

## 将Unity游戏移植到 Windows Phone

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### http://unityportinglab.azurewebsites.net/

**Unity Porting Labs** 

重要网站

美术资源

### Unity手动实验室

### 学习

微软开发技术顾问为大家介绍Unity游戏移植到Windows Phone平台。

### 动手

一起动手写代码。教师会1对1解决大家的问题。

### 分享

团队和开发者可以分享自己移植过的 WP游戏。

### 最新情况

#### June 6, 2014

Demo需要下载的代码有CodeSnippets.zip和Getting Starting Template (UnityPortingLabBegin.zip). 这两个包演讲的时需要你们一起跟着老师一步一步编程。你可以从微软OneDrive盘,微盘,或者百度云网盘下载资料。

然后, 你可以下载最后做好的版本在我的GitHub盘上。

Elissa's GitHub Unity Porting Labs: 访问 GitHub上面的代码是最新。下面的链接在网盘里可能有点旧。

### 下载

将Unity游戏移植到Windows Phone文档: 下载PDF 游戏开发者的"新金山"文档: 下载PDF

Sample code for the Unity Porting Labs:

- 1. Elissa's GitHub Unity Porting Labs: 访问
- 2. Elissa's CodeSnippets for demo: 访问
- 3. Example GitHub Unity Plugins: 访问

### 联系我们

想留言,有意见,有代码想分享,有U3D或者WP开发的问题吗?请发邮件给我们!我们尽

## 系统要求

Windows PC	<ul> <li>Unity 4.3.4</li> <li>Windows 8.x Professional+, 64 bit</li> <li>Microsoft Visual Studio 2013 with Windows Phone 8 SDK</li> <li>Windows Phone SDK 8.0 with Microsoft Visual Studio 2012 Express</li> <li>Windows Phone device</li> </ul>			
Mac OS X	<ul> <li>Boot Camp 5+</li> <li>Windows 8.x Professional &amp; up 64-bit ISO &amp; bootable USB or Disk</li> <li>Windows 7 USB/DVD download tool</li> </ul>			

### 系统安装的一些网址

### Windows PC

- 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

### Mac OS X

- microsoftstore.com/store/msusa/html/pbPage.Help Win7 usbdvd dwnTool
- http://windows.microsoft.com/zh-cn/windows-8/install-windows-on-mac
- help.apple.com/bootcamp/mac/5.0/help
- <u>digitaltrends.com/computing/how-to-install-windows-8-on-a-mac/</u>
- <u>download.parallels.com/desktop/v9/ga/docs/zh\_CN/Parallels%20Desktop%20User's%20Guide</u>

## 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

# 开发 Windows Phone

# 所需的工具

### 手游开发过程

代码编写

性能检测

模拟运行

游戏部署

联机调试

### 手游开发过程

### 代码编写

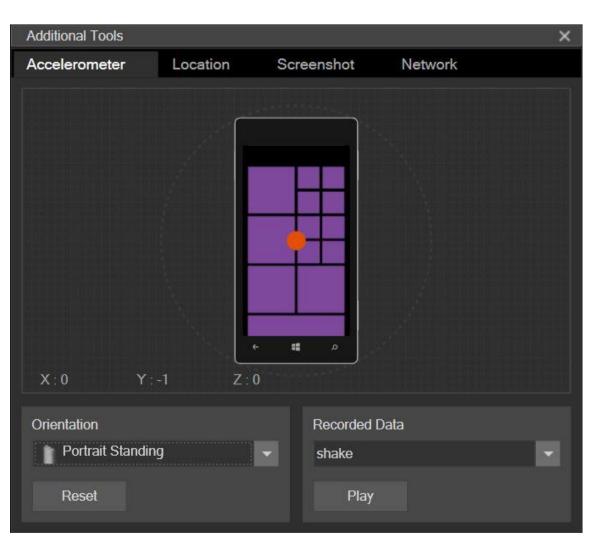
### Windows Phone 工具:

- Windows Phone
- Windows Phone Developer Registration
- Windows Phone Emulator
- Hyper-V Manager
- Windows Phone Power Tools
- Application Deployment

**Visual Studio** 模拟运行 性能检测 **Windows Phone Windows Phone Power Tool Emulator** 游戏部署 联机调试 **Windows Phone Application Developer Deployment Tool Registration Tool** 

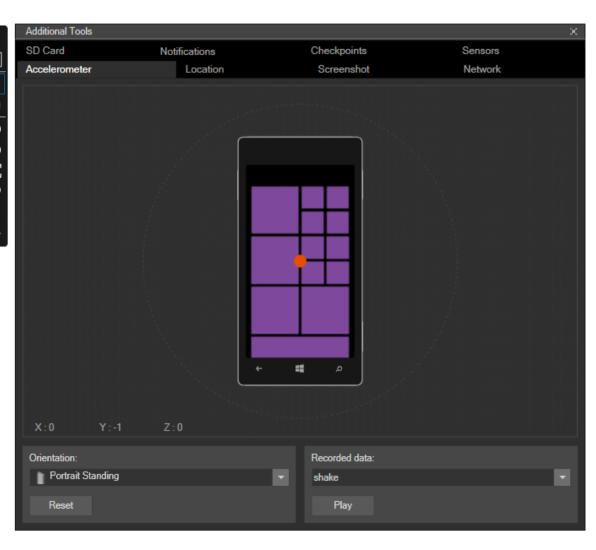
## 模拟器 (8.0)





## 模拟器 (8.1)





### 模拟器的提升:

- Network
- Multi-touch emulation with mouse
- SD card
- Location improvements

#### 模拟推送服务:

- Locally simulate push notifications
- Save and load data samples

## 帧速率计数器



App.xaml.cs:

Application.Current.Host.Settings
.EnableFrameRateCounter = true;



