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Windows Phone 7
Windows Mobile

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Mobile Devices

New Opportunities

- Powerful CPU, huge main memory, SSD
- Standardized hardware: GPS, GyroSensor, Camera,…
- Mature development and debugging support

New Challenges

- Connectivity is unreliable
- Engery is scarce
- App Hub: Approval process, security, restrictions

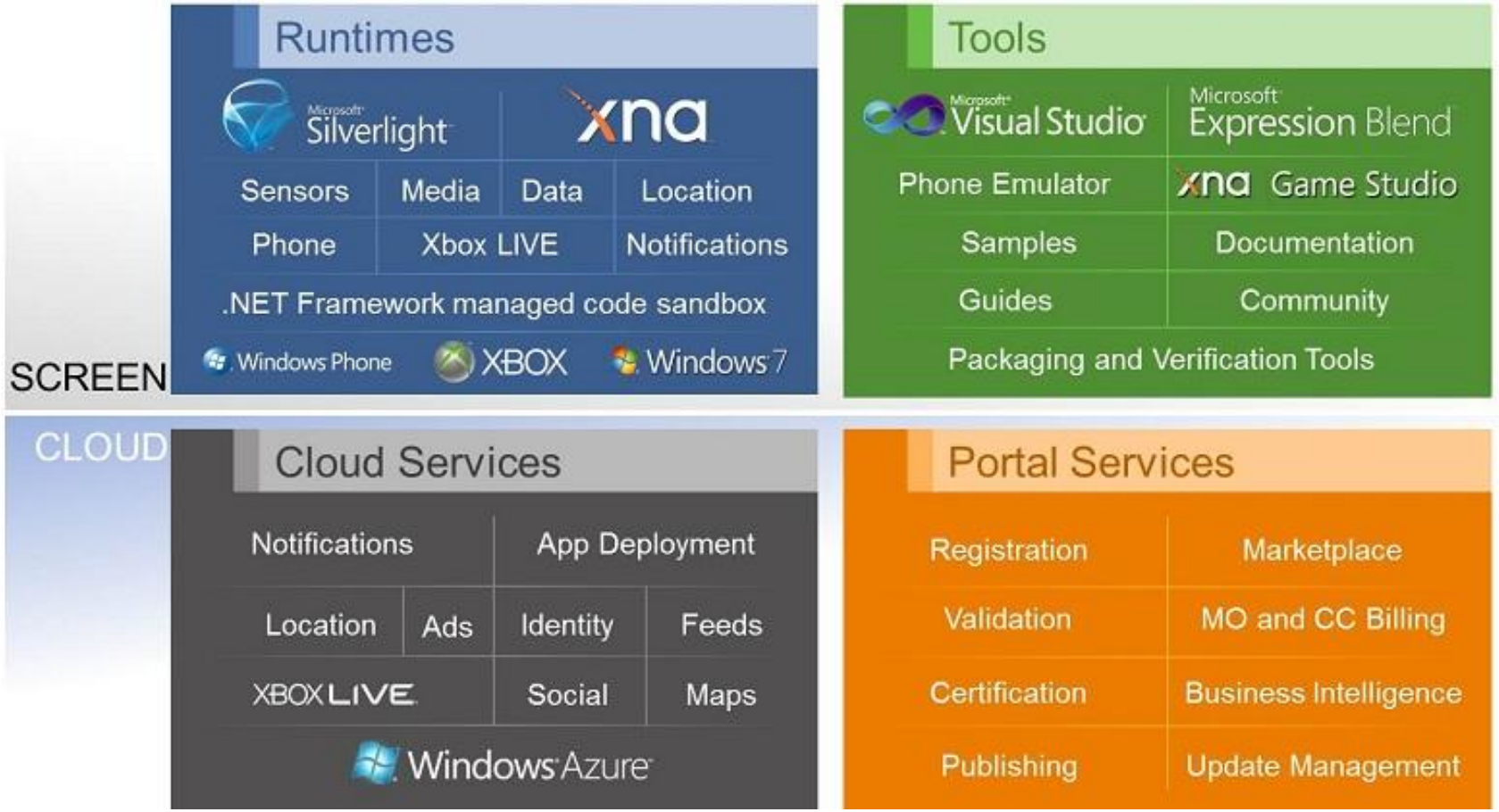
AppDev for WP7 in a Nutshell

Windows Phone 7.0/7.5

- Hardware Specification
  - Standard HW
    - Start, Search, and Back buttons
    - 800 x 480 (WVGA) display
    - 256 MB (or more) of RAM
    - 8 GB (or more) of flash storage
    - …
  - Optional HW
    - Compass
    - Gyro
    - …
- Windows Phone OS 7.0/7.1

