



# Microsoft

## Exam 70-354

**Universal Windows Platform – App Architecture and UX/UI (beta)**

Version: 7.0

[ Total Questions: 76 ]

### Topic break down

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## Topic 1, Contoso, Ltd.

### Overview

Contoso, Ltd. is an international computer manufacturer that has 3.000 employees. Contoso plans to develop a Universal Windows Platform (UWP) app named App1 to manage the details of the computers sold by the company. App1 will display all of the available computer models on its main page.

Users will be able to select a computer model to see its details. On the details page for each computer, there will be a picture of the respective computer. The users will be able to use touch gestures to rotate the picture and to click a button to hear a description of the computer model.

Contoso also plans to develop a REST service to provide data to Appl. The data will be stored in a Microsoft SQL Server database.

### Requirements

#### Conceptual Design Requirements

Contoso identifies the following conceptual design requirements for App1:

- App1 will use the Model-View-ViewModel (MVVM) pattern.
- Before implementing any code, a storyboard must be created.
- Every storyboard must be linked to a work item.
- From the storyboard design tool, you must be able to see the work items.
- From Microsoft Visual Studio 2015, you must be able to access the storyboards directly.

#### Technical Requirements

Contoso identifies the following technical requirements for App1:

- App1 must be developed in C# and XAML.
- App1 must run on laptops, tablets, and mobile devices.
- The same codebase must be used for the different device types, whenever possible.
- During the development of App1, you must be able to monitor the processor and memory use of App1.

#### Data Model

The following class was developed to store information about the computers

```
class Computer
{
string model;
public string Model
{
    get
    {
        return model;
    }
    set
    {
        model = value;
    }
}
public override string ToString()
{
    return Model;
}
}
```

The data must be accessed only through the REST API, not by using a direct SQL Server connection.

Main Page Requirements

The main page file will be named MainPage.xaml. The following data context will be used for the main page.

```
class ContosoAppContext
{
List<Computer> computers = new List<Computer>()
{
    new Computer() { Model= "Model1" },
    new Computer() { Model = "Model2" }
};
public list<Computer> Computers
{
    get
    {
        return computers;
    }
    set
    {
        computers = value;
    }
}
}
```

### Details Page Requirements

The Details page will use the following media element.

<MediaElement x:Name="media'7">

### Development Requirements

Contoso identifies the following technical requirements for the development process of App1:

- Code files must be stored in a public cloud.
- Developers must be able to work simultaneously on the code files.
- Source code synchronization must be performed directly from Visual Studio.
- From Visual Studio, a developer must be able to ensure that other developers can review the code.

For the REST service. Contoso plans to outsource the development. Contoso identifies the following technical requirements:

- Code files must be stored in the cloud.
- Developers must be able to work simultaneously on the code files.
- Source code synchronization must be performed directly from Visual Studio.
- All of the developers must have the full history of the code on their workstation.

## Tests Requirements

Contoso identifies the following requirements for testing:

- Unit tests must be used.
- The tests must maximize code coverage.
- The effort required to implement the testing must be minimized.

## Build Process

Contoso defines the following build process:

- Build the solution.
- When the solution is built, any required NuGet packages must be installed automatically.
- If the solution is built successfully, run the associated tests.
- If the tests are all successful, deploy the binaries to a server named TestServer.

### Question No : 1 - (Topic 1)

You need to recommend a solution to ensure that the UI adapts to different devices.

What is the best recommendation to achieve the goal? More than one answer choice may achieve the goal. Select the BEST answer.

- A. Create a single project and use VisualState.
- B. Create a project for the phones, a project for the tablets, and a project for the laptops.
- C. Create a single project and use a responsive .less file.
- D. Create a single project and use the LESS CSS preprocessor.

**Answer: A**

### Question No : 2 - (Topic 1)

You need to recommend which repository must be used for the REST service.

What should you recommend?

