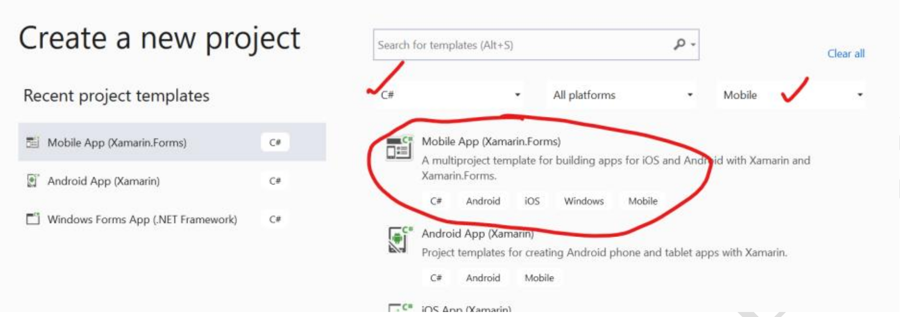
HANDS-ON EXERCISE 5

OBJECTIVES:
- Learn how to use Shell programming in Xamarin
- Customize Flyout template.

DIRECTIONS:

1. Create a new project in Visual Studio 2019 and select Mobile App (Xamarin.Forms) on the template options. **Save it as Exer5_YOURFULLNAME**. Our objective here is to customize the Flyout template as a tool for rapid applications development.



Create a new project

Recent project templates

Mobile App (Xamarin.Forms) C#

Android App (Xamarin) C#

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Search for templates (Alt+S)

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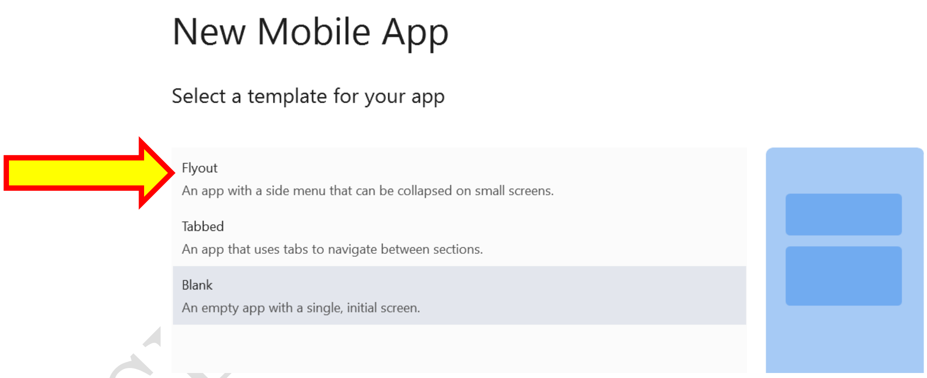
C# | All platforms | Mobile

Mobile App (Xamarin.Forms)
A multiproject template for building apps for iOS and Android with Xamarin and Xamarin.Forms.
C# Android iOS Windows Mobile

Android App (Xamarin)
Project templates for creating Android phone and tablet apps with Xamarin.
C# Android Mobile

iOS App (Xamarin)

2. Select Flyout template. Leave Android and iOS as ticked to allow your application to run in both platforms. Click Create button.



New Mobile App

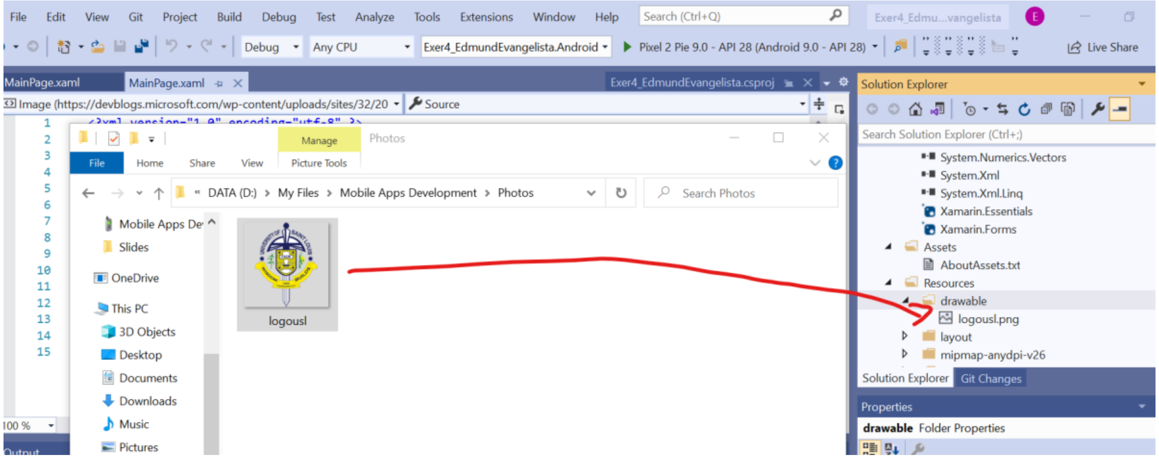
Select a template for your app

Flyout
An app with a side menu that can be collapsed on small screens.

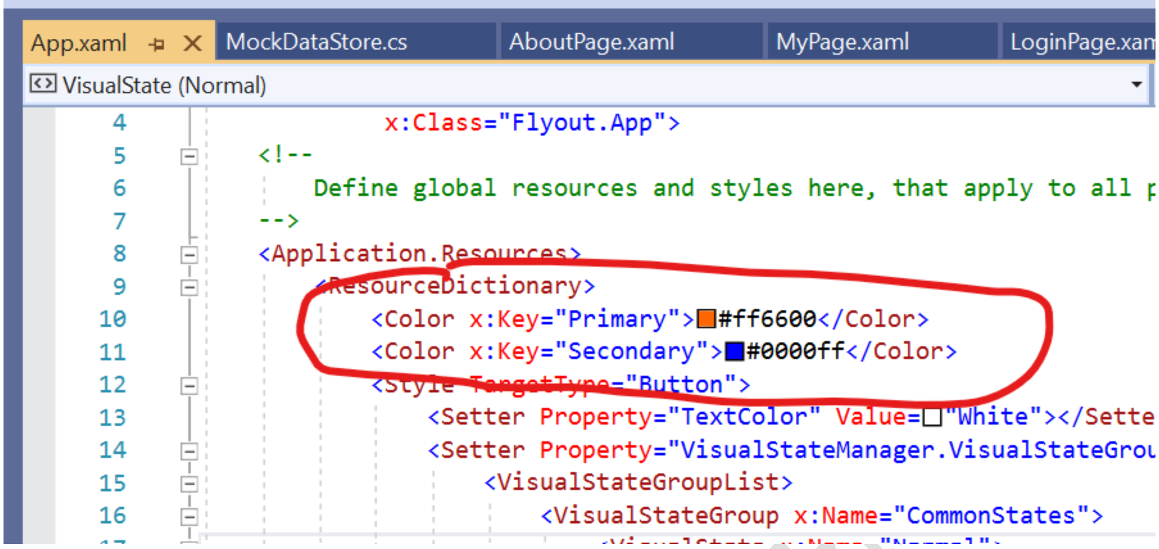
Tabbed
An app that uses tabs to navigate between sections.

