# 70-484: Essentials of developing Windows Store apps using C#

The following tables itemize changes to exam 70-484. These changes will be made on December 2, 2013, to include updates that relate to Windows 8.1 and Visual Studio 2013 tasks.

#### 1. Design Windows Store apps (increase: 19% to 20%)

Tasks currently measured	Tasks to be added/changed in
	December 2013
Design the UI layout and structure	Added subtask:
Evaluate the conceptual design and decide how the	use the Hub App template
UI will be composed; design for the inheritance and	
re-use of visual elements (e.g., styles, resources);	
design for accessibility; decide when custom	
controls are needed	
Design for separation of concerns (SOC)	No change
Plan the logical layers of your solution to meet app	
requirements; design loosely coupled layers;	
incorporate WinMD components	
Apply the MVVM pattern to your app	No change
design	
Design and implement the appropriate data model	
to support business entities; design your viewmodel	
to support your view based on your model; develop	
a view to meet data-binding requirements; create	
view models using INotifyPropertyChanged,	
ObservableCollection, and CollectionViewSource	No de con
Design and implement Process Lifetime	No change
Management (PLM)	
Choose a state management strategy; handle the	
suspend event; prepare for app termination; handle	
the Resume event; handle the OnActivated event;	
check the ActivationKind and previous state	
Plan for an app deployment	No change
Plan a deployment based on Windows Store app	
certification requirements; prepare an app manifest	

capabilities and declarations); sign an app; plan the
quirements for an enterprise deployment

### 2. Develop Windows Store apps (no change: 19%)

Tasks currently measured	Tasks to be added/changed in December 2013
Access and display contacts Call the ContactsPicker class; filter which contacts to display; display a set number of contacts; create and modify contact information; select specific contact data	No change
Design for charms and contracts Choose the appropriate charm based on app requirements; design your app in a charm- and contract-aware manner; configure app manifest for correct permissions	No change
Implement search Provide search suggestions using the SearchPane class; search for and launch other apps; provide and constrain search within an app, including inside and outside of Search charm; provide search result previews; implement activation from within search	Modified subtask: Provide search suggestions using the SearchPane class and SearchBox control  New subtask: configure search contracts
Implement Share in an app Use the DataTransferManager class to share data with other apps; accept sharing requests by implementing activation from within Share; limit the scope of sharing using the DataPackage object; implement in-app Share outside of Share charm	New subtask: use web links and application links
Manage app settings and preferences Choose which app features are accessed in AppSettings; add entry points for AppSettings in the Settings window; create settings flyouts using the Popup control; add settings options to Popup; store and retrieve settings from the roaming app data store	Modified subtask: create settings flyouts  Removed subtask: add settings options to Popup
None	New task (section):  Integrate media features Support DDS images; implement video playback; implement XVP and DXVA; implement Text to Speech (TTS)

# 3. Create the user interface (no change: 21%)

Tasks currently measured	Tasks to be added/changed in
	December 2013
Create layout aware apps to handle view states  Handle view state events from ViewStateManager; choose between style patterns for the different view states; set app orientation in the manifest.	Revised task: Create layout-aware apps to handling windowing modes
states; set app orientation in the manifest	Revised, complete list of subtasks: Respond to changes in orientation; adapt to new windowing modes by using the ViewManagement namespace; manage settings for an apps view
Implement layout controls Implement the Grid control to structure your layout; set the number of rows/columns and size; enable zoom and scroll capabilities in layout controls; manage text flow and presentation	No change
Design and implement the app bar	Revised task:
Determine what to put on the app bar based on app requirements; style and position app bar items; design the placement of controls on the app bar; handle AppBar events	Revised, complete list of subtasks:  Determine what to put on the app/nav bar based on app requirements; style and position app/nav bar items; design the placement of controls on the app/nav bar; handle app/nav bar events
Design and implement data presentation	Revised subtask:
Choose and implement data controls to meet app requirements (e.g., ListView, GridView, and FlipView); create data templates to meet app requirements	Choose and implement data controls and properties to meet app requirements (e.g., ListView, GridView, FlipView, DatePicker, TimePicker, Hyperlink, PlaceholderText, menu flyouts, and CommandBar)
Create and manage XAML styles and	No change
templates	
Implement and extend styles and templates; implement gradients; modify styles based on event and property triggers; create shared resources and themes	

### 4. Program user interaction (decrease: 21% to 20%)

Tasks currently measured	Tasks to be added/changed in
	December 2013
Create and manage tiles	No change
Create and update tiles and tile contents; create and update badges (TileUpdateManager class); respond to notification requests; choose an appropriate tile update schedule based on apprequirements	
Notify users by using toast	Added subtask:
Enable an app for toast notifications; populate toast notifications with images and text using the ToastUpdateManager class; play sounds with toast notifications; respond to toast events; control toast duration	configure and use Azure Mobile Services for push notifications
Manage input devices	No change
Capture gesture library events; create custom gesture recognizers; listen to mouse events or touch gestures; manage Stylus input and inking	
Design and implement navigation in an app	No change
Handle navigation events, check navigation properties, and call navigation functions by using the Navigation framework; design navigation to meet app requirements; Semantic Zoom	

# 5. Manage security and data (no change: 20%)

Tasks currently measured	Tasks to be added/changed in
	December 2013
Choose an appropriate data access strategy Choose the appropriate data access strategy (file based; web service; remote storage, including Windows Azure storage) based on requirements	Modified subtask: Choose the appropriate data access strategy (file based, web service, remote storage, including Windows Azure storage and Azure Mobile
	Services) based on requirements
Retrieve data remotely  Use HttpClient to retrieve web services; set the appropriate HTTP verb for REST; consume SOAP/WCF services; use WebSockets for bidirectional communication; handle the progress of data requests	No change
Implement data binding Choose and implement data-bound controls; bind collections to items controls; implement the IValueConverter interface; create and set dependency properties; validate user input; enable filtering, grouping, and sorting data in the user interface	No change
Manage Windows Authentication	Revised task:
Retrieve a user's roles or claims; store and retrieve credentials by using the PasswordVault class; implement the CredentialPicker class	Manage Windows authentication and authorization
	Additional subtasks: verify credential existence by using credential locker; store account credentials in app settings
Manage Web Authentication	Additional subtask:
Use the Windows.Security.Authentication.Web namespace; set up OAuth2 for authentication; implement the CredentialPicker class; set up single sign-on (SSO); implement credential roaming; implement the WebAuthenticationBroker class	support proxy authentication for enterprises