- A. Team Foundation version control with Visual Studio Online
- B. Microsoft Azure virtual machines with Team Foundation version control
- C. Microsoft Azure Blob storage

D. GitHub

**Answer: A**

**Question No : 3 - (Topic 1)**

You need to ensure that each computer in MainPage.xaml is displayed with an associated picture. What should you use?

- A. VisualStateManager
- B. DataTemplate
- C. AdaptiveTrigger
- D. VisualState

**Answer: C**

**Question No : 4 - (Topic 1)**

You need to recommend which tool to use to create the storyboards.

What should you recommend?

- A. Microsoft Visio
- B. Microsoft PowerPoint
- C. Microsoft Visual Studio
- D. Microsoft Excel

**Answer: B**

**Question No : 5 - (Topic 1)**

You need to recommend a source control solution for the development of Appl What should you recommend?

- A. Microsoft Azure virtual machines with Team Foundation version control
- B. GitHub
- C. Team Foundation version control with Visual Studio Online

## D. Microsoft Azure Blob storage

**Answer: B**

### Question No : 6 - (Topic 1)

You need to recommend a solution to meet the testing requirements. What should you include in the recommendation?

- A. a web performance test
- B. load testing
- C. IntelliTrace
- D. IntelltiTest

**Answer: B**

### Question No : 7 DRAG DROP - (Topic 1)

On the details page, you render the picture of the computer inside an object of the Rectangle type.

You need to implement the ability to rotate the rectangle that contains the picture.

How should you complete the code? To answer, drag the appropriate code elements to the correct targets. Each element may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

#### Code Elements

DeltaManipulation

ManipulationOrigin

OriginalSource

RenderTransform

#### Answer Area

```
void Window_ManipulationDelta(object sender, ManipulationDeltaEventArgs e)
{
    Rectangle rectToMove = e. Code element as Rectangle;
    Matrix rectsMatrix = ((MatrixTransform)rectToMove. Code element ).Matrix;
    rectsMatrix.RotateAt(e. Code element .Rotation,
        e. Code element .X,
        e. Code element .Y);
    rectToMove.RenderTransform = new MatrixTransform(rectsMatrix);
}
```

**Answer:**



Code Elements

- DeltaManipulation
- ManipulationOrigin
- OriginalSource
- RenderTransform

Answer Area

```
void Window_ManipulationDelta(object sender, ManipulationDeltaEventArgs e)
{
    Rectangle rectToMove = e.OriginalSource as Rectangle;

    Matrix rectsMatrix = ((MatrixTransform)rectToMove.RenderTransform).Matrix;

    rectsMatrix.RotateAt(e.DeltaManipulation.Rotation,
        e.ManipulationOrigin.X,
        e.ManipulationOrigin.Y);

    rectToMove.RenderTransform = new MatrixTransform(rectsMatrix);
}
```

Question No : 8 - (Topic 1)

You need to recommend a solution to monitor App1.

What should you include in the recommendation?

- A. the Output window in Visual Studio
- B. Windows Performance Monitor
- C. Resource View in Visual Studio
- D. Class View in Visual Studio

Answer: B

Topic 2, Fabrikam, inc.

Overview

A company named Fabrikam, Inc is hired to develop a Universal Windows Platform (UWP) app named CityPlanner. The app will provide city employees with the ability to plan and manage city operations. City operations include all operations that a municipality might administer, such as emergency services and city maintenance.

The CityPlanner app will be deployed to different devices. CityPlanner will use Microsoft Azure to store data.

Existing Environment

Development Environment

Each developer has a laptop that has the following configurations:

- \* Operating System : Windows 8.1 (x64) pro.
- \* Memory: 4GB of RAM.

Each developer use a Hyper V virtual machine for development. Each virtual machine has the following configurations:

- \* Development environment: Microsoft visual studio 2015 Express.
- \* Operating System: Windows 8.1 (x64) pro.

\* Source control: Git

Visual Studio Online will be used for application lifecycle management.  
The City maintains its own NuGet repository library to help share and distribute code.