Blank
An empty app with a single, initial screen.

3. Save the logo found in http://usl.edu.ph/public/featured/logousl.png to your local computer. Then drag and drop it to the folder **/Resources/drawable** under the Android part of your Solution Explorer. Make sure not to use special characters in the filename of your image, and all in lowercase characters.

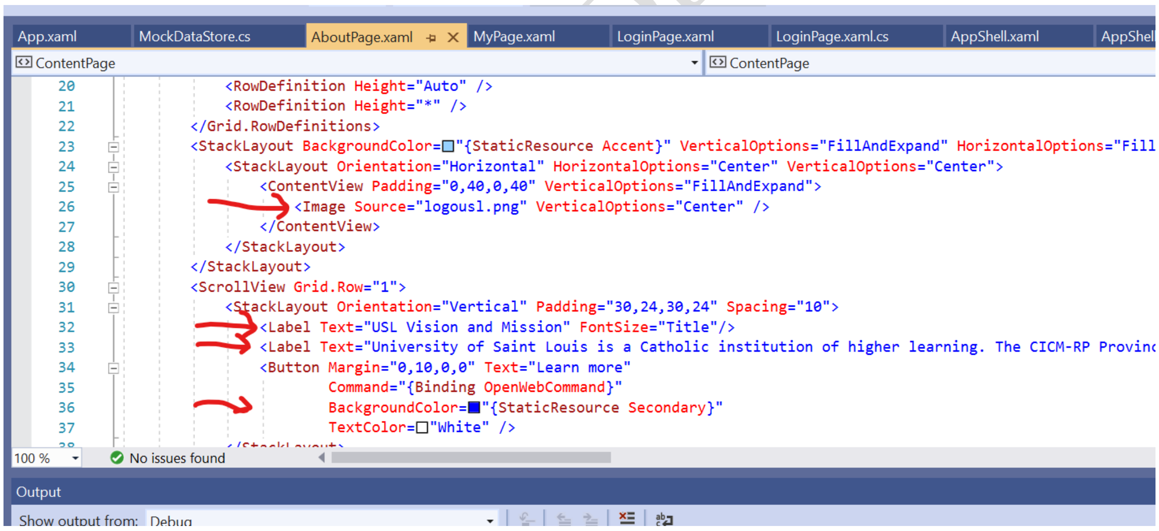


4. First aim is to modify the primary background color of our shell. To do this, go to **App.xaml** and change the Primary color to #ff6600. Add a new color #0000ff and name it as Secondary.



```
             x:Class="Flyout.App">
    <!--
        Define global resources and styles here, that apply to all p
    -->
    <Application.Resources>
        <ResourceDictionary>
            <Color x:Key="Primary">■#ff6600</Color>
            <Color x:Key="Secondary">■#0000ff</Color>
            <Style TargetType="Button">
                <Setter Property="TextColor" Value=□"White"></Sette
                <Setter Property="VisualStateManager.VisualStateGrou
                    <VisualStateGroupList>
                        <VisualStateGroup x:Name="CommonStates">
```

5. Go to **AboutPage.xaml**, this file serves as the landing page of our flyout mobile app. Modify Image Source in Line 26 into “logousl.png” and remove the Size property. Then set Label Text in Line 32 into “USL Vision and Mission”.



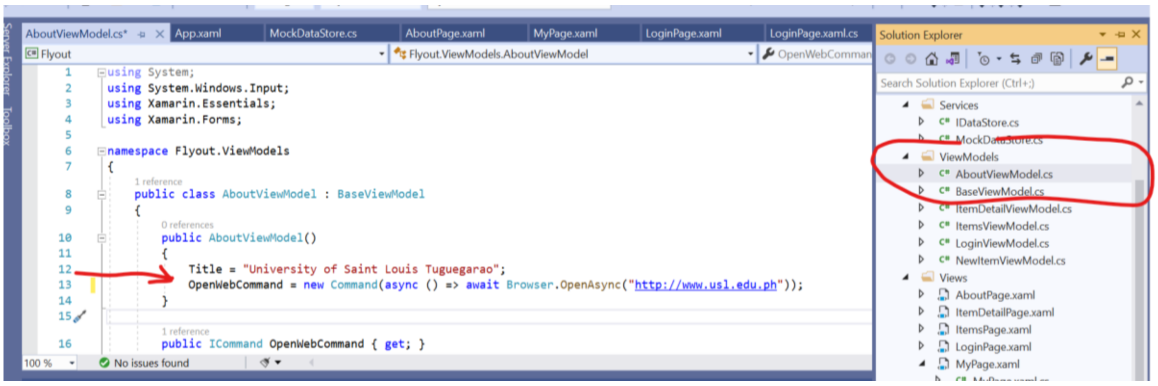
```
20                  <RowDefinition Height="Auto" />
21                  <RowDefinition Height="*" />
22              </Grid.RowDefinitions>
23              <StackLayout BackgroundColor=■"{StaticResource Accent}" VerticalOptions="FillAndExpand" HorizontalOptions="Fill
24                  <StackLayout Orientation="Horizontal" HorizontalOptions="Center" VerticalOptions="Center">
25                      <ContentView Padding="0,40,0,40" VerticalOptions="FillAndExpand">
26                          <Image Source="logousl.png" VerticalOptions="Center" />
27                      </ContentView>
28                  </StackLayout>
29              </StackLayout>
30              <ScrollView Grid.Row="1">
31                  <StackLayout Orientation="Vertical" Padding="30,24,30,24" Spacing="10">
32                      <Label Text="USL Vision and Mission" FontSize="Title"/>
33                      <Label Text="University of Saint Louis is a Catholic institution of higher learning. The CICM-RP Provinc
34                      <Button Margin="0,10,0,0" Text="Learn more"
35                              Command="{Binding OpenWebCommand}"
36                              BackgroundColor=■"{StaticResource Secondary}"
37                              TextColor=□"White" />
```

Set the value of Label Text in Line 33 into “`University of Saint Louis is a Catholic institution of higher learning. The CICM-RP Province as one effective means of evangelization to be fully integrated with the church's educational vision founded it. It is, therefore essential that USL must address to the apostolic commitment and priorities of the RP-CICM province in its educational apostolate.`”

Remove the Label after Line 32, and retain only the Button with text “Lear More”. Set its **BackgroundColor** into **Secondary**.