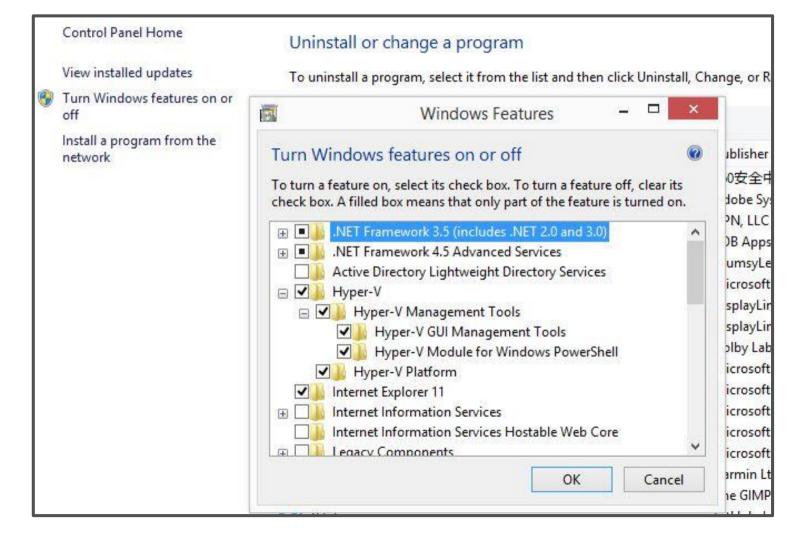
## 模拟器错误

- 解决方案: 关掉和删除不用的软件
- http://support.microsoft.com/kb/2911380/en-us



							Task Manager				
File Optio	ons View										
Processes	Performance	App history	Startup	Users	Details	Services			1		
							7%	72%	1%	0%	
Name Status							CPU	Memory	Disk	Network	
▶ Microsoft Visual Studio 2013 (32 bit)							0%	81.0 MB	0 MB/s	0 Mbps	
▶ P  Microsoft PowerPoint (32 bit)						0%	61.1 MB	0 MB/s	0 Mbps		
Service Host: Local Service (No Network)						0%	44.4 MB	0 MB/s	0 Mbps		
Service Host: Local System (17)						0%	31.8 MB	0 MB/s	0 Mbps		
Microsoft Word (32 bit)						0%	31.1 MB	0 MB/s	0 Mbps		

• 第1步:启用Hyper-V



Windows Phone 模拟器本质是:

使用Hyper-V虚拟 化技术的虚拟机

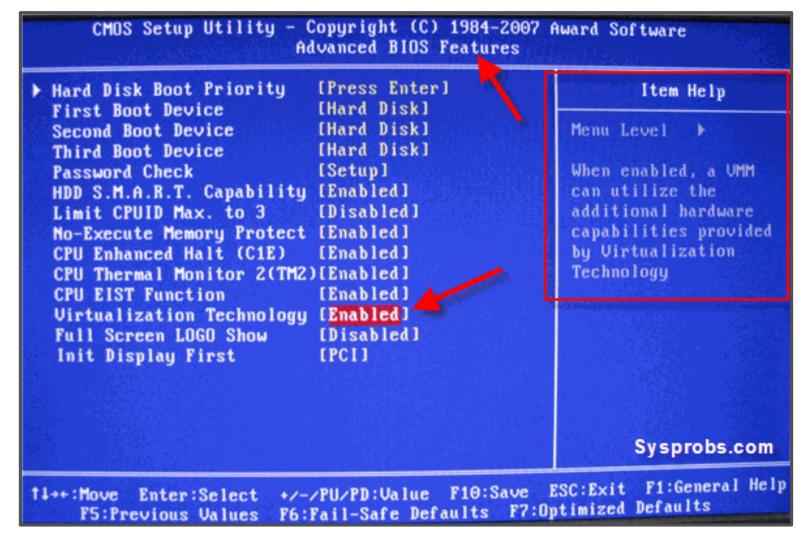
• 第2步: 查询你的电脑是否支持Virtualization?

使用工具 Coreinfo 查询

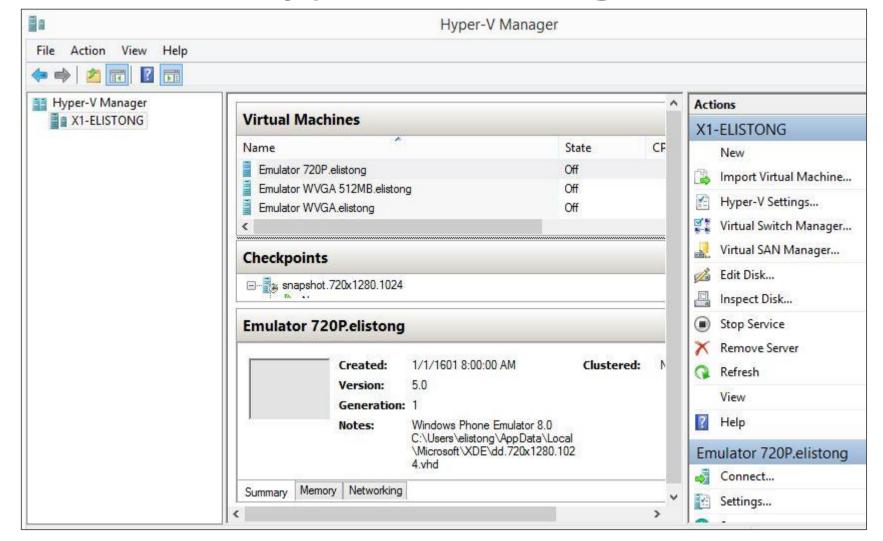
```
C:\Users\yimei\Downloads\Coreinfo>Coreinfo.exe
Coreinfo v3.21 - Dump information on system CPU and memory topology
Copyright (C) 2008-2013 Mark Russinovich
Sysinternals - www.sysinternals.com
Intel(R) Core(TM) i7-3520M CPU @ 2.90GHz
Intel64 Family 6 Model 58 Stepping 9, GenuineIntel
                        Hyperthreading enabled
\mathsf{HTT}
                        Hypervisor is present
HYPERVISOR
                        Supports Intel hardware-assisted virtualization
VMX
                        Supports AMD hardware-assisted virtualization
SVM
                        Supports 64-bit mode
EM64T
```