Figures: http://www.microsoft.com/windowsphone

Application Platform

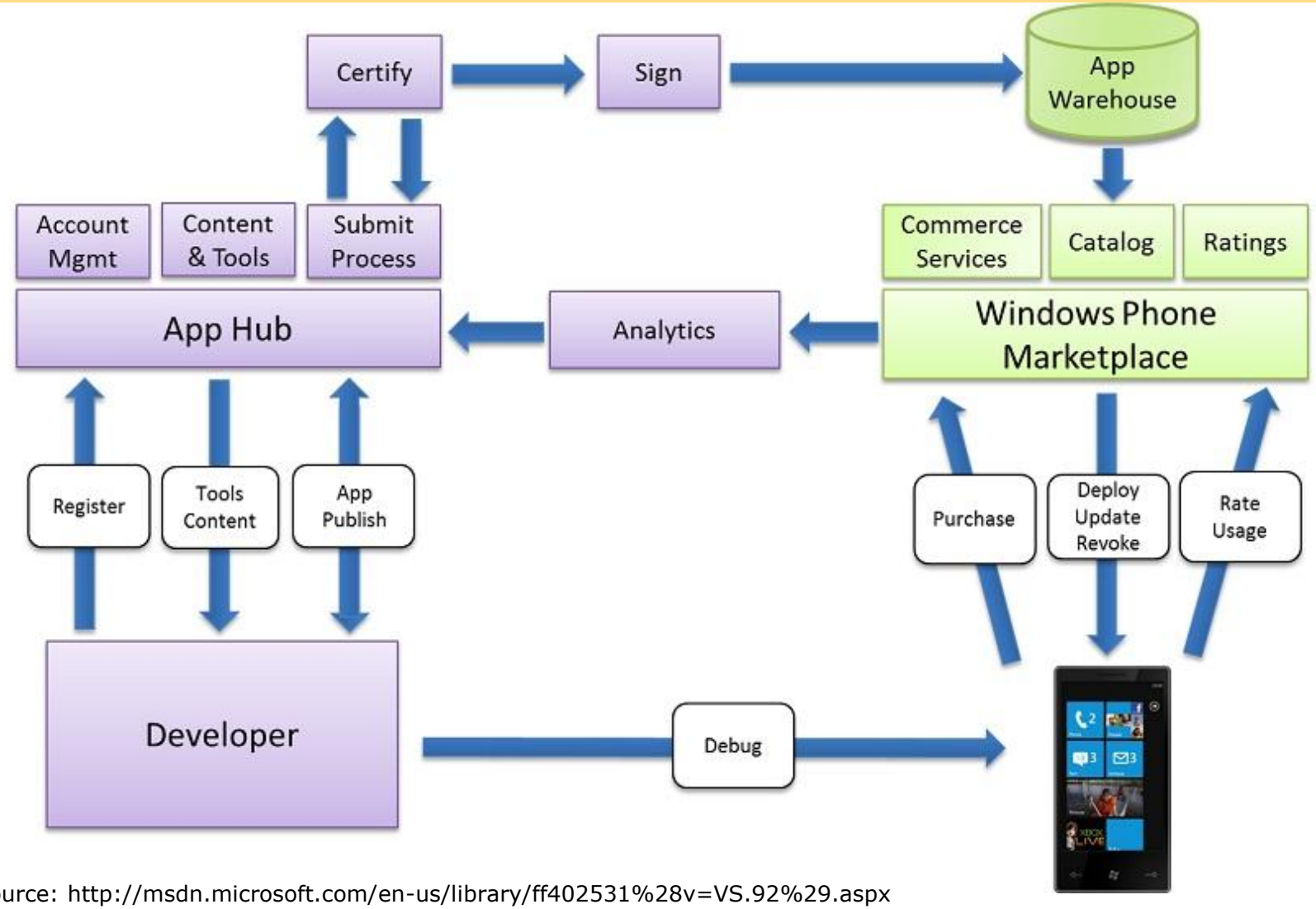


http://msdn.microsoft.com/en-us/library/ff402531%28v=VS.92%29.aspx

Application Development Lifecycle

- Join App Hub
  - Obtain licensing materials
  - Download Windows Phone SDK and tools
- Develop applications
  - Design, Produce, Debug and Test
- Publish applications
  - Windows Phone Marketplace