### Application on Testing

You have the following test environment:

- \* A machine group named Test Machines is configured. Three virtual machines for testing are provisioned in Azure and added to the group.
- \* Windows PowerShell is added to all of the testing virtual machines.

You identify the following requirements for testing:

- While testing the CityPlanner app internally, test users require the ability to record screenshots and the actions they perform in CityPlanner.
- A group of 200 beta testers will test CityPlanner. The app will be distributed to the beta testers through the Microsoft Store. During beta testing, CityPlanner must not be available by searching in the Store. Beta testing will last for 30 days.

### Technical Background:

Data for the CityPlanner app is stored in an Azure database and accessed through an Azure API App named CityData.

CityPlanner will be tested for various devices by using emulators.

The final version of CityPlanner will be distributed through the Microsoft Store.

### Requirements:

#### Business Requirement:

The CityPlanner app will need to be deployed to 1,000 city employees. Data operations will consist of approximately 90 percent read operations and 10 percent write operations.

You identify the following performance requirements:

- Data read performance must be optimized.
- Network communications must be minimized.

Data for CityPlanner will be placed in the categories described in the following table.

| Data store name | Description  |
|-----------------|--|
| CityOperations  | <ul style="list-style-type: none"><li>• Maintains a list of city operations, such as firefighting services, police services, and city offices, including maintenance offices</li><li>• Centrally stored in Azure</li></ul> |
| IssueList       | <ul style="list-style-type: none"><li>• Maintains a list of active city issues that are categorized and prioritized so that the appropriate staff can manage them</li><li>• Centrally stored in Azure</li></ul>            |

The city employees will work in many different languages to support the municipality. Often

the employees will have different difficult languages configured different devices.

Each employee will be able to write a personal note for any individual issue. The note will be private to that employee. When a note is typed the input language settings must be saved alongside the note.

### Application Usage:

You identify the following application usage behaviors for the CityPlanner app:

- There is an average of 300 active city issues in a single category.
- In a single day, approximately 25 percent of the CityOperations data will be used by the staff.
- When individual city employees work with the CityOperations data, they will work with the same data for a long period of time.
- When individual city employees work with the IssueList data, they will read all of the issues in a single category. The employees will open and close many issues frequently during a short period of time. They will often reopen an issue that they just closed.

The top-level navigation for the app will provide the city employees with the ability to select between managing the City Operations data and the issuesList data. The employees will switch between these views frequently. The employees must be able to switch between the different data views easily.

All users of the CityPlanner app must be authenticated. Administrator account for the app must be accessible only by Fabrikam developers.

### Issue Lists:

On a page named issueList.xaml, you must add an option for users to sort the IssueList data by date, importance, or alphabetical order by using an AppBarButton on the interface.

The following code is used on the IssueList.xaml page.

```
<Page
  x:Class="CityPlanner.IssueList"
  xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
  xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
  xmlns:local="using:CityPlanner"
  xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
  xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
  mc:Ignorable="d">

  <Page.Resources>
    <Style x:Key="ListViewStyle1" TargetType="ListView">
      <Setter Property="ItemContainerTransitions">
        <Setter.Value>
          <TransitionCollection>
            <ReorderThemeTransition/>
            <EntranceThemeTransition IsStaggeringEnabled="True" />
          </TransitionCollection>
        </Setter.Value>
      </Setter>
    </Style>
  </Page.Resources>
  <Page.Transitions>
    <TransitionCollection>
      <NavigationThemeTransition>
        <NavigationThemeTransition.DefaultNavigationTransitionInfo>
```



```
<CommonNavigationTransitionInfo />
</NavigationThemeTransition.DefaultNavigationTransitionInfo>
</NavigationThemeTransition>
</TransitionCollection>
</Page.Transitions>
<Grid x:Name="gridView1" Background="{ThemeResource ApplicationPageBackgroundThemeBrush}">
  <ScrollView>
    <StackPanel>
      <ListView x:Name="listView1" SelectionChanged="listView1_SelectionChanged" Style="{StaticResource ListViewStyle1}">
        <ListView.ItemTemplate>
          <DataTemplate>
            <Grid Height="70" Margin="6">
```

```
<Grid.ColumnDefinitions>
  <ColumnDefinition Width="Auto"/>
  <ColumnDefinition Width="**"/>
</Grid.ColumnDefinitions>
<Border
  Background="{StaticResource ListViewItemPlaceholderBackgroundThemeBrush}"
  Width="50" Height="50">
  <Image Source="{Binding StatusImage}" Stretch="UniformToFill"/>
</Border>
<StackPanel Grid.Column="1" VerticalAlignment="Center" Margin="10,0,0,0">
  <TextBlock Text="{Binding Title}" TextWrapping="NoWrap"/>
  <TextBlock Text="{Binding Subtitle}" TextWrapping="NoWrap"/>
  <TextBlock Text="{Binding Description}" MaxHeight="60"/>
</StackPanel>
</Grid>
</DataTemplate>
</ListView.ItemTemplate>
</ListView>
</StackPanel>
</ScrollView>
</Grid>
</Page>
```