http://technet.microsoft.com/enus/sysinternals/cc835722.aspx

· 第3步:在BIOS中打开虚拟化



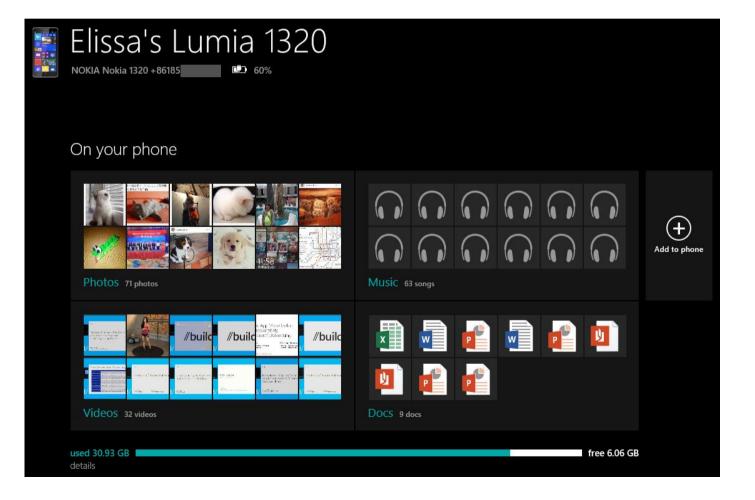
• 第4步:Hyper-V Manager





### Windows Phone

- ·设备用USB连上电脑会打开工具
- 功能包含:下照片,视频,文章,图片





### 手机注册



- ·建议用一个WP设备来测试
- 测试设备需要注册

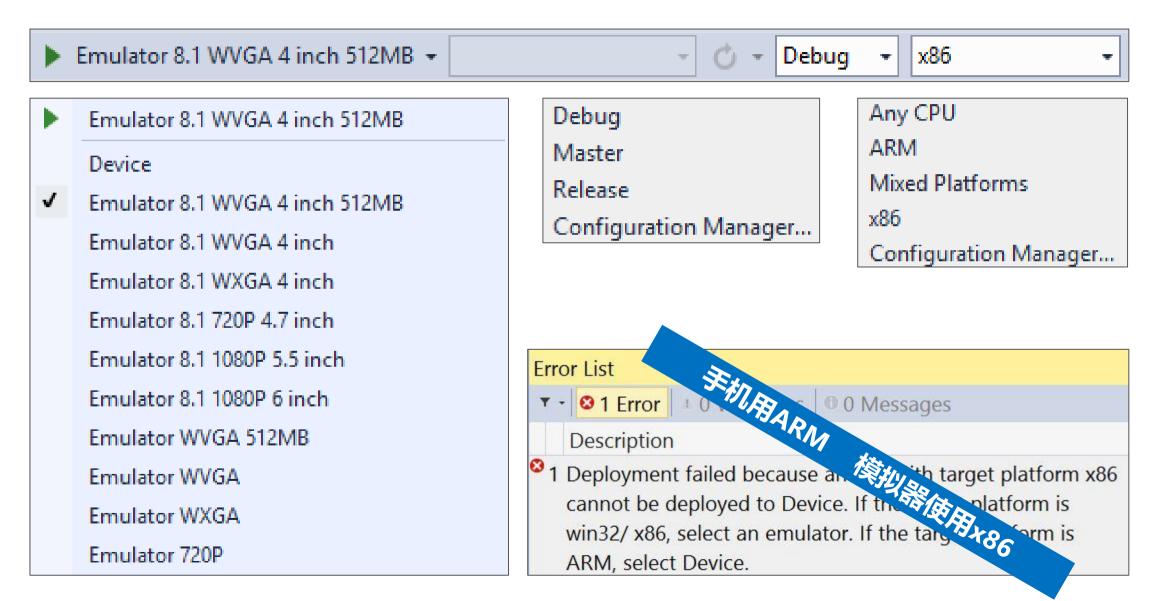
http://irisclasson.com/2013/10/28/problems-and-fixes-when-registering-a-windows-phone-8-device-to-deploydebug-applications

