Windows Phone

An Introduction to the Windows Phone Platform

7

Akber

Window Phone 7 Development

EP.NET Professionals User Group

http://www.epdotnet.com

Agenda

Phone overview

Platform Overview

Developer Options

Developer and Marketplace

Q&A

Windows Phone

Phone Overview

Windows Phone 7 Design

Consumer will love Windows Phone 7

Story of Metro

Designing great Windows Phone application

App Design Studio … a start up

Windows Phone

A different kind of phone

Different,
For Good Reasons

- Smart Design
- Integrated Experiences

Windows Phone

Hub design integrates great Microsoft Experience

People

Pictures

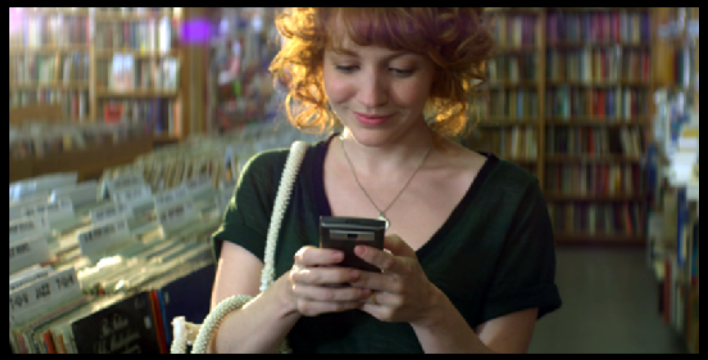
Games

Music + Video

Office

Marketplace

Who we design for: Anna + Miles



Anna

Part time PR professional and busy mom

“My life is a balancing act between work, family, friends, and my own personal needs.”

Miles

Growing his own architectural biz

“I love running my life real-time so I can take advantage of whatever is inspiring me…whether it’s a new project, a pick up game or a stolen moment with Anna.”

Metro

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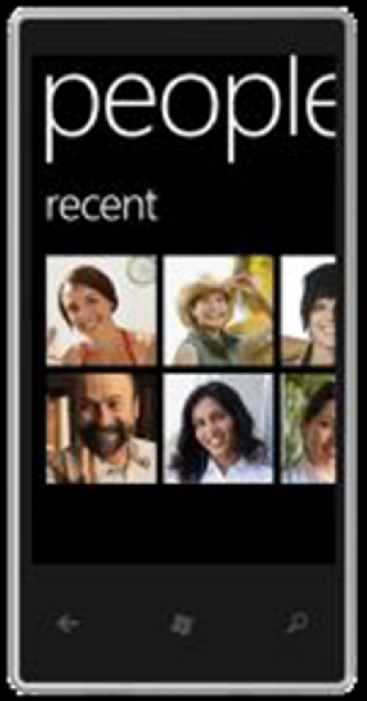
3
20
Me
XBOX
LIVE

ANNE WEILER
profile what's ne
call mobile
text mobile
call home

sep 2010


people
recent

WWW
INTERNET

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MADRID

Ankomst

TIME
3B
3A
準點

Wall Street
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Underpass to Downtow

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新橋
Shimbashi
東京
Tōkyō
2
新日本橋
Shin-Nihombashi
4
馬喰町
Bakurochō
錦糸町

WARSCHAU
BERLIN-TEGEL
OSLO
STUTTGART
PEKING
STUTTGART HBF.
BASEL
SAN FRANCISCO
SHANGHAI PUDONG
SALZBURG
PERM-N. NOVGOROD
MOSKAU-DOMODEDOVO

METRO IS OUR DESIGN LANGUAGE. WE CALL IT METRO BECAUSE IT'S MODERN AND CLEAN. IT'S FAST AND IN MOTION. IT'S ABOUT CONTENT AND TYPOGRAPHY. AND IT'S ENTIRELY AUTHENTIC.