Application Development Lifecycle



Source: http://msdn.microsoft.com/en-us/library/ff402531%28v=VS.92%29.aspx

AppDev for WP7 in a Nutshell

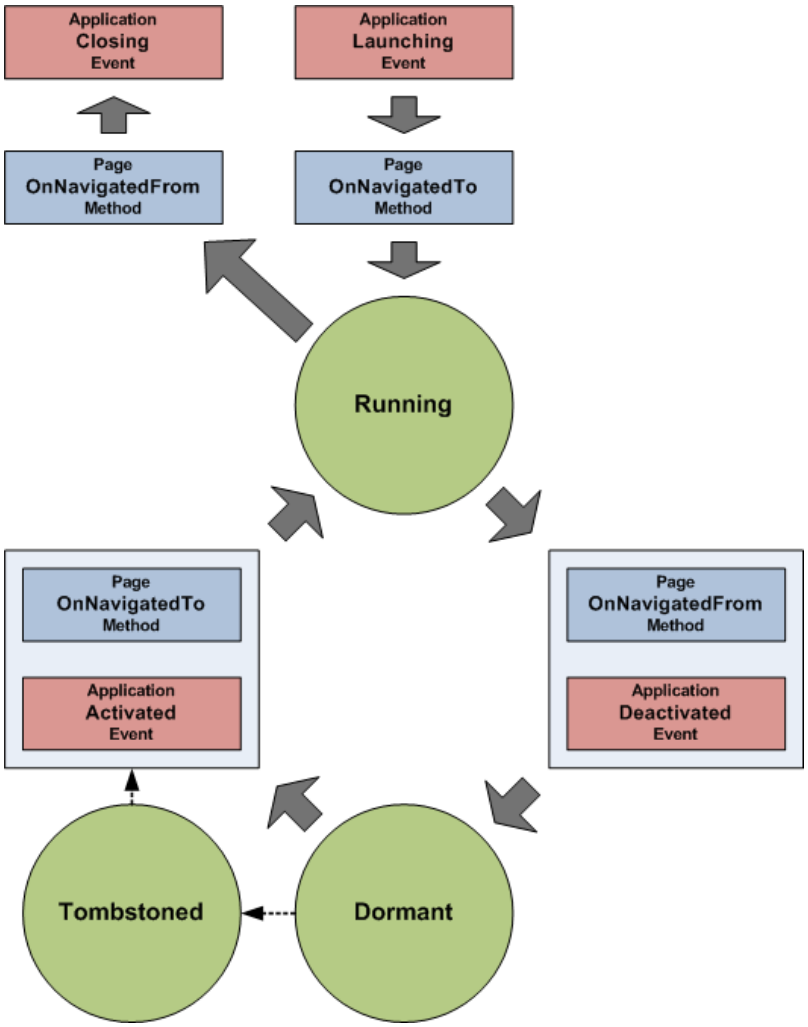
Concepts for Windows Phone

- Execution Model
- Frame and Page Navigation
- Launchers and Choosers
- Local Data Storage
- Multitasking
- Networking and Web Services
- Security

Execution Model

Terminology

- State
  - Application
  - Page
- Events
  - Application
  - Page
- Tombstoning
- State Dictionaries



Source: http://msdn.microsoft.com/en-us/library/ff769557%28v=VS.92%29.aspx

Launchers and Choosers

- Launch one of the built-in applications
- Choosers can return data and status to applications

Choosers	Launchers
Address Chooser Task	Bing Maps Directions Task for
Camera Capture Task	Marketplace Hub Task
Email Address Chooser Task	Media Player Launcher
Save Email Address Task	SMS Compose Task
Save Phone Number Task	Web Browser Task
…	…