## 手机注册查询

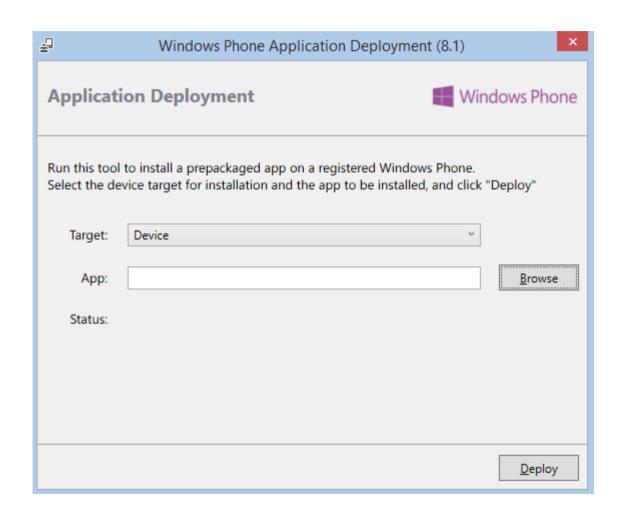


https://dev.windowsphone.com/zh-cn/Account/Devices

## 联机调试



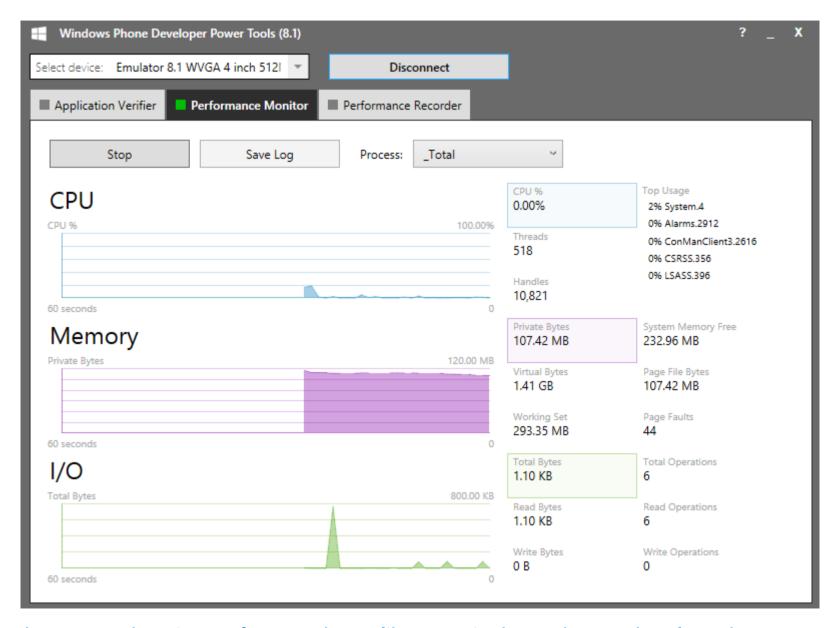
## 应用部署



### 步骤

- 1. 选择设备或模拟器
- 2. 上传Windows Phone XAP包
- 3. **点击Deploy**

### Windows Phone Power Tools



### **AppVerifier**

用于发现资源泄露和程序漏洞

#### **Performance Monitor**

性能实时检测

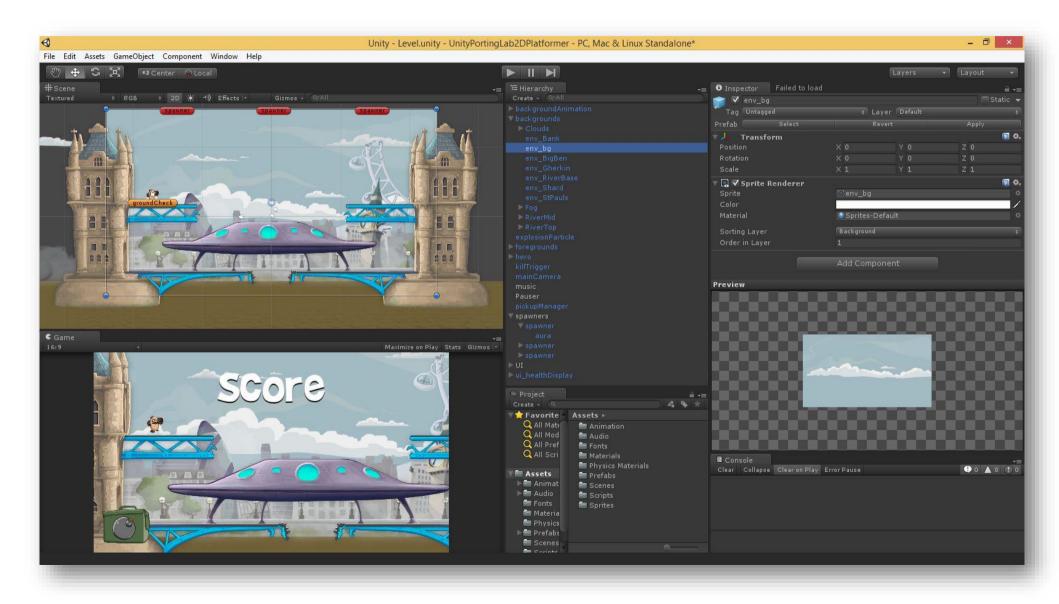
#### **Performance Recorder**

性能记录

http://msdn.microsoft.com/zh-cn/library/windowsphone/develop/dn629255.aspx

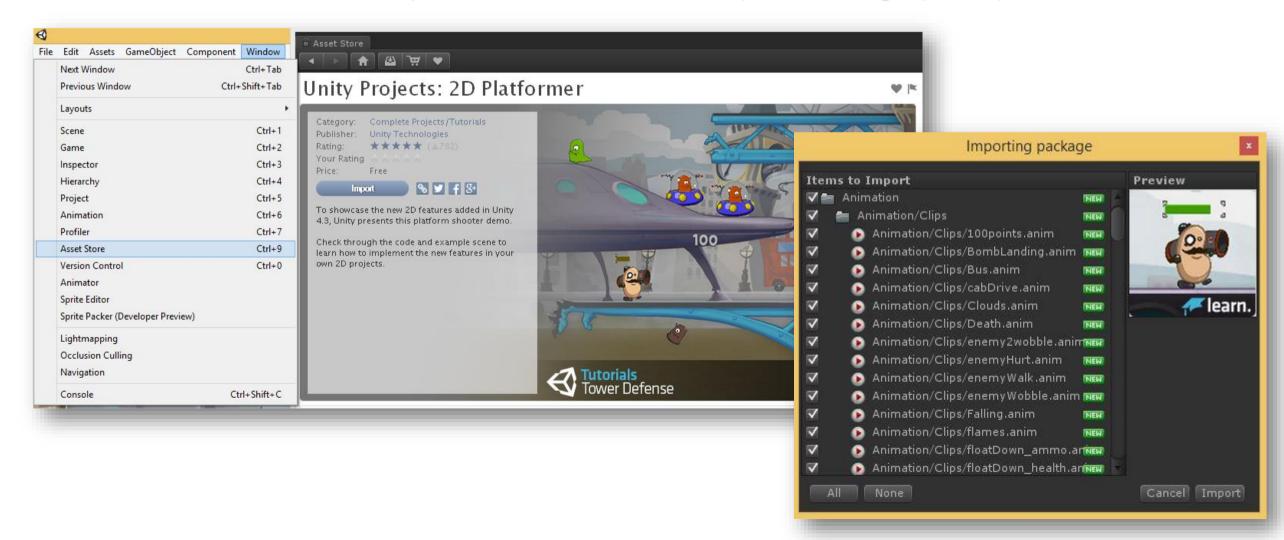
# Unity Demo 创建

## Unity3D 编辑

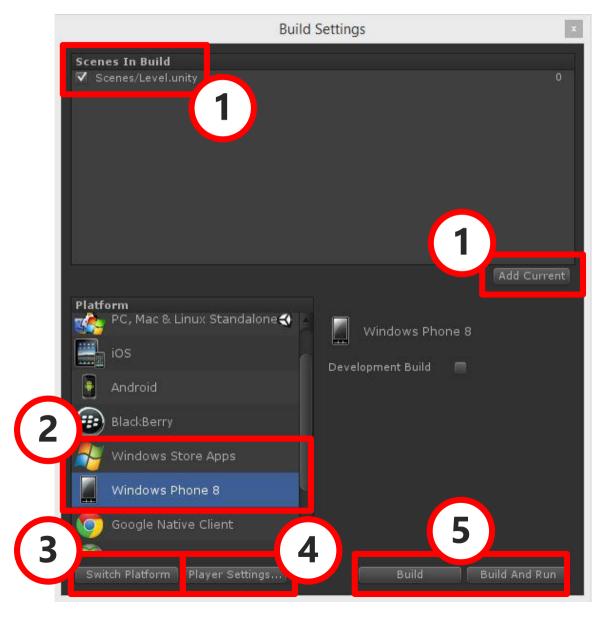


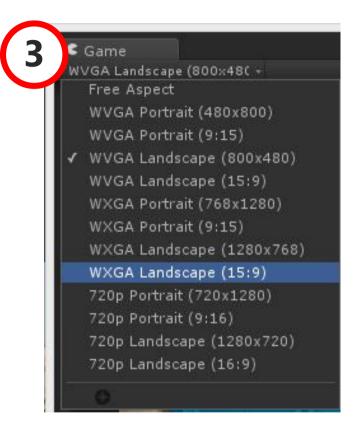
### Asset Store 资源商店

Download a sample tutorial for porting purposes



## 构建设备





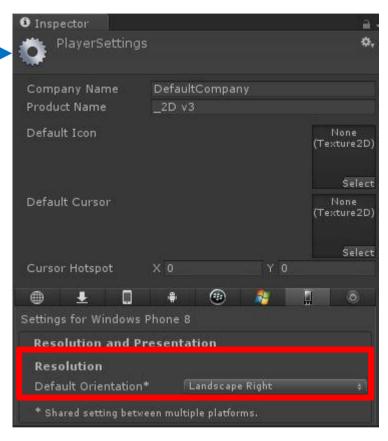
### 方向 Orientation

- Unity3D Player Settings
- Unity3D API 脚本:

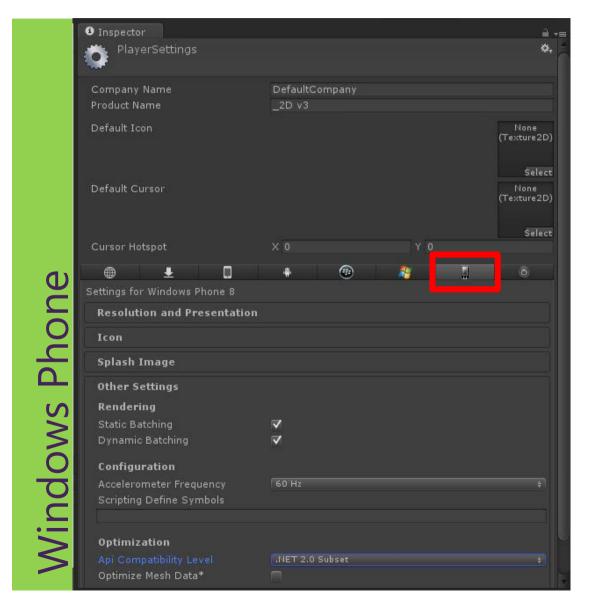
Screen.orientation = ScreenOrientation.AutoRotation;

• Windows Phone 工程: XAML代码

```
MainPage.xaml * ×
 Phone:PhoneApplicationPage
                   x:Class=" 2Dv3.MainPage"
                   xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentat:
                   xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
                   xmlns:phone="clr-namespace:Microsoft.Phone.Controls;assembly=1
                   xmlns:shell="clr-namespace:Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Microsoft.Phone.Shell;assembly=Micr
                   xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
                   xmlns:mc="http://schemas.openxmlformats.org/markup-compatibil:
                   mc: Ignorable="d"
                   FontFamily="{StaticResource PhoneFontFamilyNormal}"
                   FontSize="{StaticResource PhoneFontSizeNormal}"
                   Foreground="{StaticResource PhoneForegroundBrush}"
                   Orientation="Landscape"
                   SupportedOrientations="Landscape"
                   BackKeyPress="PhoneApplicationPage BackKeyPress"
                   OrientationChanged="PhoneApplicationPage OrientationChanged">
```



## Player Settings



#### Company Name Microsoft Game Labs Product Name 2D Platformer Default Icon None Select Default Cursor Select Cursor Hotspot X 0 **(#2)** Settings for Windows Store Apps Resolution and Presentation Icon Splash Image Other Settings Publishing Settings rackayınıy Package name 2DPlatformer Package display name 2D Platformer Logo (50x50 pixels) Microsoft Game Labs Publisher display name **Windows** Certificate Publisher Issued by Expiration date Application UI Display name 2D Platformer 2D v3