Principles

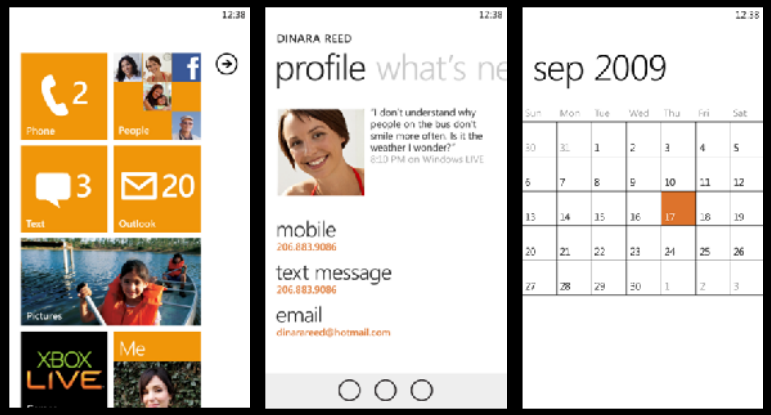
Clean, Light, Open, Fast

Celebrate Typography

Alive in Motion

Content, Not Chrome

Authentically Digital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"I don't understand why people on the bus don't smile more often. Is it the weather I wonder?"
8:10 PM on Windows LIVE
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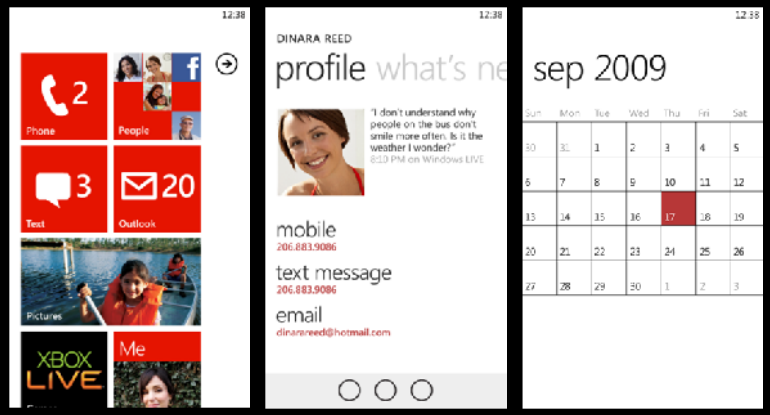
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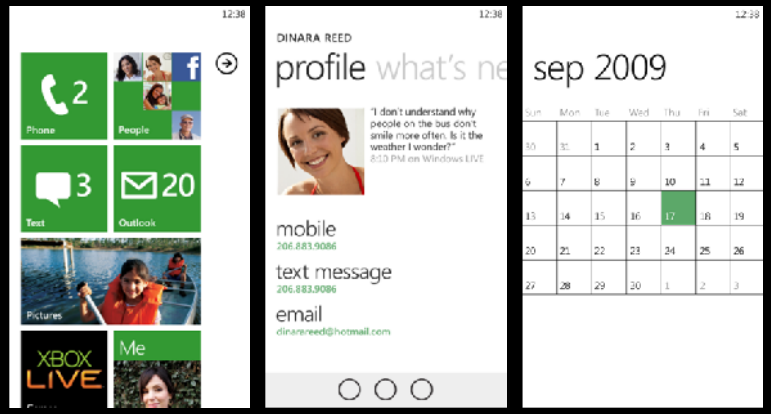
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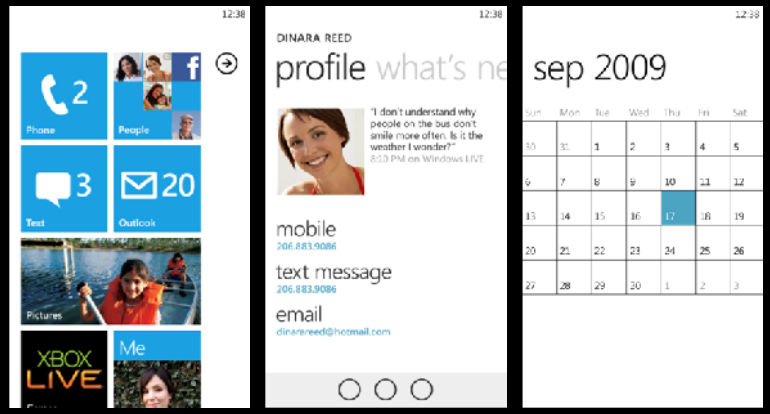
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Sun Mon Tue Wed Thu Fri Sat

Metro User Experience

Focuses on the individual and their tasks

Helps organize information and applications

Metro Works for you

Personal

Weather surfaced on the live tile in Start

Relevant

Weather updated based on your location

Connected

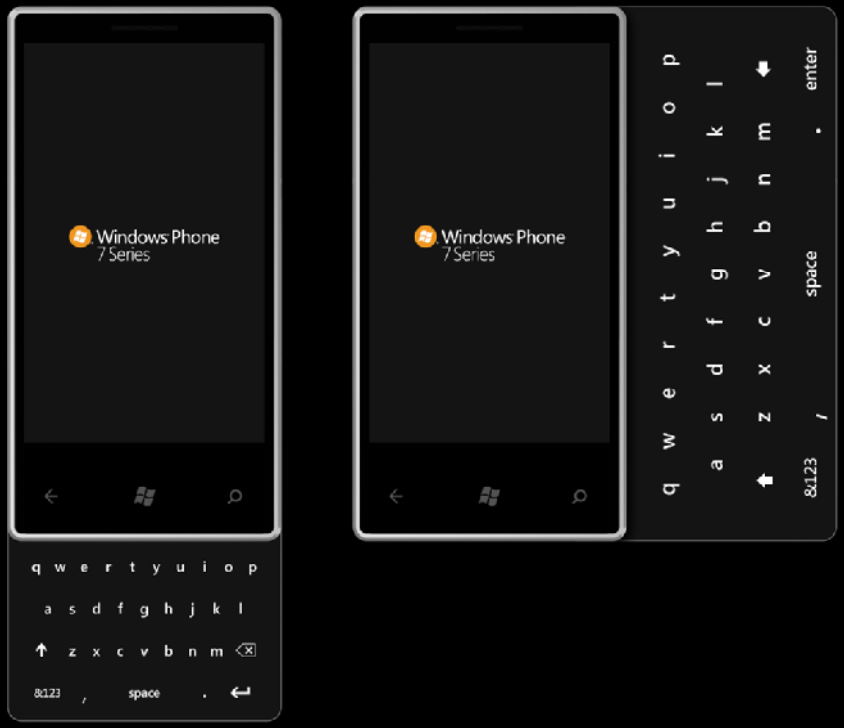
Weather for your contacts

Hardware Implications

Hardware buttons

Optional landscape keyboards

Design for one hand usage whenever possible



Gestures

tap

Actions on an item in a two step process
Stop a list from scrolling

double tap

Toggles between "in" and "out" zoom states of a control or application

touch & hold

Shows options (context menu) for an item

pan

Moves content via direct manipulation (content sticks to the fingter and follows)

