



Windows Phone 7  
Developer Update

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Mobile Devices





# Agenda

- Tools and Resources Update
- Launchers and Choosers
- Working with Data

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## Tools Update

- Windows Phone 7 SDK Beta Now Available
- Components
  - Visual Studio 2010 Express for Windows Phone Beta
  - Microsoft Expression Blend for Windows Phone Beta
  - Windows Phone 7 SDK Beta
- One installer does it all
- Integration with Visual Studio 2010 RTM



# Tools Update

- Windows Phone 7 Training Kit has been refreshed
  - Updated to work with the beta
  - Includes new content and labs
    - Launchers and Choosers
    - Push Notifications
- Get the tools and Training Kit at the Windows Phone Developer Portal
  - <http://developer.windowsphone.com>

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# CTP to Beta - Breaking Changes

- Assembly and Namespace reorganization
  - Numerous namespaces merged into *Microsoft.Phone*
  - *Application.Resources* removed from *App.xaml*
- *ToggleControlSwitch* and *ToggleControlButton* removed
  - Replaced with *ToggleButton*
- *ListView* and *ListViewItem* removed
  - Replaced with different *ListBox* visualization.



# CTP to Beta - Fixing Breaking Changes



- Microsoft's Jaime Rodriguez has written an excellent step-by-step guide to migrating CTP applications to Beta.
    - <http://blogs.msdn.com/b/jaimer/archive/2010/06/28/migrating-apps-from-windows-phone-ctps-to-the-beta-build.aspx>
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# Launchers and Choosers

- Understanding the Windows Phone 7 Architectural Model
- What are “Hubs?”
- What is a Launcher?
- What is a Chooser?



# Windows Phone Architectural Model



- Applications are “sandboxed”
  - Data access is primarily limited to your own sandbox and “the cloud”
  - So, how do I get to other common device resources?
    - The answer - Launchers and Choosers
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# What Are “Hubs”?

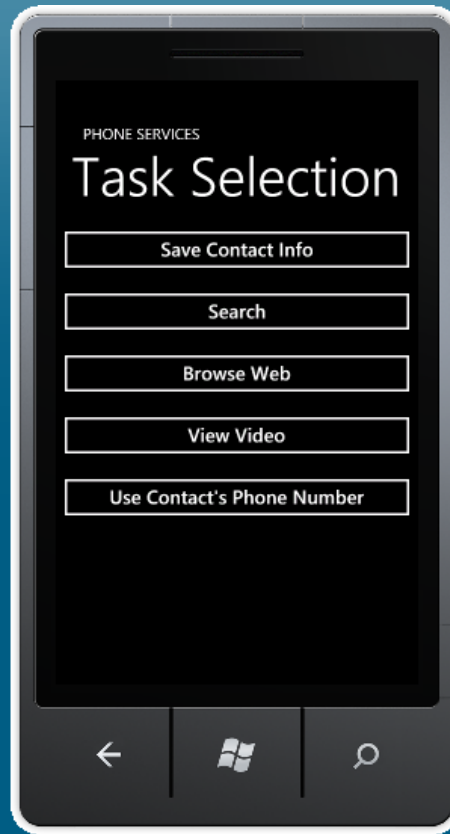
- A component of the architecture that brings together related information into a common experience.
  - Content could be local, from the Internet or both
  - Experiences are designed around the content
- 6 Hubs in Windows Phone 7
  - People
  - Pictures
  - Games
  - Music and Video
  - Marketplace
  - Office



# How Can I Leverage Hubs?

- More specifically - How can I interact with data contained within hubs?
  - The answer - Launchers and Choosers
- Launchers and Choosers are not user-creatable
  - If a hub does not have one, you can't make one.
  - Analogy - a 3<sup>rd</sup>-party API
- Launcher
  - Allows you to perform a task related to the hub
  - The task can be very complex
    - You don't deal with the complexity, though. The Launcher does.
  - Examples
    - Add a new contact
    - Make a phone call
- Chooser
  - Allows you to pick an item from the data contained within a hub
  - Examples
    - Select a photo
    - Select a phone number from a contact

# DEMO: Launchers and Choosers





# Managing Data

- Designing an Application Model
- Working Locally and Remotely with Data
- Securing Local Data



# Designing an Application Model

- The Challenges
  - No native robust data store
  - No System.Data
    - Read - No DataSets or DataTables in memory
  - Third party solutions are still “incubating”
- FYI - 3<sup>rd</sup> Party Data Stores
  - Perst
    - <http://www.mcobject.com>
    - NOT relational - object DBMS
    - Learning Curve
    - GPL-based
      - If your application is commercial, you will need to license
  - SQLite
    - VERY alpha
    - For more information
- The Solution
  - Develop a solid and flexible data model for your application(s)



# Data Model Principles

- Choose a file format
  - Recommendations
    - XML
      - Easiest to work with (especially if doing local-to-remote synchronization)
      - Most support
    - WCF andDataContractSerializer
      - May be worthwhile under some circumstances
- Use Objects and Collections
  - Classic Data Access, Entity and Business Object layers
- Use LINQ
  - LINQ for XML
  - Convert to Object Collections
  - LINQ for your collections

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# Data Considerations

- Local vs. Remote Data
  - Web services become the “glue”
  - Recommend RESTful Web services
    - Greatest cross-platform support
  - Application logic is required for synchronization
    - EXAMPLE:
      - New rows of data are flagged locally
      - When passed back to server, server assigns key and passes data back



# Data Considerations - Security

- Encryption is the key (No pun intended)
- Encryption methods supported by Windows Phone 7
  - AES
  - HMACSHA1
  - HMACSHA256
  - Rfc2898DeriveBytes
  - SHA1
  - SHA256
- AES is usually enough to meet needs
- Possibilities
  - Password-protected
- Great Example -
  - Rob Tiffany's Blog
    - <http://robtiffany.com/windows-phone-7/dont-forget-to-encrypt-your-windows-phone-7-data>





# CASE STUDY: Project “TiskTask”

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# What's Coming Up

- August
  - “State and Notifications: A Whole New World in Windows Phone 7”
    - Introduction to Managing Application State
    - Introduction to Push Notification
- September
  - “Windows Phone 7 Expression”
    - Using Microsoft Expression Blend for Windows Phone