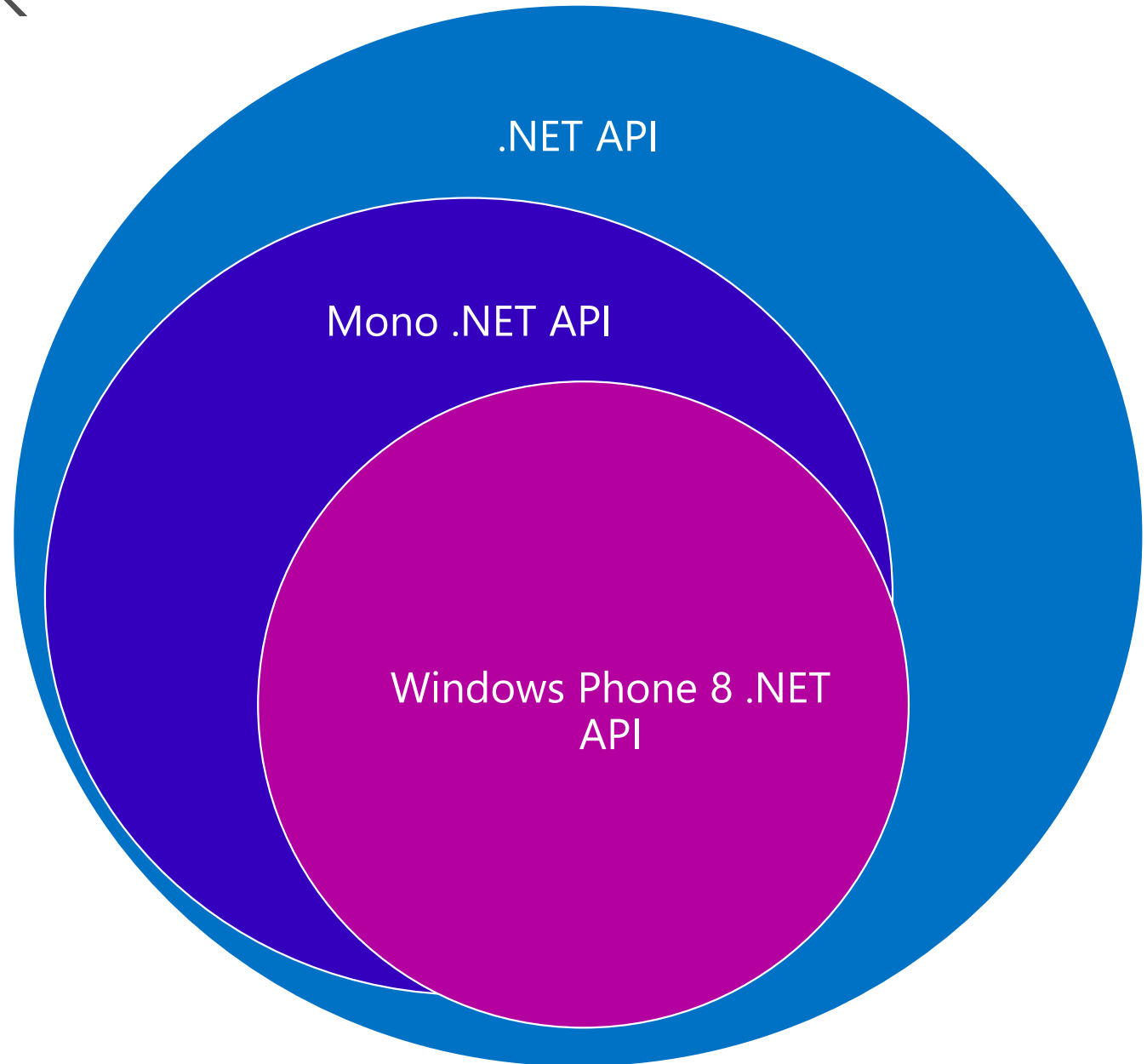
.NET for Windows Phone

For an easy method to view API references:

- Go to View ➜ Object Browser
- Or double-click .NET for Windows Phone
  in Solution Explorer
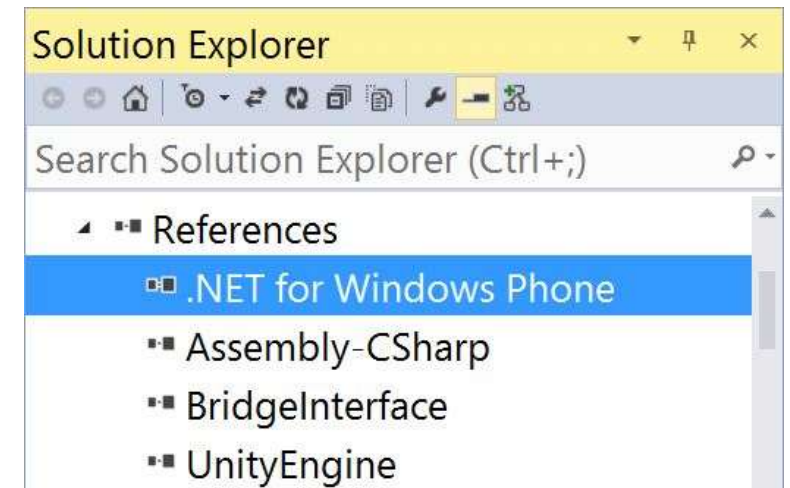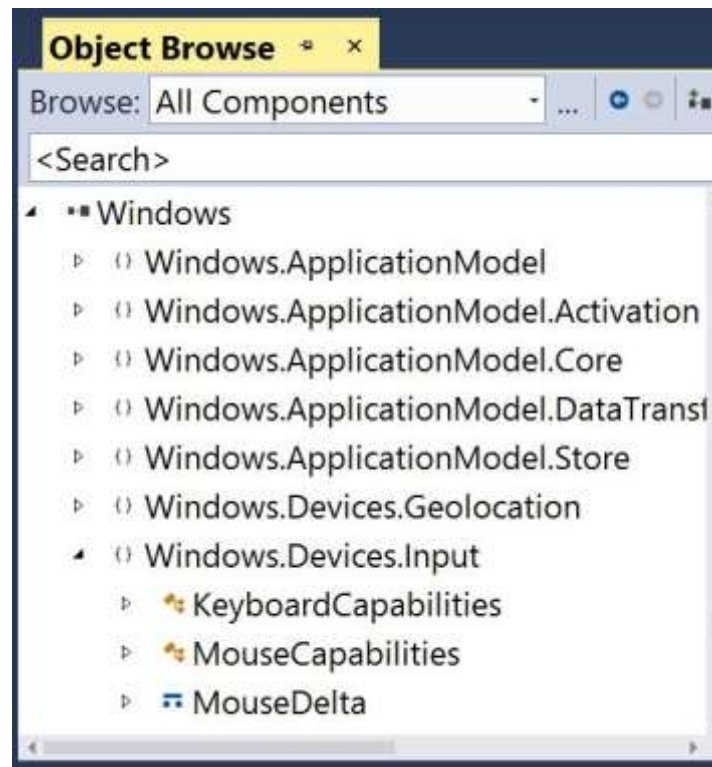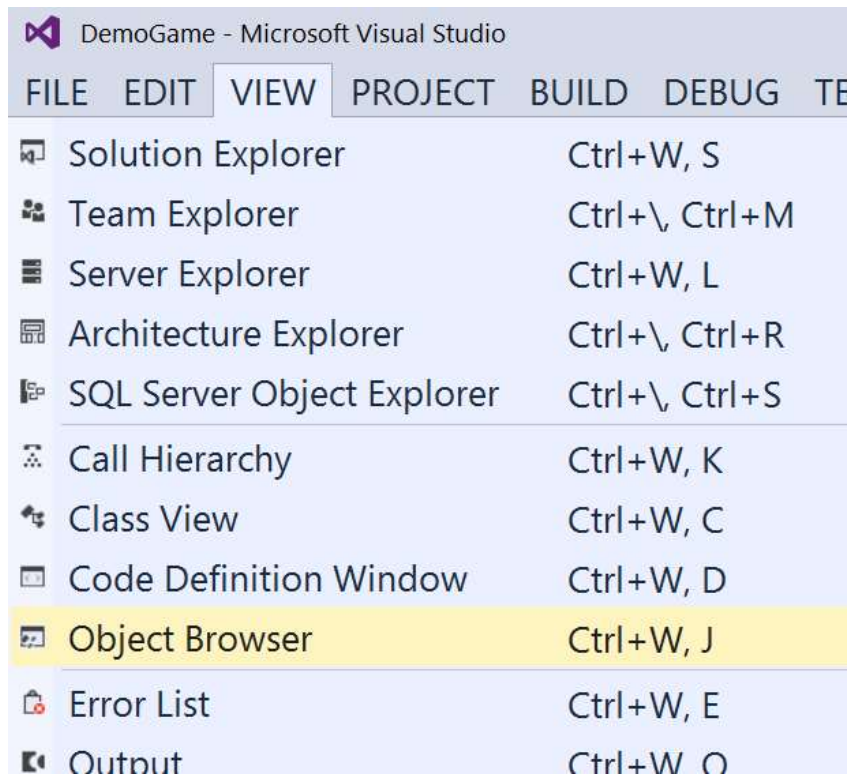
XML