flick

Moves content

pinch & stretch

Continuous zoom

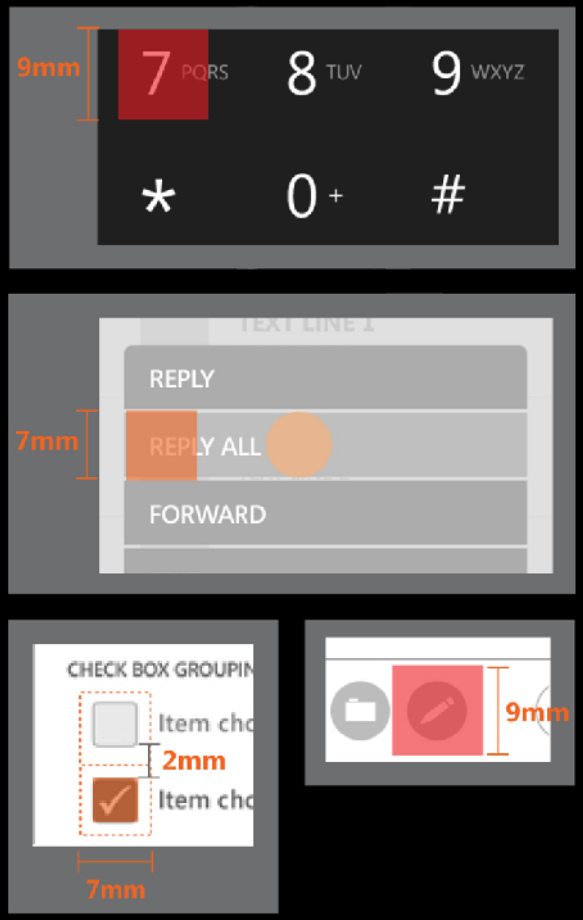
Touch

Recommended touch target size is 9mm

Minimum touch target size is 7mm

Minimum spacing between elements is 2mm

Visual size is 60-100% of the touch target size



Common controls

ok

sample text for edit

Toggle buttons with label

Justified Left

Justified Left

12:38 PM AM

AUG 20 2009
FRIDAY

Rest state
On

Edit box group label

system link

2:11

Set sample value 25%

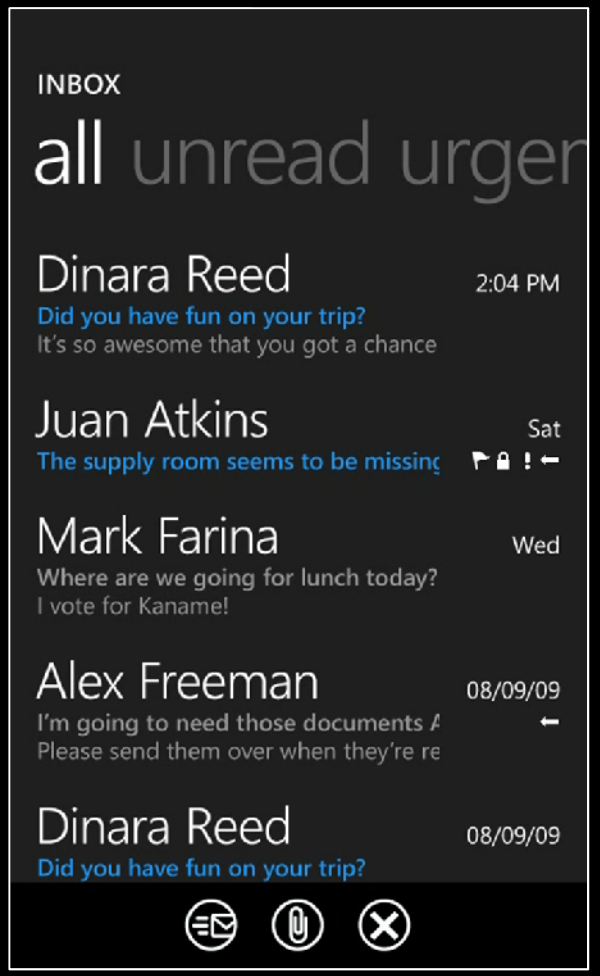
Radio button label

Application Bar + Menu

Up to 4 icons

Don’t fill all 4 slots if not needed