### Future Requirement:

You identify the following long-term requirements:

- CityPlanner is the first in a series of apps that will be built for the city. Future apps must maximize code reuse.
- To keep a consistent look and feel, reusable controls must maintain their own template and properties.
- The reusable controls must be inheritable, to ensure that they can be used to create other controls.
- Fabrikam plans to make the CityPlanner app available to other cities.

### Question No : 9 - (Topic 2)

You need to recommend a solution to ensure that CityOperations meets the performance requirements.

What should you include in the recommendation?

- A. Implement data caching in the CityData Azure API.
- B. Use asynchronous methods in the CityPlanner app to read the IssueList data.
- C. Implement data caching in the CityPlanner app.
- D. Use asynchronous methods in the CityData Azure API app to read the IssueList data.

Answer: C

**Question No : 10 DRAG DROP - (Topic 2)**

How should you complete the code for AppBarButton? To answer, drag the appropriate code elements to the correct targets. Each element may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

| Code Elements  | Answer Area   |
|--|---|
| <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">AppBar</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">ContentDialog</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">Flyout</div> <div style="border: 1px solid #ccc; padding: 2px;">MenuFlyout</div> | <pre> &lt;AppBarButton Icon="Sort" IsCompact="True"&gt;   &lt;AppBarButton. Code element &gt;     &lt; Code element &gt;       &lt;MenuFlyoutItem Text="By date" Click="sortItem_Click" Tag="date" /&gt;       &lt;MenuFlyoutItem Text="By importance" Click="sortItem_Click" Tag="importance" /&gt;       &lt;MenuFlyoutItem Text="Alphabetical" Click="sortItem_Click" Tag="alphabetical" /&gt;     &lt;/ Code element &gt;   &lt;/AppBarButton. Code element &gt; &lt;/AppBarButton&gt; </pre> |

Answer:

| Code Elements  | Answer Area   |
|--|---|
| <div style="border: 1px dashed #ccc; padding: 2px; margin-bottom: 2px;">AppBar</div> <div style="border: 1px dashed #ccc; padding: 2px; margin-bottom: 2px;">ContentDialog</div> <div style="border: 1px dashed #ccc; padding: 2px; margin-bottom: 2px;">Flyout</div> <div style="border: 1px dashed #ccc; padding: 2px;">MenuFlyout</div> | <pre> &lt;AppBarButton Icon="Sort" IsCompact="True"&gt;   &lt;AppBarButton. Flyout &gt;     &lt; MenuFlyout &gt;       &lt;MenuFlyoutItem Text="By date" Click="sortItem_Click" Tag="date" /&gt;       &lt;MenuFlyoutItem Text="By importance" Click="sortItem_Click" Tag="importance" /&gt;       &lt;MenuFlyoutItem Text="Alphabetical" Click="sortItem_Click" Tag="alphabetical" /&gt;     &lt;/ MenuFlyout &gt;   &lt;/AppBarButton. Flyout &gt; &lt;/AppBarButton&gt; </pre> |

**Question No : 11 - (Topic 2)**

You need to recommend a change to ensure that the developers can test CityPlanner.