- Available: Unity3D 4.3.3+, C# in Mono .NET
- Not Available: C# .NET for Windows Phone
- Namespace

    `System.Xml.XmlDocument`

- Read XML file:

    `XmlDocument.Load(file);`

http://msdn.microsoft.com/en-us/library/system.xml.xmldocument.aspx

XML

- Available: C# in Windows Phone 8
- Namespace

  `System.Xml.Linq`

- Read XML file:

  `XmlDocument.Load(file);`

http://msdn.microsoft.com/en-us/library/system.xml.xmldocument.aspx

XML

- **Available:** C# .NET for Windows Phone & Unity3D .NET for Mono
- **Namespace:**

```
System.Xml.Serialization
```

- **Write to XMLfile:**

```
TextWriter wr = new StreamWriterfile);
Serialize(wr, data);
```

- **Read XMLfile:**

```
FileStream fs = new FileStream(file, FileMode.Open);
Deserialize(fs);
```

http://msdn.microsoft.com/en-us/library/system.xml.serialization.xmlserializer.aspx
http://wiki.unity3d.com/index.php?title=Saving_and_Loading_Data:_XmlSerializer
http://wiki.unity3d.com/index.php/Save_and_Load_from_XML

Orientation

- Unity3D Player Settings
- Unity3D API

  Screen.orientation = ScreenOrientation.AutoRotation;

- Windows Phone Solution: MainPage.xaml

  Orientation="Landscape" SupportedOrientations="PortraitOrLandscape"