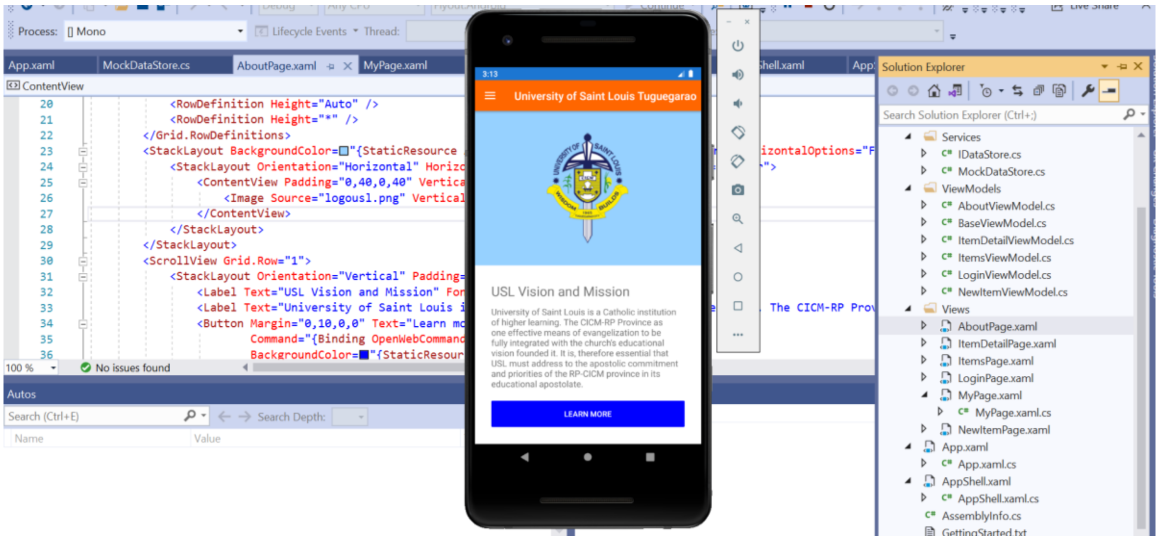
6. To modify the header title of the landing page, open **AboutViewModel.cs**, and set the title in Line 12 into “University of Saint Louis Tuguegarao” and set the link in Line 13 into http://www.usl.edu.ph. Take note that in each pages of the flyout app, it is linked into its View Model controller (similar to MVC). This

is the place where you are going to register any events happening into the View pages.



```
using System;
using System.Windows.Input;
using Xamarin.Essentials;
using Xamarin.Forms;

namespace Flyout.ViewModels
{
    public class AboutViewModel : BaseViewModel
    {
        public AboutViewModel()
        {
            Title = "University of Saint Louis Tuguegarao";
            OpenWebCommand = new Command(async () => await Browser.OpenAsync("http://www.usl.edu.ph"));
        }

        public ICommand OpenWebCommand { get; }
```

Try to run your application, and it should look similar to the screenshot below. Try to click the **LEARN MORE** button, and it should redirect you into USL's website.



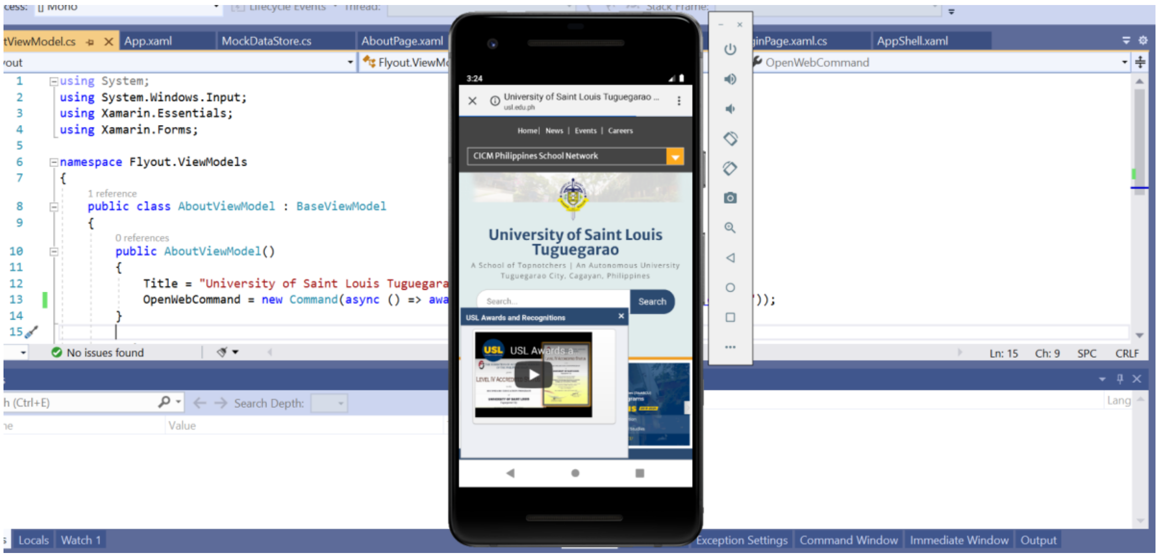
```
                <RowDefinition Height="Auto" />
                <RowDefinition Height="*" />
            </Grid.RowDefinitions>
            <StackLayout BackgroundColor="{StaticResource
                <StackLayout Orientation="Horizontal" Horizo
                    <ContentView Padding="0,40,0,40" Vertica
                        <Image Source="logousl.png" Vertical
                    </ContentView>
                </StackLayout>
            </StackLayout>
            <ScrollView Grid.Row="1">
                <StackLayout Orientation="Vertical" Padding=
                    <Label Text="USL Vision and Mission" For
                    <Label Text="University of Saint Louis i
                    <Button Margin="0,10,0,0" Text="Learn mo
                            Command="{Binding OpenWebCommand
                            BackgroundColor="{StaticResour
```

University of Saint Louis Tuguegarao

USL Vision and Mission

University of Saint Louis is a Catholic institution of higher learning. The CICM-RP Province as one effective means of evangelization to be fully integrated with the church's educational vision founded it. It is, therefore essential that USL must address to the apostolic commitment and priorities of the RP-CICM province in its educational apostolate.