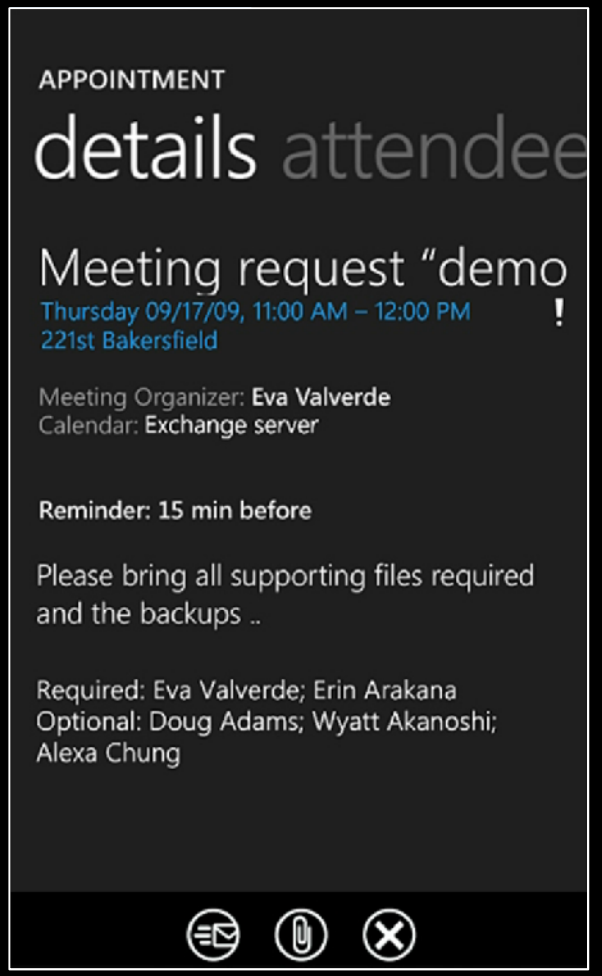
Swipe up the bar to bring up the menu



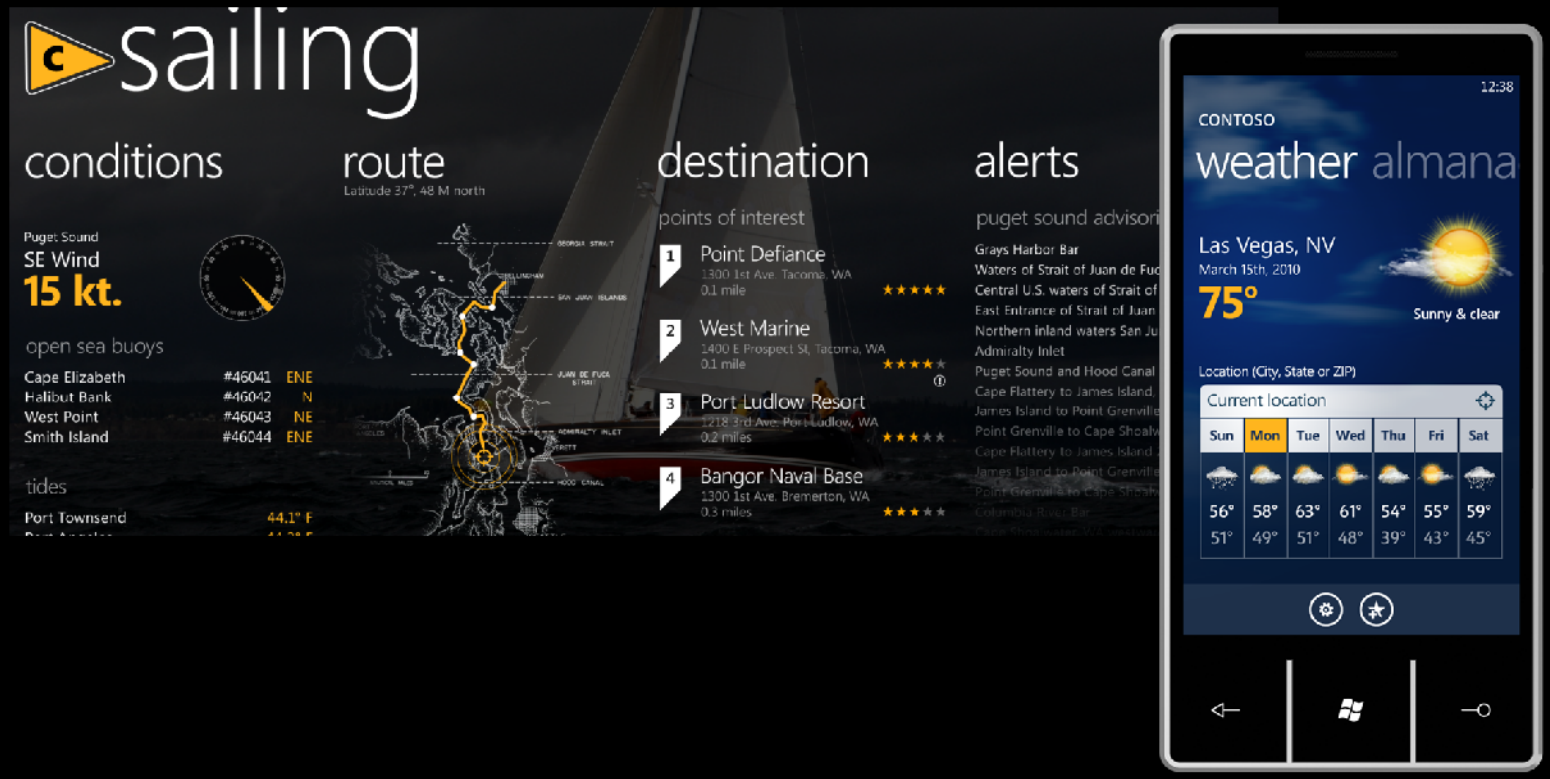
Tabs

Separate multiple tasks

Tap or flick tabs to change them



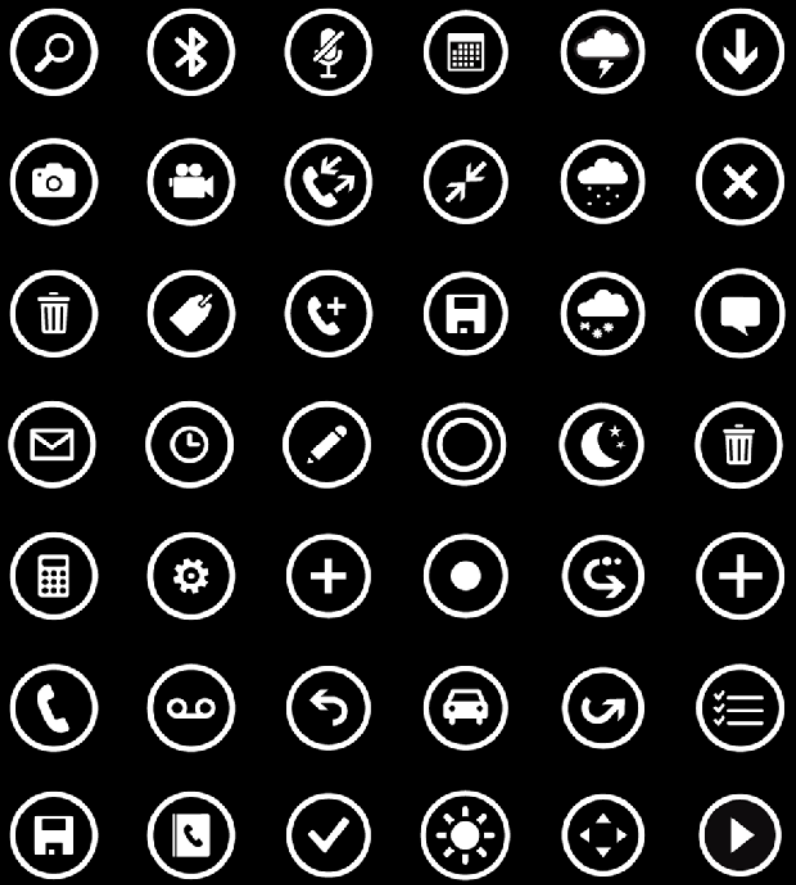
Hubs vs. Single-Page Apps



Iconography

Icons in the application menu should be consistent

Test icons with users
(pay attention to context)



Metro Map

12:38
CONTOSO
weather almana
Seattle, WA
March 4th, 2010
58°
partly sunny
Location (City, State or ZIP)
Current location
Sun Mon Tue Wed Thu Fri Sat
56° 58° 63° 61° 54° 55° 59°
51° 49° 51° 48° 39° 43° 45°