Player Settings
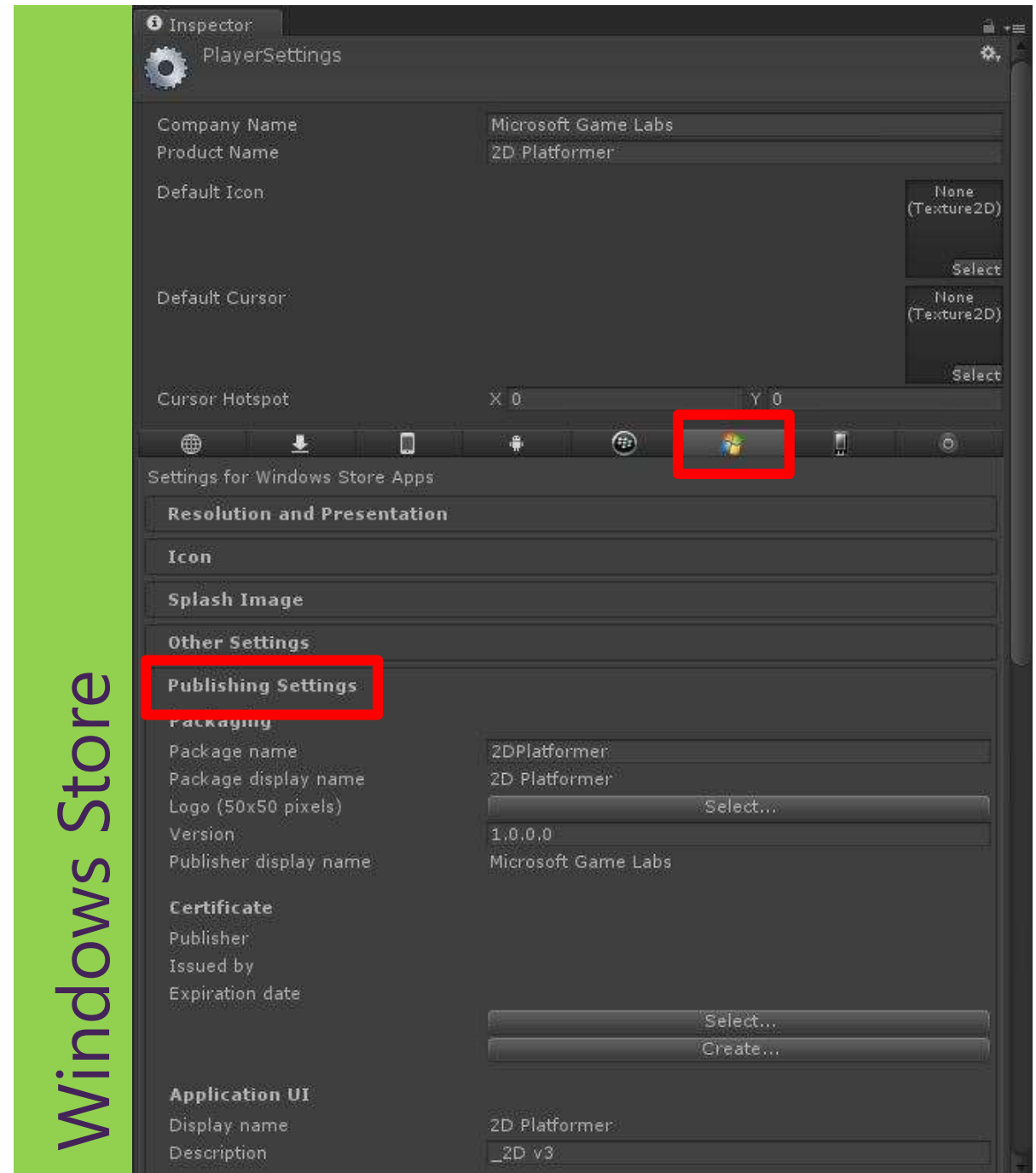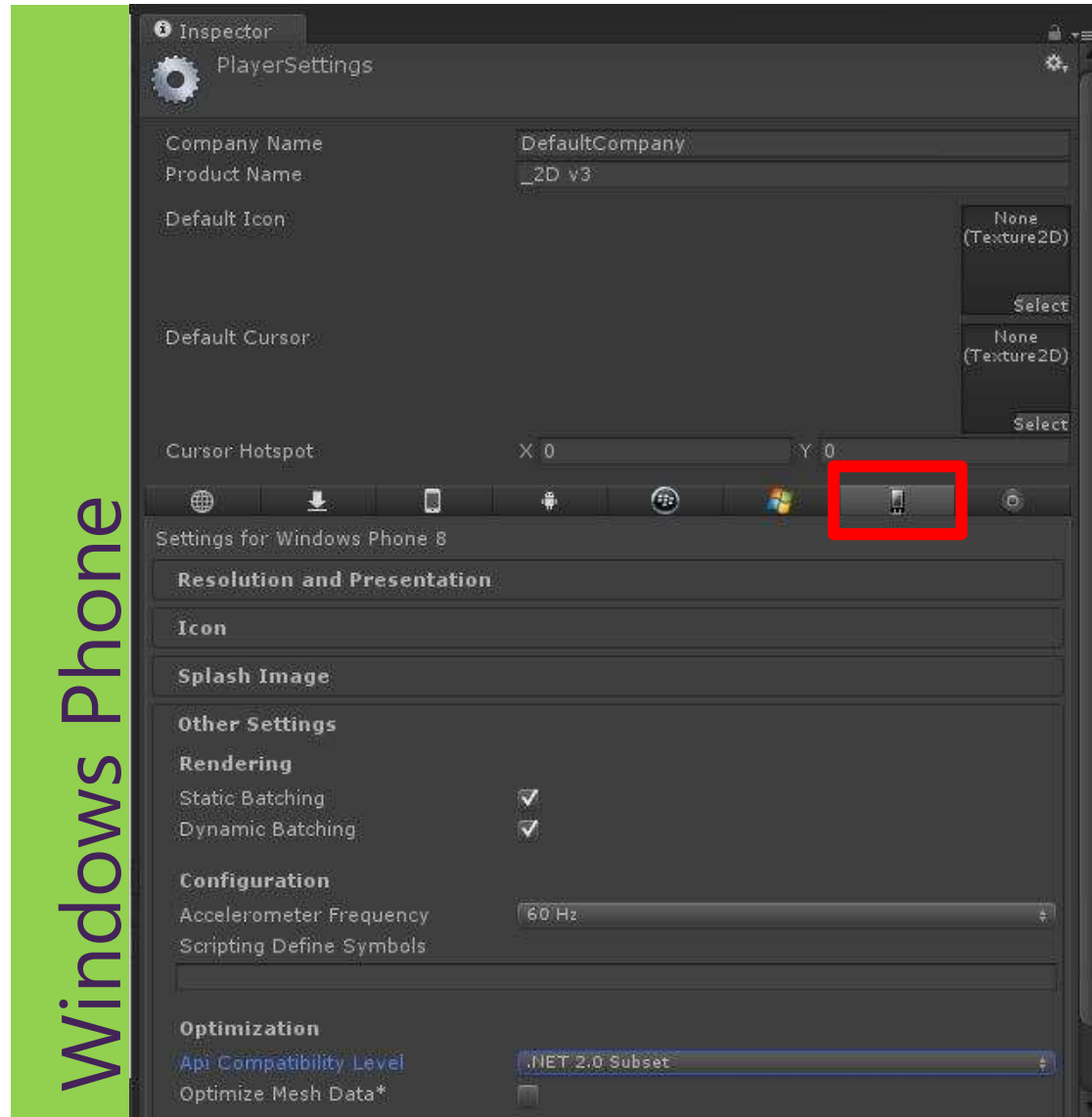
Code Time

```
#if UNITY_WP8
#if UNITY_WINRT
#if (UNITY_WP8 && !UNITY_EDITOR )
#if (UNITY_WINRT && !UNITY_EDITOR )
```