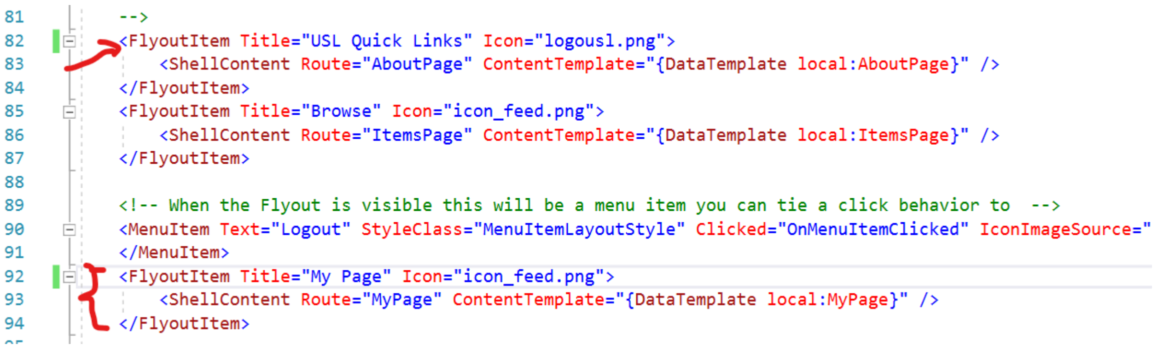
LEARN MORE



```
using System;
using System.Windows.Input;
using Xamarin.Essentials;
using Xamarin.Forms;

namespace Flyout.ViewModels
{
    public class AboutViewModel : BaseViewModel
    {
        public AboutViewModel()
        {
            Title = "University of Saint Louis Tuguegara
            OpenWebCommand = new Command(async () => awa
        }
```

7. Let's modify the flyout menu items, open the AppShell.xaml. This is the brain page of the Flyout template. We can add more customizations of the look and feel of the app here including the properties of most of the tags used across all pages.

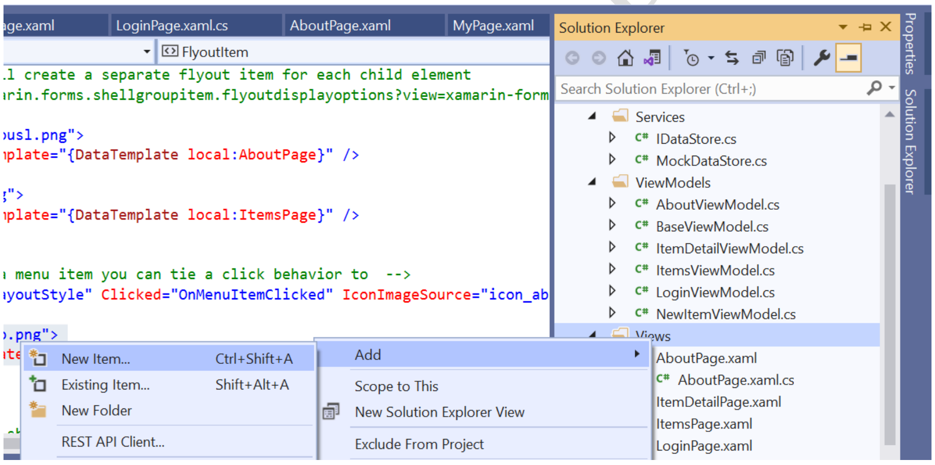
Modify the title of the 1st flyout item in Line 82. Set its Title to “USL Quick Links” and the Icon to “logousl.png”. As you can see, each flyout item has a ShellContent that defines which page you are going to be routed when you click it. By default, this item is routed to AboutPage.xaml.



```
81          -->
82          <FlyoutItem Title="USL Quick Links" Icon="logousl.png">
83              <ShellContent Route="AboutPage" ContentTemplate="{DataTemplate local:AboutPage}" />
84          </FlyoutItem>
85          <FlyoutItem Title="Browse" Icon="icon_feed.png">
86              <ShellContent Route="ItemsPage" ContentTemplate="{DataTemplate local:ItemsPage}" />
87          </FlyoutItem>
88
89          <!-- When the Flyout is visible this will be a menu item you can tie a click behavior to  -->
90          <MenuItem Text="Logout" StyleClass="MenuItemLayoutStyle" Clicked="OnMenuItemClicked" IconImageSource="
91          </MenuItem>
92          <FlyoutItem Title="My Page" Icon="icon_feed.png">
93              <ShellContent Route="MyPage" ContentTemplate="{DataTemplate local:MyPage}" />
94          </FlyoutItem>
```

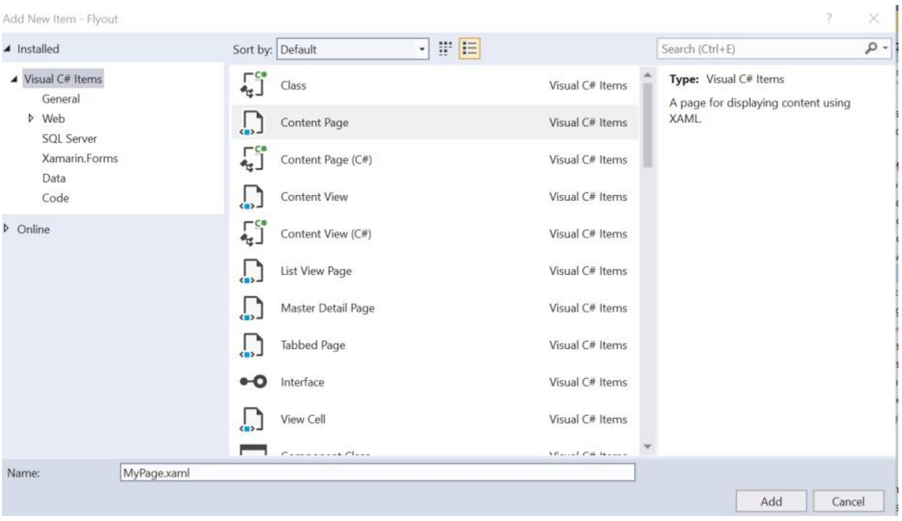
To add our very own page (I will name it as MyPage.xaml in Step #8) as a new flyout item, copy Lines 82 to 84 and paste it after the MenuItem as shown in lines 90-91. Change the Title, Icon, Route, and local properties of Lines 92-94 as shown above. This means that we created a new flyout item called “My Page” that is going to be routed when clicked to MyPage.xaml.