Services Powering Experiences

Other Devices

people + standards + server code + client code → experiences

Web Site

Web API

Windows Phone

Platform Overview

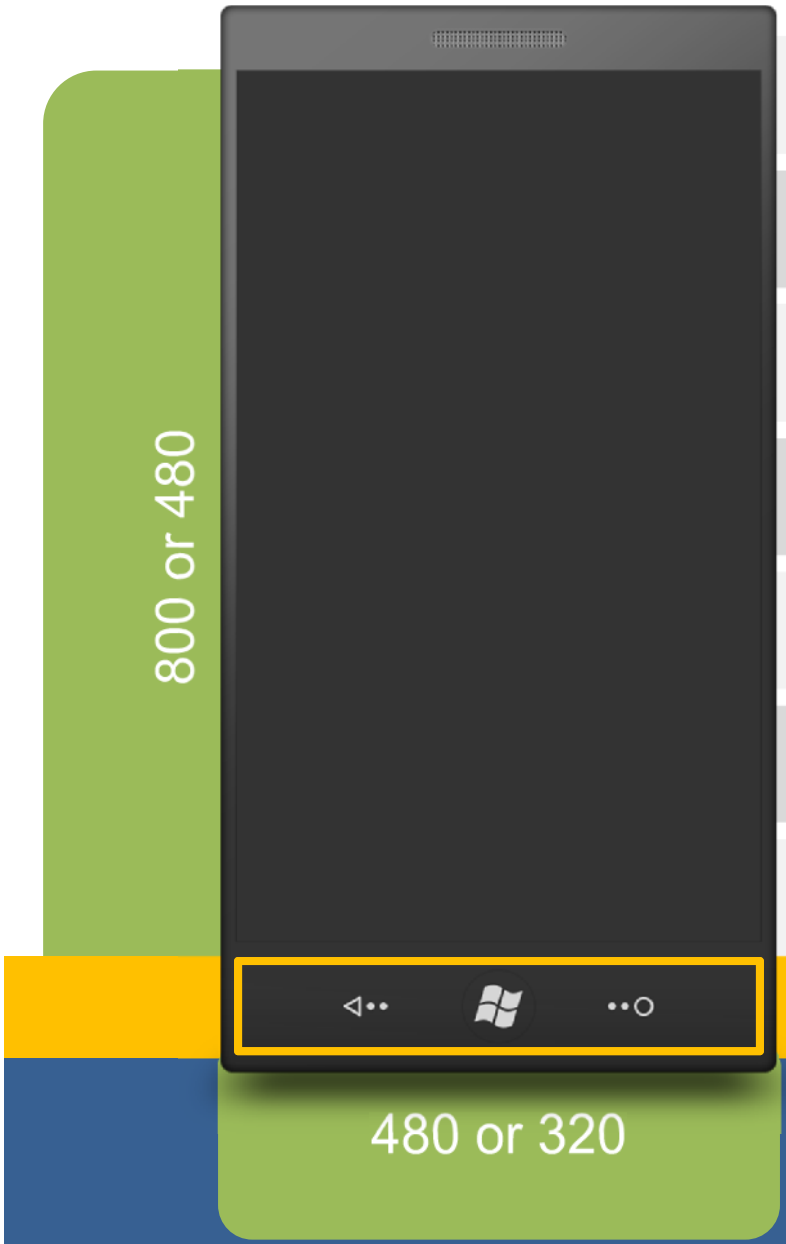
Platform Goals

Help end users personalize their phones

Help developers be profitable

Enable cloud powered experiences

Hardware Foundation



Capacitive touch
4 or more contact points

Sensors
A-GPS, Accelerometer, Compass, Light, Proximity

Camera
5 mega pixels or more

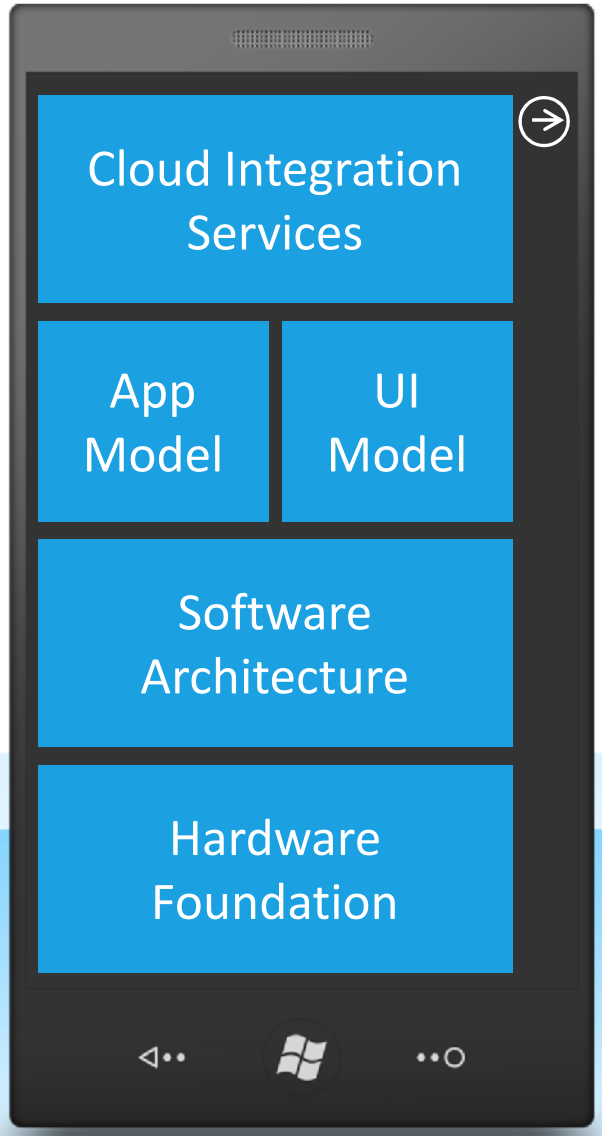
Multimedia
Common detailed specs, Codec acceleration

Memory
256MB RAM or more, 8GB Flash or more

GPU
DirectX 9 acceleration

CPU
ARMv7 Cortex/Scorpion or better

Hardware buttons | Back, Start, Search


Cloud Integration Services
App Model
UI Model
Software Architecture
Hardware Foundation