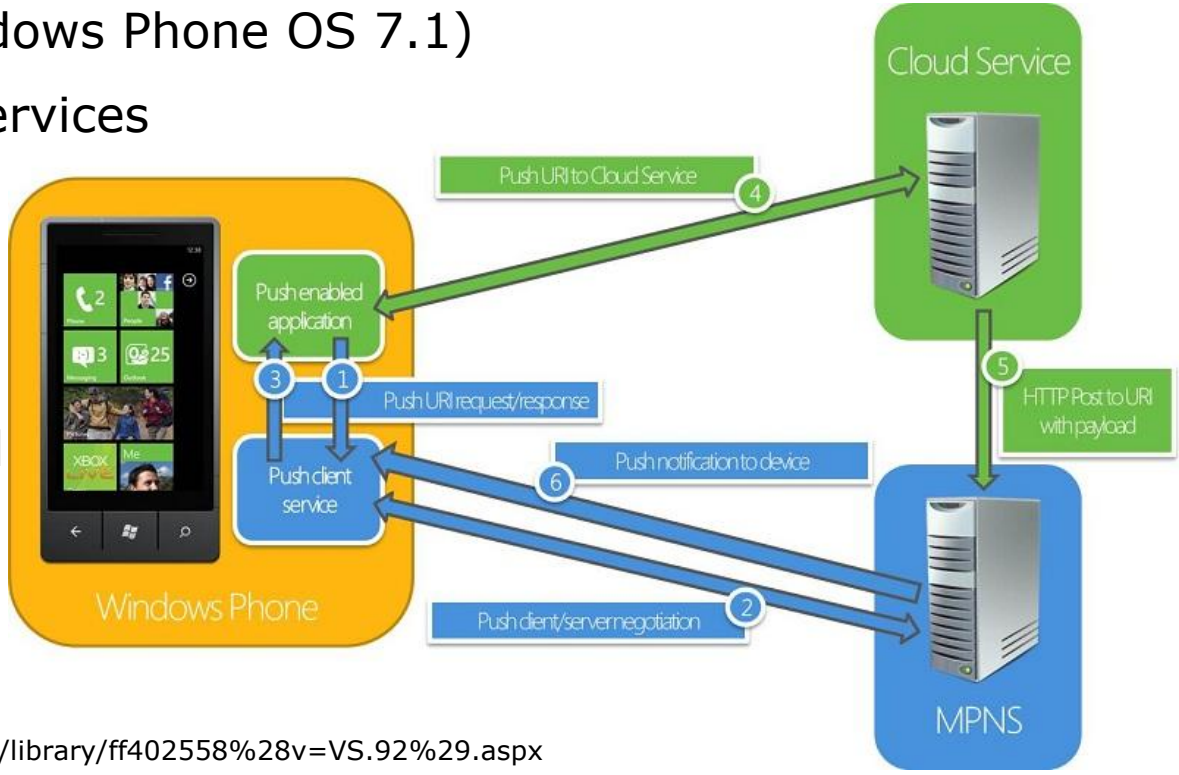
Networking, Push Notifications

Networking and Web Services

- Network Information (on Windows Phone OS 7.1)
- Sockets (on Windows Phone OS 7.1)
- Web and Data Services

Push Notifications

- dedicated, persistent message channel



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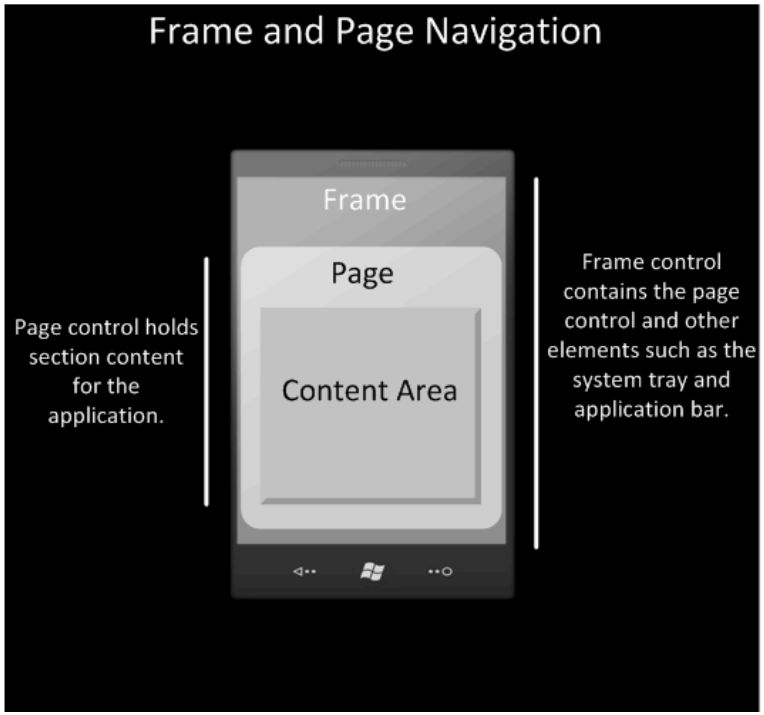
User Interface Design (1/3)