8. To create a new page called MyPage.xaml, go to Solution Explorer, right click on Views folder, then click Add and select New Item.



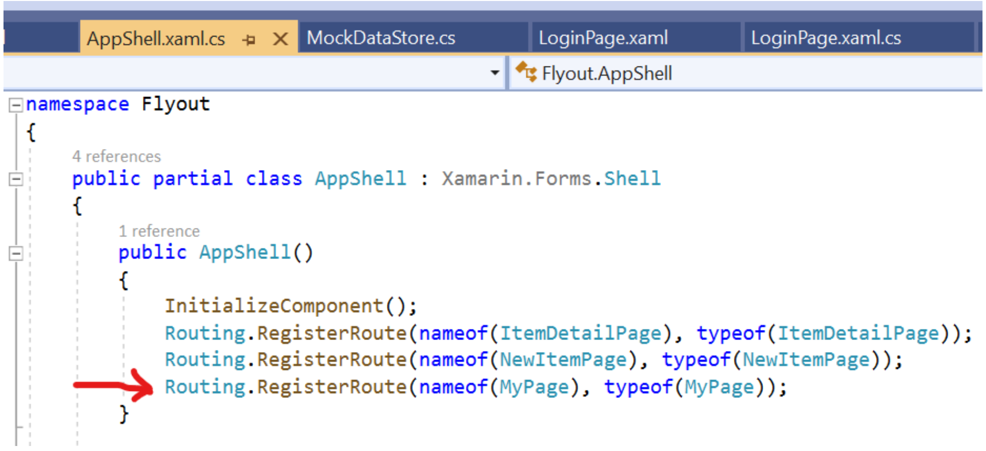
```
.l create a separate flyout item for each child element
ırin.forms.shellgroupitem.flyoutdisplayoptions?view=xamarin-form

ɔusl.png">
ıplate="{DataTemplate local:AboutPage}" />

;">
ıplate="{DataTemplate local:ItemsPage}" />

ı menu item you can tie a click behavior to  -->
ıyoutStyle" Clicked="OnMenuItemClicked" IconImageSource="icon_ab

).png">
```

Select Content Page, and type MyPage.xaml as the filename of your page.



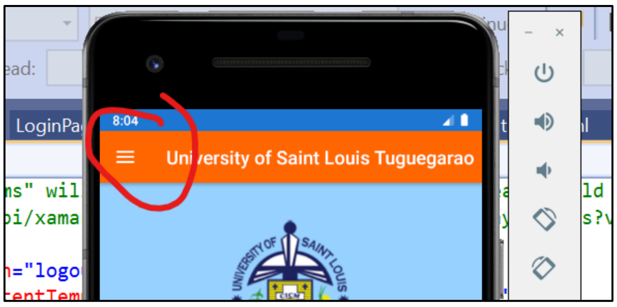
Add New Item - Flyout
Installed
Sort by: Default
Search (Ctrl+E)
Visual C# Items
General
Web
SQL Server
Xamarin.Forms
Data
Code
Online
Class Visual C# Items
Content Page Visual C# Items
Content Page (C#) Visual C# Items
Content View Visual C# Items
Content View (C#) Visual C# Items
List View Page Visual C# Items
Master Detail Page Visual C# Items
Tabbed Page Visual C# Items
Interface Visual C# Items
View Cell Visual C# Items
Type: Visual C# Items
A page for displaying content using XAML.
Name: MyPage.xaml
Add
Cancel

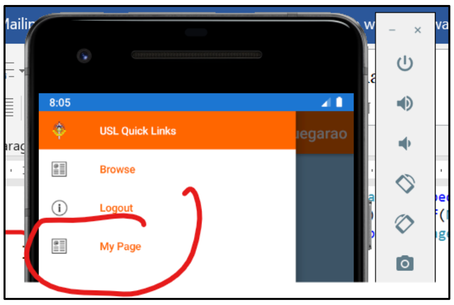
Leave meanwhile the content of this page as it is. In order for this page to be recognized in the flyout template, go to AppShell.xaml.cs then add the line below to register MyPage as part of flyout's routing.

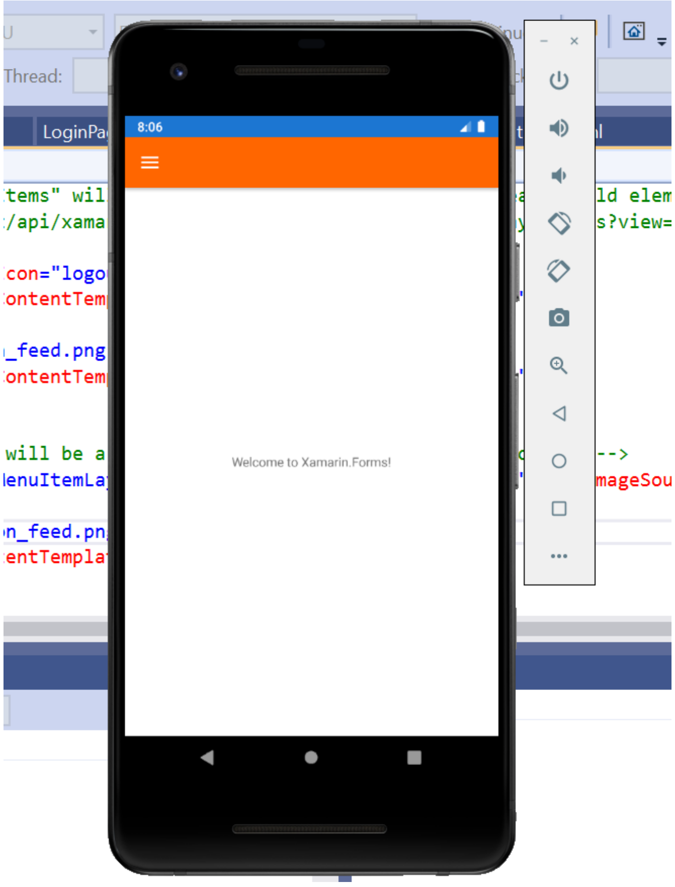


```
namespace Flyout
{
    4 references
    public partial class AppShell : Xamarin.Forms.Shell
    {
        1 reference
        public AppShell()
        {
            InitializeComponent();
            Routing.RegisterRoute(nameof(ItemDetailPage), typeof(ItemDetailPage));
            Routing.RegisterRoute(nameof(NewItemPage), typeof(NewItemPage));
            Routing.RegisterRoute(nameof(MyPage), typeof(MyPage));
        }
```

Run your application. Click on the flyout icon, then click on MyPage link to display the default content of the page.