Common 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

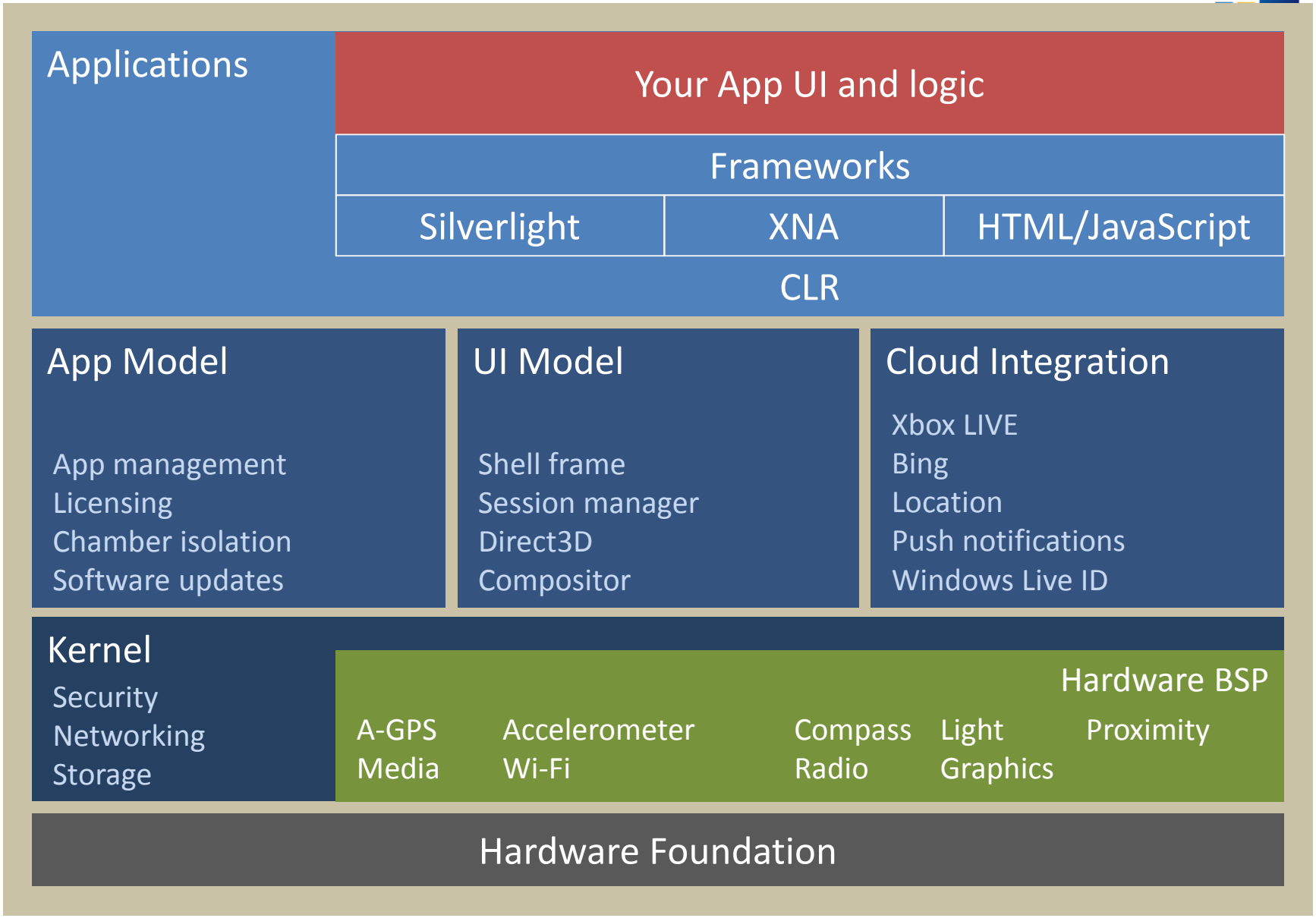
Phone Access

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

Integrated With Cloud Services

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

Software Architecture



Windows Phone

Developer Options

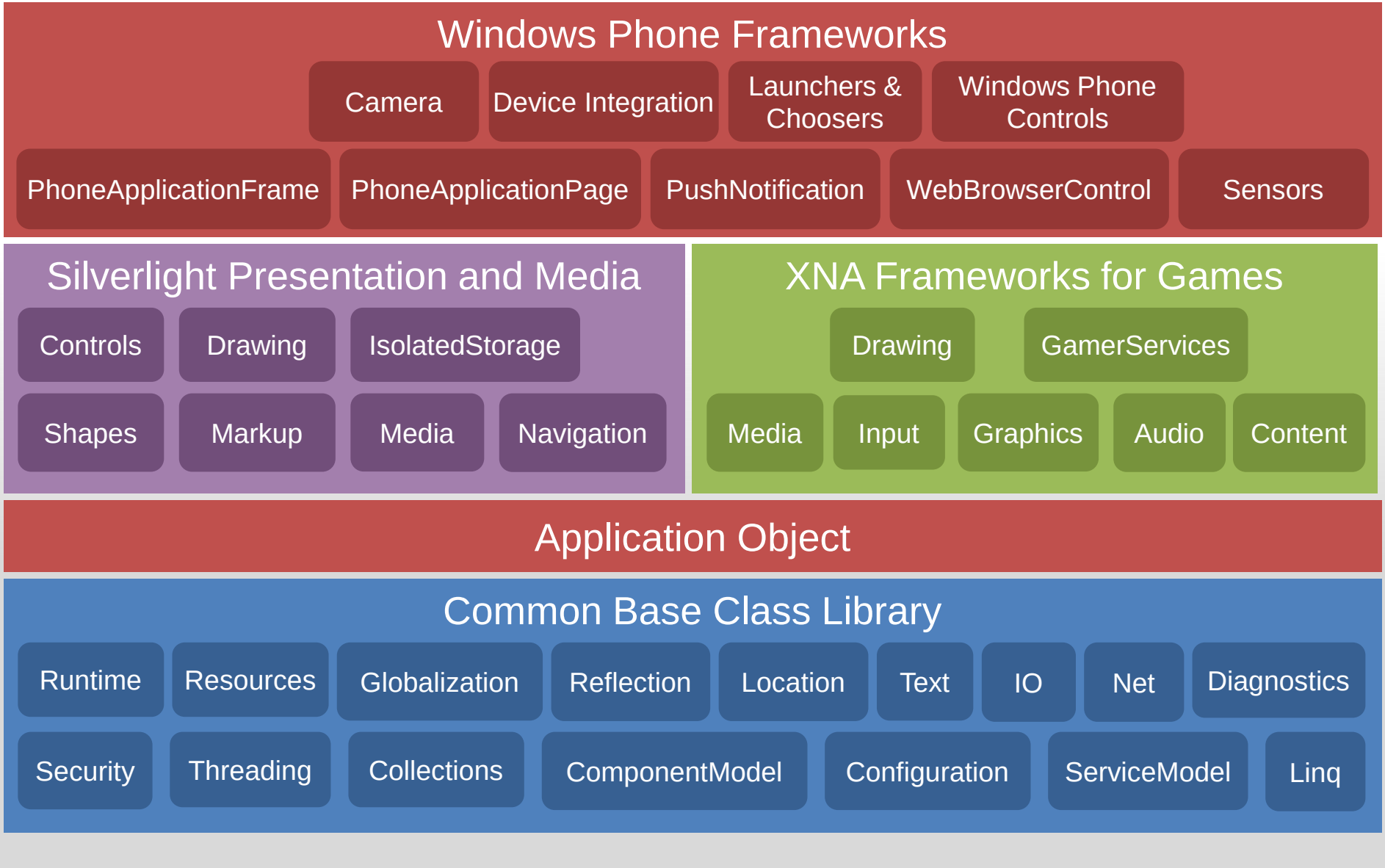
Two Flavors of Applications

Microsoft® Silverlight™

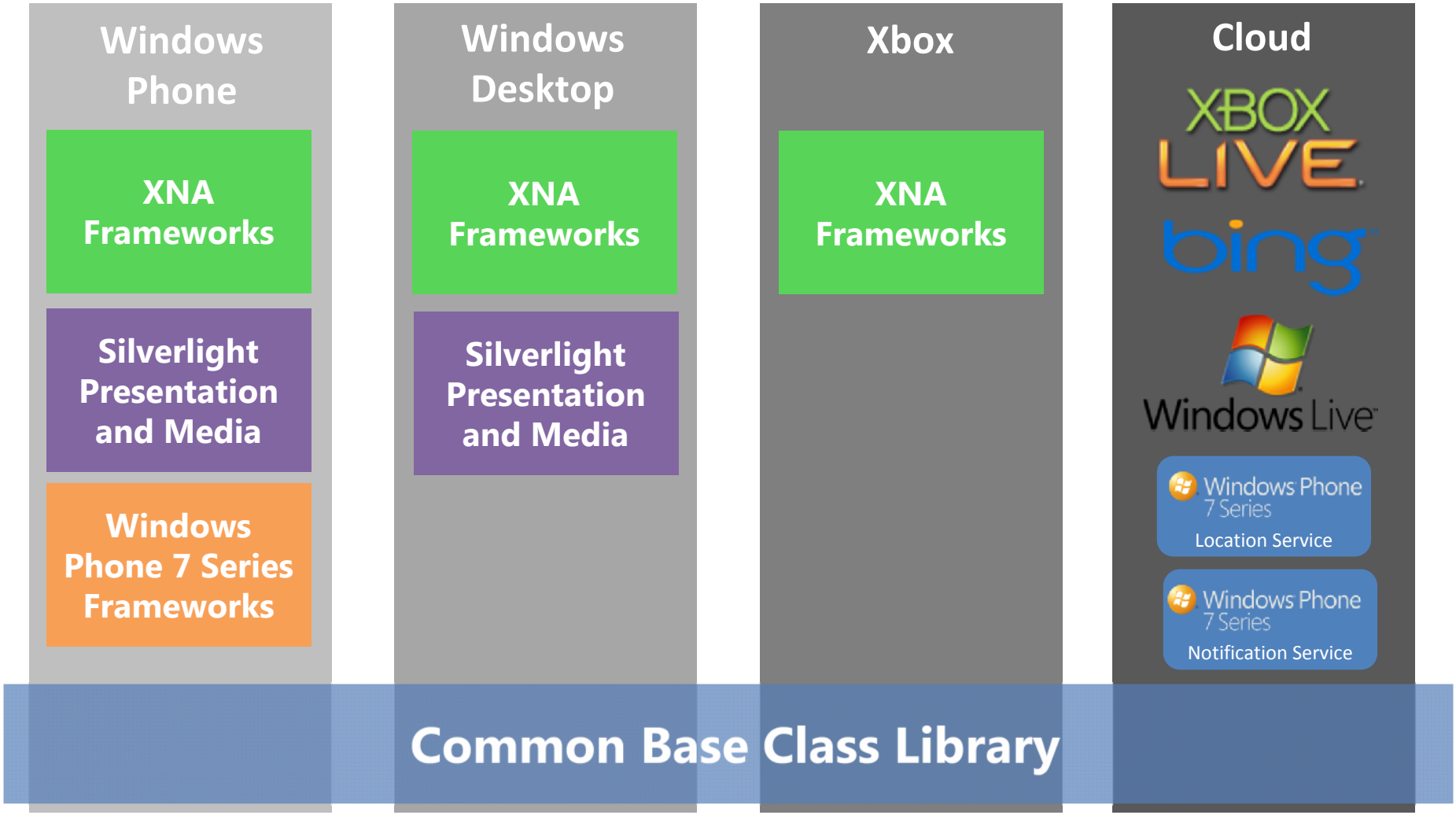
- Modern XAML/event-driven application UI framework
- Rapid creation of visually stunning apps
- Metro-themed UI controls
- HTML/JavaScript
- 500,000 developers spanning Windows and web

- 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

Windows Phone 7 Series Frameworks Details



3 Screens and Cloud



Elements of the Application Platform

SCREEN

CLOUD

Runtime – On "Screen"

Code you write on the client

Tools & Support

Tools you use to design & develop

Cloud Services

Code you write on the server

Developer Portal Services

