Microsoft

Exam 70-484

Essentials of Developing Windows Store Apps using C#

Version: 8.0

[Total Questions: 118]

Topic 1, Scenario 1
Background

You are developing a Windows Store app by using C# and XAML. The app will allow users to share and rate photos. The app will also provide information to users about photo competitions.

Application Structure

The app stores data by using a class that is derived from the DataStoreBase class.

The app coordinates content between users by making calls to a centralized RESTful web service.

The app has a reminder system that displays toast notifications when a photo competition is almost over. The app gets the competition schedule data from the web service.

The app displays a list of images that are available for viewing in a data-bound list box. The image file list stores paths to the image files. The app downloads new images from the web service on a regular basis.

Relevant portions of the app files are shown. (Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.)

Business Requirements
The app must allow users to do the following:
- Run the app on a variety of devices, including devices that have limited bandwidth connections.
- Share and synchronize high resolution photographs that are greater than 1 MB in size.
- Rate each photo on a scale from 1 through 5.

Technical Requirements
The app must meet the following technical requirements:
- Retain state for each user and each device.
- Restore previously saved state each time the app is launched.
- Preserve user state and photo edits when switching between this app and other apps.
- When the app resumes after a period of suspension, refresh the user interface, tile images, and data with current information from the web service.
- Update the image list box as new images are added to the image file list.
- Convert the image paths into images when binding the image file list to the list box.

The app must store cached images on the device only, and must display images or notifications on the app tile to meet the following requirements:
- Regularly update the app tile with random images from the user's collection displayed one at a time.

- When a photo is displayed on the tile, one of the following badges must be displayed:
- If the photo has a user rating, the tile must display the average user rating as a badge.
- If the photo does not have a rating, the tile must display the Unavailable glyph as a badge.
- Update the app tile in real time when the app receives a notification.
- Display only the most recent notification on the app tile.

The app must display toast notifications to signal the end of a photo competition. The toast notifications must meet the following requirements:

- Display toast notifications based on the schedule that is received from the web service.
- Display toast notifications for as long as possible.
- Display toast notifications regardless of whether the app is running.
- When a user clicks a toast notification that indicates the end of the photo competition, the app must display the details of the photo competition that triggered the toast notification.

App.xaml.cs

```
AX01 using System;
AX02 using Windows.ApplicationModel.Activation;
AX03 using Windows.UI.Xaml;
AX04 using Windows.UI.Xaml.Controls;
AX05 namespace Application1
AX06 {
AX07   sealed partial class App : Application
AX08   {
AX09     private DispatcherTimer tileUpdateTimer = new DispatcherTimer();
AX10     private DispatcherTimer badgeUpdateTimer = new DispatcherTimer();
AX11     public App()
AX12     {
AX13       this.InitializeComponent();
AX14       tileUpdateTimer.Tick += TileUpdateTimer_Tick;
AX15       tileUpdateTimer.Interval = new TimeSpan(0, 0, 10);
AX16       tileUpdateTimer.Start();
AX17       badgeUpdateTimer.Tick += BadgeUpdateTimer_Tick;
AX18       badgeUpdateTimer.Interval = new TimeSpan(0, 1, 0);
AX19       badgeUpdateTimer.Start();
AX20     }
AX21     private void SendNotification(XmlDocument currentTemplate)

AX20     }
AX21     private void SendNotification(XmlDocument currentTemplate)
AX22     {
AX23       var tileUpdater = TileUpdateManager.CreateTileUpdaterForApplication();
AX24
AX25     }
AX26     void TileUpdateTimer_Tick(object sender, object e)
AX27     {
AX28
AX29     }
AX30     void BadgeUpdateTimer_Tick(object sender, object e)
AX31     {
AX32       ...
AX33     }
AX34     protected override void OnLaunched(LaunchActivatedEventArgs args)
AX35     {
AX36       var rootFrame = new Frame();
AX37       rootFrame.Navigate(typeof(MainPage));
AX38       Window.Current.Content = rootFrame;
AX39       Window.Current.Activate();
AX40     }
AX41   }
AX42 }
```