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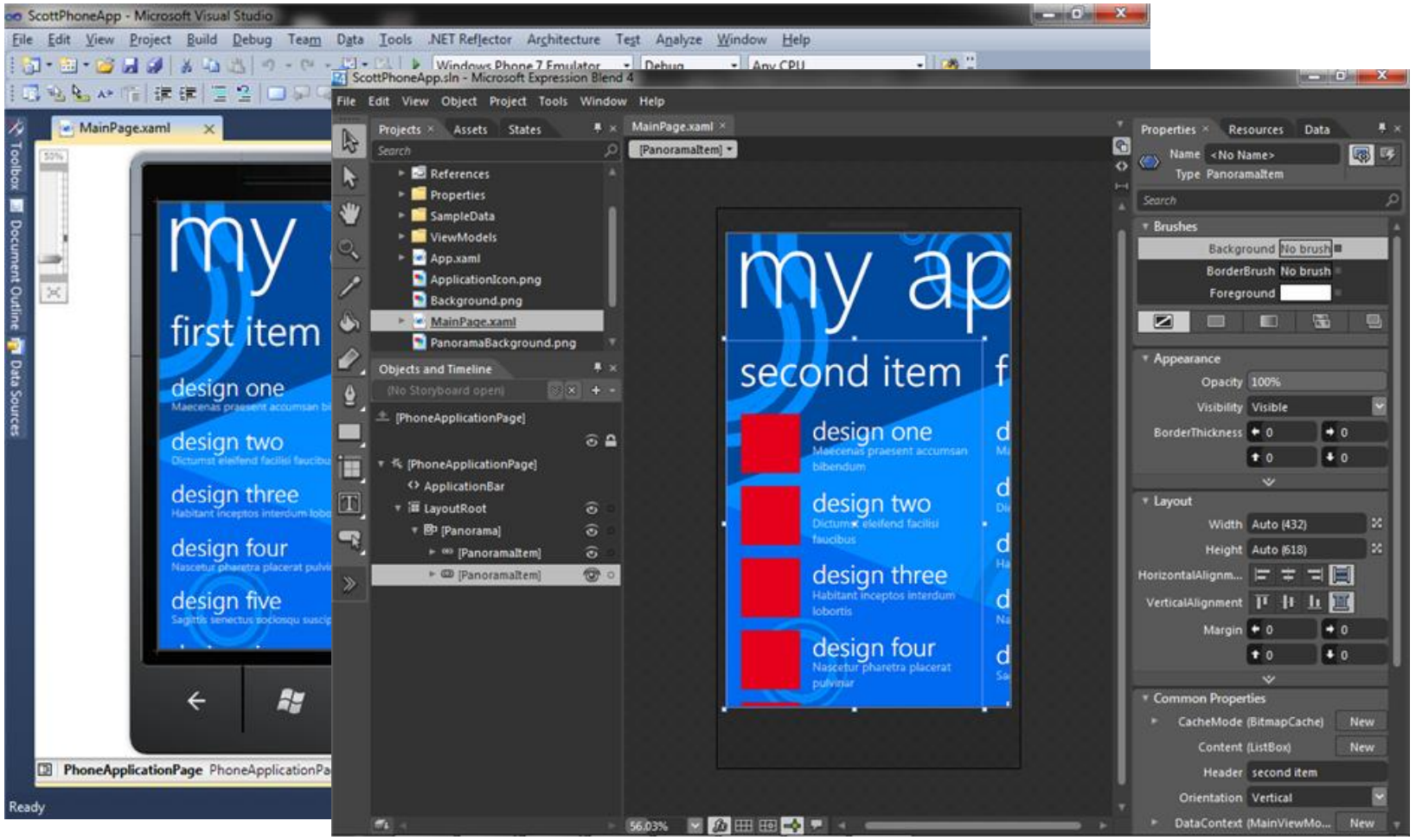
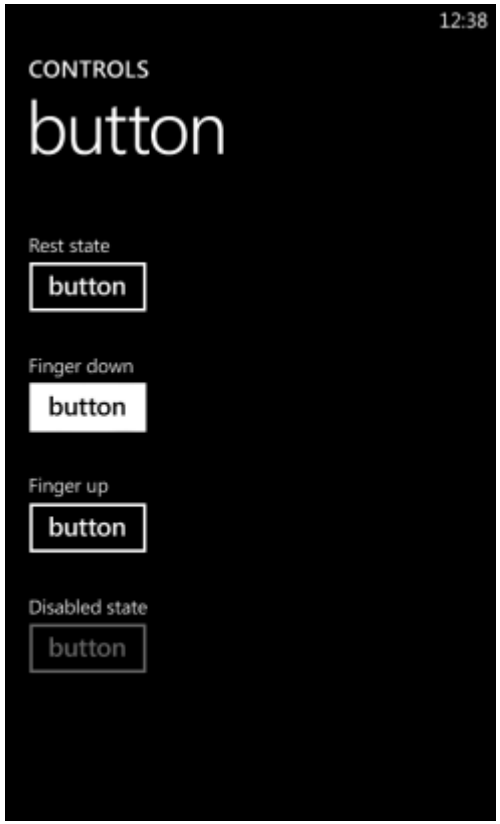
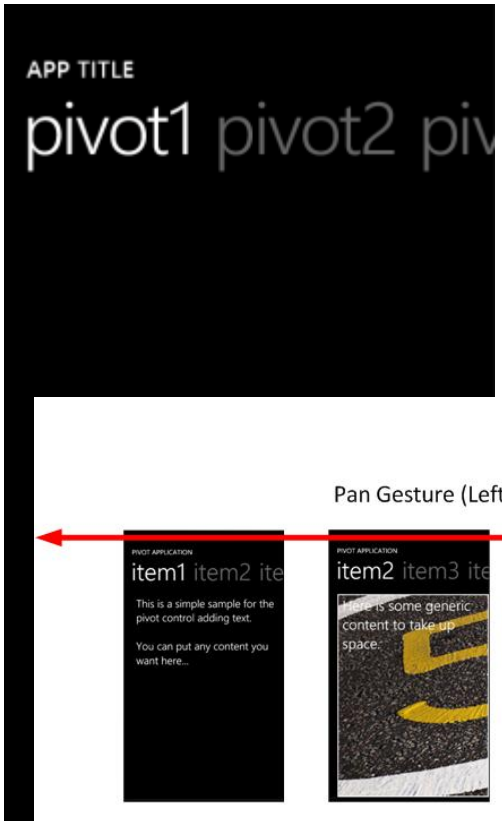
User Interface Design (2/3)