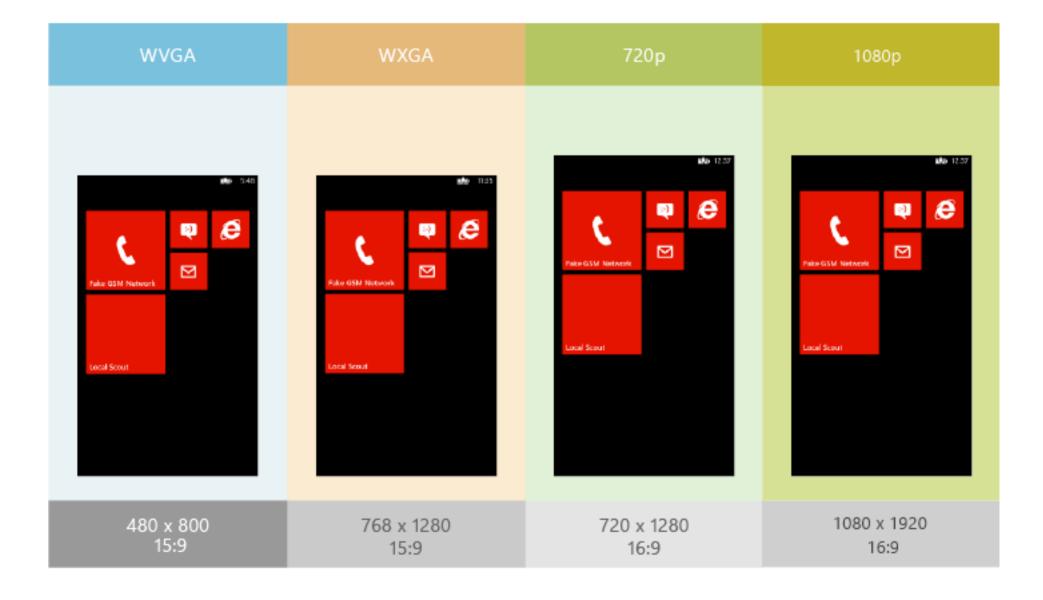
Inspector

# Unity Demo 完善

### 第一步:

## 让Demo更接近Windows Phone App

## 多种分辨率



## 内存

	Memory of Devices					
512M	lower-memory WVGA devices	低内存设备				
1G	720p devices					
2G	newer 4.5" WXGA devices, Nokia 1020					

	Memory-related manifest entries						
Capabilities  Requirement		ID_FUNC_EXTENDED_MEM					
	为设备保留更高的内存分配	低内存手机为 180 MB 大于1GB 内存的手机为 380 MB					
		ID_REQ_MEMORY_300					
	Requirement	低内存的手机,则选择完全退出	应用不会出现在低内存手机的 Windows Phone 商店中, 也无法安装在低内存手机上				

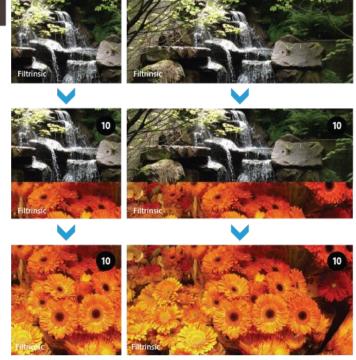
<a href="http://msdn.microsoft.com/en-us/library/windowsphone/develop/jj681682(v=vs.105).aspx/html">http://msdn.microsoft.com/en-us/library/windowsphone/develop/jj681682(v=vs.105).aspx/html</a>
<a href="http://forum.unity3d.com/threads/202952-Tips-and-Tricks-Make-sure-to-profile-your-phone-app-s-memory-usage!">http://forum.unity3d.com/threads/202952-Tips-and-Tricks-Make-sure-to-profile-your-phone-app-s-memory-usage!</a>

### 动态磁贴 Live Tiles

- Appear on your Start Screen, represents the icon for your app
- 3 Tile sizes: small, medium, and wide
- 3 Tile templates: iconic, flip, and cycle <u>msdn.microsoft.com/zh-cn/library/windowsphone/develop/hh202948(v=vs.105).aspx</u>

http://wat-docs.azurewebsites.net/Tools
http://aka.ms/WSIP









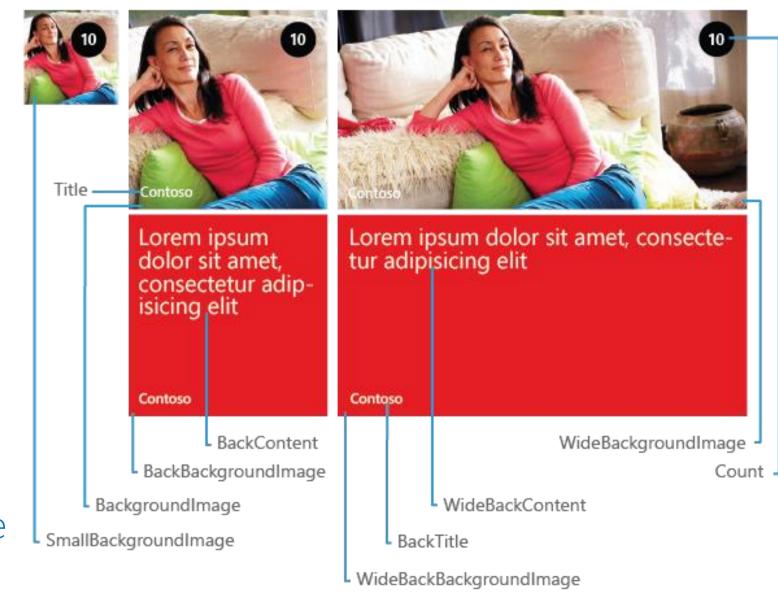
Lorem ipsum dolor sit
Amet consectetuer adipiscing elit
sed do eiusmod tempor omnus

Contoso

**©**10

### 翻转磁贴模板

- Title
- Count
- BackContent
- WideBackContent
- SmallBackgroundImage
- BackgroundImage
- WideBackgroundImage
- BackBackgroundImage
- WideBackBackgroundImage

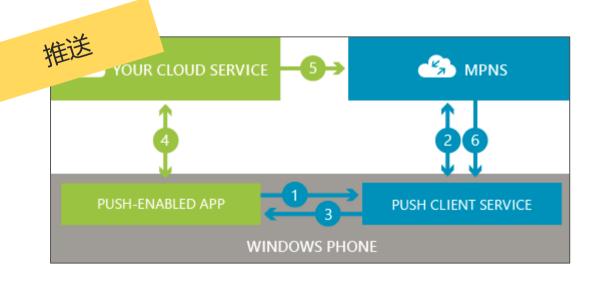


### Windows Phone 的通知









## 磁贴本地通知

- 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

第二步:

完成和平台有关的游戏功能

### 回退按钮

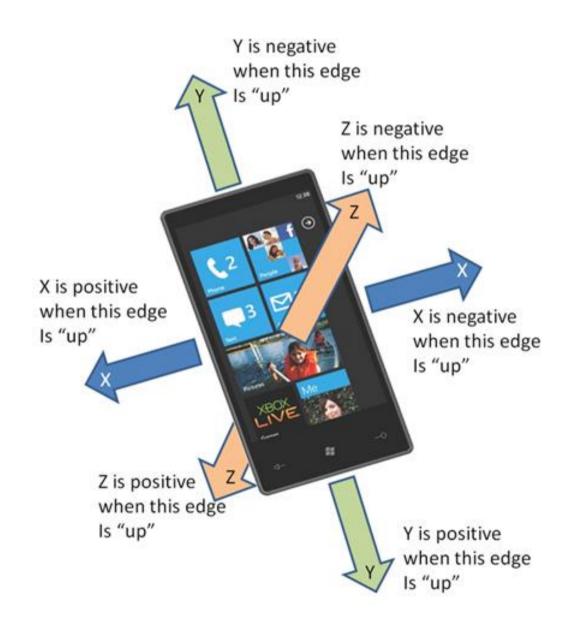
#### MainPage.xaml.cs

```
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));
```

## 回退按钮

```
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 ()
    {}
```

## 加速计 Acceleromator



## 角色动作

```
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);
}
```

# 移植中的常见问题

## 第一步:

解决 API Missing 的错误

C# .NET Framework

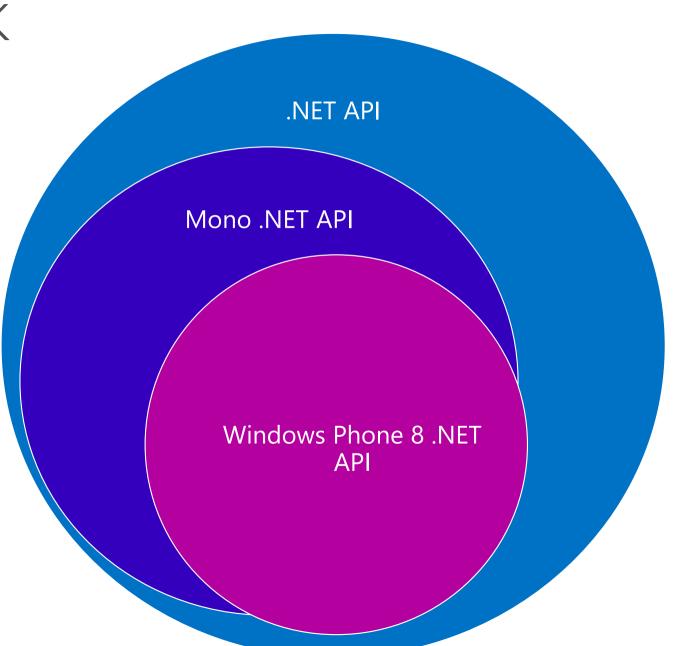
#### 缺少的API?

Mono .NET

<a href="https://github.com/mono/mono/tree/master/mcs/class/System/System.Net">https://github.com/mono/mono/tree/master/mcs/class/System/System.Net</a>

#### Windows Phone .NET

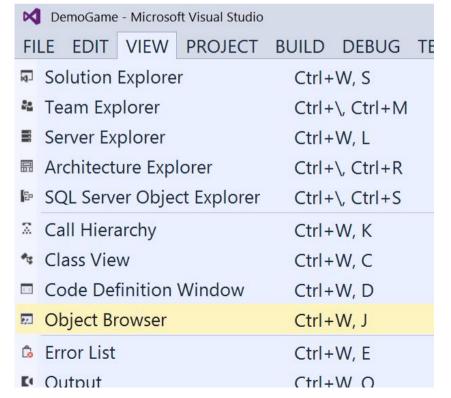
http://msdn.microsoft.com/enus/library/windowsphone/develop/jj207211(v= vs.105).aspx

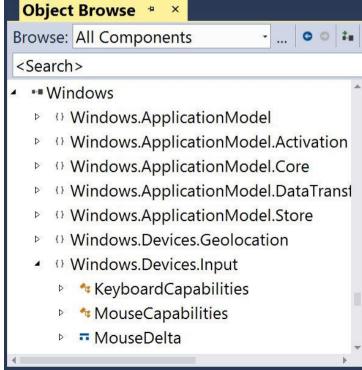


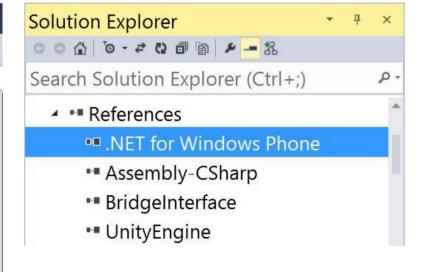
#### Windows Phone .NET API

For an easy method to view API references:

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







## 解决 API Missing 的方案

#### Solution 1: Unity Plugins

Example: Elissa's GitHub UnityPlugins

Example: 3<sup>rd</sup> Party GitHub <u>PlatformerPlugins</u>

#### Solution 2: Action (void delegate)

Example: WindowsGateway.cs

#### Solution 3: Global instance

Example: GameManager.cs

## 第二步:

## 创建常用的 API 库

(XML, File IO, Json解析, 网络通信...)

#### 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);

#### XML

- Available: Unity3D 4.3.3+, C# in Mono .NET
- Available: C# in Windows Phone 8
- Namespace
   System.Xml.Linq
- Read XML file: XmlDocument.Load(file);

#### XML

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

## File IO Plugin: WP代码

#### File and Directory classes are not supported.

```
public static async Task<string> CreateFile(StorageFolder folder, string name, string path, string contents)
  folder = await navigateFrom(folder, path);
  StorageFile file = await folder.CreateFileAsync(name, CreationCollisionOption.ReplaceExisting);
  using(IRandomAccessStream stream = await file.OpenAsync(FileAccessMode.ReadWrite))
   using (DataWriter writer = new DataWriter(stream))
     writer.WriteString(contents);
      await writer.StoreAsync();
  return file.Path;
public static void CreateFile(string filename, string content, string path = "")
  var task = FileHandling.CreateFile(ApplicationData.Current.LocalFolder, filename, path, content);
  task.Wait();
```

## File IO Plugin: Unity 脚本

```
IEnumerator Start()
   WWW wwwBinary = new WWW("http://unityportinglab.azurewebsites.net/images/smallicon.png");
    yield return wwwBinary;
    if (wwwBinary.isDone)
        byte[] fileBytes = wwwBinary.bytes;
        UnityPlugins.File.CreateFile("test.png", fileBytes, "Test");
   WWW wwwText = new WWW("http://unityportinglab.azurewebsites.net/tilestemplateshort.xml");
    yield return wwwText;
    if (wwwText.isDone)
        UnityPlugins.File.CreateFile("test.txt", wwwText.text, "Test/Test1");
```

