

Name of Experiment: Cellular Info (includes information related to Network Operator, Network Availability, Cellular Data Enabled, Cellular Data Roaming Enabled, Wi-fi Enabled etc)

Exp No: MC3

Background: Students should have a basic knowledge of C#.

Summary: It is always necessary to know certain information related to Network, in order to keep track of the resources being used by the device.

Learning Objective: Student can able to track the network resources being consumed by the device.

Target Platforms: This experiment is tested on Windows Phone Emulator and Nokia Lumia 800.

Procedure:

Step No.1 Repeat steps[1-4] as in experiment no MC1.(Hello World)

Step No.2 Drag and drop the UI controls on the designer window. [Refer Source Code section]

Step No.3 Now open the MainPage.xaml.cs and write some code.

Step No 4.Add namespace as using Microsoft.Phone.Net.NetworkInformation.

Step No.5 Call the methods defined in class Microsoft.Phone.Net.NetworkInformation e.g CellularMobileOperator, IsCellularDataEnabled, IsCellularDataRoamingEnabled, IsNetworkAvailable andIsWiFiEnabled.

Step No.6 Bind the UI controls defined in MainPage.xaml with the values getting from DeviceNetworkInformation class e.g. txtOperator.Text=DeviceNetworkInformation.CellularMobileOperator.ToString();[Refer Source Code section]

Step No.7 Save all the changes made to the current experiment by Pressing Ctrl+S or Save option in the menu bar of Visual Studio Express 2010.

Step No.8 Press F5 to run the experiment on the Windows Emulator.

Step No.9 Now, Cellular Information is displayed on the Emulator Screen.

Step No.10 To deploy this experiment on Windows Phone [Refer Deployment of the WP7 application on the Target Device].

Source Code	Comments
<p>MainPage.xaml</p> <pre> <!--LayoutRoot is the root grid where all page content is placed--> <Grid x:Name="LayoutRoot" Background="Transparent"> <Grid.RowDefinitions> <RowDefinition Height="Auto"/> <RowDefinition Height="*/> </Grid.RowDefinitions> <!--TitlePanel contains the name of the application and page title--> <StackPanel x:Name="TitlePanel" Grid.Row="0" Margin="12,17,0,28"> <TextBlock x:Name="ExperimentTitle" Text="ExpNo. MC3" TextAlignment="Right" Style="{StaticResource PhoneTextNormalStyle}"/> <TextBlock x:Name="ApplicationTitle" Text="Mobile Computing" Style="{StaticResource PhoneTextNormalStyle}"/> <TextBlock x:Name="PageTitle" Text="Cellular Info" Margin="9,-7,0,0" Style="{StaticResource PhoneTextTitle1Style}"/> </StackPanel> <!--ContentPanel - place additional content here--> <Grid x:Name="ContentPanel" Grid.Row="1" Margin="12,0,12,0"> <StackPanel Orientation="Vertical"> <StackPanel Orientation="Horizontal" Height="64"> <TextBlock Text="IsNetworkAvailable:"/> <TextBlock x:Name="txtNetwork" /> </StackPanel> <StackPanel Orientation="Horizontal" Height="64"> <TextBlock Text="Operator:"/> <TextBlock x:Name="txtOperator"/> </StackPanel> <StackPanel Orientation="Horizontal" Height="64"> <TextBlock Text="IsCellularDataEnabled:"/> <TextBlock x:Name="txtData"/> </StackPanel> <StackPanel Orientation="Horizontal" Height="64"> <TextBlock Text="IsCellularDataRoamingEnabled:"/> <TextBlock x:Name="txtRoamData"/> </StackPanel> <StackPanel Orientation="Horizontal" Height="64"> <TextBlock Text="IsWifiEnabled:"/> <TextBlock x:Name="txtWifi"/> </StackPanel> </StackPanel> </Grid> </Grid> </pre> <p>MainPage.xaml.cs</p> <pre> using Microsoft.Phone.Controls; using Microsoft.Phone.Net.NetworkInformation; namespace CellInfo { </pre>	<p>← ExpNo. MC3(ExperimentTitle)</p> <p>← Mobile Computing(ApplicationTitle)</p> <p>← Cellular info(PageTitle)</p> <p>← Add namespace Microsoft.Phone.Net.NetworkInformation</p>

```

public partial class Main2 : PhoneApplicationPage
{
    public Main2()
    {
        InitializeComponent();
        txtNetwork.Text =
DeviceNetworkInformation.IsNetworkAvailable.ToString();
        txtOperator.Text =
DeviceNetworkInformation.CellularMobileOperator.ToString();
        txtData.Text =
DeviceNetworkInformation.IsCellularDataEnabled.ToString();
        txtRoamData.Text =
DeviceNetworkInformation.IsCellularDataRoamingEnabled.
ToString();
        txtWifi.Text =
DeviceNetworkInformation.IsWiFiEnabled.ToString();
    }
}
}

```

Screenshots

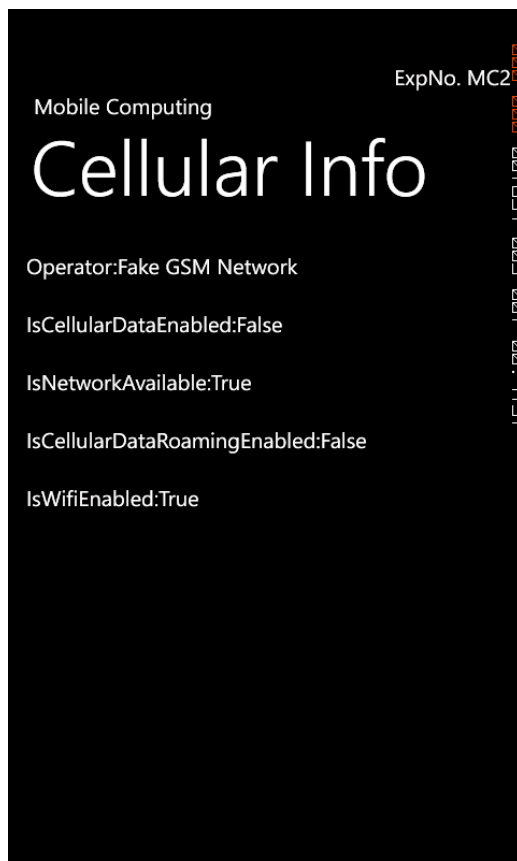


Fig No.2 Cellular info

Observations:

It is observed that Cellular Information is very much needed in order to save the resources in terms of economical and battery power.