What should you recommend?

- A. Install the UWP SDK on the virtual machines.
- B. Upgrade the operating system of the virtual machines to Windows 10.

- C. Install Visual Studio 2015 on the developers' laptops.
- D. Upgrade Visual Studio on the virtual machines to Visual Studio Professional 2015.

**Answer: D**

### Question No : 12 - (Topic 2)

You need to recommend a procedure to ensure that the CityPlanner app passes the certification process. What should you include in the recommendation?

- A. Submit CityPlanner and ensure that authentication is disabled. When the app passes certification, upload a new version that has authentication enabled.
- B. Add a test user account to CityPlanner. Under the App description, add the credentials to the release notes of the app.
- C. in the Organizational licensing section, select Allow disconnected (offline) licensing for organizations.
- D. Add a test user account to CityPlanner. Add the credentials to the Notes for certification page.

**Answer: B**

### Question No : 13 - (Topic 2)

You are developing code to meet the requirements of the personal notes.

Which code should you include?

- A. 

```
using Windows.Globalization;
var languageFontGroup = new Fonts.LanguageFontGroup
(Windows.System.UserProfile.GlobalizationPreferences.Languages[0]);
```
- B. 

```
using Windows.Globalization;
var languageFontGroup = new Fonts.LanguageFontGroup
(Language.CurrentInputMethodLanguageTag);
```
- C. 

```
using Windows.Globalization;
var languageFontGroup = new
Fonts.LanguageFontGroup(ApplicationLanguages.Languages [0]);
```
- D. 

```
using Windows.Globalization;
var languageFontGroup = new Fonts.LanguageFontGroup((new GeographicRegion
()).Code);
```

Answer: B

**Question No : 14 - (Topic 2)**

Which two actions should you perform to provide beta testers with access to the CityPlanner app?

Each correct answer presents part of the solution.

- A. Create one promotional code for each day that the beta phase is available.
- B. On the Pricing and availability page, create a new sale that has a price tier of free.
- C. On the Pricing and availability page, set the base price to **Free**.
- D. Create one promotional code for each tester.
- E. Create a promotional code for each Windows 10 platform.
- F. On the Pricing and availability page, select **Hide this app and stop selling**.

Answer: C,E

**Question No : 15 HOTSPOT - (Topic 2)**

Which animations will appear when the employees view the IssueList.xaml page? For each of the following statements, select Yes if the statement is true. Otherwise, select No.

| Statements   | Yes                   | No                    |
|--|-----------------------|-----------------------|
| The listView1 items animate when the page loads.                         | <input type="radio"/> | <input type="radio"/> |
| The listView1 items animate when items are added to the end of the list. | <input type="radio"/> | <input type="radio"/> |
| The listView1 items animate at different times when the page loads.      | <input type="radio"/> | <input type="radio"/> |

Answer:

| Statements   | Yes                              | No                               |
|--|----------------------------------|----------------------------------|
| The listView1 items animate when the page loads.                         | <input type="radio"/>            | <input checked="" type="radio"/> |
| The listView1 items animate when items are added to the end of the list. | <input checked="" type="radio"/> | <input type="radio"/>            |
| The listView1 items animate at different times when the page loads.      | <input checked="" type="radio"/> | <input type="radio"/>            |

**Question No : 16 - (Topic 2)**

You plan to add Cortana support to the CityPlanner app.

The employees need to be able to search for an issue in CityPlanner by using either of the following phrases:

- CityPlanner, show the issues with "search phrase".
- Show me the issues with "search phrase", CityPlanner.

What should you add to the Voice Command Definition (VCD) file?