DataStoreBase.cs

```
DB01 using System;
DB02 namespace Application1
DB03 {
DB04   public abstract class DataStoreBase
DB05   {
DB06     public abstract bool SaveLocalSetting(string key, string value);
DB07     public abstract bool SaveRoamingSetting(string key, string value);
DB08     public abstract bool SaveDataToWebService(string key, string jsonString);
DB09     public abstract bool SaveDataToLocalStorage(string key, string jsonString);
DB10     public abstract bool SaveDataToRoamingStorage(string key, string jsonString);
DB11     public abstract bool SaveDataToAzureStorage(string key, string jsonString);
DB12     public abstract string GetLocalSetting(string key);
DB13     public abstract string GetRoamingSetting(string key);
DB14     public abstract string GetDataFromWebService(string key);
DB15     public abstract string GetDataFromLocalStorage(string key);
DB16     public abstract string GetDataFromRoamingStorage(string key);
DB17     public abstract string GetDataFromAzureStorage(string key);
DB18   }
DB19 }
```

Question No : 1 - (Topic 1)

You need to ensure that launching the app displays the required information.

From which ApplicationExecutionState enumeration should you configure the user interface state?

A. ClosedByUser
B. Suspended
C. NotRunning
D. Running
E. Terminated

Answer: E

Explanation: The user closes the app through the close gesture or Alt+F4 and takes longer than 10 seconds to activate the app again.
*From scenario: The app must meet the following technical requirements:
Retain state for each user and each device.
Restore previously saved state each time the app is launched.

Your app can use activation to restore previously saved data in the event that the operating system terminates your app, and subsequently the user re-launches it. The OS may terminate your app after it has been suspended for a number of reasons. The user may manually close your app, or sign out, or the system may be running low on resources.

Ref: http://msdn.microsoft.com/en-us/library/windows/apps/hh464925.aspx

Question No : 2 - (Topic 1)

You need to choose the appropriate data binding strategy for the image list box.

Which method should you use?

A. System.Drawing.ImageConverter.ConvertToString()
B. IValueConverter.ConvertBack()
C. IValueConverter.Convert()
D. System.Drawing. ImageConverter-ConvertFromStrin()

Answer: C

Explanation: IValueConverter.Convert
The data binding engine calls this method when it propagates a value from the binding source to the binding target.

Question No : 3 - (Topic 1)

You need to configure toast notifications for the photo competition.

Which code segment should you use?

```
C A.   ((XmlElement)currentTemplate.CreateElement("notify")).SetAttribute
       ("duration", "5000");

C B.   ((XmlElement)currentTemplate.GetElementsByTagName("toast")[0]).SetAttribute
       ("duration", "long");

C C.   ((XmlElement)currentTemplate.GetElementsByTagName("toast")[0]).SetAttribute
       ("duration", "short");

C D.   ((XmlElement)currentTemplate.CreateElement("duration")).SetAttribute
       ("value", "long");
```

A. Option A
B. Option B

C. Option C
D. Option D

Answer: B

Explanation: The app must display toast notifications to signal the end of a photo competition. The toast notifications must meet the following requirements:
/ Display toast notifications for as long as possible

Question No : 4 - (Topic 1)

You need to ensure that only the correct information is preserved when the user switches to another app.

Which actions should you perform? (Each correct answer presents part of the solution. Choose all that apply.)

A. Save application state by calling the SaveDataToRoamingStorage() method,
B. Save photographs by calling the SaveDataToLocalStorage() method.
C. Save photographs by calling the SaveDataToWebService() method.
D. save application state by calling the SaveDataToLocalStorage() method.

Answer: A,B

Explanation: A: From scenario: The app must meet the following technical requirements: Retain state for each user and each device.

B: From scenario: The app must store cached images on the device only

Question No : 5 - (Topic 1)

You need to ensure that the app resumes according to the requirements.

Which actions should you perform? (Each correct answer presents part of the solution. Choose all that apply.)

A. Retrieve new user content by using the Window.Current.Dispatcher.ProcessEvents()

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method in the App_Resuming event handler.

B. update the user interface by using the Window.Current.Dispatcher.Invoke() method in the App_Resuming event handler.

C. Override the OnLaunched event handler.

D. Retrieve new user content by using the Window.Current.Dispatcher.ProcessEvents() method in the OnLaunched event handler when the ActivationKind is Launch.

E. Update the user interface by using the Window.Current.Dispatcher.Invoke() method in the OnLaunched event handler when the ActivationKind is Launch.

F. Register the App_Resuming event handler for the Resuming event.

Answer: A,B

Explanation:

From scenario:

The app must meet the following technical requirements:

/ When the app resumes after a period of suspension, refresh the user interface, tile images, and data with current information from the web service.