#### Code Time

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

#### Case 1: System.Net.WebClient

```
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!

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

#### 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!

#### Case 3: Windows.Networking.Sockets

#### Supported!

#### Case 4: Unity WWW

**GET**:

POST:

```
string url = "http://www.example.com";
WWW www = new WWW(url);
StartCoroutine(WaitForRequest(www));
```

## WWW wwwPost = new WWW(url); wwwPost.responseHeaders.Add("key", "value"); StartCoroutine(WaitForRequest(www));

#### Supported!

## 使游戏现代化

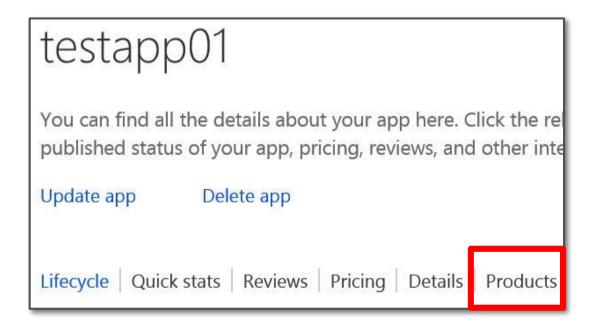
•应用内购买(IAP)

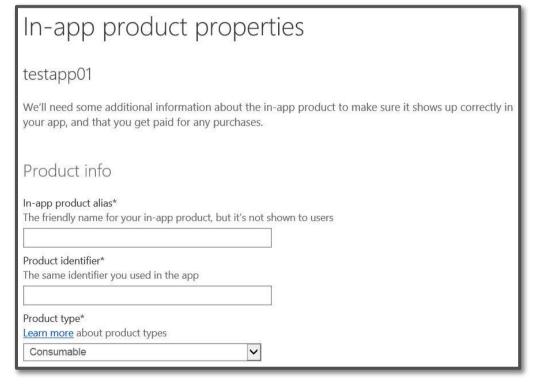
• 整合社交功能(微信、微博)

• 内嵌广告

### 应用内购买 IAP

- To create IAP, create an App, then add Products.
- Set App to BETA mode with Price of \$0.00 for testing.
- Go to App's Details & copy Product Id to WMAppManifest.xml Packaging.
- Submit & wait ~2 hours





http://msdn.microsoft.com/en-us/library/windowsphone/develop/dn532254.aspx http://visualstudiomagazine.com/articles/2013/07/01/in-app-purchasing-for-windows-phone-8.aspx

## 应用内购买

#### For testing in DEBUG mode:

```
#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 http://www.getcodesamples.com/src/8B56394C/270573FF

## 应用内购买

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

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

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

## 应用内购买

- Enable in-app purchases from your app (XAML) <a href="http://msdn.microsoft.com/en-us/library/windowsphone/develop/dn532254.aspx">http://msdn.microsoft.com/en-us/library/windowsphone/develop/dn532254.aspx</a>
- Enable in-app purchases of consumables (XAML) <u>http://msdn.microsoft.com/en-us/library/windowsphone/develop/dn532255.aspx</u>
- In-app purchases <a href="http://msdn.microsoft.com/library/windows/apps/hh694067">http://msdn.microsoft.com/library/windows/apps/hh694067</a>

# 主要网站

工具	学习
Developer Tools	2014 Building Your First Windows Game with Unity
http://developer.windowsphone.com/en-us/	http://channel9.msdn.com/Events/Build/2014/2-503
getstarted/downloads	Unity3D WP8 Examples
Windows Phone Toolkit	https://docs.unity3d.com/Documentation/Manual/wp8-
http://phone.codeplex.com/	<u>examples.html</u>
Coding4Fun Toolkit	Nokia Community
http://coding4fun.codeplex.com/	http://developer.nokia.com/community/wiki/Getting_Started_
Windows Phone Power Tools	with Unity 3D on Windows Phone
http://wptools.codeplex.com/	Microsoft Virtual Academy: Porting Unity Games to
	Windows 8.1 & Windows Phone 8
	http://www.microsoftvirtualacademy.com/training-
Multi-resolution apps for Windows Phone 8	<u>courses/porting-unity-games-to-windows-8-1-windows-</u>
http://msdn.microsoft.com/en-	<u>phone</u>
<u>us/library/windowsphone/develop/jj206974(v=vs.105).aspx</u>	Porting Unity Games
Introduction to multiple resolution support	http://unity3d.com/pages/windows/porting
http://developer.nokia.com/community/wiki/Introduction_to_	Code Kwondo: Closer Look at Unity
multiple-resolution support on Windows Phone 8 apps	http://channel9.msdn.com/Events/Developer-
Command Line Prompts	Movement/UnityAndGaming/Part1
https://docs.unity3d.com/Documentation/Manual/Command	Getting Started on Windows Store with Unity
<u>LineArguments.html</u>	http://az527613.vo.msecnd.net/wpchallengefiles/GettingStart
分享	edWindowsStoreUnity01.pdf
http://msdn.microsoft.com/zh-cn/jj923044	Building Windows Games with Unity
http://weibowp8sdk.codeplex.com/	http://channel9.msdn.com/Events/Windows-Camp/Building-
	<u>Windows-Games-with-Unity</u>

## UNITY 游戏移植到 WP 的步骤

- 1. 在Unity Editor下SwitchPlatform,切换到WP8
- 2. 设置项目属性(包括Orientation等), Build生成 WP8 的工程
- 3. 设置并添加包括名字、图标、动态磁贴、本地通知等属性,让游戏 App 成为标准的 WP8 App
- 4. 完成游戏中和平台相关的内容,包括回退键处理、触屏操控等
- 5. 使用 API 库,解决各类移植错误
- 6. 增加游戏现代化代码,比如社交、广告、应用内支付等,让游戏更具商业价值



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