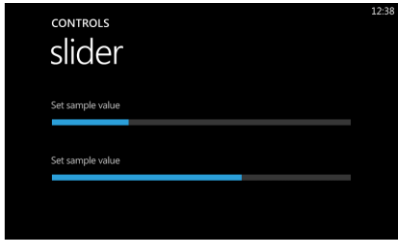


Source: http://weblogs.asp.net/scottgu/archive/2010/09/16/windows-phone-7-developer-tools-released.aspx

User Interface Design (3/3)





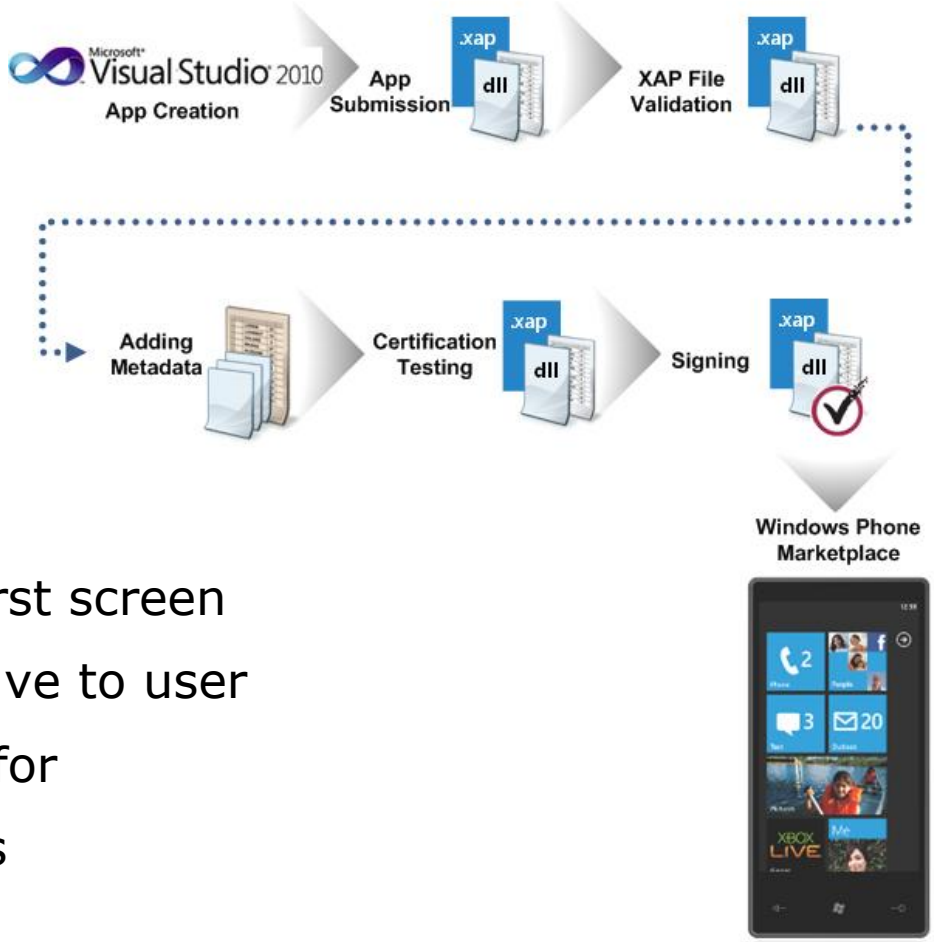


You may also advance to another pivot page by tapping the page headers.