- A. `<ListenFor RequireAppName="BeforePhrase">`  
    show [me] the issues with {searchPhrase}  
`</ListenFor>`  
`<ListenFor RequireAppName="AfterPhrase">`  
    show [me] the issues with {searchPhrase}  
`</ListenFor>`
- B. `<ListenFor RequireAppName="ExplicitlySpecified">`  
    {searchPhrase} {builtin:AppName}  
`</ListenFor>`  
`<ListenFor RequireAppName="ExplicitlySpecified">`  
    {builtin:AppName} {searchPhrase}  
`</ListenFor>`
- C. `<ListenFor RequireAppName="BeforeOrAfterPhrase">`  
    {builtin:AppName}  
`</ListenFor>`  
`<ListenFor RequireAppName="ExplicitlySpecified">`  
    show [me] the issues with {searchPhrase}  
`</ListenFor>`
- D. `<ListenFor RequireAppName="BeforePhrase">`  
    {builtin:AppName}  
`</ListenFor>`  
`<ListenFor RequireAppName="AfterPhrase">`  
    show [me] the issues with {searchPhrase}  
`</ListenFor>`

A. Option A

B. Option B



- C. Option C
- D. Option D

**Answer: C**

### Question No : 17 - (Topic 2)

What is the best control to use for the top-level navigation? More than one answer choice may achieve this goal. Select the **BEST** answer.

- A. SemanticZoom
- B. Pivot
- C. SplitView
- D. ListView

**Answer: B**

### Topic 3, Litware, Inc.

#### Overview

Litware, Inc. is an international bike manufacturer that has 3.000 employees. Litware is developing a Universal Windows Platform (UWP) app that will provide its customers with the ability to see its inventory of bikes. The app will be used on various Windows 10 devices.

Requirements

#### App Design

The app will display all of the available bike models on its main page.

The app will have an Application Bar from which the customers will be able to save a report in a csv file of all the available bikes.

On desktop computers and laptops, the app will be displayed in a window. The window of the app will be resized frequently.

Once the app is developed successfully, a Windows 8.1 version of the app will be created.

#### App Files

The app has the following files:

- MainPage.xaml and MainPage.xaml.cs, which contain the code for the main page
- Bike.cs, which is the class that defines a bike
- LitwareDataContext.cs, which contains the data context for the main page
- DataLayer.cs, which contains the methods used to access data

App Code

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```
MP01. <Page
MP02.     x:Class="Litware.MainPage"
MP03.     xmlns=http://schemas.microsoft.com/winfx/2006/xaml/presentation
MP04.     xmlns:x=http://schemas.microsoft.com/winfx/2006/xaml
MP05.     xmlns:local="using:Litware"
MP06.     xmlns:d=http://schemas.microsoft.com/expression/blend/2008
MP07.     xmlns:mc=http://schemas.openxmlformats.org/markup-compatibility/2006
MP08.     mc:Ignorable="d">
MP09.     <Page.Resources>
MP10.         <Style x:Name="RedFontStyle" TargetType="TextBlock">
MP11.             <Setter Property="Foreground" Value="Red" />
MP12.         </Style>
MP13.     </Page.Resources>
MP14.     <Grid Background="{ThemeResource ApplicationPageBackgroundThemeBrush}">
MP15.         <VisualStateManager.VisualStateGroups>
MP16.             <VisualStateGroup>
MP17.                 <VisualState x:Name="WideState">
MP18.                     <VisualState.StateTriggers>
MP19.                         <AdaptiveTrigger MinWindowWidth="320" />
MP20.                     </VisualState.StateTriggers>
MP21.                     <VisualState.Setters>
MP22.                         <Setter Target="listBoxBike.Background" Value="Gray" />
MP23.                     </VisualState.Setters>
MP24.                 </VisualState>
MP25.                 <VisualState x:Name="NarrowState">
MP26.                     <VisualState.StateTriggers>
MP27.                         <AdaptiveTrigger MinWindowWidth="0" />
MP28.                     </VisualState.StateTriggers>
MP29.                     <VisualState.Setters>
MP30.                         <Setter Target="listBoxBike.Background"
MP31.                             Value="Orange" />
MP32.                     </VisualState.Setters>
MP33.                 </VisualState>
MP34.             </VisualStateGroup>
MP35.         </VisualStateManager.VisualStateGroups>
MP36.         <ListBox Margin="10,11,10,16" ItemsSource="{Binding Bikes}"
MP37.             Name="listBoxBike">
MP38.             <ListBox.ItemTemplate>
MP39.                 <DataTemplate>
MP40.                     <StackPanel Tapped="StackPanel_Tapped">
MP41.                         <TextBlock PointerPressed="TextBlock_PointerPressed"
MP42.                             Style="{StaticResource RedFontStyle}" Text="{Binding Name}" />
MP43.                         <TextBlock Text=", " />
MP44.                         <TextBlock Foreground="Blue" Text="{Binding Size}" />
MP45.                     </StackPanel>
MP46.                 </DataTemplate>
MP47.             </ListBox.ItemTemplate>
MP48.         </ListBox>
MP49.     </Grid>
MP50.     <Page.BottomAppBar>
MP51.         <AppBar x:Name="bottomAppBar" Padding="10,0,10,0">
MP52.             <Grid>
MP53.                 <StackPanel Orientation="Horizontal">
MP54.                     <Button Content="Print"/>
MP55.                     <Button Content="Files" x:Name="Files" Click="Files_Click"/>
MP56.                 </StackPanel>
MP57.             </Grid>
MP58.         </AppBar>
MP59.     </Page>
```

MainPage.xaml.cs