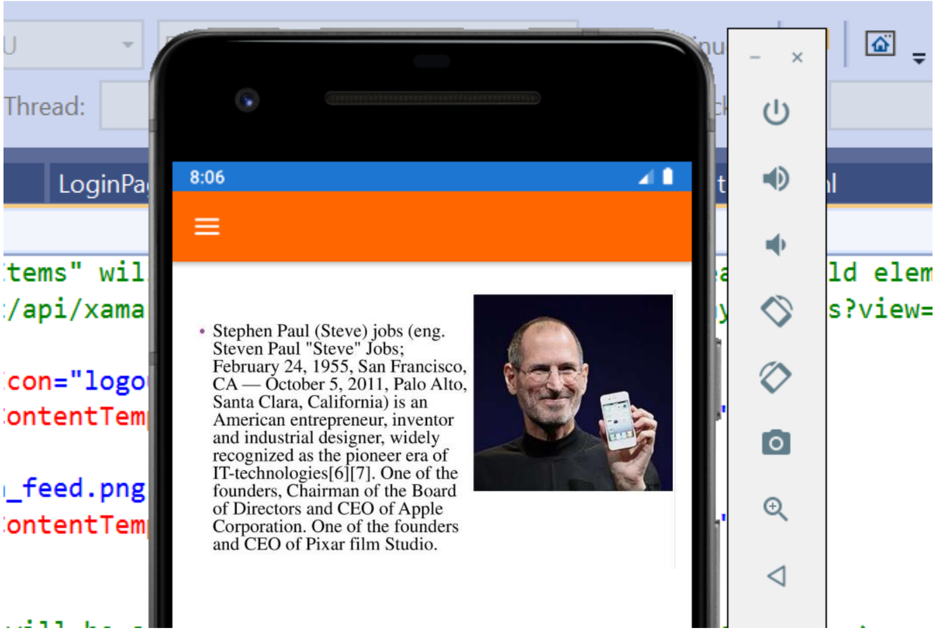






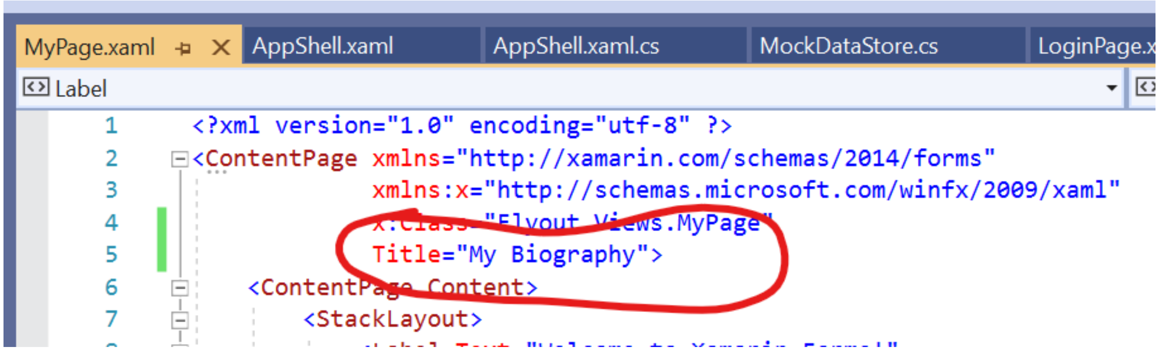
Welcome to Xamarin.Forms!

9. Modify your MyPage.xaml by displaying your photo at the center, and below it will be your short biography or how you envision your future career perhaps 10 years from now. You may also adopt the sample layout below.

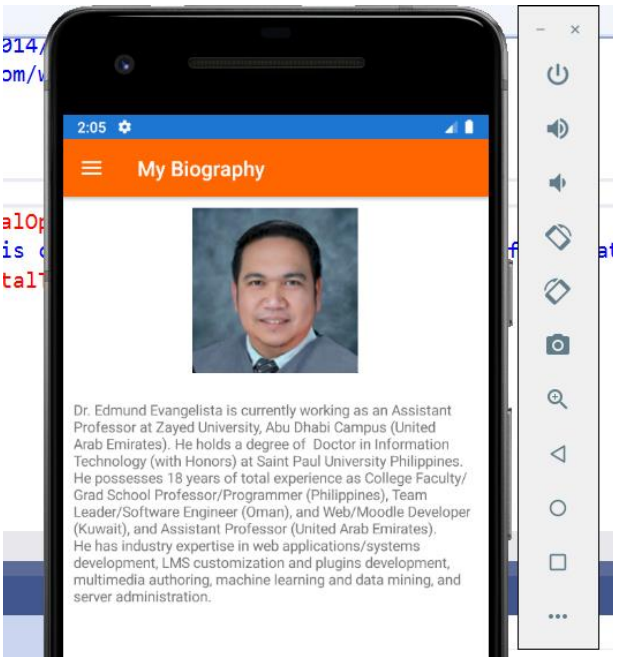


- Stephen Paul (Steve) jobs (eng. Steven Paul "Steve" Jobs; February 24, 1955, San Francisco, CA — October 5, 2011, Palo Alto, Santa Clara, California) is an American entrepreneur, inventor and industrial designer, widely recognized as the pioneer era of IT-technologies[6][7]. One of the founders, Chairman of the Board of Directors and CEO of Apple Corporation. One of the founders and CEO of Pixar film Studio.

Set the Title property of your MyPage.xaml so that a title appears beside the flyout icon when user will view this page.