重力感觉 Acceleromator
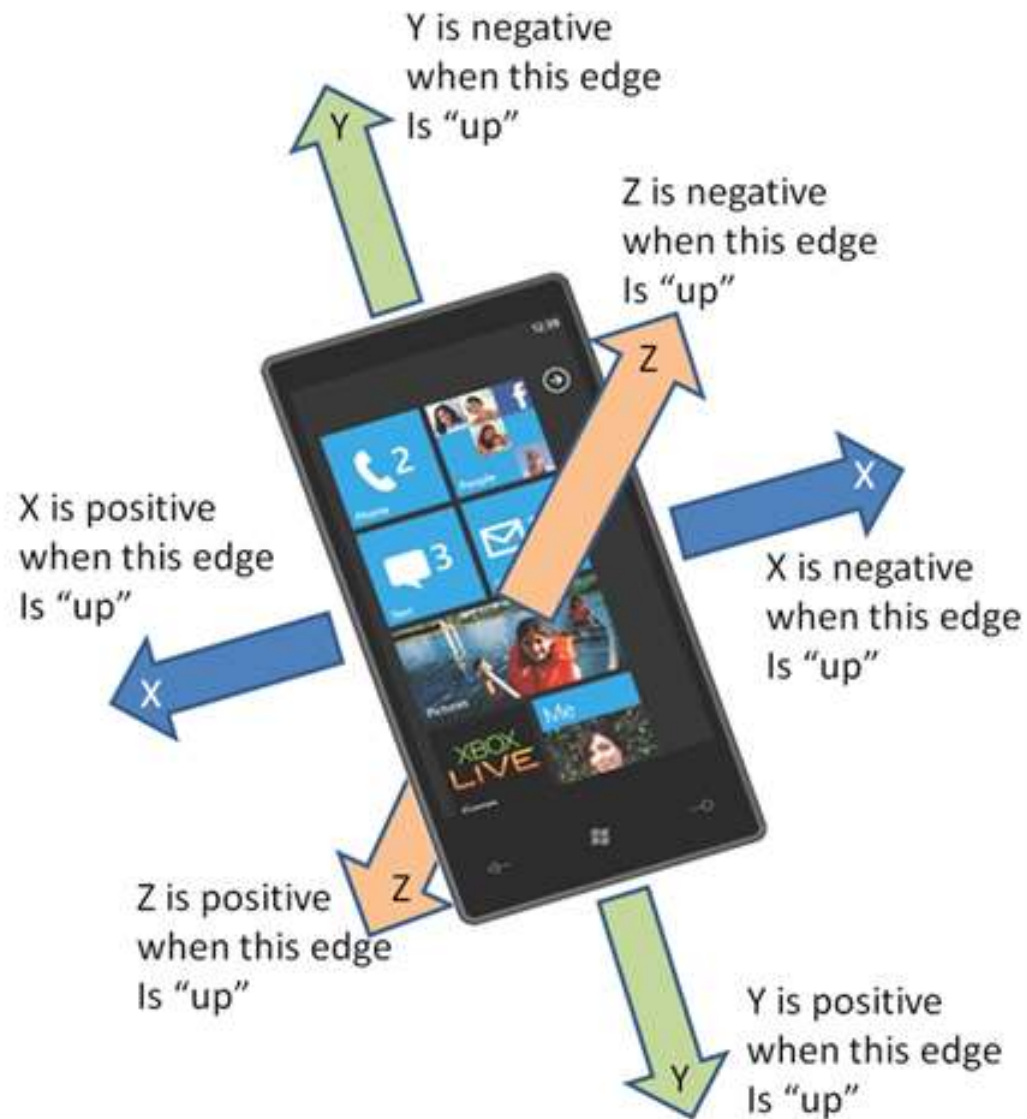
Player Movement

```
if(Application.platform == RuntimePlatform.WP8Player)
{
        MoveAmount = (PlayerSpeed  * Input.acceleration.x )* Time.deltaTime;
        transform.Translate(Vector3.right * MoveAmount);
        MoveAmount = (PlayerSpeed * ((-Input.acceleration.z + 0.5f)*2)) * Time.deltaTime;
        transform.Translate(Vector3.forward * MoveAmount);
}
```