Tools you use to ship & sell

Elements of the Application Platform

SCREEN

Runtime – On "Screen"

Microsoft Silverlight | XNA

Sensors	Media	Data	Location
Phone	Xbox LIVE		Notifications

.NET Framework managed code sandbox

Windows Phone | XBOX | Windows 7

Tools

Microsoft Visual Studio | Microsoft Expression Blend

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

Windows Azure

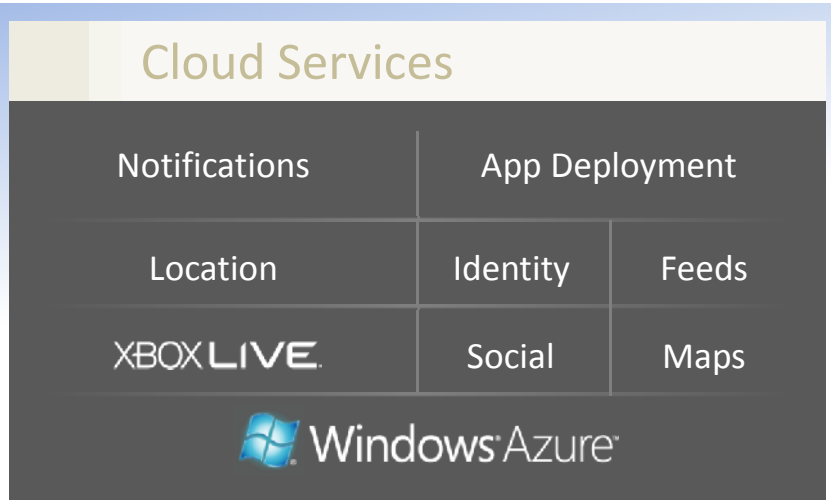
Portal Services

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

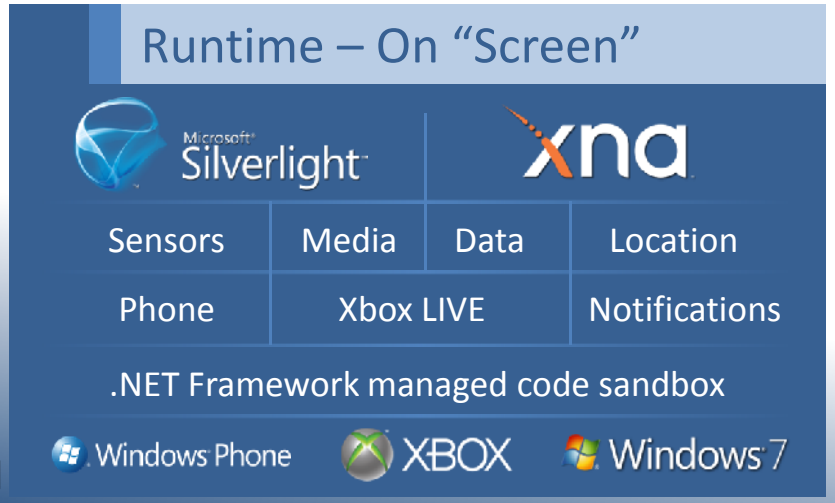
Elements of the Application Platform

SCREEN

CLOUD



Elements of the Application Platform



SCREEN

CLOUD

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 become 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 small device
  - Decision 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 phone
  - But it is not the same as desktop or laptop
- We will mention these issues as we talk about the development process