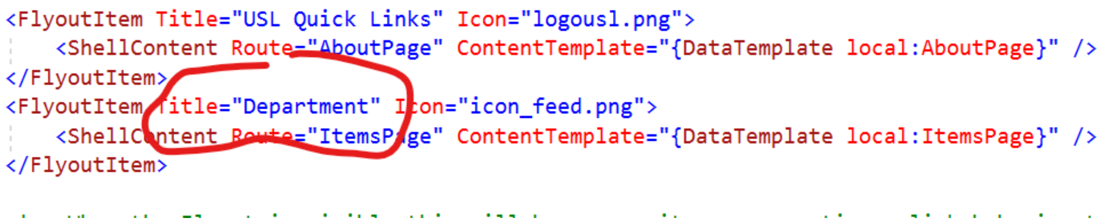


```
<?xml version="1.0" encoding="utf-8" ?>
<ContentPage xmlns="http://xamarin.com/schemas/2014/forms"
             xmlns:x="http://schemas.microsoft.com/winfx/2009/xaml"
             x:Class="Flyout_Views.MyPage"
             Title="My Biography">
    <ContentPage.Content>
        <StackLayout>
            <Label Text="Welcome to Xamarin.Forms!"
```



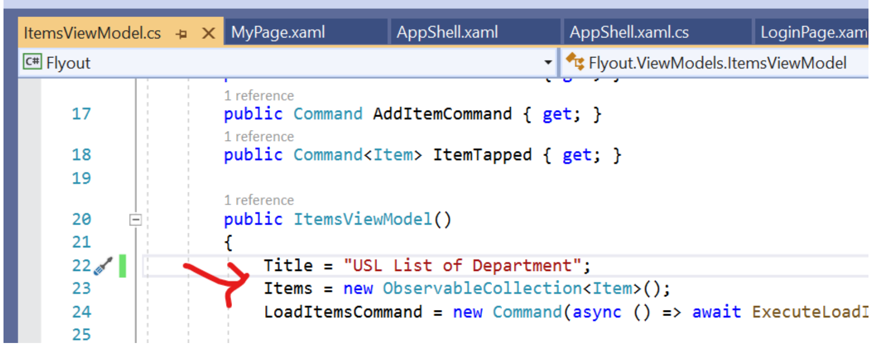
Dr. Edmund Evangelista is currently working as an Assistant Professor at Zayed University, Abu Dhabi Campus (United Arab Emirates). He holds a degree of Doctor in Information Technology (with Honors) at Saint Paul University Philippines. He possesses 18 years of total experience as College Faculty/ Grad School Professor/Programmer (Philippines), Team Leader/Software Engineer (Oman), and Web/Moodle Developer (Kuwait), and Assistant Professor (United Arab Emirates). He has industry expertise in web applications/systems development, LMS customization and plugins development, multimedia authoring, machine learning and data mining, and server administration.

10. It’s time to change the second flyout item, go to AppShell.xaml and change its Title to “Department”. We will use this page to display the list of departments in the university. You may use any Icon you wish in the entire application.



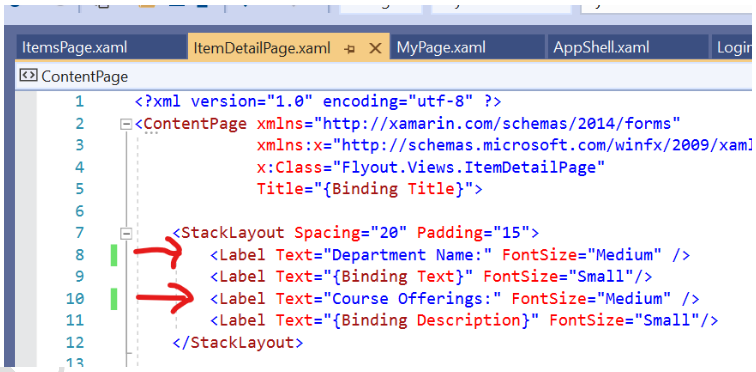
```
<FlyoutItem Title="USL Quick Links" Icon="logousl.png">
    <ShellContent Route="AboutPage" ContentTemplate="{DataTemplate local:AboutPage}" />
</FlyoutItem>
<FlyoutItem Title="Department" Icon="icon_feed.png">
    <ShellContent Route="ItemsPage" ContentTemplate="{DataTemplate local:ItemsPage}" />
</FlyoutItem>
```

This flyout item leads to ItemsPage.xaml when clicked. But this page is just a template that loads its data from other pages. Go to ViewModels/ItemsViewModel.cs and change Title to “USL List of Department”.



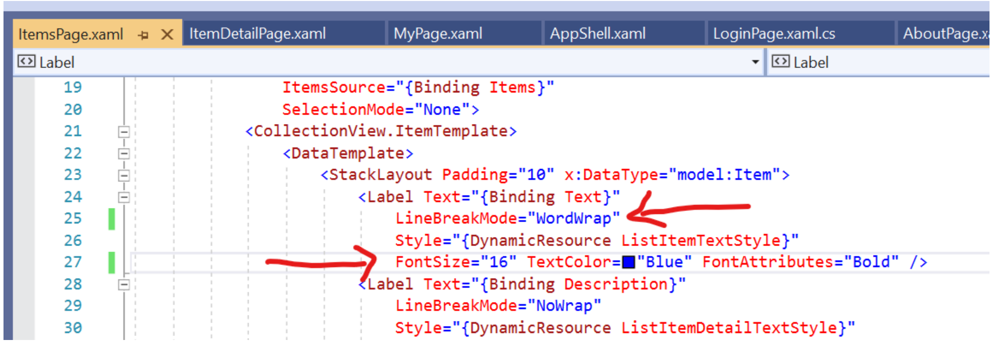
```
        1 reference
        public Command AddItemCommand { get; }
        1 reference
        public Command<Item> ItemTapped { get; }

        1 reference
        public ItemsViewModel()
        {
            Title = "USL List of Department";
            Items = new ObservableCollection<Item>();
            LoadItemsCommand = new Command(async () => await ExecuteLoadI
```

Go to Views/ItemDetailPage.xaml and change Line 8 and Line 10, our aim is to display Department Name and Course Offerings for each item clicked under the Department flyout item. This page serves as a template on how department details will be displayed on the mobile app.