60 Hz = player movement

100 Hz = higher accuracy, higher battery usage

Back Button

MainPage.xaml.cs

```csharp
private void PhoneApplicationPage_BackKeyPress(object s, CancelEventArgs e)
{
    e.Cancel = UnityApp.BackButtonPressed();
    if (Main.GlobalManager != null)
    {
        string currentScene = Main.GlobalManager.CurrentScene;
        string urlXamlPage = "/Hud/" + currentScene + ".xaml";
        if (currentScene == "Main")
        {
            Main.GlobalManager.Quit();
        }
        else
        {
            NavigationService.Navigate(new Uri(urlXamlPage, UriKind.Relative));
        }
    }
}
```

Back Button

```csharp
public class Main : MonoBehaviour
{
    public static Main GlobalManager = null;
    private string mCurrentScene = "";
    public string CurrentScene
    {
        get { return this.mCurrentScene;}
        set { this.mCurrentScene = value; }
    }
    void Start ()
    {
        if (GlobalManager == null)
        {
            GlobalManager = this;
            CurrentScene = Application.loadedLevelName;
        }
    }
    void Quit ()
    {}
}
```

网络通信

Case 1: System.Net.WebClient

http://msdn.microsoft.com/en-us/library/system.net.webclient(v=vs.110).aspx

```
client = new WebClient();
client.Headers.Set("opcode", "" + opcode);
client.Headers.Set(KEY_GAME_SESSION, sessionId);
client.UploadDataCompleted += new
UploadDataCompletedEventHandler(uploadComplate);
client.UploadDataAsync(uri, byteArray);
```

Not supported

网络通信

Case 2: System.Net.HttpWebRequest

```
// Create a new HttpWebRequest object.
HttpWebRequest request =
(HttpWebRequest)WebRequest.Create("http://www.contoso.com/example.aspx");
request.ContentType = "application/x-www-form-urlencoded";
request.Method = "POST";


// start the asynchronous operation
request.BeginGetRequestStream(new AsyncCallback(GetRequestStreamCallback),
request);
```