Source: http://msdn.microsoft.com/de-de/magazine/gg232764.aspx

Application Certification Requirements

- Application Policies
- Content Policies
- Application Submission Requirements
- Technical Certification Requirements
  - <= 5 sec to render first screen
  - <= 20 sec is responsive to user
- Additional Requirements for Specific Application Types



Source: http://msdn.microsoft.com/en-us/library/hh184843%28v=vs.92%29.aspx

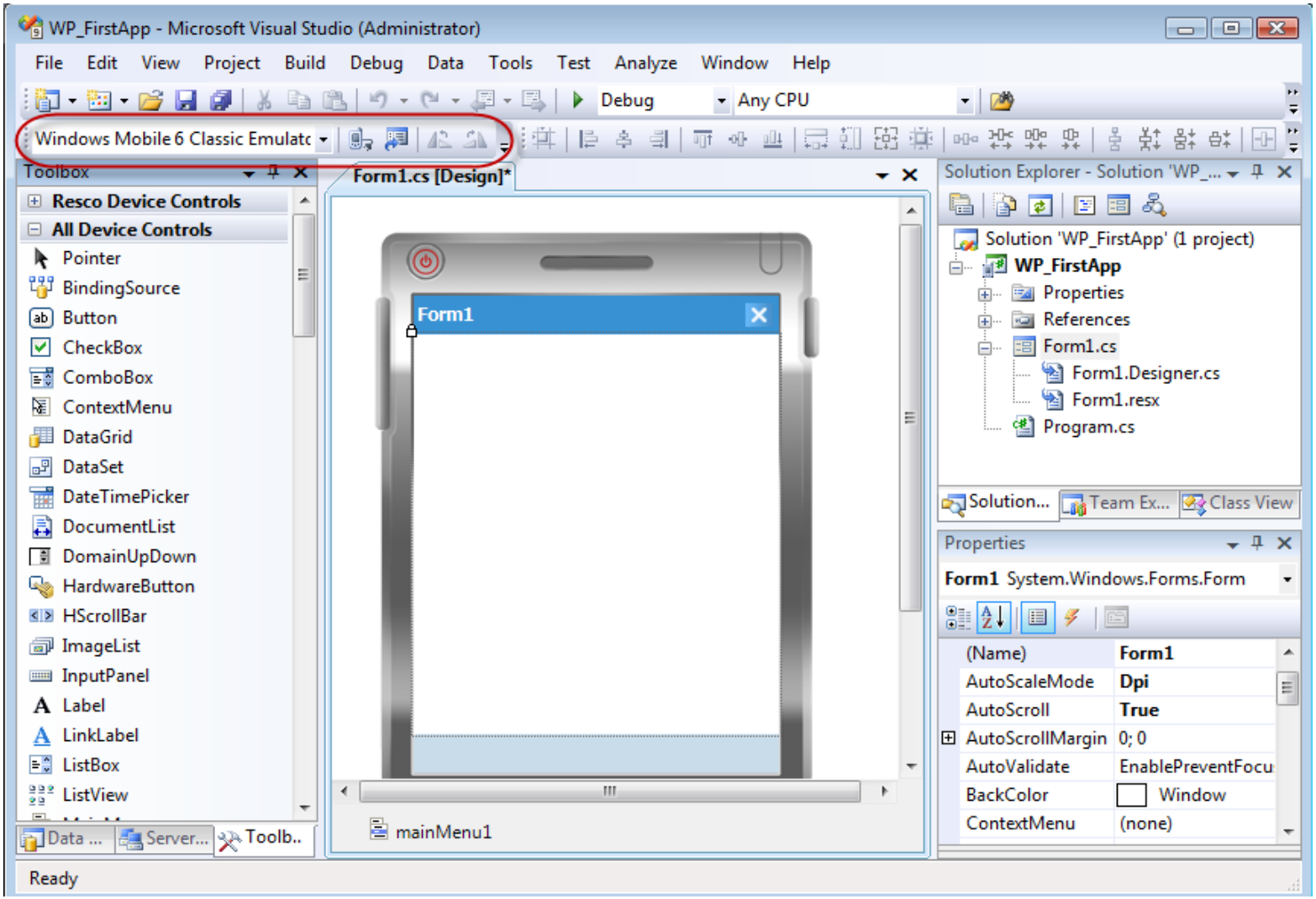
AppDev for WinMobile in a Nutshell

Windows Mobile 6.X Application Development

- Based on OS Windows CE 5.0
- Devices
  - With touch screen
  - Without touch screen
- Application types