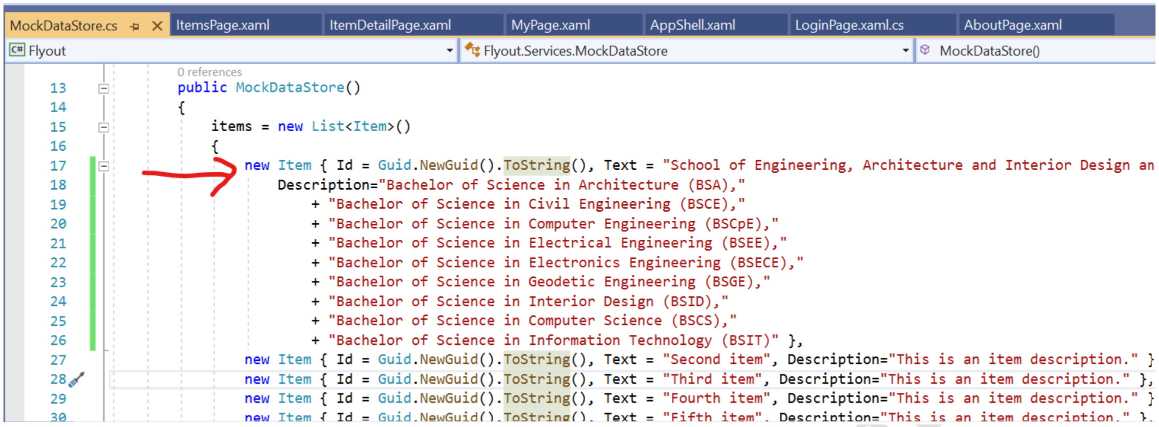
```
1   <?xml version="1.0" encoding="utf-8" ?>
2   <ContentPage xmlns="http://xamarin.com/schemas/2014/forms"
3                xmlns:x="http://schemas.microsoft.com/winfx/2009/xaml
4                x:Class="Flyout.Views.ItemDetailPage"
5                Title="{Binding Title}">
6
7       <StackLayout Spacing="20" Padding="15">
8           <Label Text="Department Name:" FontSize="Medium" />
9           <Label Text="{Binding Text}" FontSize="Small"/>
10          <Label Text="Course Offerings:" FontSize="Medium" />
11          <Label Text="{Binding Description}" FontSize="Small"/>
12      </StackLayout>
```

11. Go to Views/ItemsPage.xaml, and change LineBreakMode to WordWrap, set TextColor to Blue and FontAtrributes to Bold.



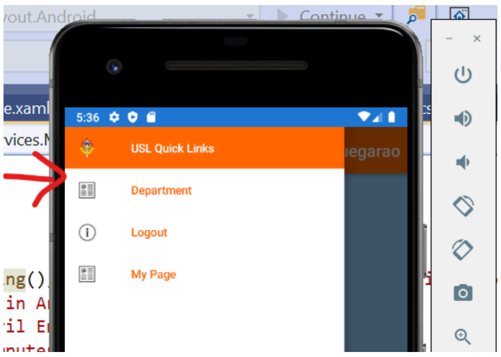
```
                ItemsSource="{Binding Items}"
                SelectionMode="None">
            <CollectionView.ItemTemplate>
                <DataTemplate>
                    <StackLayout Padding="10" x:DataType="model:Item">
                        <Label Text="{Binding Text}"
                            LineBreakMode="WordWrap"
                            Style="{DynamicResource ListItemTextStyle}"
                            FontSize="16" TextColor=■"Blue" FontAttributes="Bold" />
                        <Label Text="{Binding Description}"
                            LineBreakMode="NoWrap"
                            Style="{DynamicResource ListItemDetailTextStyle}"
```

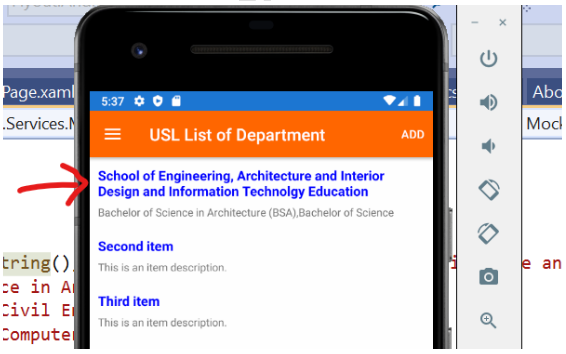
12. To populate the list of departments, go to Services/MockDataStore.cs and populate each item's Text and Description variables with USL's departments and courses offered. Go to USL Website and get all the information for each department and populate this page to list down all the departments and its courses offered.



```
public MockDataStore()
{
    items = new List<Item>()
    {
        new Item { Id = Guid.NewGuid().ToString(), Text = "School of Engineering, Architecture and Interior Design an
            Description="Bachelor of Science in Architecture (BSA),"
                + "Bachelor of Science in Civil Engineering (BSCE),"
                + "Bachelor of Science in Computer Engineering (BSCpE),"
                + "Bachelor of Science in Electrical Engineering (BSEE),"
                + "Bachelor of Science in Electronics Engineering (BSECE),"
                + "Bachelor of Science in Geodetic Engineering (BSGE),"
                + "Bachelor of Science in Interior Design (BSID),"
                + "Bachelor of Science in Computer Science (BSCS),"
                + "Bachelor of Science in Information Technology (BSIT)" },
        new Item { Id = Guid.NewGuid().ToString(), Text = "Second item", Description="This is an item description." }
        new Item { Id = Guid.NewGuid().ToString(), Text = "Third item", Description="This is an item description." },
        new Item { Id = Guid.NewGuid().ToString(), Text = "Fourth item", Description="This is an item description." }
        new Item { Id = Guid.NewGuid().ToString(), Text = "Fifth item", Description="This is an item description." },
```

13. Run your application, click the Department flyout item. Then click on a specific department.



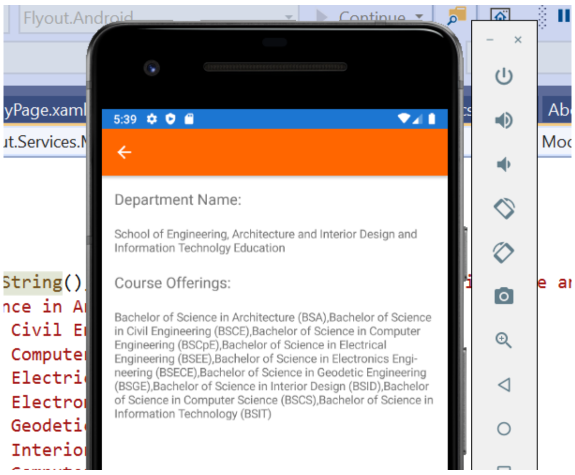


School of Engineering, Architecture and Interior Design and Information Technology Education
Bachelor of Science in Architecture (BSA),Bachelor of Science

Second item
This is an item description.

Third item
This is an item description.

It should now display the complete list of courses. If you wish, you may also improve the look and feel of this specific page.



Department Name:

School of Engineering, Architecture and Interior Design and Information Technolgy Education

Course Offerings:

Bachelor of Science in Architecture (BSA),Bachelor of Science in Civil Engineering (BSCE),Bachelor of Science in Computer Engineering (BSCpE),Bachelor of Science in Electrical Engineering (BSEE),Bachelor of Science in Electronics Engineering (BSECE),Bachelor of Science in Geodetic Engineering (BSGE),Bachelor of Science in Interior Design (BSID),Bachelor of Science in Computer Science (BSCS),Bachelor of Science in Information Technology (BSIT)