



Windows
Phone

An Introduction to
the Windows
Phone Platform



Rob Miles & Andy Wigley
Windows Phone 7 Jump Start
Microsoft Corporation

Agenda

Phone Overview

Platform Overview

Developer and Marketplace

Development Options

Review

2

Windows Phone Jump Start



Windows
Phone

Phone Overview

Meet Windows Phone

Demo

Demo 1: Windows Phone in action



4

Windows Phone Jump Start

General Overview



 Windows Phone

Platform Overview

Hardware Foundation

Display

480x800 QVGA
320x480 HVGA

Capacitive touch

4 or more contact points

Sensors


A-GPS, Accelerometer, Compass, Light

Camera

5 mega pixels or more

Hardware buttons

Start, Search, Back



Multimedia

Common detailed specs
Codec acceleration

Memory

256MB RAM or more
8GB Flash or more

GPU

DirectX 9 acceleration

CPU

ARMv7
Cortex/Scorpion or better

Common Platform Capabilities

Input

- Touch
- Hardware buttons

Media

- Digital media capture & playback
- Media library access

Data

- Isolated Storage
- LINQ (Objects and XML)

.NET


- Superset of Silverlight 3.0
- Windows Communication Foundation
 - SOAP and REST services

Phone Access

- Integrated access to phone UI
- Sensors
- Picker for contacts and photos

Integrated With Cloud Services

- App Deployment & Updates
- Notifications
- Location
- Xbox LIVE



Developer and Marketplace

© 2010 Microsoft Corporation. All rights reserved. Microsoft, Windows, Windows Vista and other product names are or may be registered trademarks and/or trademarks in the U.S. and/or other countries. The information herein is for informational purposes only and represents the current view of Microsoft Corporation as of the date of this presentation. Because Microsoft must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information provided after the date of this presentation. MICROSOFT MAKES NO WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AS TO THE INFORMATION IN THIS PRESENTATION.

3

Windows Phone Developer Tools

The diagram illustrates the development workflow for Windows Phone 7. It starts with a 'Tools' box containing Visual Studio, Expression Blend, Phone Emulator, Zune Game Studio, Samples, Documentation, Guides, Community, and Packaging and Verification Tools. An arrow points from this box to a 'myapp.xap' file icon. Another arrow points from the file to a 'Windows Phone Emulator' device. A third arrow points from the emulator to a 'Windows Phone device'. A final arrow points from the device to a 'Packaging & Verification Tools' box.

Application Marketplace

The image shows the Application Marketplace interface on a Windows Phone. It features a 'SHAZAM' logo and a grid of application tiles. The tiles include 'applications', 'games', 'music', 'products', 'contests', and '2 updates'. A smartphone is shown displaying the marketplace interface.

Enhanced Discovery

- Easy to find great applications, games
- Fun to browse the marketplace

Simple, Reliable Acquisition

- Try before you buy
- Buying and downloading content is a breeze
- Payment flexibility (MO billing and credit card)
- Easy application updates

Using Marketplace

- It costs nothing to download the Windows Phone SDK and write code using the emulator
- To sell applications you need to register as a developer
 - This costs \$99 a year and allows you to publish any number of fee applications and up to 5 free applications
 - Each additional application costs \$20
- More detail in Session 4

12

Windows Phone Jump Start

© 2010 Microsoft Corporation. All rights reserved. Microsoft, Windows, Windows Vista and other product names are or may be registered trademarks and/or trademarks in the U.S. and/or other countries. The information herein is for informational purposes only and represents the current view of Microsoft Corporation as of the date of this presentation. Because Microsoft must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information provided after the date of this presentation. MICROSOFT MAKES NO WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AS TO THE INFORMATION IN THIS PRESENTATION.

4



Development Options

Two Flavors of Applications



Microsoft Silverlight

- Modern XAML/event-driven application UI framework
- Rapid creation of visually stunning apps
- Metro-themed UI controls
- 500,000 developers spanning Windows and web







- High performance game framework
- Rapid creation of multi-screen 2D and 3D games
- Rich content pipeline
- Mature, robust, widely adopted technology spanning Xbox 360, Windows, and Zune





Elements of the Application Platform

Runtime – On “Screen”



Sensors Media Data Location
Phone Xbox LIVE Notifications
NET Framework managed code sandbox
Windows Phone XBOX Windows 7

Tools



Phone Emulator XNA Game Studio
Samples Documentation
Guides Community
Packaging and Verification Tools