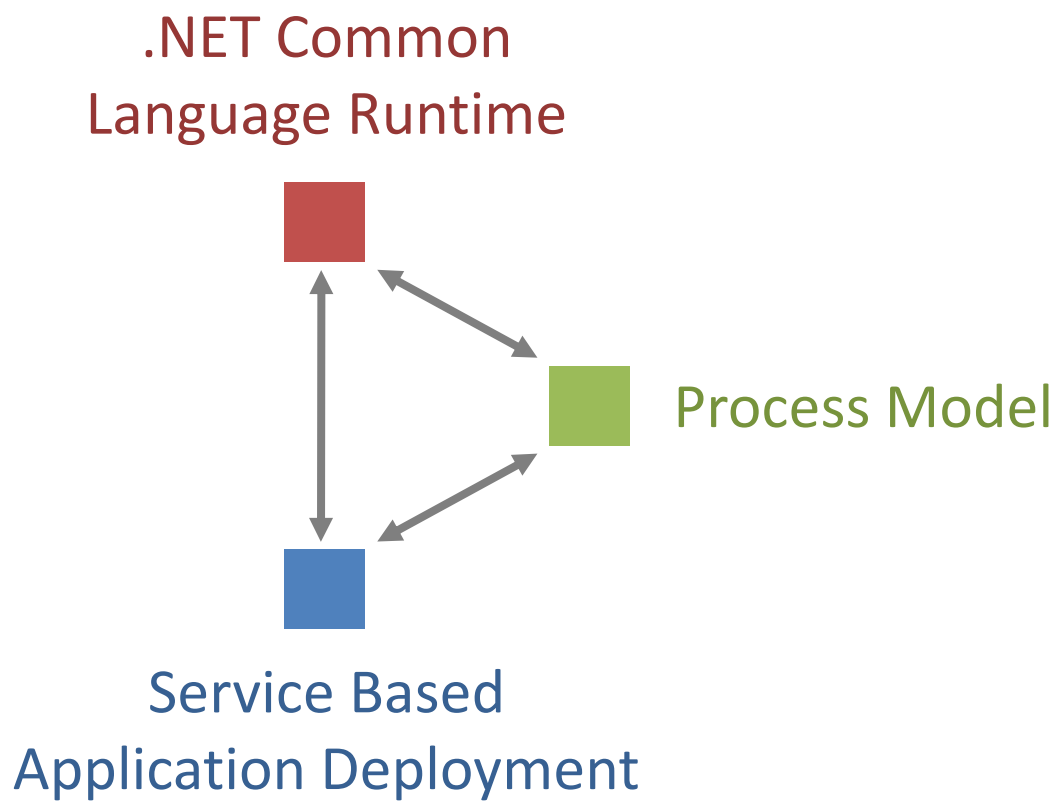
Application Features

- 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

Application Model

Goal: Great User Experiences

Predictable
Safe
High performance
Innovative



Windows Phone

Developer and Marketplace

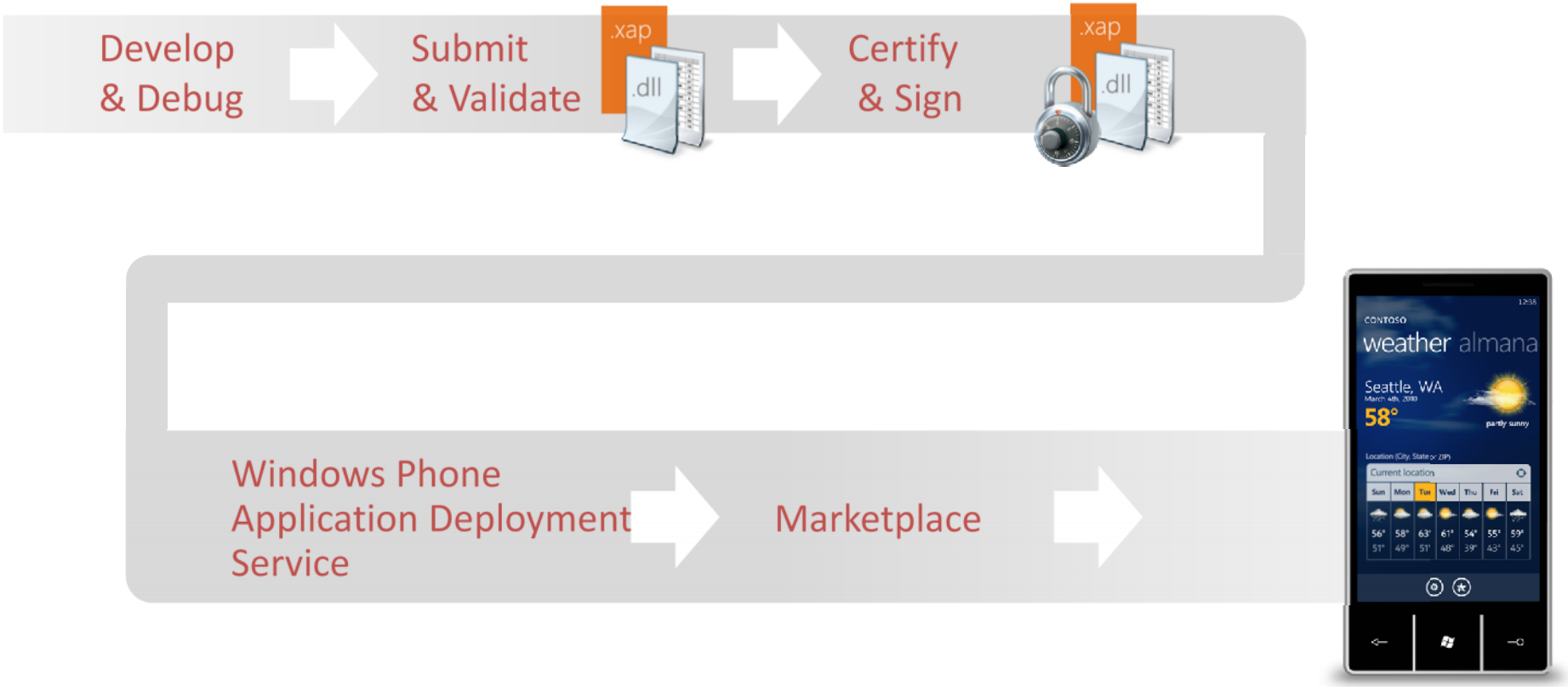
What's a XAP?

Common format for all Windows Phone apps & games

Declarative, manifest-based installation

Integrated into security model of phone

Deployment Process



Application Marketplace

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

Call to Action

- Single Download file
- Download the tools!
- Read and understand the design guidelines
- Give us feedback
- Resources:
  - http://developer.windowsphone.com
  - Team blog: http://windowsteamblog.com/blog/wpdev
  - My blog: http://www.akberalwani.wordpress.com

Q&A

Windows Phone devices are based on a common platform

Windows Phone development uses managed code

Application 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 phone