Not supported

网络通信

Case 3: Windows.Networking.Sockets

http://msdn.microsoft.com/en-us/library/windows/apps/jj150599.aspx

```
var socket = new StreamSocket();
var writer = new DataWriter(socket.OutputStream);
var reader = new DataReader(socket.InputStream);
await socket.ConnectAsync(new HostName(uri.Host), "80");
writer.WriteString(String.Format("GET {0} HTTP/1.1\r\nHost: {1}\r\n\r\n",
uri.AbsolutePath, uri.Host));
await writer.StoreAsync();
var bytes = await reader.LoadAsync(numBytes);
var response = reader.ReadString(bytes);
socket.Dispose();
```

Supported!

网络通信

Case 4: Unity WWW

```
GET:
string url = "http://www.example.com";
WWW www = new WWW(url);
StartCoroutine(WaitForRequest(www));
POST:
WWW wwwPost = new WWW(url);
wwwPost.responseHeaders.Add("key", "value");
StartCoroutine(WaitForRequest(www));
```

Supported!

应用内购买 IAP

In-app product properties

testapp01

We'll need some additional information about the in-app product to make sure it shows up correctly in your app, and that you get paid for any purchases.

Product info

In-app product alias*
The friendly name for your in-app product, but it's not shown to users

Product identifier*
The same identifier you used in the app

Product type*
Learn more about product types

Consumable

应用内购买

```
#if DEBUG
    using MockIAPLib;
    using Store = MockIAPLib;
#else
    using Store = Windows.ApplicationModel.Store;
#endif
```

msdn.microsoft.com/en-us/library/windowsphone/develop/jj681689(v=vs.105).aspx
http://code.msdn.microsoft.com/wpapps/Mock-In-App-Purchase-33080f0c

应用内购买

```csharp
private const string PRODUCT_ID = "myIAPProductA";

Store.ListingInformation listInfo = await
Store.CurrentApp.LoadListingInformationAsync();

bool isPurchased =
Store.CurrentApp.LicenseInformation.ProductLicense
s[PRODUCT_ID].IsActive;
```

Demo

Porting Unity Game to Windows Phone 8

Coding Walkthroughs

Setup

Visual Studio & Emulator

Schedule Live Tiles

Live Tiles Notifications

XML

Player Control

XAML Integration

Navigation

Windows Gateway

Unity Plugins for WP8

File IO

Networking

In App Purchase

Collections

Sharing

Reflection

Debugging

Publishing   ...& more

Tools

Developer Tools

http://developer.windowsphone.com/en-us/getstarted/downloads

Windows Phone Toolkit

http://phone.codeplex.com/

Coding4Fun Toolkit

http://coding4fun.codeplex.com/

Windows Phone Power Tools

http://wptools.codeplex.com/

Resources

Multi-resolution apps for Windows Phone 8

http://msdn.microsoft.com/en-us/library/windowsphone/develop/jj206974(v=vs.105).aspx

Introduction to multiple resolution support

http://developer.nokia.com/community/wiki/Introduction_to_multiple-resolution_support_on_Windows_Phone_8_apps

Command Line Prompts

https://docs.unity3d.com/Documentation/Manual/CommandLineArguments.html

Getting Started Tutorials

2014 Building Your First Windows Game with Unity

http://channel9.msdn.com/Events/Build/2014/2-503

Unity3D WP8 Examples

https://docs.unity3d.com/Documentation/Manual/wp8-examples.html

Nokia Community

http://developer.nokia.com/community/wiki/Getting_Started_with_Unity_3D_on_Windows_Phone

Microsoft Virtual Academy: Porting Unity Games to Windows 8.1 & Windows Phone 8

http://www.microsoftvirtualacademy.com/training-courses/porting-unity-games-to-windows-8-1-windows-phone

Porting Unity Games

http://unity3d.com/pages/windows/porting

Code Kwondo: Closer Look at Unity

http://channel9.msdn.com/Events/Developer-Movement/UnityAndGaming/Part1

Getting Started on Windows Store with Unity

http://az527613.vo.msecnd.net/wpchallengefiles/GettingStartedWindowsStoreUnity01.pdf

Building Windows Games with Unity

http://channel9.msdn.com/Events/Windows-Camp/Building-Windows-Games-with-Unity