CLOUD

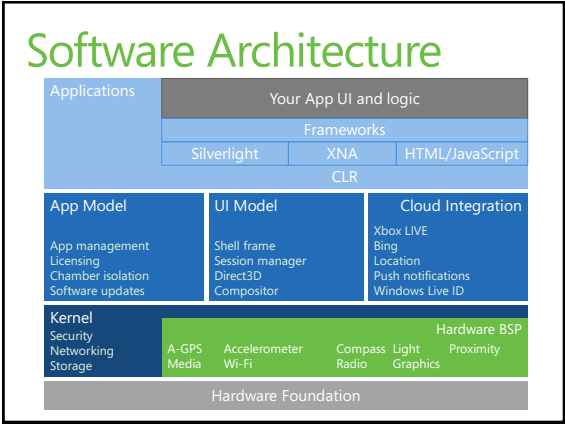
Cloud Services

Notifications	App Deployment
Location	Identity
Feeds	
XBOX LIVE	Social
	Maps

Portal Services

Registration	Marketplace
Validation	MO and CC Billing
Certification	Business Intelligence
Publishing	Update Management

Windows Phone Jump Start



Who can Develop Applications for Windows Phone?

- **Silverlight Developers**
 - Windows Phone 7 Applications can be Silverlight based
- **Game Developers**
 - Windows Phone 7 Applications can be XNA based
- **WM Developers**
 - The life of managed application developers becomes easier
 - No P/Invoke, number of form factors
- If you can write C#, you can develop for Windows Phone

But remember....

- You are developing for a small device
 - Decisions you make about your application can have an impact on user experience and phone battery life
- The power that you get is amazing for such a small mobile device
 - But it is not the same as a desktop or laptop
- We will mention these issues as we talk about the development process

What you can do

- Write Silverlight and XNA Applications in C#
- Sell your Solutions
- Play and Manage Media
- Access Phone Address Book and Messaging
- Access Microsoft Cloud Services:
 - Push Notifications
 - Location
 - Xbox Live

19

Windows Phone Jump Start

What you can't do - yet

- Multi-tasking
- Sockets
- On board database – find your own
- Write your own XNA Shaders
- Unmanaged code

20

Windows Phone Jump Start

Application Features

- Local Storage for data
- Consume Web Services as easily as on the desktop
- Silverlight
 - Expression based design
 - XAML Presentation Layer, C# code-behind
 - Data binding

21

Windows Phone Jump Start

Game Features

- XNA
 - Touch support
 - Accelerometer support
 - 3D (with pre-built shaders)
 - Xbox Live Integration
 - Gamer Achievements
 - Gamer avatar

22

Windows Phone Jump Start

Review

Windows Phone devices are based on a common platform

Windows Phone development uses managed code

Applications are developed using Visual Studio 2010

The Windows Phone emulator runs on actual phone hardware

It is not possible to access cloud data services from the phone

23

Windows Phone Jump Start

Review

Windows Phone devices are based on a common platform

Windows Phone development uses managed code

Applications are developed using Visual Studio 2010

The Windows Phone emulator runs on actual phone hardware

It is not possible to access cloud data services from the phone

24

Windows Phone Jump Start

Review

Windows Phone devices are based on a common platform

Windows Phone development uses managed code

Applications are developed using Visual Studio 2010

The Windows Phone emulator runs on actual phone hardware

It is not possible to access cloud data services from the phone

25

Windows Phone Jump Start

Review

Windows Phone devices are based on a common platform

Windows Phone development uses managed code

Applications are developed using Visual Studio 2010

The Windows Phone emulator runs on actual phone hardware

It is not possible to access cloud data services from the phone

26

Windows Phone Jump Start

Review

Windows Phone devices are based on a common platform

Windows Phone development uses managed code

Applications are developed using Visual Studio 2010

The Windows Phone emulator runs on actual phone hardware

It is not possible to access cloud data services from the phone

27

Windows Phone Jump Start

Review

Windows Phone devices are based on a common platform

Windows Phone development uses managed code

Applications are developed using Visual Studio 2010

The Windows Phone emulator runs on actual phone hardware

It is not possible to access cloud data services from the phone

28

Windows Phone Jump Start


Coming Up Next...

Getting started writing code

Building our first Silverlight application

29

Windows Phone Jump Start



Windows

Phone

© 2010 Microsoft Corporation. All rights reserved. Microsoft, Windows, Windows Vista and other product names and/or may be registered trademarks and/or trademarks in the U.S. and/or other countries.

The information herein is for informational purposes only and represents the current view of Microsoft Corporation as of the date of this presentation. Because Microsoft must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information provided after the date of this presentation.

MICROSOFT MAKES NO WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AS TO THE INFORMATION IN THIS PRESENTATION.

© 2010 Microsoft Corporation. All rights reserved. Microsoft, Windows, Windows Vista and other product names are or may be registered trademarks and/or trademarks in the U.S. and/or other countries. The information herein is for informational purposes only and represents the current view of Microsoft Corporation as of the date of this presentation. Because Microsoft must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information provided after the date of this presentation. MICROSOFT MAKES NO WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AS TO THE INFORMATION IN THIS PRESENTATION.

10