```
MC01. public sealed partial class MainPage : Page
MC02. {
MC03.     public MainPage()
MC04.     {
MC05.         this.InitializeComponent();
MC06.         LitwareDataContext IDC = new LitwareDataContext();
MC07.         IDC.Bikes = DataLayer.GetBikes();
MC08.         this.DataContext = IDC;
MC09.     }
MC10.     private void StackPanel_Tapped(object sender, TappedRoutedEventArgs e)
MC11.     {
MC12.         var item = (Bike) this.listBoxBike.SelectedItem;
MC13.         ((StackPanel) sender).Background = new SolidColorBrush(item.BikeColor);
MC14.     }
MC15.     private void files_Click(object sender, RoutedEventArgs e)
MC16.     {
MC17.
MC18.
MC19.     }
MC20.     private async void TextBlock_PointerPressed(object sender, PointerRoutedEventArgs e)
MC21.     {
MC22.         if (e.GetCurrentPoint(this).Properties.IsRightButtonPressed)
MC23.         {
MC24.             var dialog = new MessageDialog("Detail is not available for now");
MC25.             await dialog.ShowAsync();
MC26.         }
MC27.     }
MC28. }
```

## Bike.cs

```
BI01. public class Bike
BI02. {
BI03.     Color bikeColor;
BI04.     string name;
BI05.     int size;
BI06.     public Color BikeColor
BI07.     {
BI08.         get
BI09.         {
BI10.             return bikeColor;
BI11.         }
BI12.         set
BI13.         {
BI14.             bikeColor = value;
BI15.         }
BI16.     }
BI17.     public string Name {
BI18.     {
BI19.         get
BI20.         {
BI21.             return name;
BI22.         }

```

---

```
BI22.         set
BI23.         {
BI24.             name = value;
BI25.         }
BI26.     }
BI27.     public int Size
BI28.     {
BI29.         get
BI30.         {
BI31.             return size;
BI32.         }
BI33.         set
BI34.         {
BI35.             size = value;
BI36.         }
BI37.     }
BI38. }
```

LitwareDataContext.cs

```
LD01. class LitwareDataContext
LD02. {
LD03.     ObservableCollection<Bike> bikes = new ObservableCollection<Bike>();
LD04.     public ObservableCollection<Bike> Bikes
LD05.     {
LD06.         get
LD07.         {
LD08.             return bikes;
LD09.         }
LD10.         set
LD11.         {
LD12.             bikes = value;
LD13.         }
LD14.     }
LD15. }
```

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