98-373
Mobile Development Fundamentals

Audience Profile

Candidates for this exam are seeking to prove core mobile development skills. Before taking this exam, candidates should have solid foundational knowledge of the topics outlined in this preparation guide, including Silverlight, HTML5, and other phone operating system tools. It is recommended that candidates be familiar with the concepts of and have hands-on experience with the technologies described here either by taking relevant training courses or by working with tutorials and samples available on MSDN and in Microsoft Visual Studio.

Objective Domain

1. Work with Physical Devices

1.1. Understand mobile device tools.

This objective may include but is not limited to: defining the Windows Phone Capability Detection Tool and the Windows Phone Connect tool; Windows Phone Marketplace Test Kit

1.2. Understand physical capabilities of the mobile device.

This objective may include but is not limited to: identifying the different device sensors; describing and defining the camera capture and preview stream APIs; identifying different built-in hardware; Motion API

1.3. Plan for physical interactions with the mobile device.

This objective may include but is not limited to: describing and defining the differences among devices, including features, API levels, number of touch points, and networking capabilities; identifying ways to save energy; accounting for screen size/real estate when planning layout

2. Use Data with Mobile Devices

2.1. Work with networked data.

This objective may include but is not limited to: integrating with databases (Microsoft SQL Server, SQL Lite); describing and defining how LINQ and Microsoft ADO.NET work; implementing data binding; minimizing the data traffic for performance and cost; making use of Windows Communication Foundation (WCF) Web services and REST; describing and defining the benefits of SQL Server replication

2.2. Use data stores.

This objective may include but is not limited to: using different kinds of storage (for example, file and database); describing and defining the benefits of different storage locations (local, isolated, remote); integration with XML; accessing native data and functionalities (launchers, choosers); handling offline situations

3. Use a Mobile Application Development Environment

3.1. Understand design for mobile devices.

This objective may include but is not limited to: describing and defining marketplace submission rules; describing and defining mobile design concepts (for example, metro, button sizing, spacing); describing and defining globalization/localization; defining mobile optimization; defining MVVM; describing and defining object-oriented programming (OOP) and separation of concerns; describing and defining asynchronous programming/threading

3.2. Network for mobile devices.

This objective may include but is not limited to: describing and defining the application model in relation to WCF RIA services; creating a robust server/cloud communication that can throttle between no network to mobile network to wireless network; describing and defining networking concepts in relation to multicast and HTTP requests; using Web services; describing and defining toast and other notifications

3.3. Understand Silverlight.

This objective may include but is not limited to: describing and defining the differences between Silverlight, XNA, and HTML5 and which one to choose for a given scenario; using Silverlight and HTML5 applications; identifying Silverlight controls

3.4. Work with developer tools.

This objective may include but is not limited to: using Microsoft Visual Studio IDE; creating the deployment package and deploying the application; using the Microsoft .NET Framework; configuring a test environment; testing and debugging mobile applications

3.5. Code for mobile applications.

This objective may include but is not limited to: evaluating code; identifying code errors; identifying the code to use to meet requirements, distinguishing among programming languages and programs, including XNA, Microsoft Visual Basic .NET, HTML5, XAML, and C# .NET

4. Develop Mobile Applications

4.1. Manage the application life cycle.

This objective may include but is not limited to: preserving application state information and handling activate/deactivate functions; using tombstoning;

balancing code between battery usage and performance; creating a responsive application with feedback of user actions; managing visible status for long-running operations; storing passwords; splash screen

4.2. Understand mobile device APIs.

This objective may include but is not limited to: NavigationServices class, mapping/GeoLocation APIs, and Forms, Canvas, and Media APIs in HTML5; describing and defining manipulation events, including ManipulationStarted and ManipulationDelta

4.3. Understand mobile device controls.

This objective may include but is not limited to: using Windows Phone controls; arranging content with panels; displaying collections of items; building custom controls; describing and defining Push/Raw/Tile notification; using tasks and choosers to enhance application functionality

4.4. Build the user interface.

This objective may include but is not limited to: creating layout with Style; designing with system theme, accent color, and screen orientation; graphic layering (transparency, borders, resizing); creating the user experience to be clean, focused, and using UI standards and guidelines; integrating images and media in an application