  - Native (Win32-API, MFC, ATL)
  - Managed
    - . NETCF
    - J2ME (depending on the type)

Source: http://www.htc.com/europe/help/htc-touch2/

Getting Started

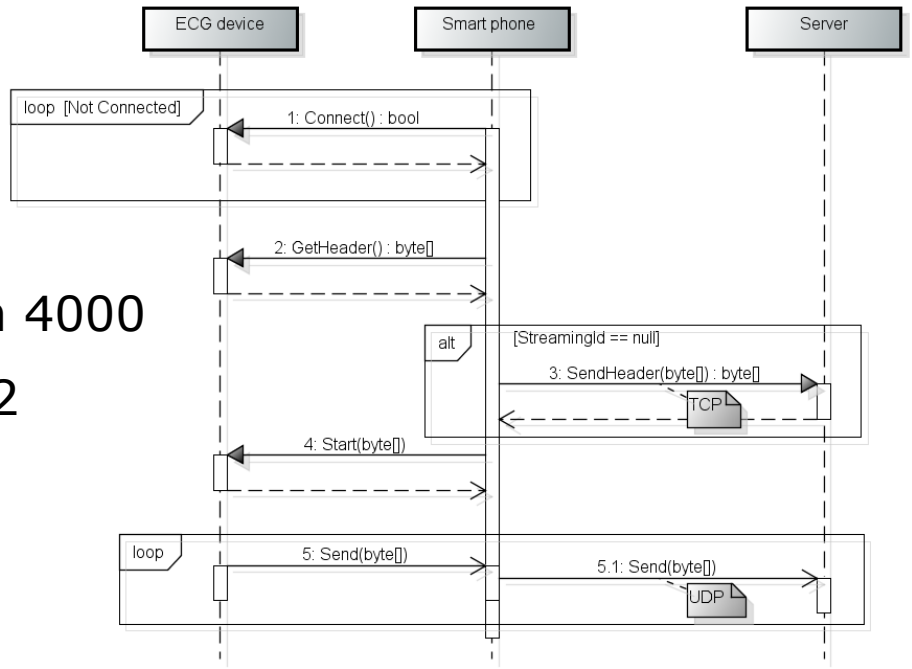


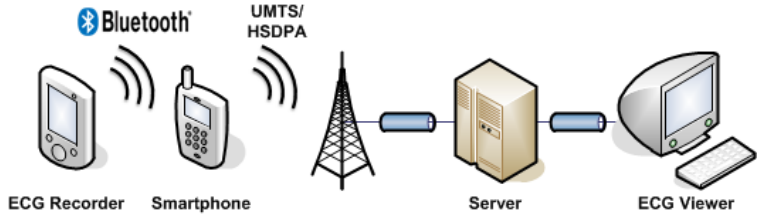
Source: http://msdn.microsoft.com/en-us/library/dd721907.aspx

Berlin Marathon

Marathon setting

- 5 athletes
- ECG recorder: CardioMem 4000
- Smartphone: HTC Touch 2

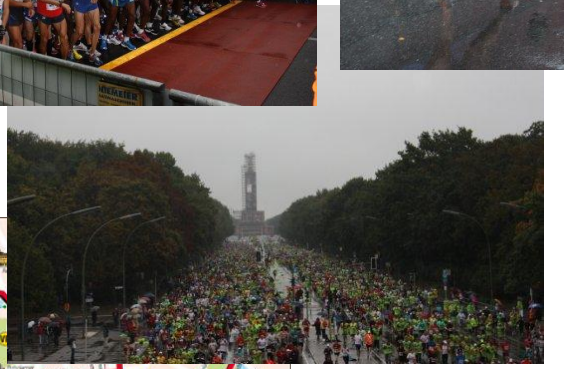




Source: http://www.getemed.net/de/cardiology/cardiomemr-cm-4000/

Source: http://www.htc.com/europe/help/htc-touch2/

Berlin Marathon



Source: http://www.achim-achilles.de

Source: http://www.telekom.de