Question No : 6 - (Topic 1)

You need to choose the appropriate data binding strategy for the image list box.

Which method should you use?

A. System.Drawing.ImageConverter.ConvertTo(value, typeof(Image))

B. IValueConverter.Convert()

C. System.Drawing.ImageConverter.ConvertFrom(value, typeof(Image), CultureInfo.CurrentUICulture)

D. IValueConverter.ConvertBack ()

Answer: B

Explanation: IValueConverter.Convert

The data binding engine calls this method when it propagates a value from the binding source to the binding target.

Question No : 7 - (Topic 1)

A photo competition is ending.

You need to meet the requirements when a user clicks the toast notification.

Which code segment should you use?

```
A.  ((XmlElement)currentTemplate.GetElementsByTagName("binding")[0])
      .SetAttribute("trigger", competitionID);

B.  currentTemplate.GetElementsByTagName("binding").First()
      .AppendChild(currentTemplate.CreateTextNode(competitionID));

C.  currentTemplate.GetElementsByTagName("toast").First()
      .AppendChild(currentTemplate.CreateTextNode(competitionID));

D.  ((XmlElement)currentTemplate.GetElementsByTagName("toast")[0])
      .SetAttribute("launch", competitionID);
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer: D

Explanation:

From scenario:

When a user clicks a toast notification that indicates the end of the photo competition, the app must display the details of the photo competition that triggered the toast notification.

Question No : 8 DRAG DROP - (Topic 1)

You need to update the app tile images.

With which four code segments in sequence should you replace line AX23? (To answer, move the appropriate code segments from the list of code segments to the answer area and arrange them in the correct order.)

	Answer Area
| ```
var tileUpdater =
TileUpdateManager.CreateTileUpda
terForApplication();
tileUpdater.Insert
(new TileNotification
(currentTemplate));
``` | |
| ```
currentTemplate =
TileUpdateManager.GetTemplateCon
tent
(TileTemplateType.TileWideImage)
;
``` | |
| ```
currentTemplate.GetXml();
``` | |
| ```
var tileUpdater =
TileUpdateManager.CreateTileUpda
terForApplication();
tileUpdater.Update
(new TileNotification
(currentTemplate));
``` | |
| ```
imageNode.SetAttribute
("src", string.Format("ms-
appdata://{0}", GetRandomImage
()));
``` | |
| ```
var imageNode = (XmlElement)
currentTemplate.GetElementsByTag
Name("image")[0];
``` | |
| ```
imageNode.SetAttribute
("src", string.Format("ms-
appx://{0}", GetRandomImage()));
``` | |

Answer:

Answer Area

```
currentTemplate =
TileUpdateManager.GetTemplateCon
tent
(TileTemplateType.TileWideImage)
;
```

```
var imageNode = (XmlElement)
currentTemplate.GetElementsByTag
Name("image")[0];
```

```
imageNode.SetAttribute
("src", string.Format("ms-
appdata://{0}", GetRandomImage
()));
```

```
var tileUpdater =
TileUpdateManager.CreateTileUpda
terForApplication();
tileUpdater.Update
(new TileNotification
(currentTemplate));
```

Available items (left column):

```
var tileUpdater =
TileUpdateManager.CreateTileUpda
terForApplication();
tileUpdater.Insert
(new TileNotification
(currentTemplate));
```

```
currentTemplate =
TileUpdateManager.GetTemplateCon
tent
(TileTemplateType.TileWideImage)
;
```

```
currentTemplate.GetXml();
```

```
var tileUpdater =
TileUpdateManager.CreateTileUpda
terForApplication();
tileUpdater.Update
(new TileNotification
(currentTemplate));
```

```
imageNode.SetAttribute
("src", string.Format("ms-
appdata://{0}", GetRandomImage
()));
```

```
var imageNode = (XmlElement)
currentTemplate.GetElementsByTag
Name("image")[0];
```

```
imageNode.SetAttribute
("src", string.Format("ms-
appx://{0}", GetRandomImage()));
```

Question No : 9 - (Topic 1)

You need to identify the class to use as the data context for the image list box.

Which class should you use?

A. System. Collections.Object Model. CollectionObserver<T>
B. System.Collections.ObjectModel.ObservableCollection<T>
C. System.Collections.Generic.IEnumerator<T>
D. System.Collections.Generic.IEnumerable<T>

Answer: B

Explanation: ObservableCollection<T> Class